DONALD H. BLEVINS
Chief Probation Officer

June 1, 2010

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

#53   JUNE 1, 2010

Sachi A. Hamai
SACHI A. HAMAI
EXECUTIVE OFFICER

Dear Supervisors:

APPROVAL OF A SOLE SOURCE AGREEMENT WITH CERNER CORPORATION TO PROVIDE A PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM (PEMRS)

(ALL SUPERVISORIAL DISTRICTS)

(4 VOTES)

CIO RECOMMENDATION: APPROVE ( ) APPROVE WITH MODIFICATION ( )
DISAPPROVE ( )

SUBJECT:

Approval of a sole source Agreement with Cerner Corporation (Cerner) to provide the Probation Electronic Medical Records System (PEMRS), for the Probation Department, an amendment to County Agreement No. 71710 with Cerner for the Sheriff's Department to transfer software licenses, and an appropriation adjustment transferring one-time funding from the Provisional Financing Uses (PFU) budget to the Probation Department's current 2009-2010 operating budget to begin implementation of PEMRS.

JOINT RECOMMENDATIONS WITH THE SHERIFF, MENTAL HEALTH, AND HEALTH SERVICES THAT YOUR BOARD:

    1. Approve and instruct the Chair of the Board to sign an Agreement (Attachment I) with Cerner for the Probation Department to provide the Probation Electronic Medical Records System (PEMRS), and maintenance and support, hosting, upgrade implementation, application management and related services, effective

Rebuild Lives and Provide for Healthier and Safer Communities

upon Board approval for an initial term of eighty-four (84) months with an option to extend the initial term for two (2) additional and consecutive thirty-six (36) month periods, with a maximum contract sum for the initial term of $17,003,408.

2. Delegate authority to the Chief Probation Officer or such person's designee to execute change notices and amendments to the recommended Agreement (a) extending the initial term of the Agreement for up to two (2) additional and consecutive thirty-six (36) month periods, (b) moving the scheduled implementation and tailoring of software modules among the first phase and additional phases of PEMRS, using other professional services pool dollars available under the Agreement, if applicable, (c) engaging Cerner to implement and tailor additional phases of PEMRS software and/or provide as-needed professional services, in each case, using other professional services pool dollars available under the Agreement, (d) updating the attachments to the Agreement during implementation as is necessary to accurately reflect the as-built PEMRS, and (e) consenting to an assignment or delegation by Cerner under the Agreement.

3. Approve and instruct the Chair to sign Amendment Number Five (Attachment II) to County Agreement No. 71710 with Cerner for the Sheriff's Department, effective upon Board approval to transfer eight hundred (800) user licenses to the software modules specified in the Amendment Number Five for use under the Agreement for PEMRS.

4. Approve the attached Appropriation Adjustment (Attachment III) transferring $470,000 of one-time funding from the PFU budget to the Probation Department's current 2009-2010 Support Services operating budget to begin implementation of the Probation Electronic Medical Records System (PEMRS) pursuant to the County's settlement agreement with the Department of Justice.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTIONS

The purpose of the first recommendation is to approve an Agreement with Cerner to provide the Probation Department with a PEMRS, as well as ongoing maintenance and support, hosting, upgrade implementation, application management and other related services. PEMRS will provide a system of transferring health and mental health records among the Probation Department's juvenile halls and camps, as is required by the County's Settlement Agreements with the United States Department of Justice (DOJ) dated August 14, 2004 (2004 Settlement Agreement), and dated October 31, 2008 (2008 Settlement Agreement), by making such records electronically accessible. PEMRS will also provide technology to support the process currently used by the County to comply with the requirement of the 2008 Settlement Agreement to monitor

and manage the administration of psychotropic medication to minors detained in the Probation Department halls and camps.

Recommendation two will delegate authority to the Chief Probation Officer or that person's designee to exercise the option to extend the initial term of the Agreement and execute certain changes notices and amendments to the Agreement. The purpose of recommendation three is to amend County Agreement No. 71710 to allow the Sheriff's Department to transfer eight hundred (800) user licenses to certain software modules initially purchased by the County for the Jail Hospital Information System (JHIS), but unused by the Sheriff's Department, to use pursuant to the recommended Agreement for the PEMRS.

The Chief Probation Officer determined that Cerner technology, as implemented and used by the Sheriff's Department's health and mental health care providers under County Agreement No. 71710, is the most cost effective option for PEMRS. The reasons for this determination are: 1) the County avoids substantial costs by transferring to the recommended Agreement without additional license fees, eight hundred (800) user licenses initially purchased but not currently used by the Sheriff's Department and 2) the effective use of the Cerner technology in the Sheriff's Department demonstrates its ability to meet the specialized needs of health and mental health care in a corrections environment. The Sheriff's Department has provided guidance and support to the Probation Department with respect to the Cerner software and systems.

The PEMRS project is governed by a Memorandum of Understanding dated April 2008, among the Probation, Health Services, Mental Health, and Sheriff's Departments. This Memorandum of Understanding designates the Probation Department as the lead department because it is responsible for the health and welfare of the minors detained in the Probation Department halls and camps. The Department of Health Services provides health care services to the detained minors through Juvenile Court Health Services (JCHS). The Department of Mental Health provides mental health services through Juvenile Justice Mental Health (JJMH).

Continuing this interagency structure, the Probation Department and the Departments of Health Services and Mental Health will supply County services and staffing that are necessary for the success of PEMRS and the satisfaction of the terms of the DOJ monitoring process under the 2004 and 2008 Settlement Agreements. The Departments of Health Services and Mental Health will provide subject matter experts to work with the Probation Department on implementing the PEMRS, and the Probation Department will provide project management and technical support personnel.

PEMRS will produce benefits in the form of improved efficiency, error reduction, and productivity within the collaborative multi-agency service delivery system, as well as improved continuity and coordination of care. With the PEMRS, medical information will

be accessible immediately, so that clinicians providing treatment will not depend on transfer of paper records. Pediatricians, psychiatrists, nurses and others with a need to know will have relevant evaluations and reports at hand when making important medical decisions. The electronic record, by consolidating diagnoses and treatment plans in one document rather than multiple paper charts, will expedite coordinated planning and linkage, whether a minor requiring care is moving among juvenile justice facilities or being discharged and linked to aftercare services in the community.

The PEMRS will also improve coordination and collaboration of care providers with Probation Department systems affecting care. In the present paper based systems, scheduling and movement of minors that may affect care are extremely difficult, inefficient, and prone to error. PEMRS will make information about a minor's planned treatment available to prevent inadvisable movement when necessary and information about planned care that will enable efficient movement planning and coordination.

Implementation of Strategic Plan Goals

The recommended Agreement supports the County's Strategic Plan Goal #1 (Operational Effectiveness), Goal #2 (Children, Family, and Adult Well-Being), and Goal #4 (Health and Mental Health). PEMRS will improve efficiency and productivity by consolidating information sources and making information uniformly available to authorized personnel, thereby reducing risk of error in a cost-effective manner. PEMRS will enable the Probation, Health, and Mental Health Departments to provide improved levels of health and mental health care thereby improving the well-being of the minors and their families. PEMRS will also enhance the technological support for collaboration of health, mental health, and corrections professionals involved in the care of detained minors.

FISCAL IMPACT/FINANCING

The total estimated cost for the PEMRS project is $34,251,408 over a seven year period of which $17,003,408 is for the Cerner contract and $17,248,000 is for services of the County's clinical subject matter experts and technical staff who are assigned to this project as well as programming and technology support services provided by ISD/ITS and related costs including fees for maintenance and support of the JHIS licenses transferred in accordance with Amendment Number Five (Attachment II) to County Agreement No. 71710 with Cerner for the Sheriff's Department. Please refer to Attachment IV for the various funding sources of this project.

The Probation Department has $6,040,000 of one-time funding in Provisional Finances Uses (PFU) budget for the PEMRS project and $4,000,000 in the CEO IT Fund, for a total of $10,040,000. Probation is requesting $470,000 of one-time funding from the PFU budget to the Probation Department Support Services Budget in FY 2009-10 to

begin implementation of the project. Probation will be requesting the remaining funding for this project on an as needed basis in future years, including the amounts necessary to continue reimbursement of the Sheriff's Department for the maintenance and support fees for the licenses transferred under Amendment Number Five (Attachment II) to County Agreement No. 71710 with Cerner for the Sheriff's Department.

The maximum contract sum for the eighty-four (84) month initial term is $17,003,408. Of this amount, (a) $5,090,194 is allocated to the implementation and tailoring of the first phase of PEMRS software, (b) $689,279 is allocated to other professional services pool dollars for implementation and tailoring of additional phases of PEMRS software, as well as as-needed professional services, such as additional training and additional interfaces, (c) $476,000 is allocated to Cerner's necessary incidental expenses including travel incurred by Cerner in connection with implementation and tailoring of the first phase of PEMRS, and (d) $10,747,934 is allocated to ongoing support services including PEMRS software maintenance and support, hosting, security, upgrades implementation, and application management services. The amount allocated to other professional services pool dollars may be used for specific projects under the recommended Agreement either through a change notice as described in Subparagraph 6.2 of the Agreement or through an amendment as described in Subparagraph 6.3 of the Agreement.

Of the $17,248,000 planned expenditure for internal County resources, $2,912,000 is allocated to Probation management, $4,921,000 to backup of subject matter experts assigned by DHS and DMH, $6,652,000 to technological support, $310,000 to travel and incidental support services, and $2,453,000 payable to the Sheriff's Department for maintenance of the JHIS licenses.

The Chief Executive Officer (CEO) has provided for funding for the recommended Agreement over the initial eighty-four (84) month term in the amount of $17,003,408. The CEO has also approved necessary budgets for the internal County project management personnel, technical support personnel, and subject matter experts necessary for the success of PEMRS and the satisfaction of the terms of the DOJ monitoring process under the 2004 and 2008 Settlement Agreements.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

Under Change Notice No. 128 to County Agreement No. 71710, the County engaged Cerner to conduct an assessment of the functional and technical requirements for implementation of certain software modules already licensed by the County under County Agreement No. 71710 and any additional recommended software modules necessary to meet Probation Department requirements. The assessment also provided information and analysis bearing on the technological requirements for implementation

of Cerner technology by the County, including hosting alternatives and the requirements for County-provided human resources necessary for implementation and support.

The Chief Probation Officer, Director of Mental Health, Director of Health Services, and Acting Medical Director of Health Services, along with the CEO, adopted a plan on June 17, 2009, for the implementation and hosting of PEMRS based upon this assessment. This plan also details the County staffing and other expenses required for the success of PEMRS and the satisfaction of the terms of the DOJ monitoring process under the 2004 and 2008 Settlement Agreements, such as the full time assignment of County subject matter experts, project management, and technical support personnel, and travel of County staff to Cerner's Kansas City, MO. offices for PEMRS design and build sessions at various stages during the implementation and tailoring work process.

Based upon this plan, the recommended Agreement provides for Cerner 1) to implement the first phase of PEMRS software using Cerner's on-site development resources in Kansas City, MO., 2) to host PEMRS at Cerner's data centers in Kansas City, MO., 3) to provide ongoing upgrade implementation, security, application management, maintenance and support services, and 4) subject to the availability of other professional services pool dollars, to implement and tailor additional phases of PEMRS software, and to provide as-needed professional services, such as additional training and additional interfaces.

In order to streamline developing and negotiating an agreement with Cerner, the recommended Agreement and its exhibits and attachments were modeled on County Agreement No. 71710 and its exhibits and attachments, to the extent applicable. A number of revisions were required in order to reflect that Cerner will provide additional services with respect to PEMRS, including ongoing hosting, upgrade implementation, security and application management services.

Attachment V describes the significant points that were negotiated with Cerner with respect to the PEMRS project, listed in the order in which they appear in the recommended Agreement and its exhibits and attachments. The Probation Department believes the language negotiated is commercially reasonable and does not impose an unacceptable risk or burden to the County.

The recommended Agreement includes County-required provisions, such as non-responsibility and debarment, jury service, safely surrendered baby, and defaulted property tax reduction. The recommended Agreement adopts two revisions to County-required provisions that were originally negotiated under County Agreement No. 71710, which can be found in Paragraph 12 (relating to assignment and delegation) and Paragraph 17.1 (relating to general indemnification).

County Counsel has reviewed the recommended Agreement and Amendment Number Five to County Agreement No. 71710 and has approved both of them as to form. In addition, in accordance with your Board's policy, outside counsel (Hanson Bridgett LLP) assisted in the review and negotiation of the recommended Agreement.

The County's Chief Information Officer has reviewed this Agreement and its recommendation as indicated on the attached analysis (Attachment VI).

CONTRACTING PROCESS

Cerner was initially selected by the County to provide JHIS for the Sheriff's Department based on a competitive procurement process. The resulting County Agreement No. 71710 was approved by your Board on August 11, 1998, and was subsequently amended in 2003, 2006, 2008 and 2010. County Agreement No. 71710 provides for 3,000 named user licenses for JHIS software, not all of which users have been named by the Sheriff's Department.

The recommended Agreement is a sole source (Attachment VII) with Cerner, based both on the cost savings that will be achieved by transferring eight hundred (800) of the above-described user licenses from County Agreement No. 71710 for use with respect to PEMRS and on the Cerner technology's demonstrated applicability to the corrections environment. The notification required by Board Policy No. 5.100 (Sole Source Contracts) prior to negotiating a sole source contract of $250,000 or greater was originally sent to your Board on February 9, 2009 and was updated on September 29, 2009.

IMPACT ON CURRENT SERVICES

The recommended Agreement will create improved inter-agency collaboration. It will restructure the delivery of health, mental health, and correctional services to permit more effective transfer of information to the providers where and when it is needed. It will enable the Probation Department to continue implementation of the long-range objective of improved case management by reducing conflicts among movement and health and mental health scheduling. The Probation Department believes the recommended Agreement will improve productivity and reduce costs, both in the short and long term.

CONCLUSION

Upon approval by your Board, it is requested that the Executive Officer/Clerk of the Board return three (3) adopted Board letters, three (3) executed versions of the recommended Agreement and three (3) executed versions of the recommended Amendment Number Five to: Probation Department, Contract Management Division, Attention: Tasha Howard, Director, 9150 E. Imperial Highway, Downey, CA 90242. Ms. Howard will coordinate distribution of Amendment Number Five to the Sheriff's Department.
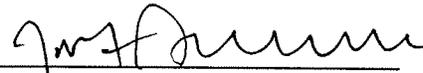
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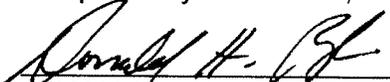
DONALD H. BLEVINS
Chief Probation Officer
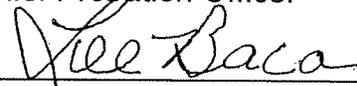
LEROY D. BACA
Sheriff

MARVIN J. SOUTHARD, D.S.W.
Director, Department of Mental Health

JOHN F. SCHUNHOFF, Ph.D.
Interim Director, Department of Health Services

Reviewed by:
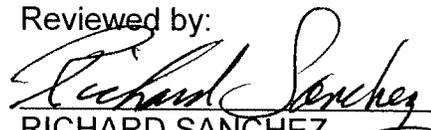
RICHARD SANCHEZ
Chief Information Officer

DHB:TH:ds
Attachments

c: Executive Office/Board of Supervisors
County Counsel
Chief Executive Office

AGREEMENT

BY AND BETWEEN

COUNTY OF LOS ANGELES

AND

CERNER CORPORATION

FOR A

PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM

FOR THE

COUNTY OF LOS ANGELES DEPARTMENTS OF PROBATION, MENTAL HEALTH
AND HEALTH SERVICES

77285

HOA.530972.22

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AGREEMENT

THIS AGREEMENT NO. **77285** (as further defined in Subparagraph 1.3 (Definitions) below, "Agreement") dated as of <u>JUNE 1</u>, 2010 (as further defined in Subparagraph 1.3 (Definitions) below, "Effective Date"), is made and entered into by and between the County of Los Angeles ("COUNTY") and Cerner Corporation, a Delaware corporation ("CONTRACTOR"), with regard to the following ("Recitals"):

1. COUNTY's Probation Department ("Probation Department") currently operates juvenile halls and camps that are geographically dispersed throughout Los Angeles County.

2. COUNTY's Department of Health Services ("DHS"), through its Juvenile Court Health Services ("JCHS"), and Department of Mental Health ("DMH"), through its Juvenile Justice Mental Health ("JJMH"), currently provide health and mental health services, respectively, to the detainees of COUNTY's juvenile halls and camps.

3. The medical records of the health and mental health services provided to the detainees of COUNTY's juvenile halls and camps are currently maintained by manual, paper-based record-keeping systems.

4. In August 2004, COUNTY, the United States Department of Justice, and the Los Angeles County Office of Education entered into an agreement (for purposes of these Recitals, "Settlement Agreement") to resolve the federal investigation regarding the conditions of confinement within COUNTY's juvenile halls and camps.

5. Among the requirements of the Settlement Agreement is that COUNTY implement an electronic medical records system with respect to the health and mental health services provided to the detainees of COUNTY's juvenile halls and camps.

6. Under COUNTY Agreement No. 71710 dated August 11, 1998 (as amended from time to time prior to the date hereof, "JHIS Agreement"), between COUNTY and CONTRACTOR, CONTRACTOR implemented, and provides ongoing maintenance, support and other professional services for, a turnkey Jail Hospital Information System (as further defined in the JHIS Agreement, "JHIS") for use by COUNTY's Sheriff's Department ("Sheriff's Department").

7. Also under the JHIS Agreement, CONTRACTOR granted COUNTY a perpetual, nonexclusive license to use in accordance with the JHIS Agreement, the "Application Software" as defined in the JHIS Agreement ("JHIS Application Software"), for use by three thousand (3,000) COUNTY-named users ("User Licenses") in support of the operations at specified facilities operated by the Sheriff's Department, with COUNTY having the right to change the named users under the User Licenses at any time.

8.   The Sheriff's Department is not currently using the User Licenses to the JHIS Application Software for all three thousand (3,000) COUNTY-named users.

9.   Pursuant to Change Request No. 128 dated April 11, 2008, issued under the JHIS Agreement, COUNTY engaged CONTRACTOR to perform an assessment of the requirements for implementing certain of the JHIS Application Software indentified in Attachment I (Specified JHIS Application Software) of Exhibit A (Statement of Work) (as further defined in Subparagraph 1.3 (Definitions) below, "Specified JHIS Application Software"), as an electronic medical records system for COUNTY's juvenile halls and camps (as further defined in Subparagraph 1.3 (Definitions) below, "Probation Electronic Medical Records System", "PEMRS" or "System").   This assessment consists of the documents entitled (a) LA County Probation Assessment – OPPTY ID#1-HUZTDR/CO#128, Project Control Document, dated April 25, 2008, and (b) LA County Probation Department Technology Assessment, Version 2, dated August 2008, and is incorporated into this Agreement by this reference as Exhibit G (PEMRS Assessment).

10.   Based upon the results of this assessment, COUNTY has determined to engage CONTRACTOR to implement the Specified JHIS Application Software for PEMRS, all as further described in, and subject to the terms and conditions of, this Agreement, and CONTRACTOR desires to be so engaged.

11.   Further based upon the results of this assessment, COUNTY has determined (a) to exercise its rights under the JHIS Agreement to name eight hundred (800) PEMRS users under the User Licenses of the Specified JHIS Application Software that are not currently being used by the Sheriff's Department under the JHIS Agreement and (b) to transfer such User Licenses to this Agreement, and CONTRACTOR concurs with such determination.

12.   The foregoing transfer of User Licenses of the Specified JHIS Application Software shall be accomplished as described in Subparagraph 11.1 (Transfer of JHIS Licenses) of this Agreement, subject to the terms and conditions of this Agreement.

13.   This assessment has been updated as of the Effective Date by the document entitled Addendum 1 to LA County Probation Future State Technology, dated February 2010, which is incorporated into this Agreement by this reference as Attachment A (Update No. 1 to PEMRS Assessment) to Exhibit G (PEMRS Assessment), and shall be further updated under and in accordance with Exhibit A (Statement of Work) and Exhibit D (Service Level Agreement), with such updates to be incorporated by reference into this Agreement as additional attachments to Exhibit G (PEMRS Assessment).

14.   COUNTY and CONTRACTOR additionally desire that COUNTY (a)

acquire from CONTRACTOR certain additional software for PEMRS that is not currently licensed under the JHIS Agreement and (b) engage CONTRACTOR (i) to implement such additional software and (ii) to provide ongoing maintenance, support, hosting, operation, implementation and management services, and other professional services for PEMRS, all as further described in, and subject to the terms and conditions of, this Agreement.

15.   The Probation Department, DHS JCHS, DMH JJMH and the Sheriff's Department have entered into a memorandum of understanding regarding COUNTY governance of the PEMRS project, under which Probation has been designated to act as the lead department for all purposes with respect to the PEMRS project, including this Agreement.

NOW THEREFORE, in consideration of the foregoing, all of which are incorporated as a part of this Agreement, CONTRACTOR and COUNTY hereby further agree as follows:

1.   APPLICABLE DOCUMENTS

1.1   Interpretation

Exhibits A through F and I through O, together with their respective attachments, are attached to and form a part of this Agreement. Exhibits G and H, together with their respective attachments, are incorporated by reference into and form a part of this Agreement. Exhibits A through O, together with their respective attachments, are referred to individually and collectively below as the "Exhibits." In the event of any conflict or inconsistency in the definition or interpretation of any word, responsibility, schedule, or the contents or description of any task, subtask, deliverable, good, service, or other work, or otherwise, between the body of this Agreement and the Exhibits, or between Exhibits, such conflict or inconsistency shall be resolved by giving precedence first to the body of this Agreement, and then to the Exhibits according to the following priority:

1.   Exhibit A -   Statement of Work

        Attachment A – PEMRS Functional, Technical and Operational
                    Requirements
        Attachment B - Schedule of PEMRS Software
        Attachment C - Related CONTRACTOR Software Product Descriptions
        Attachment D - PEMRS Interfaces
        Attachment E - PEMRS Training
        Attachment F - Other Professional Services Fee Schedule
        Attachment G – [RESERVED]
        Attachment H – COUNTY Facilities

Attachment I – Specified JHIS Application Software

2.   Exhibit B -   Schedule of Payments

3.   Exhibit C -   Project Schedule

4.   Exhibit D -   Service Level Agreement

5.   Exhibit H -   PEMRS Project Plan, Version 4, dated September 2009 [Incorporated by Reference]

6.   Exhibit G -   PEMRS Assessment [Incorporated by Reference]
         Attachment A - Update No. 1 to PEMRS Assessment [Incorporated by Reference]

7.   Exhibit I -   Required Subcontract Provisions

8.   Exhibit F -   CONTRACTOR's EEO Certification

9.   Exhibit J -   CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)

10.   Exhibit K –   COUNTY's Administration

11.   Exhibit L -   CONTRACTOR's Administration

12.   Exhibit M -   Sexual Harassment/Discrimination/Retaliation Prohibited & Acknowledgement Form

13.   Exhibit N -   Confidentiality of CORI

14.   Exhibit O -   Source Code Escrow Agreement [Incorporated by Reference]

15.   Exhibit E -   [RESERVED]

1.2   Entire Agreement

The body of this Agreement, together with the Recitals and all Exhibits and attachments hereto and thereto, shall constitute the complete and exclusive statement of understanding between the parties which supersedes all previous agreements, written or oral, and all communications between the parties relating to the subject matter of this Agreement.

1.3   Definitions

1.3.1   Additional Interfaces

As used herein, the term "Additional Interfaces" shall have the meaning set forth in Subparagraph 7.5 (Other Professional Services).

1.3.2   Agreement

As used herein, the term "Agreement" means this Agreement No. **77285**, by and between COUNTY and CONTRACTOR, together with the Recitals and all Exhibits and attachments hereto and thereto.

1.3.3   Amendment

As used herein, the term "Amendment" shall mean each Amendment to this Agreement which has been prepared and entered into in accordance with the applicable provisions of Paragraph 6 (Change Notices and Amendments).

1.3.4   Application Management Services

As used herein, the term "Application Management Services" shall have the meaning set forth in Exhibit D (Service Level Agreement).

1.3.5   Application Software

As used herein, the term "Application Software" shall mean all Baseline Software, Tailoring and Custom Programming Modifications supplied by CONTRACTOR pursuant to this Agreement. Reference to the Application Software may include one or more components or modules thereof or all Application Software in the System.

1.3.6   Baseline Software

As used herein, the term "Baseline Software" shall mean (a) the Specified JHIS Application Software and all other CONTRACTOR software, including, but not limited to, object code, data structures and related Documentation, supplied by CONTRACTOR pursuant to this Agreement, (b) all Tailoring and configuration to such software pursuant to Exhibit A (Statement of Work), (c) all CONTRACTOR tools identified in Exhibit A (Statement of Work) necessary for COUNTY to configure the configurable aspects of such software on an ongoing basis, and (d) all Updates and Upgrades. The Baseline Software is based on and incorporates all CONTRACTOR software products listed in Attachment B (Schedule of PEMRS Software) and described in Attachment C (Related CONTRACTOR Software Product Descriptions) to Exhibit A (Statement of Work). Reference to

Baseline Software may include one or more components or modules thereof or all Baseline Software in the System.

1.3.7 Change Notice

As used herein, the term "Change Notice" shall mean each Change Notice to this Agreement which has been prepared and entered into in accordance with the applicable provisions of Paragraph 6 (Change Notices and Amendments).

1.3.8 Chief Probation Officer

As used herein, the term "Chief Probation Officer" shall mean the Chief Probation Officer of the Probation Department, or such person's designee.

1.3.9 Claims

As used herein, the term "Claims" shall mean all actual or threatened actions, suits, proceedings, hearings, investigations, charges, complaints, claims, demands, petitions, liens, or encumbrances brought by any person or entity (including but not limited to, Federal, State and/or local governmental entities, Subcontractors, officers, employees or other agents of CONTRACTOR, any Subcontractor or COUNTY) other than COUNTY or its administered districts.

1.3.10 Compatible; Compatibility

As used herein, the terms "Compatible" and "Compatibility" shall mean, as the case may be:

(a)   The applicable Specified Hardware and Specified Operating Software are capable of supporting, operating, and otherwise performing all anticipated functions of such Specified Hardware or Specified Operating Software, as the case may be, when used in conjunction with the System Software;

(b)   The System Software is capable of performing in accordance with the Specifications and otherwise with this Agreement when used in conjunction with the applicable Specified Hardware and Specified Operating Software;

(c)   The System Software with respect to each Phase is capable of interconnecting, integrating and performing in accordance with the Specifications and otherwise with this Agreement when used in conjunction with the System Software for each other Phase;

(d)   The Application Software and Interfaces are capable of interconnecting, integrating and performing in accordance with the Specifications and otherwise with this Agreement when used in conjunction with the Third

Party Software; and/or

(e)   The Third Party Software is capable of interconnecting, integrating and performing all anticipated functions of such Third Party Software when used in conjunction with the Application Software and Interfaces.

1.3.11 Contract Sum

As used herein, the term "Contract Sum" shall have the meaning set forth in Subparagraph 7.1 (General).

1.3.12 CONTRACTOR

As used herein, the term "CONTRACTOR" shall have the meaning set forth in the preamble to this Agreement.

1.3.13 CONTRACTOR's Project Director

As used herein, the term "CONTRACTOR's Project Director" shall have the meaning set forth in Subparagraph 3.1 (CONTRACTOR's Project Director).

1.3.14 CONTRACTOR's Project Manager

As used herein, the term "CONTRACTOR's Project Manager" shall have the meaning set forth in Subparagraph 3.2 (CONTRACTOR's Project Manager).

1.3.15 CONTRACTOR Work Product

As used herein, the term "CONTRACTOR Work Product" means the Application Software, external systems Interfaces which are not proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), medical devices Interfaces, related Documentation and other non-public and proprietary materials, products, processes and procedures developed by CONTRACTOR outside of the scope of this Agreement (whether prior to or during the term of this Agreement), which CONTRACTOR desires to use hereunder, as well as any improvements, developments, or modifications to the foregoing, including derivative works, developed by CONTRACTOR, but excluding COUNTY Materials.

1.3.16 COUNTY

As used herein, the term "COUNTY" shall have the meaning set forth in the preamble to this Agreement.

1.3.17 COUNTY Facility; COUNTY Facilities

As used herein, the term "COUNTY Facility" shall mean any one, and the term "COUNTY Facilities" shall mean any two or more, of the facilities identified in Attachment H (COUNTY Facilities) to Exhibit A (Statement of Work) and any other COUNTY facilities from time to time, provided COUNTY stays within the scope limitations described in the License, (a) housing COUNTY's minor detainees, (b) providing health and/or mental health services to such detainees, and/or (c) providing correctional or probational services in respect of such detainees, in each case, as designated in writing by COUNTY's Project Director.

1.3.18 COUNTY Materials

As used herein, the term "COUNTY Materials" shall have the meaning set forth in Paragraph 19 (Other Proprietary Considerations).

1.3.19 COUNTY's Project Director

As used herein, the term "COUNTY's Project Director" shall have the meaning set forth in Subparagraph 2.1 (COUNTY's Project Director).

1.3.20 COUNTY's Project Manager

As used herein, the term "COUNTY's Project Manager" shall have the meaning set forth in Subparagraph 2.2 (COUNTY's Project Manager).

1.3.21 Custom Programming Modifications

As used herein, the term "Custom Programming Modifications" shall mean those software programming and/or modifications (other than Tailoring), together with object code and related Documentation, which COUNTY may request, and which CONTRACTOR shall provide, in accordance with Subparagraph 7.5 (Other Professional Services) and Task 15 (Custom Programming Modifications and/or Additional Interfaces) of Exhibit A (Statement of Work).

1.3.22 Day(s)

As used herein, the term "day(s)" shall mean calendar days and not business or working days, unless otherwise indicated.

1.3.23 Deficiency(ies)

As used herein, the term "Deficiency(ies)" shall mean and include defect(s) in design, development, implementation, materials, or workmanship; error(s); omission(s); deviation(s) from published or mutually agreed upon standards, any of the Specifications; or other problem(s) which result in the System not performing in accordance with the provisions of this Agreement, including, without limitation, the Specifications.

1.3.24 Deliverable

As used herein, the terms "Deliverable" and "deliverable" shall mean an item and/or a service to be provided by CONTRACTOR under this Agreement identified as a numbered Deliverable in Exhibit A (Statement of Work) or in a Change Notice or Amendment. The term "Key Deliverable" as used herein shall mean the Deliverables marked with the word "Key" on Exhibit C (Project Schedule). Key Deliverables include, without limitation, Milestones.

1.3.25 DHS

As used herein, the term "DHS" shall have the meaning set forth in the Recitals.

1.3.26 DMH

As used herein, the term "DMH" shall have the meaning set forth in the Recitals.

1.3.27 Documentation

As used herein, the term "Documentation" shall mean all training course materials, Specifications, customer technical manuals, customer handbooks, customer flow charts, customer technical information, customer reference materials, customer user manuals, customer operating manuals and all other user instructions provided by CONTRACTOR regarding the capabilities, operation, installation and use of the System and/or applicable System Components.

1.3.28 Downtime; Scheduled Downtime; Unscheduled Downtime

As used herein, the term "Downtime" shall mean that period of time when the System or any System Component fails to function in accordance with the Specifications and this Agreement, and as a result COUNTY is unable to utilize the System or any System Component in accordance with the Specifications and this Agreement. Downtime consists of "Scheduled Downtime" and "Unscheduled Downtime," each as defined in Exhibit D (Service Level Agreement).

1.3.29 Due Date

As used in herein, the term "Due Date" shall have the meaning set forth in Subparagraph 7.2 (Credits to COUNTY).

1.3.30 Effective Date

As used herein, the term "Effective Date" shall mean the date set forth in the preamble to this Agreement, which is the date on which this Agreement has been

approved and executed by COUNTY's Board of Supervisors and executed by an authorized officer of CONTRACTOR.

1.3.31 Exhibits

As used herein, the term "Exhibits" shall have the meaning set forth in Subparagraph 1.1 (Interpretation). Reference to an Exhibit includes without limitation the body of such Exhibit and its attachments.

1.3.32 Final System Acceptance

As used herein, the term "Final System Acceptance," with respect to each Phase, shall have the meaning set forth in Subparagraph 9.1 (General).

1.3.33 Initial Term

As used herein, the term "Initial Term" shall have the meaning set forth in Paragraph 5 (Term).

1.3.34 Interface(s)

As used herein, the term "Interface(s)" shall mean the software mechanisms, including, but not limited to, object code and related Documentation, which are (a) required to complete the interface(s) referred to in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work) as either Phase 1 System Interfaces or Optional Phase System Interfaces, and/or (b) required to complete any Additional Interfaces. "Interface(s)" additionally includes any modifications to such software mechanisms provided under and in accordance with this Agreement to allow for additional and/or different data to be transmitted over such software mechanisms. Reference to the Interfaces may include one or more components thereof or all Interfaces in the System.

1.3.35 JCHS

As used herein, the term "JCHS" shall have the meaning set forth in the Recitals.

1.3.36 JHIS

As used herein, the term "JHIS" shall have the meaning set forth in the Recitals.

1.3.37 JHIS Agreement

As used herein, the term "JHIS Agreement" shall have the meaning set forth in the Recitals.

1.3.38 JHIS Application Software

As used herein, the term "JHIS Application Software" shall have the meaning set forth in the Recitals.

1.3.39 JJMH

As used herein, the term "JJMH" shall have the meaning set forth in the Recitals.

1.3.40 License

As used herein, the term "License" shall have the meaning set forth in Subparagraph 11.3 (License).

1.3.41 Milestone

As used herein, the term "Milestone" shall have the meaning set forth in Subparagraph 4.5 (Phases and Milestones). Milestones also constitute Key Deliverables.

1.3.42 OPS Pool Dollars

As used herein, the term "OPS Pool Dollars" shall mean the amount identified as such on Exhibit B (Schedule of Payments), which is the amount that may be allocated under this Agreement to pay for other professional services as described in Subparagraph 7.5 (Other Professional Services) and for the work described in Subparagraphs 6.2 and 6.3, in each case, which have been authorized to be performed and performed as provided in this Agreement.

1.3.43 Optional Phase System(s)

As used herein, the term "Optional Phase System(s)" shall mean all Application Software, Third Party Software, Interfaces, conversions and related services for each Optional Phase as set forth in Exhibit A (Statement of Work). Provision of each Optional Phase System is optional and shall only be provided by CONTRACTOR under this Agreement following an Amendment under Subparagraph 6.3.

1.3.44 Out-of-Pocket Expenses

As used herein, the term "Out-of-Pocket Expenses" shall mean CONTRACTOR's reasonable and necessary expenditures for CONTRACTOR's staff transportation, meals, and lodging, but not to exceed the limits set forth in the then current Chapter 5.40 (Travel and Other Expenses) of the Los Angeles County Code. Out-of-Pocket Expenses shall be available only as specified under Subparagraphs 7.5 (Other Professional Services) and 7.6 (Implementation Out-

of-Pocket Expenses).

1.3.45 P2Sentinel Security Services

As used herein, the term "P2Sentinel Security Services" shall have the meaning given to such term in Exhibit D (Service Level Agreement).

1.3.46 Phase

As used herein, the term "Phase" shall have the meaning set forth in Subparagraph 4.5 (Phases and Milestones).

1.3.47 Phase 1 System

As used herein, the term "Phase 1 System" shall mean all Phase 1 Application Software, Third Party Software, Interfaces, conversions and related services.

1.3.48 Production Use

As used herein, the term "Production Use" shall mean the actual use of System Software, conversions and Interfaces of any Phase to perform COUNTY's applicable normal business operations.

1.3.49 Project Control Document

As used herein, the term "Project Control Document" shall mean the project plan and related documentation of the Project Control Document described in Task 1 (Project Planning) of Exhibit A (Statement of Work). The Project Control Document and all reports or other Documentation developed pursuant to Exhibit A (Statement of Work) shall automatically become a part of this Agreement immediately upon COUNTY's approval following their creation or delivery, as the case may be, pursuant to Exhibit A (Statement of Work).

1.3.50 Recitals

As used herein, the term "Recitals" shall have the meaning set forth in the preamble to this Agreement.

1.3.51 Release Conditions

As used herein, the term "Release Conditions" shall have the meaning set forth in Subparagraph 11.4.C (Source Code Release Conditions).

1.3.52 Remote Hosting Services

As used herein, the term "Remote Hosting Services" shall have the meaning

given to such term in Exhibit D (Service Level Agreement).

1.3.53 Sheriff's Department

As used herein, the term "Sheriff's Department" shall have the meaning set forth in the Recitals.

1.3.54 Source Code

As used herein, the term "Source Code" shall have the meaning set forth in Subparagraph 11.4.B (Source Code Escrow).

1.3.55 Specifications

As used herein, the term "Specifications" shall mean any or all of the following, as applicable:

(a)   All specifications, requirements and standards set forth in Attachment A (PEMRS Functional, Technical and Operational Requirements) to, and all Documentation and other specifications, requirements and standards included as Deliverables in, Exhibit A (Statement of Work);

(b)   All specifications, requirements and standards set forth in Exhibit H (PEMRS Project Plan, Version 4, dated September 2009);

(c)   All specifications, requirements and standards set forth in Attachments B (Schedule of PEMRS Software) and/or C (Related Contractor Software Products) to Exhibit A (Statement of Work);

(d)   All specifications, requirements and standards set forth in Exhibit G (PEMRS Assessment), together with its attachments;

(e)   The Documentation, to the extent not inconsistent with any of the foregoing in Subparts (a), (b), (c) and/or (d) of this definition;

(f)   All specifications identified as such by CONTRACTOR, including, but not limited to, all System design Documentation provided by CONTRACTOR under this Agreement, but only to the extent (i) not inconsistent with any of the foregoing in Subparts (a), (b), (c), (d) and/or (e) of this definition, and (ii) acceptable to COUNTY in its sole discretion; and

(g)   All written or electronic materials furnished by or through CONTRACTOR regarding CONTRACTOR's pre-developed and generally available software products, but only to the extent not inconsistent with any of the foregoing in Subparts (a), (b), (c), (d), (e) and/or (f) of this definition, and which outline, describe, or specify (i) functionality, (ii) features, (iii)

capacity, (iv) availability, (v) response times, (vi) accuracy, or (vii) any other performance or other criteria for the System or any element of the System.

1.3.56 Specified Hardware

As used herein, the term "Specified Hardware" shall have the meaning set forth in Subparagraph 10.1 (System Warranties and Covenants).

1.3.57 Specified JHIS Application Software

As used herein, the term "Specified JHIS Application Software" shall mean the specific JHIS Application Software identified on Attachment I (Specified JHIS Application Software) to Exhibit A (Statement of Work).

1.3.58 Specified Operating Software

As used herein, the term "Specified Operating Software" shall have the meaning set forth in Subparagraph 10.1 (System Warranties and Covenants).

1.3.59 Subcontractor; Permitted Subcontractor

As used herein, the term "Subcontractor" shall mean any person, entity, or organization to which CONTRACTOR proposes to delegate or has delegated any of its obligations hereunder in accordance with Paragraph 16 (Subcontracting). "Subcontractor" includes, but is not limited to, each "Permitted Subcontractor" as defined in Subparagraph 16.1.

1.3.60 Subtask

As used herein, the terms "Subtask" and "subtask" shall mean one of the sub-areas of work to be performed under this Agreement identified as a numbered Task in Exhibit A (Statement of Work) or in a Change Notice or Amendment.

1.3.61 System

As used herein, the terms "System" shall mean all System Software, Application Upgrades Implementation Services, Application Management Services, P2Sentinel Security Services, Remote Hosting Services and other services, in each case, described in this Agreement and as otherwise agreed to in writing by CONTRACTOR and COUNTY pursuant to Paragraph 6 (Change Notices and Amendments), collectively comprising the Probation Electronic Medical Records System ("PEMRS"). Reference to the System may include one or more components or modules thereof or the entire System.

1.3.62 System Component

As used herein, the term "System Component" shall mean, individually and collectively, each and every component of the System Software.

1.3.63 System Software

As used herein, the term "System Software" shall mean the Application Software, Third Party Software, Interfaces and conversions. Reference to the System Software may include one or more components or modules thereof or all System Software in the System.

1.3.64 Tailor; Tailored; Tailoring

As used herein, the terms "Tailor," "Tailored" and "Tailoring" shall have the meanings set forth in Exhibit A (Statement of Work).

1.3.65 Task

As used herein, the terms "Task" and "task" shall mean one of the areas of work to be performed under this Agreement identified as a numbered Task in Exhibit A (Statement of Work) or in a Change Notice or Amendment.

1.3.66 Third Party Software

As used herein, the term "Third Party Software" shall have the meaning specified in Subparagraph 10.5 (Third Party Software).

1.3.67 Updates

As used herein, the term "Updates" shall have the meaning set forth in Exhibit D (Service Level Agreement).

1.3.68 Upgrades

As used herein, the term "Upgrades" shall have the meaning set forth in Exhibit D (Service Level Agreement).

1.3.69 Upgrades Implementation Services

As used herein, the term "Upgrades Implementation Services" shall have the meaning set forth in Exhibit D (Service Level Agreement).

1.3.70 User

As used herein, the term "User" shall mean any person or entity authorized by

the Probation Department to access or use the System or a System Component.

1.3.71 User Acceptance Tests

As used herein, the terms "User Acceptance Tests" and "User Acceptance Testing" shall mean the tests described in Subparagraph 9.3 (User Acceptance Tests).

1.3.72 User Licenses

As used herein, the term "User Licenses" shall have the meaning set forth in the Recitals.

1.3.73 Viruses

As used herein, the term "Viruses" shall mean any device, method or means including, without limitation, the use of any "virus", "lockup", "time bomb", or "key lock", "worm", "back door" or "Trojan Horse" device or program, any disabling code or malware, which has the potential or capability of compromising the security of COUNTY's confidential or proprietary information or of causing any unplanned interruption of the operations of, or accessibility of COUNTY's systems to COUNTY or any User or which could alter, destroy, or inhibit the use of COUNTY's systems, or the data contained therein, or introduce a vulnerability to COUNTY's systems or networks.

1.3.74 Working Day(s)

As used herein, the terms "Working Day(s)" and "working day(s)" shall mean 8:00 a.m. to 5:00 p.m. Pacific Time, Monday through Friday, excluding COUNTY observed holidays.

2. ADMINISTRATION OF AGREEMENT – COUNTY

2.1 COUNTY's Project Director

2.1.1 COUNTY's Project Director for this Agreement shall be the person designated as such on Exhibit K (COUNTY's Administration), or such person's designee.

2.1.2 COUNTY shall notify CONTRACTOR in writing of any change in the name or address of COUNTY's Project Director.

2.1.3 COUNTY's Project Director shall be responsible for COUNTY's performance of its tasks and ensuring CONTRACTOR's compliance with this Agreement.

2.1.4 COUNTY's Project Director shall meet or confer with CONTRACTOR's Project Director on a regular basis.

2.1.5 Except as expressly set forth in this Agreement, COUNTY's Project Director is not authorized to make any changes in any of the terms or conditions of this Agreement and is not authorized to further obligate COUNTY in any respect whatsoever.

2.1.6 COUNTY's Project Director shall have the right at all times to inspect any and all tasks, Deliverables, goods, services, and/or other work provided by or on behalf of CONTRACTOR.

2.2 COUNTY's Project Manager

2.2.1 COUNTY's Project Manager for this Agreement shall be the person designated as such on Exhibit K (COUNTY's Administration), or such person's designee.

2.2.2 COUNTY shall notify CONTRACTOR in writing of any change in the name or address of COUNTY's Project Manager.

2.2.3 COUNTY's Project Manager shall be responsible for ensuring that the technical standards and requirements of COUNTY's performance under this Agreement are met.

2.2.4 COUNTY's Project Manager is not authorized to make any changes in any of the terms and conditions of this Agreement and is not authorized to further obligate COUNTY in any respect whatsoever.

2.2.5 COUNTY's Project Manager shall advise COUNTY's Project Director as to CONTRACTOR's performance in areas relative to requirements and technical standards.

2.3 COUNTY Personnel

Unless otherwise expressly stated in this Agreement, all COUNTY personnel assigned to this Agreement shall be under the exclusive supervision of COUNTY. Except as otherwise expressly provided in this Agreement, CONTRACTOR understands and agrees that all such COUNTY personnel are assigned only for the convenience of COUNTY.

2.4 Approval of Work

All completed tasks, Deliverables, goods, services and other work provided by CONTRACTOR must have the written approval of COUNTY's Project Director and COUNTY's Project Manager, which approval shall be provided or denied in a

timely manner considering the circumstances and the procedures set forth in this Agreement and as provided in Exhibit A (Statement of Work), Exhibit D (Service Level Agreement) (for Updates and Upgrades only), and/or in any applicable Change Notice or Amendment. In no event shall COUNTY be liable or responsible for any payment prior to such written approval. Notwithstanding the foregoing, the fees set forth in Exhibit D (Service Level Agreement) are payable monthly or annually, as applicable, in advance, as provided in Exhibit D (Service Level Agreement).

For each Deliverable, COUNTY will provide to CONTRACTOR written approval or disapproval by COUNTY's Project Director and COUNTY's Project Manager within thirty (30) days (or such other period, if any, as may be specified in the Project Control Document with respect to such Deliverable), from delivery to COUNTY's Project Director and COUNTY's Project Manager of such Deliverable, provided that CONTRACTOR provides COUNTY's Project Director and COUNTY's Project Manager with a written notice simultaneously with the delivery of such Deliverable specifying the date on which such Deliverable was delivered to COUNTY's Project Director and COUNTY's Project Manager and specifying the last date for COUNTY's written approval or disapproval of such Deliverable. COUNTY's Project Director shall determine if there is any discrepancy between the date specified by CONTRACTOR for COUNTY's approval or disapproval and the time limit set forth in this Subparagraph 2.4 for such approval or disapproval, and the determination of COUNTY's Project Director as to the correct such date shall be final, subject to Paragraph 46 (Dispute Resolution Procedure). In the event COUNTY fails to provide written approval or disapproval of such Deliverable by the last date for such approval or disapproval, CONTRACTOR may then deliver to COUNTY's Project Director and COUNTY's Project Manager a written notice which shall include at the top of the first page, in all capital letters, in bold type face, the following:

"NOTICE TO COUNTY OF LOS ANGELES OF FAILURE TO PROVIDE WRITTEN APPROVAL OR DISAPPROVAL OF A DELIVERABLE IN A TIMELY MANNER PURSUANT TO THE AGREEMENT BY AND BETWEEN THE COUNTY OF LOS ANGELES AND CERNER CORPORATION FOR A PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM FOR THE COUNTY OF LOS ANGELES DEPARTMENTS OF PROBATION, MENTAL HEALTH AND HEALTH SERVICES. A WRITTEN RESPONSE IS REQUIRED ON OR BEFORE _____ [DATE]."

Such written notice shall specify the Deliverable for which CONTRACTOR is seeking written approval or disapproval and the date on which such Deliverable was delivered to COUNTY's Project Director and COUNTY's Project Manager. If CONTRACTOR provides to COUNTY's Project Director and COUNTY's Project Manager a written notice that fully conforms to the foregoing requirements, then COUNTY will provide to CONTRACTOR written approval or

disapproval by COUNTY's Project Director and COUNTY's Project Manager of such Deliverable within ten (10) working days following receipt by COUNTY's Project Director and COUNTY's Project Manager of such a written notice fully conforming to the foregoing requirements. If COUNTY fails to provide such written approval or disapproval within such ten (10) working day period, such written approval or disapproval shall be obtained pursuant to Paragraph 46 (Dispute Resolution Procedure). Any written notice of disapproval from COUNTY's Project Director or COUNTY's Project Manager which specifies one or more bases for disapproval shall not be deemed or construed to constitute an exhaustive itemization of the bases for such disapproval, and shall not limit in any manner at any time prior to written approval of such Deliverable by COUNTY's Project Director and COUNTY's Project Manager, COUNTY's rights subsequently to disapprove such Deliverable on the same basis or on another basis.

2.5 Approval of Invoices

All invoices submitted by CONTRACTOR for payment must have the written approval of COUNTY's Project Director and COUNTY's Project Manager prior to any payment thereof less any offsets due to COUNTY, which approval shall be provided or denied in a timely manner (not to exceed thirty (30) days following submission of the invoice following COUNTY's approval of the applicable Deliverable or other work pursuant to Subparagraph 2.4 (Approval of Work)) considering the circumstances and the procedures set forth in this Agreement. In no event shall COUNTY be liable or responsible for any payment prior to such written approval. Failure to approve or disapprove of a properly prepared invoice within the specified timeframe shall be deemed to constitute approval of such invoice.

3. ADMINISTRATION OF AGREEMENT - CONTRACTOR

3.1 CONTRACTOR's Project Director

3.1.1 CONTRACTOR's Project Director shall be the person designated as such on Exhibit L (CONTRACTOR's Administration), who shall be a full-time employee of CONTRACTOR.

3.1.2 CONTRACTOR's Project Director shall be responsible for CONTRACTOR's performance of all its tasks and assuring CONTRACTOR's compliance with this Agreement.

3.1.3 CONTRACTOR's Project Director shall meet or confer with CONTRACTOR's Project Manager and COUNTY's Project Director on a regular basis.

3.2   CONTRACTOR's Project Manager

    3.2.1   CONTRACTOR's Project Manager shall be the person designated as such on Exhibit L (CONTRACTOR's Administration), who shall be a full-time employee of CONTRACTOR.

    3.2.2   CONTRACTOR's Project Manager shall be responsible for CONTRACTOR's day-to-day activities as related to this Agreement and for reporting to COUNTY in the manner set forth in Subparagraph 3.9 (Reports by CONTRACTOR).

    3.2.3   CONTRACTOR's Project Manager shall meet or confer with COUNTY's Project Director and COUNTY's Project Manager on a regular basis.

3.3   Account Manager/Quality Assurance Manager

    3.3.1   CONTRACTOR's Account Manager/Quality Assurance Manager shall be the person designated as such on Exhibit L (CONTRACTOR's Administration), who shall be a full-time employee of CONTRACTOR.

    3.3.2   CONTRACTOR's Account Manager/Quality Assurance Manager shall be responsible for ensuring that the Deliverables and all other work (a) are in accordance with the requirements of this Agreement, including but not limited to the Specifications, and (b) meet CONTRACTOR's standards of quality for presentation, accuracy and completeness, prior to submitting such Deliverables and other work to COUNTY for approval under this Agreement.

3.4   Approval of CONTRACTOR's Staff

    3.4.1   Subject to Subparagraph 3.6 (Background Check of CONTRACTOR's Staff), COUNTY, acting through COUNTY's Project Director or otherwise, has the absolute right to approve or disapprove each member or proposed member of CONTRACTOR's key personnel as defined in this Subparagraph 3.4, including, but not limited to, CONTRACTOR's Project Director and CONTRACTOR's Project Manager, prior to, and during, their performing any work hereunder, as well as so approving or disapproving any proposed deletions from or other changes in such personnel. COUNTY agrees to remain reasonable in any such approval or disapproval. COUNTY, acting through COUNTY's Project Director or otherwise, may require replacement of any member of CONTRACTOR's staff performing, or offering to perform, work hereunder, including, but not limited to, CONTRACTOR's Project Director and CONTRACTOR's Project Manager. For CONTRACTOR's key personnel, CONTRACTOR shall provide COUNTY with a resume of each such proposed initial staff member, including, but not limited to, CONTRACTOR's Project Director

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and CONTRACTOR's Project Manager, and proposed substitute and an opportunity to interview such person prior to such person performing any work hereunder.

3.4.2 For purposes of this Subparagraph 3.4, CONTRACTOR's key personnel shall mean the following positions: (a) CONTRACTOR's Project Director; (b) CONTRACTOR's Project Manager; (c) Integration Architect; and (d) Account Manager/Quality Assurance Manager.

3.4.3 The following persons shall be provided by CONTRACTOR and are hereby approved as of the Effective Date by COUNTY in the following key roles:

Key Role	Individual
Project Director	Len Giuffre
Project Manager	Greg Smentkowski
Integration Architect	Agnes Kwok
Account Manager/ Quality Assurance Manager	Jodi Drury

3.4.4 In addition, CONTRACTOR represents and warrants that it shall, to the maximum extent possible, take all necessary steps to assure continuity over time of the membership of the group constituting CONTRACTOR's staff, including, but not limited to, CONTRACTOR's Project Director and CONTRACTOR's Project Manager. To this end, CONTRACTOR agrees that it shall not replace, reassign or reallocate any of CONTRACTOR's key personnel without the prior written consent of COUNTY's Project Director, except upon such individual's resignation, termination, death, incapacity or personal reasons. COUNTY's Project Director shall not unreasonably withhold its consent in connection with replacement, reassignment or reallocation of any of CONTRACTOR's key personnel. CONTRACTOR shall promptly fill any staff vacancy with personnel having qualifications at least equivalent to those of the staff member(s) being replaced.

3.4.5 In fulfillment of its responsibilities under this Agreement, CONTRACTOR shall utilize, and permit utilization of, only staff fully trained and experienced, and as appropriate, licensed or certified in the technology,

trades, and tasks required by this Agreement.

    3.4.6   CONTRACTOR shall supply sufficient staff to discharge its responsibilities hereunder in a timely and efficient manner, including, without limitation, as required to comply with the Project Control Document.

    3.4.7   In the event CONTRACTOR should ever need to remove any staff from performing work under this Agreement, CONTRACTOR shall provide COUNTY with notice at least fifteen (15) days in advance, except in circumstances in which such notice is not possible, and shall work with COUNTY on a mutually agreeable transition plan so as to provide an acceptable replacement and ensure project continuity.

    3.4.8   CONTRACTOR shall notify the COUNTY's Project Director within two (2) Working Days when any staff who either (a) has access to minor records or (b) is assigned to come onsite to any COUNTY Facility is no longer performing work under this Agreement for any reason.

    3.4.9   All staff employed by and on behalf of CONTRACTOR shall be adults who are fully fluent in both spoken and written English.

3.5   Compliance With COUNTY Rules And Regulations

Without limiting Paragraph 21 (Compliance with Applicable Law), all CONTRACTOR and all staff performing work hereunder on behalf of CONTRACTOR shall abide by all policies, procedures and directives applicable to a COUNTY Facility while present at such COUNTY Facility, as these may be amended from time to time. COUNTY's Project Director and/or COUNTY's Project Manager will provide written copies to CONTRACTOR and such staff on the applicable policies, procedures and directives prior to CONTRACTOR or such staff entering a COUNTY Facility.

3.6   Background Check of CONTRACTOR's Staff

    3.6.1   No staff performing work hereunder on behalf of CONTRACTOR who either have access to minor records or may come onsite to any COUNTY Facility shall have a criminal conviction record or pending criminal trial unless such information has been fully disclosed and use of such staff hereunder is approved (in writing) by the Chief Probation Officer. No staff member performing work hereunder shall be on active probation or parole currently or within the last three (3) years.

3.6.2   COUNTY reserves the right (a) to require a background investigation of CONTRACTOR's prospective staff prior to assignment to work hereunder, (b) to require further background investigation (not including the records check conducted under Subparagraph 3.6.4) of such staff at any time, (c) to bar any such staff from working on hereunder under appropriate circumstances and (d) to preclude the CONTRACTOR from assigning any staff member to perform work or to continue performing work hereunder.

3.6.3   CONTRACTOR and staff performing work on hereunder shall be under a continuing obligation to disclose any prior or subsequent criminal conviction record or any pending criminal trial to COUNTY's Project Director.

3.6.4   CONTRACTOR shall submit the names of staff to the COUNTY's Project Director prior to such staff starting work hereunder. COUNTY will schedule appointments to conduct background investigation/record checks based on fingerprints of such staff.   Notwithstanding the foregoing, CONTRACTOR may obtain written authorization from Chief Probation Officer to do either of the following with respect to any member of CONTRACTOR's staff (a)   conduct a background investigation/record checks based upon fingerprints of such staff member through a local law enforcement agency, or (b) obtain fingerprints of such staff member through a local law enforcement agency and forward such fingerprints to Gina Byrnes, Probation Department, 9150 E. Imperial Highway, Downey, CA 90242, for COUNTY to conduct the background investigation/records check. Regardless of whether COUNTY or CONTRACTOR conducts the background investigation/records check, the Probation Department shall be listed as the reporting agency for all such background investigations/records checks.   CONTRACTOR'S staff performing work hereunder shall not begin any such work before receiving written notification of clearance from COUNTY.

3.6.5   Because COUNTY is charged by the State for checking the criminal conviction records of CONTRACTOR's staff, COUNTY will bill CONTRACTOR to recover the expense for all background investigations/records checks conducted by COUNTY under this Subparagraph 3.6. The current amount is $32.00 per record check, which is subject to change by the State. CONTRACTOR will bear all expense of the background investigations/records checks conducted by CONTRACTOR under this Subparagraph 3.6.

3.6.6   CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents, from and against any and all Claims,

damages, liabilities, losses, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, arising from or related to COUNTY's performance of criminal background checks and any limitations imposed on CONTRACTOR's staff, except to the extent such Claims, damages, liabilities, losses, costs and expenses result directly from the sole negligence of COUNTY in performing criminal background checks under this Subparagraph 3.6. Although the parties have agreed to limit CONTRACTOR's indemnification obligation under this Subparagraph 3.6 as expressly provided in the immediately preceding sentence, the parties understand and agree that such limitation is not intended to, and shall not, reduce in any respect (a) CONTRACTOR's obligation to conduct its own due diligence in connection with its hiring practices and (b) CONTRACTOR's liability, whether under this Agreement, at law or in equity, for the actions of its staff. Any legal defense pursuant to CONTRACTOR's indemnification obligations under this Subparagraph 3.6 shall be conducted by CONTRACTOR and performed by counsel selected by CONTRACTOR and approved by COUNTY (which approval shall not be unreasonably withheld) in writing. Notwithstanding the preceding sentence, COUNTY shall have the right to participate in any such defense at its sole cost and expense, except that in the event CONTRACTOR fails to provide COUNTY with a full and adequate defense, as required by law or this Agreement, COUNTY shall be entitled to reimbursement for all such costs and expenses.

3.6.7   CONTRACTOR shall be responsible for the ongoing implementation and monitoring of this Subparagraph 3.6. On at least a quarterly basis, CONTRACTOR shall deliver a written report to COUNTY's Project Director, which report shall identify (a) all staff that have received a background investigation during the reporting period, (b) all staff that have been disqualified or otherwise removed from performing work under this Agreement under this Subparagraph 3.6, (c) all staff that have been cleared to perform work under this Agreement under this Subparagraph 3.6, (d) any prior or subsequent criminal conviction record or any pending criminal trial with respect to any staff of which CONTRACTOR becomes aware, and (e) any staff member on active probation or parole currently or within the last three (3) years of which CONTRACTOR becomes aware.

3.6.8   COUNTY represents and warrants that with respect to, and during the performance of, criminal background checks performed by COUNTY under this Subparagraph 3.6, COUNTY will comply with all Federal, California State and local laws that are applicable to such criminal background checks.

3.7   Contractor's Staff Identification

   3.7.1   CONTRACTOR shall provide, at CONTRACTOR'S expense, all staff performing work under this Agreement with a CONTRACTOR identification badge, which identifies staff by name and photo. All staff who are assigned to come onsite to any COUNTY Facility are required to have a COUNTY-approved identification badge (in this Subparagraph 3.7, "ID badge") on their person and visible at all times.

   3.7.2   CONTRACTOR is responsible to ensure that employees have obtained an ID badge before they are assigned to work in a COUNTY Facility. CONTRACTOR personnel may be asked to leave a COUNTY Facility by a COUNTY representative if they do not have the proper ID badge on their person.

3.8   Sexual Harassment/Discrimination/Retaliation Training

   3.8.1   CONTRACTOR shall provide training to all staff who either (a) may come onsite to any COUNTY Facility or (b) are named in or are otherwise dedicated by CONTRACTOR to this Agreement, on sexual harassment, discrimination, and retaliation. This training shall be substantially in accordance with California Government Code section 12950.1 and otherwise with applicable law.

   3.8.2   CONTRACTOR shall provide COUNTY's Project Director with a certified document in the form attached as Exhibit M (Sexual Harassment/Discrimination/Retaliation Prohibited Form) with respect to each such staff member. Such certified document will be required from the CONTRACTOR before such staff member may perform work under this Agreement.

3.9   Reports by CONTRACTOR

   In order to control expenditures and to provide COUNTY with ongoing information as to all tasks, subtasks, Deliverables, goods, services, and other work provided by CONTRACTOR, CONTRACTOR shall provide COUNTY's Project Director and COUNTY's Project Manager with written reports as described in Task 2 (Project Management) in Exhibit A (Statement of Work) which shall include, but not be limited to, the following information:

   A.   Period covered by the report.

   B.   Overview of the reporting period.

   C.   Tasks, subtasks, Deliverables, goods, services, and other work scheduled for the reporting period which were not completed.

D.   Tasks, subtasks, Deliverables, goods, services, and other work for the reporting period which were completed.

E.   Tasks, subtasks, Deliverables, goods, services, and other work completed in the reporting period which were not scheduled.

F.   Tasks, subtasks, Deliverables, goods, services, and other work to be completed in the next reporting period.

G.   Issues to be resolved.

H.   Issues resolved.

I.   Summary of project status as of reporting date.

J.   Any other information which COUNTY's Project Director or Project Manager may from time-to-time reasonably require.

Each report shall be signed by CONTRACTOR's Project Manager. CONTRACTOR shall deliver copies of each report to COUNTY's Project Manager electronically via e-mail.

4.   WORK

4.1   General

Pursuant to the provisions of this Agreement, CONTRACTOR and COUNTY shall on a timely basis provide, complete, and deliver all tasks, subtasks, Deliverables, goods, services, and other work as set forth in this Agreement, including, without limitation, Exhibit A (Statement of Work) and Exhibit C (Project Schedule), as may be updated from time to time by the Project Control Document in accordance with Exhibit A (Statement of Work), Exhibit D (Service Level Agreement), and/or in any Change Notice or Amendment.

4.2   Unapproved Work

If CONTRACTOR provides any tasks, subtasks, Deliverables, goods, services or other work to COUNTY other than those specified in this Agreement or in any Change Notice or Amendment, or if CONTRACTOR provides such items requiring COUNTY's prior written approval without first having obtained such written approval, the same shall be deemed to be a gratuitous effort on the part of CONTRACTOR and CONTRACTOR shall have no claim whatsoever against COUNTY therefor. COUNTY reserves the right to reject any tasks, subtasks, Deliverables, goods, services, and/or other work not approved in writing by

COUNTY pursuant to Subparagraph 2.4 (Approval of Work) or other provisions of this Agreement.

4.3   System

CONTRACTOR shall provide the System to COUNTY in accordance with the terms and conditions set forth in this Agreement.

4.4   Service Level Agreement

4.4.1   General

In exchange for payment of the applicable fees set forth on Exhibit D (Service Level Agreement) in accordance with this Agreement, CONTRACTOR shall provide COUNTY with maintenance, support, Upgrades Implementation, Application Management, P2Sentinel Security and Remote Hosting Services, in each case, for the System Software as set forth in, and in accordance with, the terms of Exhibit D (Service Level Agreement). Without limiting the foregoing, provided that COUNTY is paying the applicable fees set forth in Exhibit D (Service Level Agreement) in accordance with this Agreement, then all Updates and Upgrades to the System Software, or any System Component, and all Documentation shall be provided to COUNTY, at no additional cost over and above the sums otherwise payable by COUNTY under this Agreement, promptly after the creation thereof, and in no event later than thirty (30) days after COUNTY's request therefor.

4.4.2   Service Level Commitment Credits

COUNTY shall be entitled to service level commitment credits in connection with CONTRACTOR's performance of maintenance, support, Application Management and/or Remote Hosting Services, under the circumstances described in, and calculated in accordance with, Exhibit D (Service Level Agreement).

4.5   Phases and Milestones

4.5.1   The work to be carried out under this Agreement shall be carried out in phases (each a "Phase"), as described in Exhibit A (Statement of Work) and Exhibit C (Project Schedule), as may be updated from time to time by the Project Control Document in accordance with Exhibit A (Statement of Work), except that provision of each Optional Phase is optional and shall only be provided by CONTRACTOR following an Amendment to this Agreement pursuant to Subparagraph 6.3.

4.5.2   Such Phases and the work to be carried out hereunder recognize the

milestones identified in Exhibit C (Project Schedule) (each a "Milestone"), each of which must be completed by the date identified therefor in Exhibit C (Project Schedule), as may be updated from time to time by the Project Control Document in accordance with Exhibit A (Statement of Work).

4.5.3 A Milestone shall be deemed completed for purposes of this Subparagraph 4.5 on the earliest date that all of the tasks, subtasks, Deliverables, goods, services and other work required for completion of such Milestone are completed and delivered to COUNTY, provided that all of such tasks, subtasks, Deliverables, goods, services and other work required for completion of such Milestone are thereafter approved in writing by COUNTY pursuant to Subparagraph 2.4 (Approval of Work). The determination of whether each Milestone has been so completed and so approved, and of the date upon which such Milestone was completed, shall be made by COUNTY's Project Director as soon as practicable after COUNTY is informed by CONTRACTOR that such Milestone has been completed and is given all the necessary information, data and documentation to verify such completion.

4.6 Delivery of Work

Except as otherwise approved in writing and in advance by COUNTY's Project Director, CONTRACTOR agrees that the System Software (including all related Documentation, Updates and Upgrades provided under Exhibit D (Service Level Agreement), and/or other deliveries and associated documentation under Exhibit A (Statement of Work), Exhibit D (Service Level Agreement) or other professional services) shall be delivered solely in electronic form, by "load and leave" method, or as otherwise mutually agreed by COUNTY and CONTRACTOR. COUNTY agrees to facilitate electronic delivery of the System Software through: (a) participation with CONTRACTOR's technical team delivering such software electronically (including identification of CONTRACTOR team member electronically delivering software); (b) providing appropriate high-speed connectivity; (c) providing back-up and recovery services including required server(s) and CD burner(s); and (d) providing or acquiring other items or services reasonably required, as determined by COUNTY's Project Director, to assure such software delivered is adequately protected and readily available on a timely basis for implementation processes. CONTRACTOR shall not deliver or provide any System Software, related Documentation or training materials on magnetic, optical, print or other tangible media under this Agreement, including under Exhibit A (Statement of Work), Exhibit D (Service Level Agreement), or other professional services and COUNTY shall refuse to accept delivery of such items so delivered by or on behalf of CONTRACTOR. Further, no hardware or other equipment is being purchased by COUNTY pursuant to this Agreement, including Exhibit A (Statement of Work), Exhibit D (Service Level Agreement), under other

professional services or otherwise.

5.   TERM

The term of this Agreement shall commence upon the Effective Date and shall continue for eighty-four (84) months ("Initial Term"), and thereafter may be extended, upon notice by and at the discretion of the Chief Probation Officer, for up to two (2) additional and consecutive thirty-six (36) month periods (in this Paragraph 5, each an "Extended Term"), unless sooner terminated, in whole or in part, as provided in this Agreement. As used herein, the words "term of this Agreement" mean and include the Initial Term and all exercised Extended Terms.

6.   CHANGE NOTICES AND AMENDMENTS

6.1   COUNTY reserves the right to change any portion of the work required under this Agreement and any other provision of this Agreement. All such changes shall be accomplished only as provided in this Paragraph 6.

6.2   For any change which either (a) does not affect the scope of work, term of this Agreement, payments, or any term or condition included in this Agreement, or (b) engages CONTRACTOR to provide work under Subparagraph 7.5 (Other Professional Services), such change may be effected, but only on mutual agreement, by means of a Change Notice executed by the Chief Probation Officer and an authorized officer of CONTRACTOR; provided that Change Notices that engage CONTRACTOR to provide work under Subparagraph 7.5 (Other Professional Services) (i) do not require any amendment of any term or condition of this Agreement, (ii) use then-available OPS Pool Dollars, (iii) price all services at or below the applicable pricing set forth on Attachment F (Other Professional Services Fee Schedule) to Exhibit A (Statement of Work), if any, and (iv) for Custom Programming Modifications and Additional Interfaces, have the prior written approval of COUNTY Counsel and COUNTY's Chief Information Officer.

6.3   Except as expressly provided in the remainder of this Subparagraph 6.3 and/or in Subparagraphs 6.2, 6.4, 6.5 and/or 6.6, for any change which affects the scope of work, term of this Agreement, payments, or any term or condition included in this Agreement, a negotiated Amendment to this Agreement shall be prepared and executed by COUNTY's Board of Supervisors and an authorized officer of CONTRACTOR. Notwithstanding the foregoing, the Chief Probation Officer may execute Amendments on behalf of COUNTY under this Subparagraph 6.3 which do any of the following:

A.   Implement extensions of the term of this Agreement provided for under Paragraph 5 (Term) and/or cost of living adjustments under Paragraph 70 (Cost of Living Adjustment); provided that prior written approval of any such Amendment by COUNTY Counsel has been obtained;

B. Subject to the other provisions of this Paragraph 6, update the attachments to Exhibit A (Statement of Work) during implementation as is necessary to accurately reflect the as-built System; provided that (i) any such Amendment shall not affect any other provision of this Agreement and (ii) prior written approval of any such Amendment by COUNTY Counsel has been obtained;

C. Exercise the option to have CONTRACTOR provide an Optional Phase System and make necessary amendments to this Agreement in connection therewith; provided that (i) any such Amendment uses then-available OPS Pool Dollars, (ii) pricing of all software included in any such Amendment is at or below the applicable pricing set forth on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work), if any, (iii) pricing of all services included in any such Amendment is at or below the applicable pricing set forth on Attachment F (Other Professional Services Fee Schedule) to Exhibit A (Statement of Work), if any, and (iv) prior written approval of any such Amendment by COUNTY Counsel and COUNTY's Chief Information Officer has been obtained;

D. Move one or more Optional Phase Systems to the Phase 1 System as contemplated by Subparagraph 9.1.A; provided that (i) any such Amendment uses then-available OPS Pool Dollars, (ii) pricing of all software included in any such Amendment is at or below the applicable pricing set forth on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work), if any, (iii) pricing of all services included in any such Amendment is at or below the applicable pricing set forth on Attachment F (Other Professional Services Fee Schedule) to Exhibit A (Statement of Work), if any, and (iv) prior written approval of any such Amendment by COUNTY Counsel and COUNTY's Chief Information Officer has been obtained;

E. Move (i) one or more Application Software modules or Interfaces then-included in the Phase 1 System to an Optional Phase System and (ii) all amounts then-allocated on Exhibit B (Schedule of Payments) to such Application Software modules or Interfaces to OPS Pool Dollars; provided that prior written approval of any such Amendment by COUNTY Counsel and COUNTY's Chief Information Officer has been obtained; and/or

F. Approve of an assignment or delegation under Paragraph 12 (Assignment and Delegation); provided that prior written approval of any such Amendment by COUNTY Counsel has been obtained.

6.4 CONTRACTOR and COUNTY have agreed upon a project schedule for all tasks and subtasks as listed in Exhibit C (Project Schedule), as may be updated from

time to time by the Project Control Document in accordance with Exhibit A (Statement of Work). Notwithstanding any other provision of this Paragraph 6, changes to the project schedule which do not impact either scope of work or cost of this Agreement may be made, but only upon mutual agreement in writing, by COUNTY's Project Director and CONTRACTOR's Project Director; provided that COUNTY's Project Director and CONTRACTOR's Project Director's agreement to alter the project schedule shall not prejudice either party's right to claim that such alterations constitute an Amendment to this Agreement that shall be governed by the terms of Subparagraph 6.3. Additionally notwithstanding any other provision of this Paragraph 6, to the extent that extensions of time for CONTRACTOR performance do not impact either scope of work or cost of this Agreement, COUNTY's Project Director may, in such person's sole discretion, grant CONTRACTOR requests for extensions of time in writing for the work listed in the project schedule, provided that such extensions shall not exceed a total of six (6) months and such extensions shall not extend the term of this Agreement.

6.5   Notwithstanding any other provision of this Paragraph 6 or Paragraph 32 (Termination for Convenience), the Chief Probation Officer shall take all appropriate action to carry out any orders of COUNTY's Board of Supervisors and/or Chief Executive Officer relating to this Agreement, and, for this purpose, the Chief Probation Officer is authorized to: (1) issue written notice(s) of partial or total termination of this Agreement pursuant to Paragraph 32 (Termination for Convenience) without further action by COUNTY's Board of Supervisors and Chief Executive Officer and/or (2) prepare and sign Amendments to this Agreement which reduce the scope of work and the Contract Sum without further action by COUNTY's Board of Supervisors and Chief Executive Officer.

    A.   Notices of partial or total termination under this Subparagraph 6.5 shall be authorized under the following conditions:

        1.   Notices shall be in compliance with all applicable Federal, State, and COUNTY laws, rules, regulations, ordinances, guidelines, and directives.

        2.   The Chief Probation Officer shall obtain the approval of County Counsel for any notice.

        3.   The Chief Probation Officer shall file a copy of all notices with the Executive Office of COUNTY's Board of Supervisors and COUNTY's Chief Executive Office within fifteen (15) days after execution of each notice.

    B.   Amendments under this Subparagraph 6.5 shall be authorized under the following conditions:

1. Amendments shall be in compliance with all applicable Federal, State, and COUNTY laws, rules, regulations, ordinances, guidelines, and directives.

2. COUNTY's Board of Supervisors has appropriated sufficient funds for purposes of such Amendments and this Agreement.

3. The Chief Probation Officer shall obtain the approval of County Counsel for any Amendment.

4. The Chief Probation Officer shall file a copy of all Amendments with the Executive Office of COUNTY's Board of Supervisors and COUNTY's Chief Executive Office within fifteen (15) days after execution of each Amendment.

7. CONTRACT SUM

7.1 General

7.1.1 Subject to Subparagraph 2.4 (Approval of Work) and Subparagraph 4.2 (Unapproved Work), Paragraph 9 (Acceptance of System by COUNTY), the "Contract Sum" under this Agreement, including, without limitation, OPS Pool Dollars, Implementation Pool Dollars and all applicable taxes, shall not exceed seventeen million three thousand four hundred eight dollars ($17,003,408), which amount is allocated as set forth on Exhibit B (Schedule of Payments). The Contract Sum is the maximum monetary amount payable by COUNTY to CONTRACTOR for supplying all the tasks, subtasks, Deliverables, goods, services, and other work specified under this Agreement during the Initial Term as shown on Exhibit B (Schedule of Payments).

7.1.2 CONTRACTOR acknowledges that all tasks, subtasks, Deliverables, goods, services and other work specified under this Agreement are payable on a firm, fixed price basis in accordance with the terms and conditions of this Agreement, including but not limited to Paragraphs 4 (Work), 7 (Contract Sum) and 8 (Invoices and Payments). Without limiting the foregoing, the Contract Sum shall not be increased for any costs or expenses whatsoever of CONTRACTOR, and may be modified only pursuant to an Amendment to this Agreement pursuant to Subparagraph 6.3. Notwithstanding any provision of this Agreement to the contrary, CONTRACTOR shall perform and complete all work set forth in this Agreement in exchange for the amounts to be paid to CONTRACTOR as set forth in this Agreement.

7.2   Credits to COUNTY

7.2.1   For each and every occasion upon which a Key Deliverable has not been completed by CONTRACTOR within forty-five (45) days after the date for completion thereof as set forth in Exhibit C (Project Schedule), as may be updated from time to time by the Project Control Document in accordance with Exhibit A (Statement of Work) (hereafter "Due Date"), other than as a result of delays caused by acts or omissions of COUNTY as determined by COUNTY's Project Director in such person's sole judgment and for which a notice of delay has been delivered in accordance with Paragraph 34 (Notice of Delays), and unless otherwise approved in writing by COUNTY's Project Director in such person's sole discretion, COUNTY shall receive a credit against any or all amounts due to CONTRACTOR, under this Agreement or otherwise, in the total amount of Five Hundred Dollars ($500) for each day of the first thirty (30) days after the Due Date that the Key Deliverable is not completed, and in the total amount of One Thousand Dollars ($1,000) per day for each day in excess of thirty (30) days after the Due Date that the Key Deliverable is not completed, provided that the total aggregate credits pursuant to this Subparagraph 7.2 shall not exceed Five Hundred Thousand Dollars ($500,000). All of the foregoing credits shall apply separately, and cumulatively, to each Key Deliverable in Exhibit C (Project Schedule).

7.2.2   Notwithstanding the foregoing, and provided that COUNTY has not terminated this Agreement as provided in Subparagraph 7.3 (Termination), if any Key Deliverable is not completed by the Due Date, resulting in any of the above credits, but such Key Deliverable is thereafter completed by the date of the Milestone to which such Key Deliverable pertains, and if all other Deliverables required for the completion of such Milestone are completed by the Milestone date specified in Subparagraph 4.5 (Phases and Milestones), then from and after the date such Milestone is completed the foregoing credits shall be reversed and shall no longer be deemed to apply as to any such Key Deliverable. For Key Deliverables that are not associated with a specific Milestone, the credits set forth above shall continue to accrue until the Key Deliverable is completed and shall not be reversed. A Deliverable shall be deemed completed for purposes of this Subparagraph 7.2 and Subparagraph 7.3 (Termination) on the earliest date that all of the tasks, subtasks, deliverables, goods, services and other work required for the completion of such deliverable are completed and delivered to COUNTY, provided that all of such tasks, subtasks, deliverables, goods, services and other work required for the completion of such Deliverable are thereafter approved in writing by COUNTY pursuant to Subparagraph

2.4 (Approval of Work). For purposes of this Subparagraph 7.2 and Subparagraph 7.3 (Termination), the determination of whether a Deliverable has been so completed and is so approved, and of the date upon which such Deliverable was completed, shall be made by COUNTY's Project Director as soon as practicable after COUNTY is informed by CONTRACTOR that such Deliverable has been completed and is given all the necessary information, data and documentation to verify such completion.

7.2.3 For purposes of this Subparagraph 7.2 and Subparagraph 7.3 (Termination), if a Milestone is also a Key Deliverable, the Milestone completion date shall be within forty-five (45) days after the date specified in Subparagraph 4.5 (Phases and Milestones), and no other extensions shall be allowed for such Milestone or Key Deliverable, unless otherwise mutually agreed to in writing in accordance with this Agreement.

7.3   Termination

In addition to the foregoing provisions of Subparagraph 7.2 (Credits to COUNTY), if any Key Deliverable is not completed within fifteen (15) days after the Due Date, and thereafter approved in writing by COUNTY pursuant to Subparagraph 2.4 (Approval of Work), other than as a result of delays caused by acts or omissions of COUNTY as determined by COUNTY's Project Director in such person's sole judgment and for which a notice of delay has been delivered in accordance with Paragraph 34 (Notice of Delays), and unless the Chief Probation Officer and CONTRACTOR's Project Director have otherwise agreed, in writing, prior to such date for completion, then COUNTY may, upon notice to CONTRACTOR, terminate this Agreement, which termination may, in the sole discretion of COUNTY, be deemed a termination for default within the meaning of Paragraph 31 (Termination for Default) or a termination for convenience within the meaning of Paragraph 32 (Termination for Convenience).

7.4   COUNTY's Obligation in Future Fiscal Years

Notwithstanding any other provision of this Agreement, COUNTY shall not be obligated for CONTRACTOR's performance hereunder or by any provision of this Agreement during any of COUNTY's future fiscal years unless and until COUNTY's Board of Supervisors appropriates funds for this Agreement in COUNTY's Budget for each such future fiscal year. In the event that funds are not appropriated for this Agreement, then this Agreement shall terminate as of June 30 of the last fiscal year for which funds were appropriated. COUNTY shall notify CONTRACTOR in writing of any such non-appropriation of funds at the earliest possible date. In the event of such a termination, CONTRACTOR shall

be entitled to seek payment for Deliverables completed by CONTRACTOR and approved by COUNTY in accordance with this Agreement prior to the effective date of such termination, as is provided under Subparagraph 32.3 with respect to COUNTY's termination for convenience.

7.5   Other Professional Services

  7.5.1   Subject to the terms of this Subparagraph 7.5, upon the written request of COUNTY's Project Director made at any time and from time to time during the term of this Agreement, and upon written agreement of the parties in accordance with this Agreement, CONTRACTOR shall provide to COUNTY other professional services, including, but not limited to, (A) Interfaces other than those identified in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work) and/or (B) Custom Programming Modifications, as set forth in Task 15 (Custom Programming Modifications and/or Additional Interfaces) of Exhibit A (Statement of Work) as to which COUNTY shall make such request(s). All such other professional services shall be provided at or below the Maximum Hourly Rates for such services as set forth in Attachment F (Other Professional Services Fee Schedule) to Exhibit A (Statement of Work). Out-of-Pocket Expenses may be available for other professional services, and all Out-of-Pocket Expenses shall be subject to approval in advance, in writing, by COUNTY's Project Director, which approval may be granted or withheld in such person's sole discretion.

  7.5.2   Without limiting the foregoing, other professional services additionally include maintenance, support, Upgrades Implementation, Application Management, P2Sentinel Security and Remote Hosting Services under Exhibit D (Service Level Agreement) for Optional Phase Systems. Such maintenance, support, Upgrades Implementation, Application Management, P2Sentinel Security and Remote Hosting Services shall be at the applicable rates set forth on Exhibit D (Service Level Agreement), if any.

  7.5.3   Custom Programming Modifications and Additional Interfaces shall be provided in the manner set forth in Task 15 (Custom Programming Modifications and/or Additional Interfaces) of Exhibit A (Statement of Work) and shall only include requirements not-then reflected in Exhibit A (Statement of Work), as determined in the sole judgment of COUNTY's Project Director.

  7.5.4   Requests for other professional services shall proceed as follows:

    A.   COUNTY will submit an Additional Work Request (in this Subparagraph 7.5, "AWR") to CONTRACTOR. Each AWR must be

approved in writing by COUNTY's Project Director, which approval may be granted or withheld in his sole discretion.

B.   If the AWR is for Custom Programming Modifications or Additional Interfaces, then within ten (10) working days of CONTRACTOR's receipt of COUNTY's AWR (or such other time period as mutually agreed upon between COUNTY's Project Director and CONTRACTOR's Project Manager), CONTRACTOR shall develop written Specifications for the Custom Programming Modification or Additional Interface.

C.   For all AWRs, CONTRACTOR shall additionally develop (1) a description of the requested other professional service, (2) a not-to-exceed estimate of the maximum total fixed price for the requested other professional service and (3) a project schedule for completion of the requested other professional service (in this Subparagraph 7.5, collectively "Estimate"). The estimated maximum total fixed price for the requested other professional service shall be computed at the applicable Maximum Hourly Rate(s) from Attachment F (Other Professional Services Fee Schedule) to Exhibit A (Statement of Work), multiplied by the applicable estimated number of hours to implement the requested other professional service (including, as applicable, development, testing, documentation, certification, installation and training).

E.   Within sixty (60) days of receipt of the Estimate and, if applicable, Specifications, COUNTY's Project Director will return the approved or disapproved Estimate and, if applicable, Specifications to CONTRACTOR, which approval or disapproval may be granted or withheld in the sole discretion of COUNTY's Project Director.

F.   If COUNTY does not return the approved or disapproved Estimate and, if applicable, Specifications to CONTRACTOR within sixty (60) days, the Estimate and, if applicable, Specifications will be deemed to have been cancelled effective at the expiration of such sixty (60) day period. COUNTY may request an extension within such sixty (60) day period.

G.   When CONTRACTOR receives written approval by COUNTY's Project Director, in his sole discretion, of the Estimate and, if applicable, Specifications, CONTRACTOR shall provide COUNTY, within twenty (20) days of receipt of such request (or such other time period as mutually agreed upon between CONTRACTOR's Project Director and COUNTY's Project Director), a written quotation of a maximum total fixed price (including, without limitation, CONTRACTOR staff level recommended as described

on Attachment F (Other Professional Services Fee Schedule to Exhibit A (Statement of Work), and estimated Out-of-Pocket Expenses, if applicable) in response to COUNTY's request. CONTRACTOR's quotation shall be valid for at least sixty (60) days from submission.

H.   If COUNTY finds the quotation acceptable, the parties shall mutually and cooperatively draft a Change Notice or Amendment to this Agreement under the applicable provisions of Paragraph 6 (Change Notices and Amendments). The Change Notice or Amendment shall, at a minimum, include a project schedule for completion of the requested other professional service and a payment schedule for such other professional service. If the Change Notice or Amendment is for a Custom Programming Modification or an Additional Interface, the Change Notice or Amendment shall additionally include a statement of work addressing, at a minimum, the Subtasks and Deliverables under Task 15 (Custom Programming Modifications and Additional Interfaces) of Exhibit A (Statement of Work).

I.   Upon execution of such Change Notice or Amendment in accordance with the applicable provisions of Paragraph 6 (Change Notices and Amendments), CONTRACTOR shall perform all tasks, subtasks, Deliverables, goods, services and/or other work described in such Change Notice or Amendment and such performance shall be subject to the terms and conditions of this Agreement in addition to the terms and conditions of such Change Notice or Amendment, including any applicable performance and/or service level standards set forth herein.

7.5.5 If COUNTY requests a Custom Programming Modification which CONTRACTOR determines will be incorporated in CONTRACTOR's next release provided to COUNTY and its other customers of any CONTRACTOR software products furnished to COUNTY under this Agreement and if COUNTY's Project Director determines that COUNTY can wait for such next release to obtain such Custom Programming Modification, then CONTRACTOR shall provide such Custom Programming Modification to COUNTY in such next release and CONTRACTOR shall not charge COUNTY for such next release or such Custom Programming Modification.

7.5.6 If COUNTY requests a Custom Programming Modification which CONTRACTOR determines will be incorporated in CONTRACTOR's next release provided to COUNTY and its other customers of any CONTRACTOR software products furnished to COUNTY under this Agreement and if COUNTY's Project Director determines that COUNTY

cannot wait for such next release to obtain such Custom Programming Modification, then CONTRACTOR shall provide such Custom Programming Modification to COUNTY prior to such next release and CONTRACTOR shall charge COUNTY for such Custom Programming Modification in accordance with this Subparagraph 7.5 and Task 15 (Custom Programming Modifications and Additional Interfaces) of Exhibit A (Statement of Work).

7.5.7 If COUNTY requests a Custom Programming Modification which CONTRACTOR determines is unique to COUNTY and would probably not be used by CONTRACTOR's other customers but CONTRACTOR nonetheless determines to incorporate such Custom Programming Modification in CONTRACTOR's next release provided to COUNTY and its other customers of any CONTRACTOR software products furnished to COUNTY under this Agreement and if COUNTY's Project Director determines that COUNTY cannot wait for such next release to obtain such Custom Programming Modification, then CONTRACTOR shall provide such Custom Programming Modification to COUNTY prior to such next release and CONTRACTOR shall charge COUNTY for such Custom Programming Modification in accordance with this Subparagraph 7.5 and Task 15 (Custom Programming Modifications and Additional Interfaces) of Exhibit A (Statement of Work); provided, however, that in the event that within thirty-six (36) months after CONTRACTOR's completion of such Custom Programming Modification for COUNTY, CONTRACTOR sells to another customer for purposes of a correctional facility or other custodial environment any of CONTRACTOR's software products which include such Custom Programming Modification, then for the first such other customer, CONTRACTOR shall provide COUNTY with a one-time credit in the amount of fifty percent (50%) of the Maximum Total Fixed Price charged to COUNTY for such Custom Programming Modification and COUNTY may use such credit throughout the term of this Agreement as described in the next following sentence. COUNTY's Project Director, in such person's sole discretion, may use such credit to reduce the amount due by COUNTY to CONTRACTOR for Cerner Education Classes provided as other professional services pursuant to this Subparagraph 7.5, provided that the credit amount available for each such class shall be between twenty-five percent (25%) and one hundred percent (100%) of CONTRACTOR's standard published price for such class, and the applicable credit percentage for each such class shall be the same as the percentage shown as an allowable credit for such class on CONTRACTOR's standard published prices.

7.5.8 Without limiting Paragraph 18 (Records and Audits), COUNTY shall have the right to audit CONTRACTOR's compliance with this

Subparagraph 7.5 pursuant to Paragraph 18 (Records and Audits).

7.6   Implementation Out-of-Pocket Expenses

Out-of-Pocket Expenses may be available as is necessary for CONTRACTOR to complete and deliver to COUNTY the work under Tasks 1-14 of Exhibit A (Statement of Work). The Implementation Pool Dollars are the maximum amount available under this Agreement for COUNTY's reimbursement of such Out-of-Pocket Expenses. Prior to incurring Out-of-Pocket Expenses under this Subparagraph 7.6 with respect to a particular Task other than as provided for in the Project Control Document with respect to such Task, CONTRACTOR shall obtain the approval in advance, in writing, of COUNTY's Project Director, which approval may be granted or withheld in such person's sole discretion.

8.   INVOICES AND PAYMENTS

8.1   General

CONTRACTOR shall invoice COUNTY for all tasks, subtasks, Deliverables, goods, services, and other work which are specified in Exhibit A (Statement of Work), Exhibit B (Schedule of Payments), and/or any Change Notice or Amendment and which have been provided by CONTRACTOR and approved in writing by COUNTY pursuant to the terms of this Agreement and any applicable Change Notice or Amendment. CONTRACTOR shall invoice COUNTY for the fees set forth in Exhibit D (Service Level Agreement) as is specified in Exhibit D (Service Level Agreement). All invoices shall be subject to COUNTY's written approval pursuant to Subparagraph 2.5 (Approval of Invoices). CONTRACTOR shall prepare invoices which shall include the charges owed to CONTRACTOR by COUNTY under the terms of this Agreement. CONTRACTOR's payments shall be as provided in Exhibits B (Schedule of Payments) and D (Service Level Agreement) and any applicable Change Notice or Amendment.

All invoices under this Agreement shall be submitted to the attention of COUNTY's Project Director at the address Exhibit K (COUNTY's Administration).

Each invoice submitted by CONTRACTOR shall indicate:

A.   The tasks, subtasks, Deliverables, goods, services, or other work as described in Exhibits A (Statement of Work), B (Schedule of Payments), D (Service Level Agreement) or any Change Notice or Amendment for which payment is claimed.

B.   If applicable, the date of written approval of the tasks, subtasks, Deliverables, goods, services, or other work by COUNTY's Project Director.

C.   Indication of any applicable withhold or holdback amounts for payments claimed or reversals thereof.

D.   Indication of any applicable credits due COUNTY under the terms of this Agreement or reversals thereof.

E.   If the invoice includes Out-of-Pocket Expenses permitted under Subparagraph 7.6 (Implementation Out-of-Pocket Expenses), the (i) evidence of COUNTY's Project Director's prior approval of such Out-of-Pocket Expenses, if applicable, (ii) supporting documentation for such Out-of-Pocket Expenses, and (iii) amount of Implementation Pool Dollars remaining available under this Agreement. The amount noted as remaining Implementation Pool Dollars assumes, for calculation purposes only, the payment by COUNTY of the amount set forth on the particular invoice and any prior or current credits owed to COUNTY.

F.   If the invoice is for other professional services described in Subparagraph 7.5 (Other Professional Services) or for the work described in Subparagraphs 6.2 or 6.3, the amount OPS Pool Dollars remaining available under this Agreement will be documented as a note on the invoice. The amount noted as remaining OPS Pool Dollars assumes, for calculation purposes only, the payment by COUNTY of the amount set forth on the particular invoice and any prior or current credits owed to COUNTY.

8.2   Sales/Use Tax

The Contract Sum listed in Paragraph 7 (Contract Sum) shall be deemed to include all amounts necessary for COUNTY to reimburse CONTRACTOR for all applicable California sales/use taxes on all components of the System procured by COUNTY pursuant to or otherwise due as a result of this Agreement. All California sales/use taxes shall be paid directly by CONTRACTOR to the State. CONTRACTOR shall be solely liable and responsible for, and shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from, any and all third party Claims arising out of a failure by CONTRACTOR to pay any and all such California sales/use taxes.

Notwithstanding the preceding paragraph, COUNTY acknowledges that the amounts payable by COUNTY to CONTRACTOR in respect of the Application Software or Third Party Software, do not include sales/use tax for products or services provided by CONTRACTOR thereunder. COUNTY shall be solely responsible for any sales/use tax (including penalties) charged or assessed by the State of California on amounts payable thereunder by COUNTY to

CONTRACTOR (including but not limited to amounts payable pursuant to the applicable tax rulings, changes in California tax laws or interpretation of such laws), provided that CONTRACTOR shall make commercially reasonable efforts to comply with the provisions set forth in Subparagraph 4.6 (Delivery of Work).

8.3   Payments

A.   For tasks, Deliverables, goods, services and other work set forth in Tasks 1-14 of Exhibit A (Statement of Work), upon approval of such work in accordance with Subparagraph 2.4 (Approval of Work), CONTRACTOR shall submit one or more invoices to COUNTY's Project Director and COUNTY's Project Manager for such work in the amounts identified with respect to such work in Exhibit B (Schedule of Payments).

B.   For all other professional services requested pursuant to Subparagraph 7.5 (Other Professional Services), including but not limited to Custom Programming Modifications and Additional Interfaces, unless otherwise specified in the applicable Change Notice or Amendment, upon approval of all work associated with such other professional services in accordance with Subparagraph 2.4 (Approval of Work), CONTRACTOR shall submit one or more invoices in the amount of the Maximum Total Fixed Price set forth in the applicable Change Notice or Amendment.

C.   For the fees set forth in Exhibit D (Service Level Agreement), CONTRACTOR shall submit invoices as specified in Exhibit D (Service Level Agreement).

D.   Subject to COUNTY's rights to withholds and credits under this Agreement, COUNTY will pay the amounts shown in a properly prepared invoice within sixty (60) days of COUNTY's approval thereof under Subparagraph 2.5 (Approval of Invoices).

E.   If COUNTY terminates this Agreement under Paragraph 31 (Termination For Default), then, without excusing such default, and without prejudice to any other rights of COUNTY in this Agreement or as provided by law, CONTRACTOR shall be entitled to none of the sums not paid theretofore under the provisions of this Subparagraph 8.3.

F.   In addition, if COUNTY terminates this Agreement in part under Paragraph 31 (Termination For Default) for CONTRACTOR's failure to timely achieve any of the Milestones for a Phase, then, without excusing such default, and without prejudice to any other rights of COUNTY in this Agreement or as provided by law, in addition CONTRACTOR shall immediately repay to COUNTY the entire amount of the Contract Sum that CONTRACTOR has received from COUNTY with respect to such Phase.

Upon CONTRACTOR's repayment of the amounts required by this Subparagraph 8.3.F, COUNTY's License to the affected components of System Software (i) if acquired under the JHIS Agreement, shall revert automatically back to the JHIS Agreement, and (ii) if acquired under this Agreement, shall terminate automatically.

8.4   Holdbacks

Except with respect to the fees set forth in Exhibit D (Service Level Agreement) and the fees for Deliverables expressly identified in Exhibit B (Schedule of Payments), COUNTY will hold back ten percent (10%) of the dollar amount of each invoice (in this Subparagraph 8.4, "Holdback Amount"), approved by COUNTY, including invoices for Change Notices and Amendments. Other than for Change Notices and Amendments that the parties intend will be completed after Final System Acceptance for all Phases, for Phase 1 and each applicable Optional Phase, (a) the Holdback Amount attributable to Deliverable 4.1 (CONTRACTOR Tested and Certified Build Domain) will be due and payable to CONTRACTOR upon approval by COUNTY of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) to Exhibit A (Statement of Work) in accordance with Subparagraph 2.4 (Approval of Work), and (b) the remaining aggregate Holdback Amount will be due and payable to CONTRACTOR following the applicable Final System Acceptance for such Phase, in each case, subject to adjustment for any amounts owed to COUNTY by CONTRACTOR, including but not limited to any amounts arising from Subparagraph 8.5 (COUNTY's Right to Withhold) and any partial termination of any task, subtask, or Deliverable set forth in Exhibit A (Statement of Work) as provided hereunder. As to Change Notices and Amendments that are to be completed after Final System Acceptance for all Phases, the aggregate Holdback Amount for such Change Notice or Amendment will be due and payable to CONTRACTOR upon approval by COUNTY in accordance with Subparagraph 2.4 (Approval of Work), of all work to be provided under such Change Notice or Amendment.

8.5   COUNTY's Right to Withhold Payment

Notwithstanding any other provision of this Agreement, and in addition to the provisions of Subparagraph 8.3 (Payments) and to any rights of COUNTY given by law or provided in this Agreement, COUNTY may upon written notice to CONTRACTOR withhold payment for any Deliverable while CONTRACTOR is in default hereunder, or at any time that CONTRACTOR has not provided a COUNTY-approved Deliverable which under the approved Project Control Document is identified as dependent on and is scheduled to be delivered prior to or concurrently with the Deliverable for which payment would otherwise be due and is withheld. COUNTY's right to withhold payment shall not be deemed to impair any claims that CONTRACTOR may have against COUNTY or

CONTRACTOR's rights to assert such claims pursuant to Paragraph 46 (Dispute Resolution Procedure).

9. ACCEPTANCE OF SYSTEM BY COUNTY

9.1 General

A. The Phase 1 System shall achieve Final System Acceptance by COUNTY when and if: COUNTY's Project Director has approved, in writing, Deliverable 6.9 (Production Use of Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities) of Exhibit A (Statement of Work) confirming that the Phase 1 System has been maintained in Production Use with no material Deficiencies, as determined in the sole judgment of COUNTY's Project Director, for thirty (30) consecutive days subsequent to COUNTY's Project Director's written approval of all Deliverables specified in Deliverable 6.7 (Production Use of Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work). Notwithstanding the foregoing, it is expressly understood and agreed that if and only if any Optional Phase has been elected by COUNTY prior to COUNTY's approval of Deliverable 3.3 (Conceptual Design Document) of Exhibit A (Statement of Work) for Phase 1 under Subparagraph 2.4 (Approval of Work), then such period shall not be commenced until such time as (i) the parties have entered into an Amendment pursuant to Subparagraph 6.3 making all amendments necessary to move all applicable Optional Phase Systems to the Phase 1 System, such Optional Phase Systems thereafter constituting part of the Phase 1 System for all purposes under this Agreement, and (ii) thereafter, all prerequisites to commencing such time period described in Exhibit A (Statement of Work) have been completed by CONTRACTOR and approved by COUNTY in accordance with Subparagraph 2.4 (Approval of Work) with respect to the Phase 1 System, as supplemented by the Amendment. It is also expressly understood and agreed that if COUNTY has not elected an Optional Phase prior to COUNTY's approval of Deliverable 3.3 (Conceptual Design Document) of Exhibit A (Statement of Work), then COUNTY shall not elect any Optional Phase until such time as CONTRACTOR has achieved Final System Acceptance for the Phase 1 System.

B. Each Optional Phase System shall achieve Final System Acceptance by COUNTY when and if: COUNTY's Project Director has approved, in writing, Deliverable 7.9 (Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities) of Exhibit A (Statement of Work) for such Optional Phase System, confirming that such Optional Phase System together with the Phase 1 System and the System for all other prior Phases has been

maintained in Production Use with no material Deficiencies, as determined in the sole judgment of COUNTY's Project Director, for thirty (30) consecutive days subsequent to COUNTY's Project Director's written approval of all Deliverables specified in Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work) for such Optional Phase System. It is expressly understood and agreed that during the implementation of an Optional Phase (in this Subparagraph 9.1.B., "Subject Optional Phase"), if COUNTY has not elected another Optional Phase prior to COUNTY's approval of Deliverable 7.0.2 (Update Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), the Conceptual Design Document, the Specifications, Exhibit D (Service Level Agreement), and the Specified Hardware and Operating Software, for each Optional Phase) of Exhibit A (Statement of Work) for the Subject Optional Phase, then COUNTY shall not elect another Optional Phase until such time as CONTRACTOR has achieved Final System Acceptance for the Subject Optional Phase.

C.   For purposes of this Subsection 9.1, CONTRACTOR acknowledges and agrees that the determination by COUNTY's Project Director in such person's sole judgment, with respect to whether a Deficiency is material may include, without limitation, the determination that the following are material Deficiencies: (a) any Deficiency that results in data loss, data corruption, abnormal termination of a program (i.e., a crash, quit, exit or similar phenomenon), an infinite loop, a "hang," an arithmetic or logic error, or similar manifest malfunction; (b) any Deficiency that allows data being stored in the System to be corrupted by other programs that are accessing any hardware connected to the System or on which the System is running (known as Random Access Memory mismanagement or memory leaks); (c) any Deficiency that results in System Components that COUNTY's Project Director, in such person's sole judgment, determines to be important or essential in the daily operations of any COUNTY Facility, becoming inoperable or nonfunctional; (d) any Deficiency that has a significant adverse impact on the daily operations to be performed using the System or any System Component(s) as determined by COUNTY's Project Director, in such person's sole judgment; (e) any Deficiency that substantially reduces Users' ability to use, or causes intermittent inoperability of, one or more material functions of the System or any System Component(s) as determined by COUNTY's Project Director, in such person's sole judgment; and (f) any other Deficiency that COUNTY's Project Director, in such person's sole judgment, determines to be material. CONTRACTOR further acknowledges and agrees that the determination by COUNTY's Project Director in such person's sole judgment with respect to whether a Deficiency is material may include, without limitation, the determination that it constitutes a material

Deficiency for the System to have a significant number of Deficiencies, even if each individual Deficiency, when evaluated individually, may not be considered to be material.

D.   All COUNTY approvals described under this Subparagraph 9.1 will be subject to the provisions of Subparagraph 2.4 (Approval of Work).

9.2   CONTRACTOR Tests

For each Phase, CONTRACTOR shall conduct all tests described in the Exhibit A (Statement of Work), including unit testing, System testing, integration testing, Interface testing and operational readiness testing, along with the participation and validation of COUNTY as described in Exhibit A (Statement of Work). Notwithstanding the foregoing, the User Acceptance Tests as specified in Subparagraph 9.3 (User Acceptance Tests) shall be conducted by COUNTY. Upon satisfactory completion of each of CONTRACTOR's tests, CONTRACTOR shall deliver to COUNTY a written certification of successful completion of the applicable CONTRACTOR test as described in Exhibit A (Statement of Work).

9.3   User Acceptance Tests

For each Phase, after CONTRACTOR delivers the certification of successful completion of all applicable CONTRACTOR tests as to such Phase in accordance with Subparagraph 9.2 (CONTRACTOR Tests), COUNTY shall conduct User Acceptance Testing, as also described in Subtask 6.6 (Conduct User Acceptance Testing of the Phase 1 System) and Subtask 7.6 (Conduct User Acceptance Testing of each Optional Phase System), as the case may be, of Exhibit A (Statement of Work), with respect to such Phase. User Acceptance Tests shall include such tests as COUNTY may deem appropriate to confirm whether each System Component and all System Components of that Phase and all prior Phases work in accordance with applicable Specifications and otherwise with this Agreement. CONTRACTOR shall actively assist and support COUNTY in the conduct of User Acceptance Testing.

9.4   Failed Testing

If COUNTY's Project Director makes a good faith determination that the System as a whole, or a System Component, has not successfully completed any CONTRACTOR test described in Subparagraph 9.2 (CONTRACTOR Tests) or the User Acceptance Test described in Subparagraph 9.3 (User Acceptance Tests) (in this Subparagraph 9.4, collectively "Designated Tests"), COUNTY's Project Director shall promptly notify CONTRACTOR in writing of such failure, specifying with as much detail as possible the manner in which the System Component or System failed to pass the applicable Designated Test. CONTRACTOR shall immediately commence all reasonable efforts to complete,

as quickly as possible, such necessary corrections, repairs and modifications to the System Component or the System as will permit the System Component and the System to be ready for retesting. CONTRACTOR shall notify COUNTY's Project Director in writing when such corrections, repairs and modifications have been completed, and the applicable Designated Test shall begin again. If, after the applicable Designated Test has been completed for a second time, COUNTY's Project Director makes a good faith determination that the System Component or System again fails to pass the applicable Designated Test, COUNTY's Project Director shall promptly notify CONTRACTOR in writing, specifying with as much detail as possible the manner in which the System Component or System failed to pass the applicable Designated Test. CONTRACTOR shall immediately commence all reasonable efforts to complete, as quickly as possible, such necessary corrections, repairs and modifications to the System Component or the System as will permit the System Component and the System to be ready for retesting. Such procedure shall continue, subject to COUNTY's rights under Subparagraph 4.5 (Phases and Milestones), Subparagraph 7.2 (Credits to COUNTY) and Subparagraph 7.3 (Termination) in the event CONTRACTOR fails to timely complete any Milestone or to timely deliver any Key Deliverable, until such time as COUNTY notifies CONTRACTOR in writing either: (i) of the successful completion of such Designated Test or (ii) that COUNTY has concluded in its sole judgment that satisfactory progress toward such successful completion of such Designated Test is not being made, in which latter event COUNTY shall have the right, in COUNTY's sole judgment, to make a determination, which shall be binding and conclusive on CONTRACTOR, that a non-curable default has occurred and to terminate this Agreement in accordance with Paragraph 31 (Termination for Default) on the basis of such non-curable default. Such a termination by COUNTY may be, in COUNTY's sole judgment, either: (i) a termination with respect to one or more System Components, or (ii) if COUNTY believes the failure to pass the applicable Designated Test materially affects the functionality, performance or desirability to COUNTY of the System as a whole, the entire Agreement. In the event of a termination under this Subparagraph 9.4, COUNTY shall have the right to receive from CONTRACTOR, within ten (10) days of written notice of termination, reimbursement of all payments made to CONTRACTOR by COUNTY under this Agreement for the System Component(s) and related Deliverables as to which the termination applies, or, if the entire Agreement is terminated, all amounts paid by COUNTY to CONTRACTOR under this Agreement. If the termination applies only to one or more System Components, at COUNTY's sole option, any reimbursement due to it may be credited against other sums due and payable by COUNTY to CONTRACTOR. The foregoing is without prejudice to any other rights that may accrue to COUNTY or CONTRACTOR under the terms of this Agreement or by law.

10. <u>WARRANTIES AND COVENANTS</u>

10.1   System Warranties and Covenants

CONTRACTOR represents, warrants, covenants and agrees that throughout the term of this Agreement:

A.   Each System Component shall be Compatible with the other System Components and, when taken together, shall be capable of performing in accordance with the Specifications and otherwise with this Agreement.

B.   The Application Software, Interfaces and each component of either of them with respect to each Phase shall be fully Compatible with all Application Software and Interfaces of each other Phase.

C.   The Application Software and Interfaces shall be fully Compatible with the Third Party Software.

D.   Exhibit G (PEMRS Assessment), together with its attachments, specifies the minimum requirements for COUNTY provided hardware ("Specified Hardware") and operating system software ("Specified Operating Software") as of the Effective Date and as may be updated from time to time in accordance with this Agreement with respect to with each Phase.

   1.   CONTRACTOR represents and warrants for each Phase (i) that the Specified Hardware and Operating Software recommended for such Phase shall be accurate and complete and consistent with the hardware, software and network then in use by COUNTY and as specified in Exhibit G (PEMRS Assessment) and its attachments (for purposes of this Subparagraph 10.1.D. "Reasonable"), except to the extent that any inaccuracies or incompleteness directly result from inaccurate or incomplete information provided by COUNTY to CONTRACTOR about the hardware, software and network then in use by COUNTY and as specified in Exhibit G (PEMRS Assessment) and its attachments, and (ii) that the System Software and each System Component for such Phase shall be fully Compatible with the Specified Hardware and Operating Software specified for such Phase.

   2.   COUNTY shall have the right, for a period of thirty (30) days after receipt of the recommendations for Specified Hardware and/or Operating Software for any Phase, to terminate this Agreement, in the case of the Phase 1 System, in its entirety or, in the case of an Optional Phase, with respect to such Optional Phase, on notice to CONTRACTOR if in the opinion of COUNTY, in its sole judgment, the cost of complying with such recommendations is such that doing so is not in the best interest of COUNTY. If COUNTY elects to terminate under this Subparagraph 10.1.D.2, COUNTY shall

deliver to CONTRACTOR a written notice of termination which, unless rescinded by COUNTY based upon revised recommendations submitted by CONTRACTOR, shall be effective within thirty (30) days of the date of such written notice (or such other time period, if any, as specified in the written notice). If COUNTY so terminates, (a) CONTRACTOR shall not be entitled to the sums, if any, being withheld pursuant to Subparagraph 8.3 (Payments) (which in the case of termination of an Optional Phase shall be limited to such Optional Phase), and except as provided in this Agreement, neither party shall have any further obligation to the other under this Agreement to the extent of COUNTY's termination. If COUNTY does not so terminate, then the recommendations for Specified Hardware and/or Operating Software for such Phase shall thereafter be deemed Reasonable. If COUNTY does not thereafter implement such recommendations, then CONTRACTOR shall not be liable for any failure of the System Software to perform in accordance with the Specifications and otherwise with this Agreement to the extent such failure directly results from COUNTY's failure to implement such recommendations.

3.   Without limiting CONTRACTOR's obligations to provide Remote Hosting Services in any respect, if hardware, software and/or network enhancements in addition to (i) the System Software and/or (ii) the applicable Specified Hardware and Operating Software, are required for the System Software to perform in accordance with the Specifications and otherwise with this Agreement at all COUNTY Facilities, then CONTRACTOR shall pay all costs associated with the acquisition and installation of such additional hardware, software and/or network enhancements, except to the extent that COUNTY fails to notify CONTRACTOR as is required under this Agreement of changes in the COUNTY operating environment and assumptions on which the Specified Hardware and Operating Software were based and such additional hardware, software and/or network enhancements would not have been required absent such changes. Notwithstanding the immediately preceding sentence, if the additional hardware, software and/or network enhancements will become Specified Hardware and/or Operating Software, then CONTRACTOR's obligation to pay all costs associated such additional hardware, software and/or network enhancements is subject to Subparagraph 10.1.D.4 below. For additional hardware, software and/or network enhancements that will become Specified Hardware and/or Operating Software, title to each component of such additional hardware, software and/or network enhancements shall

automatically transfer from CONTRACTOR to COUNTY upon installation. CONTRACTOR warrants to COUNTY that each component of such additional hardware, software and/or network enhancements shall be owned by CONTRACTOR and, upon the date of title transfer to COUNTY, shall be free and clear of all liens, encumbrances and other Claims. CONTRACTOR further warrants to COUNTY that upon installation, each component of such additional hardware, software and/or network enhancements shall be owned by COUNTY. Upon installation, each component of such additional hardware, software and/or network enhancements shall be deemed to constitute the applicable of Specified Hardware or Operating Software under this Agreement. For additional software components that will become the applicable of Application Software, Interfaces, and/or Third Party Software, each such additional software component comprising part of the System and shall be subject to the applicable warranty provisions set forth in this Agreement, including without limitation Paragraph 10 (Warranties and Covenants).

4.   With respect to each Phase, CONTRACTOR shall support the Application Software and Interfaces for such Phase and, with respect to Phase 1, the Third Party Software identified on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work) as CPDI Bundle for Cerner ProVision Document Imaging (CPDI), in the then-existing minimum requirements for System Hardware and Operating Software as then set forth in Exhibit G (PEMRS Assessment), including its attachments, for (a) with respect to Phase 1, five (5) years from the Effective Date and (b) with respect to each Optional Phase, five (5) years from the effective date of the Amendment for such Optional Phase. Notwithstanding the foregoing, with respect to any Phase, if CONTRACTOR has not achieved Final System Acceptance for such Phase within two (2) years following (i) with respect to Phase 1, the Effective Date and (ii) with respect to each Optional Phase, the effective date of the Amendment for such Optional Phase, and the reason for such failure is a failure to satisfy any of the conditions set forth in the applicable of Subparagraphs 9.1.A or 9.1.B, then the time period identified in the immediately precedent sentence with respect to such Phase shall be thirty-six (36) months following Final System Acceptance for such Phase. If CONTRACTOR changes the minimum requirements for Specified Hardware and/or Operating Software as then-set forth in Exhibit G (PEMRS Assessment), including its attachments, as part of subsequent updates, modifications or revisions to Exhibit G (PEMRS Assessment) or otherwise, during the applicable time

period described in this Subparagraph 10.1.D.4, then COUNTY in its sole discretion may elect whether or not to implement any such changed recommendation, and COUNTY's implementation or failure to implement any such changed recommendation shall not in any way affect or reduce CONTRACTOR's obligations and liabilities pursuant to this Subparagraph 10.1.D. Notwithstanding any other provision of this Agreement, but subject to the remainder of this Subparagraph 10.1.D.4, CONTRACTOR shall not be entitled to receive, and COUNTY shall not be obligated to pay to CONTRACTOR, any amounts with respect to the applicable Deliverables, unless and until an update to Exhibit G (PEMRS Assessment), together with its attachments, has been approved in writing by COUNTY's Project Director and COUNTY's Project Manager, which approval may be granted or withheld in their sole discretion subject to Paragraph 46 (Dispute Resolution Procedure).

10.2 <u>Warranty Services Response</u>

Provided that COUNTY is paying the applicable fees set forth in Exhibit D (Service Level Agreement) in accordance with this Agreement, CONTRACTOR shall respond to and resolve each System Component's failure to perform in accordance with the applicable warranties set forth in Subparagraph 10.1 as is required under Exhibit D (Service Level Agreement). With respect to each failure constituting a Severity Level 1 or 2 Deficiency under and as defined in Exhibit D (Service Level Agreement), if CONTRACTOR is unable to resolve such a Deficiency after two (2) attempts within the timeframes set forth in (i) Exhibit D (Service Level Agreement) or (ii) the written action plan agreed to with respect to such Deficiency pursuant to Exhibit D (Service Level Agreement) (or such other number of attempts as may be agreed to between the parties in writing in accordance with this Agreement), CONTRACTOR shall, at CONTRACTOR's expense and upon COUNTY's return of the affected System Component, replace the affected System Component with another CONTRACTOR and/or third party product having at least equivalent functionality, as reasonably determined by COUNTY's Project Director, to the affected System Component, and make all modifications to the remaining System Components as is necessary for such CONTRACTOR or third party product to be Compatible with the remaining System Components. Each such CONTRACTOR or third party product shall constitute the applicable of Application Software, Interfaces, and/or Third Party Software comprising part of the System and shall be subject to the applicable warranty provisions set forth in this Agreement, including without limitation Paragraph 10 (Warranties and Covenants). If CONTRACTOR fails to replace an affected System Components as provided in this Subparagraph 10.2 within sixty (60) calendar days of County's initiation of such remedy under this Subparagraph 10.2, then COUNTY may terminate this Agreement under Paragraph 31 (Termination for Default) or as otherwise provided for under this Agreement.

UNLESS AND UNTIL COUNTY TERMINATES THIS AGREEMENT FOR DEFAULT IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT, COUNTY'S RIGHTS UNDER SUBPARAGRAPHS 10.1 AND 10.2, TOGETHER WITH THE OTHER RIGHTS EXPRESSLY PROVIDED FOR IN THIS AGREEMENT, SHALL CONSTITUTE COUNTY'S SOLE AND EXCLUSIVE REMEDY TO ENFORCE CONTRACTOR'S OBLIGATIONS WITH RESPECT TO THE WARRANTIES SET FORTH IN SUBPARAGRAPH 10.1.

10.3   Further Warranties and Covenants

CONTRACTOR further represents, warrants, covenants and agrees that throughout the term of this Agreement:

A.   CONTRACTOR shall strictly comply with the descriptions and representations (including, but not limited to, Deliverable documentation, performance capabilities, accuracy, completeness, characteristics, Specifications, configurations and standards set forth in Exhibit A (Statement of Work).

B.   All tasks, subtasks, Deliverables, goods, services, and other work shall be performed in a timely and professional manner by qualified personnel.

C.   All tasks, subtasks, Deliverables, goods, services, and other work shall be completed in accordance with this Agreement and Deliverable documentation.

D.   All Documentation provided by CONTRACTOR to COUNTY under this Agreement shall be legible, accurate, complete and of a consistently high quality.

E.   CONTRACTOR shall not cause any unplanned interruption of the operations of, or accessibility to the System or any System Component through any device, method or means including, without limitation, the use of any Virus, "lockup," "time bomb," or "key lock," "worm," device or program, or disabling code, which has the potential or capability of compromising the security of any of COUNTY's Confidential Information or of causing any unplanned interruption of the operations of, or accessibility of the System or any System Component to COUNTY or any User or which could alter, destroy, or inhibit the use of the System, any System Component, or the data contained therein (collectively referred to for purposes of this Subparagraph 10.3.E as "Disabling Device(s)"), which could block access to or prevent the use of the System or any System Component by COUNTY or Users. CONTRACTOR represents, warrants and agrees that it has not purposely placed, nor is it aware of, any Disabling Device on any System Component provided to COUNTY under

this Agreement, nor shall CONTRACTOR knowingly permit any subsequently delivered System Component to contain any Disabling Device.

F.   CONTRACTOR shall prevent Viruses from being incorporated or introduced into any of the System Software prior to delivery thereof to COUNTY, and shall utilize its best efforts to prevent any Viruses being incorporated or introduced in the process of CONTRACTOR's loading of System Software, or being introduced in the process of CONTRACTOR's performance of maintenance and support services, Remote Hosting Services, Upgrades Implementation Services, Application Management Services and/or P2Sentinel Security Services.

G.   CONTRACTOR shall support the Application Software, Interfaces and the Third Party Software identified on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work) as CPDI Bundle for Cerner ProVision Document Imaging (CPDI) in its then-existing versions and the most recent prior three versions which constituted an Upgrade for the term of this Agreement.

H.   COUNTY shall be entitled to use the System and all System Components without interruption of System use, subject only to COUNTY's obligation to make the required payments under this Agreement. CONTRACTOR represents and warrants that this Agreement is neither subject nor subordinate to any right or Claim of any third party, including, without limitation, CONTRACTOR's creditors. Further, CONTRACTOR represents and warrants that during the term of this Agreement, it shall not subordinate this Agreement or any of its rights hereunder to any third party without the prior written consent of COUNTY, and without providing in such subordination instrument for non-disturbance of COUNTY's use of the System and System Components in accordance with this Agreement.

I.   CONTRACTOR is duly authorized to grant to COUNTY all rights, including, but not limited to, the License, granted by this Agreement with respect to all System Software and no consent of any other person or entity is required by CONTRACTOR to grant such rights other than consents that have been obtained and are in effect.

J.   Neither the performance of this Agreement by CONTRACTOR, nor the License to, and use by, COUNTY and its Users of the Application Software and Interfaces in accordance with this Agreement will in any way violate any non-disclosure agreement, nor constitute any infringement or other violation of any United States patent, copyright, trade secret, trademark, service mark, or other intellectual property rights of any third party.

K.   Except as expressly provided in this Subparagraph 10.3.K, CONTRACTOR owns all of the Application Software, external systems Interfaces which are not proprietary to COUNTY, medical devices Interfaces and other CONTRACTOR Work Product, and all proprietary rights therein, and that none of such Application Software, external systems Interfaces which are not proprietary to COUNTY, medical devices Interfaces or other CONTRACTOR Work Product is owned by or licensed from any other person or entity. Solely for purposes of this Subparagraph 10.3.K, and without limiting any representation or warranty made by CONTRACTOR with respect to any System Component, or any other term or condition of this Agreement applicable thereto, COUNTY acknowledges that there may be software embedded in the Application Software that is owned by third parties.

L.   The Baseline Software portions of Application Software are based on and fully incorporate all software products described in Attachment B (Schedule of PEMRS Software) and Attachment C (Related CONTRACTOR Software Product Descriptions) to Exhibit A (Statement of Work), and the License includes, without limitation, such CONTRACTOR software products at no additional cost to COUNTY.

10.4   Continuous Product Support

If CONTRACTOR assigns this Agreement, is acquired, becomes otherwise controlled by another individual or entity, or sells, assigns, or transfers more than fifty percent (50%) of its interest in the System Software (collectively referred to as a "Successor Event") (see Paragraph 12 (Assignment and Delegation)) and subsequent to the Successor Event, the System Software is not supported to at least the same level that CONTRACTOR supported the System Software, as determined by COUNTY's Project Director (because, for example, CONTRACTOR's assignee chooses to support other products with similar functions) COUNTY, at its sole option, may elect to transfer the License, without cost or penalty, to another similar product ("Replacement Product") within CONTRACTOR's assignee's or successor's product offering. The assignee or successor, by taking benefit (including, without limitation, acceptance of any payment under this Agreement) shall be deemed to have ratified this Agreement. All terms and conditions of this Agreement shall continue in full force and effect for the Replacement Product. In addition, the following terms and conditions shall apply if COUNTY elects to transfer the License to a Replacement Product:

A.   Any prepaid maintenance, support, Upgrades Implementation, Application Management, P2Sentinel Security and/or Remote Hosting Services for System Software shall transfer in full force and effect for the balance of the Replacement Product's maintenance, support, hosting, operation,

implementation and/or management services term (or equivalent service) at no additional cost.   If the prepaid moneys are greater than the Replacement's Product's maintenance, support, hosting, operation, implementation and/or management services fee for the same term, the credit balance shall be applied to future maintenance, support, hosting, operation, implementation and/or management services fees or returned to COUNTY, at its option;

B.   Any and all modules offered separately, and needed to match the original System Software's level of functionality, as determined by COUNTY's Project Director shall be supplied by CONTRACTOR's assignee or successor without additional cost or penalty, and shall not affect the calculation of any maintenance, support, hosting, operation, implementation and/or management services fees;

C.   COUNTY shall receive reasonable training for Users, for purposes of learning the Replacement Product. Training shall be provided at no cost to COUNTY or Users;

D.   All License terms and conditions shall remain as granted herein with no additional fees imposed on COUNTY; and

E.   The definition of System Software shall then mean the Replacement Product.

10.5   Third Party Software

10.5.1 The System Software identified on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work) as "Third Party Software" and any third party tools identified in Exhibit A (Statement of Work) (collectively, "Third Party Software"), is owned by third parties. Subject to the remainder of this Subparagraph 10.5.1, CONTRACTOR hereby represents and warrants that none of the System Software other than the Third Party Software is owned by third parties. Solely for purposes of this Subparagraph 10.5.1, and without limiting any representation or warranty made by CONTRACTOR with respect to any System Component, or any other term or condition of this Agreement applicable thereto, COUNTY acknowledges that there may be software embedded in the Application Software that is owned by third parties.

10.5.2 COUNTY acknowledges that License granted hereunder to certain Third Party Software is subject to pass-through provisions of the applicable third party manufacturer. CONTRACTOR represents and warrants that accurate and complete copies of all such pass-through provisions are set forth in Attachment B (Schedule of PEMRS Software) to Exhibit A

(Statement of Work). All warranties and indemnities that accompany such Third Party Software, other than warranties and indemnities that are expressly set forth in this Agreement, are provided by the applicable third party manufacturer and are among the pass-through provisions set forth in Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work). CONTRACTOR hereby assigns to COUNTY to the fullest extent permitted by law or by agreement such warranties and indemnities, and CONTRACTOR shall otherwise ensure that the benefits of such warranties and indemnities shall fully extend to and be enjoyed by COUNTY.

10.5.3 Without limiting CONTRACTOR's obligations under Exhibit D (Service Level Agreement) with respect to any item of Third Party Software, for each Deficiency occurring during any warranty period identified in Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work) with respect to such item of Third Party Software, CONTRACTOR shall, at no additional cost to COUNTY, act as the primary point of contact with the applicable third party manufacturer and shall coordinate all resolution activities, in each case, from initiation through resolution of any exercise of rights by COUNTY under the applicable third party warranty.

10.5.4 CONTRACTOR represents and warrants that it has not modified and shall not modify, nor does CONTRACTOR have any need to modify, Third Party Software in order for the System to perform in accordance with the Specifications and otherwise with this Agreement. CONTRACTOR represents and warrants that it does not have any license or other right to modify Third Party Software and that Third Party Software shall be provided to COUNTY in the same unmodified form as received by CONTRACTOR from the applicable third party. CONTRACTOR represents and warrants that Third Party Software shall, together with the remainder of the System Software, fully satisfy all requirements of the Agreement without the need for any modification of Third Party Software by CONTRACTOR or otherwise.

10.5.5 In the event it nonetheless becomes necessary to modify Third Party Software to satisfy any of the requirements of this Agreement, CONTRACTOR shall promptly, at no additional cost to COUNTY, either: (1) obtain a license from the appropriate third party which shall enable CONTRACTOR to modify such Third Party Software, and CONTRACTOR shall provide all necessary modifications or (2) to the extent that CONTRACTOR is unable to obtain such a license, provide an upgrade or alternative solution, which is functionally equivalent, in COUNTY's Project Director's reasonable determination, in lieu of modifying such Third Party Software. If COUNTY exercises its option to

terminate this Agreement for convenience pursuant to Paragraph 32 (Termination for Convenience), the obligations of CONTRACTOR as set forth in this Subparagraph 10.5 shall be null and void. Nothing herein shall require CONTRACTOR to pay for a new release, version, or revision of Third Party Software, which is not otherwise provided under Exhibit D (Service Level Agreement).

10.6   Disclaimer of Other Warranties

THE WARRANTIES SET FORTH IN THIS AGREEMENT ARE IN LIEU OF, AND CONTRACTOR HEREBY DISCLAIMS, ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS AND SERVICES PROVIDED HEREUNDER, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

11.   OWNERSHIP OF THE SYSTEM AND LICENSE

11.1   Transfer of JHIS Licenses

11.1.1 Recitals 6-12 of this Agreement are incorporated specifically into this Subparagraph 11.1 by this reference. COUNTY desires to use under this Agreement, eight hundred (800) of the User Licenses with respect to the Specified JHIS Application Software. In order to effectuate the foregoing, concurrently with entering into this Agreement, CONTRACTOR and COUNTY shall have entered into an amendment to the JHIS Agreement, under which (a) COUNTY shall have exercised its right under the JHIS Agreement to change the COUNTY-named users of eight hundred (800) User Licenses with respect to the Specified JHIS Application Software, (b) the parties shall have agreed to transfer eight hundred (800) User Licenses with respect to the Specified JHIS Application Software, and (c) the parties shall have commensurately reduced number of User Licenses permitted to be named under the JHIS Agreement with respect to the Specified JHIS Application Software by the number of User Licenses transferred to this Agreement. Further in order to effectuate the foregoing, the parties hereby accept the transfer of eight hundred (800) User Licenses with respect to the Specified JHIS Application Software and agree that such eight hundred (800) of User Licenses henceforth shall constitute "Baseline Software" under this Agreement for all purposes, including the License. All of the events described in this Subparagraph 11.1 shall be at no cost to the COUNTY.

11.1.2 Should this Agreement terminate for any reason prior to CONTRACTOR's achievement of Final System Acceptance with respect to a Phase, then COUNTY's License with respect to any Specified JHIS Application Software included in such Phase shall revert automatically

back to the JHIS Agreement.

11.2   Ownership

A.   The external systems Interfaces which are proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), including but not limited to all copyrights and all other proprietary rights pertaining thereto, and the object code and the source code thereof, shall be and remain the property of COUNTY. Title to all such Interfaces and all proprietary rights therein shall automatically transfer to COUNTY, for each Phase, upon COUNTY's written approval of Deliverable 9.2.3 (Built and Tested External Systems Interface) for such Phase, or of all work under the Change Notice or Amendment, in each case covering the particular Interface.   To the extent CONTRACTOR modifies any of the Application Software to interface with any external systems Interface which is proprietary to COUNTY, CONTRACTOR shall own any such modifications of the Application Software, but all other rights in and to such external systems Interface shall be owned by COUNTY.

B.   The Application Software, the external systems Interfaces which are not proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), all medical devices Interfaces, and all other CONTRACTOR Work Product are and shall remain the property of CONTRACTOR, and all such Application Software, external systems Interfaces which are not proprietary to COUNTY, medical devices Interfaces and other CONTRACTOR Work Product are subject to the License.

C.   The Third Party Software is and shall remain the property of the applicable third party manufacturer, and such Third Party Software is subject to the License.

11.3   License

A.   CONTRACTOR hereby grants to COUNTY, effective as of the Effective Date, a perpetual (in the case of the Third Party Software only, to the extent specified in the pass-through provisions set forth on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work)), nonexclusive license, for all of COUNTY's business purposes, unrestricted except as expressly restricted in this Agreement, non-transferable except as provided in this Agreement:

(i) To use the System Software in accordance with this Agreement, the scope of use limits and, in the case of the Third Party Software only, pass-

through provisions set forth on Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work). COUNTY shall have the right to change the named Users at any time;

(ii) To configure the configurable aspects of the Baseline Software;

(iii) To modify the Application Software and Interfaces after such time as one of the conditions described in Subparagraph 11.4.C (Source Code Release Conditions) has occurred which would permit COUNTY to use the Source Code as provided in this Subparagraph 11.3 and Subparagraph 11.4 (Source Code); and

(iv) To use the Documentation,

(herein collectively referred to as the "License"). This includes, but is not limited to, use by any and all COUNTY Facilities.

B. CONTRACTOR shall provide to COUNTY all associated Documentation, including, but not limited to, system and user manuals, in accordance with Subparagraph 4.6 (Delivery of Work).

C. With respect to the Application Software, COUNTY further agrees to use reasonable efforts to do the following:

(i) To the extent reasonably practicable, to notify CONTRACTOR prior to complying if COUNTY determines that the law or an order of a court or other governmental agency requires a non-permitted disclosure or use of the Application Software;

(ii) To maintain records of the number and location of all copies of the Application Software;

(iii) To reproduce (and refrain from removing or destroying) copyright and proprietary rights notices which are placed within or on the Application Software;

(iv) To erase or otherwise destroy, prior to disposing of media, all portions of the Application Software contained on such media; and

(v) To notify CONTRACTOR promptly in writing upon learning of any unauthorized disclosure or use of the Application Software and to provide reasonable cooperation to CONTRACTOR to cure any such unauthorized disclosure or use.

D. If CONTRACTOR discontinues an item of Application Software, but

replaces such item of Application Software with a substitute successor product at any time that Exhibit D (Service Level Agreement) has not expired or been terminated by COUNTY, and if, with the consent of COUNTY in its sole discretion (which is required only if CONTRACTOR is then obligated to provide maintenance and support under the terms of this Agreement), CONTRACTOR ceases to provide maintenance and/or support (as defined in Exhibit D (Service Level Agreement)) for such Application Software during the term of this Agreement, then (i) if during a period of five (5) years following Final System Acceptance for the Phase 1 System, COUNTY shall be entitled to such successor product at no additional license fees, and COUNTY's license to such successor product shall be the same as COUNTY's license for such Application Software, and (ii) if during a period of five (5) to ten (10) years after Final System Acceptance of the Phase 1 System, COUNTY shall be entitled to such successor product at a discount of fifty percent (50%) of the then current license fees for such successor product, and COUNTY's license to such successor product shall be the same as COUNTY's license for such Application Software.

11.4   Source Code

A.   Escrow Agreement.   CONTRACTOR has named at its own expense, COUNTY as a beneficiary under the source code escrow agreement incorporated by reference as Exhibit O (Source Code Escrow Agreement) (in this Subparagraph 11.4, "Escrow Agreement"), between CONTRACTOR and Data Securities International, Inc. (in this Subparagraph 11.4, "Escrow Agent").   Chief Probation Officer has authority to execute on behalf of COUNTY any forms required by the Escrow Agent in order for COUNTY to appear as a beneficiary under such Escrow Agreement.   In the event that the Escrow Agreement expires or terminates, or CONTRACTOR otherwise desires to change the escrow agent, CONTRACTOR shall obtain at its own expense, a replacement source code escrow agreement with another source code escrow company, on substantially the same terms with respect to COUNTY as the Escrow Agreement.   Such replacement source code escrow agreement and source code escrow company shall thereafter constitute the "Escrow Agreement" and "Escrow Agent," respectively, for all purposes under this Paragraph 11.4.   Subject to this Subparagraph 11.4.A., CONTRACTOR shall maintain the Escrow Agreement in full force and effect throughout the term of this Agreement.

B.   Source Code Escrow.   Promptly following CONTRACTOR's delivery to COUNTY of the corresponding object code, CONTRACTOR shall deposit with the Escrow Agent, the source code for all Application Software, Interfaces, Updates and Upgrades.   The source code for the Application

Software, Interfaces, Updates and Upgrades are referred to collectively herein as the "Source Code." CONTRACTOR shall ensure at all times during the term of this Agreement that the version of the Source Code on deposit with the Escrow Agent is accurate and complete. The parties acknowledge that as a result of the passage of time alone, the deposited Source Code may be susceptible to loss of quality (in this Subparagraph 11.4, "Natural Degeneration"). For the purpose of reducing the risk of Natural Degeneration, CONTRACTOR shall deliver to the Escrow Agent a new copy of all deposited Source Code at least once every three (3) years upon written request of COUNTY's Project Director. In the event the Source Code or any part of it is destroyed or corrupted, CONTRACTOR shall provide a replacement copy of the Source Code.

C. <u>Source Code Release Conditions</u>. Upon the occurrence of an event identified below (collectively referred to as "Release Conditions"), COUNTY shall have the right to immediately begin using the Source Code as provided in Subparagraph 11.4.E (License of Source Code), at no charge to COUNTY.

(i) <u>Bankruptcy</u>. In the event CONTRACTOR shall: (1) make an assignment for the benefit of creditors, or petition or apply to any tribunal for the appointment of a custodian, receiver, or trustee for all or a substantial part of its assets; (2) commence any proceeding under any CONTRACTOR bankruptcy, reorganization, arrangement, readjustment of debt, dissolution, or liquidation law or statute of any jurisdiction whether now or hereafter in effect; (3) have any such petition or application filed or any such proceeding commenced against it in which an order for relief is entered or an adjudication or appointment is made, and which remains undismissed for a period of sixty (60) days or more; (4) take any corporate action indicating its consent to, approval of, or acquiescence in any such petition, application, proceeding, or order for relief or the appointment of a custodian, receiver, or trustee for all or a substantial part of its assets; or (5) permit any such custodianship, receivership, or trusteeship to continue undischarged for a period of sixty (60) days or more causing CONTRACTOR or any third party, including, without limitation, a trustee in bankruptcy, to be empowered under state or federal law to reject this Agreement or any agreement supplementary hereto.

(ii) <u>Rejection of Agreement</u>. In the event of a rejection of this Agreement or any agreement supplementary hereto in bankruptcy:

a. COUNTY shall be permitted to retain and use any copies of the Application Software and Interfaces, and the Source

Code thereto, in its possession, the License granted hereunder being perpetual and not subject to termination (except as set forth elsewhere herein);

b.   COUNTY may elect to retain its rights under this Agreement or any agreement supplementary hereto as provided in section 365(n) of the United States Bankruptcy Code. Upon written request of COUNTY to, as applicable, CONTRACTOR or the bankruptcy trustee or receiver, CONTRACTOR or such bankruptcy trustee or receiver shall not interfere with the rights of COUNTY as licensee or sublicensor as provided in this Agreement or in any agreement supplementary hereto to obtain the Source Code(s) from the bankruptcy trustee and shall, if requested, cause a copy or replacement copy of such Source Code(s) to be available to COUNTY so that COUNTY can use same as provided in this Agreement;

c.   COUNTY may elect to retain its rights under this Agreement or any agreement supplementary hereto as provided in section 365(n) of the United States Bankruptcy Code without prejudice to any of its rights of setoff with respect to this Agreement under the United States Bankruptcy Code or applicable non-bankruptcy law; or

d.   COUNTY may retain its rights under this Agreement, or any agreement supplementary hereto as provided in section 365(n) of the United States Bankruptcy Code without prejudice to any of its rights under section 503(b) of the United States Bankruptcy Code.

(iii)   <u>Additional Release Conditions</u>.

a.   CONTRACTOR ceases to support any Application Software module without making arrangements for continued support by a qualified person or organization; or

b.   CONTRACTOR ceases to do business without a successor.

In the event of a claim to the Source Code under this Subparagraph 11.4.C(iii), then COUNTY shall provide CONTRACTOR with a written notice outlining the facts upon which COUNTY bases its claim that a Release Condition has occurred. CONTRACTOR may contest COUNTY's right to use the Source Code pursuant to the procedures set forth in Paragraph 46 (Dispute Resolution

Procedure), other than judicial proceedings as provided in Subparagraph 46.8.   If the dispute resolution procedures result in disagreement between CONTRACTOR's President and the Chief Probation Officer as to whether a basis exists for any claim by COUNTY to the Source Code, and the Chief Probation Officer continues to believe that such a basis does exist, then the Chief Probation Officer may, in such person's sole discretion, give notice of such belief to CONTRACTOR, in which event Probation Department may, at any time on or after a date that is seven (7) days after the giving of such notice, utilize any or all of the Source Code in the manner set forth in subparts E and F below of this Subparagraph 11.4.

D.   COUNTY's Right to Verify Source Code. Regardless of whether one of the Release Conditions occurs, COUNTY shall have the right to verify the relevance, completeness, currency, accuracy, and functionality of the Source Code by, among other things, compiling the Source Code and performing test runs for comparison with the Application Software and Interfaces capabilities.

E.   License of Source Code. Upon the occurrence of a Release Condition (or any other release conditions which may be specified under this Agreement), COUNTY is licensed to use the Source Code to perform support and maintenance for COUNTY's own internal business purposes, alter or modify the Source Code, and/or obtain the benefits sought under this Agreement subject to the limitations of Subparagraph 11.4.F (Possession and Use of Source Code).   Nothing herein relieves CONTRACTOR of its obligation to provide maintenance and support as provided in this Agreement.

F.   Possession and Use of Source Code.   Subject to the provisions of Subparagraph 11.4.E (License of Source Code), Source Code obtained by COUNTY under the provisions of this Agreement shall remain subject to every license restriction, proprietary rights protection, and other COUNTY obligation specified in this Agreement provided, however, COUNTY may make such Source Code available to third parties as needed to assist COUNTY in making authorized use of the Application Software and/or Interfaces and provided such third party has first entered into a written agreement containing restrictions at least as protective of the Source Code as this Agreement. COUNTY may use Source Code for the sole purpose of supporting its use of the Application Software and Interfaces as expressly permitted under this Agreement or to obtain the benefits sought under this Agreement. In no event shall COUNTY be permitted to grant access to the Source Code to a competitor of CONTRACTOR. Likewise, COUNTY shall not be permitted to sell or transfer its rights in the Source

Code to any other party. When Source Code is not in use, COUNTY agrees to keep such Source Code in a locked, secure place. When Source Code resides in a central processing unit, COUNTY shall limit access to its authorized employees and consultants who have a need to know in order to support the Application Software and/or Interfaces. COUNTY will use reasonable efforts to assure that all use it makes of the Source Code shall conform to every Food and Drug Administration and other governmental regulatory requirement.

12. ASSIGNMENT AND DELEGATION

CONTRACTOR shall not assign its rights or delegate its duties under this Agreement, or both, whether in whole or in part, without the consent of COUNTY in its sole discretion, and any attempted assignment or delegation without such consent shall be null and void. Any payments by COUNTY to any delegatee or assignee on any claim under this Agreement, in consequence of any such consent, shall reduce dollar for dollar any claims which CONTRACTOR may have against COUNTY and shall be subject to set-off, recoupment, or other reduction for any claims which COUNTY may have against CONTRACTOR, whether under this Agreement or otherwise.

13. WARRANTY AGAINST CONTINGENT FEES

13.1 CONTRACTOR warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon any agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by CONTRACTOR for the purpose of securing business.

13.2 For breach of the warranty in Subparagraph 13.1, COUNTY shall have the right to terminate this Agreement and, in its sole discretion, deduct from the Agreement price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

14. TERMINATION FOR GRATUITIES

COUNTY may, by written notice to CONTRACTOR, terminate the right of CONTRACTOR to proceed under this Agreement upon one (1) calendar day's notice, if it is found that gratuities in the form of entertainment, gifts, or otherwise were offered or given by CONTRACTOR, or any agent or representative of CONTRACTOR, to any officer, employee, or agent of COUNTY with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing, of such contract. In the event of such termination, COUNTY shall be entitled to pursue the same remedies against CONTRACTOR as it could pursue in the event of default by CONTRACTOR.

15. <u>INDEPENDENT CONTRACTOR STATUS</u>

15.1   This Agreement is by and between CONTRACTOR and COUNTY and is not intended, and shall not be construed, to create the relationship of agent, servant, employee, partnership, joint venture, or association, as between CONTRACTOR and COUNTY. The employees and agents of one party shall not be, or be construed to be, the employees or agents of the other party for any purpose whatsoever.

15.2   CONTRACTOR shall be solely liable and responsible for providing to, or on behalf of, all persons performing work pursuant to this Agreement all compensation and benefits. COUNTY shall have no liability or responsibility for the payment of any salaries, wages, unemployment benefits, disability benefits, Federal, State, or local taxes, or other compensation, benefits, or taxes for any personnel provided by or on behalf of CONTRACTOR.

15.3   CONTRACTOR understands and agrees that all persons performing work pursuant to this Agreement are, for purposes of workers' compensation liability, the sole employees of CONTRACTOR and not employees of COUNTY. CONTRACTOR shall be solely liable and responsible for furnishing any and all workers' compensation benefits to any person as a result of any injuries arising from or connected with any work performed by or on behalf of CONTRACTOR pursuant to this Agreement.

15.4   For each CONTRACTOR employee who (a) may come onsite to any COUNTY Facility or (b) are named in or are otherwise dedicated to this Agreement and each Subcontractor employee meeting the aforementioned criteria, CONTRACTOR represents and warrants that no later than the date on which each affected employee first performs work under this Agreement, CONTRACTOR shall have obtained from each such employee, a certified document in the form attached as Exhibit M (Sexual Harassment/Discrimination/Retaliation Prohibited Form).

16. <u>SUBCONTRACTING</u>

16.1   COUNTY has relied, in entering into this Agreement, on the reputation of and on obtaining the personal performance of CONTRACTOR itself. Consequently, no performance of this Agreement, or any portion thereof, shall be subcontracted by CONTRACTOR without the prior written consent of COUNTY as provided in this Paragraph 16, which consent shall not be unreasonably withheld, conditioned or delayed. Any attempt by CONTRACTOR to subcontract any performance, obligation, or responsibility under this Agreement, without the prior written consent of COUNTY, shall be null and void and shall constitute a material breach of this Agreement, upon which COUNTY may immediately terminate this Agreement. Notwithstanding the foregoing, COUNTY's prior written consent

shall not be required prior to subcontracting with any third party manufacturer of any Third Party Software for purposes of providing maintenance and support under Exhibit D (Service Level Agreement), provided that (a) such third party manufacturers are not required to come onsite to any COUNTY Facility or access any minor records for purposes of providing such maintenance and support, (b) no staff of such third party manufacturers are named in or otherwise dedicated to this Agreement, and (c) CONTRACTOR invoices COUNTY directly for any and all services provided by such third party manufacturers (collectively "Permitted Subcontractors").

16.2   If CONTRACTOR desires to subcontract any portion of its performance, obligations, or responsibilities under this Agreement other than as specifically set forth in Subparagraph 16.1 with respect to Permitted Subcontractors, CONTRACTOR shall make a written request to COUNTY for written approval to enter into the particular subcontract. CONTRACTOR's request to COUNTY shall include:

A.   The reason(s) for the particular subcontract.

B.   A detailed description of the work to be performed by the proposed Subcontractor.

C.   Identification of the proposed Subcontractor and an explanation of why and how the proposed Subcontractor was selected.

D.   A draft copy of the proposed subcontract which shall contain, at a minimum, the provisions set forth in Exhibit I (Required Subcontract Provisions). The provisions of Exhibit I (Required Subcontract Provisions) may be changed only with the prior written approval of the Chief Probation Officer.

E.   Any other information and/or certifications requested by COUNTY.

COUNTY will review CONTRACTOR's request to subcontract and determine, in its sole discretion, whether or not to consent to such request on a case-by-case basis.

16.3   For every Subcontractor, irrespective of whether COUNTY's prior written consent is required hereunder, CONTRACTOR shall provide evidence of insurance with respect to such Subcontractor satisfying the requirements set forth in Subparagraph 17.4.6 (Subcontractor Insurance Coverage Requirements) prior to such Subcontractor performing work under this Agreement.

16.4   CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers,

employees, and agents, from and against any and all Claims, liabilities, damages, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting or other expert consulting or professional fees in any way arising from or related to CONTRACTOR's use of any Subcontractor, including, without limitation, any officers, employees, or agents of any Subcontractor.

16.5   Notwithstanding any COUNTY consent to any subcontracting, including but not limited to with respect to Permitted Subcontractors, CONTRACTOR shall remain responsible for any and all performance required of it under this Agreement, including, but not limited to, the obligation to properly supervise, coordinate, and perform, all work required hereunder, and no subcontract shall bind or purport to bind COUNTY. Further, COUNTY consent to any subcontracting, including but not limited to with respect to Permitted Subcontractors, shall not be construed to limit in any way CONTRACTOR's performance, obligations, or responsibilities, to COUNTY, nor shall such approval limit in any way any of COUNTY's rights or remedies contained in this Agreement. Additionally, COUNTY consent to any subcontracting, including but not limited to with respect to Permitted Subcontractors, shall not be construed in any way to constitute the determination of the allowableness or appropriateness of any cost or payment under this Agreement.

16.6   In the event that COUNTY consents to any subcontracting, including but not limited to with respect to Permitted Subcontractors, such consent shall be subject to COUNTY's right to give prior and continuing approval of any and all Subcontractor key personnel providing on-site services under such subcontract. CONTRACTOR shall assure that any Subcontractor key personnel not approved in writing by COUNTY shall be immediately removed from the provision of any services under the particular subcontract or that other action is taken as requested by COUNTY. Further, in the event that COUNTY consents to any subcontracting, such consent shall be subject to COUNTY's right to terminate, in whole or in part, any subcontract at any time upon written notice to CONTRACTOR when such Subcontractor is deemed by COUNTY to be in material breach of its subcontract or this Agreement. COUNTY shall not be liable or responsible in any way to CONTRACTOR, to any Subcontractor, or to any officers, employees, or agents of CONTRACTOR or any Subcontractor, for any third party Claims, damages, liabilities, losses, costs, or expenses, including, but not limited to, defense costs and legal, accounting and other expert, consulting or professional fees, in any way arising from or related to COUNTY's exercise of such rights.

16.7   In the event that COUNTY consents to any subcontracting other than with respect to Permitted Subcontractors, the Subcontractor, on behalf of itself, its successors and administrators, shall assume and be bound by and shall be deemed to have assumed and agreed to be bound by each and all of the

provisions of this Agreement and any Amendment hereto, provided that COUNTY's Project Director shall have the right to waive the requirement that a particular Subcontractor assume and be bound by specified provisions of this Agreement and any Amendment hereto.

16.8   In the event that COUNTY consents to any subcontracting, such consent shall apply to each particular subcontract only and shall not be, or be construed to be, a waiver of this Paragraph 16 or a blanket consent to any further subcontracting.

16.9   The Chief Probation Officer is hereby authorized to act for and on behalf of COUNTY pursuant to this Paragraph 16, including, but not limited to, consenting to any subcontracting.

16.10   CONTRACTOR shall be solely liable and responsible for any and all payments and other compensation to all Subcontractors and their officers, employees, and agents.   COUNTY shall have no liability or responsibility whatsoever for any payment or other compensation for any Subcontractors or their officers, employees, and agents.

16.11   Other than with respect to Permitted Subcontractors, CONTRACTOR shall deliver to COUNTY's Project Director a fully executed copy of each subcontract entered into by CONTRACTOR pursuant to this Paragraph 16, on or immediately after the effective date of the subcontract but in no event later than the date any work is performed under the subcontract.

16.12   CONTRACTOR shall inform each of its Subcontractors, and shall require each such Subcontractor to so inform such Subcontractor's officers, employees and agents, of the confidentiality, security and non-disclosure provisions of this Agreement.   Further, CONTRACTOR shall require its Subcontractors, and shall require each Subcontractor to require such Subcontractor's officers, employees and agents, to be bound in writing by confidentiality, security and non-disclosure provisions at least as protective of the COUNTY as the confidentiality, security and non-disclosure provisions of this Agreement. The indemnification obligations set forth in Subparagraph 16.4 shall include, but shall not be limited to, any and all loss, damage, liability, and expense arising from any breach by a Subcontractor or any of its officers employees or agents of the confidentiality, security and non-disclosure provisions of this Agreement.

17.   INDEMNIFICATION, INSURANCE, AND PERFORMANCE BOND

17.1   Indemnification

        17.1.1 CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents (hereafter for purposes of this Paragraph 17 "COUNTY") from and against any and all Claims,

damages, liabilities, losses, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, including, but not limited, to bodily injury, death, personal injury, or property damage arising from CONTRACTOR, CONTRACTOR's agents', employees' or Subcontractors' acts or omissions in the performance of services or provision of products hereunder, including, without limitation, any workers' compensation suits, liability, or expense, arising from or connected with services performed by any person on behalf of CONTRACTOR, CONTRACTOR's agents, employees or Subcontractors pursuant to this Agreement and/or failure of CONTRACTOR, CONTRACTOR's agents, employees, Subcontractors or any Tasks/Deliverables provided hereunder to comply with the terms and conditions of this Agreement. Any legal defense pursuant to CONTRACTOR's indemnification obligations under this Subparagraph 17.1 shall be conducted by CONTRACTOR and performed by counsel selected by CONTRACTOR and approved by COUNTY (which approval shall not be unreasonably withheld) in writing. Notwithstanding the preceding sentence, COUNTY shall have the right to participate in any such defense at its sole cost and expense, except that in the event CONTRACTOR fails to provide COUNTY with a full and adequate defense, as required by law or this Agreement, COUNTY shall be entitled to reimbursement for all such costs and expenses.

17.1.2 COUNTY acknowledges that CONTRACTOR is not a professional healthcare provider, but is rather providing information processing services and related goods to COUNTY in connection with the COUNTY's provision of professional healthcare services.

17.1.3 In the event CONTRACTOR incurs costs in defending any Claim asserted by a the detainee of COUNTY's juvenile halls and camps or by any person or entity on behalf of or concerning such a detainee, in COUNTY's care at a COUNTY Facility, and such Claim results in a final, non-appealable judgment from a court of competent jurisdiction in which (a) COUNTY is found liable to such person as a result of having used the System in caring for such detainee in a manner not in accordance with the Documentation or as a result of failing to adhere to applicable standards of clinical practice in minor detainee health care facilities in caring for such a detainee, and (b) CONTRACTOR is found not to be liable to such person, COUNTY shall reimburse CONTRACTOR for reasonable attorneys' fees and costs incurred by CONTRACTOR in defending such Claim, provided, however, that the foregoing reimbursement obligation shall not apply to any Claim, damages,

liabilities, losses, costs and/or expenses for which CONTRACTOR is obligated to indemnify COUNTY pursuant to this Agreement.

17.2   Insurance

Without limiting CONTRACTOR's indemnification of COUNTY, CONTRACTOR shall provide and maintain at its own expense, during the entire term of this Agreement, the following programs of insurance covering its operations hereunder. Such insurance shall be provided by insurer(s) satisfactory to COUNTY's Risk Manager, and evidence of such programs satisfactory to COUNTY shall be delivered to COUNTY's Project Director on or before the Effective Date. Such evidence shall specifically identify this Agreement and shall contain express conditions that COUNTY is to be given written notice by registered mail at least thirty (30) days in advance of any termination of any program of insurance, and, with respect to any modification of any program of insurance, at least thirty (30) days in advance or immediately following CONTRACTOR's first receipt of notice of modification in the event CONTRACTOR receives less than thirty (30) days advance notice of such modification.

17.2.1 Liability Insurance

Such insurance shall consist of:

A.   Comprehensive General Liability insurance endorsed for Premises-Operations, Products/Completed Operations, Contractual, Broad Form Property Damage, and Personal Injury with a combined single limit of not less than Two Million Dollars ($2,000,000) per occurrence and Three Million Dollars ($3,000,000) in the aggregate. If the above insurance is written on a Claims Made Form, such insurance shall be endorsed to provide an extended reporting period of not less than five (5) years following the expiration or termination of this Agreement.

B.   Comprehensive Auto Liability insurance endorsed for all owned, non-owned, and hired vehicles with a combined single limit of not less than One Million Dollars ($1,000,000) per occurrence.

C.   Professional liability insurance covering liability arising from any error, omission, negligent or wrongful act of the CONTRACTOR, its officers or employees with limits of not less than Two Million Dollars ($2,000,000) per occurrence and Three Million Dollars ($3,000,000) aggregate. Such insurance shall be maintained for not less than two (2) years upon termination or cancellation of the Agreement, or

the policy shall provide an extended two year reporting period commencing upon termination or cancellation of the Agreement.

17.2.2 Workers' Compensation Insurance

A program of workers' compensation insurance in an amount and form to meet all applicable requirements of the California Labor Code including, without limitation, employer's liability with a One Million Dollar ($1,000,000) limit, covering all persons performing work on behalf of CONTRACTOR and all risks to such persons under this Agreement.

17.3 Performance Bond

17.3.1 CONTRACTOR shall furnish to COUNTY within ten (10) days after CONTRACTOR's execution of this Agreement, and in all events prior to the Effective Date, a performance bond in an amount of at least Five Million Dollars ($5,000,000) during the period of three years from the Effective Date and at least Two Million Dollars ($2,000,000) during the period commencing on the third anniversary of the Effective Date and continuing through the remainder of the term of this Agreement. Such performance bond shall be in form and substance satisfactory to COUNTY's Risk Manager. Such bond shall be maintained by CONTRACTOR in full force and effect until released by COUNTY's Risk Manager upon COUNTY's Project Director's determination that CONTRACTOR shall have fully performed all of its obligations under this Agreement. Any modification, extension, or termination of this Agreement shall in no way release CONTRACTOR or any of its sureties from any of their obligations under such performance bond. Such bond shall contain a waiver of notice of any Change Notices and Amendments to this Agreement.

17.3.2 No payments shall be due CONTRACTOR until the performance bond is in place and approved in writing by COUNTY (through its Project Director or otherwise). The bond shall be made payable to COUNTY and shall be issued by a corporate surety licensed to do business in the State of California and reasonably satisfactory to COUNTY. The Agreement number and dates of performance shall be specified in the performance bond.

17.3.3 Each performance bond shall secure CONTRACTOR's performance, including, without limitation, performing CONTRACTOR's services in accordance with Exhibit A (Statement of Work) and providing Deliverables, and shall secure any damages, costs or expenses, resulting from CONTRACTOR's default in performance hereunder.

17.3.4 In the event of termination under Paragraph 31 (Termination for Default),

the performance bond shall become payable to COUNTY for any outstanding damage assessments made by COUNTY against CONTRACTOR. An amount up to the full amount of the performance bond may also be applied to CONTRACTOR's liability for any administrative costs and/or excess costs incurred by COUNTY in obtaining similar software and services to replace those terminated as a result of CONTRACTOR's default. In addition, upon such a termination, COUNTY may seek any other remedies permitted under this Agreement or under applicable law.

17.3.5 At its sole option, COUNTY may accept certificates of deposit, cash deposits, United States government securities, or irrevocable letters of credit in lieu of commercial bonds to meet this provision. Such alternate forms of surety shall be made payable to the County of Los Angeles and shall be deposited with the COUNTY as instructed by COUNTY's Project Director in writing. COUNTY shall have no responsibility to CONTRACTOR to pay any such deposit, and any loss by reason of the failure of any institution issuing such collateral shall be solely the responsibility of CONTRACTOR.

17.3.6 Prior to acceptance of CONTRACTOR's performance bond, CONTRACTOR shall submit to COUNTY the form of the proposed performance bond or alternative security for approval by COUNTY (through its Project Director or otherwise), as applicable as determined by COUNTY. Both the initial expense and the annual premiums on the bond shall be paid by CONTRACTOR.

17.4   General Insurance Requirements

17.4.1 Reporting:

CONTRACTOR also shall promptly report to COUNTY any injury or property damage accident or incident, including any injury to a CONTRACTOR employee occurring on COUNTY property, and any loss, disappearance, destruction, misuse, or theft of COUNTY property, monies or securities entrusted to CONTRACTOR. CONTRACTOR also shall promptly notify COUNTY of any third party Claim filed against CONTRACTOR or any of its Subcontractors which arises from or relates to this Agreement, and could result in the filing of a Claim against CONTRACTOR and/or COUNTY.

17.4.2 Additional Insured Status and Scope of Coverage:

The County of Los Angeles shall be provided additional insured status under CONTRACTOR's General Liability policy with respect to liability arising out of CONTRACTOR's ongoing and completed operations

performed on behalf of the COUNTY. The additional insured status shall apply with respect to liability and defense of suits arising out of the CONTRACTOR's acts or omissions, whether such liability is attributable to the CONTRACTOR or to the COUNTY. The full policy limits and scope of protection also shall apply to the COUNTY as an additional insured, even if they exceed the insurance specifications herein. Use of an automatic additional insured endorsement form is acceptable providing it satisfies the insurance provisions herein.

17.4.3 <u>Insurer Financial Ratings:</u>

Coverage shall be placed with insurers acceptable to the COUNTY with A.M. Best ratings of not less than A:VII unless otherwise approved by COUNTY's Risk Manager.

17.4.4 <u>CONTRACTOR's Insurance Shall Be Primary:</u>

CONTRACTOR's insurance policies with respect to any claims related to this Agreement, shall be primary with respect to all other sources of coverage available to CONTRACTOR.   Any COUNTY maintained insurance or self-insurance coverage shall be in excess of and not contribute to any CONTRACTOR coverage.

17.4.5 <u>Waivers of Subrogation:</u>

To the fullest extent permitted by law, the CONTRACTOR hereby waives its rights and its insurer(s)' rights of recovery against COUNTY under all the insurance policies specified herein for any loss arising from or relating to this Agreement.   CONTRACTOR shall provide the COUNTY with a certificate of insurance for all policies evidencing the waiver of subrogation requirement has been met.

17.4.6 <u>Subcontractor Insurance Coverage Requirements:</u>

CONTRACTOR shall include all Subcontractors as insureds under CONTRACTOR's own policies, or shall provide COUNTY with each Subcontractor's separate evidence of insurance coverage. CONTRACTOR shall obtain COUNTY's prior review and approval of any Subcontractor request for modification of the insurance provisions set forth in Exhibit I (Required Subcontract Provisions).

17.4.7 <u>Deductibles and Self-Insured Retentions (SIRs):</u>

CONTRACTOR's policies shall not obligate the COUNTY to pay any portion of any CONTRACTOR deductible or SIR.

17.4.8 <u>Application of Excess Liability Coverage:</u>

CONTRACTOR may use a combination of primary, and excess insurance policies which provide coverage as broad as ("follow form" over) the underlying primary policies, to satisfy the insurance provisions.

17.4.9 <u>Separation of Insureds:</u>

All liability policies (with the exception of the errors and omissions policies) shall provide cross-liability coverage as would be afforded by the standard ISO (Insurance Services Office, Inc.) separation of insureds provision with no insured versus insured exclusions or limitations.

18. <u>RECORDS AND AUDITS</u>

18.1 CONTRACTOR shall maintain accurate and complete financial and billing records of its activities and operations relating to this Agreement in accordance with generally accepted accounting principles. CONTRACTOR shall also maintain accurate and complete time reporting, employment and other records relating to its performance of this Agreement.

18.2 During the term of this Agreement and for a period of four (4) years thereafter, CONTRACTOR agrees that the Secretary of the Department of Health and Human Services (in this Subparagraph 18.2, the "Secretary") and the Comptroller General of the United States, or the designee or duly authorized representative of either of them, will have access to all books and records of CONTRACTOR pertaining to the subject matter of this Agreement and the provision of services under it, in accordance with the criteria presently or hereafter developed by the Department of Health and Human Services as provided in Section 952 of the Omnibus Reconciliation Act of 1980 (in this Subparagraph 18.2, the "Act"). Upon request of the Secretary, the Comptroller General, or the designee or authorized representative of either of them, CONTRACTOR will (at reasonable times and places during normal business hours) make available this Agreement, and all books, documents and records of CONTRACTOR that are necessary to verify the nature and extent of the costs of the services provided by CONTRACTOR furnished in connection with this Agreement. Notwithstanding the foregoing provisions, the access to the books, records and documents of CONTRACTOR and any related organization provided for herein will be discontinued and become null and void upon a finding by a court or quasi-judicial body of competent jurisdiction that this Agreement is outside the scope of the regulatory or statutory definition of those contracts and agreements included within the purview of Section 952 of the Act or the rules and regulations promulgated thereunder.

18.3 CONTRACTOR agrees that COUNTY, or its authorized representatives, upon reasonable notice and during business hours, shall have access to and the right

to examine, audit, excerpt, copy or transcribe any financial, billing, time reporting, employment and other records relating to CONTRACTOR's performance of this Agreement provided such access rights do not constitute an unlawful invasion of the privacy rights of any CONTRACTOR employee and would not in the reasonable opinion of CONTRACTOR subject CONTRACTOR to legal liability. All records required to be maintained under this Paragraph 18 shall be kept and maintained by CONTRACTOR and shall be made available to COUNTY during the term of this Agreement and for a period of five (5) years thereafter unless COUNTY's written permission is given to dispose of any such material prior to such time. Notwithstanding the foregoing, with respect to employment records that are not needed to support any financial or billing records, such records shall be kept and maintained by CONTRACTOR for a minimum of two (2) years following termination of employment. CONTRACTOR shall notify COUNTY's Project Director in writing of any changes to CONTRACTOR's records retention policy following the Effective Date that impact such employment records. All records required to be maintained under this Paragraph 18 shall be maintained by CONTRACTOR at a location in Los Angeles or San Diego Counties, provided that if any such records is located outside Los Angeles or San Diego Counties, then, at CONTRACTOR's expense (including but not limited to travel, per diem, copying, shipping and other costs), COUNTY may travel to CONTRACTOR's location to examine, audit, excerpt, copy or transcribe such records.

18.4   In the event that an audit is conducted of CONTRACTOR specifically regarding this Agreement by any Federal or State auditor, or by any auditor or accountant employed by CONTRACTOR or otherwise specifically regarding this Agreement, then CONTRACTOR shall file a copy of such audit report with COUNTY's Auditor-Controller and COUNTY's Project Director within thirty (30) days of CONTRACTOR's receipt thereof, unless otherwise provided by applicable Federal or State law or under this Agreement. COUNTY shall make a reasonable effort to maintain the confidentiality of such audit report(s).

19.   OTHER PROPRIETARY CONSIDERATIONS

19.1   CONTRACTOR and COUNTY agree that all external systems Interfaces which are proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), and all materials, plans, reports, acceptance test criteria, acceptance test plans, Project Control Document, departmental procedures and processes, deliverables, data, and information (excluding the Application Software, external systems Interfaces which are not proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), medical devices Interfaces, other CONTRACTOR Work Product and Third Party Software) developed under this Agreement for delivery to COUNTY and all copyrights, patent rights, trade secret rights and other proprietary rights therein (collectively "COUNTY Materials") shall be the sole property of COUNTY, and CONTRACTOR hereby assigns and transfers to

COUNTY all CONTRACTOR's right, title, and interest in and to all such COUNTY Materials developed under this Agreement, provided that notwithstanding such COUNTY ownership, CONTRACTOR may retain possession of all working papers prepared by CONTRACTOR, provided that such working papers are maintained in accordance with Paragraph 18 (Records and Audits).

19.2   Upon request of COUNTY, CONTRACTOR shall execute all documents requested by COUNTY and shall perform all other acts requested by COUNTY to assign and transfer to, and vest in, COUNTY all CONTRACTOR's right, title, and interest in and to the COUNTY Materials, including, but not limited to, all copyrights, patents, and trade secret rights. COUNTY shall have the right to register all copyrights and patents in the name of the County of Los Angeles. Further, COUNTY shall have the right to assign, license, or otherwise transfer any and all COUNTY's right, title, and interest, including, but not limited to, copyrights and patents, in and to the COUNTY Materials.

19.3   As requested in writing by COUNTY's Project Director and subject to Subparagraph 19.1, CONTRACTOR shall affix the following notice to COUNTY Materials developed by CONTRACTOR under this Agreement: "©Copyright 2009 (or such other date of first publication), County of Los Angeles. All Rights Reserved". CONTRACTOR shall affix such notice as directed by COUNTY.

19.4   All CONTRACTOR Work Product that CONTRACTOR desires to use hereunder must be specifically identified by CONTRACTOR to COUNTY's Project Director as proprietary or confidential, and shall be plainly and prominently marked by CONTRACTOR as "PROPRIETARY" or "CONFIDENTIAL". CONTRACTOR hereby grants to COUNTY a license to use all CONTRACTOR Work Product not expressly referenced in the License granted under Subparagraph 11.3 (License) on the same terms as such License.

20.   PATENT, COPYRIGHT AND TRADE SECRET INDEMNIFICATION

20.1   CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from and against any and all third party Claims, damages, liabilities, losses, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, as such are incurred, for or by reason of any actual or alleged infringement of any United States patent or copyright, or other rights of any third party, or any actual or alleged trade secret disclosure or misappropriation, arising from or related to the System Software or the operation and utilization of CONTRACTOR's work under this Agreement (in this Paragraph 20, collectively "Infringement Claim(s)"). CONTRACTOR shall have no obligation to COUNTY under this Paragraph 20 if any Infringement Claim is caused by use by COUNTY of the System Software other than in accordance with the Specifications and other applicable Documentation, as initially determined by COUNTY's Project

Director but subject to Paragraph 46 (Dispute Resolution Procedure). Any legal defense pursuant to CONTRACTOR's indemnification obligations under this Paragraph 20 shall be conducted by CONTRACTOR and performed by counsel selected by CONTRACTOR and approved by COUNTY (which approval shall not be unreasonably withheld) in writing. Notwithstanding the preceding sentence, COUNTY shall have the right to participate in any such defense at its sole cost and expense, except that in the event CONTRACTOR fails to provide COUNTY with a full and adequate defense, as required by law and this Agreement, COUNTY shall be entitled to reimbursement for all such costs and expenses.

20.2   Without limiting the foregoing, in the event COUNTY's Project Director becomes aware that ongoing use of the System Software or any part thereof, is the subject of any Infringement Claim that might preclude or impair COUNTY's use of the System Software or any part thereof (e.g. injunctive relief), or that COUNTY's continued use of the System Software or any part thereof may subject COUNTY to punitive damages or statutory penalties or other costs or expenses, COUNTY shall give written notice to CONTRACTOR of such fact(s). Upon notice of such facts, CONTRACTOR shall, at no cost to COUNTY, either (1) procure the right, by license or otherwise, for COUNTY to continue to use the affected components of System Software, or part(s) thereof, to the same extent of the License under this Agreement, or (2) to the extent CONTRACTOR is unable to procure such right, replace or modify the affected components of System Software with another system or components of equivalent quality and performance capabilities, in COUNTY's determination, to become non-infringing, non-misappropriating and/or non-disclosing. If CONTRACTOR fails to complete the remedial acts set forth above within ninety (90) days of the date of the written notice from COUNTY (or such longer period as may be agreed to in writing in accordance with this Agreement), COUNTY shall have the right to take such remedial acts it determines to be reasonable to mitigate any impairment of its use of affected components of System Software or damages or other costs or expenses (in this Paragraph 20, "COUNTY's Remedial Acts"). CONTRACTOR shall indemnify COUNTY for all amounts paid and all direct and indirect costs associated with COUNTY's Remedial Acts. Failure by CONTRACTOR to pay such amounts and costs within ten (10) days of invoice by COUNTY shall, in addition to, and cumulative to all other remedies entitle COUNTY to immediately withhold payments due to CONTRACTOR under this Agreement up to the total of the amounts and costs paid in connection with COUNTY's Remedial Acts.

20.3   UNLESS AND UNTIL COUNTY TERMINATES THIS AGREEMENT FOR DEFAULT IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT, COUNTY'S RIGHTS UNDER THIS PARAGRAPH 20, TOGETHER WITH THE OTHER RIGHTS EXPRESSLY PROVIDED FOR IN THIS AGREEMENT, SHALL CONSTITUTE COUNTY'S SOLE AND EXCLUSIVE REMEDY TO ENFORCE CONTRACTOR'S INDEMNIFICATION OBLIGATION SET FORTH IN THIS

PARAGRAPH 20.

21. COMPLIANCE WITH APPLICABLE LAW

21.1 CONTRACTOR's activities hereunder, including, without limitation, the Tasks, subtasks, Deliverables, goods, services and other work from time to time delivered to COUNTY hereunder, shall comply with all applicable Federal, State, and local laws, rules, regulations, ordinances and codes, and all provisions required thereby to be included in this Agreement are incorporated herein by this reference thereto. CONTRACTOR shall have up to fifteen (15) days (or such other time period as mutually agreed to by the parties in accordance with the terms of this Agreement) to correct any noncompliance with COUNTY rules, regulations, ordinances and codes following written notice from COUNTY including written copies of such applicable rules, regulations, ordinances and/or codes.

21.2 CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from and against any and all third party Claims, damages, liabilities, losses, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, arising from or related to any violation on the part of CONTRACTOR, its employees, agents, or Subcontractors of any such laws, rules, regulations, ordinances or codes. Any legal defense pursuant to CONTRACTOR's indemnification obligations under this Subparagraph 21.2 shall be conducted by CONTRACTOR and performed by counsel selected by CONTRACTOR and approved by COUNTY (which approval shall not be unreasonably withheld) in writing. Notwithstanding the preceding sentence, COUNTY shall have the right to participate in any such defense at its sole cost and expense, except that in the event CONTRACTOR fails to provide COUNTY with a full and adequate defense, as required by law or this Agreement, COUNTY shall be entitled to reimbursement for all such costs and expenses.

22. FAIR LABOR STANDARDS

CONTRACTOR shall comply with all applicable provisions of the Federal Fair Labor Standards Act, and shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from any and all liability arising from third party Claims, including, but not limited to, wages, overtime pay, liquidated damages, penalties, court costs, and attorneys' fees arising under any wage and hour law, including, but not limited to, the Federal Fair Labor Standards Act, for work performed by CONTRACTOR's employees.

23. NONDISCRIMINATION AND AFFIRMATIVE ACTION

23.1 CONTRACTOR certifies and agrees that all persons employed by it, its affiliates, subsidiaries, or holding companies are and will be treated equally without regard to or because of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, in compliance with all applicable Federal and State anti-discrimination laws and regulations.

23.2 CONTRACTOR shall certify to, and comply with, the provisions of Exhibit F (CONTRACTOR's EEO Certification).

23.3 CONTRACTOR shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, in compliance with all applicable Federal and State anti-discrimination laws and regulations. Such action shall include, but is not limited to: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including, without limitation, apprenticeship.

23.4 CONTRACTOR certifies and agrees that it will deal with its Subcontractors, bidders, or vendors without regard to or because of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap.

23.5 CONTRACTOR certifies and agrees that it, its affiliates, subsidiaries or holding companies, shall comply with all applicable Federal and State laws and regulations, including, but not limited to:

i. Title VII, Civil Rights Act of 1964;

ii. Section 504, Rehabilitation Act of 1973;
iii. Age Discrimination Act of 1975;

iv. Title IX, Education Amendments of 1973, as applicable; and

v. Title 43, Part 17, Code of Federal Regulations, Subparts A & B; and that no person shall, on the grounds of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under this Agreement, or under any project, program, or activity supported by this Agreement.

23.6 COUNTY encourages the participation of minority business enterprises (in this Subparagraph 23.6 "MBE") and women's business enterprises (in this Subparagraph 23.6 "WBE") in the performance of this Agreement. COUNTY strongly urges the participation of MBE/WBEs in this Agreement; however, the final selection shall be without regard to race, color or creed. CONTRACTOR shall take affirmative steps to assure that MBE/WBEs are utilized by

CONTRACTOR when possible as sources of supplies, hardware, software, services and other work under this Agreement. The final selection shall be based on the business' ability to provide the best work and value for COUNTY.

23.7   If COUNTY finds that any of the provisions of this Paragraph 23 have been violated, such violation shall, at the election of COUNTY, constitute a material breach of this Agreement upon which COUNTY may immediately terminate this Agreement. While COUNTY reserves the right to determine independently that the anti-discrimination provisions of this Agreement have been violated, in addition, a determination by the California Fair Employment Practices Commission or the Federal Equal Employment Opportunity Commission that CONTRACTOR has violated State or Federal anti-discrimination laws or regulations shall entitle COUNTY to find that CONTRACTOR has violated the anti-discrimination provisions of this Agreement.

23.8   The parties agree that in the event CONTRACTOR violates the anti-discrimination provisions of this Agreement, COUNTY shall, at its option, be entitled to the sum of Five Hundred Dollars ($500) for each such violation pursuant to California Civil Code Section 1671 as liquidated damages in lieu of terminating this Agreement.

24.   EMPLOYMENT ELIGIBILITY VERIFICATION

24.1   CONTRACTOR warrants that it fully complies with all Federal and State statutes and regulations regarding the employment of aliens and others and that all its employees performing work under this Agreement meet the citizenship or alien status requirements set forth in Federal and State statutes and regulations. CONTRACTOR shall obtain, from all employees performing work hereunder, all verification and other documentation of employment eligibility status required by Federal statutes and regulations as they currently exist and as they may be hereafter amended.

24.2   CONTRACTOR shall retain all such documentation for the period prescribed by law. CONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from and against any and all third party Claims, damages, liabilities, losses, costs, and expenses, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, arising out of or in connection with any employer sanctions and any other liability which may be assessed against CONTRACTOR or COUNTY in connection with any alleged violation of any Federal or State statutes or regulations pertaining to the eligibility for employment of any employees performing work hereunder. Any legal defense pursuant to CONTRACTOR's indemnification obligations under this Paragraph 24 shall be conducted by CONTRACTOR and performed by counsel selected by CONTRACTOR and approved by COUNTY (which approval shall not be unreasonably withheld) in

writing. Notwithstanding the preceding sentence, COUNTY shall have the right to participate in any such defense at its sole cost and expense, except that in the event CONTRACTOR fails to provide COUNTY with a full and adequate defense, as required by law or this Agreement, COUNTY shall be entitled to reimbursement for all such costs and expenses.

25. CAPTIONS AND PARAGRAPH HEADINGS

Captions and paragraph headings used in this Agreement are for convenience only and are not a part of this Agreement and shall not be used in construing this Agreement.

26. WAIVER

A waiver by either party of any breach of any provision of this Agreement shall not constitute a waiver of any other breach or of such provision. Failure of a party to enforce at any time, or from time to time, any provision of this Agreement shall not be construed as a waiver thereof. The rights and remedies set forth in this Agreement shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

27. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by, and construed in accordance with, the laws of the State of California applicable to agreements made and to be performed within that State. Without limiting the foregoing, CONTRACTOR and COUNTY intend that this Agreement shall be subject to the provisions of the Uniform Commercial Code as enacted in California, and the parties hereto shall retain all of their rights and remedies thereunder. CONTRACTOR agrees and consents to the exclusive jurisdiction of the courts of the State of California (except with respect to Claims that are subject to exclusive federal subject matter jurisdiction, as to which CONTRACTOR agrees and consents to the exclusive jurisdiction of the Federal District Court of the Central District of California) for all purposes regarding this Agreement and further agrees and consents that venue of any action brought hereunder shall be exclusively in the County of Los Angeles, California.

28. SEVERABILITY

If any provision of this Agreement is adjudged void or invalid for any reason whatsoever, but would be valid if part of the wording thereof were deleted or changed, then such provision shall apply with such modifications as may be necessary to make it valid and effective. In the event that one or more of the provisions of this Agreement is found to be invalid, illegal or unenforceable in any respect, such provision shall be deemed deleted here from and the validity,

legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

29. HIRING OF EMPLOYEES

CONTRACTOR and COUNTY agree that, during the term of this Agreement and for a period of one (1) year thereafter, except with the prior written consent of the other party, neither party shall in any way intentionally induce or persuade any Project Director, Project Manager or other employee, within the meaning of Subparagraph 3.4 (Approval of CONTRACTOR's Staff) of one party to become an employee or agent of the other party, provided that the foregoing provision will not prohibit a general non-targeted solicitation of employment in the ordinary course of business or prevent either party from employing any employee who contacts such party at his or her own initiative without any direct or indirect solicitation by or encouragement from such party. Notwithstanding the foregoing, COUNTY shall be entitled to make offers of employment to employees of CONTRACTOR necessary or desirable to perform work described in this Agreement, in the event that: (1) COUNTY has the right to terminate this Agreement pursuant to Paragraph 30 (Termination for Insolvency), (2) this Agreement is terminated by COUNTY due to CONTRACTOR's default pursuant to Paragraph 31 (Termination for Default), (3) CONTRACTOR and COUNTY have followed the dispute resolution procedure set forth in Paragraph 46 (Dispute Resolution Procedure), and have otherwise exhausted other administrative remedies, if any, as determined by COUNTY, or (4) CONTRACTOR either announces the withdrawal of support of, or otherwise no longer provides services COUNTY deems essential to, the ongoing support of the System Software.

30. TERMINATION FOR INSOLVENCY

30.1 COUNTY may terminate this Agreement immediately at any time following the occurrence of any of the following:

A. Insolvency of CONTRACTOR. CONTRACTOR shall be deemed to be insolvent if it has ceased to pay or has admitted in writing its inability to pay its debts for at least sixty (60) days in the ordinary course of business or cannot pay its debts as they become due, whether or not a petition has been filed under the United States Bankruptcy Code and whether or not CONTRACTOR is insolvent within the meaning of the United States Bankruptcy Code, provided that CONTRACTOR shall not be deemed insolvent if it has ceased in the normal course of business to pay its debts which are disputed in good faith and which are not related to this Agreement as determined by COUNTY.

B. The filing of a voluntary or involuntary petition (which involuntary petition is not dismissed within sixty (60) days) regarding CONTRACTOR under the

United States Bankruptcy Code.

C.   The appointment of a receiver or trustee for CONTRACTOR.

D.   The execution by CONTRACTOR of a general assignment for the benefit of creditors.

30.2   The rights and remedies of COUNTY provided in this Paragraph 30 shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

30.3   CONTRACTOR agrees that if CONTRACTOR as a debtor-in-possession, or if a trustee in bankruptcy, rejects this Agreement, COUNTY may elect to retain its rights under this Agreement, as provided under Section 365(n) of the United States Bankruptcy Code (11 United States Code, Section 365(n)). Upon written request of COUNTY to CONTRACTOR or the trustee in bankruptcy, as applicable, CONTRACTOR or such trustee shall allow COUNTY to exercise all of its rights and benefits under this Agreement including, without limitation, such Section 365(n) (including, without limitation, the right to continued use of all source and object code versions of the Application Software, external systems Interfaces which are not proprietary to COUNTY as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work) and medical devices Interfaces, and related Documentation), and shall not interfere with the rights and benefits of COUNTY as provided therein. The foregoing shall survive the termination or expiration of this Agreement for any reason whatsoever.

31.   <u>TERMINATION FOR DEFAULT</u>

31.1   COUNTY may, by written notice to CONTRACTOR, terminate the whole or any part of this Agreement in any one of the following circumstances:

A.   If CONTRACTOR fails to perform or provide any Task, subtask, Deliverable, goods, service, or other work (i) within the times specified in this Agreement, including the applicable notice and/or cure periods, if any (if no cure period is specified in the Agreement, CONTRACTOR shall have fifteen (15) days (or such longer period as may be agreed to in writing in accordance with this Agreement) to cure prior to termination under this Subparagraph 31.1.A), or (ii) any authorized extensions thereof (provided that nothing in this Subparagraph 31.1.A shall in any way limit or modify any rights of COUNTY or obligations of CONTRACTOR relating to timely performance by CONTRACTOR as otherwise set forth in this Agreement); or

B.   If CONTRACTOR (i) fails to perform or comply with (a) any of the provisions of this Agreement with respect to which an express right of termination applies, or (b) any of the other material provisions of this

Agreement, or (ii) otherwise materially breaches this Agreement and, in any of these circumstances, does not cure such failure within the times specified in this Agreement, if any (if no cure period is specified in the Agreement, CONTRACTOR shall have fifteen (15) days (or such longer period as may be agreed to in writing in accordance with this Agreement) after receipt of written notice from COUNTY specifying such failure),

provided that the above cure periods shall in no way apply to the calculation of the credits to COUNTY described in Subparagraph 7.2 (Credits to COUNTY). If, pursuant to the preceding sentence, COUNTY has terminated this Agreement without providing a cure period, and subsequently a final determination is made that the default was capable of being cured, then the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Paragraph 32 (Termination for Convenience).

31.2   For purposes of Subparagraph 31.1, "material provision" includes, but is not limited to, any provision of this Agreement which if CONTRACTOR fails to perform or comply with such provision, could (a) prevent (i) completion of any work under and in accordance with this Agreement, (ii) use of the System in accordance with this Agreement, (iii) performance in accordance with this Agreement, (iv) Compatibility, or (v) support of the System in accordance with this Agreement, (b) compromise the confidentiality or security of COUNTY's Confidential Information, and/or (c) increase the financial or other risk to COUNTY under this Agreement.

31.3   In the event that COUNTY terminates this Agreement in whole or in part as provided in Paragraph 30 (Termination for Insolvency) or this Paragraph 31, then:

A.   COUNTY shall have the right, for COUNTY's business purposes and for the purposes of all Users, and to the extent necessary to continue operations, to continued use of all object code versions of the Application Software, external systems Interfaces which are not proprietary to COUNTY as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work) and medical devices Interfaces and related Documentation pursuant to the License provisions of this Agreement, for the remainder of the term of the License, and COUNTY shall have the right to allow its employees, contractors and all Users to utilize all such object code versions and related Documentation; and

B.   COUNTY shall have the rights set forth in Subparagraphs 11.3 (License) and 11.4 (Source Code) to access and use the Source Code as set forth therein, after such time as one of the Release Conditions has occurred; and

C. COUNTY shall have the right to procure, subject to the provisions of clauses (i), (ii) and (iii) of this Subparagraph 31.3.C, upon such terms and in such a manner as COUNTY may deem appropriate, goods, services, and other work, similar to those so terminated, and CONTRACTOR shall be liable to COUNTY for and shall promptly pay to COUNTY any and all excess costs incurred by COUNTY, as determined by COUNTY, subject to Paragraph 46 (Dispute Resolution Procedure), to procure and furnish such similar goods, services, and other work, provided that (i) COUNTY shall use reasonable efforts to make use of the source and object code versions of the Application Software, Interfaces and related Documentation to mitigate CONTRACTOR's liability for excess costs hereunder; (ii) nothing contained herein shall limit any duty COUNTY may otherwise have as a matter of law to use reasonable efforts to mitigate damages; and (iii) CONTRACTOR's total liability pursuant to this Subparagraph 31.3.C for excess costs incurred by COUNTY to procure and furnish such similar goods, services and other work shall not exceed the "Maximum Excess Costs Cap" as defined in this Subparagraph 31.3.C. The Maximum Excess Costs Cap shall mean Twenty-Nine Million Dollars ($29,000,000), less the following amounts: (a) any portion of the Contract Sum which has not been paid to CONTRACTOR by COUNTY; and (b) any portion of the Contract Sum which has been paid to CONTRACTOR by COUNTY but has been repaid or reimbursed to COUNTY pursuant to Subparagraph 8.3.F or Subparagraph 9.4 (Failed Testing). Nothing contained in this Subparagraph 31.3.C shall limit any of COUNTY's other rights or remedies, including, without limitation, COUNTY's right to recover damages other than or in addition to excess costs to procure and furnish similar goods, services and other work, which other or additional damages potentially recoverable by COUNTY may include, without limitation, incidental and consequential damages associated with the cost of procurement of similar goods, services and other work; and

D. CONTRACTOR and COUNTY shall continue the performance of this Agreement to the extent not terminated under the provisions of Paragraph 30 (Termination for Insolvency) and/or this Paragraph 31; and

E. CONTRACTOR understands and agrees that Probation Department, DHS JCHS and DMH JJMH have obligations that they cannot satisfy without use of the System or an equivalent system, and that a failure to satisfy such obligations could result in irreparable damage to COUNTY and the people it serves. Therefore, CONTRACTOR agrees that in the event of any termination of this Agreement, as a result of the breach hereof by either party, or for any other reason, CONTRACTOR shall fully cooperate with COUNTY in the transition of COUNTY to a new system, toward the end that there be no interruption of COUNTY's day to day operations due

to the unavailability of the System during such transaction. Such cooperation shall include, but not be limited to, converting existing files to ASCII format, converting data, providing parallel services until COUNTY's system transition is completed, and providing on-site technical support at CONTRACTOR's then current rates. COUNTY may seek specific performance of the preceding two sentences, and CONTRACTOR agrees not to raise the defense that damages are an adequate remedy. The parties shall discuss in good faith the issue of additional fees, if any, to CONTRACTOR for transition services other than those specified above, and CONTRACTOR reserves all legal rights to seek such fees for such services as to which it might be entitled, if any, depending on all of the facts and circumstances of such termination.

31.4 Except with respect to defaults of any Subcontractor(s), CONTRACTOR shall not be liable for any such excess costs, if its failure to perform this Agreement arises out of fires, floods, epidemics, quarantine restrictions, other Acts of God, strikes or freight embargoes, but in every such case the failure to perform must be totally beyond the control and without any fault or negligence of CONTRACTOR. If the failure to perform is caused by the default of a Subcontractor, and if such default arises out of causes beyond the control of both CONTRACTOR and Subcontractor, and without any fault or negligence of either of them, CONTRACTOR shall not be liable for any such excess costs for failure to perform, unless the goods or services to be furnished by the Subcontractor were obtainable from other sources in sufficient time to permit CONTRACTOR to meet the required performance schedule. CONTRACTOR agrees to use all reasonable commercial efforts to obtain such goods or services from other sources. As used in this Subparagraph 31.4, the terms "Subcontractor" and "Subcontractors" mean Subcontractor(s) at any tier.

31.5 If, after COUNTY has given notice of termination under the provisions of this Paragraph 31, it is determined by COUNTY that CONTRACTOR was not in default under the provisions of this Paragraph 31, or that the default was excusable under the provisions of this Paragraph 31, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Paragraph 32 (Termination for Convenience).

31.6 The rights and remedies of COUNTY provided in this Paragraph 31 shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

31.7 CONTRACTOR may, by written notice to COUNTY, terminate this Agreement if COUNTY fails to timely pay in accordance with this Agreement any undisputed amounts owed to CONTRACTOR under a properly prepared invoice, and COUNTY does not cure such failure to pay within one hundred and eighty (180) days following receipt of such written notice.

32. <u>TERMINATION FOR CONVENIENCE</u>

32.1   This Agreement may be terminated, in whole or in part, from time to time, when such action is deemed by COUNTY to be in its best interest. Termination of work hereunder shall be effected by delivery to CONTRACTOR of a notice of termination specifying the extent to which performance of work is terminated and the date upon which such termination becomes effective. The date upon which such termination becomes effective shall be no less than thirty (30) days after the notice is sent, provided that in the event COUNTY has purported to terminate this Agreement for default by notice pursuant to Paragraph 31 (Termination for Default) and it has later been determined that CONTRACTOR was not in default, no additional notice shall be required upon such determination.

32.2   After receipt of a notice of termination, and except as otherwise directed by COUNTY, CONTRACTOR shall:

A.   Stop work under this Agreement on the date and to the extent specified in such notice;

B.   Transfer title and deliver to COUNTY all other completed work and work in process, including external systems Interfaces which are proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), and all proprietary rights therein, but not including System Software; and

C.   Complete performance of such part of the work as shall not have been terminated by such notice.

32.3   Except as provided in Subparagraph 32.4, nothing in this Paragraph 32 shall be deemed to prejudice any right of CONTRACTOR to make a claim against COUNTY in accordance with applicable law and regular COUNTY procedures for payment for work performed through the effective date of COUNTY's termination of this Agreement for convenience, including but not limited to Deliverables that have been completed by CONTRACTOR and approved by COUNTY in accordance with this Agreement.

32.4   In addition to, and without limiting, any of COUNTY's other rights set forth in this Paragraph 32, COUNTY shall have the right, for a period of thirty (30) days after receipt of the Project Control Document, to terminate this Agreement on notice to CONTRACTOR if in the opinion of COUNTY in its sole judgment the Project Control Document is not satisfactory or carrying out the Project Control Document is not in the best interest of COUNTY. If COUNTY so terminates based on its determination that the Project Control Document is not satisfactory (e.g., based on a determination that the Project Control Document does not conform to the requirements of this Agreement, is not of sufficient quality, or is incomplete or otherwise defective), then upon any such termination

(i) CONTRACTOR shall not be entitled to the sums being withheld pursuant to Subparagraph 8.3 (Payments), (ii) CONTRACTOR shall be required to repay to COUNTY all amounts, if any, paid by COUNTY to CONTRACTOR hereunder, and (iii) except as provided in this Agreement neither party shall have any further obligation to the other under this Agreement. If COUNTY in its sole judgment approves Deliverable 1.3 (Project Control Document (PCD)) pursuant to Exhibit A (Statement of Work) but elects pursuant to this Subparagraph 32.4 to terminate this Agreement based on its determination that carrying out the Project Control Document is not in the best interest of COUNTY, then upon any such termination (i) CONTRACTOR shall be entitled to payment in the amount of the Maximum Fixed Price for Deliverable 1.3 (Project Control Document) shown on Exhibit B (Schedule of Payments), after COUNTY has approved such Deliverable in writing, (ii) CONTRACTOR shall not be entitled to the sums, if any, being withheld pursuant to Subparagraph 8.3 (Payments), and (iii) except as provided in this Agreement, neither party shall have any further obligation to the other under this Agreement.

33.   COUNTY AUDIT SETTLEMENTS

If, at any time during or after the term of this Agreement, representatives of COUNTY conduct an audit of CONTRACTOR regarding the work performed under this Agreement, and if such audit finds that COUNTY's dollar liability for any such work is less than payments made by COUNTY to CONTRACTOR, then the difference, together with COUNTY's reasonable costs of audit, shall be either repaid by CONTRACTOR to COUNTY by cash payment upon demand or, at the sole option of the Chief Probation Officer, deducted from any amounts due to CONTRACTOR from COUNTY, whether under this Agreement or otherwise. If such audit finds that COUNTY's dollar liability for such work is more than the payments made by COUNTY to CONTRACTOR, then the difference shall be paid to CONTRACTOR by COUNTY, but in no event shall COUNTY's payments to CONTRACTOR exceed the Contract Sum identified in Paragraph 7 (Contract Sum).

34.   NOTICE OF DELAYS

In the event CONTRACTOR determines at any time that failure, delay or inadequacy of performance of any of COUNTY's obligations hereunder may prevent or tend to prevent CONTRACTOR from completing any of CONTRACTOR's obligations in a timely manner or may cause or tend to cause CONTRACTOR to incur additional or unanticipated costs or expenses, CONTRACTOR shall promptly following such determination (and without limiting CONTRACTOR's obligation of prompt notification, in any event within fifteen (15) days following such determination), notify COUNTY's Project Director in writing, which notice shall specify in reasonable detail: (1) any alleged failure, delay or inadequacy of performance by COUNTY and (2) to the best knowledge of

CONTRACTOR after due inquiry and analysis, the estimated impact of such alleged failure, delay or inadequacy on the performance of CONTRACTOR's obligations, including, but not limited to, any estimated delay and any estimated amount of additional or unanticipated costs or expenses that may be incurred. In the event that CONTRACTOR fails to fulfill any of its obligations in a timely manner as a direct result of a failure, delay or inadequacy of performance of any of COUNTY's obligations after timely written notice to COUNTY by CONTRACTOR of such failure, delay or inadequacy of performance, then the date for CONTRACTOR's completion of such obligation may be appropriately extended, as determined in the sole discretion of COUNTY's Project Director pursuant to Subparagraph 6.4. CONTRACTOR shall take all reasonable actions to mitigate or reduce any delays. In the event CONTRACTOR fails to notify COUNTY in writing of any alleged failure, delay or inadequacy of performance in a timely manner as set forth in this Paragraph 34, CONTRACTOR shall not be entitled to rely upon such alleged failure, delay or inadequacy of performance for any purpose whatsoever, including, but not limited to, as a purported justification for either: (1) claiming that CONTRACTOR is entitled to receive any additional payments from COUNTY hereunder or (2) failing to fulfill any of CONTRACTOR's obligations in a timely manner. This Paragraph 34 shall not be interpreted or construed as expanding in any manner or to any extent the financial obligations of COUNTY under this Agreement.

35. CONFLICT OF INTEREST

35.1   No COUNTY employee whose position with COUNTY enables such employee to influence the award of this Agreement or any competing agreement, and no spouse or economic dependent of such employee, shall be employed in any capacity by CONTRACTOR or have any other direct or indirect financial interest in this Agreement. No officer or employee of CONTRACTOR, who may financially benefit from the performance of work hereunder, shall in any way participate in COUNTY's approval, or ongoing evaluation, of such work, or in any way attempt to unlawfully influence COUNTY's approval or ongoing evaluation of such work.

35.2   CONTRACTOR shall comply with all conflict of interest laws, ordinances and regulations now in effect or hereafter to be enacted during the term of this Agreement. CONTRACTOR warrants that it is not now aware of any facts which do or could create a conflict of interest. If either COUNTY or CONTRACTOR hereafter becomes aware of any facts which might reasonably be expected to create a conflict of interest, it shall immediately make full written disclosure of such facts to the other. Full written disclosure shall include, but is not limited to, identification of all persons implicated and a complete description of all relevant circumstances.

36. MOST FAVORED PUBLIC ENTITY

Should CONTRACTOR, at any time during the term of this Agreement, provide the same goods or services under similar quantity and delivery conditions (in each case as reasonably determined by COUNTY's Project Director) to the State of California or any county, municipality or district of the State at prices below those set forth in this Agreement, then such lower prices shall immediately be extended to COUNTY on a prospective basis, subject to the same delivery conditions of the entity receiving such lower prices. COUNTY shall have the right to utilize a COUNTY auditor to verify CONTRACTOR's compliance with this Paragraph 36 by review of CONTRACTOR's books and records.

37.   DAMAGE TO COUNTY FACILITIES, BUILDINGS OR GROUNDS

37.1   CONTRACTOR shall repair, or cause to be repaired, at its own cost, any and all damage to COUNTY Facilities, buildings or grounds caused by CONTRACTOR or employees or agents of CONTRACTOR. Such repairs shall be made immediately after CONTRACTOR has become aware of such damage, but in no event later than thirty (30) days after the occurrence.

37.2   If CONTRACTOR fails to make timely repairs, COUNTY may make any necessary repairs. All costs incurred by COUNTY, as reasonably determined by COUNTY, for such repairs shall be repaid by CONTRACTOR by cash payment upon demand, or without limitation of all COUNTY's other rights and remedies provided by law or under this Agreement, COUNTY may deduct such costs from any amounts due to CONTRACTOR from COUNTY under this Agreement.

38.   AUTHORIZATION WARRANTY

CONTRACTOR and COUNTY hereby represents and warrants that the person executing this Agreement on behalf of such party is an authorized agent of such party having actual authority to bind such party to each and every term, condition, and obligation of this Agreement and that all requirements of such party have been fulfilled to provide such person actual authority.

39.   NOTICES

All notices or demands required or permitted to be given or made under this Agreement, unless otherwise specified, shall be in writing and shall be addressed to the parties at the addresses indicated on the applicable of Exhibits K (COUNTY's Administration) or L (CONTRACTOR's Administration), and delivered: (1) by hand with signed receipt, (2) by first-class registered or certified mail, postage prepaid, or (3) by facsimile or electronic mail transmission followed within twenty-four (24) hours by a confirmation copy mailed by first-class registered or certified mail, postage prepaid. Notices shall be deemed given at the time of signed receipt in the case of hand delivery, three (3) days after deposit in the United States mail as set forth above, or on the date of facsimile or electronic mail transmission if followed by timely confirmation mailing. Addresses

may be changed by either party giving ten (10) days prior written notice thereof to the other party.

The Chief Probation Officer shall have the authority to issue all notices or demands which are required or permitted by COUNTY under this Agreement.

40.   DELIVERY AND RISK OF LOSS

CONTRACTOR shall bear the full risk of loss due to total or partial destruction of all System Software until such items are delivered to and accepted by COUNTY.

41.   ACCESS TO COUNTY FACILITIES

41.1   General

CONTRACTOR, its employees and agents, will be granted access to COUNTY Facilities, subject to CONTRACTOR's prior notification to COUNTY's Project Director and full compliance with COUNTY's standard administrative and security requirements, for the purpose of executing CONTRACTOR's obligations hereunder. Access to COUNTY Facilities shall be restricted to normal COUNTY business hours, 6:30 a.m. to 6:30 p.m. Pacific Time, Monday through Friday, COUNTY observed holidays excepted. Access to COUNTY Facilities outside normal business hours must be approved in writing in advance by COUNTY's Project Director, which approval will not be unreasonably withheld. CONTRACTOR shall have no tenancy, or any other property or other rights in COUNTY Facilities.   While present at COUNTY Facilities, CONTRACTOR's personnel shall be accompanied by COUNTY personnel at all times, unless otherwise specified in writing prior to such event by COUNTY's Project Director.

41.2   Security Search of CONTRACTOR's Staff

Weapons, drugs, alcohol, tobacco products and other contraband are not permitted at COUNTY Facilities and all persons entering are subject to search. CONTRACTOR's staff shall be subject to all COUNTY Facility rules, regulations, policies and procedures while present at a COUNTY Facility, including but not limited to criminal background checks pursuant to Subparagraph 3.6 (Background Check of CONTRACTOR's Staff).   COUNTY's Project Director and/or COUNTY's Project Manager will provide written copies to CONTRACTOR and such staff on the applicable policies and procedures prior to CONTRACTOR or such staff entering a COUNTY Facility. As requested by any of the Probation Department, DHS and/or DMH staff, CONTRACTOR's staff shall submit to a search of his person and/or property at any time while entering, leaving, or working at a COUNTY Facility. Any breach of security by CONTRACTOR or any CONTRACTOR staff may result in the denial of further access to COUNTY Facilities and may be grounds for criminal prosecution.

42. COUNTY FACILITY WORK SPACE

In order for CONTRACTOR to perform services hereunder and only for the performance of such services, COUNTY will, subject to COUNTY's standard administrative and security requirements, provide CONTRACTOR with work space and equipment at COUNTY Facilities on a nonexclusive use basis for a maximum number of CONTRACTOR staff personnel as mutually agreed in writing by COUNTY's Project Director and CONTRACTOR's Project Director. COUNTY will also provide CONTRACTOR with reasonable telephone service in such work space for use only for purposes of this Agreement.

43. SYSTEM USE

Prior to Final System Acceptance, COUNTY shall have the right to use, in a Production Use mode, System Components which have been previously approved by COUNTY in accordance with this Agreement. Such Production Use shall not restrict CONTRACTOR's performance under this Agreement and shall not be deemed Final System Acceptance.

44. LICENSES, PERMITS, REGISTRATIONS, ACCREDITATIONS AND CERTIFICATES

CONTRACTOR shall obtain and maintain in effect during the term of this Agreement all licenses, permits, registrations, accreditations, and certificates required by all Federal, State, and local laws, ordinances, rules and regulations which are applicable to CONTRACTOR's services under this Agreement. CONTRACTOR shall further ensure that all of its officers, employees, agents, and Subcontractors who perform services hereunder, shall obtain and maintain in effect during the term of this Agreement all licenses, permits, registrations, accreditations, and certificates which are applicable to their performance hereunder. A copy of each such license, permit, registration, accreditation, and certificate required by all applicable Federal, State, and local laws, ordinances, rules and regulations shall be provided, in duplicate, to COUNTY's Project Director.

45. PHYSICAL ALTERATIONS

Except as otherwise provided herein, CONTRACTOR shall not in any way physically alter or improve any COUNTY Facility without the prior written approval of the Chief Probation Officer in such person's sole discretion.

46. DISPUTE RESOLUTION PROCEDURE

46.1 CONTRACTOR and COUNTY agree to act promptly and diligently to mutually resolve any disputes which may arise with respect to this Agreement. All such

disputes shall be subject to the provisions of this Paragraph 46.

46.2   CONTRACTOR and COUNTY agree that, the existence and details of a dispute notwithstanding, both parties shall continue without delay their performance hereunder, except for any performance which COUNTY, in its sole discretion, determines should be delayed as a result of such dispute.   COUNTY shall continue to pay sums not in dispute, during any such period of continued performance.

If CONTRACTOR fails to continue without delay its performance hereunder which COUNTY, in its sole discretion, determines should not be delayed as a result of such dispute, then any additional costs which may be incurred by CONTRACTOR or COUNTY as a result of CONTRACTOR's failure to continue to so perform shall be borne by CONTRACTOR, and CONTRACTOR shall make no claim whatsoever against COUNTY for such costs.   CONTRACTOR shall promptly reimburse COUNTY for such COUNTY costs, as determined by COUNTY, or COUNTY may deduct all such additional costs from any amounts due to CONTRACTOR from COUNTY, whether under this Agreement or otherwise.

If COUNTY fails to continue without delay to perform its responsibilities under this Agreement which COUNTY, in its sole discretion, determines should not be delayed as a result of such dispute, then any additional costs incurred by CONTRACTOR or COUNTY as a result of COUNTY's failure to continue to so perform shall be borne by COUNTY, and COUNTY shall make no claim whatsoever against CONTRACTOR for such costs.   COUNTY shall promptly reimburse CONTRACTOR for all such additional CONTRACTOR costs subject to the written approval of such costs by COUNTY.

46.3   In the event of any dispute between the parties with respect to this Agreement, CONTRACTOR and COUNTY shall submit the matter to their respective Project Managers for the purpose of endeavoring to resolve such dispute.

46.4   In the event that the Project Managers are unable to resolve the dispute within a reasonable time not to exceed five (5) days from the date of submission of the dispute to them, then the matter shall be immediately submitted to the parties' respective Project Directors for further consideration and discussion to attempt to resolve the dispute.

46.5   In the event that the Project Directors are unable to resolve the dispute within a reasonable time not to exceed five (5) days from the date of submission of the dispute to them, then the matter shall immediately be submitted to CONTRACTOR's President and the Chief Probation Officer, in consultation with designated staff from DHS JCHS, DMH JJMH and COUNTY's Chief Information Office, for further consideration and discussion to attempt to resolve the dispute.

46.6 In the event that CONTRACTOR's President and the Chief Probation Officer, in consultation with designated staff from DHS JCHS, DMH JJMH and COUNTY's Chief Information Office, are unable to resolve the dispute within a reasonable time not to exceed ten (10) days from the date of submission of the dispute to them, then each party may assert its other rights and remedies provided under this Agreement and/or its rights and remedies as provided by law.

46.7 All disputes utilizing this dispute resolution procedure shall be documented in writing by each party and shall state the specifics of each alleged dispute and all actions taken. The parties shall act in good faith to resolve all disputes. At all levels described in this Paragraph 46, the efforts to resolve a dispute shall be undertaken by conference between the parties' respective representatives, either orally, by face-to-face meeting or by telephone, or in writing by exchange of correspondence.

46.8 Notwithstanding any other provision of this Agreement, COUNTY's right to terminate this Agreement pursuant to Paragraph 30 (Termination for Insolvency), Paragraph 31 (Termination for Default), Paragraph 32 (Termination for Convenience), or any other termination provision hereunder, and either party's right to seek injunctive relief to enforce the provisions of Paragraphs 19 (Other Proprietary Considerations) and 52 (Confidentiality, Security and Non-Disclosure), shall not be subject to this Dispute Resolution Procedure. The preceding sentence is intended only as a clarification of a party's rights, and shall not be deemed to impair any claims that such party may have against the other or either party's rights to assert such claims after any such termination or such injunctive relief has been obtained.

47. NO THIRD PARTY BENEFICIARIES

Notwithstanding any other provision of this Agreement, CONTRACTOR and COUNTY do not in any way intend that any person or entity shall acquire any rights as a third party beneficiary of this Agreement, except that this provision shall not be construed to diminish CONTRACTOR's indemnification obligations hereunder.

48. RESTRICTIONS ON LOBBYING

CONTRACTOR and each COUNTY lobbyist or COUNTY lobbying firm as defined in Los Angeles County Code Section 2.160.010, retained by CONTRACTOR, shall fully comply with COUNTY Lobbyist Ordinance, Los Angeles County Code Chapter 2.160. Failure on the part of CONTRACTOR or any COUNTY lobbyist or COUNTY lobbying firm retained by CONTRACTOR to fully comply with COUNTY Lobbyist Ordinance shall constitute a material breach of this Agreement upon which COUNTY may immediately terminate or suspend this Agreement.

49. CONTRACTOR PERFORMANCE DURING CIVIL UNREST OR DISASTER

CONTRACTOR recognizes that COUNTY provides services essential to the residents of the communities it serves, and that these services are of particular importance at the time of a riot, insurrection, civil unrest, natural disaster or similar event. Notwithstanding any other provision of this Agreement, full performance by CONTRACTOR during any riot, insurrection, civil unrest, natural disaster or similar event is not excused if such performance remains physically possible without related danger to CONTRACTOR's or its Subcontractors' employees and suppliers. During any such event in which the health or safety of any of CONTRACTOR's staff members would be endangered by performing their services on-site, such staff members may perform any or all of their services remotely.

50. ARM'S LENGTH NEGOTIATIONS

This Agreement is the product of arm's length negotiation between CONTRACTOR and COUNTY. Each party has had the opportunity to receive advice from independent counsel of its own choosing. This Agreement is to be interpreted fairly as between the parties, and not strictly construed as against either party.

51. SURVIVAL

The following provisions of this Agreement shall survive its expiration or termination for any reason: Subparagraphs 4.2, 8.2 through 8.5, 10.2, 10.4, 10.5, 10.6, 16.4, 16,12,17.1, 17.2.1, 17.3.3 and 21.2, and Paragraphs 1, 11, 15, 18, 19, 20, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 39, 46, 47, 52, 53, 57, 65 and 71 and this Paragraph 51.

52. CONFIDENTIALITY, SECURITY AND NON-DISCLOSURE

52.1 Subject in all respects to Subparagraphs 19.4, 52.9 and 52.10, each party shall maintain the confidentiality of the other party's Confidential Information in accordance with all applicable Federal, State and local laws, regulations, ordinances, guidelines and directives relating to confidentiality. With respect to CONTRACTOR, the "Confidential Information" consists of the proprietary aspects of the Application Software, the external systems Interfaces which are not proprietary to COUNTY, as set forth in Attachment D (PEMRS Interfaces) to Exhibit A (Statement of Work), the medical devices Interfaces and the other CONTRACTOR Work Product. With respect to COUNTY, the "Confidential Information" consists of the COUNTY Materials, COUNTY billings, COUNTY records, detainee records and information, detainee patient records and information and other COUNTY records and information. With respect to CONTRACTOR and COUNTY, "Confidential Information" shall not include information which (i) is lawfully in the public domain at the time of disclosure

through no act or omission of the other party or (ii) is disclosed with the prior written approval of the party to which such information pertains.

52.2   With respect to COUNTY's Confidential Information, CONTRACTOR shall: (1) not use any such information for any purpose whatsoever other than carrying out the express terms of this Agreement; (2) promptly transmit to COUNTY all requests for disclosure of any such information; (3) not disclose, except as otherwise specifically permitted by this Agreement, any such information to any person or organization other than COUNTY without COUNTY's prior written authorization that the information is releasable; and (4) at the expiration or termination of this Agreement, return all such information to COUNTY or maintain such information according to the written procedures sent to CONTRACTOR by In the event CONTRACTOR receives any court or administrative agency order, service of process, or request by any person or entity (other than CONTRACTOR's professionals) for disclosure of any such details, CONTRACTOR shall immediately notify COUNTY's Project Director. Thereafter, CONTRACTOR shall comply with such order, process or request only to the extent required by applicable law. Notwithstanding the preceding sentence, to the extent permitted by law, CONTRACTOR shall delay such compliance and cooperate with COUNTY to obtain relief from such obligations to disclose until COUNTY shall have been given a reasonable opportunity to obtain such relief.

52.3   In recognizing CONTRACTOR's need to identify its services and related clients to sustain itself, COUNTY shall not inhibit CONTRACTOR from publishing its role under this Agreement within the following conditions:

   A.   CONTRACTOR shall develop all publicity material in a professional manner.

   B.   During the term of this Agreement, CONTRACTOR shall not publish or disseminate any commercial advertisements, press releases, feature articles, or other materials using the name of COUNTY without the prior written consent of COUNTY's Project Director. COUNTY shall not unreasonably withhold written consent, and approval by COUNTY may be assumed in the event no adverse comments are received in writing within two (2) weeks after submittal.

   C.   CONTRACTOR may, without the prior written consent of COUNTY, indicate in its proposals and sales materials that it has been awarded this Agreement with the County of Los Angeles, provided that the requirements of Subparagraph 52.3.A shall apply.

52.4   CONTRACTOR hereby acknowledges the right of privacy of all persons as to whom there exists any detainee records and information, and detainee patient records and information. CONTRACTOR shall protect, secure and keep confidential all detainee records and information, and detainee patient records

and information in compliance with all federal, State and local laws, rules, regulations, ordinances, guidelines and directives, relating to confidentiality and information security (including any breach of the security of the System, such as any unauthorized acquisition of detainee records and information, and detainee patient records and information that compromises the security, confidentiality or integrity of personal information), including California Civil Code Section 1798.82. Further, CONTRACTOR shall take all reasonable actions necessary or advisable to protect all detainee records and information, and detainee patient records and information in its possession, custody or control from loss or damage by any cause, including fire, theft or other catastrophe. In addition, if requested by COUNTY's Project Director, CONTRACTOR shall provide notification to all persons whose unencrypted personal information was, or is reasonably believed to have been, acquired by any unauthorized person, and the content, method and timing of such notification shall be subject to the prior approval of COUNTY's Project Director.

52.5   By State law (California Welfare and Institutions Code Sections 827 and 828 an California Penal Code Sections 1203.5, 1203.9 and 11140 through 11144), adult and minor records and Probation Department case information which is in CONTRACTOR's care and possession is confidential and no information related to anyone except those authorized employees of the Probation Department and law enforcement agencies.

A.   CONTRACTOR shall give each of its employees who either will have access minor records or may come onsite to any COUNTY Facility during the course of performing work under this Agreement copies of all cited code sections, and a Confidentiality of CORI form in the form attached hereto as Exhibit N (Confidentiality of CORI), regarding confidentiality of the information in adult and minor records. CONTRACTOR shall retain an original executed Confidentiality of CORI form for each such employee and shall forward copies of each such Confidentiality of CORI form to COUNTY's Project Manager within five Working Days of the start of such employee having access to COUNTY records under this Agreement.

B.   CONTRACTOR shall inform all of its officers, employees, agents and subcontractors of the above provisions and that any knowing and intentional violation of such State law is a misdemeanor.

52.6   CONTRACTOR shall protect the security of and keep confidential all COUNTY's Confidential Information. Further, CONTRACTOR shall use whatever security measures are reasonably necessary to protect all such materials from loss or damage by any cause, including, but not limited to, fire and theft.

52.7   CONTRACTOR shall not reproduce, distribute, or disclose to any person or entity any information identifying, characterizing, or relating to any risk, threat,

vulnerability, weakness, or problem regarding data security in COUNTY's computer systems, or to any safeguard, countermeasure, or contingency plan, policy or procedure for data security contemplated or implemented by COUNTY, without COUNTY's prior written consent.

52.8 CONTRACTOR shall inform all of its officers, employees and agents providing services hereunder of the confidentiality, security and non-disclosure provisions of this Agreement. Further, shall require such officers, employees and agents to be bound in writing by confidentiality, security and non-disclosure provisions at least as protective of the COUNTY as the confidentiality, security and non-disclosure provisions of this Agreement. CONTRACTOR shall indemnify and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents, from and against any and all third party Claims, losses, damages, liability, and expense, including, but not limited to, reasonable defense costs and legal, accounting and other expert, consulting or professional fees, arising from any disclosure of such records and information by CONTRACTOR, its officers, employees, or agents, except for any disclosure authorized by this Paragraph 52.

52.9 Except as expressly permitted in this Agreement, COUNTY agrees not to reproduce, distribute, or disclose to non-COUNTY entities (other than outside counsel or consultants subject to non-disclosure agreements), CONTRACTOR's Confidential Information without the prior written permission of CONTRACTOR or as required by law or pursuant to Paragraph 46 (Dispute Resolution Procedure). COUNTY additionally agrees (a) to use any CONTRACTOR's Confidential Information only as permitted under the terms of this Agreement and (b) to provide the notification described in Subparagraph 11.3.C(i) with respect to all of CONTRACTOR's Confidential Information. Subject in all respects to Subparagraphs 19.4 and 52.10 and this Subparagraph 52.9, COUNTY (a) shall protect the security of and keep confidential all CONTRACTOR's Confidential Information and (b) shall use whatever security measures are reasonably necessary to protect all such information from loss or damage by any cause, including, but not limited to, fire and theft.

52.10 Notwithstanding any other provision of this Agreement, COUNTY shall not be obligated in any way under this Agreement for:

A. Any CONTRACTOR's Confidential Information not plainly and prominently marked with restrictive legends required pursuant to Subparagraph 19.4; and

B. Any disclosure of any of CONTRACTOR's Confidential Information which COUNTY is required to make under the California Public Records Act or otherwise by law.

53. TERMINATION FOR IMPROPER CONSIDERATION

COUNTY may, by written notice to CONTRACTOR, immediately terminate the right of CONTRACTOR to proceed under this Agreement if it is found that consideration, in any form, was offered or given by CONTRACTOR, either directly or through an intermediary, to any COUNTY officer, employee or agent with the intent of securing this Agreement or securing favorable treatment with respect to the award, amendment or extension of this Agreement or the making of any determinations with respect to CONTRACTOR's performance pursuant to this Agreement. In the event of such termination, COUNTY shall be entitled to pursue the same remedies against CONTRACTOR as it could pursue in the event of default of CONTRACTOR.

CONTRACTOR shall immediately report any attempt by a COUNTY officer or employee to solicit such improper consideration. The report shall be made either to COUNTY manager charged with the supervision of the employee or to COUNTY Auditor-Controller's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

54. TIME IS OF THE ESSENCE

Time is of the essence of this Agreement.

55. BUDGET REDUCTIONS

In the event that the COUNTY's Board of Supervisors adopts, in any fiscal year, a COUNTY Budget which provides for reductions in the salaries and benefits paid to the majority of COUNTY employees and imposes similar reductions with respect to COUNTY contracts, COUNTY reserves the right to reduce its payment obligation under this Agreement correspondingly for that fiscal year and any subsequent fiscal year during the term of this Agreement (including any extensions), and the services to be provided by CONTRACTOR under this Agreement shall also be reduced correspondingly, which reduction shall be accomplished in accordance with Paragraph 6.0 (Change Notices and Amendments). The COUNTY's notice to CONTRACTOR regarding said reduction in payment obligation shall be provided within thirty (30) calendar days of the Board's approval of such actions. CONTRACTOR shall continue to provide all of the services set forth in this Agreement as reduced in accordance with Paragraph 6.0 (Changes Notices and Amendments).

56. COUNTY'S QUALITY ASSURANCE PLAN

COUNTY or its agent will evaluate CONTRACTOR's performance under this

Agreement on not less than an annual basis. Such evaluation will include assessing CONTRACTOR's compliance with the terms and performance standards of this Agreement. CONTRACTOR deficiencies which COUNTY determines are severe or continuing and that may place performance of the Agreement in jeopardy if not corrected will be reported to COUNTY's Board of Supervisors. The report will include improvement / corrective action measures taken by COUNTY and CONTRACTOR. If improvement does not occur consistent with the corrective action measures, COUNTY may terminate this Agreement or impose other penalties as specified in this Agreement.

57.   LIMITATION OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN PARAGRAPH 31 (TERMINATION FOR DEFAULT), IN NO CASE SHALL CONTRACTOR BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL THEORY, SUCH EXCLUDED DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, LOSS OF SAVINGS OR REVENUE. CONTRACTOR's maximum liability to COUNTY for damages under this Agreement shall be limited to the sum of Twenty Five Million Dollars ($25,000,000). To the extent that CONTRACTOR is obligated to repay or reimburse COUNTY pursuant to Subparagraph 8.3.F or Subparagraph 9.4 (Failed Testing) for all or any portion of amounts previously paid by COUNTY to CONTRACTOR pursuant to this Agreement, such repayments and/or reimbursements shall not be deemed or construed to constitute damages for purposes of this Paragraph 57 and shall not reduce the maximum sum (i.e., Twenty Five Million Dollars ($25,000,000)) potentially recoverable by COUNTY pursuant to this Paragraph 57. To the extent that CONTRACTOR pays to COUNTY pursuant to Subparagraph 31.3.C any excess costs incurred by COUNTY to procure and furnish similar goods, services, and other work, and the amount so paid by CONTRACTOR pursuant to Subparagraph 31.3.C exceeds Twenty Million One Hundred Forty-One Thousand Six Dollars ($20,141,006), then the amounts so paid by CONTRACTOR to COUNTY pursuant to Subparagraph 31.3.C in excess of Twenty Million One Hundred Forty-One Thousand Six Dollars ($20,141,006) (i.e., up to a maximum of Eight Million Eight Hundred Fifty Eight Thousand Nine Hundred Ninety-Four Dollars ($8,858,994)) will be subtracted from and will reduce the Twenty Five Million Dollar ($25,000,000) maximum sum potentially recoverable by COUNTY pursuant to this Paragraph 57 for other damages under this Agreement. Amounts paid by CONTRACTOR to COUNTY pursuant to Subparagraph 31.3.C up to and including Twenty Million One Hundred Forty-One Thousand Six Dollars ($20,141,006) shall not reduce the Twenty Five Million Dollar ($25,000,000) maximum sum potentially recoverable by COUNTY pursuant to this Paragraph 60 for other damages under this Agreement. For example, if CONTRACTOR pays COUNTY Twenty Nine Million Dollars ($29,000,000) pursuant to

Subparagraph 31.3.C, then the maximum sum potentially recoverable by COUNTY would be Forty Five Million One Hundred Forty One Thousand Six Dollars ($45,141,006), which consists of such Twenty Nine Million Dollars ($29,000,000) plus Sixteen Million One Hundred Forty One Thousand Six Dollars ($16,141,006) (i.e., Twenty Five Million Dollars ($25,000,000) less Eight Million Eight Hundred Fifty Eight Thousand Nine Hundred Ninety Four Dollars ($8,858,994)).

58. CONTRACTOR'S WARRANTY OF ADHERENCE TO COUNTY'S CHILD SUPPORT COMPLIANCE PROGRAM

CONTRACTOR acknowledges that COUNTY has established a goal of ensuring that all individuals who benefit financially from COUNTY through contract are in compliance with their court-ordered child, family and spousal support obligations in order to mitigate the economic burden otherwise imposed upon COUNTY and its taxpayers.

As required by COUNTY's Child Support Compliance Program (County Code Chapter 2.200) and without limiting CONTRACTOR's duty under this Agreement to comply with all applicable provisions of law, CONTRACTOR warrants that it is now in compliance and shall during the term of this Agreement maintain compliance with employment and wage reporting requirements as required by the Federal Social Security Act (42 USC Section 653a) and California Unemployment Insurance Code Section 1088.5, and shall implement all lawfully served Wage and Earnings Withholding Orders or District Attorney Notices of Wage and Earnings Assignment for Child or Spousal Support, pursuant to Code of Civil Procedure Section 706.031 and Family Code Section 5246(b).

59. TERMINATION FOR BREACH OF WARRANTY TO MAINTAIN COMPLIANCE WITH COUNTY'S CHILD SUPPORT COMPLIANCE PROGRAM

Failure of CONTRACTOR to maintain compliance with the requirements set forth in Paragraph 58 (CONTRACTOR's Warranty of Adherence to COUNTY's Child Support Compliance Program) shall constitute a default by CONTRACTOR under this Agreement. Without limiting the rights and remedies available to COUNTY under any other provision of this Agreement, failure to cure such default within ninety (90) days of notice by the Los Angeles County District Attorney shall be grounds upon which COUNTY's Board of Supervisors may terminate this Agreement pursuant to Paragraph 31 (Termination for Default).

60. CONTRACTOR'S ACKNOWLEDGMENT OF COUNTY'S COMMITMENT TO CHILD SUPPORT ENFORCEMENT

CONTRACTOR acknowledges that COUNTY places a high priority on the enforcement of child support laws and the apprehension of child support

evaders. CONTRACTOR understands that it is COUNTY's policy to encourage all COUNTY contractors to voluntarily post COUNTY's "L.A's Most Wanted: Delinquent Parents" poster in a prominent position at CONTRACTOR's place of business. COUNTY's District Attorney will supply CONTRACTOR with the poster to be used.

61.   COMPLIANCE WITH THE COUNTY'S JURY SERVICE PROGRAM

61.1   Jury Service Program

This Agreement is subject to the provisions of the COUNTY's ordinance entitled Contractor Employee Jury Service (for purposes of this Paragraph 61 "Jury Service Program") as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

61.2   Written Employee Jury Service Policy

A.   Unless CONTRACTOR has demonstrated to the COUNTY's satisfaction either that CONTRACTOR is not a "Contractor" as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that CONTRACTOR qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), CONTRACTOR shall have and adhere to a written policy that provides that its Employees shall receive from CONTRACTOR, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that Employees deposit any fees received for such jury service with CONTRACTOR or that CONTRACTOR deduct from the Employee's regular pay the fees received for jury service.

B.   For purposes of this Subparagraph, "Contractor" means a person, partnership, corporation or other entity which has a contract with the COUNTY or a subcontract with a COUNTY Contractor and has received or will receive an aggregate sum of $50,000 or more in any 12-month period under one or more COUNTY contracts or subcontracts. "Employee" means any California resident who is a full time employee of CONTRACTOR. "Full-time" means 40 hours or more worked per week, or a lesser number of hours if: (1) the lesser number is a recognized industry standard as determined by the COUNTY; or (2) CONTRACTOR has a long-standing practice that defines the lesser number of hours as full-time. Full-time employees providing short-term, temporary services of 90 days or less within a 12-month period are not considered full-time for purposes of the Jury Service Program. If CONTRACTOR uses any subcontractor to perform services for the COUNTY under the Agreement, the subcontractor shall also be subject to the provisions of this Subparagraph. The provisions of this Subparagraph shall be inserted into any such

subcontract agreement and a copy of the Jury Service Program shall be attached to the agreement.

C.   If CONTRACTOR is not required to comply with the Jury Service Program when the Agreement commences, CONTRACTOR shall have a continuing obligation to review the applicability of its "exception status" from the Jury Service Program, and CONTRACTOR shall immediately notify COUNTY if CONTRACTOR at any time either comes within the Jury Service Program's definition of "Contractor" or if CONTRACTOR no longer qualifies for an exception to the Jury Service Program. In either event, CONTRACTOR shall immediately implement a written policy consistent with the Jury Service Program. The COUNTY may also require, at any time during the Agreement and at its sole discretion, that CONTRACTOR demonstrate to the COUNTY's satisfaction that CONTRACTOR either continues to remain outside of the Jury Service Program's definition of "Contractor" and/or that CONTRACTOR continues to qualify for an exception to the Program.

D.   CONTRACTOR's violation of this Subparagraph of the Agreement may constitute a material breach of the Agreement. In the event of such material breach, COUNTY may, in its sole discretion, terminate the Agreement and/or bar CONTRACTOR from the award of future COUNTY contracts for a period of time consistent with the seriousness of the breach.

62.   CONSIDERATION OF HIRING COUNTY EMPLOYEES TARGETED FOR LAYOFF/OR RE-EMPLOYMENT LIST

Should CONTRACTOR require personnel in addition to those employed by CONTRACTOR on the effective date of this Agreement to perform the services set forth herein, CONTRACTOR shall give consideration for such employment openings to qualified, permanent COUNTY employees who are targeted for layoff or qualified, former COUNTY employees who are on a re-employment list during the life of this Agreement. For this purpose, consideration shall mean that CONTRACTOR will interview qualified candidates that apply through CONTRACTOR's standard process. Prior to consideration being given by CONTRACTOR, COUNTY will refer such COUNTY employees by job category to CONTRACTOR. The above obligations do not apply to positions filled by: (1) third parties who have subcontracted with CONTRACTOR to perform the services; or (2) CONTRACTOR's current employees.

63.   CONSIDERATION OF HIRING GAIN/GROW PROGRAM PARTICIPANTS

Should CONTRACTOR require personnel in addition to those employed by CONTRACTOR on the effective date of this Agreement to perform the services

set forth herein, CONTRACTOR shall give consideration for any such employment openings to participants in the COUNTY's Department of Public Social Services Greater Avenues for Independence (GAIN) Program or General Relief Opportunity for Work (GROW) Program who meet CONTRACTOR's minimum qualifications for the open position. For this purpose, consideration shall mean that CONTRACTOR will interview qualified candidates. Prior to consideration being given by CONTRACTOR, COUNTY will refer GAIN/GROW participants by job category to CONTRACTOR. The above obligations do not apply to positions filled by: (1) third parties who have subcontracted with CONTRACTOR to perform the services; or (2) CONTRACTOR's current employees.

In the event that both laid-off COUNTY employees and GAIN/GROW participants are available for hiring, COUNTY employees shall be given first priority.

64. CERTAIN CONTRACTOR NOTIFICATIONS

64.1 CONTRACTOR shall maintain a system of record keeping that will allow CONTRACTOR to determine when it has incurred seventy-five percent (75%) of the Contract Sum. Upon occurrence of this event, CONTRACTOR shall send written notification to COUNTY's Project Director .

64.2 CONTRACTOR shall notify the Probation Department when this Agreement is within six (6) months from the expiration of the term as provided for in Paragraph 5 (Term). Upon occurrence of this event, Contractor shall send written notification to COUNTY's Project Director.

65. NO PAYMENT FOR SERVICES PROVIDED FOLLOWING EXPIRATION/ TERMINATION OF AGREEMENT

CONTRACTOR shall have no claim against COUNTY for payment of any money or reimbursement, of any kind whatsoever, for any service provided by CONTRACTOR after the expiration or other termination of this Agreement. Should CONTRACTOR receive any such payment it shall immediately notify COUNTY and shall immediately repay all such funds to COUNTY. Payment by COUNTY for services rendered after expiration/termination of this Agreement shall not constitute a waiver of COUNTY's right to recover such payment from CONTRACTOR. This provision shall survive the expiration or other termination of this Agreement.

66. CONTRACTOR'S RESPONSIBILITY AND DEBARMENT

66.1 Responsible Contractor

A responsible contractor is a contractor who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity and experience to

satisfactorily perform the contract. It is COUNTY's policy to conduct business only with responsible contractors.

66.2   Chapter 2.202 of the County Code

CONTRACTOR is hereby notified that, in accordance with Chapter 2.202 of the Los Angeles County Code, if COUNTY acquires information concerning the performance of CONTRACTOR on this or other contracts which indicates that CONTRACTOR is not responsible, COUNTY may, in addition to other remedies provided in this Agreement, debar CONTRACTOR from bidding or proposing on, or being awarded, and/or performing work on COUNTY contracts for a specified period of time, which generally will not exceed five (5) years but may exceed five years or be permanent if warranted by the circumstances, and terminate any or all existing contracts CONTRACTOR may have with COUNTY.

66.3   Non-responsible Contractor

COUNTY may debar CONTRACTOR if COUNTY's Board of Supervisors finds, in its discretion, that CONTRACTOR has done any of the following: (i) violated a term of a contract with COUNTY or a nonprofit corporation created by COUNTY; (ii) committed an act or omission which negatively reflects on CONTRACTOR's quality, fitness or capacity to perform a contract with COUNTY, any other public entity, or a nonprofit corporation created by COUNTY, or engaged in a pattern or practice which negatively reflects on same; (iii) committed an act or offense which indicates a lack of business integrity or business honesty or (iv) made or submitted a false claim against COUNTY or any other public entity.

66.4   Contractor Hearing Board

If there is evidence that CONTRACTOR may be subject to debarment, COUNTY's Project Director will notify CONTRACTOR in writing of the evidence which is the basis for the proposed debarment and will advise CONTRACTOR of the scheduled date for a debarment hearing before the Contractor Hearing Board.

The Contractor Hearing Board will conduct a hearing where evidence on the proposed debarment is presented. CONTRACTOR and/or CONTRACTOR's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether CONTRACTOR should be debarred, and if so, the appropriate length of time of the debarment. CONTRACTOR and the Probation Department shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to COUNTY's Board of Supervisors.

After consideration of any objections, or if no objections are submitted, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to COUNTY's Board of Supervisors. COUNTY's Board of Supervisors shall have the right at its sole discretion to modify, deny or adopt the proposed decision and recommendation of the Contractor Hearing Board.

66.5   Review of Debarment Decision

If a contractor has been debarred for a period longer than five (5) years, that contractor may, after the debarment has been in effect for at least five (5) years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. COUNTY may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that such contractor has adequately demonstrated one or more of the following: (i) elimination of the grounds for which the debarment was imposed; (ii) a bona fide change in ownership or management; (iii) material evidence discovered after debarment was imposed; or (iv) any other reason that is in the best interests of COUNTY.

The Contractor Hearing Board will consider a request for review of a debarment determination only where (i) the requesting contractor has been debarred for a period longer than five (5) years, (ii) the debarment has been in effect for at least five (5) years and (iii) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. At the hearing, the Contractor Hearing Board shall conduct a hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing.

The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to COUNTY's Board of Supervisors. COUNTY's Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board

66.6   Subcontractors of Contractor

These terms shall also apply to Subcontractors of COUNTY.

67.   NOTICE TO EMPLOYEES REGARDING THE FEDERAL EARNED INCOME

CREDIT

CONTRACTOR shall notify its employees residing or working in the State of California, and shall require each subcontractor performing work under this Agreement to notify its employees residing or working in the State of California, that they may be eligible for the Federal Earned Income Credit under the federal income tax laws. Such notice shall be provided in accordance with the requirements set forth in Internal Revenue Service Notice No. 1015.

68.   RECYCLED BOND PAPER

Consistent with the Board of Supervisors' policy to reduce the amount of solid waste deposited at the COUNTY landfills, CONTRACTOR agrees to use recycled-content paper to the maximum extent possible on this Agreement.

69.   SAFELY SURRENDERED BABY LAW

69.1   CONTRACTOR acknowledges that COUNTY places a high priority on the implementation of the Safely Surrendered Baby Law. CONTRACTOR understands that it is COUNTY's policy to encourage all COUNTY contractors to voluntarily post the COUNTY's "Safely Surrendered Baby Law" poster in a prominent position at CONTRACTOR's place of business. CONTRACTOR will also encourage its subcontractors, if any, to post this poster in a prominent position in the subcontractor's place of business. COUNTY's Department of Children and Family Services will supply the CONTRACTOR with the poster to be used. Information on how to receive the poster can be found on the Internet at www.babysafela.org.

69.2   CONTRACTOR shall notify and provide to its employees residing in or working in the State of California, and shall require each subcontractor performing work under this Agreement to notify and provide to its employees residing in or working in the State of California, information regarding the Safely Surrendered Baby Law, its implementation in Los Angeles County, and where and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.

70.   COST OF LIVING ADJUSTMENT

Commencing upon expiration of the Initial Term (as defined in Paragraph 5 (Term)), the hourly rates for other professional services, as set forth in Attachment F (Other Professional Services Fee Schedule) of Exhibit A (Statement of Work), may be adjusted annually based on the increase or decrease in the U.S. Department of Labor, Bureau of Labor Statistics' Consumer Price Index for the Los Angeles – Riverside – Orange County Area for the most recently published percentage change for the twelve (12) month period preceding each anniversary date of the Initial Term, which shall be the effective date for any

such adjustment. However, any increase shall not exceed the general annual percentage salary change granted to COUNTY employees as determined by COUNTY's Chief Executive Office as of the prior July 1. Furthermore, should fiscal circumstances ultimately prevent COUNTY's Board of Supervisors from approving any increase in COUNTY employee salaries, CONTRACTOR acknowledges that there shall be no corresponding adjustment to the hourly rates for other professional services.

71. <u>CONTRACTOR'S OBLIGATIONS AS A "BUSINESS ASSOCIATE" UNDER HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT OF 1996 (HIPAA) AND THE HEALTH INFORMATION TECHNOLOGY FOR ECONOMIC AND CLINICAL HEALTH ACT (HITECH)</u>

COUNTY is subject to the Administrative Simplification requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). Under this Agreement, CONTRACTOR provides services to COUNTY and CONTRACTOR receives, has access to, and/or creates Protected Health Information as defined in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)) in order to provide those services.   COUNTY and CONTRACTOR therefore agree to the terms of Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)).

72. <u>COUNTY'S DEFAULTED PROPERTY TAX PROGRAM</u>

72.1 CONTRACTOR acknowledges that COUNTY has established a goal of ensuring that all individuals and businesses that benefit financially from COUNTY through contract are current in paying their California property tax obligations (secured and unsecured roll) in order to mitigate the economic burden otherwise imposed upon COUNTY and its taxpayers.

72.2 Unless CONTRACTOR qualifies for an exemption or exclusion, CONTRACTOR warrants and certifies that to the best of its knowledge it is now in compliance, and during the term of this Agreement will maintain compliance, with Los Angeles County Code Chapter 2.206.

72.3 Failure of CONTRACTOR to maintain compliance with the requirements set forth in this Paragraph 72 shall constitute default under this Agreement. Without limiting the rights and remedies available to COUNTY under any other provision of this Agreement, failure of CONTRACTOR to cure such default within 10 days of notice shall be grounds upon which COUNTY may terminate this Agreement and/or pursue debarment of CONTRACTOR, pursuant to Los Angeles County

Code Chapter 2.206.

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AGREEMENT BY AND BETWEEN COUNTY OF LOS ANGELES
AND CERNER CORPORATION FOR A
PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM FOR THE
COUNTY OF LOS ANGELES DEPARTMENTS OF PROBATION, MENTAL HEALTH
AND HEALTH SERVICES

IN WITNESS WHEREOF, the Board of Supervisors of the County of Los Angeles has caused this Agreement to be subscribed by its Chair and the seal of such Board to be hereto affixed and attested by the Executive Officer, and CONTRACTOR has caused this Agreement to be subscribed on its behalf by its duly authorized officer, as of the date first set forth above.

COUNTY OF LOS ANGELES

By _Gloria Molina_
　　　Chair, Board of Supervisors

ATTEST:
SACHI HAMAI
Executive Officer-Clerk
Board of Supervisors

I hereby certify that pursuant to Section 25103 of the Government Code, delivery of this document has been made.

SACHI A. HAMAI
Executive Officer
Clerk of the Board of Supervisors

By _____
　　　Deputy

By _____
　　　Deputy

CONTRACTOR
Cerner Corporation

By _____
Name: Marc G. Naughton
Title: CFO

APPROVED AS TO FORM:
ANDREA SHERIDAN ORDIN,
County Counsel

By _____
Amanda M.L. Drukker
Senior Deputy County Counsel

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

#53　JUN 0 1 2010

Sachi A. Hamai
SACHI A. HAMAI
EXECUTIVE OFFICER

HOA.530972.22

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COUNTY OF LOS ANGELES
CERNER CORPORATION

PEMRS AGREEMENT

772854

EXHIBIT A

STATEMENT OF WORK

PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM (PEMRS)

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ATTACHMENTS to Exhibit A (Statement of Work)

ATTACHMENT A   PEMRS FUNCTIONAL, TECHNICAL AND OPERATIONAL REQUIREMENTS

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INTRODUCTION: SCOPE OF WORK

This Exhibit A (together with all Attachments hereto, "Statement of Work") is attached to, and defines the scope of work to be performed under, that certain Agreement dated _____, 2010 (together with all Exhibits and Attachments, the "Agreement"), by and between County of Los Angeles (COUNTY) and Cerner Corporation (CONTRACTOR) for a Probation Electronic Medical Record System (as further defined in the body of the Agreement, "PEMRS" or "System") for COUNTY's Probation Department (Probation) and health care providers serving minors residing in its halls and camps.

Capitalized terms used in this Statement of Work without definition have the meanings given to such terms in the body of the Agreement.

As used herein, the following capitalized terms shall have the following meanings:

 "Application Server" shall mean the hardware on which PEMRS Application Software modules are running.

 "Concurrent Logon" shall mean a User session accessing the System by any means of access. "Peak Concurrent Logons" shall mean the highest number of Concurrent Logons measured on any day throughout each month.

"Database Server" shall mean the hardware on which the PEMRS database resides and the Oracle software is running.

 "Domain" shall mean a specific computing environment for PEMRS, including, without limitation, hardware such as the Application Servers, Database Servers and other servers, storage devices, and networks, software operating on said hardware, and a function or purpose for which they are used. "Domain" refers to the Production Domain and all Non-Production Domains.

"Production Domain" shall mean the Domain containing actual patient, provider, and services data and used for the purpose of providing patient care.

 "Non-Production Domains" shall consist of the Build Domain, the Certification Domain, the Temporary or Mock Domain, and the Training Domain.

> "Build Domain" shall mean the Domain containing a reference-data-only copy of the Production Domain used primarily for implementing, certifying and testing significant changes prior to applying the changes to the Production Domain. The Build Domain is created at the beginning of a major implementation project such as creation of the System or adding a new Application Software module, and is deleted upon COUNTY acceptance of the implementation project.

> "Certification Domain" shall mean the Domain containing a reference-data-only copy of the Production Domain used primarily for certifying and testing changes prior to applying changes to the Production Domain. The Certification Domain shall be refreshed from a copy of the Production Domain after an Upgrade. The Certification Domain is used for User training when a separate Training Domain is not available.

> "Temporary Domain" and "Mock Domain" shall mean the Domain containing a full copy (reference and activity data) of the Production Domain used for testing Up-

grades before applying such Upgrades to the Production Domain. The Temporary Domain is sized to accommodate the number of Testing Users and will be deleted upon COUNTY acceptance of the Upgrade.

"Training Domain" shall mean the Domain containing a reference-data-only copy of the appropriate source Domain (e.g., Build Domain) for purposes of training Users in support of a new implementation or Upgrade.

"Prototype" and "Prototyping" shall mean the process of developing a sample build of the Phase 1 System Application Software modules or the Optional Phase Application Software modules to validate the approved Conceptual Design Document (Deliverable 3.3).

"Tailor", "Tailoring" or "Tailored" shall mean the tailoring of the Baseline Software necessary for the System to operate in accordance with the Specifications and the Agreement. "Tailoring" shall include, without limitation, using Bedrock, Cerner Command Language (CCL), and/or other tools and techniques provided by CONTRACTOR to tailor the Baseline Software. It is understood and agreed that Tailoring other than as described in this Statement of Work with respect to the Phase 1 System requires a Change Notice or an Amendment under Paragraph 6 (Change Notices and Amendments) of the body of the Agreement.

The scope of work incorporates all of the Tasks, Deliverables, and services necessary for the COUNTY to receive the benefits of the Probation Electronic Medical Records System in accordance with the Specifications and the provisions of the Agreement. CONTRACTOR shall provide the Cerner Millennium Software Applications listed below, together with associated content and training (referred to in the Agreement as "Application Software"), and shall setup the Remote Hosting, Upgrades Implementation , and Application Management Services. CONTRACTOR shall setup, configure, install, Tailor, and prepare for use all components of each Domain. CONTRACTOR shall design, configure, integrate, install, Tailor and test Application Software modules in the Phase 1 System and each Optional Phase System as indicated below.

A) Phase 1 System Application Software Modules
  1. PowerChart (Clinical Data Repository, PowerOrders, PowerNote)
  2. CareNet (Electronic Medication Administration Record (eMAR), Clinical Documentation, and PowerForms)
  3. CapStone (Registration Management, Scheduling Management)
  4. PathNet (General Laboratory, Microbiology)
  5. PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)
  6. RadNet (Radiology Management)
  7. ProFile (Health Information Management (HIM))
  8. Open Engine (MDIs Licensed Software and Open Port Licensed Software)
  9. Cerner ProVision Document Imaging (CPDI)
  10. Computerized Physician Order Entry (CPOE)
  11. Discern Expert
  12. Discern Explorer
  13. CareAware Multi-Media Foundation – Digital Objects

14. Krames Patient Education Content
15. Knowledge Content Solution for Ambulatory (including Cerner Knowledge Tool (Cerner KM) and Multum/Medisource)
16. CMT/CPT (Codes & Medical Terminologies)
17. Web Based Training
18. Millennium LDAP Authentication with Pass-through
19. All Interfaces as defined in Attachment D (PEMRS Interfaces) to this Statement of Work as Phase 1 System Interfaces

B) Optional Phase Systems Application Software Modules
   1. Telemedicine
   2. CareNet: PowerPlan
   3. 724Access Solution
   4. Enterprise Master Person Index (EMPI)
   5. PowerInsight
   6. PharmNet (Outpatient Pharmacy)
   7. CareAdmin
   8. Radiology Dictation
   9. eSignature (Patient Electronic Signature)
   10. Cerner Picture Archiving and Communication System (PACS)
   11. Financials
   12. Each Interface as defined in Attachment D (PEMRS Interfaces) to this Statement of Work as an Optional Phase System Interface.

Phase 1 System Application Software modules shall be implemented under TASK 6 of this Statement of Work. As elected by COUNTY in accordance with the Agreement, each Optional Phase System shall be implemented under TASK 7 of this Statement of Work except that, if elected by COUNTY in accordance with the Agreement, the 724Access Optional Phase System shall be implemented under TASK 8 of this SOW.
As soon as possible following the Effective Date, CONTRACTOR shall configure and setup the initial infrastructure required for work to begin on PEMRS. These tasks include but are not limited to the following: ordering equipment, receiving equipment, setting up equipment, installing certain software, and testing and validating the installed components. CONTRACTOR shall deliver and install all tools and software to be used by COUNTY during PEMRS design, configuration, development, build, test, implementation, and use, including but not limited to Bedrock, MethodM, and access to the Lights-on network, Open House, Windows Terminal Server Toolkit, and reference and model databases.

CONTRACTOR shall confirm Exhibit G (PEMRS Assessment) and its attachments as specified in Subtask 1.2 of this Statement of Work. CONTRACTOR shall provide a Conceptual Design Document as specified in Subtask 3.3 of this Statement of Work. CONTRACTOR shall provide all the Baseline Software and related services to accomplish all of the requirements set forth in this Statement of Work. CONTRACTOR shall perform all Tasks and Subtasks, and provide all Deliverables as described herein.

Also defined herein are those Tasks and Subtasks that involve participation of both CONTRACTOR and COUNTY. COUNTY will provide logistical support and infrastructure for CONTRACTOR and COUNTY work and events required by this Statement of Work when scheduled to take place in Los Angeles County. COUNTY also will provide a team of twenty (20) participants to support the Tailoring and software build processes scheduled to take place in Los Angeles County or at CONTRACTOR's premises in Kansas City, MO. Unless otherwise specified as an obligation of COUNTY, CONTRACTOR shall perform all Tasks and Subtasks and provide all Deliverables as defined herein. COUNTY expects CONTRACTOR to perform each and every Task and Subtask in this Statement of Work, and deliver each and every Deliverable. The order of the Deliverables and the relevant responsibilities of CONTRACTOR and COUNTY in performing the work, as well as the integration of these contractual Tasks and Deliverables with CONTRACTOR's MethodM, shall be fully specified in Deliverable 1.3 (Project Control Document).

CONTRACTOR shall deliver all Documentation and other Deliverables to COUNTY in accordance with Subparagraph 4.6 (Delivery of Work) of the body of the Agreement. CONTRACTOR shall use the following software for delivery of all Documentation Deliverables:

1. MethodM for project management and control.
2. MethodM Online for web based collaboration and reporting.
3. Microsoft Office for word processing, spreadsheets and other documents.
4. Microsoft Visio for diagrams and schemas.
5. Microsoft Project for Project Management, Work Plans and Schedule Reporting.
6. Windows media player for delivery of video content.
7. Adobe Acrobat for System Documentation that CONTRACTOR considers unalterable by COUNTY.

CONTRACTOR's Project Manager and COUNTY's Project Manager will collaborate to choose from available versions of such software from time to time, including conversions if necessary to provide for compatible distributions within COUNTY's and/or CONTRACTOR's organizations.

CONTRACTOR shall develop and maintain a secure MethodM Online site on Cerner.com as the repository of Documentation and related Deliverables. The MethodM Online site shall provide a section for final and accepted documents that may not be altered or removed. The MethodM Online site shall also provide sections that are accessible to authorized COUNTY and CONTRACTOR staff for the purpose of collaborating on Deliverable correction and revision, and of exchanging relevant information. The PEMRS MethodM Online site shall be distinct and separated from sites maintained by the CONTRACTOR for other clients, including but not limited to other COUNTY departments.

CONTRACTOR shall provide Documentation Deliverables to COUNTY via posting on the project MethodM Online site and noticed to the COUNTY's Project Director and

COUNTY's Project Manager by email. CONTRACTOR shall provide training materials electronically using a standard method such as Webinar or Web or electronic delivery.

CONTRACTOR shall conduct weekly status reporting and project management meetings with COUNTY's project staff in accordance with schedules and agendas established collaboratively by COUNTY's Project Manager and CONTRACTOR's Project Manager. These meetings shall be conducted in a communications format agreed upon by COUNTY's and CONTRACTOR's Project Managers and shall be documented in a manner suitable for inclusion by reference in the Deliverable 2.2 (Project Status Reports).

TASK 1: PROJECT PLANNING

CONTRACTOR shall prepare, organize, and present the Project Preparation Session in accordance with the MethodM process. CONTRACTOR shall confirm and modify as necessary the contents of Exhibit G (PEMRS Assessment) and its attachments. CONTRACTOR shall develop a Project Control Document (hereafter "PCD") that shall include, without limitation, a detailed work plan, work breakdown structure, milestone chart, Gantt chart, communication plan, the CONTRACTOR's project organization and staffing. CONTRACTOR shall develop and maintain a critical path analysis for the project. COUNTY will provide logistical support and infrastructure for work and events required by this TASK 1 when conducted in Los Angeles County.

Subtask 1.1: Conduct MethodM Project Preparation Session

CONTRACTOR shall conduct a project briefing for COUNTY department executives who represent the leadership of the PEMRS stakeholders. CONTRACTOR shall assess COUNTY's project team computer skills and project readiness. CONTRACTOR shall introduce CONTRACTOR's project team, and demonstrate the tools to be used during the execution of work defined in this Statement of Work. CONTRACTOR shall provide opportunities to COUNTY for hands-on experience with the tools to be used. CONTRACTOR shall introduce MethodM and outline the events within the methodology. CONTRACTOR shall Tailor and deliver data collection materials including the Preliminary Design Assessment (PDA) for COUNTY use and train COUNTY's staff in requirements development using the materials. As required according to the assessment of COUNTY's project staff readiness conducted during this Subtask, CONTRACTOR shall conduct PC Basics, Project Management Workshop, Project Team Workshop and Solution/Tools Introduction and other training (as specified in Attachment E (PEMRS Training) to this Statement of Work). COUNTY's project team will participate in this session as provided for in MethodM, including validation and development of COUNTY's project governance and COUNTY goals and expectations for the project. CONTRACTOR shall provide for and COUNTY will participate in the completion of Tailored PDAs as required by MethodM.

Deliverable 1.1 Project Preparation Session

CONTRACTOR shall conduct the executive project briefing and the project preparation session described in Subtask 1.1. CONTRACTOR shall assemble completed and Tailored PDAs and identify any outstanding PDA items to be resolved or addressed under Subtask 2.1.

Subtask 1.2: Confirm and Update PEMRS Assessment

CONTRACTOR shall confirm the PEMRS assessment initially conducted under Change Order # 128 to the JHIS Agreement, incorporated by reference into the Agreement as Exhibit G (PEMRS Assessment) and its attachments as of the Effective Date. This Subtask shall document any and all updates of this PEMRS assessment findings and conclusions based on new information or factual errors discovered since COUNTY approval of the applicable Deliverables under Change Request #128, and revisions of CONTRACTOR's recommendations for Specified Hardware and Operating Software, including but not limited to the recommended PEMRS Domain strategy, the diversity study necessary for Wide Area Network (WAN) design, and the technical and System Software architecture to the extent necessary to enable CONTRACTOR to provide the Remote Hosting Services in accordance with the Specifications and the Agreement. As part of this Subtask, CONTRACTOR shall also confirm impact points identified in this PEMRS assessment that address System capabilities to be provided by COUNTY that may affect the timely and successful implementation of PEMRS, including without limitation any issues associated with COUNTY's hardware and software to be used to connect with and use PEMRS (i.e., the Specified Hardware and Specified Operating Software), such as without limitation desktop devices (e.g., workstations, laptops, etc.), LAN/WAN, available bandwidth, and the help desk, whether supplied by COUNTY, CONTRACTOR or a third party. CONTRACTOR shall document any similar impact points that were not identified in the PEMRS assessment Documentation previously delivered to COUNTY by CONTRACTOR. CONTRACTOR shall specify recommended corrective action to be taken by COUNTY (which recommendations shall be subject to the provisions of Subparagraph 10.1.D of the body of the Agreement).

Deliverable 1.2: Confirmed and Updated PEMRS Assessment

The PEMRS assessment as confirmed and updated during this Subtask 1.2 shall document the readiness of the COUNTY to participate in the design and implementation of PEMRS and to provide COUNTY-side technology and staffing required to use CONTRACTOR's Remote Hosting Services. As part of this Deliverable, CONTRACTOR shall identify impact points and technology issues uncovered as part of the assessment and recommend corrective action to COUNTY. This Deliverable shall consist of a complete and confirmed list of Specified Hardware and Specified Operating Software recommended by CONTRACTOR as necessary for PEMRS to be implemented and to operate in accordance with the Specifications and otherwise with the Agreement under the Remote Hosting Services. Upon approval by COUNTY in accordance with Subparagraph 2.4 of the body of the Agreement, this Deliverable shall automatically supplement Exhibit G (PEMRS Assessment) and its attachments as an additional attachment thereto.

Subtask 1.3: Prepare Project Control Document (PCD)

CONTRACTOR shall review, document, clarify and refine all project goals and the assignment of goals to project resources. CONTRACTOR shall present such goals to the Inter-Agency PEMRS Project Leadership Team (hereafter "PLT") formed by the COUNTY pursuant to the Memorandum of Understanding described in the Recitals. This process shall ensure that all involved parties have clearly understood and agreed

upon all project goals and COUNTY responsibilities for governance and participation in the project effort. In collaboration with the PLT, CONTRACTOR shall develop a PCD that addresses, without limitation, the following:

1. The shared vision for CONTRACTOR / COUNTY relationship and the strategic goals of the implementation effort.
2. The project scope, phasing, and objectives.
3. The expected roles and responsibilities of CONTRACTOR and COUNTY project organizations and a communication strategy for sharing the context and vision of the project to the project team members at large.
4. The composition of the project team and how the project team shall communicate with and collaborate with components of project governance consisting of the PLT and various workgroups.
5. The composition of expected COUNTY's support resources and their interaction with CONTRACTOR's support resources.
6. The schedule of events to be held both at COUNTY Facilities and at CONTRACTOR's facilities in Kansas City, MO, for the purposes of joint design, Tailoring, development, and build of PEMRS, all Prototypes, and expectations for COUNTY participation in those events.
7. The project organization and the roles and responsibilities of the project team members.
8. The Application Software module build strategy.
9. The technology strategy, including Domains and hosting strategy.
10. The project communication plan.
11. The training strategy for COUNTY's staff, trainers and Users, based on COUNTY's requirements and CONTRACTOR's project and training approach.
12. The security strategy and requirements, including physical, administrative and technical elements and the divisions of security roles and responsibilities between CONTRACTOR and COUNTY.
13. The detailed project plan including, without limitation, start and end dates for all Tasks and Subtasks specified in this Statement of Work, the work breakdown structure, Task dependencies, and assignments by Task and Subtask within the MethodM framework, and Remote Hosting Services milestones.
14. The testing strategy for all levels of testing.

CONTRACTOR shall develop this PCD consistent with this Statement of Work. CONTRACTOR shall specifically address each Task and Subtask to be performed, the order in which CONTRACTOR shall perform the Tasks and Subtasks and the order in which CONTRACTOR shall produce the Deliverables specified in this Statement of Work in accordance with the Agreement within the MethodM framework. For each Task and Subtask, CONTRACTOR shall define and describe in detail the recommended involvement of COUNTY's staff that is necessary for successful completion of such Task or Subtask. CONTRACTOR shall formally present the PCD to the PLT.

Deliverable 1.3: Project Control Document (PCD)

The Project Control Document shall document the components listed in Items 1 – 14 of Subtask 1.3 described above together with any other items identified for inclusion by

agreement of COUNTY's Project Director and CONTRACTOR's Project Director. Upon approval by COUNTY in accordance with Subparagraph 2.4 of the body of the Agreement, the Project Control Document shall automatically supplement Exhibit C (Project Schedule).

Subtask 1.4: Prepare Remote Hosting Services Project Plan and Complete First Quarter Remote Hosting Services

CONTRACTOR shall prepare the Remote Hosting Services Project Plan. The plan shall include all elements of work that comprise best practices service and system planning for sourcing Cerner Technology Center services for application hosting of Cerner Millennium systems. CONTRACTOR shall certify that the plan is complete and that all tasks and activities required for timely preparation of the Domains required for PEMRS operation and management have been identified and scheduled.

CONTRACTOR shall perform and complete all tasks specified for the first Quarter in the Remote Hosting Services Project Plan. These include, for example, network design, ordering primary circuit and network hardware, hardware capacity planning, ordering hardware for the Back-end and Front-end System.

CONTRACTOR shall certify that the Remote Hosting Services Project Plan is up to date and that all tasks and activities required for timely preparation of the Domains required for PEMRS operation and management have been completed as scheduled in the plan for the first Quarter, that the project is on schedule and that all CONTRACTOR-hosted Domains will be ready for use when needed.

Deliverable 1.4: CONTRACTOR Delivery and Certification of Remote Hosting Services Plan and First Quarter Remote Hosting Services

CONTRACTOR shall deliver the Remote Hosting Services Plan and CONTRACTOR certification as described in Subtask 1.4. Upon approval by COUNTY in accordance with Subparagraph 2.4 of the body of the Agreement, the approved Remote Hosting Services Plan shall automatically supplement Exhibit C (Project Schedule).

TASK 2: PROJECT MANAGEMENT

With participation and support by COUNTY, CONTRACTOR shall provide project management as required to fulfill the PCD and the MethodM plans. In this TASK, CONTRACTOR shall prepare, organize, and present the project kickoff event in accordance with the MethodM process. CONTRACTOR shall provide for, initiate and continue to deliver monthly Project Status Reports. COUNTY will provide logistical support and infrastructure for work and events required by this TASK 2 when conducted in Los Angeles County.

Subtask 2.1: Conduct MethodM Project Kickoff Event

With participation by COUNTY as provided in the PCD, CONTRACTOR shall conduct the MethodM project kickoff, consisting of the kickoff presentation, the current state analysis, and the scope review. CONTRACTOR shall present the outstanding Preliminary Design Assessment (PDA) items and a plan for completion. CONTRACTOR shall conduct and document COUNTY workflows and conduct onsite walkthrough of the Phase 1 System Application Software modules. CONTRACTOR shall document con-

cerns using a scope review template and process. CONTRACTOR shall present data collection materials and requirements as applicable. CONTRACTOR shall review and conduct current state workflow analysis and document issues relevant to the Phase 1 System Application Software modules. During this event, CONTRACTOR shall complete the Tailored Onsite Workflow Assessments (OWAs) for the Phase 1 System.

Deliverable 2.1: MethodM Project Kickoff Event

CONTRACTOR shall conduct the kickoff event described in Subtask 2.1. CONTRACTOR shall assemble the completed OWAs and present the results to COUNTY along with the outstanding PDA items and plan for completion thereof.

Subtask 2.2: Perform Project Administration

CONTRACTOR shall manage project activities and its resources and track project status. This Subtask shall include, without limitation, reporting the results of MethodM events with COUNTY participants as designated in the PCD, and managing and tracking all progress and issues against the PCD. It shall also include, without limitation, the management of project and software change control processes. CONTRACTOR shall report project status on a regular basis. CONTRACTOR shall include, without limitation, updates to the PCD in the project status reporting. CONTRACTOR shall participate in regular project status meetings, including, without limitation, meetings of PLT and its various workgroups that shall take place no less frequently than monthly.

CONTRACTOR shall manage the communication process which shall include, without limitation, monthly project status reports. These monthly project status reports shall include, as a minimum, identification and comparison of the project plan to the project status, including without limitation any updates in the critical path or projected delivery schedules.

As part of project management, CONTRACTOR shall ensure that COUNTY realizes the maximum benefit from the System provided by CONTRACTOR through a proactive and independent review of the project's progress and quality. Through this on-going quality assurance process, CONTRACTOR shall assess COUNTY's satisfaction and report any project risks or problems identified as part of the quality assurance process, as well as when relevant risk mitigation, risk emergence, and recommended COUNTY and CONTRACTOR risk mitigation actions. The project status reports prepared by CONTRACTOR shall be used to document the results of this ongoing quality assurance process.

CONTRACTOR shall update the applicable sections of the PCD monthly as part of the project status reports (Deliverable 2.2 Project Status Reports).

Deliverable 2.2: Project Status Reports

CONTRACTOR shall prepare and present to the PLT a project status report to report project progress, plans, and outstanding issues, no less frequently than monthly.

The project status report shall include, without limitation, the following:

1. Project Progress and Plans, with actual status of schedule and budget
2. Updates to the PCD and critical path analysis
3. Issue Tracking and Change Control Process

4. Project Schedule
5. Readiness Assessments
6. Project risks identified through the quality assurance process.

TASK 3: CLINICAL AND BUSINESS PROCESS DESIGN

Under this Task, CONTRACTOR shall produce the PEMRS conceptual design. Through this process, CONTRACTOR shall identify all Tailoring of the Phase 1 System Application Software modules that will be necessary to ensure that the System will operate in accordance with the Specifications and the Agreement. During this process, CONTRACTOR and COUNTY will review the contents of the documents incorporated by reference as Exhibit G (PEMRS Assessment) and its attachments and Exhibit H (PEMRS Project Plan, Version 4, dated September 2009) of the Agreement, the outstanding PDA items, and this Statement of Work.

CONTRACTOR shall analyze these sources, augment and clarify their contents where necessary, and map the requirements to the Phase 1 Application Software modules capabilities. Based upon a review of current COUNTY clinical and business processes using CONTRACTOR's Tailored Onsite Workflow Assessment (OWA) tools and techniques, and working with COUNTY participants as documented in the PCD, CONTRACTOR shall identify opportunities for improved quality, effectiveness, or efficiency available to COUNTY from modifying such clinical and business processes during implementation of the Phase 1 Application Software modules. When possible, CONTRACTOR shall identify and recommend such changes of clinical and business processes which, if implemented, would enable more efficient and effective implementation of Phase 1 Application Software modules with minimal changes consistent with CONTRACTOR's design standards. CONTRACTOR shall also identify components and design elements or Tailoring of JHIS that can be applied to PEMRS with minimum effort. CONTRACTOR shall incorporate these clinical and business processes improvements in the Conceptual Design Document (Deliverable 3.3).

CONTRACTOR with COUNTY participation and support as provided in the introductory section to this Statement of Work, shall integrate this Task with the MethodM kickoff, system review, and design review events.

Subtask 3.1: Conduct Clinical and Business Process Analysis Training

CONTRACTOR shall conduct training in clinical and business process improvements and design consulting for assigned system analysts and subject matter experts of JCHS, JJMH, and Probation. The training shall consist of how to use CONTRACTOR's Tailored Bedrock and MethodM implementation and project management tools to analyze and develop such clinical and business process improvements. The training shall consist of in particular how implementation of the Phase 1 Application Software modules help to effect such improvements. Specific classes and descriptions of such classes are identified in Attachment E (PEMRS Training) of this Statement of Work.

Deliverable 3.1: Trained COUNTY Staff

CONTRACTOR shall deliver training classes and Documentation consistent with the classes described in Attachment E (PEMRS Training) of this Statement of Work and

shall certify in writing that all training as described in Subtask 3.1 has been successfully completed by assigned system analysts and subject matter experts of JCHS, JJMH, and Probation.

Subtask 3.2: Perform Clinical and Business Process Analysis

CONTRACTOR shall document the clinical and business process analysis. The processes shall consist of those affecting both clinical and business processes of JCHS and JJMH and related business processes of Probation. CONTRACTOR shall conduct design review sessions to document fully the current clinical and business processes and process improvement opportunities. Trained COUNTY staff will participate in this Subtask in accordance with the PCD.

Without limiting any of CONTRACTOR's obligations as set forth in the Agreement, including, without limitation, in Paragraph 21 (Compliance with Applicable Law) of the body of the Agreement, COUNTY's Project Director and COUNTY's Project Manager, on the one hand, and CONTRACTOR's Project Director and CONTRACTOR's Project Manager, on the other hand, will use reasonable efforts to advise one another of special Los Angeles County, California State, or United States regulatory requirements of which such individuals are aware that apply in the correctional health care environment as such regulatory requirements may impact clinical or business process details. Such regulatory considerations shall include, without limitation, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), as well as all rules and regulations promulgated thereunder, the Patient Safety and Quality Improvement Act of 2005, Titles 15 and 24 of the California Code of Regulations, applicable published standards of the National Commission on Correctional Health Care (NCCHC), and standards developed in connection with electronic health record certification and system security by the Office of the National Coordinator on Health Information Technology (ONCHIT), the Commission for Certification of Health Information Technology (CCHIT), the Drug Enforcement Agency (DEA), the Centers for Medicare & Medicaid Services (CMS), the National Institute of Standards and Technology (NIST), and/or the State of California Health and Human Services Agency.

Deliverable 3.2: Clinical and Business Processes Analysis

The clinical and business processes analysis shall clearly define future clinical and business processes expected to result from PEMRS implementation. CONTRACTOR shall prepare workflow diagrams. CONTRACTOR shall document problems and opportunities for clinical and business process changes. CONTRACTOR shall document new clinical and business processes based upon the analysis performed in Subtask 3.2 (Perform Clinical and Business Process Analysis). CONTRACTOR shall document the interactions of JCHS and JJMH clinical and business processes with Probation when such interactions are relevant to PEMRS design. CONTRACTOR shall document the impact of regulatory considerations when such considerations are relevant to PEMRS design.

Subtask 3.3: Develop Conceptual Design Document

CONTRACTOR shall define and document in workflow diagrams clinical and business process details depicting the expected processes following implementation of the Sys-

tem. CONTRACTOR shall incorporate in the Conceptual Design Document clinical and business process changes included in the approved Deliverable 3.2 (Clinical and Business Process Analysis) including interactions among the participating agencies and the impact of regulatory considerations. Where Interfaces are relevant to such interactions CONTRACTOR shall identify the Interface and explain how it affects the interactions.

CONTRACTOR shall document, in a data model and associated data Documentation, data requirements associated with the new clinical and business processes and their relationship to existing JCHS, JJMH, and Probation paper forms or processes. The data model shall include, without limitation, all entities, attributes, the relationships between entities, and the Interfaces where applicable. Trained COUNTY staff will participate in this Subtask in accordance with the PCD.

With CONTRACTOR's expert review, guidance and assistance, COUNTY will determine whether to move CareNet: PowerPlan and/or other Optional Phase Systems from the Optional Phase to the Phase 1 System. CONTRACTOR shall update Exhibit G (PEMRS Assessment) and its attachments (as confirmed and updated under Deliverable 1.2 (Confirmed and Updated PEMRS Assessment) as necessary based on the clinical and business process analysis and on COUNTY's determination of which Optional Phase Systems shall be included in the Phase 1 System. Upon approval by COUNTY in accordance with Subparagraph 2.4 of the body of the Agreement, such necessary updates shall automatically be attached to and supplement Exhibit G (PEMRS Assessment) and its attachments as an additional attachment thereto.

CONTRACTOR shall identify in the Conceptual Design Document Tailoring of the Baseline Software and Third Party Software required to meet the Specifications.

In addition to clinical and business process detail the Conceptual Design Document shall include, without limitation, a definition of COUNTY needs identified during the clinical and business process analysis such as clinical data entry devices, printers and other peripheral devices, environmental considerations in care delivery areas, human resource considerations, and regulatory considerations including but not limited to privacy and security requirements. The Conceptual Design Document shall include, without limitation, Tailoring resulting from the requirements, standards, and features listed in Attachment A of this Statement of Work. The Conceptual Design Document shall document COUNTY's determination to move any Optional Phase System to the Phase 1 System and the reasons why such determination is necessary for the System to operate in accordance with the Specifications and the Agreement.

CONTRACTOR shall review with COUNTY the conceptual design resulting from Subtask 3.3 including the new clinical and business processes and an evaluation of their feasibility. Based upon the review, CONTRACTOR shall prepare a Conceptual Design Document. This document shall provide the basis for implementation of new clinical and business processes and any necessary Tailoring of the Baseline Software and Third Party Software necessary for the System to operate in accordance with the Specifications and the Agreement.

Deliverable 3.3: Conceptual Design Document

Exhibit A – Statement of Work

Deliverable 3.3 provides the primary PEMRS conceptual design. It shall document all of the findings of Subtasks 3.2 and 3.3 including, without limitation, the following components:

1. Future state clinical and business process workflow diagrams as they apply to JCHS, JJMH, and Probation.
2. Data model and associated data Documentation for the future state clinical and business processes.
3. Interfaces as relevant to the clinical and business processes and their interactions.
4. Updates to Exhibit G (PEMRS Assessment) and its attachments necessitated by the conceptual design.
5. COUNTY's determination of whether CareNet: PowerPlan and other Optional Phase Systems shall be moved to the Phase 1 System.
6. Personnel needs and human resources strategy.
7. Privacy and security strategies.
8. Future state clinical and business processes implementation plan.
9. How the design fulfills the Specifications.

Following COUNTY approval of Deliverable 3.3 in accordance with Subparagraph 2.4 of the body of the Agreement, no further Optional Phase Systems shall be moved to the Phase 1 System.

TASK 4: INSTALLATION, CONFIGURATION TEST, AND CERTIFICATION OF THE PEMRS BUILD DOMAIN

This Task encompasses the activities associated with the preparation of the initial PEMRS Build Domain at the CTC including initial required LAN and WAN communications infrastructure. CONTRACTOR shall install, configure, and test hardware and operating software for the Build Domain and related services required for the CONTRACTOR, with COUNTY participation in accordance with the PCD, to create PEMRS in accordance with the Specifications and the Agreement and as further provided in this Statement of Work.

Subtask 4.1: Install, Test and Certify the Build Domain

CONTRACTOR shall prepare, install and test, in accordance with Subparagraph 9.2 (CONTRACTOR Tests) of the body of the Agreement, all hardware, operating system and database software, storage, network infrastructure, and other third party software for the Build Domain required for the System Software and Interfaces to perform in accordance with the Specifications and the Agreement.

CONTRACTOR shall initiate the Remote Hosting Services for PEMRS. This consists of identifying and deploying the initial project implementation team, preparing hardware and operating software specifications for configuring the System in the Cerner Technology Center, and other tasks known to CONTRACTOR as required to prepare for hosting PEMRS and ensuring that it will operate in accordance with the Specifications and otherwise with the Agreement.

Exhibit A – Statement of Work

CONTRACTOR shall prepare a Hardware and Operating Software Installation Report and Certification that the hardware and operating software for the Build Domain has been configured and tested in accordance with Specifications and the Agreement.

Deliverable 4.1: CONTRACTOR Tested and Certified Build Domain

CONTRACTOR shall certify in writing that the hardware and operating software for the Build Domain is operating properly. CONTRACTOR shall prepare and deliver to COUNTY the Hardware and Operating Software Installation Certification for the Build Domain. CONTRACTOR initiated the Remote Hosting Services for PEMRS.

Subtask 4.2: Deliver, Prepare, Configure, Test and Certify CONTRACTOR-owned hardware and operating software at COUNTY Facilities required for the System Software to perform in accordance with the Specifications and the Agreement

CONTRACTOR shall deliver, prepare, configure, and test CONTRACTOR-owned hardware and operating software to be installed at COUNTY Facilities when required for the System Software to perform in accordance with the Specifications and the Agreement. CONTRACTOR shall deliver, test and certify said hardware and operating software in those areas designated by COUNTY. CONTRACTOR shall document COUNTY operations and procedures as needed for COUNTY installation and housing of said hardware and operating software. COUNTY will designate a single point of demarcation for the CONTRACTOR's hardware and operating software in COUNTY facilities.

COUNTY will provide a temperature controlled environment and uninterrupted power supply for CONTRACTOR-owned and provided hardware and operating software such as network equipment, wide area network termination devices, and remote report distribution servers. COUNTY will provide appropriate housing for said hardware and operating software, as well as rack space as required. COUNTY will install CONTRACTOR-supplied hardware and operating software in accordance with instructions supplied by CONTRACTOR.

Deliverable 4.2: CONTRACTOR Delivered, Prepared, Configured, Tested and Certified CONTRACTOR-owned Hardware and Operating Software at COUNTY Facilities required for the System Software to perform in accordance with the Specifications and the Agreement

CONTRACTOR shall certify in writing that CONTRACTOR-owned hardware and operating software for the Remote Hosting Services required at COUNTY Facilities has been configured and tested for the Build Domain and is operating in accordance with the Specifications and the Agreement.

Subtask 4.3: Install, Test and Certify PEMRS Networking Equipment and Communications Infrastructure

CONTRACTOR shall provide, configure, test and certify all CONTRACTOR network infrastructure. Said infrastructure shall consist of all CTC network equipment, software, and console systems, local area network (LAN) and wide area network (WAN) circuits required for the System Software and Interfaces to perform in accordance with the Specifications and the Agreement.

COUNTY will provide LAN/WAN network capabilities within, between and among COUNTY Facilities in accordance with the Specified Hardware and Operating Software recommended in Exhibit G (PEMRS Assessment) and its attachments.

Deliverable 4.3: CONTRACTOR Installed, Tested and Certified PEMRS Networking Equipment and Communications Infrastructure

CONTRACTOR shall certify in writing that CONTRACTOR specified networking equipment and communications infrastructure has been installed and tested and is operating in accordance with the Specifications and the Agreement.

Subtask 4.4: Install, Test and Certify Phase 1 System Application Software Modules

CONTRACTOR shall deliver, install, configure and test the Phase 1 System Application Software modules in the Build Domain, consistent with the PCD, for Tailoring and test. The installation and configuration shall include, without limitation, the following:

1. The Phase 1 System Application Software modules
2. Optional Phase Systems elected by COUNTY to be moved from Optional Phase to the Phase 1 System as documented in Deliverable 3.3 (Conceptual Design).
3. Reference database provided by CONTRACTOR.
4. Required content such as, but not limited to, Multum, CMT, CPT, and Krames.
5. Other software or tools provided by CONTRACTOR (e.g., MethodM, Bedrock, Lights-on).

CONTRACTOR shall at this time deliver and transfer any and all Licenses for the System Software if not already transferred to COUNTY.

Following successful System Software installation and testing, CONTRACTOR shall deliver a written System Software Installation Report and Certification to COUNTY containing the following:

1. A listing of all of the software that has been installed, as well as product description, version number, and license number(s) with corresponding reference to Attachment B (Schedule of PEMRS Software) of this Statement of Work.
2. Software reference and operating manuals and all other Documentation pertaining to the Phase 1 Application Software modules.
3. Problem reporting and escalation procedures.
4. Certification that the System Software has been installed properly for development and test and is operating as designed.

Deliverable 4.4: CONTRACTOR Installed, Tested and Certified Phase 1 System Application Software Modules

CONTRACTOR shall certify in writing that the Phase 1 System Application Software modules have been installed and tested and are operating in accordance with the Specifications and the Agreement.

Subtask 4.5: Second Quarter Remote Hosting Services

CONTRACTOR shall perform and complete all tasks specified for the Second Quarter in the approved Remote Hosting Services Project Plan. These include, for example, installing, testing and tuning routers and other equipment for the primary circuit, ordering the diversity study and equipment for the secondary circuit, configuring PEMRS hardware, implementing the Build Domain in permanent equipment.

CONTRACTOR shall certify that the approved Remote Hosting Services Project Plan is up to date and that all tasks and activities required for timely preparation of the Domains required for PEMRS operation and management have been completed as scheduled in the plan, that the project is on schedule and that all CONTRACTOR-hosted Domains will be ready for use when needed.

Deliverable 4.5: CONTRACTOR Certification of Second Quarter Remote Hosting Services

CONTRACTOR shall deliver the certification as described in Subtask 4.5.

TASK 5: INTERFACE DESIGN

TASKS 5 and 9 of this Statement of Work describe the subtasks and Deliverables necessary to design and build PEMRS Interfaces required by COUNTY. Attachment D lists the Phase 1 System Interfaces and in each Optional Phase System Interface. Interfaces consist of the medical devices Interfaces and external systems Interfaces identified in Attachment D (PEMRS Interfaces) to this Statement of Work and further described in Deliverable 3.3 (Conceptual Design Document) of this Statement of Work. TASK 5 describes the work and Deliverables required to design such required Interfaces. TASK 9 describes the work and Deliverables required to build such required Interfaces.

The term "Interfaces" is defined in the body of this Agreement. In accordance with that definition, the work of designing and building each Interface means designing and building a software mechanism. The purpose of the software mechanism is to transfer data between the Phase 1 Application Software modules or Optional Phase System and a COUNTY device or system. For purposes of this TASK 5 and TASK 9 of this Statement of Work, the term "transaction" shall refer to the transfer of data in an Interface. Therefore, an Interface is defined as three components: (1) the Phase 1 Application Software modules or Optional Phase System, (2) a COUNTY device or system, and (3) a transaction.

During the design and build of such required Interfaces, COUNTY will provide a team of interface and COUNTY device or system specialists to support CONTRACTOR in the design and build of each Interface. The COUNTY team will incorporate the COUNTY device or system vendor as necessary. For each Interface, COUNTY (using said assigned team) will provide:

- Description of the objectives of including each COUNTY device/system with which an Interface is required, together with its expected functions (including as necessary confirmation or correction of the contents of Deliverable 3.3 (Conceptual Design Document));

- Description of the purpose of each transaction in such Interface and the functions of such transaction in the System including expectations for the operating performance of each transaction (including as necessary confirmation or correction of the contents of Deliverable 3.3 (Conceptual Design Document)),

- Descriptions of the COUNTY device/system of the Interface in accordance with CONTRACTOR written requests for information required in order to design and build such Interface (including as necessary confirmation or correction of the contents of Deliverable 3.3 (Conceptual Design Document)).

- An interface engine if necessary to manage the COUNTY's side of each transaction together with documentation and descriptions of how COUNTY expects it to interact with CONTRACTOR provided Interfaces.

With such support by COUNTY, in this TASK 5, CONTRACTOR shall define, review, document and deliver the Interface Specifications for both medical devices Interfaces and external systems Interfaces required to exchange data with the System. (The work and Deliverables required for building Interfaces are described in TASK 9 below.)

CONTRACTOR shall design each Interface as specified in Subtasks 5.1 and 5.2 of this TASK 5. Without limitation, CONTRACTOR shall specify each transaction in its entirety with respect to the System, including the details of each transaction and how it is produced or received by the System and the COUNTY's device and/or system.

For each Interface, CONTRACTOR, with COUNTY participation as provided in the introductory paragraph of this Task, shall design the Interface for both the System and the COUNTY device/system. For each transaction of each Interface, the design shall include:

- Identification of an established standard for such transaction, such as HL7, ASTM, X12, or other ANSI or Standards Development Organization (SDO) published standard designed to perform the functions of the Interface as defined by the COUNTY;

- Specification of any CONTRACTOR divergences from such standard as published;

- Specification of what data are required from the COUNTY system(s) to fulfill the data requirements of the transaction;

- Specification of the transport mechanism required for the transaction;

- Specification of any and all details of System and COUNTY device/system operations required in order for the Interface to function in accordance with the Specifications and this Agreement.

Subtask 5.1: Define Medical Devices Interfaces (MDIs) Specifications

With COUNTY participation as described in the introductory paragraphs of this Task 5, CONTRACTOR shall define and document the design of each medical device Interface required for the Phase 1 System and each Optional Phase System. Specific activities associated with this Subtask include, without limitation, the following:

Exhibit A – Statement of Work

1. Review and document Specifications for each MDI.
    a. Confirm that each COUNTY device defined in Attachment D (PEMRS Interfaces) of this Statement of Work is a device that CONTRACTOR supports in its standard MDI catalog, as documented in Exhibit G (PEMRS Assessment) and its attachments;
    b. Define and specify the transactions required for the MDI;
    c. Define any divergences from the CONTRACTOR's or published standard transactions that the COUNTY device will require, and how such divergences shall be managed.
2. Specify all required communications hardware and software for each MDI.
3. Document a strategy to minimize or prevent Interface failure or performance degradation, standard procedures to mitigate the risk of Interface failure, and corrective action in case it occurs.

Deliverable 5.1: Medical Devices Interfaces (MDIs) Specifications

CONTRACTOR shall deliver Documentation of the Specifications of all MDIs per the results of Subtask 5.1.

Subtask 5.2: Define External Systems Interfaces Specifications

With COUNTY participation as described in the introductory paragraphs of this Task 5, CONTRACTOR shall define and document the design of each external system Interface and the transactions required to support the COUNTY's required functions for such Interface. Specific activities include, without limitation, the following for each Interface:

1. Confirm the required functionality of each transaction to be supported by the Interface between PEMRS and the external system in accordance with this Task and the contents of Deliverable 3.3 (Conceptual Design Document). This consists of both sides of the Interface and all transactions to be supported in the Interface. When applicable, this also identifies the standard of an applicable designated Standard Development Organization (SDO) and the specific standards or transactions to be used in the Interface, as well as, where applicable, Tailoring of standard transactions where required by divergence from the published standard in the System or in the County external system.
2. Confirm the external systems Interfaces development schedule as documented in the PCD.
3. Identify and specify the transport mechanisms for the transactions.
4. Identify and specify any and all details of the data to be exchanged in such transaction and the direction of the exchange, whether inbound or outbound, in a manner that is sufficient for CONTRACTOR to build the transaction with support by COUNTY (using their respective interface engines and assigned staff).
5. Describe how COUNTY's clinical and business processes, policies and procedures will be affected by such Interface.
6. Document a strategy to minimize or prevent Interface failure or performance degradation, standard procedures to mitigate the risk of Interface failure and corrective action in case it occurs.

Deliverable 5.2: External Systems Interfaces Specifications

CONTRACTOR shall identify, validate and document each external system Interface designed in Subtask 5.2.

TASK 6: PHASE 1 SYSTEM APPLICATION SOFTWARE DEVELOPMENT

CONTRACTOR shall design, build and implement the Phase 1 System in this Task with the input and participation of COUNTY in accordance with the MethodM processes and the PCD. The Phase 1 System Application Software modules and Interfaces consist of:

1. PowerChart (Clinical Data Repository, PowerOrders, PowerNote)
2. CareNet (Electronic Medication Administration Record (eMAR), Clinical Documentation, and PowerForms)
3. CapStone (Registration Management, Scheduling Management)
4. PathNet (General Laboratory, Microbiology)
5. PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)
6. RadNet (Radiology Management)
7. ProFile (Health Information Management (HIM))
8. Open Engine (MDIs Licensed Software and Open Port Licensed Software)
9. Cerner ProVision Document Imaging (CPDI)
10. Computerized Physician Order Entry (CPOE)
11. Discern Expert
12. Discern Explorer
13. CareAware Multi-Media Foundation – Digital Objects
14. Krames Patient Education Content
15. Knowledge Content Solution for Ambulatory (including Cerner Knowledge Tool (Cerner KM) and Multum/Medisource)
16. CMT/CPT (Codes & Medical Terminologies)
17. Web Based Training
18. Millennium LDAP Authentication with Pass-through
19. All Interfaces identified on Attachment D (PEMRS Interfaces) to this Statement of Work as Phase 1 System Interfaces.

Subtask 6.1: Develop and Install each Phase 1 System Application Software Module

For each Phase 1 System Application Software module, CONTRACTOR shall perform Subtasks 6.1.1, 6.1.2, and 6.1.3. CONTRACTOR shall design, build and test, all as described in this Statement of Work, with the input and participation of COUNTY in accordance with the MethodM processes and the PCD, such Application Software module consistent with the Specifications and the Agreement, the approved Deliverable 3.3 (Conceptual Design Document), and the approved Deliverables 5.1 (Medical Devices Interfaces (MDIs) Specifications) and 5.2 (External Systems Interfaces Specifications). CONTRACTOR shall design, test, integrate, and implement each Phase 1 System Application Software module in the order of or in combinations approved in the Conceptual Design Document (Deliverable 3.3) and in accordance with the PCD (Deliverable 1.3).

When applicable, CONTRACTOR shall Tailor each Phase 1 System Application Software module as necessary for the System to perform in accordance with the Specifications and the Agreement. When applicable, CONTRACTOR shall incorporate content, subscriptions, and ancillary content in the design and build of each Phase 1 System Application Software module. CONTRACTOR shall test such Application Software module consistent with Paragraph 9 (Acceptance of System by COUNTY) of the body of the Agreement and this Statement of Work. CONTRACTOR shall organize, schedule, manage, and conduct joint COUNTY and CONTRACTOR events defined in the PCD (Deliverable 1.3) and required to complete the design, build, test, and implementation of each Phase 1 System Application Software module in accordance with the MethodM processes accepted in the PCD (Deliverable 1.3). CONTRACTOR shall report on the results of such events and recommend any changes to COUNTY processes that are necessary to improve the Tailoring processes consistent with the Specifications and the Agreement.

Subtask 6.1.1: Design each Phase 1 System Application Software Module

For each Phase 1 System Application Software module, CONTRACTOR shall design and document such Application Software module based upon the Specifications, with the input and participation of COUNTY in accordance with the MethodM processes and the PCD. CONTRACTOR shall Tailor such Application Software module in accordance with the Specifications. CONTRACTOR shall incorporate in the design of such Application Software module required Interfaces as defined in TASK 5 (Interface Design) and consistent with the Conceptual Design Document (Deliverable 3.3). This Subtask includes, but is not limited to, the design of core data elements and tables, reference tables, edit criteria, required Interfaces, System Test plans and scripts, modification of clinical and business processes, and all other entities associated with the design for this Application Software module and/or its Interfaces.

For each Phase 1 System Application Software module, CONTRACTOR shall document the design, database, and Tailoring decisions using standardized System Documentation tools as specified in this Statement of Work or according to CONTRACTOR Documentation standards approved in writing by the COUNTY Project Director. CONTRACTOR shall Tailor and present to Users as a Prototype the database, business rules, screens, and reports of such Application Software module, and shall incorporate User feedback from the Prototype sessions in the design. CONTRACTOR and COUNTY shall mutually arrange and schedule design review sessions approved in the PCD in accordance with the MethodM event process or designated in writing by COUNTY's Project Director.

CONTRACTOR shall identify and document the impact of the design on COUNTY's current clinical and business processes and the expected modifications of such clinical and business processes under Phase 1 System operation, including without limitation interactions among clinical processes and correctional processes as identified in the Conceptual Design Document (Deliverable 3.3) and in Exhibit G (PEMRS Assessment) and its attachments. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully designed such Application Software module and Interfaces relevant to such Application Software module.

CONTRACTOR shall conduct training in process demonstration, and database table Tailoring as relevant to PEMRS-specific User-defined database specifications based on Deliverable 3.3 (Conceptual Design) and the results of the MethodM PDA and OWA processes. Specific classes and descriptions of such classes are identified in Attachment E (PEMRS Training) to this Statement of Work.

Deliverable 6.1.1: Design Documentation for each Phase 1 System Application Software Module

CONTRACTOR shall deliver to COUNTY all design Documentation for each Phase 1 System Application Software module. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully completed the design Documentation and that it is consistent with the approved Deliverable 3.3 (Conceptual Design Document) and Deliverables 5.1 (Medical Devices Interfaces (MDIs) Specifications) and 5.2 (External System Interfaces Specifications) and meets the Specifications. CONTRACTOR shall deliver training classes and training materials consistent with the classes described in Attachment E (PEMRS Training) to this Statement of Work and certify in writing that all training as described in Subtask 6.1.1 (Design each Phase 1 System Application Software Module) has been successfully completed.

Subtask 6.1.2: Build and Unit Test each Phase 1 System Application Software Module

CONTRACTOR shall build, validate and demonstrate to COUNTY each Phase 1 System Application Software module based upon the final design resulting from the Prototype process performed during Subtask 6.1.1 (Design each Phase 1 System Application Software Module) and documented in Deliverable 6.1.1 (Design Documentation for each Phase 1 System Application Software Module).

CONTRACTOR shall conduct training for COUNTY participants in System validation. Specific classes and descriptions of such classes are identified in Attachment E (PEMRS Training) of the Statement of Work.

For each as-built Phase 1 System Application Software module, CONTRACTOR shall develop test plans and scripts for such Tailored Application Software module. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and shall thoroughly test such Application Software module as part of this process, including, without limitation, Unit Testing of applicable Interfaces, but without integration of other Application Software modules. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with the MethodM processes, with CONTRACTOR's expert review, assistance and guidance. The results of all testing shall be documented in accordance with the MethodM processes.

CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully built and that CONTRACTOR and COUNTY have successfully tested each Phase 1 System Application Software module in accordance with the Specifications and the design ap-

proved in Deliverable 6.1.1 (Design Documentation for each Phase 1 System Application Software Module) for such Application Software module.

Deliverable 6.1.2: Built and Unit Tested Each Phase 1 System Application Software Module

CONTRACTOR shall demonstrate each Phase 1 System Application Software module to COUNTY. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully built such module completely and accurately based upon the Documentation generated in Deliverable 6.1.1 (Design Documentation for each Phase 1 System Application Software Module) and CONTRACTOR and COUNTY have successfully tested such Application Software module as described in Subtask 6.1.2. The results of all Tests shall be documented in accordance with the MethodM processes.

Subtask 6.1.3: System Test each Phase 1 System Application Software Module

For each as-built Phase 1 System Application Software module, CONTRACTOR shall develop System Test plans and scripts for such Tailored Application Software module. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and shall thoroughly System Test each Phase 1 System Application Software module to ensure that all components of this module function as designed. The System Test shall ensure that all software code, data structures, departmental workflows, policies and procedures and other Tailoring specific to such Application Software module operate in a manner consistent with the design of this module. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with MethodM, with CONTRACTOR's expert review, assistance and guidance. The results of all System Testing shall be documented in accordance with the MethodM processes.

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully System Tested such Application Software module and that it functions in accordance with the Specifications and the Agreement.

Deliverable 6.1.3: System Tested Each Phase 1 System Application Software Module

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully System Tested all components of each Phase 1 System Application Software module, that CONTRACTOR has corrected all identified Deficiencies and that such Application Software module functions in accordance with the Specifications and the Agreement. CONTRACTOR shall deliver Documentation of such Application Software module as designed, built and tested.

Subtask 6.1.4: Third Quarter Remote Hosting Services

CONTRACTOR shall continue to perform tasks identified for the third Quarter in the approved Remote Hosting Services Project Plan, such as installation and testing of Application Software creating and installing the Training Domain, and completion of network installation and configuration.

CONTRACTOR shall certify in writing that the approved Remote Hosting Services Project Plan is up to date and that tasks identified as necessary to prepare for Remote Hosting Services have been conducted and are completed in accordance with the approved Remote Hosting Services Project Plan for the third Quarter and that preparation of the System Domains is on schedule.

Deliverable 6.1.4: CONTRACTOR Certification of Third Quarter Remote Hosting Services

CONTRACTOR shall deliver the certification as described in Subtask 6.1.4.

Subtask 6.2: Plan and Perform Integration Tests for the Phase 1 System

Subtask 6.2.1: Plan Integration Tests for the Phase 1 System

For the as-built Phase 1 System, CONTRACTOR shall review and revise as needed the Integration Testing strategy documented in the PCD (Deliverable 1.3). CONTRACTOR shall develop a test plan consisting of test scripts and scenarios that take into account departmental workflows, policies and procedures and other Tailoring and that shall be used in the conduct of the Integration Tests under Subtask 6.2.2. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and scripts shall generally consist of all defined input and expected output results for each function based on the Specifications. The test plan shall encompass all testing across and between Phase 1 System Application Software modules required to ensure that the System operates in an integrated fashion and integrates with pass through information from and to the Interface systems.

Deliverable 6.2.1: Integration Test Plans and Test Scripts for the Phase 1 System

CONTRACTOR shall deliver an update to the Integration Testing strategy documented in the Project Control Document. CONTRACTOR shall also deliver a test plan consisting of test scripts and scenarios that shall be used in the conduct of the Integration Tests under Subtask 6.2.2. The test plan shall be developed and validated as described under Subtask 6.2.1.

Subtask 6.2.2: Perform Integration Tests for the Phase 1 System

CONTRACTOR shall conduct Integration Testing for the as-built Phase 1 System. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with MethodM, with CONTRACTOR's expert review, assistance and guidance. CONTRACTOR shall successfully perform all required corrective action to ensure the successful operation and interoperability of all Phase 1 System Application Software modules and all Interfaces. The results of all Integration Testing shall be documented in accordance with the MethodM processes. CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully conducted all Integration Testing for

the Phase 1 System and that CONTRACTOR has successfully performed all required corrective action.

Deliverable 6.2.2: Successful Integration Test Results for the Phase 1 System

CONTRACTOR shall successfully perform all required corrective action to ensure the successful operation and interoperability of all Phase 1 System Application Software modules. The results of all Integration Testing shall be documented in accordance with the MethodM processes. CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully completed Integration Testing for the Phase 1 System and that CONTRACTOR has successfully completed all required corrective action.

Subtask 6.2.3: Fourth Quarter Remote Hosting Services

CONTRACTOR shall perform and complete all tasks specified for the fourth Quarter in the approved Remote Hosting Services Project Plan. These include, for example, conducting the System Management Workshop, network and back-end failover testing, and continued installation of network patches and available security patches.

CONTRACTOR shall certify in writing that the approved Remote Hosting Services Project Plan is up to date and that all tasks and activities required for timely preparation of the Domains required for PEMRS operation and management have been completed as scheduled in the plan for the fourth Quarter, that the project is on schedule and that all CONTRACTOR-hosted Domains will be ready for use when needed.

Deliverable 6.2.3: CONTRACTOR Certification of Fourth Quarter Remote Hosting Services

CONTRACTOR shall deliver the certification as described in Subtask 6.2.3.

Subtask 6.3: Prepare for Phase 1 System Cutover and Conversion

Subtask 6.3.1: Develop System Cutover and Conversion Plan for the Phase 1 System

CONTRACTOR shall develop a System Cutover and Conversion Plan for the Phase 1 System that identifies the steps required to load existing automated and manual data and to perform other activities required as part of the System cutover and conversion process, including without limitation conversion to new or modified clinical and business processes, policies and procedures, as well as conversion of the current charts of minors detained in the halls and camps. The plan shall include, without limitation the unique conversion requirements of each Phase 1 System Application Software module, including without limitation, conversion of automated and manual data required for production conversion and transfer to the Production Domain of successfully tested all Phase 1 System Application Software modules and Interfaces, confirmation of successful User Acceptance Testing, and transition to CONTRACTOR's Remote Hosting Services, System Maintenance and Support, and Application Management Services (AMS) as provided in Exhibit D (Service Level Agreement) for the Phase 1 System.

CONTRACTOR shall define the timing of conversion programs and shall provide an orientation to COUNTY's conversion support staff. CONTRACTOR shall document in the plan the cutover support required by CONTRACTOR and COUNTY during the tran-

sition from current manual clinical and business processes to Production Use of the Phase 1 System.

CONTRACTOR shall also define in the plan a mechanism to verify the plan by conducting, with COUNTY participation in accordance with the PCD and otherwise the Agreement, desk exercises, plan reviews, walk-throughs, checklist confirmations (peripheral device readiness, network equipment readiness, COUNTY technical staffing provisioning and training, site visits, COUNTY circuit stressors and bandwidth confirmation, data transfer and conversion, chart imports, staff movement and redeployment, communication plans, contingency plans, emergency response, CTC operations and intra and inter-CTC failover), and any other plan review that can prudently be exercised in advance to minimize the risk of conversion failure.

Deliverable 6.3.1: System Cutover and Conversion Plan for the Phase 1 System

CONTRACTOR shall deliver the System Cutover and Conversion Plan for the Phase 1 System that identifies the steps required to perform the System cutover and conversion process and how the COUNTY and CONTRACTOR resources will be deployed during the cutover. CONTRACTOR shall incorporate in the Deliverable all of the results of Sub-task 6.3.1.

Subtask 6.3.2: Prepare for System Cutover and Conversion for the Phase 1 System

CONTRACTOR, with COUNTY participation in accordance with the PCD, shall verify the System Cutover and Conversion Plan as provided in Subtask 6.3.1 (Develop System Cutover and Conversion Plan for the Phase 1 System) to ensure CONTRACTOR and COUNTY readiness for actual System cutover required for transition to Production Use of all Phase 1 System Application Software modules in the Production Domain.

CONTRACTOR and COUNTY shall each identify required plan corrections and all actions required to perform the plan during the conversion and cutover process. CONTRACTOR shall successfully correct the plan, inventory all necessary COUNTY and CONTRACTOR corrective actions, and obtain the written approval of COUNTY's Project Director, which may be granted or withheld in his sole discretion.

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully performed all necessary corrective actions to perform the plan required by Deliverable 6.3.1 (System Cutover and Conversion Plan for the Phase 1 System) and that all Phase 1 System Application Software modules are ready for System cutover and conversion.

Deliverable 6.3.2: Verified System Cutover and Conversion Plan for the Phase 1 System

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY, as well as the Phase 1 System, are ready for cutover and conversion.

Subtask 6.3.3: Fifth Quarter Remote Hosting Services

CONTRACTOR shall perform and complete all tasks specified for the fifth Quarter in the approved Remote Hosting Services Project Plan. These include, for example, conducting the creation of the Certification Domain, final code certification, testing and final con-

figuration of the Training Domain, continued installation of network patches and available security patches, completion of the pre-conversion audit, and Production Domain lockdown.

CONTRACTOR shall certify in writing that the approved Remote Hosting Services Project Plan is up to date and that all tasks and activities required for timely preparation of the Domains required for PEMRS operation and management have been completed as scheduled in the plan for the fifth Quarter, that the project is on schedule and that all CONTRACTOR-hosted Domains are ready for use as planned.

Deliverable 6.3.3: CONTRACTOR Certification of Fifth Quarter Remote Hosting Services

CONTRACTOR shall deliver the certification as described in Subtask 6.3.3.

Subtask 6.4: Develop and Deliver User Training for the Phase 1 System

Consistent with the provisions of Exhibit D (Service Level Agreement) CONTRACTOR shall create and provision a Training Domain for COUNTY User Training.

Subtask 6.4.1: Develop Training Classes and Training Materials for the Phase 1 System

CONTRACTOR shall review and confirm the User Training Strategy developed as part of the PCD. CONTRACTOR shall develop Learning Plan and Solution Training Guides for the as-built Phase 1 System and workflows. The Learning Plan and Solution Training Guides shall provide COUNTY trainers with a comprehensive presentation of the functionality and use of the Phase 1 System within clinical and business operations of Probation, JCHS, and JJMH. The Solution Training Guides shall provide COUNTY trainers with techniques for delivering the training to Users. The Learning Plan shall define training approach, tools, and, where applicable, facility requirements. CONTRACTOR shall additionally provide examples of end user training with respect to all or any portion of the modules included in the Phase 1 System that COUNTY trainers may re-use or modify in creating User training manuals and guides, or, alternatively, named references to clients from whom COUNTY may request such examples. CONTRACTOR shall consult with COUNTY trainers as needed throughout COUNTY's development of User training manuals and guides. CONTRACTOR shall produce and Tailor any web based training modules, as defined in Schedule II of Exhibit D (Service Level Agreement), that are relevant to the operation and use of the Phase 1 System in the PEMRS operational environment consistent with the PCD and the Conceptual Design Document.

Deliverable 6.4.1: Documented Training Classes and Training Materials for the Phase 1 System

CONTRACTOR shall deliver training materials for the Phase 1 System that consist of the results of Subtask 6.4.1.

Subtask 6.4.2: Train the COUNTY Trainers for the Phase 1 System

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CONTRACTOR shall deliver training classes and training materials to COUNTY system analysts and subject matter experts, as designated by COUNTY's Project Director, for the as-built Phase 1 System, including each Phase 1 System Application Software module and Interface. CONTRACTOR shall present the training classes and materials in a minimum of one (1) training session per Phase 1 System Application Software module, adequate in duration to cover all functionality and expected clinical and business process changes. CONTRACTOR shall conduct all training live and remotely in the Training Domain. The training materials and classes shall give COUNTY trainers sufficient instruction in the use of the Phase 1 System and each Phase 1 System Application Software module in the Probation, JCHS, and JJMH operating environment in order to prepare them to train Users in the use of the Phase 1 System as Tailored to meet the Specifications and support the expected clinical and business processes. CONTRACTOR shall deliver training classes and training materials consistent with Attachment E (PEMRS Training) of this Statement of Work.

Deliverable 6.4.2: Trained COUNTY Trainers for the Phase 1 System

CONTRACTOR shall deliver the training sessions and materials as described in Subtask 6.4.1 (Develop Training Classes and Training Materials for the Phase 1 System) and Subtask 6.4.2 (Train COUNTY Trainers for the Phase 1 System) and shall certify in writing that all such training has been successful.

Subtask 6.5: Prepare Reference Documentation for the Phase 1 System

CONTRACTOR shall prepare reference Documentation for the as-built Phase 1 System consisting of all as-built Phase 1 System Application Software modules and Interfaces. Such Documentation shall, without limitation, provide COUNTY with a comprehensive reference source of System functionality and data definitions in the form of CONTRACTOR's Change Management Artifact Templates (CMATs) approved by COUNTY, Cerner Millennium Support Guides, design decision matrices, CCL Reports, Discern Reports, and as otherwise provided in MethodM Online. In the event that no CMAT exists that accurately reflects the as-built, Tailored System, CONTRACTOR's Project Director and COUNTY's Project Director will collaborate to define reference Documentation for the as-built System that is acceptable to COUNTY. CONTRACTOR shall provide electronic links or access from the Phase 1 System and each Phase 1 System Application Software module or Interface to online help and shall assist COUNTY in the use of these resources.

Deliverable 6.5: Reference Documentation for the Phase 1 System

CONTRACTOR shall provide access to COUNTY to comprehensive reference Documentation as described in Subtask 6.5. CONTRACTOR shall deliver reference Documentation in the formats and using the methods defined in the Agreement and in the introductory section to this Statement of Work, according to the provisions of Subparagraph 4.6 of the body of the Agreement. CONTRACTOR shall deliver electronic links or access to online help and Documentation from the Phase 1 System as well as each Phase 1 System Application Software module and Interface.

Subtask 6.6: Conduct User Acceptance Testing of the Phase 1 System

Following successful performance of all CONTRACTOR testing of the Phase 1 System as described in this Statement of Work, CONTRACTOR shall actively support COUNTY in the conduct of User Acceptance Testing of the Phase 1 System as described in Sub-paragraph 9.3 (User Acceptance Tests) of the body of the Agreement, including without limitation providing all consultation and assistance requested by COUNTY.

Consistent with the provisions of Exhibit D (Service Level Agreement) CONTRACTOR shall create and provision a Certification Domain for User Acceptance Testing of such Optional Phase System.

COUNTY will perform User Acceptance Testing of the Phase 1 System as described in Subparagraph 9.3 (User Acceptance Tests) of the body of the Agreement based upon Integration Test scripts approved by COUNTY as part of Deliverable 6.2.1, as well as additional test scripts prepared by COUNTY in its sole discretion. COUNTY will conduct User Acceptance Testing of the Phase 1 System as installed, tested, built, and certified by CONTRACTOR under TASK 11 for the Production Domain. Scripts shall generally consist of all defined input and expected output results for each function and Interface transaction based on the Specifications.

COUNTY will document test results consisting of all Deficiencies discovered during testing. COUNTY will identify, track, and report Deficiencies detected during User Acceptance Testing in discrepancy reports.

CONTRACTOR shall correct all Deficiencies in the Phase 1 System identified by COUNTY and as otherwise set forth in Subparagraph 9.4 (Failed Testing) of the body of the Agreement. In addition to taking corrective action, CONTRACTOR shall provide required support to COUNTY acceptance testers in the operation of the Phase 1 System. Following corrective action by CONTRACTOR, COUNTY will continue testing the System in the Production Domain in the same state until the Phase 1 System has been successfully User Acceptance Tested and is ready for transition to Production Use, as determined in accordance with Subparagraph 2.4 (Approval of Work) and Subparagraph 9.4 (Failed Testing) of the body of the Agreement.

Deliverable 6.6: Successfully Conducted User Acceptance Testing of the Phase 1 System

COUNTY will conduct, with active support from CONTRACTOR, User Acceptance Tests of the Phase 1 System. CONTRACTOR's support to COUNTY in the conduct of User Acceptance Testing shall include, without limitation, providing test scripts used in Integration Testing, successfully performing all required corrective action to resolve Deficiencies in the Phase 1 System identified by COUNTY in discrepancy reports prepared during testing, and assisting COUNTY acceptance testers in the operation of the Phase 1 System, each Phase 1 System Application Software module, Interfaces, and clinical and business processes.

Subtask 6.7: Implement the Phase 1 System for Production Use at all COUNTY Facilities

CONTRACTOR shall implement the Phase 1 System for Production Use at all COUNTY Facilities. CONTRACTOR shall make the Phase 1 System fully operational and in Production Use at all COUNTY Facilities. CONTRACTOR shall provide as-needed support

for COUNTY conversion to Production Use at all COUNTY Facilities, as well as two CONTRACTOR staff resources assigned to cutover support at each COUNTY Facility and adequate support staffing at the CTC for the two-week cutover period or as specified in the PCD, and adequate support staffing at the CTC.

Deliverable 6.7: Production Use of the Phase 1 System at all COUNTY Facilities

CONTRACTOR shall deliver the fully operational Phase 1 System in Production Use at all COUNTY Facilities.

Subtask 6.8: Conduct Post-Implementation System Review for the Phase 1 System

Following implementation of Production Use of the Phase 1 System at all COUNTY Facilities, CONTRACTOR shall collect and evaluate operational results to assess the success and shortcomings of the System implementation efforts. CONTRACTOR shall submit the Post-Implementation Review Report to the COUNTY Project Director to give COUNTY feedback on the implementation process of the Phase 1 System. This report shall evaluate the Phase 1 System cutover, conversion, and implementation process and shall provide feedback on the following: (a) User and organizational satisfaction; (b) identification of necessary process workflow enhancement concerns/potential; (c) CONTRACTOR recommended workflow practice effectiveness and adoption; (d) System performance concerns; and (e) short and long term planning goals.

Deliverable 6.8: Post-Implementation Review Report for the Phase 1 System

CONTRACTOR shall deliver a Post-Implementation Review Report that contains the results of the work performed in Subtask 6.8.

Subtask 6.9: Maintain Production Use of Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities

The Phase 1 System shall be maintained in Production Use at all COUNTY Facilities with no material Deficiencies, as set forth in Subparagraph 9.1 (General) of the body of the Agreement, for thirty (30) consecutive days subsequent to COUNTY's written approval of Deliverable 6.7 (Production Use of Phase 1 System at all COUNTY Facilities) and as specified in Exhibit D (Service Level Agreement).

Deliverable 6.9: Production Use of Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities

The Phase 1 System shall operate in Production Use at all COUNTY Facilities with no material Deficiencies, as set forth in Subparagraph 9.1 (General) of the body of the Agreement, for thirty (30) consecutive days subsequent to COUNTY's written approval of Deliverable 6.7 (Production Use of Phase 1 System at all COUNTY Facilities).

TASK 7: OPTIONAL PHASE SYSTEM APPLICATION SOFTWARE DEVELOPMENT

Upon full execution of an Amendment under Subparagraph 6.3 of the body of the Agreement with respect to an Optional Phase System, CONTRACTOR shall construct and implement such Optional Phase System in this Task.

Each Optional Phase System shall include at least one of the following Application Software modules and Interfaces:

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1. Telemedicine
2. CareNet: PowerPlan
3. 724Access Solution (Optional Phase System, but detailed task described in TASK 8)
4. Enterprise Master Person Index (EMPI)
5. PowerInsight
6. PharmNet (Outpatient Pharmacy)
7. CareAdmin
8. Radiology Dictation
9. eSignature (Patient Electronic Signature)
10. Cerner Picture Archiving and Communication System (PACS)
11. Financials
12. Each Interface as defined in Attachment D (PEMRS Interfaces) to this Statement of Work as an Optional Phase System Interface

CONTRACTOR shall design and build each Application Software module included in each Optional Phase System consistent with the Specifications and the Agreement. CONTRACTOR shall test such Application Software modules included in each Optional Phase System as described in this Statement of Work.

Subtask 7.0: Update the PCD, Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), the Conceptual Design Document, the Specifications, and Exhibit D (Service Level Agreement), Specified Hardware and Operating Software, and Interfaces, for each Optional Phase System

Prior to the implementation of each Optional Phase System, COUNTY will provide the objectives, additional features and functional requirements and expectations for the Optional Phase System. CONTRACTOR shall update the PCD, Exhibit G (PEMRS Assessment) and its attachments, Onsite Workflow Assessment (OWA), Conceptual Design Document, the Specifications, Exhibit D (Service Level Agreement)), Specified Hardware and Operating Software, and Interfaces for the Optional Phase System. To the extent feasible, as approved by the COUNTY's Project Director and the CONTRACTOR's Project Director, CONTRACTOR shall incorporate findings, conclusions and recommendations from Deliverable 6.8 (Post-Implementation Review Report for the Phase 1 System), in said updates. COUNTY will review and update the Specifications as needed to support the Optional Phase System. COUNTY will assemble or re-assemble as appropriate a team of subject matter experts, technology support staff, project management staff, and super-Users to work with CONTRACTOR during the implementation of each Optional Phase.

Subtask 7.0.1: Revise and Update the PCD to Incorporate each Optional Phase System

For each Optional Phase System, CONTRACTOR shall review, document, clarify and refine all project goals and the assignment of goals to project resources for such Optional Phase System. CONTRACTOR shall present such goals to the PLT. This process shall ensure that all involved parties have clearly understood and agreed upon all goals

of the Optional Phase System and COUNTY responsibilities for governance and participation in the Optional Phase System. CONTRACTOR shall update the PCD to address, without limitation, the following:

1. The shared vision for CONTRACTOR / COUNTY relationship and the strategic goals of the Optional Phase System.
2. The Optional Phase System scope, phasing, and objectives.
3. The expected roles and responsibilities of CONTRACTOR and COUNTY project organizations and a communication strategy for sharing the context and vision of the Optional Phase System to the team members.
4. The composition of the Optional Phase System project team and how the project team shall communicate with and collaborate with components of project governance consisting of the PLT and various workgroups.
5. The composition of expected COUNTY's support resources and their interaction with CONTRACTOR's support resources.
6. The schedule of events to be held both at COUNTY Facilities and at CONTRACTOR's facilities for the purposes of joint design, Tailoring, development, and build of PEMRS, all Prototypes, and expectations for COUNTY participation in those events.
7. The Optional Phase System project organization and the roles and responsibilities of the project team members.
8. The Optional Phase System Specified Hardware and Operating Software
9. The Optional Phase System hosting strategy, including COUNTY's election of whether to apply CONTRACTOR's Remote Hosting Services to the Optional Phase System.
10. The Optional Phase System design/build strategy.
11. The Optional Phase System technology strategy.
12. The Optional Phase System project communication plan.
13. The Optional Phase System training strategy for COUNTY's staff, trainers and Users, based on COUNTY's requirements and CONTRACTOR's Optional Phase System and training approach.
14. The Optional Phase System security strategy and requirements, including physical, administrative and technical elements and the divisions of security roles and responsibilities between CONTRACTOR and COUNTY.
15. The detailed Optional Phase System project plan including, without limitation, start and end dates for all Tasks and Subtasks, work breakdown structure, Tasks dependencies, and assignments by Tasks and Subtasks within the MethodM framework.
16. The Optional Phase System testing strategy for all levels of testing.

CONTRACTOR shall with respect to the Optional Phase System specifically address each Optional Phase System Task and Subtask to be performed, the order in which CONTRACTOR shall perform the Tasks and Subtasks and the order in which CONTRACTOR shall produce the Deliverables specified in this Statement of Work in accordance with the Agreement within the MethodM framework. For each Task and Subtask CONTRACTOR shall define and describe in detail the recommended involve-

ment of COUNTY's staff that is necessary for successful completion of such Task or Subtask. .CONTRACTOR shall formally present the updated PCD to the PLT.

Deliverable 7.0.1: Revised and Updated Project Control Document (PCD) for each Optional Phase System

The updated PCD shall document, without limitation, the components listed in Subtask 7.0.1 as updated for each Optional Phase System described above.

Subtask 7.0.2: Update Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), the Conceptual Design Document, the Specifications, Exhibit D (Service Level Agreement), and the Specified Hardware and Operating Software, for each Optional Phase System

For each Optional Phase System, CONTRACTOR shall review and update the contents of Deliverable 1.2 (Confirmed and Updated PEMRS Assessment). This Subtask shall determine what changes are needed to the PEMRS Domains and Application and Third Party Software architecture in order to support the Optional Phase System. As part of this Subtask, CONTRACTOR shall identify impact points that may affect the timely and successful implementation of this Optional Phase System, including, but not limited to, any issues associated with COUNTY devices, LAN/WAN, available bandwidth, operations management, technology hosting services, COUNTY staffing and operations, and the help desk, whether supplied by COUNTY, CONTRACTOR, or a third party. CONTRACTOR shall also specify recommended corrective action to be taken by COUNTY (which recommendations shall be subject to the provisions of Subparagraph 10.1.D of the body of the Agreement).

CONTRACTOR shall review and update the PEMRS Conceptual Design Document (Deliverable 3.3) to include each Optional Phase System. Through this process, CONTRACTOR shall identify all Tailoring of such Optional Phase System that will be necessary to meet Specifications. This process shall provide review of the Agreement and the Phase 1 System together with this Statement of Work, the Onsite Workflow Assessment (OWA), and other resources applicable to CONTRACTOR's understanding of the Specifications for the Optional Phase System. CONTRACTOR shall analyze these sources, augment and clarify their contents where necessary, and map the requirements to the Optional Phase System capabilities. Based upon a review of then current COUNTY clinical and business processes as practiced with the Phase 1 System, and working with COUNTY participants as documented in the PCD, CONTRACTOR shall identify opportunities for improved quality, effectiveness, or efficiency available to COUNTY from modifying such clinical and business processes and/or procedures during implementation of the Optional Phase System. When possible, CONTRACTOR shall identify and recommend such changes of clinical and business processes which, if implemented, would enable more efficient and effective implementation of the Optional Phase Systems with minimal Tailoring consistent with CONTRACTOR's design standards such as, but not limited to, START Content. CONTRACTOR shall also identify components and design elements or Tailoring of JHIS that can be applied to the Optional Phase System with minimum effort. CONTRACTOR shall incorporate these clinical and business processes and procedures improvements in the Conceptual Design Document.

CONTRACTOR shall review and update as needed for each Optional Phase System, the Remote Hosting Services Technical Specifications (as defined in Attachment A of this Statement of Work and further described in Exhibit D (Service Level Agreement)).

CONTRACTOR shall update the training program and deliver training classes and Documentation as needed for each Optional Phase System consistent with the classes described in Attachment E (PEMRS Training) of this Statement of Work.

Without limiting any of CONTRACTOR's obligations as set forth in the Agreement, including, without limitation, in Paragraph 21 (Compliance with Applicable Law) of the body of the Agreement, COUNTY's Project Director and COUNTY's Project Manager, on the one hand, and CONTRACTOR's Project Director and CONTRACTOR's Project Manager, on the other hand, will use reasonable efforts to advise one another of special Los Angeles County, California State, or United States regulatory requirements of which such individuals are aware that apply in the correctional health care environment as such regulatory requirements may impact clinical or business process details for each Optional Phase System. Such regulatory considerations shall include, without limitation, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), as well as all rules and regulations promulgated thereunder, Titles 15 and 24 of the California Code of Regulations, applicable published standards of the National Commission on Correctional Health Care (NCCHC), and standards developed in connection with electronic health record certification and system security by the Office of the National Coordinator on Health Information Technology (ONCHIT), the Commission for Certification of Health Information Technology (CCHIT), the Drug Enforcement Agency (DEA), the Centers for Medicare & Medicaid Services (CMS), the National Institute of Standards and Technology (NIST), and/or the State of California Health and Human Services Agency.

CONTRACTOR shall define and document in workflow diagrams clinical and business process details depicting the expected processes following implementation of each Optional Phase System. CONTRACTOR shall incorporate in the Conceptual Design Document clinical and business process changes, interactions among the participating agencies and the impact of regulatory considerations. Where Interfaces are relevant to such interactions CONTRACTOR shall identify the Interface and explain how it affects the interactions in the Optional Phase System.

CONTRACTOR shall review with COUNTY the Conceptual Design Document resulting from Subtask 7.0.2 as well as the new clinical and business processes and an evaluation of their feasibility. Based upon the review, CONTRACTOR shall prepare updates to the Conceptual Design Document delivered under Deliverable 3.3. This document shall provide the basis for implementation of new clinical and business processes and any necessary Tailoring of each Optional Phase System to meet the Specifications.

Deliverable 7.0.2: Updated Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), Specifications, Exhibit D (Service Level Agreement), Specified Hardware and Operating Software, and Conceptual Design Document for each Optional Phase System

These updated documents provide the design of each Optional Phase System. For each Optional Phase System, they shall document all of the findings of Subtask 7.0.1 and 7.0.2 including, without limitation, the following components:

1. Future state clinical and business process workflow diagrams as they apply to JCHS, JJMH and Probation for such Optional Phase System.
2. Data model and associated data Documentation for the future state clinical and business processes for such Optional Phase System.
3. Interfaces as relevant to the clinical and business processes and their interactions for such Optional Phase System.
4. Updates to Exhibit G (PEMRS Assessment) and its attachments necessitated by the conceptual design for such Optional Phase System.
5. Updates to Exhibit D (Service Level Agreement) as it relates to the Maintenance and Support, Remote Hosting, Upgrade Implementation, and application Management Services where applicable to such Optional Phase System.
6. Personnel needs and human resources strategy for such Optional Phase System.
7. Privacy and security strategy for such Optional Phase System.
8. Future state clinical and business processes Implementation Plan for such Optional Phase System.
9. How the design fulfills the Specifications for such Optional Phase System.

Upon approval by COUNTY in accordance with Subparagraph 2.4 of the body of the Agreement, updates to Exhibit G (PEMRS Assessment) and its attachments shall automatically attach to and supplement Exhibit G (PEMRS Assessment) and its attachments as an additional attachment thereto. The updated Exhibit D (Service Level Agreement) shall automatically attach to and supplement Exhibit D (Service Level Agreement).

Subtask 7.0.3: Update Interface Design for each Optional Phase System

For each Optional Phase System, CONTRACTOR shall review, define, and document the Interface requirements for both medical devices Interfaces and external systems Interfaces required to exchange data with such Optional Phase System as identified in the updated Conceptual Design Document delivered in Subtask 7.0.2 of this Statement of Work. CONTRACTOR shall document Specifications in adequate detail to construct and implement both sides of each external systems Interface and each required external system Interface transaction. CONTRACTOR shall include design Specifications for the external system side of the transaction whether inbound or outbound in sufficient detail for such Interfaces to be built, tested, and implemented by COUNTY. The work under this Subtask will be conducted with COUNTY participation as described in the introductory paragraphs of TASK 5.

Deliverable 7.0.3: Updated Interface Design for each Optional Phase System

For each Optional Phase System, CONTRACTOR shall prepare and deliver the updated Interface design as described in Subtask 7.0.3.

Subtask 7.1: Develop and Install each Optional Phase System

For each Optional Phase System, CONTRACTOR shall perform Subtasks 7.1.1, 7.1.2, and 7.1.3. CONTRACTOR shall design, build, and test, all as described in this Statement of Work and in accordance with the MethodM processes, with COUNTY participation as indicated in Deliverable 7.0.1 (Revised and Updated PCD for each Optional

Phase System) such Optional Phase System consistent with the Specifications and the Agreement, the approved Deliverable 7.0.2 (Updated Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), Specifications, Exhibit D (Service Level Agreement), Specified Hardware and Operating Software, and Conceptual Design Document for each Optional Phase System), and Deliverable 7.0.3 (Updated Interface Design for each Optional Phase System). CONTRACTOR shall design, test, integrate, and implement each Optional Phase System in the order of or in combinations approved in the updated Conceptual Design Document (Deliverable 7.0.2) and in accordance with the updated PCD (Deliverable 7.0.1). When applicable, CONTRACTOR shall Tailor each Optional Phase System as necessary for the System to perform in accordance with the Specifications and the Agreement. When applicable, CONTRACTOR shall incorporate content, subscriptions, or ancillary content in the design and build of each Optional Phase System. CONTRACTOR shall test each Optional Phase System consistent with Paragraph 9 (Acceptance of System by COUNTY) of the body of the Agreement and this Statement of Work. CONTRACTOR shall organize, schedule, manage and conduct joint COUNTY and CONTRACTOR events defined in the PCD and required to complete the design, build, test and implementation of each Optional Phase System in accordance with the MethodM processes accepted in the updated PCD (Deliverable 7.0.1). CONTRACTOR shall report on the results of such events and recommend any changes to COUNTY processes that are necessary to improve the Tailoring processes consistent with the Specifications and the Agreement.

Subtask 7.1.1: Design each Optional Phase System

For each Optional Phase System, CONTRACTOR shall design, and document such Optional Phase System based upon the Specifications, with the input and participation of COUNTY in accordance with the MethodM processes and the updated PCD. CONTRACTOR shall Tailor such Optional Phase System in accordance with the Specifications. CONTRACTOR shall incorporate in the design of such Optional Phase System required Interfaces as defined in Subtask 7.0.3 and consistent with the updated Conceptual Design Document. This Subtask includes, but is not limited to, the design of core data elements and tables, reference tables, edit criteria, required Interfaces, System Test plans and scripts, modification of clinical and business processes, and all other entities associated with the design for this Optional Phase System and/or its Interfaces.

For each Optional Phase System, CONTRACTOR shall document the design, database, and Tailoring decisions using standardized System Documentation tools as specified in this Statement of Work or according to CONTRACTOR Documentation standards approved in writing by the COUNTY Project Director. CONTRACTOR shall Tailor and present to Users as a Prototype the database, business rules, screens, and reports of such Optional Phase System, and shall incorporate User feedback from the Prototype sessions in the design. CONTRACTOR and COUNTY shall mutually arrange and schedule design review sessions approved in the updated PCD in accordance with the MethodM event process or designated in writing by COUNTY Project Director.

CONTRACTOR shall identify and document the impact of the design on COUNTY's current clinical and business processes and the expected modifications of such clinical and business processes under Optional Phase System operation, including without limitation

interactions among clinical processes and correctional processes as identified in the Conceptual Design Document and in Exhibit G (PEMRS Assessment) and its attachments. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully designed the Optional Phase System and Interfaces relevant to such Optional Phase System.

CONTRACTOR shall conduct training in process demonstration and database table Tailoring as relevant to PEMRS-specific user-defined database specifications based on Deliverable 7.0.2 (Updated Conceptual Design Document and the results of the updated OWA. Specific classes and descriptions of such classes are identified in Attachment E (PEMRS Training) to this Statement of Work.

Deliverable 7.1.1: Design Documentation for each Optional Phase System

CONTRACTOR shall deliver to COUNTY all design Documentation for each Optional Phase System. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully completed the design Documentation and that it is consistent with the approved Deliverables 7.0.2 and 7.0.3 and meets the Specifications. CONTRACTOR shall deliver training classes and training materials consistent with the classes described in Attachment E (PEMRS Training) to this Statement of Work and certify in writing that all training as described in Subtask 7.1.1 (Design each Optional Phase System) has been successfully completed.

Subtask 7.1.2: Build and Unit Test each Optional Phase System

For each Optional Phase System, CONTRACTOR shall build, validate and demonstrate to COUNTY such Optional Phase System based upon the final design resulting from the Prototype process concluded and documented in Deliverable 7.1.1 (Design Documentation for each Optional Phase System).

CONTRACTOR shall conduct training for COUNTY participants in System validation. Specific classes and descriptions of such classes are identified in Attachment E (PEMRS Training) of the Statement of Work.

For each as built Optional Phase System, CONTRACTOR shall develop test plans and scripts for such Tailored Application Software module. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and shall thoroughly test such Optional Phase System as part of this process, including, without limitation, Unit Testing of applicable Interfaces, but without integration with the Phase 1 System or other Optional Phase Systems. CONTRACTOR shall incorporate in the construction of this Optional Phase System required Interfaces as defined in Task 9 (Interface Construction and Testing) and in Deliverable 7.0.3 (Updated Interface Design for each Optional Phase System). Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with the MethodM processes, with CONTRACTOR's expert review, assistance, and guidance. The results of all testing shall be documented in accordance with the MethodM processes.

CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully built and that CONTRACTOR and COUNTY have successfully tested such Optional Phase System in accordance with the Specifications and the design approved in Deliverable 7.1.1 (Design Documentation for each Optional Phase System) for such Optional Phase System.

Deliverable 7.1.2: Built and Unit Tested each Optional Phase System

CONTRACTOR shall demonstrate each Optional Phase System to COUNTY. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully built such Optional Phase System completely and accurately based upon the Documentation in Deliverable 7.1.1 (Design Documentation for each Optional Phase System) and that CONTRACTOR and COUNTY have successfully tested such Optional Phase System as described in Subtask 7.1.2. The results of tests shall be documented in accordance with the MethodM processes.

Subtask 7.1.3: System Test each Optional Phase System

For each as-built Optional Phase System, CONTRACTOR shall develop System Test plans and scripts for such Tailored Application Software module. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and shall thoroughly System Test each Optional Phase System to ensure that all components of this System function as designed. The System Test shall ensure that all software code, data structures, departmental workflows, policies and procedures, and other Tailoring specific to such Optional System, operate in a manner consistent with the design. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with MethodM, with CONTRACTOR's expert review, assistance, and guidance. The results of all System Testing shall be documented in accordance with the MethodM processes.

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully System Tested such Optional Phase System and that it functions in accordance with the Specifications and the Agreement.

Deliverable 7.1.3: System Tested each Optional Phase System

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully System Tested all components of each Optional Phase System that CONTRACTOR has corrected all identified Deficiencies and that such Optional Phase System functions in accordance with the Specifications and the Agreement. CONTRACTOR shall deliver Documentation of such Optional Phase System as designed, built and tested.

Subtask 7.2: Plan and Perform Integration Tests for each Optional Phase System

Subtask 7.2.1: Plan Integration Tests for each Optional Phase System

For each as-built Optional Phase System, all other then-implemented Optional Phase Systems, and the Phase 1 System, CONTRACTOR shall review and revise as needed the Integration Testing strategy documented in the updated PCD. CONTRACTOR shall

develop a test plan consisting of test scripts and scenarios that take into account departmental workflows, policies and procedures and other Tailoring and that shall be used in the conduct of the Integration Tests under Subtask 7.2.2. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and scripts shall generally consist of all defined input and expected output results for each function based on the Specifications. The test plan shall encompass all testing across and between such Optional Phase System, all other then-implemented Optional Phase Systems, and the Phase 1 System, required to ensure that the System operates in an integrated fashion and integrates with pass-through information from and to the Interface systems.

Deliverable 7.2.1: Integration Test Plans and Test Scripts for each Optional Phase System

CONTRACTOR shall deliver an update to the Integration Testing strategy documented in the Project Control Document. CONTRACTOR shall also deliver a test plan consisting of test scripts and scenarios that shall be used in the conduct of the Integration Tests under Subtask 7.2.2. The test plan shall be developed and validated as described under Subtask 7.2.1.

Subtask 7.2.2: Perform Integration Tests for each Optional Phase System

CONTRACTOR shall conduct Integration Testing for each as-built Optional Phase System. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with MethodM, with CONTRACTOR's expert review, assistance, and guidance. CONTRACTOR shall successfully perform all required corrective action to ensure the successful operation and interoperability of such Optional Phase System, all other then-implemented Optional Phase Systems, and the Phase 1 System and all Interfaces. The results of all Integration Testing shall be documented in accordance with the MethodM processes. CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully conducted all Integration Testing for each Optional Phase System and that CONTRACTOR has successfully completed all required corrective action.

Deliverable 7.2.2: Successful Integration Test Results for each Optional Phase System

CONTRACTOR shall successfully perform all required corrective action to ensure the successful operation and interoperability of each Optional Phase System, all other then-implemented Optional Phase Systems, and the Phase 1 System. The results of all Integration Testing shall be documented in accordance with the MethodM processes. CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully completed Integration Testing for each Optional Phase System and that CONTRACTOR has successfully completed all required corrective action.

Subtask 7.3: Prepare for Optional Phase System Cutover and Conversion

Subtask 7.3.1: Develop System Cutover and Conversion Plan for each Optional Phase System

CONTRACTOR shall develop a System Cutover and Conversion Plan for each Optional Phase System that identifies the steps required to load existing automated and manual data and to perform other activities required as part of the System cutover and conversion process, including without limitation conversion to new or modified clinical and business processes, policies and procedures as well as conversion of any chart components that remained manual following implementation of the Phase 1 System. The plan shall include, without limitation the unique conversion requirements of each Optional Phase System, including without limitation, conversion of automated and manual data required for production conversion and transfer to Production Domain of such successfully tested Optional Phase Systems and Interfaces, confirmation of successful User Acceptance Testing, and transition, when applicable to such Optional Phase, to CONTRACTOR's Remote Hosting Services, System Maintenance and Support, and Application Management Services as provided in Exhibit D (Service Level Agreement) for such Optional Phase System.

Where necessary and as specified in the updated Conceptual Design Document for such Optional Phase, the Plan shall include additionally required actions to provide for local COUNTY hosting and related support services for such Optional Phase.

CONTRACTOR shall define the timing of conversion programs and shall provide an orientation to COUNTY's conversion support staff. CONTRACTOR shall document in the plan the cutover support required by CONTRACTOR and COUNTY during the transition from current manual or automated clinical and business processes to Production Use of the System.

CONTRACTOR shall also define in the plan a mechanism to verify the plan by conducting, with participation and support by COUNTY as provided in the updated PCD and otherwise in the Agreement, desk exercises, plan reviews, walkthroughs, checklist confirmations (peripheral device readiness, network equipment readiness, COUNTY technical staffing, provisioning and training, site visits, COUNTY circuit stressors and bandwidth confirmation, data transfer and conversion, chart imports, staff movement and redeployment, communication plans, contingency plans, emergency response, CTC operations, and intra- and inter-CTC failover), and any other plan review that can prudently be exercised in advance to minimize the risk of conversion failure.

Deliverable 7.3.1: System Cutover and Conversion Plan for each Optional Phase System

CONTRACTOR shall deliver the System Cutover and Conversion Plan for each Optional Phase System that identifies the steps required to perform the System cutover and conversion process and how the COUNTY and CONTRACTOR resources will be deployed during the cutover. CONTRACTOR shall incorporate in the Deliverable all of the results of Subtask 7.3.1.

Subtask 7.3.2: Prepare for System Cutover and Conversion of each Optional Phase System

CONTRACTOR, with COUNTY participation in accordance with the updated PCD, shall verify the System Cutover and Conversion Plan as provided in Subtask 7.3.1 (Develop System Cutover and Conversion Plan for each Optional Phase System) to ensure CONTRACTOR and COUNTY readiness for actual System cutover required for transition to Production Use of each Optional Phase System in the Production Domain.

CONTRACTOR and COUNTY shall each identify required plan corrections and all actions required to perform the plan during the conversion and cutover process. CONTRACTOR shall successfully correct the plan, inventory all necessary COUNTY and CONTRACTOR corrective action, and obtain the written approval of COUNTY's Project Director, which may be granted or withheld in his sole discretion.

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully performed all necessary corrective actions to perform the plan required by Deliverable 7.3.1 (System Cutover and Conversion Plan for each Optional Phase System) and that such Optional Phase System is ready for the System cutover and conversion.

Deliverable 7.3.2: Verified System Cutover and Conversion Plan for each Optional Phase System

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY, as well as the Optional Phase System, are ready for cutover and conversion.

Subtask 7.4: Develop and Deliver User Training for each Optional Phase System

For Optional Phase Systems for which COUNTY has elected Remote Hosting Services, CONTRACTOR shall create and provision a Training Domain for COUNTY User training consistent with the provisions of Exhibit D (Service Level Agreement).

Subtask 7.4.1: Develop Training Classes and Training Materials for each Optional Phase System

For each Optional Phase System, CONTRACTOR shall review and confirm the User Training Strategy developed as part of the updated PCD. CONTRACTOR shall develop Learning Plan and Solution Training Guides for the as-built Optional Phase System, and workflows. The Learning Plan and Solution Training Guides shall provide COUNTY trainers with a comprehensive presentation of the functionality and use of the Optional Phase System within clinical and business operations of Probation, JCHS, and JJMH. The Solution Training Guides shall provide COUNTY trainers with techniques for delivering the training to Users. The Learning Plan shall define training approach, tools, and, where applicable, facility requirements. CONTRACTOR shall additionally provide examples of end user training with respect to all or any portion of the modules included in the Optional Phase System that COUNTY trainers may re-use or modify in creating User training manuals and guides, or, alternatively, named references to clients from whom COUNTY may request such examples. CONTRACTOR shall consult with COUNTY trainers as needed throughout COUNTY's development of User training manuals and guides. CONTRACTOR shall produce and Tailor available web based training modules that are relevant to the operation and use of such Optional Phase System in the PEMRS operational environment consistent with the updated PCD and the updated Conceptual Design Document.

Deliverable 7.4.1: Documented Training Classes and Training Materials for each Optional Phase System

CONTRACTOR shall deliver training materials for each Optional Phase System that consist of the results of Subtask 7.4.1.

Subtask 7.4.2: Train the COUNTY Trainers for each Optional Phase System

CONTRACTOR shall deliver training classes and training materials to COUNTY system analysts and subject matter experts, as designated by COUNTY's Project Director, for each as-built Optional Phase System and Interfaces. CONTRACTOR shall present the training classes and materials in a minimum of one (1) training session per Optional Phase System, adequate in duration to cover all functionality and expected clinical and business process changes. CONTRACTOR shall conduct training in a manner designated by COUNTY's Project Director and documented in Deliverable 7.4.1. The training materials and classes shall give COUNTY trainers sufficient instruction in the use of each as-built Optional Phase System in the Probation, JCHS, and JJMH operating environment in order to prepare them to train Users in the use of each Optional Phase System as Tailored to meet the Specifications and support the expected clinical and business processes. CONTRACTOR shall deliver training classes and training materials consistent with Attachment E (PEMRS Training) of this Statement of Work.

Deliverable 7.4.2: Trained COUNTY Trainers for each Optional Phase System

CONTRACTOR shall deliver the training sessions and materials as described in Subtasks 7.4.1 (Develop Training Classes and Training Materials for each Optional Phase System) and 7.4.2 (Train the COUNTY Trainers for each Optional Phase System) and shall certify in writing that all such training has been successful.

Subtask 7.5: Prepare Reference Documentation for each Optional Phase System

CONTRACTOR shall prepare reference Documentation for each as-built Optional Phase System consisting of all as-built Optional Phase System Components and Interfaces. Such Documentation shall, without limitation, provide COUNTY with a comprehensive reference source of as-built System functionality and data definitions, in the form of Tailored Cerner Millennium Support Guides, design decision matrices, CCL Reports, Discern Reports, and as otherwise provided in MethodM Online. CONTRACTOR shall provide electronic links or access from each Optional Phase System and Interface to online help and shall assist COUNTY in the use of these resources.

Deliverable 7.5: Reference Documentation for each Optional Phase System

CONTRACTOR shall provide access to COUNTY to comprehensive reference Documentation of each Optional Phase System, and Interfaces as described in Subtask 7.5. CONTRACTOR shall deliver reference Documentation in the formats and using the methods defined in the Agreement and in the introductory section to this Statement of Work, according to the provisions of Subparagraph 4.6 of the body of the Agreement. CONTRACTOR shall deliver electronic links or access to online help and Documentation from the Optional Phase System as well as each Optional Phase System Application Software module and Interface.

Subtask 7.6: Conduct User Acceptance Testing of each Optional Phase System

Following successful performance of all CONTRACTOR testing of each Optional Phase System as described in this Statement of Work, CONTRACTOR shall actively support COUNTY in the conduct of User Acceptance Testing of such Optional Phase System as described in Subparagraph 9.3 (User Acceptance Tests) of the body of the Agreement, including without limitation providing all consultation and assistance requested by COUNTY.

Consistent with the provisions of Exhibit D (Service Level Agreement) CONTRACTOR shall create and provision a Certification Domain for User Acceptance Testing of such Optional Phase System.

COUNTY will perform User Acceptance Testing of each Optional Phase System as described in Subparagraph 9.3 (User Acceptance Tests) of the body of the Agreement based upon Integration Test scripts approved by COUNTY as part of Deliverable 7.2.1 as well as additional test scripts prepared by COUNTY in its sole discretion. COUNTY will conduct User Acceptance Testing of each Optional Phase System as installed, built, tested, and certified by CONTRACTOR under TASK 11 for the Production Domain, whether such Optional Phase System uses the Remote Hosting Services or is hosted at COUNTY Facilities. Scripts shall generally consist of all defined input and expected output results for each function and Interface transaction based on the Specifications.

COUNTY will document test results consisting of all Deficiencies discovered during testing. COUNTY will identify, track, and report Deficiencies detected during User Acceptance Testing in Discrepancy Reports.

CONTRACTOR shall correct all Deficiencies in each Optional Phase System identified by COUNTY and as otherwise set forth in Subparagraph 9.4 (Failed Testing) of the body of the Agreement. In addition to taking required corrective action, CONTRACTOR shall provide required support to COUNTY acceptance testers in the operation of each Optional Phase System. Following corrective action by CONTRACTOR, COUNTY will continue testing the System in the Certification Domain in the same state until each Optional Phase System has been successfully User Acceptance Tested and is ready for transition to Production Use as determined in accordance with Subparagraph 2.4 (Approval of Work) and Subparagraph 9.4 (Failed Testing) of the body of the Agreement.

Deliverable 7.6: Successfully Conducted User Acceptance Testing of each Optional Phase System

COUNTY will conduct, with active support from CONTRACTOR, User Acceptance Tests of each Optional Phase System. CONTRACTOR's support to COUNTY in the conduct of User Acceptance Testing shall include, without limitation, providing test scripts used in Integration Testing, successfully performing all corrective action to resolve Deficiencies in such Optional Phase System identified by COUNTY in Discrepancy Reports prepared during testing, and assisting COUNTY acceptance testers in the operation of such Optional Phase System, Interfaces, and clinical and business processes.

Subtask 7.7: Implement each Optional Phase System for Production Use at all COUNTY Facilities

CONTRACTOR shall implement each Optional Phase System for Production Use at all COUNTY Facilities. CONTRACTOR shall make each Optional Phase System fully operational and in Production Use at all COUNTY Facilities. CONTRACTOR shall provide as-needed support for COUNTY conversion to Production Use at all COUNTY Facilities, including without limitation CONTRACTOR staff resources assigned to cutover support at each COUNTY Facility for the two-week cutover period as specified in the updated PCD, and adequate support staffing at the CTC for each Optional Phase System using the Remote Hosting Services or at COUNTY Facilities for each Optional Phase System hosted at COUNTY Facilities.

Deliverable 7.7: Production Use of each Optional Phase System at all COUNTY Facilities

CONTRACTOR shall deliver the fully operational Optional Phase System in Production Use at all COUNTY Facilities.

Subtask 7.8: Conduct Post-Implementation Review for each Optional Phase System

Following implementation of Production Use of each Optional Phase System at all COUNTY Facilities, CONTRACTOR shall collect and evaluate operational results to assess the success and shortcomings of the System implementation efforts. CONTRACTOR shall submit the Post-Implementation Review Report to the COUNTY Project Director to give COUNTY feedback on the implementation process of such Optional Phase System. This report shall evaluate the Optional Phase System cutover, conversion, and implementation process and shall provide feedback on the following: (a) User and organizational satisfaction; (b) identification of necessary process workflow enhancement concerns/potential; (c) CONTRACTOR recommended workflow practice effectiveness and adoption; (d) System performance concerns; and (e) short and long term planning goals.

Deliverable 7.8: Post-Implementation Review Report for each Optional Phase System

CONTRACTOR shall deliver a Post-Implementation Review Report that contains the results of the work performed in Subtask 7.8 (Conduct Post-Implementation Review for each Optional Phase System).

Subtask 7.9: Maintain Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities

Each Optional Phase System, together with all other then-implemented Optional Phase Systems and the Phase 1 System, shall be maintained in Production Use at all COUNTY Facilities with no material Deficiencies, as set forth in Subparagraph 9.1 (General) of the body of the Agreement, for thirty (30) consecutive days subsequent to COUNTY's written approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities) and as specified in Exhibit D (Service Level Agreement).

Deliverable 7.9: Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities

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For each Optional Phase System, such Optional Phase System together with all other then-implemented Optional Phase Systems and the Phase 1 System, shall operate in Production Use at all COUNTY Facilities with no material Deficiencies, as set forth in Subparagraph 9.1 (General) of the body of the Agreement, for thirty (30) consecutive days subsequent to COUNTY's written approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities).

TASK 8: DESIGN AND IMPLEMENTATION OF THE 724ACCESS SYSTEM

This Task encompasses the activities associated with the preparation, configuration, and implementation of the 724Access capability for PEMRS, supplied by CONTRACTOR and linked to the hosting operations at the CTC.

CONTRACTOR shall plan and deliver the 724Access system. CONTRACTOR and COUNTY shall collaborate on design and implementation of the 724Access function for the Phase 1 System and each Optional Phase System.

724Access is an Optional Phase System and requires an Amendment under Subparagraph 6.3 of the body of the Agreement prior to implementation thereof.

Subtask 8.1: Document COUNTY's Technical Configuration for Use of 724Access Application Software Module

CONTRACTOR shall prepare a configuration and installation Specification that identifies the technical configuration required for COUNTY use of the 724Access for the Phase 1 System and if necessary, shall update such Specifications for each Optional Phase System. This Subtask includes, without limitation, the following activities:

1. Document the 724Access hardware and software for COUNTY execution(s) if not already provided as part of Exhibit G (PEMRS Assessment) and its attachments or Conceptual Design Document (Deliverable 3.3 of this SOW).
2. Document pre-installation planning for COUNTY use of 724Access at all COUNTY Facilities.
3. Document recommended COUNTY site preparation and equipment requirements.
4. Document connectivity requirements for integration of 724Access into the COUNTY's network as applicable.
5. Conduct a technical walk-through of COUNTY Facilities selected by the COUNTY's Project Director at his sole discretion, and provide written certification that COUNTY is prepared to Use the 724Access Application Software module in accordance with Specification at all COUNTY facilities.

COUNTY will collaborate with CONTRACTOR on this Subtask and will provide all necessary information, requested by CONTRACTOR, to support development of the CONTRACTOR's Specification for 724Access.

COUNTY will provide the Specified Hardware and Operating Software (as provided for in this Subtask 8.1) for the COUNTY's Use of the 724Access Application Software.

Deliverable 8.1: Documented Technical Configuration and Plan for the COUNTY Use of the 724Access Application Software Module

CONTRACTOR shall document the CONTRACTOR's and COUNTY's technical environment required for 724Access as applicable for the then-current System at all COUNTY Facilities.

Subtask 8.2: Install, Test and Certify CONTRACTOR-owned Hardware and Software for the 724Access Application Software modules

Unless already provided for in TASK 4 or TASK 11 of this SOW, CONTRACTOR shall acquire, install, test and re-test, in accordance with Subparagraph 9.2 (CONTRACTOR Tests) of the body of the Agreement, all hardware and software required for the 724Access Application Software module to operate. CONTRACTOR shall certify to COUNTY that the 724Access Application Software module is installed and operating in accordance with the Specifications documented as set forth in Deliverable 8.1.

CONTRACTOR shall certify that the hardware and software for the 724Access environment has been configured and tested in accordance with Specifications. This Report shall consist of the following:

1. A listing of the CONTRACTOR owned hardware and software for the 724Access Application Software module that has been installed including, without limitation, equipment type, model number, serial number, location, name, version number, and license number.
2. Certification that all COUNTY owned Specified Hardware and Operating Software for 724Access is operating properly in accordance with the Specifications.
3. Problem reporting and escalation procedures.

Deliverable 8.2 Certification of Hardware and Software for the 724Access Application Software Module

CONTRACTOR shall certify in writing that the 724Access COUNTY owned Specified Hardware and Operating Software and CONTRACTOR owned hardware and software is operating in accordance with the Specifications.

Subtask 8.3: Training in 724Access Application Software Module

CONTRACTOR shall conduct training for COUNTY technical staff in the configuration of the 724Access Application Software module and in any necessary local support activities.

Deliverable 8.3 Trained COUNTY Technical Staff

CONTRACTOR shall deliver training classes and training materials and certify in writing that all training as described in Subtask 8.3 has been successful.

Subtask 8.4: Preparation of System for 724Access Implementation

CONTRACTOR shall prepare the then-current System for 724Access implementation during Downtime periods when COUNTY has specified its required use.

1. CONTRACTOR shall create 724Access initiation scripts.
2. COUNTY will provide rack space as needed for CONTRACTOR owned equipment

3. COUNTY and CONTRACTOR will conduct functional testing to ensure that the 724Access Application Software module functions as specified.

Deliverable 8.4: System Prepared for 724Access Implementation

Successful performance of Subtask 8.4 by CONTRACTOR, including, as applicable, performance of any required testing and delivery and installation of 724Access initiation scripts.

Subtask 8.5: 724Access Testing and Validation

CONTRACTOR shall develop test plans and scripts for the as-built 724Access System. With CONTRACTOR's expert review, guidance and assistance, COUNTY will review, suggest any necessary revisions and validate the test plans and scripts, in each case, as they relate to COUNTY-specific Tailoring. CONTRACTOR, with COUNTY's reasonable assistance as requested, shall modify the test scripts as required and shall thoroughly test the 724Access System to ensure that the 724access Application Software module and all Components function as designed. The test shall ensure that 724Access is initiated and available as specified for both planned and unplanned Downtime consistent with PEMRS workflows and in accordance with the Conceptual Design. Following CONTRACTOR testing, COUNTY will execute the test scripts in accordance with the MethodM processes, with CONTRACTOR's expert review, assistance, and guidance. The results of all testing shall be documented in accordance with the MethodM processes.

CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully tested the 724Access System.

Deliverable 8.5: Successful Test and Validation of the 724Access Environment

The results of all testing shall be documented in accordance with the MethodM processes. CONTRACTOR shall certify, in writing, that CONTRACTOR and COUNTY have successfully tested the 724Access System.

Subtask 8.6: 724Access Production Setup

CONTRACTOR shall perform all work necessary to move 724Access capability to Production Use.

Deliverable 8.6: Operational 724Access for the Production Domain

CONTRACTOR shall document the readiness of the Production Domain for 724Access in both Scheduled and Unscheduled Downtime events (as defined in Exhibit D).

TASK 9: INTERFACE CONSTRUCTION AND TESTING

During this TASK 9, CONTRACTOR shall develop, build, test and implement the Interfaces designed in Subtasks 5.1 and 5.2. During the conduct of TASK 9, COUNTY will participate and support CONTRACTOR's work as provided in the introductory paragraph to TASK 5 above.

Subtask 9.1: Install and Test Medical Devices Interfaces (MDIs)

As part of the Phase 1 System and each Optional Phase System construction, CONTRACTOR shall load and configure the software, system reference tables, and physical adaptors (if any) for all MDIs designed in the approved Deliverable 5.1 (Medical Devices Interfaces (MDIs) Specifications). As part of this Subtask, CONTRACTOR shall test the MDIs. COUNTY will validate that the Interface delivers the expected functionality. CONTRACTOR shall certify, in writing, that CONTRACTOR has fully installed and successfully tested all MDIs and that all MDIs function in a manner consistent with the design Specifications documented in Medical Devices Interfaces (MDIs) Specifications (Deliverable 5.1)

Deliverable 9.1: Installed and Tested Medical Devices Interfaces (MDIs)

CONTRACTOR shall deliver installed and tested all Phase 1 System MDIs and each Optional Phase System MDI. CONTRACTOR shall certify, in writing, that CONTRACTOR has fully installed and successfully tested all MDIs and that all MDIs function in accordance with the Specifications and the Agreement.

Subtask 9.2: Build and Test External Systems Interfaces

For the Phase 1 System and each Optional Phase System, CONTRACTOR shall build, test and demonstrate to COUNTY the external systems Interfaces based upon the external systems Interface Specifications documented in External Systems Interfaces Specifications (Deliverable 5.2).

Subtask 9.2.1: Build and Test PEMRS Side of External Systems Interfaces

CONTRACTOR shall build, validate and demonstrate to COUNTY the PEMRS side of external systems Interfaces using the Open Engine software provided by CONTRACTOR in accordance with the approved Deliverable 5.2 (External Systems Interfaces Specifications).

Deliverable 9.2.1: Built and Tested PEMRS Side of External Systems Interfaces

For the Phase 1 System and each Optional Phase System, CONTRACTOR shall deliver the built and tested PEMRS side of external systems Interfaces as specified in the Task 5 Interface Design (Deliverables 5.2) together with relevant as-built Documentation of such Interfaces. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully tested the PEMRS side of all external systems Interfaces and that all external systems Interfaces function in a manner consistent with the design Specifications documented in External Systems Interfaces Specifications (Deliverable 5.2).

Subtask 9.2.2: Collaborate with COUNTY to Build and Test External Systems Side of External Systems Interfaces

CONTRACTOR shall collaborate with COUNTY and other COUNTY vendors as required to build and test the external system side of each external system Interface according to the Specifications approved in Deliverable 5.2 (External Systems Interfaces Specifications) using interface engine software provided by COUNTY. CONTRACTOR shall test the external system side of each external system Interface and shall describe in writing COUNTY the changes that are needed for the Interface to meet the Specifications and the Agreement. COUNTY will continue, or will cause the other applicable

COUNTY vendors to continue, to modify the Interface structures and code until the CONTRACTOR's tests are successful.

Deliverable 9.2.2: Built and Tested External Side of External Systems Interfaces

For the Phase 1 System and each Optional Phase System, CONTRACTOR shall certify, in writing, that the external side of each external system Interface has been tested and that they function as designed and documented in External Systems Interfaces Specifications (Deliverable 5.2).

Subtask 9.2.3: Build and Test External System Interfaces

In this Subtask, CONTRACTOR shall install and test both sides of the external system Interfaces as built for the Phase 1 System and each Optional Phase System. CONTRACTOR shall accomplish final testing and installation in conjunction with the Application Software modules in the Phase 1 System and in each Optional Phase System. CONTRACTOR shall test backup procedures and CONTRACTOR shall finalize Documentation of each external system Interface. CONTRACTOR shall certify, in writing, that CONTRACTOR has successfully built and successfully tested each external system Interface as built in collaboration with COUNTY and/or applicable other vendors and that each external system Interface functions in a manner consistent with the Specifications documented in External Systems Interfaces Specifications (Deliverable 5.2) and the Agreement.

Deliverable 9.2.3: Built and Tested External Systems Interfaces

For the Phase 1 System and each Optional Phase System, CONTRACTOR shall certify, in writing, that each external system Interface has been tested and its functionality validated by COUNTY, and that each external system Interface functions in a manner consistent with the design Specifications documented in External Systems Interfaces Specifications (Deliverable 5.2), and the Agreement. CONTRACTOR shall deliver as-built Documentation of each external system Interface for which Specification were documented in Deliverable 5.2 (External Systems Interfaces Specifications)

TASK 10: SYSTEM OPERATIONS PLAN

Subtask 10.1: Prepare System Operations Plan

CONTRACTOR shall develop a written PEMRS System Operations Plan for the System consisting of provision of the Remote Hosting Services, as well as procedures for scheduling for Scheduled Downtime (as defined in Exhibit D) and requesting the COUNTY's Project Director approval therefor. CONTRACTOR shall develop this plan consistent with Attachment A of this Statement of Work and Exhibit D (Service Level Agreement) of the Agreement. This planning shall define, without limitation, the following:

1. Users' service expectations.
2. System support plan.
3. System Availability plan, including Scheduled Downtime Plan.
4. Revision management plan.
5. Change control plan.
6. System backup/restore plan.

7. System security plan.
8. System performance monitoring plan.
9. Recommend COUNTY's organizational and employee development plan with respect to PEMRS operation.

Deliverable 10.1: System Operations Plan

This Documentation defines the System operations plan and approach to support Production Use of the System by CONTRACTOR and COUNTY resulting from Subtask 10.1.

Subtask 10.2: Prepare Business Continuity Plan

CONTRACTOR shall develop a written PEMRS Business Continuity Plan for the System consisting of provision of the Remote Hosting Services. This plan shall define, without limitation, the following:

1. Facility Management (Operation and management of CONTRACTOR's high availability Tier 4 physical facilities in Kansas City, MO).
2. Network Management (Operation and management of CONTRACTOR's Local Area and Wide Area Networks (LAN/WAN)) up to and including the single point of demarcation at COUNTY Facilities.
3. System Management (Operation and management of the data processing systems and equipment required for System operation).
4. Database Management (Administration of the data base management system).
5. Interface Management (Monitoring and managing medical device and external systems Interfaces).
6. The Support Personnel (Roles and Responsibilities).
7. System Maintenance, Monitoring, Backup and Restore Procedures.
8. Guidelines and procedures for Awareness, Communication, Training, Exercising, and Auditing.

Deliverable 10.2: Business Continuity Plan

The Business Continuity Plan shall document the results of the work performed in Subtask 10.2.

Subtask 10.3: Prepare Application Management Services (AMS) Operational Plan

CONTRACTOR shall develop a written PEMRS Application Management Services Operational Plan. This plan shall define, without limitation, the following:

1. Service Package Management
2. Configuration/Setup Description
3. Monitoring Tasks
4. Maintenance Activities
5. Advanced Tier Support
6. Operations Management

7. Report Management
8. Content Management
9. Application Monitoring
10. Problem Management
11. User Account Management

Deliverable 10.3: Application Management Services Operational Plan

The Application Management Services Operational Plan shall document the results of the work performed in Subtask 10.3.

Subtask 10.4: Set up and Configure Application Management Services (AMS)

CONTRACTOR shall set up and implement all systems, tools, devices and procedures required to deliver Application Management Services (AMS) in accordance with the provisions of Section IV of Exhibit D (Service Level Agreement) of this Agreement. In connection with this Subtask, CONTRACTOR shall perform the following tasks and any other tasks established as necessary collaboratively by the COUNTY's Project Director and the CONTRACTOR's Project Director.

1. Develop and implement the initial processes and setup the tools required for AMS including but not limited to the tools and processes identified in Exhibit D (Service Level Agreement).
2. Document standard operating procedure and service request backlog management processes.
3. Setup and install tools in CTCs needed to support CONTRACTOR's monitoring and maintenance of the System.
4. Produce and deliver a playbook that describes and documents, without limitation:
    a. The operations monitoring tasks that CONTRACTOR shall perform
    b. Processes for notification and tracking of issues
    c. Corrective and preventive activities required to maintain and continue to maintain the System in operation in accordance with the Specifications and this Agreement.
5. Review and modify as needed the maintenance and monitoring tools installed and delivered in accordance with TASK 1 of this Statement of Work, including, but not limited to Bedrock, Lights on, and Olympus.
6. Assign and deploy staffing necessary to carry out CONTRACTOR's obligations in connection with Application Management Services as specified in the applicable provisions of Exhibit D (Service Level Agreement) of the Agreement and otherwise in accordance with the Agreement.

Deliverable 10.4: Set up and Configured Application Management Services

CONTRACTOR shall certify to COUNTY in writing that the specified Application Management Services have been initialized and implemented.

Subtask 10.5: Set up and Configure P2Sentinel Security Services

CONTRACTOR shall configure and setup the initial infrastructure required for the P2Sentinel Security Services including all activities necessary to ensure that the P2Sentinel Security Services will be ready and operate in accordance with the Specifications and otherwise the Agreement as of the initiation of work on Subtask 6.7 (Implement the Phase 1 System for Production Use at all COUNTY Facilities).

Deliverable 10.5: Set up and Configured P2Sentinel Security Services

CONTRACTOR shall certify to COUNTY in writing that the specified P2Sentinel Security Services have been initialized and implemented.

TASK 11: TEST AND CERTIFICATION OF PRODUCTION DOMAIN

This Task consists of the planning, Documentation, test, and certification of the Production Domain to be installed and operated by CONTRACTOR for the Phase 1 System and each Optional Phase System as needed in order for the System to operate in accordance with the Specifications and the Agreement.

CONTRACTOR shall procure, install, configure, and maintain the Production Domain necessary for the operation of the then-current System and Interfaces in accordance with the Specifications and the Agreement. CONTRACTOR shall test and certify in writing that the installation is correct and sufficient for operation of PEMRS.

Subtask 11.1: Configure the Production Domain

CONTRACTOR shall install and configure the PEMRS Production Domain not previously installed as part of TASK 4 (Installation, Configuration, Test and Certification of the PEMRS Build Domain). The activities to be performed by CONTRACTOR as parts of this Subtask include, without limitation, the following:

1. Develop network connectivity requirements for connection to and integration into the COUNTY's data network and other network components.
2. Perform pre-installation planning for PEMRS at CTC and as needed at all COUNTY Facilities.
3. Plan all required COUNTY operational procedures.
4. Plan and implement transition from the Non-Production Domains to the Production Domain.
5. Install the following tools in the Production Domain for system management and monitoring: 724 Reorg, DB Toolkit, High Availability Scripts and Cerner Knowledge Module.

Deliverable 11.1: Technical Configuration of the Production Domain

CONTRACTOR shall deliver the plan for installation, configuration, and testing of the Production Domain, and for transitioning to Production Use.

Subtask 11.2: Test and Certify Production Domain

CONTRACTOR shall test and certify the Production Domain in accordance with Subparagraph 9.2 (CONTRACTOR Tests) of the body of the Agreement.

Deliverable 11.2: CONTRACTOR Tested and Certified Production Domain

CONTRACTOR shall prepare a Production Domain Installation Report and Certification including, without limitation, the following:

1. Certification that CONTRACTOR has successfully installed and configured the Production Domain and that the Production Domain is operating properly.
2. Certification that the network connectivity with COUNTY facilities and equipment is operating properly for Production Use of the System.
3. Problem reporting and escalation procedures.

CONTRACTOR shall prepare and deliver to COUNTY the Production Domain Installation Report and Certificate.

TASK 12: [RESERVED]

TASK 13: OPERATIONAL READINESS TESTING

Subtask 13.1: Develop Operational Readiness Test Plan

CONTRACTOR shall prepare an Operational Readiness Test Plan for the Remote Hosting Services and the Application Management Services, for all Domains for the Phase 1 System and each Optional Phase System. The Operational Readiness Test Plan shall include, without limitation, documentation of objectives, approach, and schedule. The Operational Readiness Tests shall include, without limitation, tests of the operations support strategy, Domain strategy, Availability strategy, fail over procedures, revision management strategy, change control strategy, security strategy, performance monitoring strategy, organizational and staffing strategy, backup/restore strategy, Specified Hardware and Operating Software, and COUNTY readiness for the Phase 1 System or, as the case may be, each Optional Phase System.

Deliverable 13.1: Operational Readiness Test Plan

CONTRACTOR shall document and deliver the Operational Readiness Test Plan.

Subtask 13.2: Conduct Operational Readiness Tests

CONTRACTOR shall conduct the Operational Readiness Tests prior to User Acceptance Testing for the Phase 1 System and each Optional Phase System. CONTRACTOR shall document and analyze results of the tests. CONTRACTOR shall conduct re-testing to confirm that CONTRACTOR has successfully modified the System and the Production Domain as needed to correct all Operational Readiness Test failures. CONTRACTOR shall certify, in writing, that all Operational Readiness Tests have been successfully performed, that CONTRACTOR has successfully performed all required corrective action, that CONTRACTOR has successfully modified the System and Production Domain, and that the System is ready for Production Use.

CONTRACTOR shall document and analyze results of CONTRACTOR execution of the Operational Test Plan for the Phase 1 System and each Optional Phase System. Based upon these results, CONTRACTOR shall conduct re-testing to confirm that

CONTRACTOR has successfully modified the System and the System operations environment as related to all Operational Readiness Test failures.

Deliverable 13.2: Documentation of Operational Readiness Tests Results and Certification for the Phase 1 System and for each Optional Phase System

CONTRACTOR shall certify, in writing, that all Operational Readiness Tests have been successfully performed, that CONTRACTOR has successfully performed all corrective action, that CONTRACTOR has successfully modified the System and System operations environment, and that the System is ready for Production Use.

TASK 14: CHANGE MANAGEMENT PLAN

Subtask 14.1: Develop Change Management Plan

CONTRACTOR and COUNTY will prepare and implement a change management plan for continuous improvement of the Phase 1 System and each Optional Phase System. The change management plan shall include, without limitation, the following and may be augmented or further refined as specified in Section V of Exhibit D (Service Level Agreement) of this Agreement as agreed in writing by the COUNTY's Project Director and the CONTRACTOR's Project Director.

1. Change management objectives.
2. Change recommendations based on gap analysis.
3. Stakeholder participation strategies in proposing and prioritizing changes.
4. Success factors and measures of success.
5. Risk factors and risk mitigation actions.
6. Communication plan and communication channels.

Deliverable 14.1: Change Management Plan

CONTRACTOR shall document the change management plan.

TASK 15: CUSTOM PROGRAMMING MODIFICATIONS AND ADDITIONAL INTERFACES

CONTRACTOR shall provide Custom Programming Modifications and Additional Interfaces with respect to which a Change Notice or an Amendment has been entered into under Paragraph 6 (Change Notices and Amendments) of the body of the Agreement and in accordance with the procedures set forth in Subparagraph 7.5 (Other Professional Services) of the body of the Agreement. The Change Notice or Amendment shall include the Tasks and Deliverables with respect to the specific Custom Programming Modification or Additional Interface, which at a minimum shall include the applicable of the following:

Subtask 15.1: Prepare System Design Reports for Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall analyze COUNTY requirements in detail and shall prepare a System Design Report (SDR) for each Custom Programming Modification and Additional Interface. If no project schedule is provided in the applicable Change Notice or Amendment, then within ten (10) working days of receipt of the approved SDR from

COUNTY, CONTRACTOR shall provide a delivery date for the SDR, and such delivery date shall occur no later than sixty (60) days following CONTRACTOR's receipt of COUNTY's approved SDR, unless otherwise agreed to in writing by CONTRACTOR's Project Director and COUNTY's Project Director. The SDR shall take into account all then implemented Application Software modules, Third Party Software modules, Optional Phase Systems, Interfaces and previously approved SDRs. Each SDR shall include, without limitation, the following and any other items mutually agreed upon by COUNTY's Project Director and CONTRACTOR's Project Director:

A. Design Specifications, which must address and be consistent with COUNTY approved requirements for the Custom Programming Modification or Additional Interface;

B. Database impact;

C. User interface impact and impact on clinical and business processes;

D. Report impact;

E. Documentation impact;

F. Training impact;

G. Network impact;

H. Special considerations, such as impact on current and future processing Response Time and Availability (as defined under Exhibit D);

I. Estimated time for completion (subject to change depending on COUNTY's response date and CONTRACTOR's workload);

J. Estimated time to complete any Interfaces; and

K. Estimated time for any automated conversion programs to complete.

Review and approval of each SDR shall be in accordance with Subparagraph 2.4 of the body of the Agreement. If no project schedule is specified in the Change Notice or Amendment, Within ten (10) working days of COUNTY's written approval of the SDR, COUNTY's Project Director shall notify CONTRACTOR whether to begin development and implementation of the Custom Programming Modification or Additional Interface, unless such period is extended as agreed in writing by CONTRACTOR's Project Director and COUNTY's Project Director.

Any changes or revisions to COUNTY-approved SDRs shall be mutually agreed to in writing by CONTRACTOR's Project Director and COUNTY's Project Director. The approved SDR, as well as any agreed changes and revisions, shall be the basis for CONTRACTOR's development of the Custom Programming Modification or Additional Interface.

Deliverable 15.1: System Design Reports for Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall document the System design for each Custom Programming Modification or Additional Interfaces in a System Design Report.

Subtask 15.2: Build and Test Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall build and test each Custom Programming Modification and Additional Interface in accordance with the applicable COUNTY-approved System Design Report and the applicable Change Notice or Amendment. Testing shall include, without limitation, Unit, System, and Integration Testing in a manner comparable to the test procedures for the Application Software modules as described in TASKS 6 and 7 of this Statement of Work and in Subparagraph 9.2 of the Agreement. CONTRACTOR shall certify in writing that CONTRACTOR has successfully built each Custom Programming Modification and Additional Interface completely and accurately based upon the COUNTY approved SDR, has successfully tested the Custom Programming Modification and Additional Interfaces, has successfully corrected all identified Deficiencies and that the Custom Programming Modification or Additional Interface, as the case may be, functions as designed, and that the Custom Programming Modification or Additional Interface, as the case may be, is ready for User Acceptance Testing. COUNTY, in its sole discretion, may conduct User Acceptance Testing for each Custom Programming Modification and Additional Interface prior to Production Use.

Deliverable 15.2: Built and Tested Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall certify in writing that CONTRACTOR has successfully built each Custom Programming Modification and Additional Interface based upon the COUNTY approved SDR, has successfully tested such Custom Programming Modification and Additional Interface, has successfully corrected all identified Deficiencies, that the Custom Programming Modification or Additional Interface as the case may be functions as designed, and that such Custom Programming Modification or Additional Interface, as the case may be, is ready for User Acceptance Testing. COUNTY, in its sole discretion, may conduct User Acceptance Testing for each Custom Programming Modification and Additional Interface prior to Production Use.

Subtask 15.3: Install and Document Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall install each Custom Programming Modification and Additional Interface for Production Use. CONTRACTOR shall provide updates to the Documentation applicable to each Custom Programming Modification or Additional Interface and shall also provide written instructions and demonstration on the use of each Custom Programming Modification and Additional Interface. For each Custom Programming Modification and Additional Interface that CONTRACTOR determines and COUNTY agrees impacts training, CONTRACTOR shall provide a training plan for written approval by COUNTY's Project Director in his sole discretion, updated inserts for the System training materials, and hands-on training classes for designated COUNTY staff.

Deliverable 15.3: Production Use of Custom Programming Modifications and Additional Interfaces

CONTRACTOR shall install each Custom Programming Modification and Additional Interfaces for Production Use. CONTRACTOR shall Deliver: (1) all object code and related Licenses and Documentation for the Custom Programming Modification, Additional Interface and any other impacted Application Software, (2) all Documentation and procedures necessary to train Users and maintain the System, including, but not limited

to, all Interfaces to any interfacing systems, and (3) all data files and their record layouts for all Interfaces to any interfacing systems.

ATTACHMENT A

PEMRS FUNCTIONAL, TECHNICAL, AND OPERATIONAL REQUIREMENTS

TABLE OF CONTENTS

ATTACHMENT A

PEMRS FUNCTIONAL, TECHNICAL, AND OPERATIONAL REQUIREMENTS

I.   APPLICATION SOFTWARE OPERATIONAL AND FUNCTIONAL REQUIREMENTS

Capitalized terms used in this Attachment A without definition have the meanings given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

ITEM	Function or Feature	Phase[1]	Comment
	CARE DOCUMENTATION[2]		
1.	PEMRS shall support the entry of future progressive diets. Only one diet shall be active at a time.	Phase 1 System	
2.	PEMRS shall allow Users to generate a current or future diet roster, showing diets by Facility or group.	Phase 1 System	

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[1] Throughout, the identification of a requirement with a Phase shall not be interpreted as limiting in any respect. Each requirement is expected to entail the design, build, and integration of one or several Application Software modules that constitute the applicable Phase during TASK 6 and/or TASK 7 of the Statement of Work. CONTRACTOR shall supply precise integration of all the Application Software modules to support each and every requirement. "Phase 1 System" includes each and every Phase 1 Application Software module and may also include certain Optional Phase Systems pending the results of Subtask3.3 of the Statement of Work as documented in Deliverable 3.3 (Conceptual Design).

2 Headings are used in this Attachment A of Exhibit A (Statement of Work) for convenience only and shall not be interpreted to have any other significance whatsoever.

ITEM	Function or Feature	Phase[1]	Comment
3.	PEMRS shall support discharge planning. If a planned release date is known and entered on the Probation Case Management System (PCMS), that information shall be available in PEMRS on demand. PEMRS will enable authorized[3] Users to provide for follow-up and referrals to community based programs before the patient is released.	Phase 1 System	
4a.	PEMRS shall enable authorized Users to import, create, review, or amend, without limitation; • Single or multi-disciplinary long/short term goals and objectives that will be accompanied by the care plan. • Proposed sets of single or multi-disciplinary care plan options that are based upon provider defined outcomes. • The provider's[4] explanation and the patient(s) representative's understanding of the recommended and/or alternative care plan options.	Phase 1 System or Optional Phase System per Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work)	

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[3] Throughout, the term "authorized" shall not be interpreted as limiting, or as indicating a security or privacy requirement. When it is used, it indicates the context of the discussion when the requirement was generated, for example that not every User would be able to customize tables or reports. During TASK 6 and TASK 7 of the Statement of Work CONTRACTOR shall supply precise resolutions of these and related terms.

[4] Throughout, terms such as "provider", "nurse", "doctor", or other role shall not be interpreted as limiting. These terms indicate the role of the COUNTY stakeholders who stated a primary interest in the requirement or function rather than a limit on which Users shall utilize it. Precise determination of roles to function shall occur during TASK 6 and TASK 7, where the design and integration of the Application Software modules functionality for each Phase takes place.

ITEM	Function or Feature	Phase[1]	Comment
4b.	PEMRS shall enable authorized Users to import, create, review, or amend, without limitation; • The medical orders, which authorize the execution of the selected, care plan. • The collection of specimens (body fluids, tissue, etc.) From the patient to be used for diagnostic or treatment purpose. The actions taken to safeguard the patient to avert the occurrence of morbidity, trauma, infection, or condition deterioration.	Phase 1 System	
	CLINICAL DATA REPOSITORY		
5.	PEMRS shall utilize health data from all sections of the chart to provide decision support to providers	Phase 1 System	
6.	The primary patient identifier shall be the Universal Probation Number (UPN). (UPN is an LA County PCMS Identifier)	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
7.	PEMRS shall support additional patient identifiers as needed to support foreign system interfaces and alternative identifier patient searches or lookup. These include at least • the Probation Department Juvenile Identifier (PDJ) number, • Identifiers used by the Probation Case Management System (PCMS), • the booking number generated by the Automated Jail Information System (AJIS), • the California Identification Number (CIN) provided by the Live-Scan fingerprint system, • the Court Case Number • the Department of Mental Health Medical Record Number (MHMIS ID), and • the Department of Health Services Medical Record Number.	Phase 1 System	
8.	PEMRS shall use the UPN for all subsequent admissions or registrations for the same minor. The UPN shall be common across all Facilities/entities. The UPN shall serve as an invariant and unduplicated person identifier that is independent of time and place.	Phase 1 System	
9.	PEMRS shall provide for on-line inquiry, input and modification of all patient information.	Phase 1 System	
10.	The UPN shall function as a candidate key in the Clinical Data Repository so that multiple patients cannot have the same UPN in the electronic medical record system. PEMRS shall provide tools to enable Users to verify that no patient has more than one medical record number. The UPN alias column shall not permit NULL.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
11.	In case duplicate records exist, PEMRS shall merge previous medical record(s) to the current medical record.	Phase 1 System	
12.	PEMRS shall support any number of independent guardian relationship with the minor served, including but not limited to probation officer, parent, guardian, social worker, and/or responsible relative.	Phase 1 System	
13.	When Probation updates guardian information on PCMS, PEMRS shall receive the updated information real-time.	Phase 1 System	
14.	PEMRS shall provide the capability to print standard reports on demand for a Facility or group of Facilities for any time period (daily, weekly, monthly, yearly). Required classifications include but are not limited to • date range • new patient listing • potential duplicate medical numbers • audit trail • transaction logs	Phase 1 System	
15.	If a juvenile is transferred, discharged or re-admitted, the past assessment shall be available on demand if stored in PEMRS. Authorized Users can update the existing record, rather than repeat the entire assessment. The update process shall preserve history. Assessment updates shall not destroy prior assessment data. The original assessment shall be maintained as part of the record.	Phase 1 System	
16.	PEMRS shall support real time capture of patient history and physical exam data.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
17.	PEMRS shall capture and store physical and behavioral risk factors including without limitation • smoking, • alcohol or drug use by type and category, • gang affiliation, • lead exposure from gunshot wound and retained bullets, • sexual activity • protective efforts, • family at risk behaviors, • exposure to violence or abuse.	Phase 1 System	
18.	PEMRS shall support social history elements including • marital status, • occupation, • religious preference, • native language, • socioeconomic status, • translator or interpreter requirements.	Phase 1 System	
19.	PEMRS shall enable Users to enter hospitalization data including hospital name, admission and discharge dates, chief complaint, admitting diagnosis / discharge diagnosis, other diagnosis, procedures performed, discharge summary, discharge disposition, follow-up.	Phase 1 System	
20.	PEMRS shall enable Users to enter emergency JCHS and JJMH data such as paramedic treatment and transportation information.	Phase 1 System	
21.	PEMRS shall enable authorized Users to assign special observation status to a patient in the medical record such as medically fragile or higher level supervision status.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
22.	PEMRS shall enable authorized Users to enter or validate each minor's immunization history.	Phase 1 System	
23.	PEMRS shall support full compliance with the mental health Diagnostic and Statistical Manual DSM-IV for diagnosis, including five-axis entry and retrieval.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
24.	PEMRS shall support the retrieval and updates of existing mental health assessment data on demand by the providers performing the mental health assessment.	Phase 1 System	
25.	HL-7 Admission Discharge Transfer (ADT) transaction shall include and accept the following data elements. • Patient number • Patient name • Patient type • Nursing station / location • Room • Bed • Isolation code • Comments • Doctor's name • Doctor's number • Admitting diagnosis • Diagnosis code • Deceased indicator • Facility • Gender • Race • Birth date • Patient height • Patient weight • Patient Address (optional) • Social Security Number (optional)	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
26.	PEMRS shall maintain complete histories of the movement of all patients through PEMRS of Facilities, and, when applicable, external locations for infection control and Public Health monitoring.	Phase 1 System	
27.	Reporting capabilities shall include an admission/discharge report, Deputy Probation Officer (DPO) rosters, an alpha roster for any juvenile detention Facility, and current patient census data.	Phase 1 System	
28.	PEMRS shall enable authorized Users to select and manipulate clinical data to produce standard periodic or on-demand reports or displays.	Phase 1 System	
29.	PEMRS shall produce without limitation patient identification wrist bands, medication, prescription, and stock labels, specimen labels, reference filing labels, specimen collection lists, medication administration lists; load lists for automated laboratory instruments, worksheets for manual instruments, medication fill lists, due lists, assessment tools and other work lists.	Phase 1 System	
30.	PEMRS shall support documentation of case reviews. PEMRS shall enable authorized Users to enter data, update information and print reports pertaining to case reviews.	Phase 1 System	
31.	PEMRS must provide ability for an on-duty physician to be given proxy to the referring clinician's Inbox in order to view the notification that the patient has seen the referral. The on-duty physician shall be given proxy to that referring clinician's inbox in order to view the notification	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
32.	PEMRS shall provide flexible, user modifiable mechanism for search and retrieval of encounter information captured during encounter documentation that can be easily organized in a variety of views or by variety of User-defined parameters such as by last name, first name, date of birth, chronological by encounter date, diagnosis, problem list, problem type, chart number, family group/linkage.	Phase 1 System	
33.	PEMRS shall provide flexible, customizable mechanisms for search and retrieval of encounter information that can be easily organized without limitation by last name, first name, date of birth, chronological by encounter date, diagnosis, problem list, problem type, chart number, family group/ linkage and the like.	Phase 1 System	
34.	PEMRS shall provide an integrated database with referral information including source of referral, location and specifics of referral provider, tracking of referrals, alerts both referring physician and on-duty physician when patient sees referral; and shall provide printing and graphic display of referral. The on-duty physician must be given proxy to the referring clinician's inbox in order to view the notification that the patient has seen the referral. Referrals must be physicians with records in PEMRS.	Phase 1 System	
35.	PEMRS shall maintain privacy and security governing online incident and complaint reporting and occurrence screening via strict electronic audit trails of information custody. PEMRS shall prompt Users for incidents descriptions. PEMRS shall message designated managers and supervisors for review of incidents and forward them to the designated Quality Assurance staff.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
36.	PEMRS shall produce for the authorized User a candidate list of patient charts meeting the criteria specified by the User.	Phase 1 System	
37.	PEMRS shall enable an authorized User to enter data, update information and print reports pertaining to case reviews.	Phase 1 System	
38.	PEMRS shall provide a means for the User to identify clinical data in PEMRS and shall support manipulation of identified data to produce a standard periodic or on-demand report, display, or product.	Phase 1 System	
39.	PEMRS shall enable management to design and produce reports classified by without limitation patient identification wrist bands, embossed patient cards, medication, prescription, and stock labels, specimen labels, reference filing labels, specimen collection lists, medication administration lists, load lists for automated laboratory instruments, worksheets for manual instruments, medication fill lists, due lists, assessment tools and other work lists.	Phase 1 System	CCL hours included in fixed price for this task (for customized wrist bands)
40.	PEMRS shall provide automatic audit trails for all PEMRS transactions such as: • Look-ups of patient data • All Users accessing each record, and changes made (if any or if allowed) by the User • Each access to specific data • Unauthorized access attempts	Phase 1 System	
	CLINICAL CARE DOCUMENTATION		

ITEM	Function or Feature	Phase[1]	Comment
41.	PEMRS shall enable authorized providers to enter new telephone consults and to complete existing or unfinished telephone consult requests. Upon entry of a new telephone consult order, PEMRS shall display a list of existing telephone consults for the ordering provider. The list shall display the consults with a status of "new" or "unfinished" with the initial call date. Existing notes associated with the consult shall display at User request. Each consult shall be date/time stamped.	Phase 1 System	
42.	PEMRS shall provide the capability to forward a consult to another provider. The consult shall automatically delete the forwarded item from the original provider's list, and add it o the receiving provider's list.	Phase 1 System	
43.	PEMRS shall permit the provider to delete an entire consult before it is signed off. Once deleted, it shall not be retrievable.	Phase 1 System	
44.	PEMRS shall enable the provider to print completed telephone consults in the medical records room where a patient's record is housed. The medical record copy shall default to the device associated with the location defined in the medical record as the patient's record room	Phase 1 System	
45.	PEMRS shall provide a listing of all active telephone consults by patient name and status for a specific provider aged by a User-specified number duration or higher.	Phase 1 System	
46.	PEMRS shall support the entry of notes by a User in response to the consult, and shall allow printing of the consult.	Phase 1 System	
47.	PEMRS shall allow Users to save the consult for later review or update.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
48.	PEMRS supports entry, retrieval, modification, and printing of data that are commonly used within clinical dietetics.	Phase 1 System	
49.	PEMRS shall provide the capability to define a printer at each Facility on which dietary orders shall print upon User request.	Phase 1 System	
50.	PEMRS shall print only special diets ordered by a physician or dietitian on the diet roster, CPOE	Phase 1 System	
51.	PEMRS shall enable authorized Users to enter dietary assessment data into PEMRS and display or print the data at request. PEMRS shall retain the data on-line for at least two years. PEMRS shall permit authorized Users to update the data and to display the updates along with the original, with The Users' names and date stamp.	Phase 1 System	
52.	PEMRS shall enable the dietician to modify and print a dietary assessment form with data from PEMRS. Dietician's recommendations shall be part of the documentation.	Phase 1 System	
53.	PEMRS shall permit Users to print reports listing special diets sorted by diet type, in accordance with clinical standards.	Phase 1 System	
54.	PEMRS shall support the management of mental health assessment data such that any data already in the System shall be available for use as part of the future mental health assessment.	Phase 1 System	
55.	An authorized User shall have the capability to view mental health assessment data for updating or modification. PEMRS shall not permit deletion or modification once assessment data is complete and submitted. All original data shall be maintained along with any changed/modified data with a date/time stamp.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
56.	PEMRS shall enable authorized Users to admit a patient to a specialized housing unit as defined in Exhibit G (PEMRS Assessment) and its attachments.	Phase 1 System	
57.	PEMRS shall enable authorized Users to document, track, and display or print identified problems, their solutions, recommendations, re-evaluation dates, and follow-up activities.	Phase 1 System	
58.	PEMRS shall enable authorized Users to display or print intake screening data as needed.	Phase 1 System	
59.	PEMRS shall prevent modification of nursing assessments after submittal. PEMRS shall permit text amendments which shall be stamped with the date/time and identity of the User.	Phase 1 System	
60.	PEMRS shall accept multiple nursing assessments on a patient over time. The User shall have the option to pre-populate the current assessment with the information from the previous assessment as defaults, thereby being required only to change those fields in the current assessment that differ from the prior assessment.	Phase 1 System	
61.	PEMRS shall enable physicians to enter assessments. PEMRS shall display the minor's name, juvenile correctional number (UPN/PDJ#), age and sex at the top of each data entry screen. Once the entry is filed the data shall not be subject to modification. After this entry has been filed, amendments and corrections to the entry shall be supported with the corrections appended to the original text, stamped with date/time, and available for viewing/printing.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
62.	PEMRS shall permit an authorized nurse to update or override information. PEMRS shall enable a User to interrupt data entry at any data element and shall prompt the User to save or delete. PEMRS shall enable Users to enter free text comments. During assessment, PEMRS shall prompt the nurse to select the reason for the assessment from a pick list. Reasons shall include but not be limited to the following: • Juvenile in custody declared he/she had a medical or mental health problem or was on medications. • Juvenile in custody reported signs of illness or injury. • JCHS staff observed signs of illness or injury. • Detainee was a man down.	Phase 1 System	
63.	PEMRS shall generate a task discrepancy on User demand to show orders which are incomplete or that need to be noted by the nurse as "incomplete".	Phase 1 System	
64.	When a nurse- User files a patient care plan or a set of nursing notes on any nursing record, PEMRS shall treat the documentation in the same manner as clinical orders; i.e., PEMRS shall not permit them to be modified or deleted.	Phase 1 System	
65.	PEMRS shall permit an authorized User to enter a corrective note into the record where an error occurred citing the error and shall add the initials of the person making the correction and the date of the correction.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
66.	PEMRS shall enable Users to manage action due lists. The system shall enable authorized nurse Users to select which results to enter individually or to select a due list during a common time period. PEMRS shall prompt the User for results (e.g., bp, t, p, r, etc.). PEMRS shall not permit the entry of result times in the future. The care provider's name, date and time and comments shall be displayed and printed at User's option and shall be retained by PEMRS.	Phase 1 System	
67.	PEMRS shall support the entry of all nursing progress notes, nursing notes and other nursing records containing relevant data documenting the execution of patient care. These data shall be displayed on User demand.	Phase 1 System	
68.	PEMRS shall provide a means for the User to access and display patient care plan data, and individual patient activity shift plan data.	Phase 1 System	
69.	PEMRS shall allow the User to indicate if medications administered to a patient were obtained from the unit's bulk-stock supply.	Phase 1 System	
70.	PEMRS shall enable authorized Users to document immunizations / skin tests by selecting one immunization/skin test using a custom rule batch process of selecting one immunization/skin test and multiple patients who received the immunization or skin test at the same time.	Phase 1 System	
71.	Authorized Users shall have the capability to amend incorrect immunizations/skin test documentation.	Phase 1 System	
72.	Authorized Users shall have the capability to update allergies via an allergy action from within the immunization module.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
73.	PEMRS shall provide the capability to incorporate laboratory and radiology results into the progress notes as part of the documentation.	Phase 1 System	
74.	PEMRS shall enable authorized Users to define progress note types and to display and print them according to types.	Phase 1 System	
75.	PEMRS shall enable authorized Users to edit and print the progress note, and to view allergies, prescriptions and results.	Phase 1 System	
76.	PEMRS shall enable authorized Users to enter free-text persistent discharge notes and archive or export them. Each note shall include the date of creation, the identity of the entering and originating User/provider. PEMRS shall prevent Users from editing these after filing except to correct errors by addition. The notes shall be linked to the inpatient episode.	Phase 1 System	
77.	PEMRS shall freeze discharge summary information. Discharge summary documents shall reflect the status of pending labs, rads and prescriptions as of the time the summary was verified.	Phase 1 System	
78.	PEMRS shall generate letters and alerts to patients and providers upon discharge of patient when care not completed, including summary of care to be released to healthcare provider and to patient.	Phase 1 System	
79.	PEMRS shall permit Users to review the diet orders for a specific patient by accessing the patient's list of active orders.	Phase 1 System	
80.	PEMRS shall enable authorized Users to generate instruction sheets for the detained juvenile or the Probation Officer or parent.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
81.	PEMRS shall maintain all original data along with any changed data with a date/time stamp. An authorized User shall have the same capabilities as noted on other assessments: data shall be accessible for updating or changing, but the data shall not be deleted once filed.	Phase 1 System	
82.	PEMRS shall enable managers to establish criteria for selective retrieval of data about mental health care, in the form of a query related to an individual patient as well as on-line reporting for a group of patients.	Phase 1 System	
83.	PEMRS shall enable authorized providers to update portions of the medical record with current vital signs including at a minimum weight, height, temperature, heart rate, respiratory rate, blood pressure, and other data.	Phase 1 System	
84.	PEMRS shall enable authorized providers to update records with many standard data points such as laboratory data, exam data, problem lists, and other patient data.	Phase 1 System	
85.	PEMRS shall allow interactive prevention status such as date addressed, result, reason for non-performance or performance, and where occurred.	Phase 1 System	
86.	PEMRS shall support the entry and display or print of juvenile growth charts.	Phase 1 System	
87.	PEMRS shall enable authorized Users to enter patient allergies of any nature (e.g., drug, food and other) and pertinent comments about the allergies.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
88.	Problem documentation shall include the type of problem, the source of the information, type of persons (patient, visitor, or staff – ages and demographics) involved in the problem, and the location of the problem, with date, exact time of the problem, and relevant details. PEMRS shall permit the User to document solutions, recommendations, re-evaluation dates, and follow-up activities.	Phase 1 System	
	ALERTS AND NOTIFICATION REPORTING		
89.	PEMRS shall provide separate reports of data pertaining to all ancillary tests or procedures and their results for a patient occurring during a clinical visit, including but not limited to radiology and laboratory.	Phase 1 System	
90.	Authorized Users may define threshold values to permit delivery of routine reports with notification of abnormal results to clinical dietetics staff based on these selected tests. This list of selected tests shall be User-defined and subject to User modification.	Phase 1 System	
91.	PEMRS shall enable Users to define, create, update, and print lists of medications that generate notifications to dieticians.	Phase 1 System	
92.	PEMRS shall place a message in the dietician's inbox when sack lunches are needed because a patient is temporarily relocated for court or other reason, and to resume normal diet upon return.	Phase 1 System	
93.	PEMRS shall generate alerts of change of status or location of patients.	Phase 1 System	
94.	PEMRS shall enable pharmacy managers to configure clinical pharmaceutical rules and alerts for integration with clinical processes.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
95.	PEMRS shall automatically generate secondary orders based on table driven criteria and prompt the User for the result of the secondary test.	Phase 1 System	
96.	PEMRS shall support lab results notification for the following results categories: • Results with *stat or ASAP* priority • Critical Results • Positive Culture Results • Results designated for immediate attention by lab User • Abnormal Results • Amended Results.	Phase 1 System	
97.	PEMRS shall automatically identify high-risk patients according to User-defined rules or by data entry and notify clinical staff when a minor is identified as high-risk.	Phase 1 System	
98.	PEMRS shall enable Users to customize alerts, screens/messages, including, but not limited descriptive text, alert date and time, and other details. PEMRS must allow the capability of forwarding the alert to a specific provider(s) or other authorized User.	Phase 1 System	
99.	PEMRS shall automatically trigger an alert upon documentation of patient health data for a member of an existing medical registry or disease management program.	Phase 1 System	
100.	PEMRS shall trigger alerts to providers when individual documented data indicates that critical interventions may be required.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
101.	PEMRS shall manage all of the communication among appropriate people online with no requirement for physical copies. User may determine who has displayed the message and when.	Phase 1 System	
102.	PEMRS shall provide ad hoc report generating capabilities PEMRS shall be capable of generating reports from any specific data using requested criteria.	Phase 1 System	
103.	PEMRS shall support the distribution of reports to departments, committees or individual reviewers for action or information, including but not limited to, incident report data.	Phase 1 System	
104.	PEMRS shall enable providers to produce all required third party reports for statistical, governmental / agency compliance.	Phase 1 System	
105.	PEMRS shall allow patient tracking and follow-up based on User defined diagnoses.	Phase 1 System	
106.	PEMRS shall support the display of all laboratory tests for use by dietetics. PEMRS shall permit dietary specialists to identify and review a subset of tests.	Phase 1 System	
107.	PEMRS shall enable the printing of medical record labels, worksheets and other critical data forms.	Phase 1 System	
108.	PEMRS shall produce on demand a report that lists orders for which the provider overrode warning messages.	Phase 1 System	
109.	The reporting system shall support integration of reporting with Probation System components that support the UPN as a candidate key.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
110.	PEMRS shall enable authorized Users to create User-defined reports such as without limitation the intake, transfer and release report, admissions, rosters, and patient census by Facility.	Phase 1 System	
111.	PEMRS shall produce reports without limitation that document clinical care, such as the shift care plan and the transportable patient summary record; reports for the patient's use such as patient instruction; management summary reports and ad hoc reporting.	Phase 1 System	
112.	PEMRS shall provide reporting capability for quality assurance (QA), utilization review and risk management.	Phase 1 System	
113.	PEMRS shall enable Facility managers to assess potential health risks to minors, staff, or visitors. Features include prospective screening via occurrence screening as well as allowing for analysis of identified events, such as accident and incident reporting. Occurrence screening provides monitoring of specific quality assurance interests, such as prescription of expensive medications, infection control, and medical records' deficiencies.	Phase 1 System	
114.	PEMRS shall provide a means to identify recurring problems relating to patient care or the management of human or physical resources according to specified criteria and ad hoc reporting.	Phase 1 System	
115.	PEMRS shall permit the authorized User to produce incident summary reports and otherwise as required by the Facility.	Phase 1 System	
116.	PEMRS shall support the transmittal of incident report data to departments, committees or individual reviewers for action or information.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
117.	PEMRS shall enable Users to design and produce reports on areas of concern including order warnings and outcome reports that summarize events by type, location, and provider.	Phase 1 System	
118.	PEMRS shall enable the County to exchange data with other risk management and alert programs.	Phase 1 System	
	PATIENT EDUCATION and EXECUTABLE KNOWLEDGE		
119.	PEMRS shall provide the User with a method of selecting and reviewing a particular grouping of clinical reference data such as clinical protocols, policies and procedures, formulary information, and laboratory normal values.	Phase 1 System	
120.	PEMRS shall provide an online drug reference library that permits identification of drugs by size, shape, color, and use, patient understanding of what is treated and other patient supplied data[5].	Phase 1 System	
121.	PEMRS shall support on-line maintenance as well as text describing of drug interaction and incompatibility database.	Phase 1 System	
122.	PEMRS shall provide online access to Physician Desk Reference, the National Drug Classification (NDC) database and other drug reference information, such as a drug interaction and incompatibility database.	Phase 1 System	
123.	PEMRS shall enable Users to select or search for clinical reference data. The clinical references shall include procedures and the formulary data.	Phase 1 System	

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[5] Primary providers in correctional medicine must frequently depend on a description of recent / current medications that is provided by a patient who is poorly informed, and may be incommunicative

ITEM	Function or Feature	Phase[1]	Comment
124.	An authorized User shall have access to patient education data sheets.	Phase 1 System	
125.	PEMRS shall generate alert functions which are driven by appropriate multi-disciplinary clinical guidelines.	Phase 1 System	
126.	PEMRS shall include standard practice guidelines from the national guideline clearinghouse, and support their use with drop down menus and form creation based upon the guidelines. PEMRS shall allow for authorized User modification of the guidelines.	Phase 1 System	
127.	PEMRS shall utilize User authored and/or third party developed clinical guidelines for disease and registry management. PEMRS shall link disease management functions to all other sections of the EMR.	Phase 1 System	
128.	PEMRS shall enable authorized Users to generate an evaluation survey (scheduled and on-demand) that will record patient satisfaction.	Phase 1 System	Subject to ongoing subscription
129.	PEMRS shall provide sets of patient instructions for a broad range of treatments and services delivered by providers, presented in a drop-down list. PEMRS must allow User modifications to instructions to suit individual patient needs without altering the original content. PEMRS shall enable linkage of patient instructions to care plans, care maps, practice guidelines or on demand.	Phase 1 System	Subject to ongoing subscription
130.	PEMRS shall enable Users to display or print patient education materials in culturally appropriate languages on demand or automatically at the end of each encounter	Phase 1 System	Subject to ongoing subscription
	LABORATORY		

ITEM	Function or Feature	Phase[1]	Comment
131.	PEMRS shall support order laboratory entry and result transmission from automated instruments that meet the CONTRACTOR instrument specifications.	Phase 1 System	
132.	PEMRS shall generate laboratory work documents, labels, and reports.	Phase 1 System	
133.	PEMRS shall produce management reports that encompass workload management, worksheets, and overdue procedures.	Phase 1 System	
134.	PEMRS shall support test result monitoring through flagging of results outside the normal range, of radical variances in results for a single patient and the notification of providers of critical results.	Phase 1 System	
135.	PEMRS shall support quality control through control metric definition, resulting, modifying, and reporting.	Phase 1 System	
136.	PEMRS shall enable test cross-reference with several names to facilitate ordering.	Phase 1 System	
137.	PEMRS shall permit STAT priority to be prohibited for selected tests.	Phase 1 System	
138.	PEMRS shall flag an order to prevent multiple sticks if the provider has ordered timed work for the patient.	Phase 1 System	
139.	PEMRS shall enable Users to cancel orders if a minor no longer requires the specified order. PEMRS shall automatically cancel orders for a minor who is discharged.	Phase 1 System	
140.	PEMRS shall provide for printing labels with computer-generated bar code.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
141.	PEMRS shall permit specimen tracking through transfer and processing.	Phase 1 System	
142.	PEMRS shall provide audit trails of transfer and processing points.	Phase 1 System	
143.	PEMRS shall permit STAT labels to be printed on a separate printer.	Phase 1 System	
144.	PEMRS shall enable authorized Users to identify reference laboratory patients' specimens separately or as a group.	Phase 1 System	
145.	PEMRS shall automatically generate batch collection lists for routine patient specimen collection at times specified or predefined per Facility, or on User demand. The collection route (collection list order) shall be based on Facility defined parameters.	Phase 1 System	
146.	PEMRS shall allow authorized Users to log-in samples collected for testing by another laboratory and generate labels with accession numbers for the receiving laboratory.	Phase 1 System	
147.	PEMRS shall assign specimen accession numbers on collection lists in ascending sequence correlated to the collection route, and shall assign each specimen a processing status of "collection list" until the verification of collection in the laboratory. PEMRS shall not permit assignment of accession numbers by system Users other than those authorized by the laboratory manager.	Phase 1 System	
148.	PEMRS shall exclude specimens with non-routine collection status from collection lists. Non-routine collection status orders shall be automatically printed at JCHS-specified laboratory location(s) as soon as the order is accepted for processing by PEMRS.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
149.	PEMRS shall display collection lists for review prior to printing. PEMRS shall generate a master collection list and a copy for annotation by a supervisor to note failed or delayed collection. PEMRS shall print collection lists at User request.	Phase 1 System	
150.	PEMRS shall permit authorized lab Users to generate transmittal lists manually or automatically.	Phase 1 System	
151.	PEMRS shall enable authorized lab Users to modify, review, print, reprint, and send transmittal lists.	Phase 1 System	
152.	PEMRS shall permit authorized Users to define opening and closing times of accession areas for the laboratory by days of week and holidays.	Phase 1 System	
153.	PEMRS shall provide default and pick list selections of open or closed accession areas.	Phase 1 System	
154.	PEMRS shall enable authorized lab Users to transfer accession numbers with all tests pending or partially certified between laboratories.	Phase 1 System	
155.	PEMRS shall capture, process and allocate workload to the proper lab work element when the accession is transferred.	Phase 1 System	
156.	PEMRS shall enable a receiving lab to accept or reject samples received from the sending lab either individually or by batch.	Phase 1 System	
157.	PEMRS shall automatically notify the sending lab of any samples designated as unacceptable by the receiving lab.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
158.	PEMRS shall enable authorized Users to modify or cancel a lab order. PEMRS shall require a modification or cancellation comment. PEMRS shall enable authorized Users to run a report of un-accessioned lab tests to facilitate the processing of those patients who are "no-shows".	Phase 1 System	
159.	PEMRS shall enable authorized Users to select database fields that are available for designing and formatting labels.	Phase 1 System	
160.	PEMRS shall provide for individual or batch verification of samples collected from the collection list batches. PEMRS shall provide for a User to designate a sample as collected, uncollected, remain in batch, or return to the collection pool. When samples are marked as uncollected, PEMRS shall require the User to select one of PEMRS-provided comments to specify the reason. PEMRS shall change the status to "Lab Canceled". PEMRS shall display/print an uncollected/canceled specimen list. PEMRS shall automatically change the status of the remaining collected specimens on the list to "pending".	Phase 1 System	
161.	PEMRS shall permit logon to the laboratory function at the Facility level. PEMRS shall automatically assign permanent, unique, sequential accession numbers when the specimen is received or collected in the laboratory. PEMRS shall allow an authorized lab User to manually assign accession numbers. PEMRS shall not enable the assignment of accession numbers by Users other than those authorized by laboratory manager.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
162.	PEMRS shall provide for the assignment of permanent, unique, sequential accession numbers for anatomic pathology specimens aliquots sent to laboratory processing locations. PEMRS shall track all accession numbers assigned to subdivisions of a gross specimen received in the laboratory. When additional procedures are required after the initial work-up, PEMRS shall allow the User to enter the number of additional slides to be made and labels to be produced. PEMRS shall assign the next serial block or section identifier to the previous accession number for the next aliquot. PEMRS shall not enforce a time limit in assigning subsequent block or section identifiers to an anatomic pathology specimen.	Phase 1 System	
163.	PEMRS shall provide Facility-defined sets of labels consisting of specimen collection tube labels, slide/aliquot labels, and serum/plasma container labels. PEMRS shall generate label sets in the laboratory on-demand, in batch mode, or when a specimen accompanied order is entered. Label sets for specimens shall be printed on-demand after the order is logged in the laboratory. PEMRS shall generate duplicate labels on an as-needed basis. The number of labels per order shall be contained in the Facility files. PEMRS shall generate shipping address labels for samples sent to or picked up by reference laboratories.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
164.	PEMRS shall enable authorized Users to modify work lists and add or delete specimens, and shall print the updated work list. PEMRS shall print results for an associated test within the same order group, if available, on the work list. PEMRS shall enable the laboratory to select a specific format for work lists. The User shall define the work list template, (e.g., processing sequence for standards, quality control specimens, blanks and patient specimens). The Facility shall optionally define the maximum number of specimens to be processed in a single run for a specific procedure at a designated workstation or automated instrument. These data shall be maintained in system tables and shall be available for User inquiry.	Phase 1 System	
165.	PEMRS shall enable authorized Users to select label stock and define its sectors.	Phase 1 System	
166.	PEMRS shall enable Users to manually create a work list by entering accession numbers.	Phase 1 System	
167.	PEMRS shall provide a list of open collection lists and work documents by the User's assigned Facility at the User's request. A listing of overdue procedures shall be provided on User demand.	Phase 1 System	
168.	Only laboratory personnel shall have access to uncertified laboratory results.	Phase 1 System	
169.	PEMRS shall accept results entered manually by a laboratory User by accession number or work list. PEMRS shall not require the lab manager to create a separate lab test when a new instrument is added, methods are changed, or there is a deletion of a code from the result code set.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
170.	PEMRS shall compare entered patient test result values with the previous results based on User-defined parameters. PEMRS shall display the method of the check result if the two values are different.	Phase 1 System	
171.	PEMRS shall allow a User to enter uncertified results as many times as required for the same specimen, and PEMRS shall retain the last entry as the unverified result.	Phase 1 System	
172.	PEMRS shall compare actual patient test result values with the normal or critical values as defined by the JCHS/JJMH to determine out-of-range (high or low) results. PEMRS shall flag critical values and request confirmation during the result entry process of any critical-valued results.	Phase 1 System	
173.	PEMRS shall support on-line calculations and automatic calculations of lab values based on standard formulas.	Phase 1 System	
174.	PEMRS shall support on-line series of lab test results on the same accession number.	Phase 1 System	
175.	PEMRS shall provide an audit trail for each result entered by appending the User ID of the person entering the result and System date/time to the record.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
176.	PEMRS shall provide full text entry and edit capabilities for microbiology and anatomic pathology results. PEMRS shall allow the authorized User to enter standard textual results using standardized and manualized code representation (e.g., neg p = negative Pap smear) and to edit the standard text result. PEMRS shall allow the User to print results for User review and approval. PEMRS shall enable the User to make additions, deletions, or corrections prior to certification.	Phase 1 System	
177.	PEMRS shall enable an authorized User to enter a common result to a group of tests, such as a result of "No Growth" entered on several urine cultures rather than on each individually; or a *negative* result for a series of hepatitis results.	Phase 1 System	
178.	PEMRS shall provide the capability for the laboratory User to order, log in a lab test and enter results as a single process.	Phase 1 System	
179.	PEMRS shall allow an authorized User to certify results in batch mode according to the work list, on an individual basis, or in batch mode by specifying exceptions. Batch approval by exception shall specify the results within a batch that cannot be certified. The remaining results within the batch are then automatically certified.	Phase 1 System	
180.	Intermediate microbiology results shall be certified and assigned an intermediate result status. Once final results are available (e.g., final organism identification of a previously processed culture result), PEMRS shall change the result status from intermediate to final. Both sets of results shall be retained by PEMRS and shall have the date and time of certification and the User identification appended to them.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
181.	PEMRS shall provide an audit trail for certified results by appending the User ID of the person certifying the result and system date/time to the record.	Phase 1 System	
182.	Amended results and the reason for the amendment shall be entered and certified by the User.	Phase 1 System	
183.	PEMRS shall provide the capability to select an accession for amendment.	Phase 1 System	
184.	PEMRS shall make all certified results immediately available for inquiry and reporting.	Phase 1 System	
185.	In the case of results requiring immediate reporting, the System shall print the results on the site definable printer for the requesting location.	Phase 1 System	
186.	PEMRS shall flag amended results. The originally certified result, prior to amendment, shall be retained and printed automatically with the amended result and appropriate identification (e.g., as a footnote or comment).	Phase 1 System	
187.	When an authorized User amends a result, PEMRS shall append the ID of the individual entering the amendment, the identity of the original result certifier, and the date/time of amendment to the amended results. PEMRS shall display/print this information on request.	Phase 1 System	
188.	After amended results have been certified, PEMRS shall notify the ordering physician and location that new results are available.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
189.	Lab tests identified in PEMRS files as being "sensitive" shall be displayed / printed only for the requesting provider and (lab) Users authorized to view such results. For all other Users, PEMRS shall display and print only the status of the test.	Phase 1 System	
190.	PEMRS shall provide authorized Users with a report of sensitive results for each COUNTY Facility. PEMRS shall produce the HIV testing weekly report, positive HIV result report, and the batch HIV result report by Facility.	Phase 1 System	
191.	PEMRS shall provide a multi-patient display and report for a specified physician or group of physicians. This report shall provide all laboratory test results for all patients listed, including results from tests ordered by other physicians. If a report has multiple requesting physicians, PEMRS shall print a full report for each physician.	Phase 1 System	
192.	PEMRS shall display / print cumulative laboratory test results for a single patient or for multiple patients over a specified time period. PEMRS shall produce reports for specified minors of a physician(s) over a particular date range, and/or over a selected encounter(s).	Phase 1 System	
193.	PEMRS shall provide a patient's daily cumulative laboratory results as defined by the Facility. This report shall contain only certified results, not the status of incomplete procedures.	Phase 1 System	
194.	PEMRS shall provide a report consisting of data pertaining to all laboratory tests and/or procedure results for a patient occurring during a clinical visit.	Phase 1 System	
195.	PEMRS shall provide a display/report of laboratory test results for a specified patient's encounter.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
196.	Laboratory collection tasks shall be resulted when the samples are logged in the laboratory and the resulted laboratory task shall reflect the approximate collection time.	Phase 1 System	
197.	The following microbiology infection control reports shall be provided by Facility: • Micro sensitivity comparison report • Microbiology organism isolated report • Infection control report	Phase 1 System	
198.	PEMRS shall support series of clinical lab test and results that provides for online ordering, performing, reviewing and verifying of procedures assigned to specific automated instruments such as for hemoglobin, blood sugar, etc. testing in the general laboratory sections which include chemistry, hematology, urinalysis, immunology, coagulation, etc.	Phase 1 System	
	PHARMACY		
199.	PEMRS shall enable authorized Users to adjust quantity of controlled substances on hand when necessary to reconcile discrepancies between actual stock and on hand. The adjustment transaction shall generate a log entry with the User name, date, and time.	Phase 1 System	
200.	PEMRS shall produce appropriate drug warnings and alerts for interactions, dosage, age, size, and in particular psychoactive medication.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
201.	PEMRS shall support drug inventory and ordering. Complete inventory and accountability of narcotics is a necessary part of the design concept, however, it does not require electronic recording of the electronic signature at point of confirmation.	Phase 1 System	
202.	PEMRS shall support unit dose medication administration for the units and housing modules.	Phase 1 System	
203.	PEMRS shall support bulk medication issue when needed.	Phase 1 System	
204.	PEMRS shall produce compliance reports, drug utilization, and the distribution of high utilization drugs ranked both by number of prescriptions and number of doses.	Phase 1 System	
205.	PEMRS shall automatically check new medication orders for conflicts	Phase 1 System	
206.	PEMRS shall automatically check new therapeutic medication orders.	Phase 1 System	
207.	PEMRS shall support entry and display of authorized JCHS and JJMH Users' comments in the drug interaction database.	Phase 1 System	
208.	PEMRS shall support multiple drug formularies and prescribing guidelines.	Phase 1 System	
209.	PEMRS shall provide a report consisting of data on medication ordered for and administered to a patient during a clinical visit.	Phase 1 System	
210.	PEMRS shall provide options to generate work lists, cart / cassette lists, and updated cart / cassette lists for administering medications to patients in all supported housing. It shall provide options for administering extra doses, processing returns, and producing reports.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
211.	PEMRS shall display notifications when a prescription is modified, renewed, discontinued or reactivated.	Phase 1 System	
212.	PEMRS shall produce a prescription administration profile for each Facility or clinic. Including a list of all prescriptions to be administered and prescriptions which have been changed (e.g., renewed or modified).	Phase 1 System	
213.	The prescription profile activity log shall be updated with the following information: • Dispensed status, dispensing pharmacist • Date/time of dispensing • User	Phase 1 System	
214.	PEMRS shall mark expired prescriptions that have been filled (but not discontinued) as dispensed.	Phase 1 System	
215.	PEMRS shall include the capability to mark one or all prescriptions as dispensed.	Phase 1 System	
216.	PEMRS shall provide a means for authorized Users to correct dispensing history.	Phase 1 System	
217.	PEMRS shall support the clearing of clinical screenings.	Phase 1 System	
218.	PEMRS shall allow the User to record pharmacy bulk and clinic issues to non-pharmacy locations (wards, clinics, satellite pharmacies).	Phase 1 System	
219.	PEMRS shall allow pharmacy supervisors to establish stocking policy for each location.	Phase 1 System	
220.	PEMRS shall provide a report of the bulk / clinic dispensing history for a particular drug, or location.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
221.	The information required for authorization of controlled drugs shall include but not be limited to the following: • Drug • Issue number (System generated) • Issue to location (from a secure list of valid locations) • Unit dispensed • Log date • Logged by (System generated) • Requester's Name • Expiration date of product • Manufacturer • Lot number	Phase 1 System	
222.	PEMRS shall allow retrieval of prescription data by user defined criteria such as: • Drug name • Drug code number (NDC) • Amount prescribed • Schedule	Phase 1 System	
223.	PEMRS shall provide the capability for Users to obtain information about drugs available in the formulary and their uses (e.g., drug form, such as tablet; drug strength, such as 100 mg; drug type, such as antibiotic).	Phase 1 System	
224.	PEMRS shall enable authorized Users to specify a drug category, or an individual drug via name or national drug code. Authorized substitutions shall display on User request.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
225.	PEMRS shall provide the reports to meet the requirements for pharmacies as specified by the Drug Enforcement Administration.	Phase 1 System	CCL hours are included in fixed price for this task (for report criteria)
226.	PEMRS shall produce drug utilization reports selected, formatted, and sorted according to User defined criteria such as drug, drug class, ordering physician, specialty of ordering physicians, or clinic/inpatient housing unit for which patients the drugs were ordered, and other criteria to be mutually agreed upon.	Phase 1 System	CCL hours are included in fixed price for this task (for report criteria)
227.	PEMRS shall provide User defined drug interaction information including to the following: • Patient education information • Drug-drug interaction checking and reporting • Drug-drug classification overlap checking and reporting • Drug-allergy checking and reporting • Drug-symptom checking and reporting • Other drug interaction information to be mutually agreed upon. PEMRS shall enable the provider to prioritize / rank the importance of the interactions and / or warnings.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
228.	PEMRS shall provide a report of prescribing practices over a selected period of time. The report shall list the drug generic name, the number of orders, the total number of doses and the number of doses extrapolated to a 30 day period. The report shall be sorted at the User's option by drug generic name, DEA schedule, number of orders in decreasing quantity, or number of doses in decreasing quantity.	Phase 1 System	
229.	PEMRS shall provide the capability to support the work functions of the Pharmacy including work list preparation, label preparation, master cart list preparation, medication administration list preparation, replenishment list preparation, and directions for drug administration.	Phase 1 System	
230.	PEMRS shall enable authorized pharmacy Users to display or print unit dose work lists. PEMRS shall enable Users to generate duplicate copies of current day or incomplete work lists.	Phase 1 System	
231.	PEMRS shall generate master cart lists on-demand in the pharmacy.	Phase 1 System	
232.	PEMRS shall allow the pharmacy User to define the sort sequence and number of copies of master cart lists.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
233.	PEMRS shall generate labels for locations within the User's juvenile Facility on demand or in batch mode, to be printed in User-specified sort sequence. Labels for *stat* orders shall be generated automatically immediately after the order is entered into PEMRS. PEMRS shall enable authorized Users to produce a specified number of floor stock labels according to the type of order. PEMRS shall allow Users to generate duplicate labels on an as-needed basis without requiring reentry of all data. Labels shall include, but not be limited to: • Patient individual medication labels. • Pill calls labels. • Floor stock labels. • Unit dose drawer/bin labels. • Stat order medication labels.	Phase 1 System	CCL hours are included in fixed price for this task (for custom labels)
234.	PEMRS shall generate medication administration lists on-demand or in batch mode, either in the Pharmacy, or in housing unit or clinic.	Phase 1 System	
235.	PEMRS shall enable Users to produce updated master cart lists by entering a specific date/time. This updated list shall reflect only those orders outstanding after the specified date/time. PEMRS shall provide User capability to view and check off fill list when filling the drug list and permit authorized Users to print on demand.	Phase 1 System	
236.	PEMRS shall automatically calculate the expiration date and time when a medication is ordered to be given for a specific frequency and a certain number of doses. These data shall be flagged and made available to the pharmacy.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
237.	PEMRS shall provide for reporting of drug utilization by patients, including identification of drugs received by each patient and sorted by drug, drug class, or all drugs, and by provider, provider specialty, provider location within the Facility, or all providers over a specified range of dates.	Phase 1 System	CCL hours are included in fixed price for this task
238.	PEMRS shall provide a report consisting of data on medication ordered for and administered to a patient during a clinical visit.	Phase 1 System	
239.	PERMS shall enable authorized Users to build controlled substance inventories and to receive and issue controlled substances to User defined locations. Pharmacy shall also produce controlled substance reports required by management and DEA.	Phase 1 System	CCL hours are included in fixed price for this task
240.	PEMRS shall enable authorized Users to decrement from controlled stock removed from the vault for reasons other than issuance/dispensing, such as returning to the manufacturer or destroying due to product expiration.	Phase 1 System	
241.	PEMRS shall enable the authorized User to look up a drug by generic name, trade name or synonym and be provided with a display with product information and the quantity on hand.	Phase 1 System	
242.	PEMRS shall produce a report listing all issues within a User-specified date/time range. The User shall be able to select either a drug product or a location for which the report shall compile an issue history.	Phase 1 System	
243.	PEMRS shall produce a report listing all controlled inventory products, including, but not limited to, the quantity in the vault and the expiration date of each lot.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
244.	PEMRS shall produce a report listing all outstanding issued products that are approaching their product expiration, sorted by location.	Phase 1 System	
245.	PEMRS shall produce detailed and summary accounting of controlled drugs originating in the pharmacy's narcotic vault, sorted by drug generic name.	Phase 1 System	CCL hours are included in fixed price for this task
246.	PEMRS shall enable Users to calculate supply expenses per admission, per discharge, per procedure, and monitor and generate reports on service levels that include response time and in-stock percentage.	Phase 1 System or Optional Phase System per Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work)	
247.	PEMRS shall track expiration dates on perishable items; update inventory upon the receipt and dispensing of goods; conduct continuous on-line inventory of stock and non-stock items and automatically generate replenishment orders when the reorder point is reached maintain more than one unit of measure for any item; generate bar-code labels; calculate cart values; conduct perpetual inventory tracking.	Phase 1 System	
	ELECTRONIC PATIENT CHART		

ITEM	Function or Feature	Phase[1]	Comment
248.	PEMRS shall support hybrid patient records. The contents of the electronic record can be printed for inclusion in a paper chart and paper records may be scanned for inclusion in the electronic record. PEMRS shall provide the capability for queries of data entered since the deployment of PEMRS.	Phase 1 System	
249.	PEMRS shall provide the capability to incorporate results from laboratory and radiology with the consult results notes.	Phase 1 System	
250.	PEMRS shall provide the capability to view allergies, prescriptions and results for the specified patient.	Phase 1 System	
251.	PEMRS shall enable authorized Users to view all patient information within PEMRS and a longitudinal view of the patient medical history including prior patient treatments and outcomes from prior stays at Probation.	Phase 1 System	
252.	PEMRS shall support psychotropic medication authorization and administration cycle as part of mental health service documentation.	Phase 1 System	
253.	PEMRS shall allow Mental Health Users to print existing mental health data from the minor's medical record on demand. This is a key function that mental health providers require due to State Medi-Cal requirement.	Phase 1 System	
254.	PEMRS shall enable pharmacists to review a patient's clinical results such as laboratory results (e.g., therapeutic drug levels).	Phase 1 System	
255.	PEMRS shall automatically generate a pharmacy patient profile at the time of patient admission or registration and enable pharmacists to review it on demand while the patient is in detention.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
256.	PEMRS shall provide a patient's medication profile in chronological order, with the most recently collected medication data shown first.	Phase 1 System	
257.	When the User does not specify any search criteria, PEMRS shall default to the patient's current status and shall provide the medication profile data that have been collected since the patient first went on that status.	Phase 1 System	
258.	A 24-hour order review list and order audit reports shall be generated on demand and displayed using order review indicators maintained in PEMRS.	Phase 1 System	
259.	PEMRS shall support charting of medications on the Multi Patient Task List (MPTL).	Phase 1 System or Optional Phase System per Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work)	
260.	For a specific Facility, PEMRS shall produce a listing of all procedures supported by that Facility on demand. From this listing, the User may select one or more procedures for review of more detailed procedure files data.	Phase 1 System	
261.	PEMRS shall prompt the User to enter the procedure request data. PEMRS shall present the selected procedure data sequentially until all selections have been reviewed by the User.	Phase 1 System	
262.	PEMRS shall support nursing protocols within the nursing plan of care, (e.g. 909 forms, problems with diagnosis, consult, result, etc.).	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
263.	PEMRS shall permit sorting previously documented progress notes in chronological or reverse chronological order by encounter date in relation to the active care plan.	Phase 1 System	
264.	PEMRS shall provide figure diagram to identify minor's parts of the body for encounter documentation (e.g., markings, injuries, sick-call, etc.).	Phase 1 System	
265.	PEMRS shall enable authorized Users to import, create, review, update, modify, or amend health status data, including as applicable without limitation chief complaint, onset of symptoms, injury mechanism, physical examination findings, and psychological and social assessment findings.	Phase 1 System	
266.	PEMRS shall alert provider(s) or other authorized Users via secure electronic messaging that meets now current health information exchange industry standards.	Phase 1 System	
267.	Authorized Users shall have access to full patient profiles.	Phase 1 System	
	CLINICAL ENCOUNTER FORMS and NOTES		
268.	PEMRS shall maintain and track psychotropic medication authorization forms from the initial submission to court through court approval. PEMRS shall support Court Authorization Workflow, whereas a pre-condition rule is incorporated with the prescription requisition (orders) for psychotropic medication authorization approval.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
269.	PEMRS shall have the capability to reproduce and display: • Variety of end-User patient and treatment forms • Variety of end-User direct patient summaries of care following end User modifiable templates • Specific protocol driven data entry forms, and patient care protocol forms to be used routinely by JCHS/JJMH care providers	Phase 1 System	
270.	PEMRS shall provide preventive medicine questionnaires to be completed by clinicians during the encounter.	Phase 1 System	
271.	PEMRS shall enable authorized Users to designs and produce follow-up letters to physicians, consultants, external sources, and minors based on a variety of parameters such as date, time since last event, etc.	Phase 1 System	
272.	PEMRS shall enable a nurse to open the patient's electronic record to enter data for the encounter when an individual patient presents a medical or mental health problem during sick call. PEMRS shall enable the provider to document minor care without requiring completion of an assessment.	Phase 1 System	
273.	PEMRS shall enable authorized Users to enter, review, track and close incident reports. This functionality shall support the entry of any incident report, either patient-related or staff-related, into PEMRS. The authorized User shall have the capability to display and/or print the incident report to a specified printer. PEMRS shall display or print a report of open or overdue incident reports on demand.	Phase 1 System	
	ORDER MANAGEMENT (Order entry, modification and review)		

ITEM	Function or Feature	Phase[1]	Comment
274.	PEMRS shall provide notifications when a consult status changes.	Phase 1 System	
275.	PEMRS shall provide the capability to define the number of days a telephone consult may age before PEMRS reports it delinquent, notifies the requestor and generates notice to the provider that review and action are needed.	Phase 1 System	
276.	Once an authorized User has verified a consult report, a copy of the report shall print to the patient location.	Phase 1 System	
277.	Specialty consults include without limitation dental, optometry, dietary.	Phase 1 System	
278.	PEMRS shall support the capability for authorized Users to enter free text patient notes on a selected patient for both scheduled and unscheduled consult orders.	Phase 1 System	
279.	Each patient note shall include the date of creation, identity of the entering and originating provider, and the identity of the User entering the data. PEMRS shall link the note to the originating order.	Phase 1 System	
280.	PEMRS shall enable authorized Users to order adjustment of the dietary needs of the patient based on laboratory results.	Phase 1 System	
281.	PEMRS shall support the display of all possible medications, and the identification of those drugs which are of interest to the dieticians when those medications are ordered for a specific patient. These data shall be available to generate routinely provided medication orders to dieticians based on these selected medications.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
282.	The physician shall enter dietary orders and make them immediately accessible to the dieticians. PEMRS shall print diet rosters from physicians' orders by location and Facility. PEMRS shall permit authorized Users at each location to print the applicable list.	Phase 1 System	
283.	PEMRS shall provide a method of including reminder in the orders concerning allergies, special precautions, or pregnancy.	Phase 1 System	
284.	PEMRS shall automatically check new medication orders for conflicts with patient allergies and generate alerts to notify prescribing authority and pharmacist.	Phase 1 System	
285.	Prescriptions marked as non-compliant shall trigger a bulletin to the ordering provider. PEMRS shall report overrides to the ordering provider's manager.	Phase 1 System	
286.	PEMRS shall display notifications for new active or held prescriptions to indicate dispensing status including dates.	Phase 1 System	
287.	PEMRS shall enable authorized Users to issue persistent future-dated orders regardless of the location of the minor, movement status, or the treating and ordering physician. PEMRS shall maintain these orders until an authorized User at the minor's current location activates or deletes them.	Phase 1 System	
288.	PEMRS shall enable authorized Users to issue pre-admission orders with an activation date in the future.	Phase 1 System	
289.	PEMRS shall enable authorized Users to issue orders specific to the transfer of patients from one housing unit to another for clinical reasons.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
290.	PEMRS shall support physician evaluation and order entry during the intake process.	Phase 1 System	
291.	PEMRS shall provide a method to include unverified orders on the printed Medication Administration Record. Authorized Users shall have the ability to monitor the unverified orders via eMAR.	Phase 1 System	CCL hours are included in fixed price for this task (for unverified orders on the eMAR)
292.	PEMRS shall have capability to transfer the Printed Medication Administration Record to a file in order to provide access to PMAR during System Downtime.	Phase 1 System	
293.	PEMRS shall maintain one common User defined diet format and table used by CJH and the satellite Facilities, for the purpose of ordering all diets.	Phase 1 System	
294.	PEMRS shall enable authorized physicians, nurses or other designated providers with the capability to initiate, update, validate, review and cancel clinical orders in accordance with approved JCHS or JJMH policies and procedures.	Phase 1 System	
295.	PEMRS shall enable managers to designate orders that require approval because they are risky, costly or experimental.	Phase 1 System	
296.	PEMRS shall enable JCHS and JJMH management to define a hierarchy of security and signature levels to control the authorization of orders by staff role, including orders that may require more than one authorization.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
297.	PEMRS shall manage order groups to permit evaluation of potential order interaction or conflict. PEMRS shall provide an automatic and simultaneous display of the patient's orders in one order group as orders are selected or entered during an ordering session.	Phase 1 System	
298.	PEMRS shall allow an authorized User to enter nursing orders with compound timing texts. The authorized User shall have the capability to activate the scheduled portion of the order from within the nursing results entry to facilitate the timely documentation of such activities.	Phase 1 System	
299.	PEMRS shall enable an authorized User to indicate whether an order was made verbally or by telephone during the order entry process.	Phase 1 System	
300.	PEMRS shall enable authorized Users to assign and display an order number for active, held and pending orders. PEMRS shall enable recurring orders.	Phase 1 System	
301.	PEMRS shall accommodate JCHS-and JJMH defined standard primary order sets associated with a particular provider, category of procedure, or diagnosis(es) from which a User may select all or some of the orders for the patient's treatment.	Phase 1 System	
302.	PEMRS shall automate a series of primary orders for a single patient by retaining the patient's demographic data, common order data, and system data for use on all orders in the series until the User ends the ordering process.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
303.	PEMRS shall display order summaries on demand to allow the clinician to review/correct all orders prior to submitting/transmitting/printing the orders for processing by the receiving entity	Phase 1 System	
304.	PEMRS shall append the User's name and the date of entry to the end of each order or group of orders entered for an individual patient.	Phase 1 System	
305.	PEMRS shall prevent modification of any order that has been evaluated and validated.	Phase 1 System	
306.	PEMRS shall require an erroneous order to be discontinued and replaced with a new order.	Phase 1 System	
307.	PEMRS shall retain all orders entered during an order entry session in suspense until the provider closes the session. A provider may modify suspended orders until the session is closed. PEMRS will prevent Users other than the ordering party from viewing the suspended order. The Session close event freezes the order and publishes it.	Phase 1 System	
308.	PEMRS shall enable authorized Users to enter a comment with any order.	Phase 1 System	
309.	PEMRS shall allow the User to enter orders for multiple procedures for a single patient by entering the procedure identifiers consecutively. PEMRS shall display a message if the ordered procedure is not supported or in conflict with other orders.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
310.	PEMRS shall accept either the unique identifier for a procedure, the full name of the procedure, the abbreviated name, or selection of the procedure from standard menus. PEMRS shall support the User's request to display the knowledge-based procedure information at any point in the order entry process.	Phase 1 System	
311.	PEMRS shall notify the User at the ordering location and the User at the patient's current location, when a procedure ordered stat has not been performed and/or resulted within a JCHS/JJMH specified time period.	Phase 1 System	
312.	When the order entry process is completed, PEMRS shall permit the User to request a display of orders.	Phase 1 System	
313.	For prescriptions, PEMRS shall permit the authorized User to enter the complete drug name (generic or brand), a partial alphabetic drug name, or any one of a number of mnemonic quick codes determined by the pharmacy manager. PEMRS shall display medications from the formulary whose generic, brand or mnemonic names begin with the User entry and shall prompt the User to indicate the medication of interest and enter the order data. If only one match is found, PEMRS shall display the medication's generic name, prompt the User to confirm it is the correct drug, and then prompt the User to enter the order data. If the User does not select one of the displayed medications, PEMRS shall prompt for the medication name.	Phase 1 System	
314.	PEMRS shall restrict order entry for certain medications by notifying the unauthorized ordering provider that the medication is restricted (e.g., new psychotropic or HIV drugs requiring special clearance) and shall allow no further order entry for this medication order.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
315.	PEMRS shall immediately activate orders entered by a nurse on behalf of a physician, and PEMRS shall notify the physician of the need for a confirming electronic signature.	Phase 1 System	
316.	PEMRS shall provide orders sorting capability by functional type (e.g., pharmacy, laboratory radiology), by order status (e.g., pre-admission, active, future) and by order entry.	Phase 1 System	
317.	PEMRS shall notify providers when their signature is required for an order, and shall provide the capability for the entry and logging of the electronic signature as a permanent part of each order's activity log.	Phase 1 System	
318.	PEMRS shall provide a means for an authorized User to obtain a display and/or print of all orders requiring a provider's countersignature. When the User does not specify a particular Facility, PEMRS shall display all orders for the selected ordering provider	Phase 1 System	
319.	PEMRS shall maintain a history of order modification actions without deleting the original data. A modified order shall appear as a new order, with a new number.	Phase 1 System	
320.	PEMRS shall provide a display of a verbal order upon demand. The displayed data shall inform the User of orders that need provider signatures and orders that have exceeded a standard period for signature.	Phase 1 System	
321.	PEMRS shall allow the ordering provider to attach his "electronic" signature to an order by indicating his acceptance of the displayed order data.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
322.	PEMRS shall enable any provider with the appropriate signature authority to sign a patient's orders even if the orders were entered on behalf of another provider. PEMRS shall enable a provider to review all orders awaiting his or her signature.	Phase 1 System	
323.	For orders that are modifiable at their current status, PEMRS shall display the full order data and prompt the User to enter the new order data values to replace the existing data values.	Phase 1 System	
324.	PEMRS shall allow all Users to accept, override, change, hold, or cancel an order with justification for overriding, changing or canceling an order prior to be allowed to continue. PEMRS shall require that all orders be digitally signed at the completion of each order.	Phase 1 System	
325.	PEMRS shall notify the User at the patient's current unit location and the ordering provider of any order modification. Notification shall also include information about those patient appointments affected by the change in order status.	Phase 1 System	
326.	PEMRS shall append the User's name, the current date and current time, and the date and time of the order change action. PEMRS shall append an identifier to the record indicating that the order has been modified/canceled.	Phase 1 System	
327.	PEMRS shall default to all work centers when the User does not specify a work center. This inquiry shall produce all orders that meet the search criteria specified.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
328.	PEMRS shall default to the current date when the User does not specify an order date or range. An inquiry shall provide the orders that are active for the current date; for example, a medication order entered a week ago and still in effect.	Phase 1 System	
329.	Upon display of the order search listing, PEMRS shall allow the User to identify one or more specific orders, all orders, or none for further processing. PEMRS shall allow the User to request a printed copy of the candidate listing on demand.	Phase 1 System	
330.	PEMRS shall display the requested patient order identification data with the recently ordered first, and shall allow the User to scan forward and backward through the display or to terminate the review at any point. PEMRS shall allow the User to request a printed copy of the order identification data on demand.	Phase 1 System	
331.	PEMRS shall provide on demand a display/listing of the patient's active, inactive, and pending orders.	Phase 1 System	
332.	PEMRS shall enable the User to review formulary data by accepting input of a drug's full or partial name, or identification of a drug class, and shall allow the User to identify the drugs of interest. PEMRS shall present the selected formulary data sequentially, until all drugs selected by the User have been reviewed.	Phase 1 System	
333.	PEMRS shall enable authorized Users to define and format the initial display of available standard orders. A provider shall choose to show no orders or all orders, or if the provider does not choose, PEMRS shall default to displaying no orders. The list shall include all active orders, including those on hold, needing signature or expiring orders.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
334.	PEMRS shall support order validity checks in the form of overlap checking, allergy checking, minimum/maximum dosages, duplicate checking, interactions, and refill checking, and warn the User during order entry. PEMRS shall enable authorized physicians to override warnings generated while entering an order, as long as the physician enters a justification comment. PEMRS shall prompt a nurse entering verbal orders that generate a warning to document the physician's agreement to the override or that it is an emergency override.	Phase 1 System	
335.	PEMRS shall automatically trigger an alert upon documentation of a diagnosis that requires reports to outside agencies including the Center for Disease Control and Prevention, State Health or Mental Health departments, or child abuse agencies.	Phase 1 System	
336.	PEMRS shall notify the order entry User when a procedure requires "ancillary review" before processing by the ancillary work center. The message shall inform the User of the JCHS/JJMH-specified options (e.g., the order shall be held in suspense until reviewed by the work center, the order shall be appointed but shall not be performed until reviewed, etc.). Procedures requiring ancillary review shall be marked as such in the master file of procedures by the performing ancillary.	Phase 1 System	
337.	PEMRS must require the progress note be electronically signed at the end of each encounter prior to being allowed to continue/submit. PEMRS must automatically capture the electronic signature and title of the person entering data and date/time stamps with each transaction.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
338.	PEMRS shall track all order warnings and order warning overrides. PEMRS shall append the warning message and notification of the override to each such order.	Phase 1 System	
339.	PEMRS shall record workload credit for selected telephone consults. The provider shall have the capability to define the clinic that is to receive the workload credit and a printout of the consult.	Phase 1 System	
340.	PEMRS shall provide for infection control event reports on demand.	Phase 1 System	
341.	PEMRS shall support industry standard electronic signatures.	Phase 1 System	
342.	PEMRS shall provide consistent identification and authentication of all Users in accordance with the role based access control standard that meets now current health information exchange industry standards.	Phase 1 System	
	MENTAL HEALTH CARE DOCUMENTATION		
343a	PEMRS shall provide legal documentation of mental health (MH) service delivery. This shall include without limitation MH assessment, court or parental treatment authorization, treatments, and medication.	Phase 1 System	
343b.	PEMRS shall provide legal documentation of mental health (MH) service delivery including without limitation coordination of care plan.	Phase 1 System or Optional Phase System per Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work)	

ITEM	Function or Feature	Phase[1]	Comment
344.	PEMRS shall support the unique data requirements for mental health care.	Phase 1 System	
345a.	PEMRS shall provide a combination of system default, provider Tailored and provider-defined templates for laboratory procedures, diagnosis, medication prescribed, patient education materials, consultation referrals, patient condition or status, activity restrictions according to Probation requirements.	Phase 1 System	
345b.	PEMRS shall provide a combination of system default provider Tailored and provider-defined templates for recording progress notes including progress notes template for entering performed and planned procedures, goals (doctor's), nurses and patient's), and follow up plans	Phase 1 System or Optional Phase System per Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work)	
346.	The reporting system shall support abstracting and patient demographics.	Phase 1 System	
	MEDICAL RECORD TRACKING		
347.	PEMRS shall provide tools to enable providers the capability to merge duplicate records throughout the database.	Phase 1 System	
348.	PEMRS shall produce User defined transmission slips for chart distribution.	Phase 1 System	
349.	PEMRS shall manage chart tracking and identification that includes patient medical record and chart volume numbers.	Phase 1 System	
350.	PEMRS shall enable online chart tracking, maintenance and inquiry.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
351.	PEMRS shall enable Users to track charts by medical record number, discharge date, expected return date, and location.	Phase 1 System	
352.	PEMRS shall enable Users to track complete and incomplete records.	Phase 1 System	
353.	PEMRS must allow tracking by volume number. • All volumes. • Individual volumes. • Combination of individual volumes or range	Phase 1 System	
354.	PEMRS shall permit tracking by patient name; alphabetically or soundex.	Phase 1 System	
355.	PEMRS shall enable Users to locate records that have been archived or are in storage.	Phase 1 System	
356.	PEMRS shall support manual or default check-out dates.	Phase 1 System	
357.	PEMRS shall support manual or default expected return dates	Phase 1 System	
358.	PEMRS shall allow use of bar codes for check out and check in.	Phase 1 System	
359.	PEMRS shall provide audit trails of chart locations.	Phase 1 System	
360.	PEMRS shall provide capability for ad hoc reporting by entity, Facility or enterprise.	Phase 1 System	
361.	PEMRS shall provide on-line chart requesting capability.	Phase 1 System	
362.	PEMRS shall support chart reservation tracking.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
363.	PEMRS shall enable HIM to • Define multiple active or permanent external or internal chart locations. • Identify locations and identify persons who checked out a chart. • Define standard check-out time limitations by location. • Define standard time limitations by patient status.	Phase 1 System	
364.	PEMRS shall enable Health Information Management (HIM) to manage chart deficiencies.	Phase 1 System	
365.	PEMRS shall enable chart abstracting	Phase 1 System	
366.	PEMRS shall report volume and productivity of request volumes.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
367.	PEMRS shall produce standard reports that can be printed on demand for COUNTY Facility, entity, or the enterprise and for any time period: • All charts by location. • All charts by requester. • Charts checked-out by location. • Check-out aging by location/area. • Check-out aging by expected return date. • Bar code labels. • Inactive records in terminal digit order. • Active charts in terminal digit order. • Overdue charts. • Statistics on average turnaround time by location/area. • Turnaround time by days, hours • All charts by requester.	Phase 1 System	
368.	PEMRS shall enable HIM to restrict chart availability and notify requesters for the following: • Sequestered charts. • Confidentiality flag. • Charts released to other areas. • Generation of chart return letters to outside agencies.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
369.	PEMRS shall provide a chart request function that specifies: • Patient name • Partial name search, including soundex. • Medical record number. • Location. • Urgency. • Comments/reason. • Person requesting. • Phone number • MH Patient Identifier Number.	Phase 1 System	
370.	PEMRS shall provide tools for frequently used requester data; requester names, address, phone, request status, authorization verification.	Phase 1 System	
371.	PEMRS shall track identification of chart segments copied by patient and Facility.	Phase 1 System	
372.	PEMRS shall enable HIM to create parameter driven action letters, statements and report requests.	Phase 1 System	
373.	PEMRS shall enable HIM to log action steps taken or proposed to reconcile or otherwise manage paper charts or chart components.	Phase 1 System	
374.	PEMRS shall enable HIM to perform on-line analysis of medical record by COUNTY/site defined criteria.	Phase 1 System	
375.	PEMRS shall enable HIM to define multiple deficiency categories and types.	Phase 1 System	
376.	PEMRS shall enable HIM to define provider delinquency parameters.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
377.	PEMRS shall enable HIM to define aging parameters by deficiency category, such as: discharge date, admission date, and availability date.	Phase 1 System	
378.	PEMRS shall enable HIM to define chart status grades (e.g. completed, hold, suspension).	Phase 1 System	
379.	PEMRS shall enable HIM to define suspension time frames based on deficiency types (e.g. Dictation, signature, transcription).	Phase 1 System	
380.	PEMRS shall enable HIM to define notification letters or slips.	Phase 1 System	
381.	PEMRS shall enable HIM to define patient types for analysis.	Phase 1 System	
382.	PEMRS shall enable HIM to modify or enter deficiencies for all providers on one patient record define without changing screens.	Phase 1 System	
383.	PEMRS shall automatically generate deficiency slip upon completion of analysis.	Phase 1 System	
384.	PEMRS shall enable Users to request chart deficiency slips • On demand. • By provider. • By patient record.	Phase 1 System	
385.	PEMRS shall enable HIM to query PEMRS by provider name for all incomplete medical records, including missing or inadequate information.	Phase 1 System	
386.	PEMRS shall enable HIM to configure automated notification letters to providers of incomplete records based on User defined parameters and wording.	Phase 1 System	
387.	PEMRS shall enable HIM to override a notification.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
388.	PEMRS shall generate standard reports sorted by medical record number, include the capability to print or graph on demand for Facility, entity or the enterprise, and for any time period: • Aging reports by User defined criteria. • Audit listing of all deficient/delinquent charts (e.g. Terminal digit order). • Chart status. • Facility/entity summary. • Provider delinquent list (in descending order of providers with delinquent charts). • Productivity reports by staff and function performed. • Completed charts by providers. • Deficient charts by deficiency type. • Charts in by location (e.g., transcription). • Charts in hold status. • Doctor vacation/sick report. • Standard management reporting; departmental/management summaries. • On-line inquiry & reporting for statistics by: Facility/entity, provider performance, chart/productivity, provider performance profiles.	Phase 1 System	
389.	PEMRS shall maintain statistical data for a minimum of 14 months.	Phase 1 System	
390.	PEMRS shall support all coding capabilities for DSM IV, ICD9, CPT, and HCPCS.	Phase 1 System	
391.	PEMRS shall implement updates to regulation or standards based codes as they are released.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
392.	PEMRS shall enable Users to define attributes for User defined fields, such as: • Required/optional. • Based on effective or expiration date. • Format options (e.g., numeric, alphanumeric, date, time, etc.). • Diagnosis modifiers adjacent to current diagnosis codes.	Phase 1 System	
393.	PEMRS shall check code validity as Users enter diagnosis and procedure codes.	Phase 1 System	
394.	PEMRS shall enable Users to enter unlimited numbers of diagnosis or procedure codes per patient.	Phase 1 System	
395.	PEMRS shall enable Users to enter an unlimited number of provider codes per patient.	Phase 1 System	
396.	PEMRS shall enable HIM to add medical record abstract data to accommodate regulatory changes.	Phase 1 System	
397.	PEMRS shall enable Users to extract data for User-defined total quality management (TQM) data gathering.	Phase 1 System	CCL hours are included in the fixed price for this task
398.	PEMRS shall maintain productivity metrics for individual abstracting personnel including number of charts abstracted and time required to abstract.	Phase 1 System	
399.	PEMRS shall provide for patient hold or a variety of patient consents including consent for care, consent for release of information with data, situation, and recipient controls.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
400.	PEMRS shall permit the authorized User to initiate a chart audit through a candidate search based on one or several of the following criteria: • Physical parameter readings • Medications • Consultations, • Procedures • Sex • Age • Length of stay • Diagnosis • Care provider • Unit in Facility • Treatment • Mortality • Other specific to JCHS AND JJMH	Phase 1 System	
	RADIOLOGY SUPPORT		
401.	PEMRS shall enable authorized Users to enter and update radiology orders and related data, and to verify and process requests for various radiological procedures or therapeutic treatments.	Phase 1 System	
402.	PEMRS shall enable tracking of films to and from all relevant location.	Phase 1 System	
403.	PEMRS shall enable authorized Users to enter and process orders and results for radiological exams.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
404.	PEMRS shall track radiology schedules, exam logs, and outstanding incomplete orders.	Phase 1 System	
405.	PEMRS shall enable efficient or immediate reporting of interpreted film positive results including chest mini-films.	Phase 1 System	
406.	PEMRS shall support maintenance of radiology system files to meet evolving operational requirements.	Phase 1 System	
407.	PEMRS shall produce reports that include information on total radiology workload as well as breakouts by procedures performed, Facility, transcriber.	Phase 1 System	
408.	PEMRS shall enable authorized Users to flag and maintain radiology records identified as being of special interest.	Phase 1 System	
409.	The radiology module component shall assign a PEMRS-generated patient exam number.	Phase 1 System	
410.	PEMRS shall be capable of printing, automatically and manually: • examination forms • transport tickets • barcode labels.	Phase 1 System	
411.	PEMRS shall enable radiologist to access and display patient's previous exam history.	Phase 1 System	
412.	PEMRS shall support recording of isolation flags.	Phase 1 System	
413.	PEMRS shall support reporting of contrast media allergies.	Phase 1 System	
414.	PEMRS shall support printing of film labels at the time of order entry.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
415.	PEMRS shall permit multiple radiology exam orders per patient on the same order screen.	Phase 1 System	
416.	PEMRS shall support recording of reading / interpreting physician.	Phase 1 System	
417.	PEMRS shall accommodate bar coding for identifying: • radiologists • technologists • film room personnel • receptionists • secretaries transcribers • referring physicians • rooms • exams • patients • film folder • sub folder	Phase 1 System	
418.	Radiology order tasks shall be resulted when the patients have been assigned a status of "arrived" by the radiologist.	Phase 1 System	
419.	PEMRS shall provide a report consisting of data pertaining to all radiology tests and/or procedure results for a patient occurring during a clinical visit. PEMRS shall provide separate reports consisting of data pertaining to all other ancillary tests and/or procedure results for a patient occurring during a clinical visit.	Phase 1 System	
	PATIENT MANAGEMENT AND TRACKING		

ITEM	Function or Feature	Phase[1]	Comment
420.	PEMRS shall facilitate the recording and maintenance of medical data specific to a minor's admission, discharge and transfer including cancellation.	Phase 1 System	
421.	PEMRS shall capture demographic movement real-time, and shall provide appropriate triggering rule when a minor moves or transfers.	Phase 1 System	
422.	PEMRS shall permit assignment of a patient to a housing unit and the optional simultaneous assignment of the patient to a bed in that unit. PEMRS shall support the blocking of beds that are unavailable due to damage, contamination, renovation, etc.	Phase 1 System	
423.	PEMRS shall enable authorized Users to maintain patient / unit and bed data by facilitating the assignment of a patient to a clinical service on a unit with an available bed, the optional assignment of a patient to a bed, the entry of changes to these assignments, checking in and release of a patient to and from a unit.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
424.	PEMRS shall support the capture of intake screening data and shall make that data immediately accessible to all authorized Users. • Identification of the minor and • linkage with previous Probation medical records via the UPN Following intake screening and identification of the correct patient's record by keyboard entry or bar code scanning, PEMRS shall display as defaults any of the following patient demographics that are available from the AJIS, PCMS, JDIC: • patient name, • booking number, • PDJ number, CIN • booking date • age • sex • race • religion • date of birth, • SSN • specific medical problem • emergency contact, and • employer information.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
425.	PEMRS shall enable Users to identify the location of the patient in Facility.	Phase 1 System	
426.	PEMRS shall enable authorized Users to discharge a minor from the medical housing unit to the general juvenile correctional population or at the time of release from court custody. PEMRS shall prompt Users to resolve any active orders at the time of the patient's discharge.	Phase 1 System	
	SCHEDULING		
427.	PEMRS shall enable authorized Users to request that a minor be seen at sick call. Entering the request shall require a bare minimum of data elements including, but not limited to, the UPN and the nature of the request. PEMRS shall enable authorized administrative staff to issue sick call requests within the bounds of JCHS policy when originated by authenticated family, attorney, Probation, and court representatives. PEMRS shall record and indicate the source of the sick call request.	Phase 1 System	
428.	PEMRS shall enable Users to name the sick call clinic. PEMRS shall enable nursing staff to print a list of documented sick call requests prior to making sick call rounds. The sick call roster shall include the name of the minor, UPN, complaint, date and source of the request, and identification of the User who entered the request. PEMRS shall enable nursing staff to print a checklist for sick call requests received at the time of rounding.	Phase 1 System	
429.	PEMRS shall enable authorized Users to define Facility, clinic and provider profiles.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
430.	PEMRS shall enable Users to create schedules with or without templates. PEMRS shall create a schedule when a specific date is selected to associate an array of appointment slots with a specific provider. PEMRS shall enable Users to create schedules by a) one or more daily templates, b) weekly templates, or c) interactively if no template is applicable.	Phase 1 System	
431.	PEMRS shall enable authorized Users to search for available appointment slots, to add patients to a wait lists, to book appointments, to modify or display appointments, and to notify the physician of appointments booked or canceled.	Phase 1 System	
432.	PEMRS shall generate patient appointment requests automatically from clinical orders.	Phase 1 System	
433.	PEMRS shall enable authorized Users to maintain the schedule, including capability to: • Merge or reassign schedules from one provider to another on the same day. • Move schedules from a generic provider to the actual provider when known. • Freeze and release schedules so that the schedule(s) slots temporarily until the status of the provider can be established. • Cancel appointments and monitor cancellation reasons. • Add, modify, and delete appointment slots from a schedule.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
434.	PEMRS shall enable authorized Users to reconcile the appointment list through the processes of checking-in patients and end-of-day processing. The appointment status shall include without limitation: pending, sick call, walk-in, telephone consult, cancel, kept, no-show, no-show (in court), no-show (released), and left without being seen.	Phase 1 System	
435.	PEMRS shall produce a report of no-show patients at User request. PEMRS shall also enable Users to display a complete history of all a patient's past or future appointment transactions as well as any wait list requests.	Phase 1 System	
436.	PEMRS shall include without limitation appointments for specific clinics, doctor's lines, LAC-USC, court appointments, dietetics and mental health. If an appointment is being scheduled for a patient in conflict with another appointment, PEMRS shall automatically display a warning to the User at the time clinic appointments are booked, and shall not allow the User to make more than one appointment for a single patient in the same date and time window	Phase 1 System	
437.	PEMRS shall enable authorized Users' to search into available schedule slots that match User-specified criteria.	Phase 1 System	
438.	PEMRS shall permit the scheduling function to schedule appointments by patient or by slot. If patient is not in the clinical repository at the time of scheduling, PEMRS shall enable the authorized User to register the patient when scheduling.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
439.	PEMRS shall enable Users to search for available schedule slots by: • Facility, specialty, or provider by date or appointment type or duration. • Appointment type, day of week, time, duration, range, or date. • Next available slot for the specified provider, clinic, specialty.	Phase 1 System	
440.	PEMRS shall enable the authorized User to specify a particular slot for which the schedule is to be displayed. If no date is specified, the user shall have the ability to search for the first available date. The authorized User shall be able to page forward and back to the original start date through additional schedule screens, days, and times without re-entering clinic/care provider or date. PEMRS shall find and display the specified schedule segment(s).	Phase 1 System	
441.	PEMRS shall allow authorized Users to schedule to a clinic instead of a physician. With this function, PEMRS shall notify the physician responsible for the specified clinic at the minor's destination of pending or incomplete orders.	Phase 1 System	
442.	PEMRS shall capture outside COUNTY appointments (e.g. hospitals) to produce work list to determine count of all referrals.	Phase 1 System	
443.	PEMRS shall enable a scheduling User to enter a reason for an appointment, to describe the patient's complaint, and explain why the patient is seeking care.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
444.	PEMRS shall display available appointment slots that match all the authorized User-specified search criteria and permit the User to either select one or to ask for more open slots without resubmitting the criteria. PEMRS shall enable to modify the search criteria and resubmit the search without requiring reentry of all patient and provider data. PEMRS shall provide default values for expanded criteria; such as Monday through Friday if no day is specified.	Phase 1 System	
445.	PEMRS shall allow the authorized User to select one of the available slots provided. If there are no conflicts, PEMRS shall record the appointment by combining the appointment data with required patient registration information. PEMRS shall remove the slot from the available pool.	Phase 1 System	
446.	PEMRS shall permit authorized Users to overbook appointments based on anticipated no-shows and other variables.	Phase 1 System	
447.	PEMRS shall enable authorized Users to enter and maintain comments to describe special circumstances (e.g., who referred patient, patient needs wheel chair, patient exceptionally hostile or violent, etc.). PEMRS shall display and print on the daily appointment rosters and appointment history	Phase 1 System	
448.	When booking is completed, PEMRS shall display information regarding the appointment for use in review and verbal confirmation of the appointment.	Phase 1 System	
449.	PEMRS shall produce a message notifying the ordering provider or an authorized User at the minor's current unit location when no appointment has been made within a JCHS/JJMH-specified time period (such as a regulatory mandate).	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
450.	PEMRS shall enable authorized Users to locate and book multiple appointments for the same minor in one step.	Phase 1 System	
451.	PEMRS shall enable authorized Users to locate and book multiple appointments with the same care provider in one step.	Phase 1 System	
452.	PEMRS shall provide flexibility in patient appointment booking by supporting the on-the-spot creation of appointments for telephone consults and for non-scheduled minor including sick call minors who are sent directly from sick call to a medical module.	Phase 1 System	
453.	PEMRS shall enable Users to display all appointments for a specified patient. PEMRS shall allow the User to request cancellation of one or more appointments for a patient or to cancel all appointments as a group for the patient at one time.	Phase 1 System	
454.	PEMRS shall process canceled appointments regardless of where or by whom initiated. PEMRS shall provide a confirmation process for cancellation. Upon cancellation of an appointment, PEMRS shall record the identity of the User initiating the process, the reason for the cancellation, and the current date and time. PEMRS shall retain cancellation data in the patient's appointment history and display it upon request. Upon cancellation of an appointment, the appointment slot shall automatically return to the available pool.	Phase 1 System	
455.	PEMRS shall allow the authorized User to modify the schedule by altering the appointment type and/or date and time of the appointment. Upon updating the appointment, the new User id and date and time shall be retained with the revised appointment and shall be available for viewing at a User's request.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
456.	PEMRS shall support a User-defined table of coded cancellation reasons and associated codes.	Phase 1 System	
457.	PEMRS notify a User at the patient's current location when an appointment is changed. PEMRS shall permit the User at the patient's current location to verify receipt and acceptance of a change in a patient's appointment.	Phase 1 System	
458.	PEMRS shall display a schedule of each housing unit's minor's appointments for all Facilities over a User-defined period.	Phase 1 System	
459.	PEMRS shall provide lead-time appointment reminders.	Phase 1 System	
460.	Once appointments have been booked for a wait listed minor, PEMRS shall automatically delete the applicable entry on the wait list.	Phase 1 System	
461.	PEMRS shall enable Users to put a minor and appointment request on a waiting list if the desired slots are unavailable. The appointment data from the request shall persist on the waiting list. Waiting lists shall be specific to a clinic, appointment type, provider, and other User-specified appointment search criteria.	Phase 1 System	
462.	PEMRS shall provide the current wait list on demand. PEMRS shall enable authorized Users to sort the waiting list by without limitation: • Patient • Wait list priority • Date placed on the list • Requested appointment date	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
463.	PEMRS shall automate the updates of appointment status when the status changes, either in batch or individually. The patient can be identified on the worklist, list of appointments for the clinic, or appointment slot in PEMRS upon individual check-in.	Phase 1 System	
464.	PEMRS shall enable Users to update individual check-in data interactively while the patient is at the clinic desk. When patient check-in is accomplished in this manner, PEMRS shall record the time of check-in. PEMRS shall enable Users to transfer from individual check-in to appointment setting and back without reentering identification data.	Phase 1 System	
465.	PEMRS shall support bulk patient check-in on arrivals. After check in is completed, the remaining appointments can be selected and the no show action can be performed at this time.	Phase 1 System	
466.	PEMRS shall provide rapid check-in of unscheduled minors. PEMRS shall enable the User to enter the provider at check-in or at the time of disposition or end-of-day processing. If a provider's name is not associated with an appointment, it shall be flagged as delinquent and shall appear on the delinquent end-of-day processing report.	Phase 1 System	
467.	PEMRS shall enable authorized Users to create clinics. This capability shall enable the authorized User to create a walk-in appointment, assign herself or himself as the provider, and manage check-in for a group of juveniles on a selected housing unit.	Phase 1 System	
468.	PEMRS shall enable the User to reassign minors from one provider to another. This can be accomplished by rescheduling the appointment and changing the provider.	Phase 1 System	

ITEM	Function or Feature	Phase[1]	Comment
469.	PEMRS shall enable authorized Users to enter and update court dates. PEMRS shall prevent appointments that conflict with court dates.	Phase 1 System	
470.	Scanning of paper records as needed as specified in Section B(1) of Schedule I (Service Level Commitments) of Exhibit D (Service Level Agreement.	Phase 1 System	
471a.	Provide patient photographs (if already available in appropriate electronic format) to assist clinical providers in identifying or describing patients.	Phase 1 System	
471b.	Provide other digital objects to assist clinical providers in identifying or describing patients.	Optional Phase System	

II.   PRIVACY AND SECURITY REQUIREMENTS

CONTRACTOR shall implement privacy and security controls based on industry standards for health care applications and health information exchange. CONTRACTOR shall consult the Project Manager for guidance CONTRACTOR shall use the following laws, regulations and standards for guidance on how to comply with these requirements:

GENERAL

1. The Administrative Simplification provisions of The Health Insurance Portability and Accountability Act (HIPAA) as amended, particularly the following rules or guidance
   a. Code of Federal Regulations (CFR) Title 45, Parts 160, 162, and 164
   b. Centers for Medicare & Medicaid Services (CMS) "HIPAA Security Guidance for Remote Use of and Access to Electronic Protected Health Information"
   c. National Institute of Standards and Technology (NIST), "Introductory Resource Guide for Implementing the Health Insurance Portability and Accountability Act (HIPAA) Security Rule" (SP 800-66 REV 1)
2. Health Information Technology for Economic and Clinical Health Act, Public Law 111-005 (HITECH).
3. Privacy and Information Security provisions of the Patient Safety and Quality Improvement Act of 2005
4. Privacy and Information Security provisions of Titles 15 and 24 of the California Code of Regulations
5. California Government Code Section 16.5 (a) and California Code of Regulations Section 22002
6. Relevant County of Los Angeles Code and Policy including current versions of
   a. Chapter 6 of the Board of Supervisors Policy Manual (www.countypolicy.co.la.ca.us)
   b. Information Technology provisions of the County Fiscal Manual (http://auditorweb.co.la.ca.us/Auditor-Controller/CountyFiscalManual)
   c. Probation Department Directive Number 1168, "Personal and/or Confidential Information on Portable Computing Devices"
   d. Probation Department Directive number 1127, "Networked information systems usage / Probation Department Policy / Procedure"
   e. Probation Department Directive number 1146, "Requests for Criminal Offender Record Information (CORI)"
   f. Probation Department Juvenile Manual
   g. COUNTY Information Security Strategic Plan
   h. COUNTY Security Standard for Network Connections to External Entities

SECURITY REQUIREMENTS

Item	Criterion	Cerner Resource or Comment
	ADMINISTRATION	
472.	CONTRACTOR shall develop and deliver a Security Planning and Standards Document that explains how PEMRS meets the legal and COUNTY security policy requirements.	
473.	CONTRACTOR shall provide COUNTY with comprehensive documentation of how to configure PEMRS security controls necessary to support and manage system security, including auditing and logs.	
474.	CONTRACTOR shall supply a security assessment analysis and report that identifies threats, risks, and vulnerabilities applicable to PEMRS and identifies appropriate remediation activities for CONTRACTOR and COUNTY.	
475.	PEMRS shall enable authorized administrators to assign restrictions and privileges to COUNTY defined Users or groups of users based on roles	
476.	PEMRS shall support removal of a User's privileges by an administrator by disabling the User's account without removing the account.	
477.	PEMRS shall support COUNTY Data Center Specified Hardware and Operating Software security updating / patching policies.	
478.	PEMRS shall not permit any unauthenticated User to access any System component or resource.	
479.	Prior to User logon, PEMRS shall display a restricted access warning message.	
	AUTHENTICATION	
480.	PEMRS shall integrate with the COUNTY's Lightweight directory Access Protocol (LDAP) in accordance with COUNTY supplied policies and implementation tools including access control policies such as password complexity, password retention periods, inactivity response time, consecutive failure lockouts, and every other COUNTY adopted authentication rule.	
481.	For the Phase 1 System and each Optional Phase, Specified Hardware and Operating Software shall not prevent the COUNTY from implementing its internal security controls, including two-factor authentication for external Users using COUNTY virtual private network or other COUNTY authorized web access tools.	
482.	PEMRS shall enable one and only one session per User unless an exception is authorized by the COUNTY Project Director.	
	AUTHORIZATION	

Item	Criterion	Cerner Resource or Comment
483.	PEMRS shall enable administrators to classify User privileges and access to System resources according to i) User, ii) User roles / positions and role-based groups, iii) organization or context of use such as COUNTY Facility or sensitivity of medical condition or service, iv) User-patient relationship.	
484.	PEMRS shall provide role-based authorization to control access to System resources and functions.	
485.	PEMRS shall enforce the most restrictive privileges needed by each role to conduct tasks specified for that role.	
486.	PEMRS shall enable specified roles to block specific parts of a patient's record from access by any other User (e.g. HIV or mental health information).	
487.	PEMRS shall support access to blocked information by a clinician for treatment purposes when necessary to manage an emergency. In this situation PEMRS shall require such clinician to document the need and shall not modify such clinician's specified privileges or roles.	
	DATA INTEGRITY	
488.	PEMRS shall support data integrity across all Application Software modules and all System resources.	
489.	PEMRS shall prevent any User from modifying or destroying a record item that has been signed by an authorized User.	Once data is signed or verified by a user, it can be amended or corrected, but the original version is retained.
	ELECTRONIC SIGNATURES	
490.	PEMRS shall provide an electronic signature capability that complies with applicable State and Federal laws and industry standards.	
491.	PEMRS shall ensure that the electronic signature mechanism is a) unique to the signer, b) under the signer's sole control, c) capable of being verified and d) linked to the data so that, if the data are changed, the signature is invalidated.	
492.	The PEMRS electronic signature capability shall comply with the Certification Commission for Healthcare Information Technology (CCHIT) certification criteria or equivalent: Security regarding Access Control, Security: Audit, and Security: Authentication.	
	AUDIT CAPABILITIES (CONTRACTOR's P2Sentinel Security Services)	

Item	Criterion	Cerner Resource or Comment
493.	CONTRACTOR shall provide Security Logging and Reporting services for PEMRS that conform to the Audit Trail and Node Authentication (ATNA) standards published by ONCHIT and conforming to the requirements of the American Recovery and Reinvestment Act of 2009 (ARRA), ("P2Sentinel Security Services").	Satisfied by the P2Sentinel Security Services
494.	CONTRACTOR shall provide COUNTY with five (5) accounts with access to the P2Sentinel Security Services.	Satisfied by the P2Sentinel Security Services
495.	CONTRACTOR shall provide one (1) web based training session for COUNTY Users.	Satisfied by the P2Sentinel Security Services
496.	CONTRACTOR shall provide online access to audit data for five (5) years following when such data is entered into PEMRS.	Satisfied by the P2Sentinel Security Services
497.	Following the five (5) year retention period for online access of the PEMRS audit data, CONTRACTOR shall supply COUNTY with a complete and comprehensive copy of such data.	Satisfied by the P2Sentinel Security Services
498.	CONTRACTOR shall support an average contracted log volume amount of 2GB/day	Satisfied by the P2Sentinel Security Services
499.	CONTRACTOR shall support 100 On-Demand reports on a monthly basis, 50 scheduled reports on a monthly basis and 5 custom audit reports on an annual basis	Satisfied by the P2Sentinel Security Services
500.	In addition to the LDAP logging and User tracking capabilities, CONTRACTOR shall track and log security related events from the System and generate retrievable audit records for them via the P2Sentinel Security Services. The events to be transmitted to P2Sentinel Security Services will be determined by the COUNTY as described in Exhibit D and shall include at a minimum patient record transactions including create, retrieve, updates and delete, patient registration, scheduling, and orders, and signature events.	Satisfied by the P2Sentinel Security Services

Item	Criterion	Cerner Resource or Comment
501.	In addition to the LDAP logging and User tracking capabilities and the tracking and logging of security related User actions in the System, CONTRACTOR shall track and log authorized User access failure, import and export including printing of Protected Health Information (PHI), and security administration activities and make the record of such events available to COUNTY via the P2Sentinel Security Services.	Satisfied by the P2Sentinel Security Services
502.	Audit event reports made available to COUNTY via the P2Sentnel Security Services shall include event date and time, result of the event, cause of the event, trigger for the event and/or User, and affected System components including but not limited to all hardware and operating software.	Satisfied by the P2Sentinel Security Services
503.	PEMRS shall support time synchronization for logging security events using Network Time Protocol or Simple Network Time Protocol (NTP/SNTP)	Satisfied by the P2Sentinel Security Services
504.	The P2Sentinel Security Services shall permit only authorized Users to access audit records, and shall prevent the modification or deletion of audit records except by explicitly authorized Users.	Satisfied by the P2Sentinel Security Services
	INTERNET TRANSACTIONS	
505.	PEMRS shall support encryption of all PHI over any open network, including the Internet, using the strongest available encryption standard at least at the level of the Advanced Encryption Standard (AES) and an open protocol such as SSL or IPSec.	
506.	PEMRS shall encrypt any PHI stored on or transition over any mobile, portable or removable device, including without limitation laptop computers, PDAs, CD-ROMs, and thumb drives, using the strongest available encryption at least at the level of Advanced Encryption Standard (AES).	
	WIRELESS	
507.	Specified Hardware and Operating Software shall permit COUNTY to implement secure wireless networks in accordance with COUNTY standards.	
	MethodM Online and/or UCern or Cerner.com SERVICES ("Online Services")	
508.	CONTRACTOR's Online Services shall not be used for storage, management, or reporting of PHI.	
509.	PEMRS security information and procedures shall not be stored on or available through CONTRACTOR's Online Services.	
510.	Authentication to the PEMRS Online Services sites shall be controlled via LDAP via the COUNTY VPN for off-site Users.	

Item	Criterion	Cerner Resource or Comment
511.	CONTRACTOR shall configure the Online Services sites to limit download and upload of data from the such sites and shall log and report on all authorized off-line work.	

III.   **REMOTE HOSTING SERVICES**

A.   GENERAL

(1)   CONTRACTOR shall: provide and shall host PEMRS at the Cerner Technology Centers (CTCs) located at:

3200 N. Rockcreek   777 NW Blue Parkway
Kansas City, MO 64117   Lee Summit, MO

where it is understood that one site hosts the Production Domain and the second site provides failover and backup facilities.

1. The CTCs shall provide uninterrupted power and service to the System.

2. The CTCs shall operate as N+1, dual-fed, redundant data centers that meet and shall continue to meet industry standards for Tier 4 Data Centers as described in the Exhibit G (PEMRS Assessment) and its attachments and in compliance with published standards (such as but not limited to those of the Uptime Institute, American National Standards Institute (ANSI) Telecommunications Infrastructure Standard TIA 942, or ISO 20000).

3. Each CTC shall operate twenty-four (24) hours per day, seven (7) days per week (herein sometimes "24 x 7"), every day of each year during the Term.

(2)   CONTRACTOR shall provide and manage Domains as recommended in Exhibit G (PEMRS Assessment) and its attachments, as defined under Exhibit A (Statement of Work) of the Agreement and provided for in Deliverable 3.3 ((Conceptual Design Document) (of this Exhibit A (Statement of Work) of the Agreement) but not less than the following:

1. One (1) Production Domain available upon COUNTY Acceptance of Deliverable 6.3.2 (Verified System Cutover and Conversion Plan for the Phase 1 System) of this Exhibit A (Statement of Work) and upon COUNTY Acceptance of Deliverable 7.3.2 (Verified System Cutover and Conversion Plan for each Optional Phase System) of the Statement of Work for which Remote Hosting Services apply, and subject to the provisions of Subparagraph 6.3 of the Agreement.

2. One (1) Certification Domain available upon COUNTY Acceptance of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) and upon COUNTY Acceptance of Deliverable 7.7

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(Production User of each Optional Phase System) of the this Statement of Work for which the Remote Hosting Option applies, and subject to the provisions of Subparagraph 6.3 of the Agreement.

3. One (1) Build Domain available upon COUNTY acceptance of Deliverable 1.3 (Project Control Document) of Exhibit A (Statement of Work) for the Phase 1 System and upon COUNTY Acceptance of Subtask 7.0.1 (Updated Project Control Document), of the for each Optional Phase System for which the Remote Hosting Option applies, as agreed by the COUNTY's Project Director and the CONTRACTOR's Project Director and subject to the provisions of Subparagraph 6.3 of the Agreement.

4. One (1) Training Domain available at least one month before the commencement of Subtask 6.4: (Develop and Deliver User Training for the Phase 1 System) of the Statement of Work and at least one month before the commencement of Subtask 7.4 (Develop and Deliver User Training for each Optional Phase System), for each Optional Phase System for which the Remote Hosting Option applies, as agreed by the COUNTY's Project Director and the CONTRACTOR's Project Director and subject to the provisions of Subparagraph 6.3 of the Agreement. The Training Domain shall remain available for COUNTY Use for a period of not less than six (6) months following COUNTY Acceptance of Deliverable 6.9 (Production Use of the Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities). For each Optional Phase System, the Training Domain shall remain available for COUNTY Use for a period of not less than six (6) months following COUNTY acceptance of Deliverable 7.9 (Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities) of the Statement of Work).

5. One (1) Mock Domain available no more than one (1) month following COUNTY's acceptance of Deliverable 15.1 (System Design Reports for Custom Programming Modifications and Additional Interfaces), of this Statement of Work for i) each Optional Phase System for which the Remote Hosting Option reasonably applies, as agreed by the COUNTY's Project Director and the CONTRACTOR's Project Director and subject to the provisions of Subparagraph 6.3 of the Agreement. and ii) for each Upgrade or major Update, COUNTY Acceptance of the Upgrade Plan as specified in Section III.A.(1).(h) of Exhibit D

(Service Level Agreement) subject to the provisions of
Paragraph 6.3 of the Agreement.

Item	Criterion	Cerner Resource or Comment
512.	PEMRS shall support 350 Peak Concurrent Logons.	
513.	PEMRS shall be available for Use 99.9% of the time.	
514.	PEMRS storage and processing capacity shall be sized adequately to support the number of registered patients, transaction volumes, images and growth as provided in Exhibit D (Service Level Agreement).	
515.	Scheduled Downtime (as defined in Exhibit D) shall not exceed 3 hours per quarter unless approved by COUNTY's Project Director.	

B.   ONGOING MAINTENANCE AND SUPPORT SERVICES

CONTRACTOR shall support and continue to support and maintain the System in accordance with Exhibit D (Service Level Agreement) and as provided in the System Operations Plan specified in Deliverables 10.1, 10.2, and 10.3 of Exhibit A. With respect to the Upgrade Implementation Services and the Application Management Services (AMS) elements of the Service Level Agreement, COUNTY shall be entitled to the following:

Item	Criterion	Cerner Resource or Comment
516.	Without limitation, all Upgrades and Updates that result from regulatory conditions as further specified in Subparagraph I.A.(6) of the Service Level Agreement (Exhibit D) of this Agreement.	
517.	No fewer than three (3) CONTRACTOR Upgrades during the Initial Term	
518.	Without limitation, installation, configuration and implementation of six of each of subscription items, including but not limited to Multum, Krames, and ICD9 (including the ICD10 updates), CMT/CPT code systems, and all other content required for the System to operate in accordance with the Specifications and the Agreement.	

ATTACHMENT B

SCHEDULE OF PEMRS SOFTWARE

Attachment B
Schedule of PEMRS Software

Capitalized terms used in this Attachment B without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

I.   SYSTEM SOFTWARE

Item	Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit	User Licenses Cost[1]
1.	PowerChart (Clinical Data Repository, PowerOrders, PowerNote)	See Attachment I	800 Users	Footnote 1
2.	CareNet: (Electronic Medication Administration Record (e-MAR), Clinical Documentation, PowerForms)	See Attachment I	800 Users	Footnote 1
3.	Capstone: (Registration Management, Scheduling Management)	See Attachment I	800 Users	Footnote 1
4.	PathNet (General Laboratory, Microbiology)	See Attachment I	800 Users	Footnote 1
5.	PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)	See Attachment I	800 Users	Footnote 1
6.	RadNet (Radiology Management)	See Attachment I	800 Users	Footnote 1
7.	ProFile (Health Information Management (HIM))	See Attachment I	800 Users	Footnote 1
8a.	Open Engine	See Attachment I	n/a	Footnote 1
8b.	MDIs Licensed Software and Open Port Licensed	IF-29010 - ADT/Demographics	n/a	See Total

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[1] License costs for the Specified JHIS Application Software (see Attachment I to this Exhibit A for list of JHIS Application Software) were paid under the JHIS Agreement. No additional license fees are required unless COUNTY exceeds the Scope of Use Limits.

Item	Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit	User Licenses Cost[1]
	Software	Incoming IF-29020 - Orders Outgoing (with statuses) IF-29035 - Appointment Notifications Incoming IF-29050 - Results Incoming (Discrete Data Elements) IF-29220 - ADT/Demographics Outgoing IF-29230 - Orders Outgoing (with statuses) IF-29245 - Appointment Notifications Outgoing IF-29636 - Reference Lab Interface/Two-way Workflow MD-BC20 - Beckman Coulter Act 2/Act 5 Diff (Bi-dir) MD-BY04 - Siemens Diagnostics Clinitek Status (Uni-dir) MD-TC03 - Telcor J&J Lifescan Surestrep POC		Phase 1 System Application Software
9.	Cerner ProVision Document Imaging (CPDI)	QC-1000	60 Gigabytes of images added per year and as defined in B.(1)(f) of Schedule I in Exhibit D	Included in pricing of CPDI Bundle under Third Party Software Below

Item	Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit	User Licenses Cost[1]
10.	Computerized Physician Order Entry (CPOE)	See Attachment I	800 Users	Footnote 1
11.	Discern Expert	XX-26105	800 Users	Footnote 1
12.	Discern Explorer	XX-26140	800 Users	Footnote 1
13.	CareAware Multi-Media Foundation – Digital Objects	MM-22260	800 Users	Footnote 1
14.	Millennium LDAP Authentication with Pass-through	CTP-SEC-LDAP-PASS (Simplified User Authentication)	Limited to PEMRS only	See Total Phase 1 System Application Software
	Total Phase 1 System Application Software			$117,047

Item	Subscription-Based Phase 1 Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit
1.	CMT/CPT Code	KS-22091 - Cerner CMT KS-22092 - CPT Codes	1 Production Domain 20 Users prior to Production Use 100 Users per year after Production Use
2.	Web Based Training	CVU-02061 - Cerner Learning Studio CVU-00044 - PathNet Laboratory Management Subscription WBT CVU-00079 - PathNet Specimen Management Subscription WBT CVU-00078 - PathNet Microbiology Subscription WBT	N/A

Item	Subscription-Based Phase 1 Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit
		CVU-00076 - PathNet Common Services WBT CVU-00077 - PathNet General Laboratory Subscription WBT	
3.	Krames Patient Education	KS-22203 Krames – HealthSheets Outpatient Clinic/Surgery Center	1 COUNTY Facility prior to Production Use 13 COUNTY Facilities after Production Use
4.	Knowledge Solutions for Ambulatory: Pkg	KS-26810 – Knowledge Solutions for Ambulatory: Pkg	30 Users

Item	Phase 1 Third Party Software	Scope of Use Limit	User Licenses Cost
1.	CPDI Bundle for Cerner ProVision Document Imaging (CPDI)	60 Gigabytes of images added per year and as defined in B.(1)(f) of Schedule I in Exhibit D. CPDI includes document imaging for 100 Concurrent Logons and utilizes batch capture for 12 remote full station licenses	$339,049
	Total Phase 1 Third Party Software		$339,049

Item	Phase 1 Content (Remote Hosting)	User Licenses Cost
1.	Failover Scripts	Included in Remote Hosting Services
2.	724Reorg	Included in Remote Hosting Services

Item	Optional Phase Systems Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit	User Licenses Cost[2]
1.	Telemedicine	IC-20393 iNet Virtual	800 Users	Footnote 2
2.	CareNet: PowerPlan	See Attachment I	800 Users	Footnote 1
3.	724Access Solution	724Access Solution	1 Production Domain	Footnote 2
4.	Enterprise Master Patient Index (EMPI)	CP-20746	800 Users	Footnote 2
5.	PowerInsight	See Attachment I	800 Users	Footnote 1
6.	PharmNet (Outpatient Pharmacy)	See Attachment I	800 Users	Footnote 1
7.	CareAdmin	PH-22780 - Point of Care Medication Administration	800 Users	Footnote 2
8.	Radiology Dictation	RA-22252 - RadNet RIS (Integrated Digital Dictation Integration Software) RA-22254 - Integrated Digital Dictation	1 Production Domain; 2 devices	Footnote 2
9.	eSignature (Patient Electronic Signature)	eSignature Solution CTM-ESIG-CAPT-MI	1 Production Domain	Footnote 2
10.	Cerner Picture Archiving and Communication System (PACS)	MM-22271 - Worklist Manager (Modality Worklist) MM-22273 - Cerner Provision Web MM-22720 - Cerner Provision Workstation	800 Users	Footnote 2
11.	Financials	See Attachment I	800 Users	Footnote 1
12.	Optional Phase System Interfaces identified in Attachment D (PEMRS Interfaces)	Items not part of JHIS licensed software: IF-29083 - Clinical Documents Medical Document Management Incoming IF-29330 - Clinical Documents	n/a	Footnote 2 (not part of JHIS licensed software) Footnote 1 (part of JHIS licensed software)

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[2] Optional Phase Systems will require mutual agreement on scope and pricing prior to Amendment execution under Paragraph 6 of the body of the Agreement.

Item	Optional Phase Systems Application Software Modules	CONTRACTOR Solution Code	Scope of Use Limit	User Licenses Cost[2]
		Outgoing IF-29970 - Pyxis Medstation Interface Items part of JHIS licensed software: IF-29522 - Purchase Order Acknowledgement IF 29562 Purchase Order Outbound IF – 29650 - Unidirectional Device Interface IF – 29655 - Bidirectional Device Interface IF – 29665 - PC Encoder Interface IF – 29275 - Billing Outgoing (Batch)		

Item	Optional Phase System Third Party Software	Scope of Use Limit	User Licenses Cost[3]
1.	Golden Gate License for 724Access	1 Production Domain	Footnote 3

See Attached: Third Party Software pass-through provisions.

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[3] Optional Phase System Third Party Software will require mutual agreement on scope and pricing prior to Amendment execution under Paragraph 6 of the body of the Agreement.

PHASE 1 THIRD PARTY PASS THROUGH PROVISIONS
CERNER PROVISION DOCUMENT IMAGING (CPDI)

PLEASE READ THE FOLLOWING TERMS AND CONDITIONS

This Product contains computer programs and other proprietary material and information, the use of which is subject to and expressly conditioned upon acceptance of this end-user license and service agreement ("Agreement").

This Agreement is a legally binding document between the organization that will make end-use of the Product (the "Customer") and EMC (which means (i) EMC Corporation, if Customer is located in the United States; (ii) the local EMC sales subsidiary, if Customer is located in a country in which EMC Corporation has a local sales subsidiary; and (iii) EMC (Benelux) B.V., S.a.r.l., if Customer is located outside the United States and in a country in which EMC Corporation does not have a local sales subsidiary). Unless EMC agrees otherwise in writing, this Agreement governs Customer's use of the Product except to the extent all or portion of the Product: (a) is the subject of a separate written agreement; (b) is the subject of a separate written agreement between Customer and a Distributor (provided such complies with EMC's agreement with the Distributor), or (c) is governed by a third party licensor's terms and conditions. Capitalized terms have the definitions in Section 1 or as otherwise indicated below.

By clicking on the "Agree" or "Accept" or similar button at the end of this Agreement, or proceeding with the installation, use or reproduction of this Product, or authorizing any other person to do so, you are representing to EMC that you are authorized to bind the Customer, and that you are agreeing on behalf of the Customer that the terms of this Agreement shall govern the relationship of the parties with regard to the subject matter in this Agreement and are waiving any rights, to the maximum extent permitted by applicable law, to any claim anywhere in the world concerning the enforceability or validity of this Agreement. If the terms of this Agreement are considered an offer by EMC, acceptance by Customer is expressly limited to the terms of this Agreement, to the exclusion of all other terms.

If you do not have authority to agree to the terms of this Agreement on behalf of the Customer, or do not accept the terms of this Agreement, (i) click on the "Cancel" or "Decline" or other similar button at the end of this Agreement and/or immediately cease any further attempt to install or use this Product for any purpose, (ii) remove any partial or full copies made from this Product; and (iii) return the Product, along with proof of purchase, to the company from whom you obtained the Product. In such event, no license shall be deemed to have been granted by EMC.

1. DEFINITIONS.

A. "Confidential Information" means and includes the terms of this Agreement (including all Quotes), the Products and Support Tools and all confidential and proprietary information of EMC or Customer, including without limitation, all business plans, product plans, financial information, software, designs, and technical, business and financial data of any nature whatsoever, provided that such information is marked or designated in writing as "confidential," "proprietary," or any other similar term or designation. Confidential Information does not include information that is (i) rightfully in the receiving party's possession without obligation of confidentiality prior to receipt from the disclosing party, (ii) a matter of public knowledge through no fault of the receiving party, (iii) rightfully furnished to the receiving party by a third party without restriction on disclosure or use; or (iv) independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information.

B. "Customer" means either (i) a natural person who is personally bound by the terms of this Agreement and utilizes the Product for personal use and not within the scope of employment with a business entity; or (ii) a business entity, its officers, directors, proprietors, trustees, owners, principals, employees, contractors, agents or representatives.

C. "Distributor" means a reseller, distributor, system integrator, service provider, independent software vendor, value-added reseller, OEM or other partner that is authorized by EMC to license the Product to end users. The term shall also refer to any third party duly authorized by a Distributor to license the Products to end users.

D. "Documentation" means the then-current, generally available, written user manuals and online help and guides for the Product provided by EMC.

E. "Evaluation Product" means a copy of the generally available or pre-release version of EMC software product which contains this Agreement, and any copies made by or on behalf of Customer, and all Documentation for the foregoing, licensed for a limited duration for the specific purpose of evaluation prior to licensing or purchase.

F. "Product" means the EMC software product which contains this Agreement, and any copies made by or on behalf of Customer, Software Releases, and all Documentation for the foregoing. Products do not include Evaluation Products.

G. "Product Notice" means the then-current notice by which EMC informs Customer of a Product's then-current use rights and restrictions, warranty term, warranty upgrade and maintenance terms. Product Notices may be delivered by means of Quotes, written notices, contract riders and/or a posting on the applicable EMC website, currently located at http://www.emc.com/products/warranty_maintenance/index.jsp. The terms of all applicable Product Notices shall be deemed incorporated into and made a part of this Agreement.

H. "Quote(s)" means one or more documents issued by EMC or a Distributor which identifies this Product, Evaluation Product, and/or a related Service, the applicable pricing and sufficient other information to complete the transaction.

I. "Service" means all services provided by EMC pursuant to this Agreement, if any.

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J. "Software Release" means any new version of Product that is made generally available by EMC to customers who are current in the payment of maintenance and support fees, but does not mean a new Product.

K. "Support Tools" means any hardware, software and other tools and/or utilities used by EMC to perform diagnostic or remedial activities in connection with Products.

L. "User" means Customer's agents, employees, consultants or independent contractors authorized by Customer to use the Products on Customer's behalf.

2. ORDERING, PRICING AND PAYMENT.

A. Products – EMC Quotes. A Quote issued by EMC to Customer will be deemed accepted by Customer when Customer places an order by: (i) signing the Quote and returning it to EMC, (ii) issuing a purchase order for the Products and/or Services on the Quote, or (iii) sending EMC an email or other writing accepting the Quote. A Customer order is complete as to Products when the Product is made available to Customer. Following EMC's completion of an order or portion thereof, EMC will issue an invoice for the Products with respect to which the order is completed, such invoice to reflect the price for such Products as set forth on the Quote. Customer shall pay EMC the price stated on the invoice and also pay or reimburse EMC for all related taxes or withholdings, except for those taxes based on EMC's net income. If Customer is required to withhold taxes, then Customer will forward any withholding receipts to EMC at tax@emc.com. All amounts are due in the currency stated on the Quote and in full 30 days after the date of EMC's invoice, with interest accruing thereafter at the lesser of 1.5% per month or the highest lawful rate.

B. Products – Distributor Quotes. Customer shall not be liable to EMC for payment related to Products or Services obtained by Customer through a Distributor. EMC's delivery obligation with respect to Quotes issued by a Distributor and accepted by Customer is complete when EMC makes the Product available to Customer or to Distributor for delivery to Customer, as the case may be. Any terms and conditions in a Quote issued by Distributor or any purchase order or other ordering documentation issued by Customer to Distributor shall not be binding upon EMC for any reason.

C. Delivery. Product may be provided by shipment of physical media or by electronic means, if available. Title and risk of loss to physical media, if any, transfers to Customer upon shipment except for Canada, where such title and risk of loss pass when at the time and place when the media clears Canadian Customs. Customer shall pay all shipment related charges and transit insurance.

D. Audit Rights. EMC shall have the right to audit Customer's usage of the Product to confirm compliance with the terms of the Agreement and the Quote. Should such audit indicate usage of Product in excess of that for which Customer has paid, in addition to any other rights EMC may have for breach of this Agreement and the Quote, Customer shall promptly reconcile its account with EMC and pay the EMC invoice, either directly or through the applicable Distributor designated by EMC, if any, that results from such reconciliation.

3. RIGHT TO USE

A. LICENSE GRANT. Subject to Customer's compliance with this Agreement, the Product Notice, and payment of all license fees, EMC grants to Customer a nonexclusive, perpetual (except as otherwise set forth in the applicable Product Notice and/or Quote), and non-transferable license (with no right to sublicense) to use the Product for internal business purposes only, for the number of applicable licensing units and in accordance with any other license terms or restrictions set forth in the Product Notice and/or Quote. The foregoing license shall commence on the date of shipment or physical media, if any or electronic availability of such Product to Customer. Documentation is licensed solely for purposes of supporting Customer's use of the Product as permitted in this Section.

B. EVALUATION PRODUCTS. For an Evaluation Product, subject to Customer's compliance with this Agreement and the Product Notice, EMC grants to Customer a nonexclusive, revocable, limited term, and non-transferable license (with no right to sublicense) to use such Evaluation Product for non-production evaluation purposes only, for the number of applicable licensing units and in accordance with any other license terms or restrictions set forth in the Product Notice and/or Quote. The foregoing license shall commence on the date of shipment or electronic availability of such Evaluation Product to Customer for a period not to exceed thirty (30) days ("Evaluation Period"). Documentation is licensed solely for purposes of supporting Customer's use of the Evaluation Product as permitted in this Section. Customer shall not, without EMC's prior written consent, copy, provide, disclose or otherwise make available the Evaluation Product in any form to anyone other than Customer's Representative, who shall use the Evaluation Product solely for Customer's internal evaluation purposes in a manner consistent with this Section. Customer shall be fully responsible to EMC for the compliance of its Representatives herewith. Customer shall not disclose the results of any comparative or competitive analyses, benchmark testing, infringement testing, or analyses of EMC's products to any third party. Customer hereby assigns to EMC all of Customer's right, title and interest in any feedback related to any pre-release version of the Evaluation Product. EMC does not commit, promise, or agree to finally release and/or offer for sale the Evaluation Product, whether or not perfected. EMC reserves the right to unilaterally cease and abandon any Evaluation Product development project at any time without any obligation or liability whatsoever. Customer shall have no obligation or commitment to license an Evaluation Product, whether such is subsequently perfected or not. Evaluation Products are Confidential Information under this Agreement. EMC does not provide maintenance or support for any Evaluation Product. CUSTOMER RECOGNIZES THAT EVALUATION PRODUCTS MAY HAVE DEFECTS OR DEFICIENCIES WHICH CANNOT OR MAY NOT BE CORRECTED BY EMC. EMC shall have no liability to Customer for any action (or any prior related claims) brought by or against Customer alleging that Customer's sale, use or other disposition of any Evaluation Product infringes any patent, copyright, trade secret or other intellectual property right. In event of such an action, EMC retains the right to terminate this Agreement and take possession of the Evaluation Product. THIS SECTION STATES EMC'S ENTIRE LIABILITY WITH RESPECT TO ALLEGED INFRINGEMENTS OF INTELLECTUAL PROPERTY RIGHTS BY THE EVALUATION PRODUCT OR ANY PART OF THEM OR BY THEIR OPERATION.

C. License Restrictions. All Product licenses granted herein are for use of object code only. Customer may copy the Product for backup purposes only, and may copy Documentation as reasonably necessary in connection with Customer's authorized internal use of the Product. Customer shall not, without EMC's prior written consent, use Product in a service bureau or similar capacity, or copy, provide, disclose or otherwise make available Product in any form to anyone other than Customer's Users, who shall use Product solely for Customer's internal business purposes in a manner consistent with this Agreement. Customer shall be fully responsible to EMC for the compliance of Customer's Users herewith.

4. WARRANTY AND DISCLAIMER.

A. Duration. The warranty term for the Products shall be as set forth in the applicable Product Notice in effect as of the date of the Quote under which Customer ordered each Product. In the event of a conflict between the Product Notice and this Agreement, the Product Notice shall control. Evaluation Products contain no warranty and are provided to Customer "AS IS."

B. Product Warranty. EMC warrants that, from the date of shipment or the date of electronic availability, as applicable, the Product (excluding Product Releases) will substantially conform to the applicable Documentation for such Software. EMC does not warrant that the operation of the Product shall be uninterrupted or error free, or that all defects can be corrected. EMC's entire liability and Customer's exclusive remedies under the warranties described in this Section shall be for EMC, at its option, to use reasonable efforts to remedy such defects or performance failure or to replace the affected Product. If EMC is unable to make the affected Product operate as warranted within a reasonable time, then EMC shall refund the amount received by EMC for the affected Product upon return of the specific Software to EMC or its Distributor. The foregoing shall not void any supplementary remedies made available to Customer by a Distributor, with respect to which EMC shall have no liability or obligation.

C. Warranty Exclusions. Except as expressly stated in the applicable warranty set forth in this Agreement, and to the maximum extent permitted by law, EMC (including its suppliers) provides Product and Evaluation Product "AS IS" and makes no other express or implied warranties, written or oral, and ALL OTHER WARRANTIES ARE SPECIFICALLY EXCLUDED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT, AND ANY WARRANTY ARISING BY STATUTE, OPERATION OF LAW, COURSE OF DEALING OR PERFORMANCE, OR USAGE OF TRADE.

5. PRODUCT SUPPORT.

A. Support and Maintenance. If Customer has purchased maintenance or support Services for the Product from EMC, such shall be delivered by EMC as specified in applicable Product Notices. If Customer ceases support and later wishes to re-instate support, then re-instatement may be subject to certification at EMC's then-current rates. If Customer has purchased maintenance or support Services for the Product from a Distributor, then such shall be delivered as specified in Customer's agreement with the Distributor.

B. Support Tools. Support Tools are owned by or licensed to EMC. Customer authorizes EMC to store Support Tools and spare parts at the installation site and agrees that such are for use only by EMC authorized personnel. Customer shall not make, and shall use reasonable care to prohibit its personnel or any third party from making any copies, use, disclosure or transfer of Support Tools and/or such spare parts. EMC is authorized, upon the conclusion of any maintenance or warranty period or at any other time, upon reasonable notice to Customer, to enter the installation site, or to use remote means, to remove and/or disable Support Tools and spare parts and Customer shall reasonably cooperate in this effort.

6. CONFIDENTIALITY. Each party shall (i) use Confidential Information of the other party only for the purposes of exercising rights or performing obligations in connection with this Agreement, and (ii) use at least reasonable care to protect from disclosure to any third parties any Confidential Information disclosed by the other party for a period from EMC's issuance of the first Quote until three (3) years following the termination date of this Agreement, except with respect to the Products, Evaluation Products and Support Tools, which shall remain Confidential Information until one of the exceptions stated in Section 1(A) above applies. Notwithstanding the foregoing, a receiving party may disclose Confidential Information pursuant to a valid order of a court or authorized government agency provided that the receiving party has given the disclosing party prompt notice so that the disclosing party will have an opportunity to defend, limit or protect against such disclosure.

7. OWNERSHIP AND RESTRICTIONS. Products and Evaluation Products are licensed only. No title to, or ownership of, the Products or Evaluation Products is transferred to Customer. Customer shall reproduce and include copyright and other proprietary notices on and in any copies, including but not limited to partial, physical or electronic copies, of the Product and Evaluation Products. Neither Customer nor its Users shall modify, enhance, supplement, create derivative works from, reverse assemble, reverse engineer, reverse compile or otherwise reduce to human readable form the Product or Evaluation Products without EMC's prior written consent, nor shall Customer permit any third party to do the same.

8. INDEMNITY. EMC shall (i) defend Customer against any third party claim that a Product or Service infringes a patent, or a copyright enforceable in a country that is a signatory to the Berne Convention, and (ii) pay the resulting costs and damages finally awarded against Customer by a court of competent jurisdiction or the amounts stated in a written settlement signed by EMC. The foregoing obligations are subject to the following: Customer (a) notifies EMC promptly in writing of such claim, (b) grants EMC sole control over the defense and settlement thereof, (c) reasonably cooperates in response to an EMC request for assistance, and (d) is not in material breach of this Agreement. Should any such Product or Service become, or in EMC's opinion be likely to become, the subject of such a claim, EMC may, at its option and expense, (1) procure for Customer the right to make continued use thereof, (2) replace or modify such so that it becomes non-infringing, (3) request return of the Product and, upon receipt thereof, refund the price paid by Customer, less straight-line depreciation based on a four year useful life for Equipment and a three year useful life for Product, or (4) discontinue the Service and refund the portion of any pre-paid Service fee that corresponds to the period of Service discontinuation. EMC shall have no liability under this Section 8 to the extent that the alleged infringement arises out of or relates to:

(A) the use or combination of a Product or Service with third party products or services, (B) use for a purpose or in a manner for which the Product or Service was not licensed or designed, (C) any modification made by anyone other than EMC, (D) any modifications to a Product or Service made by EMC pursuant to Customer's or a Distributor's specific instructions, (E) any technology owned or licensed by Customer or a Distributor from third parties, (F) any Evaluation Products, or (G) use of any older version of the Product when use of a newer Software Release made available to Customer would have avoided the infringement. THIS SECTION STATES CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND EMC'S ENTIRE LIABILITY FOR THIRD PARTY INFRINGEMENT CLAIMS.

9. LIMITATION OF LIABILITY.

A Limitation on Direct Damages. TO MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AND EXCEPT WITH RESPECT TO CLAIMS ARISING UNDER SECTION 8 OF THESE GENERAL TERMS AND CONDITIONS, EMC'S AND ITS SUPPLIERS' TOTAL LIABILITY AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR ANY CLAIM OF ANY TYPE WHATSOEVER, ARISING OUT OF PRODUCT, EVALUATION PRODUCT OR SERVICE PROVIDED HEREUNDER, SHALL BE LIMITED TO PROVEN DIRECT DAMAGES CAUSED BY EMC'S SOLE NEGLIGENCE IN AN AMOUNT NOT TO EXCEED (i) US$1,000,000, FOR DAMAGE TO REAL OR TANGIBLE PERSONAL PROPERTY; AND (ii) THE PRICE PAID BY CUSTOMER TO EMC FOR THE SPECIFIC SERVICE (CALCULATED ON AN ANNUAL BASIS, WHEN APPLICABLE) OR PRODUCT FROM WHICH SUCH CLAIM ARISES, FOR DAMAGE OF ANY TYPE NOT IDENTIFIED IN (i) ABOVE OR OTHERWISE EXCLUDED HEREUNDER.

B. No Indirect Damages. TO MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AND EXCEPT WITH RESPECT TO CLAIMS REGARDING VIOLATION OF EMC'S INTELLECTUAL PROPERTY RIGHTS OR CLAIMS ARISING UNDER SECTIONS 6 OR 8 ABOVE, NEITHER CUSTOMER NOR EMC (INCLUDING EMC'S SUPPLIERS) SHALL HAVE LIABILITY TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, OR INDIRECT DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUES, DATA AND/OR USE), EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

10. WAIVER OF RIGHT TO BRING ACTIONS. Customer waives the right to bring any claim arising out of or in connection with this Agreement more than eighteen (18) months after the earlier of the date that the Customer became aware of the cause of action giving rise to such claim or the date that it should reasonably have become aware of it.

11. GOVERNMENT REGULATIONS. The Products and the technology included therein provided under this Agreement are subject to governmental restrictions on exports from the U.S.; restrictions on exports from other countries in which such Products and technology included therein may be produced or located; disclosures of technology to foreign persons; exports from abroad of derivative products thereof; and the importation and/or use of such Products and technology included therein outside of the United States (collectively, "Export Laws"). Diversion contrary to U.S. law is expressly prohibited. Customer shall, at its sole expense, comply with all Export Laws and EMC export policies made available to Customer by EMC. Customer represents that it is not a Restricted Person, which shall be deemed to include any person or entity: (1) located in or a national of Cuba, Iran, North Korea, Sudan, Syria, or any other countries that may, from time to time, become subject to U.S. export controls for anti-terrorism reasons or with which U.S. persons are generally prohibited from engaging in financial transactions; or (2) on any restricted person or entity list maintained by any U.S. governmental agency. Certain information, products or technology may be subject to the International Traffic in Arms Regulations ("ITAR"). This information, products or technology shall only be exported, transferred or released to foreign nationals inside or outside the United States in compliance with ITAR.

12. TERMINATION. Customer may terminate this Agreement for its convenience upon thirty (30) days' notice to EMC or Distributor. With respect to Evaluation Products only, this Agreement shall automatically expire and terminate upon the conclusion of the Evaluation Period. Either Customer or EMC may terminate this Agreement upon written notice due to the other party's material breach of the terms governing use of the Product; provided that such breach is not cured within thirty (30) days after the provision of written notice to the breaching party specifying the nature of such breach. Upon termination of this Agreement, Customer shall cease all use and return or certify destruction of the applicable Product (including copies) to EMC. Upon termination of the Agreement, the following Sections hereof shall survive in accordance with their terms: 1, 2 (only if fees are due and owing at termination), 4C, 5B, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.

13. NOTICES. Any notices permitted or required under this Agreement shall be in writing, and shall be deemed given when delivered (i) in person, (ii) by overnight courier, upon written confirmation of receipt, (iii) by certified or registered mail, with proof of delivery, (iv) by facsimile transmission with confirmation of receipt, or (v) by email, with confirmation of receipt (except for routine business communications issued by EMC, which shall not require confirmation from Customer). Notices shall be sent to the address, facsimile number or email address set forth below, or at such other address, facsimile number or email address as provided to the other party in writing. Notices for EMC Corporation shall be sent to: 176 South Street, Hopkinton, MA 01748. Fax for legal notices: 508.293.7780. Email for legal notices: legalnotices@emc.com

14. MISCELLANEOUS. EMC may identify Customer for reference purposes. This Agreement (i) is the complete statement of the agreement of the parties with regard to the subject matter hereof; and, with the exception of the Customer Guide, (ii) may be modified only by a writing signed by both parties. Except for the payment of fees, neither party shall be liable under this Agreement because of a failure or delay in performing its obligations hereunder on account of any force majeure event, such as strikes, riots, insurrection, terrorism, fires, natural disasters, acts of God, war, governmental action, or any other cause which is beyond the reasonable control of such party. Customer shall not assign this Agreement or any right or delegate any performance without EMC's prior written consent, which consent shall not be unreasonably withheld. Customer shall promptly notify EMC, and EMC may terminate this Agreement on

thirty days' notice, if Customer merges with or is acquired by a third party or otherwise undergoes a change of control event. All terms of any purchase order or similar document provided by Customer, including but not limited to any pre-printed terms thereon and any terms that are inconsistent or conflict with this Agreement and/or a Quote, shall be null and void and of no legal force or effect. No waiver shall be deemed a waiver of any prior or subsequent default hereunder. If any part of this Agreement is held unenforceable, the validity of the remaining provisions shall not be affected. This Agreement is governed by: (i) the laws of the Commonwealth of Massachusetts when EMC means EMC Corporation; (ii) the laws of the applicable country in which the applicable EMC subsidiary is registered to do business when EMC means the local EMC subsidiary, and (iii) the laws of Switzerland when EMC means EMC (Benelux) B.V., S.a.r.l. In each case, the applicability of laws shall exclude any conflict of law rules. The U.N. Convention on Contracts for the International Sale of Goods shall not apply. In the event of a dispute concerning this Agreement, Customer consents to the sole and exclusive personal jurisdiction of the courts of competency in the location where EMC is domiciled.

15. COUNTRY SPECIFIC TERMS.

A. CANADA - The terms in this subsection A apply only when EMC means the EMC entity located in Canada - EMC Corporation of Canada:

 1. Section 2.C. - The second sentence is deleted in its entirety and replaced with "Title and risk of loss to physical media, if any, transfers to Customer at the time and place that the media clears Canadian Customs.

 2. Section 3.A. - The last two sentences are deleted and replaced with "The foregoing license shall commence on the date of shipment or physical media, if any when the media clears Canadian Customs or electronic availability of such Product to Customer." Documentation is licensed solely for purposes of supporting Customer's use of the Product as permitted in this Section.

 3. Add the following at the end of Section 14.

 The parties have required that this Agreement be drawn up in English and have also agreed that all notices or other documents required by or contemplated in this Agreement be written in English.

 Les parties ont requis que cette convention soit rédigée en anglais et ont également convenu que tout avis ou autre document exigé aux termes des présentes ou découlant de l'une quelconque de ses dispositions sera préparé en anglais.

B. United Kingdom - The terms in this subsection B. apply only when EMC means the EMC entity located in the United Kingdom - EMC Computer Systems (UK) Limited:

 1. Section 4.C. - The entire section is deleted and replaced with

 C. Warranty Exclusions. Except as expressly stated in the applicable warranty set forth in this Agreement and the applicable exhibits, EMC (including its suppliers) provides Products "AS IS" and makes no other express or implied warranties, written or oral, and ALL OTHER WARRANTIES AND CONDITIONS (SAVE FOR THE WARRANTIES AND CONDITIONS IMPLIED BY SECTION 12 OF THE SALE OF GOODS ACT 1979) ARE SPECIFICALLY EXCLUDED TO THE FULLEST EXTENT PERMITTED BY LAW, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND ANY WARRANTY ARISING BY STATUTE, OPERATION OF LAW, COURSE OF DEALING OR PERFORMANCE, OR USAGE OF TRADE.

 2. Section 9 is deleted in its entirety and replaced with the following:

 9. LIMITATION OF LIABILITY AND PRESERVATION OF DATA.

 A. The entire aggregate liability of EMC under or in connection with the supply of the Products, Evaluation Products or Service, whether in tort (including negligence), for breach of contract, misrepresentation or otherwise, is limited in respect of each event or a series of events: (i) to the amounts actually paid by Customer for the Products, Evaluation Products or Services which give rise to such liability during the twelve (12) month period immediately preceding the date of the cause of action giving rise to such claim; or (ii) Great British Pounds Sterling one million (£1,000,000), whichever is the greater amount. In no event shall either party be liable to the other or any other person or entity for loss of profits, loss of revenue, loss of use or any indirect, special, incidental, consequential or exemplary damages arising out of or in connection with this Agreement, the license of the Product or Evaluation Product, the provision of Services, and the use, performance, receipt or disposition of such Product or Evaluation Product or Services, even if such party has been advised of the possibility of such damages or losses. Nothing in this Agreement shall operate to exclude or restrict EMC's liability for: (a) death or personal injury resulting from negligence; (b) breach of obligations arising from section 12 of the Sale of Goods Act 1979; or (c) fraud.

 B. CUSTOMER OBLIGATIONS IN RESPECT OF PRESERVATION OF DATA. During the Term of the Agreement, the Customer shall:

 A. from a point in time prior to the point of failure, (i) make full and/or incremental backups of data which allow recovery in an application consistent form, and (ii) store such back-ups at an off-site location sufficiently distant to avoid being impacted by the event(s) (e.g. including but not limited to flood, fire, power loss, denial of access or air crash) and affect the availability of data at the impacted site;

 B. have adequate processes and procedures in place to restore data back to a point in time and prior to point of failure, and in the event of real or perceived data loss, provide the skills/backup and outage windows to restore the data in question;

C. use anti-virus software, regularly install updates across all data which is accessible across the network, and protect all storage arrays against power surges and unplanned power outages with Uninterruptible Power Supplies; and

D. ensure that all operating system, firmware, system utility (e.g. but not limited to, volume management, cluster management and backup) and patch levels are kept to EMC recommended versions and that any proposed changes thereto shall be communicated to EMC in a timely fashion.

3. Section 14 is amended by adding the following at the end: ". Each of the parties acknowledges and agrees that in entering into this Agreement, it does not rely on, and shall have no remedy in respect of, any statement, representation, warranty or understanding (whether negligently or innocently made) of any person (whether party to this Agreement or not) other than as expressly set out in this Agreement as a warranty. The only remedy available to Customer for a breach of the warranties shall be for breach of contract under the terms of this Agreement. Nothing in this Section 9 shall however operate to limit or exclude any liability for fraud. No term of this Agreement shall be enforceable under the Contracts (Rights of Third Parties) Act 1999 by a person that is not a party to this Agreement. If any part of this Agreement is held unenforceable, the validity of the remaining provisions shall not be affected."

C. Ireland - The terms in this subsection C. apply only when EMC means the EMC entity located in Ireland - EMC Computer Systems Ireland Limited:

1. Section 4.C. - The entire section is deleted and replaced with

C. Warranty Exclusions. Except as expressly stated in the applicable warranty set forth in this Agreement and the applicable exhibits, EMC (including its suppliers) and makes no warranties, and ALL WARRANTIES, TERMS AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED BY LAW, CUSTOMER OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES, TERMS AND CONDITIONS, OF FITNESS FOR PURPOSE, DESCRIPTION, AND QUALITY ARE HEREBY EXCLUDED TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW.

2. Sections 9 is deleted in its entirety and replaced with the following:

9. LIMITATION OF LIABILITY.

A. EMC does not exclude or limit its liability to the Customer for death or personal injury, or, breach of obligations implied by Section 12 of the Sale of Goods Act, 1893, as amended by the Sale of Goods and Supply of Services Act, 1980, or, due to the fraud or fraudulent misrepresentation of EMC, its employees or agents.

B. Subject always to subsection 9.A, the liability of EMC (including its suppliers) to the Customer under or in connection with an order, whether arising from negligent error or omission, breach of contract, or otherwise ("Defaults") shall be: (i) the aggregate liability of EMC for all Defaults resulting in direct loss of or damage to the tangible property of the Customer shall be limited to damages which shall not exceed the greater of two hundred per cent (200%) of the applicable price paid and/or payable for the Product, Evaluation Product or Service, or one million euros (euro 1,000,000); or (ii) the aggregate liability of EMC for all Defaults, other than those governed by subsection 9.B(i) shall be limited to damages which shall not exceed (a) in respect of the Product or Evaluation Product, the greater of one hundred and fifty per cent (150%) of the applicable price paid and/or payable or five hundred thousand euro (euro 500,000); or (b) in respect of the Services, the greater of one hundred and fifty per cent (150%) of the applicable charges paid and/or payable or five hundred thousand euro (euro 500,000).

C. In no event shall EMC (including its suppliers) be liable to Customer for (i) loss of profits, loss of business, loss of revenue, loss of use, wasted management time, cost of substitute services or facilities, loss of goodwill or anticipated savings, loss of or loss of use of any software or data; and/or (ii) indirect, consequential or special loss or damage; and/or (iii) damages, costs and/or expenses due to third party claims; and/or (iv) loss or damage due to the Customer's failure to comply with obligations under this Agreement, failure to do back-ups of data or any other matter under the control of the Customer. For the purposes of this Section 9 the term "loss" shall include a partial loss, as well as a complete or total loss.

D. The parties expressly agree that should any limitation or provision contained in this Section 9 be held to be invalid under any applicable statute or rule of law, it shall to that extent be deemed omitted, but if any party thereby becomes liable for loss or damage which would otherwise have been excluded such liability shall be subject to the other limitations and provisions set out in this Section 9.

E. The parties expressly agree that any order for specific performance made in connection with this Agreement in respect of EMC shall be subject to the financial limitations set out in sub-section 9.B.

F. The parties expressly agree that the provisions of Section 8, Indemnity, shall not be subject to the limitations and exclusions of liability set out in this Section 9.

G. CUSTOMER OBLIGATIONS IN RESPECT OF PRESERVATION OF DATA. During the Term of the Agreement the Customer shall:

A. from a point in time prior to the point of failure, (i) make full and/or incremental backups of data which allow recovery in an application consistent form, and (ii) store such back-ups at an off-site location sufficiently distant to avoid being impacted by the event(s) (e.g. including but not limited to flood, fire, power loss, denial of access or air crash) and affect the availability of data at the impacted site;

B. have adequate processes and procedures in place to restore data back to a point in time and prior to point of failure, and in the

event of real or perceived data loss, provide the skills/backup and outage windows to restore the data in question;

C. use anti-virus software, regularly install updates across all data which is accessible across the network, and protect all storage arrays against power surges and unplanned power outages with Uninterruptible Power Supplies; and

D. ensure that all operating system, firmware, system utility (e.g. but not limited to, volume management, cluster management and backup) and patch levels are kept to EMC recommended versions and that any proposed changes thereto shall be communicated to EMC in a timely fashion.

3. Section 10 is deleted in its entirety and replaced with the following:

10. WAIVER OF RIGHT TO BRING ACTIONS: The Customer waives the right to bring any claim arising out of or in connection with this Agreement more than twenty-four (24) months after the date of the cause of action giving rise to such claim.

D. European Union - The terms in this subsection D. apply only when EMC means an EMC entity located in the European Union:

1. The following is added at the end of section 3.A

Customer or its Users shall not, and Customer shall not permit any third party to, modify, enhance, supplement, create derivative works from, reverse assemble, reverse engineer, reverse compile or otherwise reduce to human readable form the Product or Evaluation Product without EMC's prior written consent, except to the extent that local, mandatory law grants Customer the right to decompile such Product or Evaluation Product in order to obtain information necessary to render the Product or Evaluation Product interoperable with other software. In such event, Customer shall first inform EMC of its intention and request EMC to provide Customer with the necessary information. EMC may impose reasonable conditions on the provision of the requested information, including the payment of a reasonable fee.

E. Australia - The terms in this subsection E. apply only when EMC means an EMC entity located in Australia - EMC Global Holdings Company (Australian Branch) ABN 86 699 010 685:

1. Sections 9 is deleted in its entirety and replaced with the following:

9. LIMITATION OF LIABILITY.

A. Limitation on Direct Damages. EXCEPT WITH RESPECT TO CLAIMS ARISING UNDER SECTIONS 6 OR 8 OF THIS AGREEMENT, EMC'S AND ITS SUPPLIERS' TOTAL LIABILITY AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR ANY CLAIM OF ANY TYPE WHATSOEVER, ARISING OUT OF PRODUCT, EVALUATION PRODUCT OR SERVICE PROVIDED HEREUNDER, SHALL BE LIMITED TO PROVEN DIRECT DAMAGES CAUSED BY EMC'S SOLE NEGLIGENCE IN AN AMOUNT NOT TO EXCEED (i) AUD$2,000,000, FOR DAMAGE TO REAL OR TANGIBLE PERSONAL PROPERTY; AND (ii) THE PRICE PAID BY CUSTOMER TO EMC FOR THE SPECIFIC SERVICE (CALCULATED ON AN ANNUAL BASIS, WHEN APPLICABLE) OR PRODUCT FROM WHICH SUCH CLAIM ARISES, FOR DAMAGE OF ANY TYPE NOT IDENTIFIED IN (i) ABOVE OR OTHERWISE EXCLUDED HEREUNDER.

B. No Indirect Damages. EXCEPT WITH RESPECT TO CLAIMS REGARDING VIOLATION OF EMC'S INTELLECTUAL PROPERTY RIGHTS OR CLAIMS ARISING UNDER SECTIONS 6 OR 8 ABOVE, NEITHER CUSTOMER NOR EMC (INCLUDING EMC'S SUPPLIERS) SHALL (a) HAVE LIABILITY TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, OR INDIRECT DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUES, DATA AND/OR USE), EVEN IF ADVISED OF THE POSSIBILITY THEREOF; AND (b) BRING ANY CLAIM BASED ON PRODUCT OR SERVICE PROVIDED HEREUNDER MORE THAN EIGHTEEN (18) MONTHS AFTER THE CAUSE OF ACTION ACCRUES.

C. Trade Practices Legislation: EMC's liability under any statutory right or any condition or warranty, including any implied by any State Fair Trading Act or the Trade Practices Act, 1974 (Cth) is, to the maximum extent permitted by law, excluded. To the extent that such liability cannot be excluded, EMC's liability is limited at the option of EMC to: (a) in the case of Product or Evaluation Product, any one or more of the following: (i) the replacement thereof or the supply of its equivalent; (ii) the repair thereof; (iii) the payment of the cost of replacement thereof or of acquiring its equivalent; or (iv) the payment of the cost of having such repaired, and (b) in the case of any Services performed by EMC under or in connection with this Agreement: (i) the supply of those Services again; or (ii) the payment of the cost of having those Services supplied again.

F. New Zealand - The terms in this subsection F. apply only when EMC means an EMC entity located in New Zealand - EMC CORPORATION (NEW ZEALAND BRANCH) AKOS. 1188883:

1. Sections 9 is deleted in its entirety and replaced with the following:

9. LIMITATION OF LIABILITY.

A. Limitation on Direct Damages. EXCEPT WITH RESPECT TO CLAIMS ARISING UNDER SECTIONS 6 OR 8 OF THESE GENERAL TERMS AND CONDITIONS, EMC'S AND ITS SUPPLIERS' TOTAL LIABILITY AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR ANY CLAIM OF ANY TYPE WHATSOEVER, ARISING OUT OF PRODUCT OR SERVICE PROVIDED HEREUNDER, SHALL BE LIMITED TO PROVEN DIRECT DAMAGES CAUSED BY EMC'S SOLE NEGLIGENCE IN AN AMOUNT NOT TO EXCEED (i) NZ$2,000,000, FOR DAMAGE TO REAL OR TANGIBLE PERSONAL PROPERTY; AND (ii) THE PRICE PAID BY CUSTOMER TO EMC FOR THE SPECIFIC SERVICE

(CALCULATED ON AN ANNUAL BASIS, WHEN APPLICABLE) OR PRODUCT FROM WHICH SUCH CLAIM ARISES, FOR DAMAGE OF ANY TYPE NOT IDENTIFIED IN (i) ABOVE OR OTHERWISE EXCLUDED HEREUNDER.

 B. No Indirect Damages. EXCEPT WITH RESPECT TO CLAIMS REGARDING VIOLATION OF EMC'S INTELLECTUAL PROPERTY RIGHTS OR CLAIMS ARISING UNDER SECTIONS 6 OR 8 ABOVE, NEITHER CUSTOMER NOR EMC (INCLUDING EMC'S SUPPLIERS) SHALL (a) HAVE LIABILITY TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL, OR INDIRECT DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUES, DATA AND/OR USE), EVEN IF ADVISED OF THE POSSIBILITY THEREOF; AND (b) BRING ANY CLAIM BASED ON PRODUCT OR SERVICE PROVIDED HEREUNDER MORE THAN EIGHTEEN (18) MONTHS AFTER THE CAUSE OF ACTION ACCRUES.

 C. Fair Trading Legislation. EMC's liability under any statutory right or any condition or warranty, including any implied by the Fair Trading Act 1986 or Consumer Guarantees Act 1993 ("FTA") or any similar law is, to the maximum extent permitted by law, excluded. To the extent that such liability cannot be excluded, EMC's liability is limited at the option of EMC to: (a) in the case of any Product or Evaluation Product, any one or more of the following: (i) the replacement thereof or the supply of its equivalent; (ii) the repair thereof; (iii) the payment of the cost of replacement thereof or of acquiring its equivalent; or (iv) the payment of the cost of having such repaired, and (b) in the case of any Services performed by EMC under or in connection with this Agreement: (i) the supply of those Services again; or (ii) the payment of the cost of having those Services supplied again.

HEALTH LANGUAGE, INC.
PASS-THROUGH PROVISIONS

1. **SUBLICENSE**. Health Language, Inc. (HLI) hereby grants a limited nonexclusive and nontransferable sublicense for certain HLI Technology through the Sublicensor to the end-user Sublicensee subject to a written agreement between Sublicensor and Sublicensee. Sublicensee acknowledges that HLI owns the HLI Technology subject to the sublicense.

2. **PROTECTIONS AND NONDISCLOSURE**. Sublicensee agrees that it shall protect all Intellectual properties in the HLI Technology, including without limitation, patents, copyrights, and trade secrets. Further, Sublicensee shall not disclose any HLI Technology to any third parties, nor reverse engineer any HLI Technology.

3. **WARRANTY DISCLAIMER.** ANY USE BY SUBLICENSEE OF THE HLI TECHNOLOGY IS AT SUBLICENSEE'S OWN RISK. THE HLI TECHNOLOGY IS PROVIDED FOR USE "AS IS" WITHOUT WARRANTY OF ANY KIND. TO THE MAXIMUM EXTENT PERMITTED BY LAW, HEALTH LANGUAGE, INC. AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES OF ANY KIND, EXPRESS, STATUTORY OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONNINFRINGEMENT.

4. **LIMITATION OF LIABILITY.** IN NO EVENT SHALL HEALTH LANGUAGE, INC. OR ITS SUPPLIERS HAVE ANY LIABILITY FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES IN ANY WAY ARISING OUT OF THE USE OR INABILITY TO USE ANY PRODUCT AND HOWEVER CAUSED AND UNDER ANY THEORY OF LIABILITY, INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS OR LOSS OF DATA, EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL HLI'S CUMULATIVE LIABILITY ARISING OUT OF THIS SUBLICENSE EXCEED THE AMOUNTS ACTUALLY PAID BY SUBLICENSEE TO SUBLICENSOR OR HLI PURSUANT TO THIS SUBLICENSE.

CPT
PASS-THROUGH PROVISIONS

The following provisions apply with respect to the software and content ("CPT") provided to the Client by the American Medical Association ("AMA"):

1.   Client acknowledges that an updated version of CPT in the System is dependent upon continuing contractual relations with the AMA;

2.   This license is non-transferable, nonexclusive, and for the sole purpose of internal use by Client in the territory in English. The territory is defined as: the United States and its territories and Argentina, Australia, Belgium, Canada, Chile, Colombia, Israel, Italy, Jamaica, Japan, Mexico, New Zealand, Norway, Panama, Portugal, South Africa, Spain, Sweden, Turkey, United Kingdom, Venezuela, and the Cayman Islands;

3.   Client acknowledges that a license fee or other consideration has been given to create a binding contract;

4.   Client is prohibited from using CPT or information contained therein in any public electronic bulletin board or public computer-based information system (including the Internet and World Wide Web unless subject to the provisions of the Cerner Business Agreement);

5.   Client is prohibited from publishing, distributing via the internet or other public computer based information system, translating, or transferring possession of the CPT contained in the System or a copy or portion of it.

6.   Client is prohibited from creating derivative works (including translation) based on CPT, selling, leasing, licensing the CPT or otherwise making the System or any portion thereof available to any unauthorized party;

7.   Client is prohibited from making copies of the CPT in the System except for the purposes of back up or archival purposes. CPT is copyrighted by the AMA and all notices of proprietary rights, including trademark and copyright in CPT must appear on all permitted back up or archival copies made by the Client;

8.   Client shall ensure that anyone who is authorized access to the CPT contained in the System complies with the provisions of this agreement;

9.   THE CPT LICENSED FROM THE AMA AND CONTAINED IN THE SYSTEM IS PROVIDED "AS IS," AND IN NO CASE SHALL AMA BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES, LOST PROFITS FOR SEQUENCE, ACCURACY OR COMPLETENESS OF DATA, FAILURE TO MEET CLIENT'S REQUIREMENTS, OR OTHER LEGAL THEORY. CLIENT'S SOLE REMEDY WITH REGARD TO THE SYSTEM IS AGAINST CERNER AND IS SET FORTH IN THE CERNER BUSINESS AGREEMENT BETWEEN CERNER AND CLIENT. CERNER AGREES TO CORRECT DEFECTS IN THE SYSTEM AS SET FORTH IN THE CERNER BUSINESS AGREEMENT. AMA FURTHER DISCLAIMS ALL LIABILITY FOR ANY CONSEQUENCES DUE TO USE, MISUSE OR INTERPRETATION OF INFORMATION CONTAINED IN OR NOT CONTAINED IN CPT;

10.   Client's license is subject to termination in the event of default;

11.   In the event that a provision is determined to violate any law or is unenforceable, the remainder of this agreement shall remain in full force;

12.   Client is subject to the following U.S. Government rights:

U.S. Government Rights. This product includes CPT which is commercial technical data and/or commercial computer software and/or commercial computer software documentation, as applicable which were developed exclusively at private expense by the American Medical Association, 515 North State Street, Chicago, Illinois 60610. U.S. Government rights to use, modify, reproduce, release, perform, display, or disclose these technical data and/or commercial computer software and/or commercial computer software documentation are subject to the limited rights restrictions of DFARS 252.227-7015(b)(2) (June 1995) and/or subject to the restrictions of DFARS 252.227-7202-1(a) (June 1995) and DFARS 252.227-7202-3(a) (June 1995), as applicable for U.S. Department of Defense procurements and the limited rights restrictions of FAR 52.227-14 (June 1987) and or subject to the restricted rights provisions of FAR 52.227-14 (June 1987) and FAR 52.227-19 (June 1987), as applicable, and any applicable agency FAR Supplements, for non-Department of Defense Federal procurements.

13.   CPT is copyrighted to the AMA and CPT is a registered trademark of the AMA.

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HEALTH LANGUAGE, INC.
PASS-THROUGH PROVISIONS

1. **SUBLICENSE**.   Health Language, Inc. (HLI) hereby grants a limited nonexclusive and nontransferable sublicense for certain HLI Technology through the Sublicensor to the end-user Sublicensee subject to a written agreement between Sublicensor and Sublicensee. Sublicensee acknowledges that HLI owns the HLI Technology subject to the sublicense.

2. **PROTECTIONS AND NONDISCLOSURE**.   Sublicensee agrees that it shall protect all Intellectual properties in the HLI Technology, including without limitation, patents, copyrights, and trade secrets. Further, Sublicensee shall not disclose any HLI Technology to any third parties, nor reverse engineer any HLI Technology.

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CPT
PASS-THROUGH PROVISIONS

The following provisions apply with respect to the software and content ("CPT") provided to the Client by the American Medical Association ("AMA"):

1.   Client acknowledges that an updated version of CPT in the System is dependent upon continuing contractual relations with the AMA;

2.   This license is non-transferable, nonexclusive, and for the sole purpose of internal use by Client in the territory in English. The territory is defined as: the United States and its territories and Argentina, Australia, Belgium, Canada, Chile, Colombia, Israel, Italy, Jamaica, Japan, Mexico, New Zealand, Norway, Panama, Portugal, South Africa, Spain, Sweden, Turkey, United Kingdom, Venezuela, and the Cayman Islands;

3.   Client acknowledges that a license fee or other consideration has been given to create a binding contract;

4.   Client is prohibited from using CPT or information contained therein in any public electronic bulletin board or public computer-based information system (including the Internet and World Wide Web unless subject to the provisions of the Cerner Business Agreement);

5.   Client is prohibited from publishing, distributing via the internet or other public computer based information system, translating, or transferring possession of the CPT contained in the System or a copy or portion of it.

6.   Client is prohibited from creating derivative works (including translation) based on CPT, selling, leasing, licensing the CPT or otherwise making the System or any portion thereof available to any unauthorized party;

7.   Client is prohibited from making copies of the CPT in the System except for the purposes of back up or archival purposes. CPT is copyrighted by the AMA and all notices of proprietary rights, including trademark and copyright in CPT must appear on all permitted back up or archival copies made by the Client;

8.   Client shall ensure that anyone who is authorized access to the CPT contained in the System complies with the provisions of this agreement;

9.   THE CPT LICENSED FROM THE AMA AND CONTAINED IN THE SYSTEM IS PROVIDED "AS IS," AND IN NO CASE SHALL AMA BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES, LOST PROFITS FOR SEQUENCE, ACCURACY OR COMPLETENESS OF DATA, FAILURE TO MEET CLIENT'S REQUIREMENTS, OR OTHER LEGAL THEORY. CLIENT'S SOLE REMEDY WITH REGARD TO THE SYSTEM IS AGAINST CERNER AND IS SET FORTH IN THE CERNER BUSINESS AGREEMENT BETWEEN CERNER AND CLIENT. CERNER AGREES TO CORRECT DEFECTS IN THE SYSTEM AS SET FORTH IN THE CERNER BUSINESS AGREEMENT. AMA FURTHER DISCLAIMS ALL LIABILITY FOR ANY CONSEQUENCES DUE TO USE, MISUSE OR INTERPRETATION OF INFORMATION CONTAINED IN OR NOT CONTAINED IN CPT;

10.   Client's license is subject to termination in the event of default;

11.   In the event that a provision is determined to violate any law or is unenforceable, the remainder of this agreement shall remain in full force;

12.   Client is subject to the following U.S. Government rights:

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OPTIONAL PHASE THIRD PARTY SOFTWARE PASS THROUGH PROVISIONS
FOR ENTERPRISE MASTER PERSON INDEX   5700_NET

Netrics, Incorporated
End-User Sublicense Restrictions

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1.1 The End-User may (1) use the Netrics Software only as an integral component of the Product; and (2) use the Netrics Software only for internal purposes and not for service bureau work or time-sharing arrangements;

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1.4 The End-User is not entitled to receive Source Code, and under no circumstances may the End-User reverse-engineer or reverse-compile the Object Code; and

1.5 The End-User's obligations hereunder remain in effect as long as it continues to possess or use the Netrics Software, and such obligations shall be for the benefit of Netrics and shall be enforceable by Netrics.

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2.1 "Code" shall mean computer-programming code. If not otherwise specified, Code shall include both Object Code and Source Code. Code shall include maintenance modifications and enhancements thereto if, when, and to the extent such maintenance modifications and/or enhancements are added to the Netrics Software.

2.2 "Object Code" shall mean Code in machine-readable form generated by compilation of Source Code.

2.3 "Source Code" shall mean Code in programming language such as "C" including all comments and procedural code, plus all related development documents.

OPTIONAL PHASE THIRD PARTY SOFTWARE PASS THROUGH PROVISIONS
FOR ESIGNATURE

Lexmark End User Software License Agreement

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OPTIONAL PHASE THIRD PARTY SOFTWARE PASS THROUGH PROVISIONS
GOLDEN GATE FOR 724ACCESS

GOLDENGATE

END USER LICENSE AGREEMENT

1.   DEFINITIONS

1.1 "**Agreement**" means the terms and conditions of the Reseller Agreement entered into between Cerner and GoldenGate.

1.1 *"CPU"* means a single central processing unit of a computer system.

1.2 *"Customer"* means Cerner.

1.3 *"Designated System"* means a computer system(s) that is: (i) owned or leased by Customer; (ii) within the possession and control of Customer; and (iii) identified in the relevant Product Exhibit as the designated system class and serial number on which the item of Software in such Product Exhibit is licensed to operate.

1.4 *"Documentation"* means the standard end-user technical documentation (whether in printed or machine-readable form) provided with the Software by GoldenGate to its licensees including any corrections or updates thereto provided by GoldenGate from time to time. Advertising and marketing materials are not Documentation.

1.5 *"Error"* means a reproducible failure of the Software to perform in substantial conformity with its Documentation.

1.6 *"GoldenGate"* means GoldenGate Software, Inc.

1.7 *"Product Exhibit"* means EXHIBITS A-2 and A-3 and any future exhibits to the Agreement executed by the parties under which Customer may purchase licenses for use in its Hosted Environment or for its internal use.

1.8 *"Product Use Environment"* means the environment, including without limitation the Designated System and number of CPUs identified in a Product Exhibit for which GoldenGate grants the right to Customer to Use the Software pursuant to the terms and conditions of this Agreement.

1.9 "*Software*" means the software that GoldenGate provides to Customer (in object code format only) as identified on a Product Exhibit, and any Releases (as defined in the Support Policy) thereto. "Software" does not include Third Party Software. Unless otherwise noted, the Software and Documentation are referred to collectively herein as "Software".

2.   GRANT AND SCOPE OF LICENSE

2.1 Software License. End User shall have a non-exclusive, non-transferable, revocable license to install and execute the Software.

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3. **PROPRIETARY RIGHTS.** End User acknowledges and agrees that the Software, including its structure, organization and source code constitute valuable trade secrets of GoldenGate. The Software is licensed and not sold to End User, and no title or ownership to such Software or the trade secrets embodied therein passes as a result of this Agreement or any act pursuant to this Agreement. The Software and all trade secrets therein are the exclusive property of GoldenGate, and all rights in and to the Software not expressly granted to End User in this Agreement are reserved.

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4.2 Exclusions. GoldenGate will have no obligation to correct, and GoldenGate makes no warranty with respect to, Errors related to: (a) improper installation of the applicable Software; (b) changes to the applicable Software that have not been approved by GoldenGate in the Documentation; (c) use of the applicable Software in a manner inconsistent with the Documentation and this End User Agreement; (d) combination of the applicable Software with third party hardware or software not conforming to the operating environment specified in the Documentation; or (e) malfunction, modification, or relocation of End User's servers.

4.3 Disclaimer. EXCEPT AS PROVIDED HEREIN, GOLDENGATE AND ITS SUPPLIERS HEREBY DISCLAIMS ALL WARRANTIES WHETHER EXPRESS, IMPLIED OR STATUTORY WITH RESPECT TO THE SOFTWARE, DOCUMENTATION, INSTALLATION SERVICES, SUPPORT SERVICES AND ANY OTHER PRODUCTS OR SERVICES PROVIDED TO **END USER** UNDER THIS AGREEMENT, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, ACCURACY AND SECURITY.

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6. **THIRD PARTY BENEFICIARY.** GOLDENGATE SHALL BE AN INTENDED THIRD PARTY BENEFICIARY, WITH THE RIGHT TO ENFORCE THE TERMS OF THIS END USER AGREEMENT DIRECTLY AGAINST END USER.

ATTACHMENT C

RELATED CONTRACTOR SOFTWARE PRODUCT DESCRIPTION

RELATED CONTRACTOR SOFTWARE PRODUCT DESCRIPTION

The following CONTRACTOR licensed software solution descriptions are attached:

Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Software Product Name
PowerChart (Clinical Data Repository, PowerOrders, PowerNote)	• PS-20576 • PV-20230	• PowerOrders • Clinical Office with PowerNote
CareNet: (Electronic Medication Administration Record (e-MAR), Clinical Documentation, PowerForms)	• PS-22719 • PS-22732	• Care Documentation • electronic Medication Administration Record (MAR)
CapStone: (Registration, Scheduling Management)	• CP-20735 • CP-20740	• Registration Management • Patient Tracking • Scheduling Management
PathNet (General Laboratory, Microbiology)	• PA-20070 • PA-20075 • PA-20080 • PA-22214	• General Laboratory • Microbiology • Anatomic Pathology • CAP SNOMED III
PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)	• PH-20160 • PH-25201 • KS-22004	• Inpatient Pharmacy • Departmental Clinical Supply Chain for Pharmacy • MediSource Foundation
RadNet (Radiology Management)	RA-20135	Radiology Management
ProFile (Health Information Management (HIM))	MR-20400	ProFile
Open Engine and • MDIs Licensed Software and Open Port Licensed Software	• OE-20850 • OE-22850 • OE-22870 • IF-29010 • IF-29020 • IF-29035 • IF-29050 • IF-29220 • IF-29230 • IF-29245	• Open Engine • TCP/IP Communication Services • Asynchronous Communication Services • ADT/Demographics Incoming • Orders Incoming (with Statuses) • Appointment Notifications Incoming • Results Incoming (Discrete Data Elements) • ADT/Demographics Outgoing

Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Software Product Name
	• IF-29636 • MD-BC20 • MD-BY04 • MD-TC03	• Orders Outgoing (with statuses) • Appointment Notifications Outgoing • Reference Lab Interface/Two-way Workflow • Beckman Coulter Act 2/Act 5 Diff (Bi-dir) • Siemens Diagnostics Clinitek Status (Uni-dir) • Telcor J&J Lifescan Surestrep POC
Cerner ProVision Document Imaging (CPDI)	QC-1000	Cerner ProVision Document Imaging (CPDI)
Computerized Physician Order Entry (CPOE)	PS-20576	PowerOrders
Discern Expert	XX-26105	Discern Expert
Discern Explorer	XX-26140	Discern Explorer
CareAware Multi-Media Foundation - Digital Objects	MM-22260	CareAware MultiMedia Digital Objects.
Krames Patient Education Content	KS-22203	Krames HealthSheets - Outpatient Clinic-Surgery Center
Knowledge Solutions for Ambulatory	KS-26810	Knowledge Solutions for Ambulatory
CMT/CPT Codes	• KS-22091 • KS-22092	• Cerner Controlled Medical Terminology • CPT4 Codes
Web-Based Training	• CVU-00044 • CVU-00079 • CVU-00078 • CVU-00076 • CVU-00077 • CVU-02061	• PathNet Laboratory Management Subscription WBT • PathNet Specimen Management Subscription WBT • PathNet Microbiology Subscription WBT • PathNet Common Services WBT • PathNet General Laboratory Subscription WBT • Cerner Learning Studio
Millennium LDAP Authentication with Pass-through	CPT-SEC-LDAP-PASS (Simplified User Authentication)	Millennium LDAP Authentication with Pass-through

Phase 1 System Application Software Modules	CONTRACTOR Solution Code	Software Product Name
Method M	MT-00001-MEM	MethodM

Optional Phase Systems Application Software Module	Solution Code	Software Product Name
Telemedicine	IC-20393	INET Virtual
CareNet: PowerPlan	CA-20344	PowerPlan
724 Access Solution	724 Access Solution	724 Access Solution
Enterprise Master Patient Index (EMPI)	CP-20746	Enterprise Master Patient Index (EMPI)
PowerInsight	PI-20616	PowerInsight Enterprise Data Warehouse
PharmNet (Outpatient)	PH-20170	Outpatient Pharmacy
CareAdmin	PH-22780	Point of Care Medication Adminstration
Radiology Dictation	• RA-22252 • RA-22254	• RadNet RIS (Integrated Digital Dictation Integration Software) • Integrated Digital Dictation
eSignature (Patient Electronic Signature)	eSignature Solution CTM-ESIG-CAPT-MI	eSignature Solution
Cerner Picture Archiving and Communication System (PACS)	• MM-22271 Worklist Manager (Modality Worklist) • MM-22273 Cerner Provision Web • MM-22720 Cerner Provision Workstation	Cerner PACS solution
Optional Phase System Interfaces identified in Attachment D (PEMRS Interfaces)	Items not part of JHIS licensed software: • IF-29083 • IF-29330 • IF-29970 The following are part of JHIS licensed software, but will be implemented as Optional Phase: • IF-29522 • IF-29562 • IF-29650 • IF-29655 • IF-29665 • IF-29275	Items not part of JHIS licensed software: • Clinical Documents Medical Document Management Incoming • Clinical Documents Outgoing • Pyxis Medstation Interface The following are part of JHIS licensed software, but will be implemented as Optional Phase: • Purchase Order Acknowledgement • Purchase Order Outbound • Unidirectional Device Interface • Bidirectional Device Interface • PC Encoder Interface • Billing Outgoing (Batch)
Financials	P0-20200	Materials Management

The solutions set forth in this Agreement may be defined by a Solution Description. Where applicable, such descriptions are referenced by solution to a Solution Description code on the applicable attachment and can also be viewed at

http://www.cerner.com/clientresources/solutiondescriptionlookup.

See Attached: Solution Descriptions

PowerChart: PowerOrders

Description

PowerOrders® is a major *PowerChart®* offering that coordinates order management and communication across all licensed, hospital-based facilities. *PowerOrders* forms the basis for Cerner's computerized provider order entry (CPOE) solution. As such, *PowerOrders* was designed with the physician workflow in mind, addressing the role's critical information and ordering needs. Along with physicians, other care providers including nurses, clerks and other clinicians are able to support order entry, review, validation, interdepartmental communication, inquiry, and reporting of clinical orders.

A comprehensive security matrix supports management and use of the system. Health personnel, depending on their security level and appropriate interfaces from non-Cerner departmental systems, can place orders for any department. Order inquiries are secured in the same manner.

PowerOrders includes the following components:

- Order Management

- Order Processing

- Order Inquiry

- Electronic Signature

- Charge Capture

- Security

- Foundations

Client Benefits

CPOE has been shown to enhance patient safety and quality, reduce costs and eliminate variance.

- Enhance Patient Safety and Quality

  - A unified closed loop medication management process is enabled when *PowerOrders* is licensed with Cerner's *Inpatient Pharmacy* (PH-20160) and *Medication Administration (MAR)* (PS-22732). Accuracy is improved and errors are prevented by unifying the physician, pharmacist and nurse in a single process.

  - Quality of care is improved through robust point-of-care decision support that provide clinical alerts for potential negative events, conflicts or reminders for wellness-oriented procedures, such as smoking cessation.

  - Paper-based problems are eliminated, including illegibility, communication breakdowns, incomplete information and time delays.

- Improve standardization and regulatory compliance

  - Access at the point of ordering to various types of information, such as order sets incorporating evidence-based clinical protocols and best practice care management guidelines, policies, and patient education materials leads to improved compliance with standards.

- Increase efficiency and save money

  - Efficient order entry is made possible through client-defined order sets with optional and required items. Configurable order screens and panels improve ease of use for unique clinician groups.

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PowerChart: PowerOrders

- o Redundant or duplicate orders are reduced with a single facility-wide system.

- o Lengths of stay are reduced due to the elimination of errors.

- o Assistance is provided for selecting cost-efficient treatment alternatives.

- o The system can be configured to eliminate time-consuming and unnecessary activities.

- o Billing accuracy is improved. Charges can be captured and sent at any point in the order process: at the time of ordering, upon receipt, upon collection, or when performed.

- o Accounts receivable and cash flow are improved through the use of electronic signature. Orders automatically can be routed to the appropriate individuals or roles. Multiple-signature requirements are supported.

- Coordinate care

  - o *PowerOrders* enable effective real-time communication across the entire care team; eliminate unnecessary call-backs; and reduce uncertainty about the status of orders or tasks.

Major Features

- *Order Management* – Orders are accepted for all departments from any PC in the health system or facility, including remote PCs, from any individual with the proper security. With an intuitive user interface designed for physicians and other clinicians, users can manage multidepartmental orders, medication orders, order sets, and recurring orders. *PowerOrders* supports

critiquing of orders at the time of order creation, providing patient-centered alerts and real-time quality improvement. Conflict checking for drug-allergy, drug-drug, drug-food, and food-allergy interactions and for duplicates is performed at the time of order entry via *MediSource Foundation* (which requires separate licensure).

- Some highlighted ordering features include:

  - o Ability to utilize consolidated order entry window.

  - o Ability to do online medication reconciliation at the time of admission, transfer and discharge.

  - o Single phase order sets allow the physician to quickly place a series of orders associated with a particular patient condition, diagnosis or problem. For example, rather than repeatedly placing the same lab, medication, and activity orders on a number of patients following surgery, order sets can be established for a specific patient population.

  - o Personal single phase plans of care can be created based on personal treatment preferences. These plans may be saved and reused across patients.

  - o A merge view enables the clinician to perform proactive duplicate checking of a single phase order set against all active orders.

  - o Visual indicators permit an order to be associated with other orders for efficient administration of medications.

  - o Drop Down Plan Order Sentences let clinicians choose order sentences and

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quickly select order details. This is required to customize the orders/order sets based on patient need.

o Order favorites support physicians to efficiently organize their most frequently used orders and order sets. Using this feature, physicians can save a prestructured order set and quickly select it from their favorites while placing orders.

o Diagnoses (ICD-9-CM) codes can be linked to orders at the time of order entry.

o When a medication or test is selected, the system offers common ways to order the item, thus allowing quick and easy order entry. Simple navigation features allow clinicians to identify missing information in the order details.

o *Executable Knowledge*® (which requires separate licensure) enables embedding knowledge, evidence and best practices from a variety of industry-leading sources.

o Reference text and URL links, used to support the viewing of evidence, policies, and procedures, can be associated with an orderable.

o A Dose Range Checking component establishes minimum and maximum dose guidelines for the safe administration of medications, so that medication orders can be screened based upon age ranges, routes of administration, single, daily and therapy doses, and other patient-specific modifiers, including renal status. This function provides an alert to clinicians

when ordering medications considered outside the safe range for the patient condition. In those cases where the clinician decides to override the alert, the reason is captured.

o Life-Time Cumulative Dosing. A small group of drugs are stored in the body for long periods of time, which can become toxic and dangerous as they continue to accumulate over time. This feature calculates previous medication dosing, and maintains a history of cumulative dosing to prevent adverse effects created when excessive doses are administered over the patient's lifetime. Cerner provides this capability for only specific drugs that have lifetime limits.

o Cumulative dosing therapy checking (planned capability) can enable clinicians to check doses across multiple orders. For example: a patient has orders for Acetaminophen, Percocet and Darvocet-N-100. Cumulative dosing therapy function can check the cumulative dose of acetaminophen across these orders and alert if it is above a daily range.

o Standardized dosing assists in converting difficult-to-administer doses that cannot be accurately measured to doses that match hospital standards. For example, if a medication is ordered for 21.3 mg, based on client-defined parameters, the dose could be standardized by the system to 22mg.

o Tapered dosing allows the clinician to order decreasing/increasing doses of a drug during a single order-entry conversation. This permits tapering the dose over time until the patient no

PowerChart: PowerOrders

longer requires the medication. The feature provides improved accuracy with less effort and no need for nearly identical orders on a daily basis.

o Dose Calculator incorporates patient parameters when determining normalized dose calculation. The dose calculator resides within the ordering conversation so that the clinician can process dose calculations during the ordering process. A preference can be set so that the dose calculator automatically evokes when a normalized dose is entered. For example, the clinician can enter the dose as 5 mg per kilogram and the system automatically will calculate and display a 100 mg dose if the patient's weight is 20 kilograms.

o Weight-based dosing allows for the optimization of medication dosing in accordance with a patient's weight or body surface area (BSA) to ensure safe and effective dosing of medications in pediatric population, or when particularly toxic medications are being ordered.

o *PowerOrders* permits modifying an order without requiring the cancellation of the entire order for the purpose of changing one or more order parameters. Modifications to orders can be made by accessing the order, selecting "Modify," and changing only the details that require revision. The system clearly indicates that a modification has occurred and maintains a single order ID. The original order details, as well as any subsequent modification details (with time and date stamp), are stored in the order history and accessible by any user with the appropriate security clearance for review. Modified details

immediately are reflected throughout the system and are available on a real-time basis to all involved clinicians.

o Modifying an order set or protocol prior to a patient's actual visit is supported. The clinician may make changes to a standard group of orders and save changes to individualize patient care prior to placing the orders into an active status. The changes are initiated upon patient arrival.

o *Order Processing* – Order status updates are supported, and via the PowerChart *Clinical Data Repository* (PS-20570), departmental results and foreign system results can be viewed. User-defined requisitions, procedure preparations, consent forms, and labels can be printed at appropriate locations, with licensure of the appropriate software, services, and hardware. Order sheets can be printed at user-defined intervals.

o *Order Inquiry* – Several formats are available to inquire about orders. Inquiry formats are intuitive and designed to meet the varying needs of multiple health professionals.

o Orders can be routed automatically for online review by nurses and physicians.

o *Prescription writing* - Provides users with the tools to facilitate the Prescription Process. The prescription process is defined as the process of selecting an appropriate generic or brand-name medication, checking for potential medication interactions and/or side effects, and finally producing a written prescription that can then be

PowerChart: PowerOrders

handed to a patient or automatically faxed to a retail pharmacy. The writing of any prescription is reduced to as little as two mouse or pen-based clicks.

- o *Electronic Signature* – Physicians who prefer electronic queueing and validation of orders are supported. Certain orders can be queued to the attending physician for cosignature, if necessary, before release to the department.

- o Order screens and order pick lists can be defined based on medical specialty, department, nursing unit, patient needs, procedure, and any other user-defined designations. Screen views can be defined by location, position, or user.

- o *Security* – A comprehensive security system addresses the individual user, procedure, department, or service. Individual security is defined to order, validate, co-sign, perform, verify, and inquire. At the procedure level, order cosignature, nursing validation, inquiry, verification, and performance security levels are defined. Individuals can be restricted to viewing information only on those patients in their assigned locations.

- ▪ *Charge Capture*-- This function provides the ability to generate a charge on an order and to credit the charge if the order is cancelled. Your organization can define at what point in the life of the order that the charge drops. Charging based on charting administrations is supported at both the dose and the bulk item dispensed. Clinicians easily can retrieve online charge information using the charge viewer.

- ▪ *Foundations* – In addition to the features inherent within *PowerOrders, Foundations* functionality also is included. *Foundations* refer to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information

Cerner Millennium Integration Benefits

Benefits of using *PowerOrders* in a Cerner Millennium® environment include the following:

- ▪ Orders tailored to the department with licensing of the appropriate Cerner departmental systems, with order status updates as a by-product of order processing by these systems.

- ▪ Duplicate checking according to the departmental settings of other Cerner departmental systems.

- ▪ Elimination of paper requisitions and worklists, faxed or hand-delivered orders, and transcription of orders to multiple documents with licensing of the appropriate Cerner departmental systems.

PowerChart: PowerOrders

- Data management and operational functions established for sites having multiple Cerner systems.

- Common reference tables provided for other Cerner systems.

- Organizations can build from existing *PowerOrders* functionality to address more complex and sophisticated order management needs.

  o With *PowerPlan*™ (CA-20344), hospital-based institutions can facilitate comprehensive multidisciplinary planning, outcomes management and coordination of care for patients.

  o Organizations can manage more sophisticated and complex medication ordering needs to include knowledge-driven medication ordering, patient-specific medication ordering and time zero scheduling.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium Release 2000, version 2000.01

Software Prerequisites

Clinical Data Repository (PS-20570) and Executable Knowledge for Regulatory Standards (KS-26725), and either MediSource Foundation (Enterprisewide) (KS-22004) or MediSource Foundation (By net, per facility) (KS-22005) are required. Adverse drug events are reduced through clinicians' advisement of drug-drug, drug-allergy, and drug dosage recommendations via MediSource Foundation (Enterprisewide) (KS-22004) or MediSource Foundation (By net, per facility) (KS-22053). MediSource Foundation also provides dose-range checking content that audits the reasonableness and safety of drug dosing corresponding with patient parameters such as age and weight. Further, MediSource Foundation includes adult and pediatric order sentences, drug-disease contraindications and drug images. RXBuild and content support the rapid generation of prescriptions and drug orders.

PowerChart: PowerOrders

System Resource Considerations

The CPU processing cycle capacity required for *PowerOrders* is measured in terms of the number of orders placed per day for the system or facilities who are licensed to use this solution. Other contributing factors are whether electronic signature will be used and the requirement mix between Cerner-based departmental or facility-wide systems versus non-Cerner (foreign) system interfaces.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

General Availability
PowerChart Office

CERNER

Clinical Office with PowerNote

Description

Clinical Office with PowerNote is a major offering within the *PowerChart Office Management System* that incorporates a powerful combination of state-of-the-art relational database technology and easy-to-use Microsoft Windows-based functionality to address the needs of clinical information users in ambulatory care settings. This solution supports the broad range of clinical activities that occur within a physician office, clinic, or large physician organization (such as a multisite clinic or management service organization) and connects the office together with others in the community. *Clinical Office with PowerNote* automates key activities of the care team in both primary and specialty care settings.

It also automates the creation of clinical documentation in structured form via *PowerNote. PowerNote* includes the *PowerNote* user tool, basic clinical content, one or more sample documentation templates called *Care Designs,* and a separate tool (the *Knowledge Editor)* used to create, customize, and maintain *Care Designs* that run within *PowerNote.*

Clinical Office with PowerNote includes the following components to support ambulatory care activities:

> *Care Support*
> *Inbox*
> *PowerChart Office Organizer*
> *Immunization Schedule*
> *Pediatric Growth Chart*
> *Advanced Clinical Documentation*
> *PowerNote*

Order Communications (including *EasyScript Prescription Writer)*
Patient Locator
Clinical Reporting Functions
Foundations

Client Benefits

Reduces the need for transcription and review of progress notes, and therefore saves time, by enabling the creation of documentation as a by-product of the office workflow

Improves coordination/identification of persons/patients at any/all locations

Provides real-time access to cross-disciplinary patient results and information, supporting timely clinical decision making and health planning and promoting optimum outcomes for patients, providers, and plans

Eliminates chart pulls and provides all clinical staff with simultaneous access to the chart from any location at any time, decreasing workflow bottlenecks that may occur with the paper chart

Supports true outcomes monitoring through guideline-driven, problem-focused care documentation that creates codified progress notes available for ad hoc or expert system analysis, improving the quality of care long-term

Ensures awareness of and adherence to institutional standards of care via *PowerNote,* improving the uniformity and quality of care

Meets JCAHO requirements and HIPAA patient confidentiality guidelines

Decreases time spent by staff answering telephone calls for new or STAT results

Increases referral physician satisfaction by enabling up-to-the-minute updates of patient status

Eliminates the need to wait hours or days for paper reports, improving the timeliness of decision making and reducing risk and costs

Reduces the number of incomplete charts via online electronic signature, decreasing the number of days to submit a bill and thus improving cash flow

Reduces or eliminates time and material costs associated with printing, copying, and distributing paper reports

Eliminates charge entry when used in conjunction with the *Ambulatory Business Office* (PV-20235) solution (or appropriate interfaces to billing systems)

Minimizes physician interruptions by supporting a streamlined workflow and telephone message documentation and support when used with *Ambulatory Support Office* (PV-20240)

Improves quality of care through the implementation of clinical alerts for impending negative events or trends and of reminders for wellness-oriented procedures, such as immunizations, physicals, and mammograms, with licensing of *Discern Expert* (PV-26105)

Major Features

The *Care Support* component is a set of tools that automate the activities performed by the care team with respect to an encounter. Key *Care Support* features include support for standard, electronic clinical information entry

forms and text templates as well as problem-oriented, encounter path-driven structured clinical documentation; intraoffice and external service provider order communications; and workflow management. Users have access to only the features they need within *Care Support;* the level of access to any information can be restricted through Cerner's robust security model included in Cerner's embedded *Foundations* functionality that automates shared processes and tasks. Different security settings can be defined for different types of users to allow flexibility in supporting the practice.

The *Inbox* component is designed for advanced messaging. It supports the capture and sharing of information in the physician office. *Inbox* streamlines communication to eliminate paper messages, provides immediate access to important new information (such as new laboratory results, home health updates, and refill requests) or in-office orders, and distributes work automatically to appropriate office resources. Any one of the *Inbox* items that is directly related to a patient supports a direct link to that patient's electronic medical record, enabling the clinician to simply double-click to access the patient chart immediately. Alternatively, selected items (such as phone messages) can be rerouted to other staff members to be placed on their personal *Inbox* to-do lists.

The *PowerChart Office Organizer* component includes *Inbox* integration and provides clinical workstation functionality that presents a cross-disciplinary, member-focused view of clinical information. It provides access to result data and documents from both interfaced foreign systems and *Clinical Office with PowerNote.* When used in conjunction with interfaces to appropriate third-party systems, images and waveforms also can be accessed. Features of *PowerChart Office Organizer* include the following:

Information is conveniently displayed as icons along a timeline in the IntelliStrip Automated Interactive Record.

Access to member-focused clinical information is provided, with multiple presentation formats, including documents, flowsheets, and graphical records.

PowerChart Office Organizer supports the identification and tracking of patient-provider relationships.

The organizer tool within *Clinical Office with PowerNote* supports access to patient lists and *Inbox* functions. Types of patient lists supported include patient-provider relationship (PPR), census/location, scheduled, personal, and group patient lists.

PPR patient lists are used to group patients in relation to a specific provider's role. Providers can create lists of all patients with whom they have established a clinical relationship.

Census/location lists are used to group patients by their physical locations. Census/location lists are automatically updated when patients are registered, transferred, or discharged from a defined area via *Support Office* or an interface to a foreign patient management system.

The scheduled patient list, provided when *Ambulatory Support Office* is licensed, displays those patients who are scheduled to see a particular provider for the defined time period.

Personal patient lists can be used to group patients by a common, user-identified feature. Personal patient lists are updated and maintained by the individual clinician.

A group list enables a clinician to list patients in his or her patient list tab that have patient-provider relationships established with a different provider in the group.

The integrated *Inbox* functions include support from within *PowerChart Office Organizer* for personal telephone messages; e-mail messages and patient-centric notifications when used with third-party, MAPI-compliant e-mail systems, including notification of abnormal results; notification of documents to be signed or endorsed and results to be endorsed; and lists of orders to be reviewed/completed and signed.

Security-controlled, multisite access to clinical notes is supported.

Automated viewing, signature, modification, and annotation of clinical notes entered through a transcription interface, as well as through *Medical Transcription Management* (PV-22810) when licensed, are supported, with automatic capture of the date/time and ID of the provider making the entry.

For any note that has been verified, addendum and correction logic is fully supported. Corrections are indicated via a strike-through feature.

Document/note sorting allows display by hierarchy, date, type of note, and provider type.

The summary sheet is a health-oriented overview that provides a relevant subset of clinical and demographic information to help clinicians quickly assess a person's health status and occupational, demographic, and health plan information. Each practice and user can define the elements from the medical record to include in the summary sheet. Information

available includes the patient's name, demographic data, and health plan information; a problem list; an allergy list (including type, reaction indication, onset and resolution indication, and a codified entry for drug-allergy checking); a medication profile; an immunization list; and a recent encounter list.

Flowsheet views for results (such as lab results or vital signs) and orders are supported, with visual parameters such as column widths, event sets, and time ranges definable by site, location, service, position, or user. Text and discrete data can be displayed within a flowsheet. Documents and images can be viewed from the flowsheet in an integrated view. The navigator menu provides one-click direct access to any section within the flowsheet, along with the ability to hide undesired sections and thus reduce visual distractions. Flexible time-scale and display rules in the flowsheet enable the user to scan large amounts of data and then drill down into areas of interest.

The *Immunization Schedule* provides a dynamic patient immunization schedule based on documented immunizations and a Center of Disease Control (CDC) reference schedule. Beyond the standard medication documentation data elements, it supports the capture of Vaccine Information Sheet (VIS) date, Vaccine For Children (VFC) status, administration notes and travel destination (when applicable). The clinician can reschedule or permanently remove a vaccine series from the patient schedule.

The *Pediatric Growth Chart* provides the CDC graphic view of a child trend in growth. The growth charts currently available include height and length for age, weight. for age and head circumference. Additional features being added to the growth chart include documentation and plotting of bone age, mid-parental height (MPH), and annotations. Exact

percentile and z-scores are calculated on documented measurements and displayed to the clinician in either a detailed view or a table view. In addition to these calculations, the clinician can calculate growth velocity between multiple, user selected, measurements.

Advanced Clinical Documentation is a highly sophisticated component that automates and streamlines the process of clinical documentation. *Advanced Clinical Documentation* offers the clinician a series of documentation forms or clinical notes templates that combine the care documentation and subsequent automated ordering processes into a streamlined workflow. The physician can choose from templates or forms to assist in documenting normal or abnormal visits. Once completed, the newly created documents or progress notes can be authenticated and stored in the medical record. Completing the progress note simultaneously communicates all patient plans to relevant components of the system. *Advanced Clinical Documentation* supports typewritten text in addition to predefined templates.

PowerNote embedded within *Clinical Office with PowerNote* provides additional documentation capabilities. It offers a series of options or smart pick lists that present patient-, symptom-, guideline-, and health plan-relevant documentation and plan elements, automating the creation of clinical documentation in structured form. *PowerNote* is offered with core content necessary to create documentation templates or pathways called *Care Designs,* as well as one or more sample *Care Designs.* Also included is the *Knowledge Editor*, which is employed to build, customize, and maintain *Care Designs* for use within *PowerNote.* Predefined *Care Designs,* as well as *Care Designs* built by the client site via the *Knowledge Editor,* are arranged as hierarchical lists that enable the user to record patient information, assessments, and plans of care in structured, coded form. A clinical note, in

sentence form, also is created through the selection of items from the lists. For convenience and efficiency, the *Care Designs* encounter pathway establishes the list of items that typically are documented and ordered by a clinician. The physician can choose from this list or from the complete list of available orderable items.

Superbill Order Communications functions build on Cerner's embedded *Foundations* functionality supporting order management and work in tandem with *Advanced Clinical Documentation* and *PowerNote* to support the communication of requests for procedures, medications, therapies, referrals, and other clinical plan elements to service providers inside or outside the practice or office. In addition, drug-drug, drug-allergy, and drug-food checking can be performed with separate licensure via *MediSource Foundation (Enterprise-wide)* (KS-22004) *or MediSource Foundation (By Net, Per Facility)* (KS-22005)*, or MediSource Patient Specific* (KS-22001) as well as checks for evidence of duplicate therapy at order time. *EasyScript Prescription Writer* reduces the effort involved in ordering any prescription to two clicks.

Users can communicate complete or partial orders to external service providers (such as regional labs, specialists, or hospitals) by printed form, fax, electronic mail, or electronic data interchange (EDI) with licensing of the appropriate interface. Orders internal to the installed setting are routed directly to the resource, updating the resource's to-do list and triggering ancillary systems and applications or foreign, interfaced systems. *Superbill Order Communications* supports industry-standard ICD-9 and CPT coding for communicating both with *Ambulatory Business Office* and, via interface, with any external billing system, with licensing of the appropriate sublicensed and licensed software.

Patient Locator supports intra- and interfacility patient tracking. This component employs a simple drag-and-drop user interface to allow clinical staff to create a custom map of their location. In addition, when used with *Ambulatory Support Office,* icons representing checked-in patients, patients waiting for the nurse, patients waiting for the physician, patients in a lab or with the radiologist, rooms that are being held, and rooms that need to be cleaned are displayed, so that clinical staff can easily identify where patients are, how long they have been there, and what rooms are available.

Clinical Reporting Functions within the *Clinical Office with PowerNote* solution are included via Cerner's embedded *Foundations* functionality. They provide a framework for documenting information that meets day-to-day office reporting needs and satisfies regulatory report requirements. Provided with the system is a set of standard operational reports that address quality-of-care reporting, including childhood immunizations, cholesterol screening, mammography screening, cervical cancer screening, prenatal screening, first trimester prenatal care, and diabetic renal exams. In addition, ad hoc queries are supported with licensing of the *Discern Explorer* (PV-26140) solution.

In addition to the features inherent within *Clinical Office with PowerNote, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions,

though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *Clinical Office with PowerNote* in Cerner Millennium's environment include the following:

Coordinated scheduling access across all healthcare venues when used with *Enterprise Scheduling Management* (CP-20740) under CapStone.

Streamlined inpatient-to-clinic communication of orders, schedules, and patient information, reducing the need for faxes and interoffice phone calls, when used in conjunction with other Cerner systems.

Centralized demographic update support with licensing of the *Enterprise Registration Management* (CP-20735) offering within CapStone.

Availability

Cerner Millennium Release 2000*, version 2000.01

Special Licensing Considerations

Clinical Office with PowerNote is sold as a license.

Software Prerequisites

Knowledge Solutions for Ambulatory: Package 1 (KS-26809) or Knowledge Solutions for Ambulatory: Package 2 (KS-26810)

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

Clinical Office with PowerNote must have sufficient resources to establish and maintain concurrent access to the functional servers reliably at peak access periods.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Ambulatory Business Office* (PV-20235), *Ambulatory Support Office* (PV-20240), *Medical Transcription Management* (PV-22810), *Discern Explorer* (PV-26140), and *Discern Expert* (PV-26105).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability
CareNet

Care Documentation

CERNER®

Description

Care Documentation is a CareNet supporting offering designed to automate discrete data documentation related to care delivery anywhere within a health system. *Care Documentation* is a generalist suite of applications not specific to a particular care setting, through which direct care providers document patient care activities. All information that clinicians enter into *Care Documentation* is available to all appropriate locations in the computer-based health record. This includes information obtained from the delivery of care documented in such forms as textual documents, vital signs, assessments, height, and weight.

When used with Cerner's clinical systems, such as CareNet, Cerner Cardiovascular, FirstNet, Cerner Critical Care, PathNet, PharmNet, PowerChart Office, Health Information Management, RadNet, and SurgiNet, the information provided by the areas employing these systems is accessible automatically and transparently to the care team member via the graphical results viewer within *Clinical Data Repository* (PS-20570). The PowerChart viewer provides a cross-departmental, cross-disciplinary, person-focused view of clinical information with the ability to view, endorse, and correct documentation.

Client Benefits

♦ Efficiency is improved by eliminating redundant charting among care team members. In addition, charting by exception enables faster and more consistent documentation.

♦ Communication and care coordination are enhanced as the user can chart from any location once and view the chart anywhere that it is appropriate or needed.

♦ Documentation quality is improved as pertinent results are integrated into the documentation process. In addition, required fields and prompts improve charting standards to meet JCAHO guidelines.

♦ Financial performance is improved as billings are increased through better clinical documentation support and costs associated with the printing, storage, and distribution of multiple paper forms are reduced.

♦ Costs associated with transcription or other data entry processes by clerical personnel can be reduced as tools allow clinicians to directly enter their own documentation.

♦ Clinician satisfaction is improved by access to up-to-the-minute updates of patient status.

♦ Quality of care is improved through the implementation of clinical alerts for impending negative events or trends and of reminders for wellness-oriented procedures, such as immunizations, physicals, and mammograms, with licensing of PowerChart's *Discern Expert* (PS-26105).

♦ Eliminate errors with the ability to capture and store home medications in the medication

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profile. With licensure of *EasyScript* (PS-22103), the physician can create prescriptions during the patient's discharge. Upon admission, the physician can leverage the record via PowerOrders. The clinician can capture and document the home meds on the patient's medication profile.

Major Features

♦ Flowsheet charting capability is supported, with views definable by site, location, service, position, or user for visual parameters including column widths, event sets, and time.

– Discrete data can be entered and displayed in the flowsheet. The navigator menu on the flowsheet displays labels only for sections containing patient data. When a label is selected, the flowsheet scrolls to where that label's data is displayed. Nonadjacent data labels can be selected by the clinician for adjacent display in the flowsheet.

♦ Form charting, available through *PowerForms,* can reduce or simplify forms maintenance. *PowerForms* represent Cerner's flexible, client-defined forms generator, which can be configured to present and collect data elements that meet a wide variety of care documentation requirements, from initial assessments to simple vital signs or height and weight. *PowerForms* are object-oriented, enabling components of one form to be reused in other similar forms.

♦ The Intake and Output (I&O) flowsheet is a record of a patient's fluid intake and output for a specified time period. Shift totals, daily totals, and fluid balance are automatically accumulated as volumes are documented. The discrete amounts of each event can be viewed along with a graphical view of totals and fluid balance.

♦ The patient activity list (PAL) provides the direct care provider with an over view of their patient's information. The data is pushed to the screen without the user having to take further action. The PAL can be defined specifically for each type of user, making their PAL a view of all the pertinent patient information they need to provide the best care.

♦ Task List creates a dynamic to do list for the end user either for a single patient or for all patients assigned to that care provider.

♦ *Clinical Notes* provides the ability to create and/or edit textual notes. Text template and 'smart templates', which extract patient-specific data from the clinical repository and import into the document being created, can be used to facilitate document creation.

– The application supports a basic word processor or has an option to use a Microsoft® Word-based word processor (called *Advanced Clinical Notes*).

– Any voice recognition solutions that can be used as add-in's for Microsoft Word can be used in conjunction with *Advanced Clinical Notes.*

♦ Date/time and ID of the provider entering or editing online documentation are logged automatically.

♦ *Care Documentation* also utilizes customized reference ranges, based on patient age and gender, for discrete data like vital signs or height and weight. This improves the quality of patient care by alerting the care giver when documented data is out of range for their patient.

Cerner Millennium Integration Benefits

Benefits of using *Care Documentation* in Cerner's Millennium environment include multiple benefits that apply broadly across the care organization. An example is in the following:

♦ Data entered in Cerner's *FirstNet Emergency Medicine Information System* is available for review and automated form fill-in, reducing redundant date entry.

Data entered into *Care Documentation* also is available to other Cerner systems reducing redundant data entry requirements in those systems.

Availability

Cerner Millennium 2000, version 2000.01

Special Licensing Considerations

This solution is priced on a perpetual license basis. Additional documentation functionality for medication administration can be obtained by licensing *Medication Administration Record* (PS-22732).

PharmNet's *Clinical Documentation Management (ClinDoc)* (PH-22275) requires a separate, additional license to leverage ClinDoc's functionality.

Microsoft® Word 2000 or higher is required (configured by Cerner as sublicensed software or licensed separately by the client) for *Advanced Clinical Notes.*

Clients can license medical spell-check software separately. Version required will vary based on the word processing solutions being implemented.

Software Prerequisites

Clinical Data Repository (PS-20570) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

The CPU, memory, and disk requirements for *Care Documentation* are measured in terms of the number of patient admissions and discharges, the retention time of patient encounters, the number of orderable procedures, the retention time of patient order records, and the number of users. Additional requirements may be based on the number of medical device interfaces.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Medication Administration Record* (PS-22732)*, Discern Expert* (PS-26105), *Medical Transcription Management* (MR-20410), *PowerNote* (PS-22480)*, ProFile (*MR-20400), and *Inpatient Pharmacy* (PH-20160).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

CareNet: Medication Administration Record (MAR)

Description

The electronic *Medication Administration Record (MAR),* also known as eMAR, is a CareNet® supporting offering designed to automate the documentation of medications administered to a patient. The process of documenting the administrations can be accomplished any one of three ways within the system. The first is via the electronic medication administration record; this tool mimics a paper MAR, in that pending medications are noted as well as previously administered medications. This creates a view that includes historical, present and future medication history for the patient. The second mechanism that can be utilized to document the administration of medications is a task list for a single patient, multiple-patients or the Patient Activity List (PAL). This tool enables the caregiver to see only those items that are due to be given at a particular time, along with any PRN (as needed) or continuous medications. Thirdly, the eMAR serves as the foundation for licensing Cerner® PowerPOC solutions, a related but separate set of offerings that provide mobile access to the eMAR via either cart-based or handheld devices. Together this solution is designed to automate the documentation of medication administration and other care activities, incorporating barcode verification of the "Five Rights", data review and collection, and medical device integration at the patient bedside, promoting improved patient safety.

Client Benefits

- Streamlines medication management activities via the generation of activity-specific/patient-specific task lists, enabling the caregiver to see only those items that are due at a particular time, as well as any PRN medications and continuous IV fluids.

- Promotes efficient operations and workflow by providing consistent control and standardized documentation.

  - o Request for patient pain response can be generated automatically based on documentation of PRN pain medication. This prompts the nurse to complete the patient evaluation intervention.

  - o Other pertinent clinical information can be captured along with the medication, such as an apical pulse with a digoxin administration.

- Provides clinicians the ability to record and collect patient information (pre- and post-administration observations) at the bedside as part of normal workflow seamlessly, as a by-product of the care process.

- Provides the option to charge for medications at administration versus at the time of dispensing.

  - o Provides greater accuracy for medication administration and charges.

  - o Captures charges earlier, improving cash flow and accelerating the claims process.

  - o Promotes efficiency and timesaving by eliminating manual activities associated with the billing process (credits).

- Provides accurate, up-to-the-second views of medication administration history with real-time/non-interface access to patient data (such as allergies) and order information (new orders, order modifications, orders discontinuation).

- Provides three very important checks of the medication order, promoting a closed loop system:

  - o The physician at the time of order entry receives alerts about any potential interactions or duplications in therapy,

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CareNet: Medication Administration Record (MAR)

with the license of *PowerOrders®* (PS-20576)

- o The pharmacist at the time of order verification/dispensing receives those same alerts again, and with the licensure of *Inpatient Pharmacy* (PH-20160).

- The nurse verifies that the above processes were completed.

Major Features

- Electronic Medication Administration Record

    - o Ability to view medication administration related tasks via adjustable time frames.

    - o Visual icons for alert notification, such as pharmacy verification and nurse review.

    - o View historical as well as current and future administration events.

    - o View clinical information along with administration such as apical pulse with a digoxin dose or patient pain response associated with PRN analgesics.

    - o Information about who administered the medication is viewable with the results.

- Task List

    - o Visual icons for alert notification, such as pharmacy verification and nurse review.

    - o Supports quick charting of the medications via single click documentation.

Cerner Millennium Integration Benefits

Benefits of using electroni*c Medication Administration Record* in Cerner's Millennium environment include the following:

- Data entered in Cerner's *Clinical Data Repository* (PS-20570), with the applicable license, is available for viewing in all Cerner applications.

- Data entered in the electronic medication administration record can be used to automatically update the intake and output record in *Care Documentation* (PS-22719), with the applicable license.

Availability

Cerner Millennium® 2000, Version 2000.01

Software Prerequisites

Clinical Data Repository (PS-20570) or *Inpatient Pharmacy* (PH-20160) is required.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Care Documentation* (PS-22719), and the *PowerPOC* solutions (*CareAdmin* PH-22772, *CareMobile* PH-22773, and *CareGuard* PH-22774).

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CareNet: Medication Administration Record (MAR)

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

CapStone: Registration Management

Description

Registration Management is a major CapStone offering that automates the workflow and process of registration, admitting, transfers, and discharges in hospitals. *Registration Management* creates the encounter and a Master Person Identifier (MPI) that become the basis for coordinating the person's movement across an integrated or disparate health system.

The quality of the data in the community database is only as reliable as the least robust registration system. Erroneous information collected from an incomplete registration can affect healthcare delivery to that individual. Since the registration process serves as the critical gateway into the clinical operations of the organization, it is essential that the information concerning the patient is current and complete.

Registration Management addresses the challenge of implementing a model that assures consistency across the community by providing a common registration system for hospitals licensed across the IDN, flexing to meet the data requirement needs of the particular domain of care.

Client Benefits

- The quality and consistency of registration data are improved by using a common system across the facility that is still flexible enough to meet the needs of individual care domains.

- Client-defined screens and required data fields enable the end user to complete registration processes expeditiously.

- Resource utilization is improved by expediting the registration and patient movement processes throughout the health system.

- Employer and community-based outreach strategies can be developed by loading demographic profiles on community segments before these individuals seek health services.

- Well-targeted health promotion programs can be developed based on the demographic profiles of communities.

Major Features

- Visit registration can be performed through a common system function, regardless of the visit type.

- Registration screens and the flow of screens are designed by the client.

- The registration architecture supports medical record number and financial number check digits, special field validation, and data default values.

- Separate registration is available for newborns, which defaults much of the mother's information.

- Complementary functions are available to perform transfers, bed swapping, wait listing, leaves of absence, registration cancellations, and discharge cancellations.

- Patient discharge captures the discharge date and time, disposition, and date and time of death (if applicable).

- An alternate level of care can be captured.

- Bed borrowing and lending functionality is supported.

- An online alert for 72-hour Medicare encounters notifies the user before creating a new encounter within that time period.

CapStone: Registration Management

- A custom online alert for active encounters prevents duplicate encounter entries.

- An online alert can be activated for duplicate social security numbers found within the database.

- A library of interfield rules (field edits), which can be customized and extended by the client, is provided to improve the quality of data collected and the speed and usability of data collection.

- Encounters can be grouped into episodes for tracking and reporting purposes.

- The centralized Master Person Identifier (MPI) allows easy identification of individuals using flexible search criteria.

- Inquiries are provided that include person/patient demographics and location history, with searches for patients by name, facility, medical record number, and other fields that the organization captures in its registration process.

- User-defined inquiries flex based on user security.

- The creation of relationships between persons in the database provides the foundation for advanced reporting capabilities based on those relationships.

- Robust standard reports, including current and historical reports, and flexible reporting options are provided.

- The capture and storage of UB-92 billing form data items are supported.

- Customizable questionnaire logic is available within the registration process. This can be used to meet Medicare secondary payer requirements.

- The capture and storage of admission diagnostic codes (CPT and ICD-9) aid in the preliminary verification of health plan-related requirements as well as concurrent and retrospective case management activities.

- Bed management functions supported include the following:

- The notification of vacated beds and status updates

- The use of a bed board for the entire healthcare facility or specific locations

- The capability to filter entire facilities to a view of available, assigned, dirty, for multiple patients, for male patients, for female patients, and so on

- The ability to temporarily open or close locations

- Transfers and discharges automatically update bed status and bed availability statistics.

- Staff physician demographics, including facility-specific identifiers, multiple addresses, telephone and beeper numbers, and fax numbers, are readily accessible.

- Staff physician sign-in/sign-out functions make it easy to track physicians.

- Switchboard operators can determine if a physician is available for paging.

- Information can be captured on physicians who are not on staff (usually referring or family physicians) for the purpose of mailing clinical and nonclinical documents.

- The format of documents can vary by site. These documents include, but are not limited to, face sheets, ADT notices, wristbands, and ID cards.

CapStone: Registration Management

- Complete online Help is available, and field-level Help can be added by the client to enforce site-specific policies.

- Integration with *Scheduling Management (CP-20740)* within CapStone can enable complete front-end data and process integration, providing the health facility with a variety of options for redesigning these business processes.

- Bidirectional interfaces to patient accounting systems are supported, with appropriate licensing.

- Bidirectional interfaces to decision support systems for summary-level analysis can be supported also, with appropriate licensing.

- Documents can be generated based on visit type and printed in the appropriate location.

- Bar codes can be supported and printed on reports, wristbands, embossed cards, and so on. Additional service fees may apply for bar-code customization.

- In addition to the features inherent within *Registration Management, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management*, and so on), *Functional Components* (for example, *Person Management, Order Management*, and *Result Processing*), and *Operational Components (Operation/System Management, System Integration*, and so on). The majority of the

componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *Registration Management* in a *Cerner Millennium®* environment include the following:

- Real-time updates of patient demographics are directly available to all departments, clinics, and home care agencies licensing a Cerner system.

- Conditions, either existing or entered at the time of admission, registration, or referral, can trigger *Discern Expert®* rules within other Cerner systems based on an admission, registration, transfer, or discharge event. For example, the admission or registration of a patient with a bad debt history can trigger a notification for a financial review.

- Patient census information can be accessed on a real-time basis from other Cerner departments.

- A common *Cerner Millennium* architecture, providing a single person database, is included.

- A single provider database for all Cerner clinical systems allows easy update and maintenance.

- Common reference tables are provided for other Cerner systems.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution.

CapStone: Registration Management

Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium®* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium, Revision HNAM.2000.01

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Scheduling Management* (CP-20740), *Enterprise Master Person Index* (CP-20746), and *Eligibility Management* (CP-20751).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

CapStone: Scheduling Management

Description

Scheduling Management is a major CapStone offering that coordinates appointment scheduling across an integrated or disparate health system.

Scheduling Management is used to establish and maintain person appointments for resources with defined availability. When scheduling appointments, two key elements are considered by the system: the availability of the person and the availability of the appropriate resource booking slots.

Scheduling Management automates the appointment scheduling process from both centralized and decentralized booking locations within a department, and/or a facility. This setting may consist of one to many physical locations, each united by a common environment. Communicating scheduling requests electronically between booking locations within the facility setting eliminates redundant data entry. In a situation where *Scheduling Management* is not used throughout the facility, appointment request and reply interfaces can be licensed to enable the Cerner® scheduling system to interact with the foreign scheduling system.

Client Benefits

- Facility-wide coordination of scheduled resources increases patient, provider, and staff satisfaction, as waiting time is significantly reduced.

- Costs are reduced, since coordinated scheduling ensures proper resource utilization.

- Revenues can be increased, because streamlined scheduling increases operational efficiencies and patient throughput, freeing up more time in the day to schedule additional appointments.

- The facility-wide view of the patient/member's calendar supports clinicians' efforts to streamline patient care.

- Tight integration of *Scheduling Management* with underlying Cerner applications ensures optimum use of resources and promotes patient satisfaction with timely, sequenced care.

Major Features

- Centralized and decentralized appointment booking simultaneously supports one-call and point-of-service scheduling services.

- Resource types maintained include any person, place, or thing that has limited availability.

- Resource-specific appointment durations are supported.

- A view into the facility wide patient/member schedule is offered at either a calendar level or an integrated, detailed level.

- The first available day when the requested resources are free can be identified.

- One-time appointment booking is provided.

- Appointments can be scheduled manually via an online, electronic "appointment book."

- Appointments can be checked in and out from the appointment book.

- The system provides a user-defined maximum future appointment date and a user-defined number of days in the past that an appointment can be scheduled.

- Distinct patient arrival, recovery, setup, and cleanup appointment durations can be defined.

CapStone: Scheduling Management

- Cancellation or rescheduling of existing appointments is supported.

- Complete online Help is available.

- Electronic appointment booking, cancellations, and reschedule requests from an order or from other booking locations are organized into online worklists based on user-defined routing variables.

- Client-defined scheduling business rules support the accurate booking of resources. This enables the organization to set up various criteria around multiple resources to predefine resource utilization patterns.

- For each scheduled procedure, the system can track a wide range of appointment details, including a reason for scheduling the appointment, ICD-9-CM codes, free-text appointment comments, a notification message, special instructions, transport codes, referring locations, and other user-defined attributes.

- Resource availability is kept in sync in all Cerner applications across all facilities.

- Real-time solicit resource availability checking is provided among all Cerner scheduling applications.

- Printing of appointment reminders, cancellation notices, reschedule notices, and missed appointment notices in a user-defined format is supported.

- Series and dependent multiple-step appointment booking is provided.

- An automatic notification to the requester can be generated once an appointment is booked from a scheduling request.

- Suggested "first available" appointment times are provided, based upon the multiple resources required for the appointment. Several appointments may be suggested within a predefined time range or visit.

- Appointments for nonperson events can be booked for a resource.

- Duplicate appointment warnings are generated during appointment booking.

- Resource-specific beginning offsets can be defined to best use resource time.

- Resource default schedule templates can contain booking slots that are "released" depending on the number of days from the current date.

- Procedure-to-procedure interactions can be defined and maintained.

- A provider's view of the scheduled patients list can be maintained.

- Scheduling data level security is available for 26 different levels of authorization.

- User-defined appointment retention and recovery times are supported.

- An appointment can be requested either by placing an order to be passed to a scheduling request list or by requesting an appointment from the *Scheduling Management* offering.

- Surgical case numbers can be created, and historical and recent procedure durations evaluated, with licensing of SurgiNet®.

- Appointments for procedures from both Cerner and non-Cerner service areas can be scheduled.

CapStone: Scheduling Management

- Patient appointments that are scheduled by a foreign system can be communicated to *Scheduling Management,* with licensing of the appropriate interface.

- In addition to the features inherent within *Scheduling Management, Foundations* functionality is also included. *Foundations* refer to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Product Description for more information.

Cerner Millennium Integration Benefits

- Benefits of using *Scheduling Management* in Cerner's Millennium® environment include the following:

- The integration of Cerner scheduling applications is supported across disparate facilities. For example, patient appointments for Cerner Cardiovascular, SurgiNet®, and RadNet® orders can be scheduled, with licensing of these Cerner systems.

- The integration of *Scheduling Management* with the PowerChart® *PowerOrders®* (PS-20576) offering, or the PowerChart Office *Clinical Office*

With PowerNote® (PV-20230) offering can enable the creation of orders based on the confirmation or check-in of appointments.

Cerner Professional License

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Discern Explorer

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Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium 2000, Version 2000.01

CapStone: Scheduling Management

System Resource Considerations

The amount of disk space required is based on the number of facility visits to be maintained. The number of appointments per person and the total number of resources for which schedules are maintained can be derived from the number of facility visits. Procedures that are not scheduled for a specific resource at a specific time, but that must be available for inquiry along with scheduled procedures, must be taken into account when determining the number of appointments per person.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Registration Management* (CP-20735), *Enterprise Master Person Index* (CP-20746), and *Eligibility Management* (CP-20751) or *Benefits Management* (CP-20752).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

PathNet: General Laboratory

Description

General Laboratory is a major PathNet® offering that provides for online ordering of procedures, and performing, reviewing, and verifying of results for assays assigned to specific workbenches and automated instruments in the general laboratory sections. These sections include chemistry, hematology, urinalysis, coagulation, serology/immunology, toxicology, and blood gases. Specimen management capabilities are included. In addition, via Cerner's embedded *Foundations* functionality that automates shared processes and tasks, *General Laboratory* supports departmental patient registration, departmental order entry and inquiry, workload reporting, departmental charting, charge capture and reporting, operations management, system management, environment management, and security. Long-term storage of results online also is supported. This flexible offering is tailored to satisfy unique organizational and departmental workflow requirements with ease.

General Laboratory automates all aspects of the specimen collection and storage processes relative to the performance of laboratory procedures. Collection labels and collection lists containing the detailed information required by the organization are generated. The *Specimen Management* component automatically reschedules missed collections and immediately prints labels for STAT collections. All collections are *netted,* or consolidated, into the fewest number of specimen labels required to perform the ordered procedures, minimizing phlebotomies. The specimen tracking capability within *PathNet* documents each stage of specimen transfer, from initial collection through transport, testing, storage, retrieval, and final disposal.

Procedures are assigned to a specific instrument or workbench automatically based on the patient or received location and can be routed to backup instruments easily, if necessary.

All result entry functions are fully integrated with interfaced instruments. Result entry functions provide the technologist with a streamlined process for reviewing and verifying results received from an interfaced instrument. *General Laboratory* also provides the ability to track and monitor repeat results. Autoverification parameters can be identified, allowing the system to review and verify results based on departmental operating procedures. The technologist can then review those results flagged for special attention. The result entry functions can display previous results and other pertinent procedure information. The result entry window can filter the display to a single test site (workbench or instrument) or provide a view of multiple procedures that cross test sites. Specialized functions are available for performing WBC differentials and other counted procedures.

The flexible result entry functions within *General Laboratory* accommodate seven different result types: numeric, alpha, calculation, free-text, textual, date, and interpretation. Numeric result formats are mapped according to instrument or methodology specifications, and alpha result options per assay can be limited to a subset of an alpha response library. Numeric result types can be converted to alpha result types, and alpha result types can be converted to numeric, when appropriate. Calculations are performed automatically. Interpretations are generated when their components are performed or verified. Delta checking is available for all numeric assays and can be based on an absolute value or a percentage of change. Delta checking criteria can be identified by test site and assay, as well as by result range.

Personalized worksheets can be generated for the manual bench areas. Result entry functions support the entry of results based on a user-defined worksheet.

Quality control (QC) is an integral part of *General Laboratory*. Control materials are identified in

PathNet: General Laboratory

General Laboratory and customized QC rules are assigned to assays based on the instrument or methodology. New lot numbers can be added, allowing a smooth and easy transition from one lot number to the next. QC results are received from an interfaced instrument for review and verification by the technologist. QC also can be included on user-defined worksheets and entered manually. The technologist is immediately notified of outlier results and QC rule failures. The technologist is then required to take immediate corrective action with supporting documentation. Detailed Levey-Jennings charts and summary reports for a specified time period (such as monthly) can be produced on demand or automatically on a periodic basis. QC statistics can be calculated automatically, or the supervisor can request that statistics be calculated based on an ad hoc date range. These statistics can be included on a QC statistics report or a cross-test site statistics report. Online review of QC results is provided for both a primary and secondary reviewer.

The quality control component of *General Laboratory* also provides functionality for patient-based QC. Based on analyte and instrument, truncation limits are identified, as well as the number of results to be averaged. The average becomes a QC value and is compared to specified QC rules. Other QC functionality such as online graphing and statistical reporting can be applied.

General Laboratory allows the selection of one or more specimens to be performed on multiple instruments for QC purposes and method validation. The results are then compared across instruments with percentage difference and SDI calculations, as well as Deming's regression analysis.

Laboratory Management (LM) is an integral part of *General Laboratory.* LM is a sophisticated tool set that provides online views to statistics for supporting management processes, including turnaround time analysis, volume statistics, utilization, and revenue reporting. The information residing in LM consists of robust process-related data derived from *PathNet*.

All views are accessed via a native Microsoft windows-based application. Views are defined by the individual and are reflective of the user's role and responsibility within the organization. When viewing information, each user has the ability to select and customize the presentation based on his or her security. The information in these views is current because of real-time, clinical event-driven data feeds. "Stoplight coding" can be deployed in these views to highlight data in user-defined colors. The views can be customized at will to display the detailed information that assists in pinpointing the reason(s) for the unfavorable variance.

Client Benefits

- Saves money while improving the quality of patient care by ensuring immediate access to patient results throughout the organization

- Streamlines processing with sophisticated specimen and container routing and tracking – from remote collection through transport, testing and into storage

- Automates the workflow within the laboratory, improving efficiency, accuracy, and quality of service

- Shortens the user learning curve via intuitive, customized screens; a graphical user interface; and online Help features that are consistent across functions

- Increases revenue opportunities by accurately capturing all procedure charges and charging events

- Improves quality of patient care through the use of customized dereference ranges based on patient age, gender and species, allowing your

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PathNet: General Laboratory

laboratory to validate clinical results using ranges most appropriate for the patient population.

- Lowers operational costs for management systems by providing an integrated application to management data.

Major Features

- *General Laboratory* offers a proven solution for organizations composed of multiple facilities or for those undergoing consolidation.

- Bar-coded collection lists and specimen labels are created.

- Multiple different result entry formats are accommodated.

- Specialized functions for performing differential counts are included.

- Calculations and interpretations are performed automatically based on component test results.

- A dilution factor can be entered and a result calculated. The dilution factor is stored for future reference.

- *General Laboratory* automatically expedites the reporting of STAT and critical test results.

- Reports can be transmitted automatically to printers or fax machines at remote locations, such as physician offices.

- Automatic result verification based on user-defined criteria is supported.

- *General Laboratory* provides for point-of-care result entry.

- Quality control material lot numbers are managed by the system.

- Online tracking, checking, and reporting of quality control results are provided.

- User-defined, Westgard-based quality control rules are supported.

- Users are notified immediately when quality control is out of range.

- Immediate corrective action and documentation are required for outlier quality control values.

- Detail or summary quality control reports are produced automatically on a periodic basis.

- Functionality is provided to support method validation.

- Patient-based quality control is supported.

- Upon verification of results, billing transactions are created, workload credit is captured, and clinical reports are produced.

- User-defined online management reports (views) with numerous selections for filters and display criteria are available.

- In addition to the features inherent within *PathNet, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the

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componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *General Laboratory* in a Cerner Millennium® environment include the following:

- When the *Inpatient Pharmacy* (PH-20160) solution within PharmNet® is used in conjunction with *General Laboratory*, calculations, such as creatinine clearance, and actual values, such as drug levels, are displayed within *Inpatient Pharmacy*.

- Integration with the *RadNet® Radiology Management* (RA-20135) offering mutually benefits pathologists and radiologists, both of whom need access to related data from the same case, such as a sonogram and an AFP level.

- Orders are processed more efficiently and quickly throughout the entire organization when the PowerChart® *PowerOrders® (PS-20576)* offering is used in conjunction with *General Laboratory*.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

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Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium Release 2000, version 2000.0

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solutions significantly extend the functionality of this solution: *Laboratory*

PathNet: General Laboratory

Clinical Record (PA-22930), *Clinical Data Repository* (PS-20570), and *Outreach Service* (PA-22205).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

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PathNet: Microbiology

Description

Microbiology is a major PathNet® offering that streamlines operations in the microbiology lab, supporting the disciplines of bacteriology, virology, mycology, mycobacteriology, and parasitology. Via Cerner's embedded *Foundations* functionality that automates shared processes and tasks, *Microbiology* also includes support for departmental patient registration, departmental order entry and inquiry, workload reporting, departmental charting, charge capture and reporting, operations management, system management, environment management, and security. This flexible offering is easily tailored to satisfy unique organizational and departmental workflow requirements.

Comprehensive specimen collection capabilities are included. Bar-coded specimen and media labels increase the accuracy and speed of login and setup. At the workbench, the bar-coded media labels are scanned, quickly loading the patient data for result entry. The paper documentation previously required in the microbiology lab is replaced with a convenient online workcard that can be accessed via mouse, trackball, or keyboard. The electronic workcard provides online organism work-up with the ability to record culture information, including growth, biochemical observations and susceptibility results. The electronic workcard also is used to send reports, order additional tests and susceptibilities, and assign identifiers for use with automated instruments. Workload and billing are captured automatically for cultures, susceptibilities, reports, and biochemical tests.

Scripted workups provide an online algorithm for organism identification and culture workup. Scripts can order biochemicals, susceptibility change organism names, add comments, and issue reports automatically for the microbiologist. Along with providing microbiologists with a means of rapid result entry, scripts also produced consistency in organism identification and reporting.

Microbiology can issue automatically large volumes of preliminary and final reports with its automatic "no growth" reporting capabilities. Based on culture type, the system selects the appropriate textual response and appends the correct time period to the preliminary or final reports for a batch of cultures.

Online inquiries and reports eliminate lengthy searches for paper worksheets and reports, while providing supervisors with a quick way to monitor the progress of bench testing. Abnormal findings are clearly flagged and extracted to an abnormal report. Antibiograms and statistical reports can be produced to user-defined specifications.

The common database within *Microbiology* supports the long-term storage of results online, ensuring that data is available throughout the organization. The laboratory, infection control department and other infectious disease services can access statistics, antibiograms, and valuable historical information related to specific patient results.

Laboratory Management (LM) is an integral part of *Microbiology*. LM is a sophisticated tool set that provides online views to statistics for supporting management processes, including turnaround time analysis, volume statistics, utilization, and revenue reporting. The information residing in LM consists of robust process-related data derived from PathNet.

All views are accessed via a native Microsoft windows-based application. Views are defined by the individual and are reflective of the user's role and responsibility within the organization. When viewing information, each user has the ability to select and customize the presentation based on his or her security. The information in these views is current because of real-time, clinical event-driven data feeds. "Stoplight coding" can be deployed in these views to highlight data in user-defined colors. The views can be customized at will to display the detailed information that assists in pinpointing the reason(s) for the unfavorable variance.

PathNet: Microbiology

Client Benefits

- Saves money while improving the quality of patient care by ensuring immediate access to patient results throughout the organization

- Streamlines specimen log-in and culture setup with bar-coded specimen and media labels

- Increases accuracy through automatic discrepancy and correlation checking at the time of result entry

- Automates the workflow within the microbiology department, improving efficiency, accuracy and quality of service

- Shortens the user learning curve via intuitive, customized screens; a graphical user interface; and online Help features that are consistent across functions

- Increases revenue opportunities by accurately capturing all procedure charges and charging events

- Lowers operational costs for management systems by providing an integrated application to management data

Major Features

- Duplicate order checking and order validation are provided based on specimen source.

- Comprehensive specimen tracking and routing capabilities are included.

- User-defined media labels with bar codes are included.

- An electronic workcard with online algorithms for organism workup is employed for paperless result entry.

- *Microbiology* enables extensive batch reporting, including automatic "no growth" reports.

- Cross-encounter microbiology result inquiry on active and historical results is supported.

- Reports can be transmitted automatically to printers or fax machines at remote locations, such as physician offices.

- Procedure charges and workload statistics are captured automatically.

- Interfaces to automated ID and susceptibility instruments and blood culture analyzers are supported, via *Unidirectional Device Interface* (IF-29650) and *Bidirectional Device Interface* (IF-29655).

- Antibiogram, epidemiology, and infection control candidate reports are included.

- The following quality assurance features are provided:

- The Microbiology Abnormal Report which consists of user-defined abnormal organisms and susceptibility results.

- Correlation and discrepancy checking between direct smears and preliminary and final culture reports is supported.

- Possible nosocomial infection and previous positive culture alerts

- User-defined online management reports (views) with numerous selections for filters and display criteria are available.

- In addition to the features inherent within *Microbiology, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks

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PathNet: Microbiology

that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium®* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer

professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium, Revision HNAM.2000.01

System Resource Considerations

The CPU, memory, and disk requirements for *Microbiology* are measured in terms of the number of patient admissions and discharges, the number of orderable procedures, and the number of users. Additional requirements may be based on the number of medical device interfaces.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solutions significantly extend the functionality of this solution: *Laboratory Clinical Record* (PA-22930), *Clinical Data Repository* (PS-20570) and *Outreach Service* (PA-22205).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help,

PathNet: Microbiology

web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

PathNet: Anatomic Pathology

Description

Anatomic Pathology is a major PathNet® offering for storing and reporting pathology information that accommodates the clinical disciplines of surgical pathology, autopsy, cytology, and bone marrow. *Anatomic Pathology* streamlines specimen accessioning and processing while providing patient history review, pathology text entry, support for diagnostic coding using the College of American Pathologists (CAP) SNOMED database, report generation, case review and sign-out, and case retrieval for research or teaching purposes. Via Cerner's embedded *Foundations* functionality that automates shared processes and tasks, *Anatomic Pathology* also includes support for departmental patient registration, departmental order entry and inquiry, workload reporting, departmental charting, charge capture and reporting, operations management, system management, environment management, and security. This flexible offering is easily tailored to satisfy unique organizational and departmental workflow requirements.

Anatomic Pathology supports streamlined ordering, specimen receipt, and specimen processing. Codes can be defined for documenting and reporting the acceptability or inadequacy of specimens upon receipt. Bar-coded collection and specimen labels ensure accuracy. All label formats, including slide labels, are user-definable. By assigning accession prefixes, the system manages many aspects of processing, such as specimen/block/slide identification schemes. As specimens are processed, workload and billing information is captured automatically.

An integrated word processor within *Anatomic Pathology* allows quick entry of templates and predefined text. Access to additional pertinent patient information, such as other open cases or pathology history is readily available and selected text can be copied into the current report.

Additionally, transcription using Microsoft Word version 7.0 is supported.

Pathologists can review, edit, and sign out cases online with an electronic signature. User preferences can be defined for display of cases for review. While reviewing and finalizing reports, additional data is accessible, such as patient history, other open cases, diagnostic codes, billing information, and the patient's other clinical findings from the PathNet *Microbiology* (PA-20075) or *General Laboratory* (PA-20070) offering or from Cerner's *Radiology Management* (RA-20135) solution within RadNet®.

The preliminary or draft copy of the user-defined pathology report can include previous diagnoses from other pathology cases for the patient. Results from other laboratory sections, such as hematology, can be incorporated into the pathology report. Reports can be automatically expedited to local printers or faxed to remote sites. Long-term storage of data, with easy online access to historical information, also is provided.

Laboratory Management (LM) is an integral part of *Anatomic Pathology*. LM is a sophisticated tool set that provides online views to statistics for supporting management processes, including turnaround time analysis, volume statistics, utilization, and revenue reporting. The information residing in LM consists of robust process-related data derived from PathNet.

All views are accessed via a native Microsoft windows-based application. Views are defined by the individual and are reflective of the user's role and responsibility within the organization. When viewing information, each user has the ability to select and customize the presentation based on his or her security. The information in these views is current because of real-time, clinical event-driven data feeds. "Stoplight coding" can be deployed in these views to highlight data in user-defined colors. The views can be customized at will to display the detailed

PathNet: Anatomic Pathology

information that assists in pinpointing the reason(s) for the unfavorable variance.

Client Benefits

- Saves money while improving the quality of patient care by ensuring immediate access to case information and reports throughout the organization

- Provides integrated quality assurance including system selected cases for correlation studies, facilitating regulatory compliance

- Increases quality of care with automated discrepancy and variance checking for cytology results and the generation of cytology quality assurance reports

- Improves diagnostic outcomes through follow-up notifications to physicians and/or patients based on case diagnosis

- Automates the workflow within the pathology department, improving efficiency, accuracy and quality of service

- Shortens the user learning curve via intuitive, customized screens; a graphical user interface; and online Help features that are consistent across all Cerner *HNA Millennium* applications

- Increases revenue opportunities by accurately capturing all procedure charges and charging events

- Lowers operational costs for management systems by providing an integrated application to management data.

Major Features

- System or manual assignment of accession numbers is supported.

- User-defined label formats with bar codes are included.

- *Anatomic Pathology* tracks block and slide identifiers for each case.

- The number of pieces of tissue and the type of fixative for each block is tracked.

- Specialized worksheets are available for each processing area.

- Flexible charting and reporting formats are provided.

- *Anatomic Pathology* provides electronic signature capabilities that are based on security and in compliance with the signature requirements in FDA regulation 21 CFR Part 11.

- Digital images can be captured from the gross and microscopic examinations and stored within the pathology report when the optional *Image Management for Pathology* (PA-22245) solution is licensed, thus providing an integrated solution for pathology imaging. Images are associated at the case or report level and can be viewed on image-enabled reports and inquiries.

- Results from other clinical disciplines, such as from *Microbiology* or *General Laboratory* within *PathNet* or *Radiology Management* within RadNet, can be viewed while entering or signing reports. These results can be selectively copied into the text of the pathology report if desired.

- Integration with the *Laboratory Clinical Record* (PA-22930) solution within PathNet or the *Clinical Data Repository* (PS-20570) offering within PowerChart® provides immediate, direct access to the patient's other clinical findings from foreign systems via the pathology report entry and sign-out functions.

PathNet: Anatomic Pathology

- Full access to previous patient history is available, including support for historical uploads of previous report data from foreign pathology systems.

- Cytologists' daily slide screening workload can be monitored.

- Follow-up patient tracking for abnormal results is provided.

- CAP SNOMED codes can be assigned automatically or manually, with licensing of *CAP SNOMED INTERNATIONAL (III) for Pathology* (PA-22214).

- Reports can be transmitted automatically to printers or fax machines at remote locations, such as physician offices.

- *Anatomic Pathology* supports the identification of cases for instruction, conferences, or tissue committees.

- Cases can be retrieved by SNOMED codes, user-defined codes, teaching and conference indicators, and free-text phrases.

- In addition to the features inherent within *Anatomic Pathology, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

- User-defined online management reports (views) with numerous selections for filters and display criteria are available.

Cerner Millennium Integration Benefits

Benefits of using *Anatomic Pathology* in a Cerner Millennium® environment include the following:

- Integration with *Radiology Management* within *RadNet* mutually benefits pathologists and radiologists, both of whom need access to related patient data, such as a breast biopsy and a mammogram.

- Integration with *PowerOrders* (PS-20576) within *PowerChart* closes the loop in the care process by documenting clinical events for outcomes analysis and trending with laboratory values.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium®* and client-developed databases. All *Cerner Millennium*

PathNet: Anatomic Pathology

applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium, Revision HNAM.2000.01

Special Licensing Considerations

A special licensing agreement has been established between Cerner and the College of American Pathologists (CAP), allowing Cerner to use, reproduce, and incorporate the CAP SNOMED INTERNATIONAL database into software developed and distributed by Cerner. The *CAP SNOMED INTERNATIONAL (III) for Pathology* (PA-22214) solution must be licensed by the client to incorporate SNOMED codes within *Anatomic Pathology.* If the electronic version of the full SNOMED dictionary already is licensed by the client from CAP, no additional license is required.

CAP SNOMED INTERNATIONAL (III) for Pathology is for use only within the department of pathology. Use of the CAP SNOMED INTERNATIONAL database within other clinical areas requires the purchase of additional subscriptions for those areas.

System Resource Considerations

The CPU, memory, and disk requirements for *Anatomic Pathology* are measured in terms of the number of patient admissions and discharges, the number of orderable procedures, the estimated number of patient results, the number of history files to be converted, and the number of users.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solutions significantly extend the functionality of this solution: *Laboratory Clinical Record* (PA-22930), *Clinical Data Repository* (PS-20570) and *Outreach Service* (PA-22205)

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

General Availability

PathNet

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CAP SNOMED INTERNATIONAL (III) for Pathology

Description

CAP SNOMED INTERNATIONAL (III) for Pathology is a supporting, annual subscription for a Cerner-engineered reference database for *PathNet*® containing the proprietary system of medical terms and codes developed by the College of American Pathologists (CAP) known as the Systematized Nomenclature of Medicine, International (SNOMED III).

CAP SNOMED INTERNATIONAL (III) for Pathology is designed for use with the diagnosis coding functions of the *Cerner Millennium* version of PathNet's *Anatomic Pathology* (PA-20080) product.

Client Benefits

♦ *CAP SNOMED INTERNATIONAL (III) for Pathology* offers a recognized standard of nomenclature that facilitates support of regulatory requirements published by JCAHO (PA.6.1.1.2.2), CAP (08.1245), CLIA '88 (493.1259d), and other regulatory agencies

♦ Provides an efficient basis for future database retrievals and queries

♦ Expands the coding vocabulary to include support for gynecologic cytology; veterinary pathology; microbial organisms; physical agents, activities, and forces; and chemicals, drugs, and biological products

♦ Support is provided for future enhancements and revision updates

Major Features

♦ A complete SNOMED lexicon of more than 130,000 terms is included, with the addition of veterinary codes.

♦ The Cerner-developed storage format allows the CAP terms to be accessed by *Anatomic Pathology's* (PA-20080) diagnosis coding and retrieval functions.

♦ Cerner makes available all CAP-sponsored data updates to this database.

Availability

HNA Millennium, Revision HNAM.2000.01

Special Licensing Considerations

CAP SNOMED INTERNATIONAL (III) for Pathology is an annual subscription quoted on a "per facility" basis for a minimum one-year term. Each facility having pathologists who read and sign out pathology and/or cytology cases must subscribe to *CAP SNOMED INTERNATIONAL (III) for Pathology.*

A special licensing agreement has been established between Cerner and CAP, allowing Cerner to use, reproduce, and incorporate CAP's SNOMED INTERNATIONAL database into software developed and distributed by Cerner. This agreement allows Cerner to distribute CAP's SNOMED INTERNATIONAL database on a subscription basis for use with *Cerner Millennium* version of the *Anatomic Pathology* product (PA-20080).

CAP SNOMED INTERNATIONAL (III) for Pathology is for use only within the department of pathology. Use of CAP's SNOMED INTERNATIONAL database within other clinical areas requires the purchase of additional subscriptions for those areas.

This product incorporates *SNOMED ® International – The Systematized Nomenclature of Medicine,* used by permission of the College of American Pathologists. © 1999 College of American Pathologists. SNOMED is a registered trademark of the College of American Pathologists, all rights reserved.

Software Prerequisites

Anatomic Pathology (Cerner Millennium) (PA-20080) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

System Resource Considerations

CAP SNOMED INTERNATIONAL (III) for Pathology requires approximately 130 megabytes of disk space.

Installation Considerations

CAP SNOMED INTERNATIONAL (III) for Pathology is generally installed in conjunction with the *Anatomic Pathology* product. If *CAP SNOMED INTERNATIONAL (III) for Pathology* is not installed with *Anatomic Pathology*, it can be installed at a later time. The ability to code historical cases and cases reported before the implementation of *CAP SNOMED INTERNATIONAL (III) for Pathology* is provided.

PharmNet: Inpatient Pharmacy

Description

Inpatient Pharmacy is a major PharmNet® offering designed to manage pharmacy operations serving an inpatient population. This solution's unique features make drug ordering and dispensing significantly faster than other system solutions in the marketplace, without compromising a critical aspect of the pharmacy's involvement in patient care – clinical validation. *Inpatient Pharmacy* supports drug-allergy, drug-drug, and drug-food interaction checking, as well as therapeutic duplication screening.

With *Registration Management* (CP-20735) within CapStone or an optional foreign system interface, ADT (admission, transfer, and discharge) and patient demographic information is automatically transmitted to *Inpatient Pharmacy,* eliminating duplicate patient registration within the pharmacy.

Inpatient Pharmacy fully supports the following activities in the pharmacy:

- Departmental Patient Registration
- Pharmacy Order Entry
- Clinical Documentation Management (ClinDoc)
- Decision Support/Clinical Review
- Physician Order Processing
- Dispensing
- Medication Administration Record Processing
- Bar-Code Charge/Credit
- Formulary Management
- Database Tools
- HL7-Compliant Interfaces (optional)

- Foundations

Client Benefits

- Improves quality of care by providing comprehensive, integrated clinical information at the point of clinical decision making

- Clinical documentation (*ClinDoc*), integrated with order entry, saves time and increases the likelihood of documenting all clinical activities. Provides tracking and reporting of all patient outcomes related to such activities

- Automates the medication use management process, streamlining workflow

- Enhances patient safety through advanced clinical intervention tools

- Provides productivity tools that enhance departmental operations using real-time workload statistics, such as orders and clinical tasks

- Supports pharmacoeconomic analysis, by trending intervention types, quantities, recommendation acceptance and potential cost savings/avoidance

- Employs a user-friendly, Microsoft Windows-based design for ease of navigation

Major Features

- *Departmental Patient Registration* is a feature of Cerner's *Foundations,* which is embedded as the underlying foundation of every appropriate major software offering that Cerner develops. It supports the quick entry and modification of patient demographic information by pharmacy personnel. As changes are made either manually or through a foreign system ADT interface, *Departmental Patient Registration* features

PharmNet: Inpatient Pharmacy

ensure that users have access to the most current patient demographic information.

- *Pharmacy Order Entry* provides the user with several options for selecting medications, such as by brand name, generic name, product identification number (that is, NDC or DIN), or mnemonic. Predefined defaults for order details expedite the medication order entry process. Order sets and IV sets can be used for commonly ordered medication therapy plans, including defaults of the most commonly accepted medications. User-defined order alerts can be displayed during pharmacy order entry and are used to notify pharmacists of certain formulary items that require restricted dispensing or for special instructions. Integration with *Departmental Clinical Supply Chain for Pharmacy* (PH-25201) automates the reorder and inventory control processes, with support for contract item identification, extemporaneous compounding, and inventory tracking capabilities.

- *ClinDoc* provides comprehensive clinical documentation of activities integrated within the medication alerting process. Such documentation can include non-medication parameters such as diseases, allergies or patient conditions. *ClinDoc* automatically captures the identification of the user entering documentation when a clinical audit is encountered. Each *ClinDoc* activity generates a unique document that is assigned at the point of intervention. Clinical activity workload reporting at the user or activity/issue level is provided as well.   This can be used to assign specific tasks to clinicians or clinical teams.

- *Decision Support/Clinical Review* enables institutions to define specific criteria for clinical appropriateness of drug therapy. Clinical intervention management for safe medication utilization is achieved through the licensure of

MediSource Foundation (KS-22004 or KS-22005) or *MediSource Patient Specific* (KS-22001), Cerner Multum's drug database solutions, to perform drug interaction checking and screening for therapeutic duplication at the time of order entry. All messages for alerts and interaction checks are presented in the same window for review, reducing the number of alert windows presented during pharmacy order entry. The supporting *Clinical Documentation Management (ClinDoc)* (PH-22275) solution can be integrated with pharmacy order entry to support clinical conflict analysis and intervention.

- *Physician Order Processing* in PharmNet supports the complete electronic process for medication orders placed in a Cerner or non-Cerner physician order entry system. *Physician Order Processing* for these types of orders received by PharmNet supports pharmacy order verification, decision support, clinical checking, and the use of electronic signatures. Physician orders placed via *PowerOrders®* (PS-20576) also provide pharmacy personnel with the override reason to alerts, when a physician chooses to bypass a medication alert. The pharmacy personnel also have access to the normalized dose used by the physician when ordering weight-based doses (typically in the pediatric setting).

- The *Dispensing* component supports multiple facilities, satellites, and mobile carts, as well as different exchange times for each nursing station. It supports processing of patient charges immediately through order entry and dispensing functions. Dispensing lists are available for an individual patient, single or multiple nursing stations, or the entire organization. The system supports unit dose, traditional fill, pass medication, and floor stock drug distribution methods.

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PharmNet: Inpatient Pharmacy

- *Medication Administration Record (MAR) Processing* supports the documentation of medication administration for scheduled, PRN, IV piggyback, continuous infusion, and one-time orders. Standard MAR reports can be generated by the system for use by nursing personnel in charting the administration of patient medications. Additional MAR formats or customization of the MAR to meet the client's clinical data requirements is available for additional service fees. Integration of *Inpatient Pharmacy* with *Medication Administration Record* (PS-22732) a supporting solution that creates an electronic profile of the patient's medications organized by medication groupings and administration times, offers the highest degree of medication administration documentation.

- *Bar-Code Charge/Credit* simplifies the entry of charges and credits for pharmacy medication orders placed in PharmNet. This form of rapid data entry is accomplished by using bar-code readers to enter the orders that are being charged or credited.

- *Formulary Management* provides a centralized method of support for a single- or multi-institution medication database. *Formulary Management* simplifies monitoring the use of nonformulary items and investigational drugs, assisting with control of the pharmacy's formulary. The system can identify drug categories, such as formulary, nonformulary, and investigational items, for one or more formularies. Order entry defaults can be set for billing codes and formulas, specific commercial products, and formulary products that are defined at the facility/nursing station level. Reports can be requested by therapeutic category to assist in effectively regulating formulary drug use.

- *Database Tools* represent a toolset for building the reference tables that are used by this solution. For example, with these functions, the

pharmacy's formulary can be defined, as well as system processing variable settings. *Database Tools* also are used to set up employee records and security.

- *HL7-Compliant Interfaces* to all major suppliers that support HL7-compliant standards, including order entry, patient registration, billing, and laboratory information systems, are optionally available for licensing. For example, PharmNet can be interfaced to many of the automated dispensing devices used in hospital pharmacy departments.

- In addition to the features inherent within *Inpatient Pharmacy, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

- A *Dose Range Management* component establishes minimum and maximum dose checking guidelines for the safe administration of medication, so that medication orders can be screened for the minimum and maximum values of specific drugs based upon age ranges, routes of administration, single, daily and therapy doses, and other patient-specific modifiers

PharmNet: Inpatient Pharmacy

including renal status and lifetime therapy limits on specific drugs.

Cerner Millennium Integration Benefits

Benefits of using *Inpatient Pharmacy* in Cerner Millennium's® environment include the following:

- With the *General Laboratory* (PA-20070) offering within PathNet®, physiologic calculations or actual results, such as a creatinine clearance, are displayed in the *Clinical Summary* window of *Inpatient Pharmacy.* Calculations are based on the serum creatinine value from *General Laboratory*. Calculations are patient-specific using standard. Laboratory results from *General Laboratory* can be monitored based on the patient's medication therapy.

- With the *PathNet Microbiology* (PA-20075) offering installed, the online antibiogram feature within *PharmNet* provides pharmacists with information about the susceptibility patterns of microorganisms to antibiotics based on the site of infection.

- With *the Medication Administration Record* (PS-22732), the medication process is truly a closed loop, as direct care providers process medication orders online and transmit them to *Inpatient Pharmacy,* as well as document the administration of medications online. As a feature of this integration, a charge for the medication order can be generated based upon this documentation process. Reporting and monitoring capabilities are expanded to include the actual time of medication administration rather than the scheduled time within *Inpatient Pharmacy.*

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

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Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium Release 2000, version 2000.01

Software Prerequisites

MediSource Foundation (whose functionality is included in *MediSource Patient Specific* KS-22001; or *MediSource Foundation* facility-wide KS-22004; or *MediSource Foundation* by net KS-22005; or within functionality included in the *Knowledge Catalog* KS-26805 or KS-26806) is required.

PharmNet: Inpatient Pharmacy

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Medication Administration Record* (PS-22732)*, Outpatient Pharmacy* (PH-20170), *PowerOrders* (PS-20576), *Registration Management* (CP-20735), *Departmental Clinical Supply Chain for Pharmacy* (PH-25201), *General Laboratory* (PA-20070), *Microbiology* (PA-20075) and *ADE Prevention Alert Foundation Package* (KS-26702).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

General Availability

Multi-system Option

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Departmental Clinical Supply Chain

Description

Departmental Clinical Supply Chain is a supporting financial and operational solution that captures the use of supplies at the point of care and acts as a trigger for a series of events that make up the supply chain process. This product supports inventory management, facilitates departmental charging, and provides management reporting for these functions.

In addition, the Clinical Supply Chain solution provides a powerful tool to analyze supply usage, support product standardization, and ultimately lead to overall cost reductions

Its unique features automate the processes of materials management, allowing departments to plan, more effectively manage, maintain optimal inventories, contain costs, and capture departmental charges. Integrated with Cerner's clinical applications, the solution connects the clinical event to the supply chain , allowing for the management of perpetual inventories and automated replenishment events.

This system supports PAR management, using optional hand held devices, for inventories not designated as perpetual.

Various interfaces are supported, including General Ledger Inventory Transfers, Requisition Outbound, and Requisition Fill Inbound.

Client Benefits

♦ When implemented with a Cerner clinical application, products consumed are captured during the patient care

documentation conversation. A perpetual inventory becomes possible where previously labor would be prohibitive.

♦ Coupling the clinical event to the supply consumed allows you to evaluate not only what products are being used by how they are being used. This makes standardization and utilization projects efficient to complete.

♦ Because the clinical and logistic information is maintained together, better reporting is possible. Immediate access is provided to information needed to support strategic logistics. For example, administrators can generate reports based on the length of time an item has remained in inventory. If the product is underutilized, the organization can sell it to another hospital or can return it to the vendor. This practice translates to savings for the organization, as previously untapped supplies can generate revenue or credit toward a new purchase.

♦ Inventories are automatically updated based on item fill and return documentation, with the licensing of this product for the applicable departments, such as cardiology, emergency, laboratory, pharmacy, radiology and surgery.

Major Features

♦ Electronic requisitions provide replenishment automation for both stock and nonstock items.

♦ System-generated recommended order lists streamline the requisitioning process, including use of thresholds that may be adjusted as the seasons, corresponding caseloads, or other metrics change.

♦ Inventory control provides the ability to adjust stock levels; transfer and return stock; loan or borrow stock; and manufacture items, trays, sets, and packs.

♦ Summary or detail reports of departmental transactions can be generated.

♦ A wide variety of departmental materials management inquiries and reports can be generated, such as ABC, usage, and stock status reports.

♦ Robust item, manufacturer, and supplies upload tools speed system implementation.

♦ *Patient Supply Record ™* – data repository that stores supply usage by patient with cost and charge information.

♦ Automated replenishment capabilities based on clinical usage

♦ On-line requisitioning and product catalog for manual ordering and status tracking

♦ Mobile device support for inventory management and hand-held requisitioning

♦ Automated charge generation based on supply utilization

Patient Supply Record

The *Patient Supply Record ™* supports the following capabilities:

♦ Patient Demographic Data—Age, gender, allergies (optional), history

♦ Supply and Medication Database —ability to store UPN, manufacturer numbers, cost and sourcing data

♦ Clinical Information—Diagnosis codes, procedure codes, severity of illness, complications, co-morbidities (from medical records coding)

♦ Procedure Event Details—Procedure performed, date, time, place and participating clinicians (available from *Point of Use* (PO-20202)and/ or clinical systems

"Net" Affiliations

CVNet, PharmNet, PathNet and SurgiNet

Cerner Millennium Integration Benefits

Benefits of using *Departmental Clinical Supply Chain* in a Cerner Millennium environment include the following:

♦ The ability to update inventory levels based on events occurring within Cerner clinical systems

♦ The ability to capture supply cost for procedures, providing accurate cost analysis information

♦ Increased productivity and data integrity resulting from a consolidated item database and a reduced dependency on interfaces to external systems

Availability

SurgiNet and PharmNet: Currently available

PathNet and CVNet: Planned for future availability in Cerner Millennium.

Special Licensing Considerations

Par Level Management requires barcode devices, label printers, and related communication infrastructure licensed separately.

Customization of standard interfaces is available on a time and materials basis.

EDI Communications requires OpenEngine or other third-party mapping software.

Software Prerequisites

Software prerequisites vary based on the department(s) for which this product is licensed.

For cardiology, *Cardiac Invasive Lab Management* (CV-20480) or *CVNet for Cardiac Surgery* (CV-20484) is required.

For the pharmacy department, either *Inpatient Pharmacy* (PH-20160) or *Outpatient Pharmacy* (PH-20170) is required.

For the laboratory department, either *General Laboratory* (PA-20070), or *Microbiology* (PA-20075), or *Anatomic Pathology* (PA-20080), or *Blood Bank Transfusion* (PA-20090) is required.

For the radiology department, *Radiology Management – Cerner Millennium* (RA-20135)

For the surgery/ anesthesia department*, Surgical Management* (SU-20310) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software products in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

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General Availability

Multisystem Option

⊖ **CERNER®**

MediSource Foundation

Description

MediSource Foundation is a medication safety solution that is part of the Cerner MediSource suite of drug information offerings. *MediSource Foundation* conducts an extensive array of core safety checks and contains referential content to support order entry, pharmacy dispensing, nurse administration and consumer education. In addition, MediSource Foundation supports advanced drug content such as dose-range checking and order sentences.

MediSource Foundation is unified within multiple Cerner Millennium clinical solutions, allowing just-in-time access to critical drug information.

MediSource Foundation is available as three distinct solutions, depending on the Cerner clinical domain to be supported:

- *MediSource Foundation* (Enterprisewide) (KS-22004)

- *MediSource Foundation* (By net/Facility) (KS-22005)

Client Benefits

- Unified clinical decision support provides consistent drug information throughout Cerner Millennium solutions.

- Increased patient safety with authoritative drug information that aids clinical decision-making.

- Reduced variance in drug therapy through the availability of evidence-based drug knowledge.

- High-quality reference data incorporated into Cerner Millennium solutions assist clinicians at the point of care, where the information is most needed.

- Current and concise reference data on the actions, side effects, elimination, and hazards of medications allows clinicians to stay current on the latest medical findings.

- A streamlined, efficient drug ordering process allows clinicians to create accurate, complete, safe medication orders and prescriptions.

- Custom, honed checking for the safety of drug therapy.

- Rational dosing ranges for pediatric thru geriatric populations.

Major Features

- Prospective monitoring of drug-drug interactions, drug-food interactions, drug-herb/neutraceutical interactions.

- Drug-allergy contraindications.

- Therapeutic duplication checking and therapeutic categorization.

- Descriptions of side effects/toxicities of drugs.

- Descriptions of the pharmacological and pharmacokinetic properties of drugs.

- Pregnancy and lactation hazards of drug therapy.

- Drug dosing recommendations.

- References to the primary medical literature for all clinical topics.

- Consumer drug information leaflets in English and Spanish.

- IV fluid compatibility/incompatibility data.

- Drug names, formulations, NDCs, orange book codes and warning labels.

- The latest pricing information, including current average wholesale prices.

- Frequent clinical and pricing updates, based upon the specific Cerner solution, automatically are provided from Cerner on a quarterly basis. Additional updates are provided daily on the MediSource Web site, offering clients a variety of frequency options for updating their databases.

- Dose-range checking (age and weight specific, based on renal function and lifetime therapy limits).

- Common adult medication orders.

- Common pediatric medication orders.

Availability

Cerner Millennium, Release 2000, version 2000.01

Software Prerequisites

MediSource Foundation is a prerequisite for the following solutions:

PowerChart: *PowerOrders* (PS-20576)

PharmNet*: Inpatient Pharmacy* (PH-20160)

FirstNet: *Emergency Department Care Management* (ER-20280)

CVNet: *CVNet Invasive Lab Management* (CV-20480) or *CVNet Noninvasive Lab Management* (CV-20486)

Multi-System: *EasyScript Prescription Writer* (PS-22103, CV-22103, ER-22103, or SU-22103) for PowerChart, CVNet, FirstNet, or SurgiNet, respectively

Technical Environment Requirements

Refer to the Understanding Cerner Millennium Technical and Support Requirements document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution:

- *MediSource Desktop Reference (Inpatient Pharmacy)* (KS-26740) and *MediSource Desktop Reference (Enterprise-wide)* (KS-26741)

- *MediSource Patient-Specific* (KS-22001), which is inclusive of *MediSource Foundation* (KS-22004, KS-22005, XX-22160).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, Web-based end-to-end reference material and computer-based training (CBT). Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our sales organization at (816) 201-0054.

CERNER®

General Availability

Multisystem Option

RadNet: Radiology Management

Description

Radiology Management – Cerner Millennium® is the major RadNet® offering designed for managing the workflow and operation of a radiology department. This solution fully automates the following radiology activities:

- *Departmental Patient Registration*

- *Departmental Order Entry and Inquiry*

- *Radiology Patient Tracking*

- *Folder/Film Management*

- *Report Processing*

- *Radiologist Interpretation*

- *Quality Management*

- *Workload Reporting*

- *Results Reporting*

- *Charge Capture/Reporting*

- *Departmental Scheduling Management (RA-22100) (supporting solution)*

- *Mammography Management (RA-22265) (supporting solution)*

- *Foundations*

Client Benefits

- Reduces patient length of stay by ensuring immediate access to patient results throughout the organization

- Monitors and improves productivity with real-time outcomes analysis of clinical and operational data

- Increases revenue opportunities by accurately capturing billing events and supplies

- Decreases costs by tracking repeat analyses, enabling the organization to monitor reasons for repeats

- Decreases costs through accurate image management capabilities, eliminating lost films

- Eliminates costly mistakes while improving patient care with duplicate checking and *Discern Expert®* rules and clinical alerts

- Streamlines patient processing from order entry to the time that the patient is actually returned to his or her room with the *Radiology Patient Tracking* component, saving time and improving care delivery

- Increases operational efficiencies and improves patient safety by decreasing the likelihood of errors via process automation, which is available with an integrated image management option

- Eliminates the need for a paper by providing the tools necessary to support online documentation and access to clinical information.

Major Features

- *Departmental Patient Registration* is a feature of Cerner's *Foundations,* which is embedded as the underlying foundation of every major software offering that Cerner develops. It supports the quick entry and modification of patient demographic information by radiology personnel. As changes are made either manually or through a foreign system ADT interface, *Departmental Patient Registration* features ensure that staff has access to the most current patient demographic information.

- *Departmental Order Entry and Inquiry* functionality is another feature *of RadNet* that

RadNet: Radiology Management

enables radiology personnel to enter, modify, and review ordered exams, as well as add comments to orders.

- *Radiology Patient Tracking* helps manage the flow of patients through the radiology service, tracking each patient's location and status from arrival to departure. This component also provides a visual indication of excessive patient wait times and an online transportation queue for use by transport personnel.

- *Folder/Image Management* simplifies tracking images as they are being checked in and out of the radiology service. This feature includes inquiry functions for detecting missing folders and delinquent loans, in addition to tracking films that are sent to the radiology service from outside sources. It supports an unlimited number of folder levels and can track *temporary folders* before the images are merged into the patient's existing master/subfolder.

- *Report Processing* supports a full-featured word processor for text entry, integrating text editing functions for reporting of normals, standard phrases, and fill-in-the-blank templates – all designed to streamline the entry of dictated text. Additionally, a unique *sticky note* can be used to communicate with the radiologist about difficult cases.

- *Radiology Desktop* consolidates and integrates all of the tasks associated with the production of a radiology report. This desktop feature provides quick, easy access to the radiologist's queue, optional *Integrated Digital Dictation*. (RA-22252) and also enables the creation of reports using normal templates. Specifically, the *Sign-out* function provides features to review, modify, and approve reports online using an electronic signature. Using the versatility of *Radiology Desktop,* images can be displayed for clinical review, or *Radiology Desktop* alternately can be

employed as part of an integrated diagnostic workstation solution, enabling real-time integrated reporting from a single desktop with licensing of Cerner's *ProVision® PACS*

- *Quality Management* provides reporting for quality assurance and correlation purposes. Features are available to generate patient follow-up documents and statistical quality analysis reports. *Technical Comments* functionality enables the user to capture important exam information that would normally be written on the paper requisition. Film analysis functionality helps manage usage by generating reports on wasted and repeat films by reason, examination, film size, technologist, department, section, and room.

- *Workload Reporting* is a feature of *Foundations* that provides basic management reports containing raw counts and the corresponding technical labor units per procedure.

- *Results Reporting* is a feature of *Foundations* that helps manage all aspects of departmental chart generation – from defining the appearance of a chart and controlling the information to be included in a chart to defining precisely who is to receive the chart. These reports optionally can be transmitted to remote printers or facsimile devices.

- *Charge Capture/Reporting* is another *Foundations* feature that involves the generation of charges for exams and of billing reports that record those charges. These generated charges optionally can be transmitted as billing transactions in a variety of ways; for example, *Billing Outgoing (Batch)* (IF-29275) and *Billing Outgoing (Real-Time)* (IF-29280).

- *Departmental Scheduling Management* is offered as an integrated solution option for *Radiology Management – Cerner Millennium*, providing the

RadNet: Radiology Management

ability to schedule appointments for procedures performed within the radiology service.

- *Mammography Management (RA-22265)* is an optional supporting solution designed for managing the follow-up and tracking of mammography procedures. In addition, *Mammography Management* includes capabilities to assist mammography departments in achieving MQSA (Mammography Quality Standards Act of 1992) compliance.

- In addition to the features inherent within *Radiology Management – Cerner Millennium, Foundations* functionality also is included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *Radiology Management – Cerner Millennium* in a *Cerner Millennium* environment include the following:

- Ability to include applicable laboratory values on radiology requisitions with licensing of the *PathNet® Laboratory Information System*

- Ability to view all clinical activity, including laboratory and pathology results, via a flowsheet inquiry within *Radiology Desktop* or *Order Viewer* with licensing of PathNet and other Cerner clinical systems

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

HNA Millennium, Revision HNAM.2000.01

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RadNet: Radiology Management

System Resource Considerations

The CPU, memory, and disk requirements for *Radiology Management – Cerner Millennium* are measured in terms of the number of patient admissions and discharges, the retention time of patient encounters, the number of orderable procedures, the retention time of patient order records, and the number of users. Additional requirements may be based on the number of interfaces.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Departmental Scheduling Management* (RA-22100), *Mammography Management* (RA-22265).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

Health Information Management: ProFile

Description

ProFile® is a major Health Information Management offering that is focused on the attainment of productivity gains and management control over all operations performed by medical records personnel. This solution provides an integrated set of functionality committed to the elimination of redundant data entry and the minimization of manual activities. It is designed not only to meet the system needs of traditional, paper-based medical records departmental operations, but also to support the parallel or future migration of paper to electronic media-based medical records via Cerner's *PowerChart®* solution.

The *ProFile* offering fully supports the following activities:

- Patient Data Management

- Workqueue Management

- Patient Care Chart Requests/Delivery

- Documentation Completion

- Coding/Abstracting Management

- Release of Information Management

- Chart Location Tracking

- Foundations

Client Benefits

- Automates key health information management processes, allowing the entire healthcare organization transition to a paperless health records environment while continuing to support paper chart requests and tracking

- Provides the ability to perform records management tasks concurrently with the care process across multiple facilities to improve quality of care and cash flow

- Improves the chart management workflow process through the organization of tasks with workqueues and the identification of bottlenecks in the chart management process

- Improves productivity by eliminating redundant tasks and allowing simultaneous processing

- Provides the necessary tools for process improvement, physician compliance monitoring and reporting, and regulatory and accreditation reporting by automatically collecting event-driven statistics

- Offers staff more time to focus on the quality of charts by implementing exception processing for routine tasks

- Provides an opportunity to improve cash flow by decreasing turnaround times for delivery of key data to financial systems

Major Features

- *Patient Data Management* capabilities, available when the *Registration Management* (CP-20735) offering within CapStone also is licensed, allow medical records personnel to enter and retrieve/modify patient demographic data residing in the patient encounter-oriented Master Patient Index (MPI) file. This capability also is possible via an interface to a foreign patient management system.

- *Workqueue Management* provides features designed to define work tasks performed within the health information management department, define upstream events (for example, admissions and discharges) to trigger work orders, and maintain workqueues for accessing patients within the system.

Health Information Management: ProFile

- *Patient Care Chart Requests/Delivery* manages the automatic notification and delivery of patient charts throughout the hospital and adjoining clinics based on patient registration (via optionally licensed *Registration Management* or an interface to a foreign patient management system) and patient appointments (via an interface to a foreign scheduling system). Pull lists can be generated according to user preference. Charts can be requested online, validated by *ProFile,* and then loaned and tracked for timely return. When a requested chart is unavailable, it is added to an online work queue where the user can prioritized by type of request, so that it can be forwarded to the next requesting party as soon as it becomes available.

- *Documentation Completion* manages the identification and resolution of patient chart deficiencies, such as incomplete and missing clinical reports and qualitative deficiencies. Drawing from ADT (admission, transfer, and discharge) and clinical order activity event triggers, document tracking can be automatically invoked. Notification of document deficiencies can be sent to the clinician and can be automatically relieved through recognition of electronic document capture and signature events, via licensing of *PowerOrders®* (PS-20576) within PowerChart. Management reports are available for a variety of perspectives, such as pending charts by physician. Physician correspondence also is supported, optionally via facsimile devices.

- *Coding/Abstracting Management* organizes workqueues, and it automatically downloads MPI patient demographics to a user-prescribed, PC-based encoder with licensing of the appropriate interface. It also supports the subsequent upload and capture of classification codes (for example, DRG, ICD-9, or CPT) with licensing of the appropriate sublicensed and licensed software.

These codes are permanently captured and can optionally be passed to a billing system via a system interface. Turnaround time metrics capture and reporting features are included. Chart abstracting functionality provides an unlimited number of user-defined fields for discrete data capture. Abstract forms allow for user-designated required fields and conditional fields. Coder can select from working diagnoses and procedures identified and passed in from other Cerner solutions as a basis for initiating the concurrent coding process.

- *Release of Information Management* supports the notation of received requests, validation of authorization for the release of information, historical documentation of the information released, and management of any associated reimbursement receivables.

- *Chart Location Tracking* supports movement tracking and identification of the physical, offline location of paper and/or other media-based (for example, microfilm or microfiche) patient charts. Media labels with bar codes can be generated.

- Document imaging integration, allowing images to be scanned into the database and tracked for deficiencies with licensing of the *Cerner ProVision Document Imaging* solution.

- In addition to the features inherent within *ProFile, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result*

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Health Information Management: ProFile

Processing), and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *ProFile in* a Cerner Millennium® environment include the following:

- Automated chart analysis requirements, deficiency resolution, and interaction with physician workqueues, with licensing of *Clinical Data Repository* within PowerChart

- Automated chart analysis requirements with licensing of *Clinical Documentation*, *Medical Transcription Management*, and *Cerner ProVision® Document Imaging,* as well as within PowerChart the solutions *Care Documentation* (PS-22719) and *PowerOrders®* (PS-20576)

- Central MPI and ADT events that trigger documentation requirements from *Registration Management*

- Document deficiency aging, with optional notification to physicians for electronic signature when PowerChart is licensed.

- Upstream coding can be initiated by selecting codes entered through applications during the care process.

- Support for utilization management, quality assurance, and cost analysis activities with the *Open Management Foundation* (OMF)

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explore®r uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium®* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium, Revision HNAM.2000.01

Software Prerequisites

Registration Management (CP-20735) or ADTs/Demographics Incoming (IF-29010) is required.

Health Information Management: ProFile

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Cerner ProVision Document Imaging, Medical Transcription Management* (MR-20410), *Clinical Data Repository* (PS-20570), and *Data Warehouse* (PI-20615).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

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General Availability
Open Engine

$\bigodot$ **CERNER**

Open Engine

Description

Open Engine is a major *Open Engine Application Gateway System* that provides platform-independent interfacing between computer systems in a healthcare environment. *Open Engine* supports data exchange among disparate computer systems, providing timely access to demographics, clinical results, and financial data. *Open Engine* is available as a stand-alone system or as a complement to other Cerner systems.

Examples of the data exchange facilitated by *Open Engine* include, but are not limited to, the following:

♦ ADT (admission, transfer, and discharge) transactions to the laboratory, radiology, and pharmacy departments

♦ Orders from patient care systems to the appropriate departmental systems

♦ Results from departmental systems to the client's clinical repository

♦ Charges from departmental systems to the client's financial system(s)

Access to *Open Engine* functions is provided via a highly interactive graphical user interface with advanced point-and-click mouse features and graphical displays using Microsoft Windows.

Client Benefits

♦ *Open Engine* was specifically designed to support healthcare systems, while other commercial interface engines were designed for the banking and financial marketplace and only "adapted" to the healthcare market.

♦ *Open Engine* can be implemented as a stand-alone system or in conjunction with other Cerner systems, making a scaled implementation advantageous to the client with both cost and time constraints.

♦ Clients can implement their own interfaces using existing staff, which reduces expenses.

♦ High-level programming abilities are not required for the implementation of interfaces, resulting in additional cost savings.

♦ A rapid interface implementation is possible with available tools provided by *Open Engine,* thereby saving time.

♦ At-a-glance monitoring of interfaces for all Cerner solutions is provided, which aids in the day-to-day operation of interfaces.

♦ Alerts to problems are readily viewable by the client to minimize interface downtime.

♦ *Open Engine* can be implemented on a separate hardware platform or can share hardware with another Cerner system, potentially saving money.

Major Features

♦ Support for IBM, Unix and Compaq Alpha platforms is provided.

♦ *Open Engine* supports flexible, user-controlled interface development using familiar point-and-click and drag-and-drop functions.

♦ Table-driven flexibility facilitates routing messages, creating and modifying messages and fields, and defining the communications configuration.

♦ Predefined communication routines are available and are easily configurable.

♦ An internal data dictionary or object library is provided to assist with the development and maintenance of interfaces that comply with industry standards such as HL7, ASTM, and X.12.

♦ User-defined object libraries are also available.

♦ An easy-to-use scripting environment helps clients build and maintain interfaces. Communication commands and message formatting are performed using an English-like set of commands. *Cerner Command Language* is used and is the same scripting language used for other Cerner solutions.

♦ Inquiry and pop-up windows can be used to access other scripts and the internal dictionary during the editing process. A full suite of conditional loops and string manipulation commands is available.

♦ Debug tools and test environments are included to assist in the development process. Transactions can be viewed as each script is called and processed.

♦ A large number of technical protocols are supported, including asynchronous/serial, TCP/IP Berkeley Sockets, dial-up modem, and disk file.

♦ SMTP and Internet mail communication capabilities are incorporated.

♦ Online, context-sensitive Help screens are supported.

♦ Wizards are used as aids to quickly configure interfaces and scripts.

♦ Configurable error recovery steps are supported.

♦ Drag and drop script creation environment.

♦ Interactive interface debug tool.

♦ In addition to the features inherent within *Open Engine, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Availability

HNA Millennium, Revision HNAM.2000.01

Special Licensing Considerations

Open Engine provides support for TCP/IP, asynchronous, dial-up modem, and disk file protocols. Each needed protocol must be licensed separately via *Open Engine Communication Services* (OE-22850 through OE-22890).

Additional license, installation, and support fees are required for the Open Port foreign system interface

Owner: Marketing Pricing & Packaging
Effective date: 6/13/2003

(FSI) Database Connectivity Servers. Database Connectivity Servers provide the ability to update Cerner's *HNA Millennium* database with information from a foreign system or to extract information from the Cerner database for transmission to a foreign system.

The client is responsible for creating and maintaining any interfaces to foreign systems. The client can elect to have Cerner develop any interfaces needed between Cerner systems and foreign systems, rather than create these interfaces itself. Cerner will charge for interface development on a fee-for-service basis.

Software Prerequisites

One or more *Open Engine Communication Services* are required. The communication services currently available are as follows:

♦ TCP/IP Communication Services (OE-22850)
♦ Asynchronous Communication Services (OE-22870)
♦ *Dial-Up Modem Communication Services* (OE-22875)
♦ *Disk File Communication Services* (OE-22890)

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

CPU, memory, and disk requirements for *Open Engine* are calculated according to the expected number of interfaces and the transaction volume to be maintained.

Support Considerations

A client system administrator is recommended to provide ongoing maintenance, as well as new interface development and support.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

⊜ CERNER

Open Engine Communication Services

Description

Open Engine Communication Services represent a
series of *Open Engine* products providing software
to support the various communication services.
Open Engine Communication Services support the
error-free transmission of data between *Open
Engine* (OE-20850) and other foreign information
systems or interface engines.

Client Benefits

♦ Provides state-of-the-art communication
protocols for the exchange of data

♦ Offers a real-time mechanism to keep all data
synchronized among multiple information
systems

Major Features

♦ Supports network and point-to-point
connectivity

♦ Provides communication diagnostic
information

♦ Supports a comprehensive data-logging

Availability

HNA Millennium, Revision HNAM.2000.01

Special Licensing Considerations

Clients must license each communication service
type separately. The client purchases a single
license for each of the required communication
service types to be used within the scope of the
license agreement.

Available communication services are as follows:

♦ *TCP/IP Communication Services* (OE-22850)
♦ *Asynchronous Communication Services*
(OE-22870)
♦ *Dial-Up Modem Communication Service*
(OE-22875)
♦ Disk File Communication Services (OE-22890)

The client is responsible for creating and
maintaining any interfaces to foreign systems.

A separate license may be required for additional
DEC, IBM, or third-party software products, as
well as counterpart products for foreign systems,
in order to provide the physical layer connection.

Software Prerequisites

Open Engine (OE-20850) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium
Technical and Support Requirements* document for
information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software products in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

CERNER

ADTs/Demographics Incoming

Description

ADTs/Demographics Incoming is an Open Port Database Connectivity Server that provides the ability to accept the electronic transmission of various persons' demographic information from a foreign information system into a Cerner system. This transaction-based interface supports the receipt of admission; transfer; update and cancel-registration; financial number change; medical record number change; discharge; and reinstate transactions.

Transactions actually processed and events triggered in the Cerner system vary, depending on the nature of the foreign system, the Cerner system transmitting the information, and the master system controlling the assignment of patient identifiers and demographics.

The amount of data that is stored in the Cerner system also depends on the Cerner solution implemented. For example, with licensure and implementation of *Registration Management* (CP-20735) within the *CapStone,* the maximum amount of data can be stored about a person, including insurance and guarantor information. If the *Person Management* component within Cerner's *Foundations* is implemented for access by an applicable Cerner departmental system, basic data about a person is stored for the purpose of processing an order. *(Foundations* represents embedded functionality included in all of Cerner's major offerings that automate shared processes and tasks.)

Client Benefits

♦ Eliminates manual re-entry and monitoring of person information in both the Cerner system and the foreign system(s), saving time

♦ Provides a real-time mechanism to synchronize person demographic information among multiple information systems, increasing the accuracy of data

♦ Makes updated person data available to all Cerner users in a timely fashion, increasing provider satisfaction and improving quality of care

Major Features

♦ ADT transactions are controlled by organization, client, type, and location.

♦ Person- and encounter-level data is supported, including insurance information, guarantor, diagnosis, and clinical observations.

♦ Encoded ICD/DRG data can be stored and accessed.

♦ Real-time processing is supported.

♦ HL7 Universal Interface functionality and configurable options are supported.

♦ Audit trail and exception reporting is included.

Availability

For CapStone, **CareNet**, **Cerner Cardiovascular**, **FirstNet**, **Cerner Critical Care**, **PathNet**, **PharmNet**, **PowerChart**, **PowerChart Office**, **Supply Chain**, **HIM**, **RadNet**, **and SurgiNet and ProFit:** Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

The *ADTs/Demographics Incoming* license entitles only an incoming connection.

Additional service fees may be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the required changes to implement the interface according to the mutually agreed-upon specifications.

If the client does not implement all functionality of this solution in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional service fees may be applied for Cerner's efforts to modify the interface.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides user documentation for its software solutions in the form of online Help and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability
Open Port

 CERNER

Orders Incoming

Description

Orders Incoming is an Open Port Database Connectivity Server that provides the ability to accept the electronic transmission of patient order information from a foreign system into a Cerner system. This transaction-based interface supports the receipt of foreign system-initiated orders, cancellation requests, order status updates, and order number updates.

NOTE: *Pharmacy Orders Incoming* (IF-29030) is required to support orders from a foreign system into PharmNet.

Client Benefits

♦ Eliminates manual re-entry and monitoring of patient order information in both the Cerner system and the foreign system, saving time

♦ Provides a real-time mechanism to synchronize orders among multiple information systems, increasing the accuracy of data

♦ Eliminates the need to print hard-copy requisitions and transport them to the appropriate department or area, reducing expenses and effort

♦ Minimizes transcription errors that can occur when rekeying an order from a paper requisition

♦ Eliminates telephone calls to request order cancellations, increasing staff satisfaction and productivity

Major Features

♦ Real-time processing of orders, cancellation requests, order status updates, and order number updates is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

HNA Integration Benefits

Benefits of using *Orders Incoming* in a Cerner *Health Network Architecture* (HNA) environment include the following:

♦ Only one interface license is required to transmit orders from one or more foreign systems to all Cerner systems (except PharmNet)

Availability

For CVNet, FirstNet, Cerner Critical Care, PathNet, PowerChart, PowerChart Office, RadNet, and SurgiNet: Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

The *Orders Incoming* license entitles only an incoming connection. Incoming orders from a foreign system to *Inpatient Pharmacy* (PH-20160) or *Retail Pharmacy* (PH-20170) within PharmNet are not supported by this interface but rather by the *Pharmacy Orders Incoming* (IF-29030) interface.

Additional service fees may be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the required changes to implement the interface according to the mutually agreed-upon specifications.

If the client does not implement all functionality of this solution in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional service fees may be applied for Cerner's efforts to modify the interface.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Orders Outgoing* (IF-29230).

Communication Materials

Cerner provides user documentation for its software solutions in the form of online Help and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

Appointment Notifications Incoming

Description

Appointment Notifications Incoming in an Open Port Database Connectivity Server that provides the ability to electronically receive scheduling activity transactions for a person from a foreign scheduling system and commit the data to a Cerner scheduling application.

The appointments received from a foreign system will affect the availability of the person and resources, once they have been committed to the Cerner database.

It is important to note that if appointments are being booked in the Cerner scheduling application and foreign system appointments are also being sent to Cerner, overbooking is possible. Overbooking should not occur when the Cerner scheduling application is a receive-only application; the availability will be managed by the foreign system.

In this scenario, the Cerner scheduling application is acting as a "view only" system and no validation is performed on the incoming data.

Client Benefits

♦ Eliminates manual re-entry and monitoring of appointments in the Cerner system and the foreign system

♦ Provides a real-time mechanism to synchronize appointments between two scheduling systems

♦ Updated appointment data, including reschedules and cancels, is available to Cerner users in a timely fashion

Major Features

♦ *Scheduling Management* and *Departmental Scheduling Management* applications in Millennium support this interface

♦ Both person level and resource level scheduling are supported for view only

♦ Real time processing is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

Availability

For CapStone, Cerner Cardiovascular, PowerChart Office, RadNet and SurgiNet:
Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

The *Appointment Notifications Incoming* license entitles only an incoming connection.

Software Prerequisites

Either an *Open Port Technical Protocol* (IF-29560 through IF-29625) or *Open Engine Communication Services* (OE- 22850 through OE-22890) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information on the technical environment.

Communication Materials

Cerner provides user documentation for its software solutions in the form of online Help and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

$\oplus$ **CERNER**

Results Incoming (Discrete Data Elements)

Description

Results Incoming (Discrete Data Elements) is an Open Port Database Connectivity Server that provides the ability to accept the electronic transmission of result transactions from a non-Cerner clinical information system for storage within a Cerner system.

This product enables the Cerner system to receive discrete clinical data elements from a foreign system. These data elements are stored in the Cerner database and are available for viewing.

With this type of result interface, the Cerner system controls report receipt and format presentation to the end user.

Actual result values and other accompanying data elements used in the clinical evaluation of the result are received as discrete data elements. Examples of these data elements are units of measure, reference ranges, and result comments, if attached.

Client Benefits

♦ Enables Cerner users to view results immediately that have been entered and validated in a foreign system, facilitating quality care delivery

♦ Provides results to physicians in a more timely fashion for quicker clinical evaluation and treatment of patients

♦ Minimizes telephone calls to obtain results, saving time and effort and reducing possible transcription errors

Major Features

♦ The display and report format is controlled by the Cerner system, which provides consistency between Cerner-generated and foreign system-generated results

♦ Laboratory, radiology, and other clinical results from a foreign system can be accepted

♦ Result types that can be sent and stored as discrete data elements include numeric and coded results from laboratory or other clinical departments. Each individual data element is sent in a separate field for storage within the Cerner database. The interface supports these database-ready transactions

♦ Real-time processing is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

HNA Integration Benefits

Benefits of using *Results Incoming (Discrete Data Elements)* in a Cerner *Health Network Architecture* (HNA) environment include the following:

♦ Only one interface license is required to receive multiple discrete result transactions from one or more foreign systems to all applicable Cerner systems

Availability

HNA Millennium, Revision HNAM.2000.01

Special Licensing Considerations

The *Results Incoming (Discrete Data Elements)* license entitles only an incoming connection.

Additional service fees may be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the required changes to implement the interface according to the mutually agreed-upon specifications.

If the client does not implement all functionality of this product in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional service fees may be applied for Cerner's efforts to modify the interface.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this product and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Related Products

The following Cerner software product(s) significantly extend the functionality of this product: *Results Incoming (Displayable Text)* (IF-29055).

Communication Materials

Cerner provides user documentation for its software products in the form of online Help and computer-based training (CBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

CERNER

ADTs/Demographics Outgoing

Description

ADTs/Demographics Outgoing is an Open Port Database Connectivity Server that provides for the electronic transmission of various person demographic data from a Cerner system to a foreign information system, interface engine, or database repository. This transaction-based interface supports the broadcast of person data to multiple systems by sending admission, registration, transfer, update, patient status change, automatic discharge, and cancel-admission transactions.

Transactions actually sent by the Cerner system vary, depending on the capabilities of the foreign system to process the data, the Cerner system transmitting the information, and the master system controlling the assignment of patient identifiers and demographics.

The amount of data available for transmission by the Cerner system depends on the Cerner product implemented. For example, if *Registration Management* (CP-20735) within the *CapStone* is implemented, the maximum amount of data can be stored about a person, including insurance and guarantor information. If the *Person Management* component within Cerner's *Foundations* is implemented for access by an applicable Cerner departmental system, basic data about a person is stored and available for transmission to a foreign system. *(Foundations* represents embedded functionality included in all Cerner products that automates shared processes and tasks).

Client Benefits

♦ Eliminates manual re-entry and monitoring of person information in both the Cerner system and the foreign system, saving time

♦ Provides a real-time mechanism to synchronize person demographic information among multiple information systems, increasing the accuracy of data

♦ Makes updated person data available to all Cerner users, as well as users of foreign systems, in a timely fashion, increasing provider satisfaction and improving quality of care

Major Features

♦ Person- and encounter-level data is supported, including insurance, guarantor, diagnosis, and clinical observation information if available.

♦ Real-time processing is supported.

♦ HL7 Universal Interface functionality and configurable options are supported.

♦ Audit trail and exception reporting is included.

"Net" Affiliations

CapStone®, CareNet®, Cerner Cardiovascular®, FirstNet®, Cerner Critical Care®, PathNet®, PharmNet®, PowerChart®, PowerChart Office®, Cerner Home Care™, Supply Chain™, Health

Information Management®, ProFit®, RadNet®, and SurgiNet®

Availability

Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

The *ADTs/Demographics Outgoing* license entitles only an outgoing connection.

Additional service fees may be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the required changes to implement the interface according to the mutually agreed-upon specifications.

If the client does not implement all functionality of this solution in the initial installation engagement and later wants to activate the remaining portion, the client will not be assessed additional license fees; however, additional service fees may be applied for Cerner's efforts to modify the interface.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

Orders Outgoing

Description

Orders Outgoing is an Open Port Database Connectivity Server that provides for the electronic transmission of patient order information from a Cerner system to a foreign system. This transaction-based interface supports the transmission of Cerner-initiated orders, cancellations, and order status updates.

The interface supports the assignment by the foreign system of an order number to a Cerner-initiated order. This interface sends an order message requesting the foreign system to assign and send its order number back to Cerner (the newly assigned order number can be sent back to Cerner with the licensure of *Orders Incoming* (IF-29020).

With regard to the assignment of an order number by the foreign system, this interface also provides the ability to hold an outgoing order transaction and all subsequent outgoing activity, including results, until these transactions can be processed by the foreign information system.

NOTE: *Pharmacy Orders Outgoing* (IF-29240) is required to support the transmission of orders from PharmNet to a foreign system.

Client Benefits

♦ Eliminates manual re-entry and monitoring of patient order information in both the Cerner system and the foreign system, saving time

♦ Provides a real-time mechanism to synchronize orders among multiple information systems, increasing the accuracy of data

♦ Eliminates the need to print hard-copy requisitions and transport them to the appropriate department or area, reducing expenses and effort

♦ Minimizes transcription errors that can occur when rekeying an order from a paper requisition

Major Features

♦ Orders for individual tests or procedures can be suppressed

♦ The status of an order (such as "in process" or "cancelled") can be transmitted by the Cerner system to the foreign system

♦ Real-time processing is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

HNA Integration Benefits

Benefits of using *Orders Outgoing* in a Cerner *Health Network Architecture* (HNA) environment include the following:

♦ Only one interface license is required to send orders from all applicable Cerner systems (except PharmNet) to one or more foreign systems

Availability

For CareNet, CVNet, FirstNet, Cerner Critical Care, PathNet, PowerChart, PowerChart Office, RadNet, and SurgiNet: *HNA Millennium,* Revision HNAM.2000.01

Special Licensing Considerations

The *Orders Outgoing* license entitles only an outgoing connection. Outgoing orders from *Inpatient Pharmacy* (PH-20160) or *Retail Pharmacy* (PH-20170) within PharmNet are not supported by this interface but rather by the *Pharmacy Orders Outgoing* (IF-29240) interface.

Additional service fees may be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the required changes to implement the interface according to the mutually agreed-upon specifications.

If the client does not implement all functionality of this solution in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional service fees may be applied for Cerner's efforts to modify the interface.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Orders Incoming* (IF-29020).

Communication Materials

Cerner provides user documentation for its software solutions in the form of online Help and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

CERNER

Appointment Notifications Outgoing

Description

Appointment Notifications Outgoing is an Open Port Database Connectivity Server that provides the ability to electronically send scheduling transactions for a person or resource from a Cerner scheduling application to a foreign scheduling system.

These appointments may affect the availability of the patient, once they have been received by the foreign system and written to its database.

It is important to note that if appointments are being scheduled in the Cerner system and sent to the foreign system, where appointments also are being scheduled, overbooking is possible.

Appointments sent to the foreign system are maintained in the person and resource daily appointment schedules of the Cerner system, along with appointments that may not be sent to the foreign scheduling system.

Client Benefits

◆ Eliminates manual re-entry and monitoring of appointments in the Cerner system and the foreign system

◆ Provides a real-time mechanism to synchronize appointments between two scheduling systems

◆ Updated appointment data, including reschedules and cancels, is available to users of foreign systems in a timely manner

Major Features

◆ Both person level and resource level scheduling are supported

◆ Real time processing is supported

◆ HL7 Universal Interface functionality and configurable options are supported

◆ Audit trail and exception reporting is included

Availability

For CapStone, RadNet, SurgiNet, CVNet, PowerChart Office: *HNA Millennium*, Revision HNAM.2000.01

Special Licensing Considerations

The *Appointment Notifications Outgoing* entitles only an outgoing connection.

Professional Services fees will be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the necessary changes to implement the interface according to the mutually agreed upon specifications.

If the client does not implement all functionality of this product in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional Professional Services

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fees will be applied for Cerner's efforts to modify the interface.

Software Prerequisites

Either an Open Port Technical Protocol (IF-29560 through IF-29625) or Open Engine Communication Services (OE- 22850 through OE-22890) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

Communication Materials

Cerner provides user documentation for its software applications in the form of online Help and computer-based training (CBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

CERNER®

Universal Reference Lab – Two Way Workflow

Description

Universal Reference Lab – Two Way Workflow is an Open Port Database Connectivity Server that provides the ability to electronically transmit and receive both laboratory orders and results between the Cerner PathNet system and another laboratory system.

The other laboratory system referred to may be a commercial reference laboratory, a foreign LIS, or another PathNet system.   The following links may exist:

> PathNet to/from a commercial reference laboratory, or

> PathNet to/from a foreign LIS, or

> PathNet to/from PathNet

Client Benefits

> Allows a PathNet laboratory to share resources by sending certain tests to another laboratory or by performing tests for another laboratory

> Allows a PathNet laboratory to act as a reference laboratory for another laboratory

> Eliminates the need to complete manual requisitions to accompany the specimens to the reference laboratory

Supports the ability of the Cerner user to view the reference laboratory generated results online along with PathNet generated results

Eliminates the need to print hard copies of the reference laboratory results

Eliminates phone calls to request the results from the reference laboratory

Major Features

> An online notification of incoming specimens to be processed is provided to the reference lab.

> If using batch mode, a hard copy packing slip to accompany specimens is sent to the reference lab.

> Online results are sent from the reference laboratory to PathNet.

> Identification of the performing laboratory is sent with the results.

> If an outbound results interface exists to a foreign system, reference lab generated results are eligible to be sent, also.

> Either real-time or batch mode processing is supported.

> HL7 Universal Interface functionality and configurable options are supported.

Document Title   *Universal Reference Lab – Two Way Workflow*   Owner: Marketing Pricing & Packaging
Tracking: Document # IF-29636   Version 1.0   Effective date: 08/02/2006
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Audit trail and exception reporting is included.

Supported Interfaces

Some reference laboratory systems that may be interfaced are listed below:

Quest (Smith Kline)

Mayo

ARUP

LabCorp

Availability

For PathNet: *HNA Millennium,* Revision HNAM.2000.01

Future Directions

In the future, *Universal Reference Lab – Two Way Workflow* will be expanded to include the following feature(s):

Discrete microbiology results

Inclusion of guarantor and insurance information

Special Licensing Considerations

The *Universal Reference Lab – Two Way Workflow* license entitles both incoming and outgoing connections.

Professional Services fees will be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the necessary changes to implement the interface according to the mutually agreed upon specifications.

If the client does not implement all functionality of this product in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional Professional Services fees will be applied for Cerner's efforts to modify the interface.

Software Prerequisites

Both dial up modem and TCP/IP protocols are supported. Either the Open Port Technical Protocols (IF-29560 or IF-29610) or Open Engine Communication Services (OE-22850 or OE-22875) is required and is included in the pricing package.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Health Information Management

Cerner ProVision Document Imaging

Description

Cerner ProVision Document Imaging is a distributed application that provides electronic document imaging services and interactive display of textual and other types of documents, as well as scanned images of documents, via a variety of Cerner's Health Network Architecture (HNA) Millennium applications or in a standalone mode. Original documents can be captured from a variety of media, converted to digital format for viewing and archived for long-term storage.

Cerner ProVision Document Imaging employs an open architecture using standard workstations and servers to provide sophisticated document capture, storage, and retrieval, either in a LAN environment or via an ASP implementation. Electronic document images can be displayed, printed, and faxed, allowing rapid access to documents from any number of workstations.

Client Benefits

- Improved cash flow due to the availability of the entire chart for coding prior to discharge

- Reduction in supply and labor costs related to maintaining a paper record

- Eliminating the need for multiple iterations of the patient chart and supplies to support the paper record

- Staff reductions and/or redeployments due to the elimination of tasks such as chart requests, chart tracking, release of information and record assembly

- Simultaneous access to the entire electronic medical record throughout the entire continuum of delivery

Major Features

- Distributed client/server architecture

- Support for the capture of large volumes of current or historical clinical documents that would have remained in paper form

- Support for scanning on demand at the point of service within many *Cerner Millennium* applications

- Accurate, automated indexing of patient demographic information based on the *Cerner Millennium* database.

- User-defined indexing at the document level to ensure meaningful access to document images by clinicians

- Support for a mixture of storage media -- magnetic disk, optical disk, tape, DVD, or CD-ROM -- to achieve cost-effective storage and retrieval of documents

- Identical presentation of document images, regardless of the media on which the images are stored

- Integrated access via many *Cerner Millennium* applications

Document image manipulation features include multilevel zoom, scroll and pan, magnifier window, fit to window, fit to width or height window, versions, OCR, and annotations.

Page navigation features are provided, including thumbnails, next page, previous pages forward and backward, and go to page

The on-line display of document images streamlines medical records departmental processing (for example, coding, completion, and abstracting)

 In addition to the features inherent within *Cerner ProVision Document Imaging, Foundations,* functionality is also included. *Foundations* refer to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software products and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner products, though a few specific components may not be applicable to every product line. Refer to the *Foundations* Product Description for more information.

HNA Integration Benefits

Benefits of using *Cerner ProVision Document Imaging* in an HNA environment include the following:

> Document image display/print/fax capabilities provided through many Cerner client applications (i.e. PowerChart, PowerChart Office, ProFile, Patient Management Registration, others), allowing information not available in data format to be accessed through the same channel as stored data.
>
> Integration with Millennium's clinical event architecture, supporting access to information not available in data format, through the same channel as stored data
>
> Integration with PowerChart's Electronic signature functionality to provide the same capabilities for scanned images as for transcribed or native documents.
>
> Integration with PowerChart to allow notifications within the Physicians Inbox to notify the user of new information or document requiring signature and review.
>
> Integrated document capture capabilities with many HNAM applications such as capture of patient ID's and insurance information at registration process

Availability

HNA Millennium, Revision HNAM.2000.01

Special Licensing Considerations

The *Cerner ProVision Document Imaging* product is the integration of HNA applications and components that were developed by EMC Software, Inc. A special licensing agreement has been established between Cerner and EMC,

allowing Cerner to act as a value-added reseller for these applications.

Software Prerequisites

Cerner ProVision Document Imaging solution actually represents a flexible grouping of hardware and software products that are specifically configured based on the client's document imaging requirements. The combination of hardware and software recommended for *Cerner ProVision Document Imaging* is defined during the functional evaluation phase of the sales process.

Technical Environment Requirements

Hardware: In addition to the processor and peripheral equipment installed for OCF, IBM-compatible Pentium PC workstations and servers, each with a minimum of 512 megabytes to 2GB of memory, are required. Magnetic storage needs vary, based on the client's particular configuration.

The hardware configuration for the *Cerner ProVision Document Imaging* PC servers is dependent on the client's specific requirements, as assessed during the functional evaluation phase of the sales process and the functional specification review during implementation.

The PC(s) configured for *PowerChart* should be sufficient for *Cerner ProVision Document Imaging*. Each PC requires at least 512 megabytes of memory to support *Cerner ProVision Document Imaging* and *PowerChart*. A 17-inch monitor is required for each *Cerner Document Imaging* PC, at a minimum; a 19-inch monitor is recommended for high volume capture or indexing workstations.

Standard electronic imaging components, such as scanners, optical drives, optical and/or CD-ROM jukeboxes, tape libraries, printers, and facsimile devices, may be required, depending on the configuration.

Operating system: The *Cerner ProVision Document Imaging* system runs under the NT, 2000 ,2003 server or XP operating systems.

Other Cerner products: OCF *Document Image Index* (OC-04175) and *PowerChart* (PC-02025).

Non-Cerner products: Other third-party layered software products specific to the components of the configuration may be required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

The processing capacity required for use of *Cerner ProVision Document Imaging* is measured in terms of the number of documents stored and retrieved. The amount of memory required per PC is based on the number and type of applications installed on a specified workstation. The amount of storage capacity is based on the organization's patient history retention requirements and the other applications licensed.

Network considerations are dependent on the document retrieval volume and the scanning input specific to the configuration.

Cerner ProVision Document Imaging can be implemented in conjunction with the installation of a variety of HNAM applications or subsequently installed as an add-on implementation engagement. Additionally *Cerner ProVision Document Imaging* may be installed in a standalone mode for certain departments in the enterprise

Additional system requirements may be defined during the application design and specification phase.

Related Products

The following Cerner software product(s) significantly extend the functionality of this product: *Profile* (MR-20400), *PowerChart* (PC-02025), *Radiology Management* (RA-20135), *Registration Management* (CP-20735), *Emergency Department Care Management* (ER-20280), *General Laboratory* (PA-20070), *Inpatient Pharmacy* (PH-20160), *Retail Pharmacy* (PH-20170), and *Billing and Accounts Receivable* (PF-20450)

Communication Materials

Cerner provides comprehensive user documentation for its software products in the form of online Help, web-based end-to-end reference material and web-based training (WBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

PowerChart: PowerOrders

Description

PowerOrders® is a major *PowerChart®* offering that coordinates order management and communication across all licensed, hospital-based facilities. *PowerOrders* forms the basis for Cerner's computerized provider order entry (CPOE) solution. As such, *PowerOrders* was designed with the physician workflow in mind, addressing the role's critical information and ordering needs. Along with physicians, other care providers including nurses, clerks and other clinicians are able to support order entry, review, validation, interdepartmental communication, inquiry, and reporting of clinical orders.

A comprehensive security matrix supports management and use of the system. Health personnel, depending on their security level and appropriate interfaces from non-Cerner departmental systems, can place orders for any department. Order inquiries are secured in the same manner.

PowerOrders includes the following components:

- Order Management

- Order Processing

- Order Inquiry

- Electronic Signature

- Charge Capture

- Security

- Foundations

Client Benefits

CPOE has been shown to enhance patient safety and quality, reduce costs and eliminate variance.

- Enhance Patient Safety and Quality

  - A unified closed loop medication management process is enabled when *PowerOrders* is licensed with Cerner's *Inpatient Pharmacy* (PH-20160) and *Medication Administration (MAR)* (PS-22732). Accuracy is improved and errors are prevented by unifying the physician, pharmacist and nurse in a single process.

  - Quality of care is improved through robust point-of-care decision support that provide clinical alerts for potential negative events, conflicts or reminders for wellness-oriented procedures, such as smoking cessation.

  - Paper-based problems are eliminated, including illegibility, communication breakdowns, incomplete information and time delays.

- Improve standardization and regulatory compliance

  - Access at the point of ordering to various types of information, such as order sets incorporating evidence-based clinical protocols and best practice care management guidelines, policies, and patient education materials leads to improved compliance with standards.

- Increase efficiency and save money

  - Efficient order entry is made possible through client-defined order sets with optional and required items. Configurable order screens and panels improve ease of use for unique clinician groups.

CERNER
All Together

PowerChart: PowerOrders

- o Redundant or duplicate orders are reduced with a single facility-wide system.

- o Lengths of stay are reduced due to the elimination of errors.

- o Assistance is provided for selecting cost-efficient treatment alternatives.

- o The system can be configured to eliminate time-consuming and unnecessary activities.

- o Billing accuracy is improved. Charges can be captured and sent at any point in the order process: at the time of ordering, upon receipt, upon collection, or when performed.

- o Accounts receivable and cash flow are improved through the use of electronic signature. Orders automatically can be routed to the appropriate individuals or roles. Multiple-signature requirements are supported.

- Coordinate care

  - o *PowerOrders* enable effective real-time communication across the entire care team; eliminate unnecessary call-backs; and reduce uncertainty about the status of orders or tasks.

Major Features

- *Order Management* – Orders are accepted for all departments from any PC in the health system or facility, including remote PCs, from any individual with the proper security. With an intuitive user interface designed for physicians and other clinicians, users can manage multidepartmental orders, medication orders, order sets, and recurring orders. *PowerOrders* supports

critiquing of orders at the time of order creation, providing patient-centered alerts and real-time quality improvement. Conflict checking for drug-allergy, drug-drug, drug-food, and food-allergy interactions and for duplicates is performed at the time of order entry via *MediSource Foundation* (which requires separate licensure).

- Some highlighted ordering features include:

  - o Ability to utilize consolidated order entry window.

  - o Ability to do online medication reconciliation at the time of admission, transfer and discharge.

  - o Single phase order sets allow the physician to quickly place a series of orders associated with a particular patient condition, diagnosis or problem. For example, rather than repeatedly placing the same lab, medication, and activity orders on a number of patients following surgery, order sets can be established for a specific patient population.

  - o Personal single phase plans of care can be created based on personal treatment preferences. These plans may be saved and reused across patients.

  - o A merge view enables the clinician to perform proactive duplicate checking of a single phase order set against all active orders.

  - o Visual indicators permit an order to be associated with other orders for efficient administration of medications.

  - o Drop Down Plan Order Sentences let clinicians choose order sentences and

PowerChart: PowerOrders

quickly select order details. This is required to customize the orders/order sets based on patient need.

- o Order favorites support physicians to efficiently organize their most frequently used orders and order sets. Using this feature, physicians can save a prestructured order set and quickly select it from their favorites while placing orders.

- o Diagnoses (ICD-9-CM) codes can be linked to orders at the time of order entry.

- o When a medication or test is selected, the system offers common ways to order the item, thus allowing quick and easy order entry. Simple navigation features allow clinicians to identify missing information in the order details.

- o *Executable Knowledge*® (which requires separate licensure) enables embedding knowledge, evidence and best practices from a variety of industry-leading sources.

- o Reference text and URL links, used to support the viewing of evidence, policies, and procedures, can be associated with an orderable.

- o A Dose Range Checking component establishes minimum and maximum dose guidelines for the safe administration of medications, so that medication orders can be screened based upon age ranges, routes of administration, single, daily and therapy doses, and other patient-specific modifiers, including renal status. This function provides an alert to clinicians

when ordering medications considered outside the safe range for the patient condition. In those cases where the clinician decides to override the alert, the reason is captured.

- o Life-Time Cumulative Dosing. A small group of drugs are stored in the body for long periods of time, which can become toxic and dangerous as they continue to accumulate over time. This feature calculates previous medication dosing, and maintains a history of cumulative dosing to prevent adverse effects created when excessive doses are administered over the patient's lifetime. Cerner provides this capability for only specific drugs that have lifetime limits.

- o Cumulative dosing therapy checking (planned capability) can enable clinicians to check doses across multiple orders. For example: a patient has orders for Acetaminophen, Percocet and Darvocet-N-100. Cumulative dosing therapy function can check the cumulative dose of acetaminophen across these orders and alert if it is above a daily range.

- o Standardized dosing assists in converting difficult-to-administer doses that cannot be accurately measured to doses that match hospital standards. For example, if a medication is ordered for 21.3 mg, based on client-defined parameters, the dose could be standardized by the system to 22mg.

- o Tapered dosing allows the clinician to order decreasing/increasing doses of a drug during a single order-entry conversation. This permits tapering the dose over time until the patient no

PowerChart: PowerOrders

longer requires the medication. The feature provides improved accuracy with less effort and no need for nearly identical orders on a daily basis.

o Dose Calculator incorporates patient parameters when determining normalized dose calculation. The dose calculator resides within the ordering conversation so that the clinician can process dose calculations during the ordering process. A preference can be set so that the dose calculator automatically evokes when a normalized dose is entered.   For example, the clinician can enter the dose as 5 mg per kilogram and the system automatically will calculate and display a 100 mg dose if the patient's weight is 20 kilograms.

o Weight-based dosing allows for the optimization of medication dosing in accordance with a patient's weight or body surface area (BSA) to ensure safe and effective dosing of medications in pediatric population, or when particularly toxic medications are being ordered.

o *PowerOrders* permits modifying an order without requiring the cancellation of the entire order for the purpose of changing one or more order parameters. Modifications to orders can be made by accessing the order, selecting "Modify," and changing only the details that require revision. The system clearly indicates that a modification has occurred and maintains a single order ID. The original order details, as well as any subsequent modification details (with time and date stamp), are stored in the order history and accessible by any user with the appropriate security clearance for review. Modified details

immediately are reflected throughout the system and are available on a real-time basis to all involved clinicians.

o Modifying an order set or protocol prior to a patient's actual visit is supported. The clinician may make changes to a standard group of orders and save changes to individualize patient care prior to placing the orders into an active status. The changes are initiated upon patient arrival.

o *Order Processing* – Order status updates are supported, and via the PowerChart *Clinical Data Repository* (PS-20570), departmental results and foreign system results can be viewed. User-defined requisitions, procedure preparations, consent forms, and labels can be printed at appropriate locations, with licensure of the appropriate software, services, and hardware. Order sheets can be printed at user-defined intervals.

o *Order Inquiry* – Several formats are available to inquire about orders. Inquiry formats are intuitive and designed to meet the varying needs of multiple health professionals.

o Orders can be routed automatically for online review by nurses and physicians.

o *Prescription writing* - Provides users with the tools to facilitate the Prescription Process. The prescription process is defined as the process of selecting an appropriate generic or brand-name medication, checking for potential medication interactions and/or side effects, and finally producing a written prescription that can then be

PowerChart: PowerOrders

handed to a patient or automatically faxed to a retail pharmacy. The writing of any prescription is reduced to as little as two mouse or pen-based clicks.

o *Electronic Signature* – Physicians who prefer electronic queueing and validation of orders are supported. Certain orders can be queued to the attending physician for cosignature, if necessary, before release to the department.

o Order screens and order pick lists can be defined based on medical specialty, department, nursing unit, patient needs, procedure, and any other user-defined designations. Screen views can be defined by location, position, or user.

o *Security* – A comprehensive security system addresses the individual user, procedure, department, or service. Individual security is defined to order, validate, co-sign, perform, verify, and inquire. At the procedure level, order cosignature, nursing validation, inquiry, verification, and performance security levels are defined. Individuals can be restricted to viewing information only on those patients in their assigned locations.

▪ *Charge Capture*-- This function provides the ability to generate a charge on an order and to credit the charge if the order is cancelled. Your organization can define at what point in the life of the order that the charge drops. Charging based on charting administrations is supported at both the dose and the bulk item dispensed. Clinicians easily can retrieve online charge information using the charge viewer.

▪ *Foundations* – In addition to the features inherent within *PowerOrders, Foundations* functionality also is included. *Foundations* refer to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information

Cerner Millennium Integration Benefits

Benefits of using *PowerOrders* in a Cerner Millennium® environment include the following:

▪ Orders tailored to the department with licensing of the appropriate Cerner departmental systems, with order status updates as a by-product of order processing by these systems.

▪ Duplicate checking according to the departmental settings of other Cerner departmental systems.

▪ Elimination of paper requisitions and worklists, faxed or hand-delivered orders, and transcription of orders to multiple documents with licensing of the appropriate Cerner departmental systems.

PowerChart: PowerOrders

- Data management and operational functions established for sites having multiple Cerner systems.

- Common reference tables provided for other Cerner systems.

- Organizations can build from existing *PowerOrders* functionality to address more complex and sophisticated order management needs.

  o With *PowerPlan*™ (CA-20344), hospital-based institutions can facilitate comprehensive multidisciplinary planning, outcomes management and coordination of care for patients.

  o Organizations can manage more sophisticated and complex medication ordering needs to include knowledge-driven medication ordering, patient-specific medication ordering and time zero scheduling.

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Discern Explorer

Discern Explorer® uses full-featured, fourth-generation programming language patterned after Structured Query Language (SQL) to maintain and extract data from both *Cerner Millennium* and client-developed databases. All *Cerner Millennium* applications use *Discern Explorer* to select from, insert into, update into and delete from the *Millennium* database. *Discern Explorer* can also be used to extract data to download to other applications. Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

Discern Expert

Discern Expert® is an event-driven, rules-based decision support capability. This sophisticated functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of critical decision support.

Availability

Cerner Millennium Release 2000, version 2000.01

Software Prerequisites

Clinical Data Repository (PS-20570) and Executable Knowledge for Regulatory Standards (KS-26725), and either MediSource Foundation (Enterprisewide) (KS-22004) or MediSource Foundation (By net, per facility) (KS-22005) are required. Adverse drug events are reduced through clinicians' advisement of drug-drug, drug-allergy, and drug dosage recommendations via MediSource Foundation (Enterprisewide) (KS-22004) or MediSource Foundation (By net, per facility) (KS-22053). MediSource Foundation also provides dose-range checking content that audits the reasonableness and safety of drug dosing corresponding with patient parameters such as age and weight. Further, MediSource Foundation includes adult and pediatric order sentences, drug-disease contraindications and drug images. RXBuild and content support the rapid generation of prescriptions and drug orders.

PowerChart: PowerOrders

System Resource Considerations

The CPU processing cycle capacity required for *PowerOrders* is measured in terms of the number of orders placed per day for the system or facilities who are licensed to use this solution. Other contributing factors are whether electronic signature will be used and the requirement mix between Cerner-based departmental or facility-wide systems versus non-Cerner (foreign) system interfaces.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Cerner also offers our solutions in a shared environment for certain markets, and these offerings require some degree of standardization and adherence to Cerner recommended workflows and content.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

Discern Expert

Description

Discern Expert® is an event-driven, rules-based decision support solution. It has been successfully employed by healthcare professionals to prevent medical errors, ensure patient safety, improve care quality, standardize routine practices, more effectively utilize resources, enhance interdepartmental communication, and manage risk.

Discern Expert's sophisticated decision-support functionality is offered within a rules logic model and user interface design that simplifies the everyday use and management of this critical function for the organization.

Discern Expert offers the ability to perform both of the essential types of rules engine functions: asynchronous and synchronous processing. With asynchronous processing, the task is performed in the background without interaction from and without interrupting the end users of Cerner applications. Synchronous processing allows the interaction between the user and the system to occur in real time, enabling the user to react to this information concurrently, rather than after-the-fact. For example, a physician, alerted to a concern over an order because of a patient's current physiology, can consider alternatives and interact during the clinical conversation. This streamlines the clinician's workflow and improves the quality and appropriateness of clinical decisions.

Discern Expert also allows an organization the option of requiring a user to respond to the system's request in order to proceed to the next screen. With one solution license, the client receives both asynchronous and synchronous capabilities.

Discern Expert also supports all sections and subsections of the Arden Syntax for Medical Logic Systems ("Arden") and has adopted and enhanced Arden as the structure for rule modules. *Discern Expert* also extends the Arden Knowledge Section through an enriched *Discern Explorer* language, overcoming the limitations of Arden as a programming language, such as looping constructs, case statements, SQL statements, user exit routines, and executing other subroutines/modules. (*Note: Arden is an ANSI/HL7-sponsored standard for representing and sharing clinical knowledge in procedural format.*)

Discern Expert provides templates, foundation building blocks that essentially mask most of the complex programming constructs of Arden, making rules more readable and easier to maintain by clinical or non-technical users.

The central activity of *Discern Expert* is monitoring events of interest within the client's licensed Cerner Millennium™ solutions and taking action based on user-defined criteria. A small sample of events that can invoke *Discern Expert* includes admissions, transfers, discharges, orders, and results. Order events from Millennium solutions can be captured either before or after they are processed, providing the ability to "catch" an order error

before it occurs. In addition, *Discern Expert* also can trigger events that occur in non-Cerner systems that are interfaced to Cerner Millennium systems. *Discern Expert* provides the ability to act prospectively when these events are received, potentially preventing complications or the performance of unnecessary tasks. This is a key advantage of *Discern Expert* over many other types of knowledge systems.

The following examples illustrate the power that *Discern Expert* can provide.

A critical result has just been completed in the laboratory. Immediately a page is sent to the patient's physician, the results are e-mailed to the patient's caregivers and sent to a printer on the patient's nursing unit.

A patient has just been admitted. The system checks prior medical information for the patient and finds that he was discharged less than a week ago with an infectious condition requiring isolation. Immediately notifications are sent to the infection control department and the patient's caregivers.

The microbiology department completes a report on the ability of a common set of antibiotics to fight a patient's infection. Immediately the system notes that the patient's infection is resistant to the antibiotic they are receiving and alerts the physician and caregivers.

An abdominal X-ray is ordered. The system finds that the order has been placed on a female of childbearing age and the patient has no record of a pregnancy screen on file. The order is intercepted before being completed and an alternative order of a pregnancy screen is recommended to the ordering personnel.

A patient has just been admitted. The system checks and finds that the patient is a female over the age of 40 who has not had a mammogram performed in the last year. Caregivers are alerted.

In each of these situations, user-created *Discern Expert* rules, with IF-THEN logic, allow users to apply *their own criteria* to a set of events and then take informed actions compatible with the goals of the organization.

For example:

> **IF:**
> An order for a contrast-enhanced CAT SCAN is received *AND*
>
> The patient's BUN level is HIGH *AND*
>
> The patient's CREATININE level is HIGH,
>
> **THEN:**
> Send a message to the patient's physician via electronic mail indicating a possible adverse effect of contrast agent use in this setting.

Intuitive User Interface

Discern Expert employs an advanced, graphical user interface-based (GUI) editor that enables the easy creation of syntactically correct rules. Online Help is available to simplify the process further, and courses are also available for an additional fee. *Discern Expert* achieves maximum performance through advanced software design techniques. It is at the leading edge of advanced clinical decision support tools.

Management/Systems Administration Functionality

Discern Expert includes tools and features to monitor, configure and launch reports, which enable the client to efficiently and effectively manage the rules engine function and updates to rule sets as the volume of rules increases over time.

Client Benefits

♦ Enables the client to execute a system-wide, comprehensive, rules-based model to close the loop on patient safety by reducing medical

error, improving regulatory compliance and implementing standards of care strategies.

♦ Increases clinicians' time for providing care by automating routine tasks and providing real time alert/reminder feedback and interactive decision support that reduces "call back" interruptions.

♦ Improves the cost effectiveness of care by alerting caregivers to changes in health status, thus helping them prevent complications.

♦ Improves the quality of care through continuous, prospective patient/case review, providing clinicians with actionable information at the point of care.

♦ Allows clients to automate routine policies and procedures to ensure consistency and compliance.

♦ Enables clients to implement Cerner-developed content in the form of *Alerts* (for an additional license fee). In addition, client-developed content delivers the high-level benefits of improved cost efficiency, improved quality of patient care, regulatory compliance, and compliance with their own internal controls and protocols.

Major Features

♦ Ability to invoke rules based on major events in the Cerner Millennium architecture

♦ Prospective, real-time processing

♦ Escalation/ notification

♦ A structured rule editor

Integration with *Discern Explorer* (XX-26140) for client template functions, advanced rule authorship, audit and tracing capabilities

Automatic generation of data for future analysis of outcomes and benefits

♦ System management and administration tools

♦ Real-time interaction during the clinical conversation (with synchronous processing)

♦ Provide a consistent decision support tool, rules logic and management/systems administration function across the facilities that are licensed to use the solutions without the need to interface multiple departmental systems, when licensed in conjunction with various Cerner systems

♦ Extend across facility lines while also accommodating needs and protocols unique to each Cerner facility within a health system

♦ Review information from Cerner systems and legacy-system data that is communicated to the central data repository via HL7 standard nomenclature

"Net" Affiliations

CapStone, Cerner Cardiovascular, FirstNet, Cerner Critical Care, PowerInsight, PathNet, PharmNet, PowerChart, PowerChart Office, PowerChart Oncology, Supply Chain, Health Information Management, ProFit, RadNet, and SurgiNet

Cerner Millennium Integration Benefits

Benefits of using *Discern Expert* in Cerner's Millennium environment include the following:

♦ Provides a consistent decision support tool, rules logic and management/systems administration function across the facilities that are licensed to use the solutions without the need to interface multiple departmental systems, when licensed in conjunction with various Cerner systems

♦ Extends across facility lines while also accommodating the needs and protocols

unique to each Cerner facility within a health system

♦ Reviews information from Cerner systems and legacy-system data that is communicated to the central data repository via HL7 standard nomenclature

Availability

Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

Discern Expert is used throughout Cerner systems to execute various processing functions. However, the client must license *Discern Expert* within each corresponding Cerner system to enable any user-directed rule execution within that clinical area.

To use the mail, paging and fax functionality, additional hardware or software solutions may be necessary.

Software Prerequisites

Discern Explorer (XX-26140) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

Hardware requirements for *Discern Expert* vary, depending on usage and the variety of clinical rules that will be implemented. Factors that affect the hardware configuration include event arrival counts and rates, rule considerations per event, and the complexity of rules defined.

Related Solutions

The following Cerner software solutions significantly extend the functionality of this

solution: *ADE Prevention Alert Foundation Package – Cerner Millennium* (KS-26702)

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Education Courses

Cerner Millennium: Discern Expert Design and Build

This course covers instructions for writing and testing Discern Expert modules, and is intended for Cerner consultants and client analysts who have no experience with Discern Expert, but are actively involved in implementing rules. This self-study contains a series of computer based demonstration and audio/visual education files designed to provide individual self paced instruction. The participant may use the course to get acquainted with Discern Expert from a high overview level through writing and testing modules. Sessions can be repeated. By the end of the learning activity, participants will be able to write and test two Discern Expert modules in a working Millennium environment.

Cerner Millennium: Discern Expert Advanced

This instructor led course covers advanced Discern Expert techniques, concepts, and module writing, and is intended for the client analysts proficient at creating Discern Expert modules but who want to extend their knowledge. This is a technical course with directed module writing exercises. Participants are expected to write, test,

and troubleshoot Discern Expert modules to practice advanced techniques and concepts. Time is provided to discuss site specific questions, evaluate existing modules, and work on new modules whose specifications are sent to the instructor prior to the schedules session. By the end of the learning activity, participants will be able to implement Advanced Discern Expert modules.

General Availability

Decision Support

Discern Explorer

Description

Discern Explorer is a supporting solution that uses a full-featured, fourth-generation, programming language that is patterned after Structured Query Language (SQL)to maintain and extract data from both Cerner Millennium™ and client-developed databases. All Millennium applications use Discern Explorer to select from, insert into, update into and delete from the Millennium database.

Databases, including RMS, C-ISAM, Oracle, and SQL Server, are accessible with *Discern Explorer.* The Cerner dictionary can be displayed online or printed. *Discern Explorer* supports both procedural and nonprocedural statements designed to enable the user to query one or more tables simultaneously, retrieve and display the data, and write reports. Additionally, user-directed posting to non-Cerner databases is supported. *Discern Explorer* also can be used to extract data to download to other applications, such as spreadsheets, as well as to other systems, including those that are PC-resident.

Individuals with little computer experience can use *Discern Explorer* to generate simple queries and reports, or computer professionals can use it to perform more complex and sophisticated programs.

The *Discern Explorer* solution consists of several development and reporting tools. *Discern Visual Developer* is a development tool that enables technical users to perform sophisticated programming using advanced *Discern Explorer* functionality within an application tool. *Visual Explorer* is a reporting tool that enables users to build custom queries and reports easily for data validation and auditing, and to create both ASCII and PostScript reports. The *Explorer Menu* is a menu system to organize and provide end users with the ability to run programs that have already been built.

Client Benefits

♦   *Discern Explorer* provides a toolset at multiple levels to support users at the technical IS level, end users who create reports and end users who only execute reports. This enables the client to control security and provide functionality tailored to specific skill sets.

♦   Controlled access to Cerner data and the data dictionary is provided. This enables the client to define who has access to the data in the system and at what level, ensuring proper security.

Discern Explorer provides customized functions and routines specific to the health industry and the Cerner Millennium architecture. These functions automate those routines that are commonly used when writing programs, streamlining development. This also ensures that the code is efficiently written.

Major Features

♦   *Discern Explorer* is a fourth-generation language that complies with ANSI SQL 92 standards.

♦   *Discern Explorer* can access both Oracle and SQL server databases.

♦ Users can access relational and nonrelational databases via *Discern Explorer.*

♦ Custom RMS or C-ISAM files can be created using *Discern Explorer* for stand-alone use or to link to existing Cerner tables.

♦ Multiple join options exist to create a variety of data sets.

♦ When *Discern Explorer* programs are run, prompts can be displayed to the user to request information to pass to the program. For example, the program can prompt the user to type in the nursing unit, and the report then displays data only for that unit, providing flexibility at run-time.

♦ Over 100 functions are supported, including aggregate, string, mathematical, temporal, and bit functions.

♦ Advanced programming constructs include the use of labels, subroutines, loops, libraries, in-memory record structures, variables, and conditionals.

♦ Output can be displayed on the screen, printed, or saved to a file. The file can be opened by third-party PC applications.

♦ Views can be defined that support one definition for multiple tables, providing easy access to various tables without requiring the user to establish joins between the tables.

♦ Custom *Discern Explorer* programs can be set up to run from multiple locations within the Cerner MILLENNIUM environment.

♦ *Discern Expert* (XX-26105), Cerner's rule-based expert offering, can access *Discern Explorer* to run programs.

♦ The *Discern Explorer* solution warehouses a library of programs available to clients through Cerner's Internet site. These programs range from program syntax examples to common clinical reports written by other Cerner clients.

"Net" Affiliations

CapStone, CVNet, FirstNet, Cerner Critical Care, PowerInsight, PathNet, PharmNet, PowerChart, PowerChart Office, PowerChart Oncology, ProCall, ProCure, Health Information Management, ProFit, RadNet, and SurgiNet

Cerner Millennium Integration Benefits

Benefits of using *Discern Explorer* in the Cerner Millennium environment include the following:

♦ Because all Cerner systems use the common Cerner Millennium architecture, *Discern Explorer* can be used to execute programs throughout the client's Cerner systems, with appropriate licensing. This ensures flexibility, providing the best solution to incorporating the execution of the client's custom reports within its workflow.

♦ For example, the IS staff may have a technical audit that needs to be run at the operating system level. This can be achieved via *Discern Explorer* by writing a specific program.

♦ Alternatively, the radiology department may have a group of 20 programs that it wants different groups of users to be able to run on demand. This can be done via the *Explorer Menu.*

♦ Also, the head nurse in the ER may want some management reports run weekly. These can be defined to run from system operations without any interaction.

♦ And finally, the client may have a few customized reports for its physicians that it would like to make available within the PowerChart *Clinical Data Repository* (PS-20570) solution. This can be accomplished within PowerChart.

♦ Also, *Discern Explorer* can be used to join tables from multiple Cerner systems. For example, a single report can be written to pull all lab orders from the PathNet system and all medications from the PharmNet system for a patient.

Availability

Cerner Millennium Release 2000, version 2000.01

Special Licensing Considerations

Cerner Command Language, the programming language incorporated within *Discern Explorer*, is used throughout Cerner systems to execute various processing functions and provide internal interaction with the Cerner Millennium database. Standard production labels, reports, and requisitions are produced with *Cerner Command Language.* The client must license *Discern Explorer* within each Cerner system, however, to enable any user-directed use of *Discern Explorer*.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution are required. (*Discern Explorer* must be licensed within each Cerner system to obtain full access.)

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

Discern Explorer's basic code and data dictionary require approximately 150 megabytes of disk space on the host system and 25 megabytes on the PC if loaded locally. These numbers may increase if custom code is written within the environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Discern Expert* (XX-26105).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Education Courses

The *Discern Explorer* solution includes hands-on tutorials to demonstrate basic functionality of the command-line language and the *Visual Explorer* tool at no additional charge.

Additional education opportunities are available for an additional fee to increase the client's technical expertise at introductory, intermediate, and advanced levels.

CareAware MultiMedia: CareAware MultiMedia – Digital Objects

Description

CareAware MultiMedia™ – Digital Objects is composed of an integrated set of foundation-level Cerner Millennium® services supporting acquisition, storage, management, notification and distribution of multimedia objects within a *Cerner Millennium* environment. This version provides storage for all non-DICOM objects within a single facility.

CareAware MultiMedia - Digital Objects enables a core set of multimedia capabilities *within Cerner Millennium*, including digital photograph insertion into *Millennium* applications such as PowerNote™, basic multimedia object storage and associated distribution. *CareAware MultiMedia – Digital Objects* also serves as the storage management system for Cerner ProVision Document Imaging. *CareAware MultiMedia – Digital Objects* is required to enable integrated multimedia capabilities in *Millennium* applications. This configuration also serves as the basis for *CareAware MultiMedia* services such as waveform, audio management and video management.

CareAware MultiMedia – Digital Objects includes the following:

- Digital photo acquisition from select devices, including digital cameras

- Digital image storage for non-DICOM images

- Digital image import from files for non-DICOM images

- Digital image distribution and management

- Digital image management for clinical documentation (with additional licensure of *PowerNote*)

- The rights to store Document Images (Scanned, COLD feeds, and FAX images)

- Document Image storage management

A separate hardware server and associated software is required for *CareAware MultiMedia– Digital Objects* if there are no existing implementations of *CareAware MultiMedia* that may be used or if capacity considerations warrant. Optional extensions to include the ability to acquire, store, manage and distribute DICOM images from Radiology, Cardiology, Anatomic Pathology and other areas may be added to this configuration at any time.

Client Benefits

- Provides the ability to acquire and store digital images in *PowerNote* documentation within *Millennium*

- Provides digital image management to enable *PowerNote* applications for dermatology

    o Provide the ability to store document images and display them in *Millennium* applications (Ex. RadNet®, ProFile®, PathNet®, ProFit®, Registration, PharmNet®, PowerChart®, and others)

    o Provides permanent storage and management for document images

    o Single Storage Architecture for all multimedia object storage needs

- Provides ability to associate multimedia object file with person documentation through PowerNote

Major Features

- Digital image acquisition from digital cameras and placement into clinical documentation via *PowerNote* applications

- Digital image import from files into a *PowerNote* document

CareAware MultiMedia: CareAware MultiMedia – Digital Objects

- Print job storage and management

- Non-DICOM image and other object management

Cerner Millennium Integration Benefits

Benefits of using *CareAware MultiMedia - Digital Objects* in a *Cerner Millennium* environment include the following:

- Image-enabled services for acquisition, storage and display

- Print queue storage and retrieval for large print jobs

- Foundation-level services for optional multimedia component additions

- Integration with *Clinical Data Repository®* (PS-20570)

Cerner Professional License

Cerner Professional License grants clients the right to utilize design and configuration tools, including Cerner Bedrock™ and Reference Data Domain Sync (RDDS) where applicable. These services simplify and expedite the design, build and maintenance process throughout the lifecycle of a Cerner solution. Clients can reduce implementation time and eliminate variance by automating processes with Cerner Professional License.

Availability

CareAware MultiMedia™ – Digital Objects is available in Release 2005.01

Special Licensing Considerations

This solution is priced based on a perpetual license using Admissions and Outpatient Visits as the metric. Acquisition and display of the objects managed is through *Clinical Data Repository* (PS-20570),

PowerNote and related *Cerner Millennium* applications. Only non-DICOM objects are managed through this license. A separate license is required, using the same hardware and SSL components for DICOM object management.   When used with CPDI, a separate document imaging license is required. No additional licenses are required for storage and management of non-DICOM objects with this version of CareAware MultiMedia.

System Resource Considerations

All multimedia objects are stored separately from the main server. Consequently, the I/O requirements on the main server are marginally increased to handle communications related to storage of multimedia object handles rather that the objects themselves. Additional disk space on the main Millennium server should be configured to handle the additional space needed to store the pointers. For any of the objects stored, the network should be configured to handle larger transactions than normal traffic. The use of switched networking should be considered, if not presently installed, to help isolate network traffic.

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Related Solutions

Cerner ProVision Document Imaging, FirstNet®, PowerChart®, PowerChart Office® , PowerNote, Cerner Cardiovascular®, RadNet

CareAware MultiMedia: CareAware MultiMedia – Digital Objects

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

Knowledge Solutions: Krames HealthSheets – Outpatient Clinic/Surgery Center

Description

Cerner® and Krames have partnered to offer Krames *HealthSheets* patient education materials and discharge instructions in the Inpatient, Ambulatory and Urgent Care/Ambulatory Surgery Center venues. Cerner also offers Krames *ExitWriter (ER-22190)* content in the Emergency Department venue. Krames *HealthSheets* are 1-2 pages in length and are highly illustrated with anatomical, procedural and lifestyle art. All content is written at a 5th to 8th grade reading level and leverages health literacy design principles. Krames internally develops the content using its team of 60 in-house experts and then utilizes a 3,000+ external reviewer database to have the content reviewed for medical accuracy and a patient-oriented approach.

Krames patient-centric content spans the entire continuum of care and includes patient education, diseases and conditions, surgeries and procedures, health promotion/disease management, and pediatric topics along with inpatient discharge instructions. Krames incorporates a behavior change methodology designed to help people take an active role in managing their health. Krames *HealthSheets* provide reader-friendly content featuring Krames' signature art/text synergy, creating understandable materials that drive positive health behaviors.

All Krames content undergoes a rigorous, multi-step development process. Existing evidence-based data is supplemented by current practice guidelines and standards of care from leading medical associations to ensure scientific accuracy. In addition, Krames content is peer-reviewed by practicing specialists in the appropriate subject matter (doctors, nurses, social workers, case managers, educators, research scientists, etc.) to validate the science as well as the efficacy as a teaching tool.

Krames *HealthSheets* include more than 3,300 unique titles spanning 35+ specialty areas. Those titles include 2,500 single-topic patient education

HealthSheets in English and Spanish and 800+ discharge instructions (350 discharge instructions are translated into 4 languages - Spanish, Vietnamese, Russian, and Chinese and the 9 most commonly diagnosed Medicaid topics are translated into 10 different languages (Spanish, Chinese, Armenian, Farsi, Hmong, Korean, Russian, Vietnamese, and Tagalog).

Client Benefits

- Meets Joint Commission requirements for providing patients with comprehensive education materials during their episode of care as well as at the time of discharge.

- Provides clinicians with effective tools to provide their patients in order to drive positive health behaviors

- Encourages and empowers patients to take the necessary actions to improve outcomes, comply with medicine/treatment regimens, and self manage their condition, disease or health concern.

- Easy to read education materials (Krames' content is written on a 5th to 8th grade reading level according to the Flesch-Kincaid scale.)

Major Features

- 3,300+ unique titles

  o 2,500+ patient education *HealthSheets* across 35+ specialty areas

  o 800+ discharge instructions

- 4,000+ Translated Topics – Patient Education, Inpatient Discharge Instructions

  o 2,500+ Spanish translated patient education *HealthSheets*

Knowledge Solutions: Krames HealthSheets – Outpatient Clinic/Surgery Center

- o 350+ discharge instructions translated into Spanish, Chinese, Vietnamese and Russian

- o Top 9 Medicare conditions translated into 10 languages (Spanish, Chinese, Vietnamese, Russian, Farsi, Tagalog, Armenian, Hmong, Korean)

Availability

Cerner Millennium® Release 2007

Special Licensing Considerations

Krames HealthSheets are available for the following venues of care:

Krames HealthSheets – Patient Education – Inpatient (KS-22201)

Krames HealthSheets – Patient Education – Physician Office (KS-22202)

Krames HealthSheets – Patient Education – Outpatient Clinic/Surgery Center (KS-22203)

Cerner also offers Krames ExitWriter for the ED venue (ER-22190).

Krames HealthSheets are offered as a subscription.

Software Prerequisites

Clinical Data Repository (PS-20570) is required for Krames HealthSheets.

Emergency Department Triage and Tracking (ER-20275) is required for Krames ExitWriter (ER-22190).

Technical Environment Requirements

Refer to www.cerner.com and navigate to Home→ Solutions & Services→ Cerner Technologies for information about the technical environment.

Related Solutions

PowerOrders® (PS-20576) is a supporting offering that enables users with the tools to facilitate the Prescription Process, which includes selecting an appropriate generic or brand-name medication, checking for potential medication interactions and/or side effects, and finally producing a written prescription that can then be handed to a patient or automatically faxed to a retail pharmacy. With *PowerOrders*, the writing of any prescription is reduced to as little as two mouse or pen-based clicks.

MediSource Desktop Reference (KS-26741) is a comprehensive drug database comprised of referential drug content. Presented in an easy-to-reference format, *MediSource Desktop Reference* delivers drug related information on thousands of current drugs to healthcare professionals. It helps increase efficiency, reduce medication errors, lower costs and improve patient care in hospitals, clinics and physician offices of any size.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com.

CERNER
All Together™

General Availability

Knowledge and Discovery

Knowledge Solutions for Ambulatory

Description

Knowledge Solutions for Ambulatory provides two content packages for the ambulatory setting*. Ambulatory Content for PowerNote* is a core element of both packages and is described in detail later in this section.

The details of the Knowledge Solutions packages are as follows:

Knowledge Solutions for Ambulatory: Package I (KS-26809) includes:

> *Cerner Controlled Medical Terminology* (KS-22091)

> *MediSource Foundation* By Net (KS-22005)

> In addition, the client completes Package 1 by selecting three of the following Ambulatory Content for PowerNote modules:

>> *Ambulatory Content for PowerNote: General Medicine* (KS-26811)

>> *Ambulatory Content for PowerNote: Family Practice* (KS-26812)

>> *Ambulatory Content for PowerNote: Cardiovascular* (KS-26813)

>> *Ambulatory Content for PowerNote: Pediatric* (KS-26814)

>> *Ambulatory Content for PowerNote: Neurology* (KS-26815)

>> *Ambulatory Content for PowerNote: Orthopedics* (KS-26816)

>> *Ambulatory Content for PowerNote: Pulmonary* (KS-26817)

>> *Ambulatory Content for PowerNote: Urology* (KS-26818)

>> *Ambulatory Content for PowerNote: Women's Health* (KS-26819)

Knowledge Solutions for Ambulatory: Package II (KS-26810) includes*:

> *Cerner Controlled Medical Terminology* (KS-22091)

> *MediSource Foundation By Net* (KS-22005)

> In addition, Package II includes all of the *Ambulatory Content for PowerNote* modules, noted above (KS-26811 through KS-26819)

Ambulatory Content for PowerNote was developed and is supported by peer-reviewed research and standards and especially designed to enhance Cerner's *PowerNote™* solution. *PowerNote,* combined with *Ambulatory Content for PowerNote* provides a powerful documentation solution that integrates actionable documentation and ordering capabilities into the workflow of the clinician. Both adult and pediatric content are available.

Ambulatory Content for PowerNote integrates knowledge and documentation into the workflow of the clinician. *Ambulatory Content for PowerNote* enables:

Optimal documentation through the capturing of clinical data during various care delivery processes, such as admission history and physical, daily progress note, and procedure notes. *Ambulatory Content for PowerNote* enables the ability to add recent results and cross encounter clinical problems to the note with ease.

Optimal order management through a set of orders focused on a clinical specialty. *Ambulatory Content for PowerNote* provides a powerful backbone for documentation that speeds entry by the clinician.

Client Benefits

Ambulatory Content for PowerNote enables organizations to better implement documentation for regulatory compliance and ensures documentation legibility, accuracy, completeness and availability. This improves communication of the individual's status to other providers and health care agencies. Documentation is signed online so other providers can view the information immediately.

Ambulatory Content for PowerNote enables patient safety by capturing information only once and limiting the need for redundant charting that can result in errors and omission of pertinent information.

Ambulatory Content for PowerNote enables documentation to be completed in the context of the individual's health summary and is organized intuitively to the clinician's workflow.

Ambulatory Content for PowerNote enables clinicians to order appropriate diagnostic

and therapeutic orders at the time of documentation, improving the time for treatment.

Ambulatory Content for PowerNote displays the appropriate risk factors for the specific clinical symptom or condition that is being documented. This serves to prompt clinicians to review the risks and evaluate appropriately. The user maintains access to a full dictionary of symptoms and findings during documentation.

Ambulatory Content for PowerNote ensures that each term and phrase in the document produced is codified and its relationships captured in a way that allows retrospective analysis of documented data elements and information. The use of structured clinical documentation eliminates ambiguous clinical terms.

Ambulatory Content for PowerNote streamlines the documentation of procedures so clinicians can update limited number of fields with patient specific information while completing the procedure note in a matter of minutes.

Clinician support for *Ambulatory Content for PowerNote* is buttressed by live links to supporting evidence-based medical literature, where applicable.

Ambulatory Content for PowerNote enhances online documentation, which serves to result in reduced transcription costs.

Ambulatory Content for PowerNote contributes to a comprehensive documentation solution to better support the billing needs of the organization.

Major Features

Ambulatory Content for PowerNote is available in modules for the following areas:

General Medicine

Family Practice

Cardiovascular

Pediatrics

Neurology

Orthopedics

Pulmonary

Urology

Women's Health

Each module contains content for a variety of conditions.

Special Subscription Considerations

Knowledge Solutions for Ambulatory and *Ambulatory Content for PowerNote* are contracted for a minimum three-year subscription.

Software Prerequisites

The following solution is required for any of the *Ambulatory Content for PowerNote*: *PowerNote* (PV-22480) or *Clinical Office with PowerNote* (PV-20230).

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

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General Availability

Multisystem Option

⊖ **CERNER**®

Cerner Controlled Medical Terminology (US)

Description

Cerner Controlled Medical Terminology (CMT) is a multisystem offering of medical terminology that enables controlled and structured data capture. The CMT incorporates industry standard sets of terminology modeled and codified to *Cerner Controlled Medical Terminology* provide controlled, and structured flexibility for Cerner Millennium's nomenclature requirements.

Cerner Controlled Medical Terminology is an annual subscription required of all Cerner Millennium clients.

Client Benefits

- The *Cerner Controlled Medical Terminology* provides the data model to accommodate multiple disparate terminology sets as established by the sources, yet enable Cerner and clients to customize and extend the terminologies in a controlled and structured manner that ensures valid and reliable knowledge representation to fill in terminology gaps, meet client terminology preferences, and enable executable functionalities.

- Synonyms, new concepts, or new terminology sets can be modeled into the Millennium nomenclature subsystem.

- Each terminology set is formatted to a concept-based model with codification of all terminology entities to enable better knowledge representation with flexible display options, and easier and reliable content management and synchronization.

- *Cerner Controlled Medical Terminology* provides a reliable system to both uniquely identify clinical concepts within Cerner Millennium while enabling a semantic understanding of concept meaning and hierarchical relationships.

Major Features

Cerner Controlled Medical Terminology comprises the following:

- Current industry standard terminologies sets are formatted, versioned, codified, and made available to the clients upon proof of licensure.

- The Cerner Knowledge Index (Concept_CKI) is the functional concept identifier. The Concept_CKI is the codified means within Millennium to identify key medical concepts to support information processing, clinical decision support, Executable Knowledge® and knowledge presentation. The Concept_CKI remains specific to the medical concept regardless of how that concept is described, expressed, or related to other concepts.

- The CMT Index (CMTI) is the unique identifier that supports terminology management, synchronization and versioning. The CMTI maintains uniqueness across multiple terminology sets, relating the Cerner Millennium nomenclature content with the original sources.

The terminology sets are derived from many sources, some electronic and parseable, others from paper and non-parseable sources. Cerner manages these terminology sets, ensuring

timely and accurate updates and distribution to clients. Each terminology follows a schedule for version update, a quality assurance process that reviews new and obsolete terms/codes, identifiers, begin and end effective dates, indexes, completeness and integrity of terminology content, and validates the upload process.

Currently available terminologies:
- SNOMED CT
- ICD-9-CM
- CPT*
- HCPCS
- APC
- DRG
- LOINC
- DSM-IV-TR
- ICD-O
- SNOMED CT to ICD-9-CM Cross Map
- ICD-9-CM to SNOMED CT Cross Map

*Client must purchase KS-22092 CPT Codes, which covers the $12.50 per user pass-through license fee that Cerner will remit to the AMA

"Net" Affiliations

CapStone, CVNet, FirstNet, Cerner Critical Care, PowerInsight, PathNet, PharmNet, PowerChart, PowerChart Office, ProCure, HIM, ProFit, RadNet, SurgiNet and Knowledge Solutions.

Availability

Cerner Millennium Release 2003, version 2003.01 and above for all terminologies

Cerner Millennium Release 1999, version 1999.01 and above for ICD-9-CM, CPT, HCPCS, APC, DRG.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, Web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our sales organization at (816) 201-0054.

CERNER®

CPT Codes

Description

CPT Codes are a procedure identification system that serves as the basis for healthcare billing. CPT coding assigns a five-digit code to each service or procedure provided by a physician. *Current Procedural Terminology, Fourth Edition (CPT)*, is updated and distributed by the American Medical Association, for physician and other health related services.

Client Benefits

CPT coding simplifies billing and is a way to protect a patient's medical privacy.

Major Features

CPT codes are available in Content Packages that client download from CKN and install in their databases.

Special Licensing Considerations

Cerner has a reseller's agreement with the American Medical Association (AMA) for *CPT Codes*. The annual, per user subscription price represents a pass-through charge from the AMA.

The AMA licenses for CPT users are on a per-product basis. Therefore, Cerner asks that the client consider users of Cerner Millennium only.

As Cerner reviews the AMA definition of "per user," we believe the following areas, at a minimum,

need to be considered when determining the number of licensed AMA "users" in your organization:

Billing coder personnel (i.e. billing clerk utilizing ProFile or ProFit)
Executive-level users (i.e. CFO)
Outpatient personnel (i.e. MDs, nurses)
Laboratory and/or Radiology department personnel
Individuals who produce reports/queries that utilize CPT

Prerequisites

Clients who purchase *CPT Codes* (KS-22092) from Cerner also must subscribe to *Cerner Controlled Medical Terminology* (KS-22091) to receive the codes in a Millennium-ready format. All Cerner Millennium contracts should include a reference to the cost of CPT codes. Any Millennium client may choose to download this content and should understand the costs from the AMA. Whenever a subscription for *Cerner Controlled Medical Terminology* (KS-22091) subscription is quoted, the specifications for *CPT Codes* also should be added to the quote. Clients have the option of completing the number of users at the contract stage or defining the number of users post-contract when *CPT codes* are needed.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

♦ *General Availability*

♦ *Web-Based Training*

PathNet® Laboratory Management 2007.19 WBT

Description

The *PathNet Laboratory Management* web-based training (WBT) solution provides an overview of the Laboratory Management applications, including *PowerVision*® and TAT (Turnaround Time) Monitor. This course is intended for clients who create laboratory management reports and can also be used by clients who want to gain an understanding of those activities.

This WBT provides demonstrations and system simulations allowing the participant to perform laboratory management reporting tasks. At the end of the learning activity, participants will be able to create *PowerVision* reports for *PathNet* and understand the functionality of the TAT Monitor.

WBT Lessons

♦ Explain features and functions of *PowerVision* and the Turnaround Time Monitor, including integration points with foundational (core) solutions and other related solutions.

♦ Produce a report by creating a view and manipulating activity data.

♦ Manipulate activity data using filters, graphs, and drill paths.

♦ Schedule queries, export views, and save filters and templates for future use.

Availability

Cerner Millennium 2007.19

Technical Environment Requirements

The following system requirements apply to all versions (SCORM and stand-alone). The minimum system requirements stated in this document are subject to change as updates are released for *Cerner Millennium* WBT courses.

Personal Computer

♦ Windows 2000 (w/ SP2), XP, or Vista

♦ Pentium II 300 MHz processor (recommended PIII 500 MHz or higher)

♦ 512 MB RAM (minimum 1 GB if using Vista), recommended 1GB or higher

♦ Screen resolution of 1024 x 768

♦ 256 colors or higher

♦ Small fonts

♦ Microsoft ® Internet Explorer (IE) version 5.0 or higher (IE 6.0 recommended) – other browsers are NOT supported.

♦ Sun Java Runtime Environment (JRE) (IMPORTANT: see note below for specific version support)

♦ High-speed (broadband) network/ internet connection (1.5 Mbps recommended)

♦ Adequate PC spacing and ventilation to ensure that PC processor is not overheated and thus slowing processor speed.

♦ Adequate network configuration in a training lab setting

♦ *Note*: Netscape browsers and Mozilla Firefox browsers are not supported.

Web Server (if self-hosting client)

♦ Windows 2000 (SP2) or Windows Server 2003 with Microsoft Internet Information Services (IIS) web server installed

♦ Windows Scripting Engine version 5.6

♦ Dual 2.0 GHz processors

♦ 2 GB of RAM

♦ 50-100 MB available hard disk space per WBT

Note: The server specifications listed above represent a minimum recommendation to host the WBTs. Performance will be greatly impacted by the number of users, the connection speed of users, and the presence of any other applications running on, or content being served from, the web server. The environmental conditions of your particular situation should be taken into account when assessing the technical infrastructure required to host the WBTs for your users.

Browser Configuration

In order to take this training, make sure your browser is configured according to the instructions below.

♦ Check the Internet Explorer settings to validate that cookies and scripting (JavaScript) are enabled.

♦ Make sure your browser is set to check for new versions of the course pages automatically:

    o From Internet Explorer, go to Tools > Internet Options.

    o On the General tab, under the Temporary Internet Files section, click the Settings button.

    o Ensure that your settings are set to "Automatically."

♦ The WBT will not run properly if popup blockers or script blockers are installed.

♦ Version 7.0 or higher of the Flash Player must be installed.

♦ You must make sure your Internet Security settings are set in the following manner:

    o From IE, go to Tools > Internet Options > Security > Internet > Custom Level.

    o Under the ActiveX controls and plug-ins section, make sure that Download signed ActiveX controls is set to Enable.

♦ If you are using Cerner Learning Manager (CLM) to access your WBTs, add *.cernerlearningmanager.com to the list of trusted sites in IE under Tools > Internet Options > Security.

♦ Make sure Java (Sun) is enabled in IE under Tools > Internet Options > Advanced.

Sun Java Runtime Environment (JRE) Configuration

Note: Check with your system administrator or technical support group before changing any settings listed below.

♦ The Sun Java Runtime Environment (JRE) version 1.5.0_11 is recommended and can be

downloaded from here:
http:/ / java.sun.com/ products/ archive/ j2se/ 5
.0_11/ index.html. Before installing any version
of JRE, make sure you uninstall any previous
versions first.

Supported	Not Supported
	Microsoft JVM
Sun JRE 1.3.1_02 to 1.3.1_20	Sun JRE 1.3.0 to 1.3.0_05 Sun JRE 1.3.1 to 1.3.1_01
Sun JRE 1.4.0 to1.4.0_04 Sun JRE 1.4.1 to 1.4.1_07 Sun JRE 1.4.2 to 1.4.2_13	
Sun JRE 1.5.0 to 1.5.0_11	
Sun JRE 1.6.0 to 1.6.0_16	

♦   Supported versions of the Sun JRE can be
    downloaded from the following location:
    http:/ / java.sun.com/ products/ archive/

♦   It is recommended that the server hosting the
    WBTs be added to the Trusted Sites security
    zone in Internet Explorer. This will help
    prevent browser security settings from
    preventing the WBTs from running properly.

Browser security can be applied at many levels
and can be difficult to troubleshoot.

Communication Materials

Cerner Learning Services also provides solution-
specific brochures, flyers, and other
communications in print about WBTs and other
learning solutions and services. This information
may also be accessed through our website at
www.cerner.com > Solutions & Services tab, or by
contacting Learning Services at (888) 334-1024.

CERNER®

PathNet® Specimen Management 2007.19 WBT

Description

The *PathNet Specimen Management* web-based training (WBT) solution provides a solid foundation for using the Specimen Management applications. This course is intended for clients who perform specimen management tasks and can also be used by clients who want to gain an understanding of those activities.

This WBT provides demonstrations and system simulations allowing the participant to perform specimen management tasks. At the end of the learning activity, participants will be able to use specimen management applications.

WBT Lessons

♦ Launch the Cerner Appbar

♦ View the collection list

♦ Reprint labels by accession

♦ Log in a specimen

♦ Modify a collected specimen

♦ Request a specimen to be recollected

♦ Build a transfer list

♦ Modify a transfer list

♦ Transfer a list

♦ View a transferred list

♦ Check in a specimen

♦ Discard a specimen

♦ Print labels

♦ Cancel orders

♦ Inquire by patient

♦ View container events

♦ Work with containers

Availability

Cerner Millennium 2007.19

Technical Environment Requirements

The following system requirements apply to all versions (SCORM and stand-alone). The minimum system requirements stated in this document are subject to change as updates are released for *Cerner Millennium* WBT courses.

Personal Computer

♦ Windows 2000 (w/ SP2), XP, or Vista

♦ Pentium II 300 MHz processor (recommended PIII 500 MHz or higher)

♦ 512 MB RAM (minimum 1 GB if using Vista), recommended 1GB or higher

♦ Screen resolution of 1024 x 768

♦ 256 colors or higher

♦ Small fonts

♦ Microsoft ® Internet Explorer (IE) version 5.0 or higher (IE 6.0 recommended) – other browsers are NOT supported.

♦ Sun Java Runtime Environment (JRE) (IMPORTANT: see note below for specific version support)

♦ High-speed (broadband) network/ internet connection (1.5 Mbps recommended)

♦ Adequate PC spacing and ventilation to ensure that PC processor is not overheated and thus slowing processor speed.

♦ Adequate network configuration in a training lab setting

♦ *Note*: Netscape browsers and Mozilla Firefox browsers are not supported.

Web Server (if self-hosting client)

♦ Windows 2000 (SP2) or Windows Server 2003 with Microsoft Internet Information Services (IIS) web server installed

♦ Windows Scripting Engine version 5.6

♦ Dual 2.0 GHz processors

♦ 2 GB of RAM

♦ 50-100 MB available hard disk space per WBT

Note: The server specifications listed above represent a minimum recommendation to host the WBTs. Performance will be greatly impacted by the number of users, the connection speed of users, and the presence of any other applications running on, or content being served from, the web server. The environmental conditions of your particular situation should be taken into account when assessing the technical infrastructure required to host the WBTs for your users.

Browser Configuration

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♦ Check the Internet Explorer settings to validate that cookies and scripting (JavaScript) are enabled.

♦ Make sure your browser is set to check for new versions of the course pages automatically:

o From Internet Explorer, go to Tools > Internet Options.

o On the General tab, under the Temporary Internet Files section, click the Settings button.

o Ensure that your settings are set to "Automatically."

♦ The WBT will not run properly if popup blockers or script blockers are installed.

♦ Version 7.0 or higher of the Flash Player must be installed.

♦ You must make sure your Internet Security settings are set in the following manner:

o From IE, go to Tools > Internet Options > Security > Internet > Custom Level.

o Under the ActiveX controls and plug-ins section, make sure that Download signed ActiveX controls is set to Enable.

♦ If you are using Cerner Learning Manager (CLM) to access your WBTs, add *.cernerlearningmanager.com to the list of trusted sites in IE under Tools > Internet Options > Security.

♦ Make sure Java (Sun) is enabled in IE under Tools > Internet Options > Advanced.

Sun Java Runtime Environment (JRE) Configuration

Note: Check with your system administrator or technical support group before changing any settings listed below.

♦ The Sun Java Runtime Environment (JRE) version 1.5.0_11 is recommended and can be downloaded from here: http://java.sun.com/products/archive/j2se/5.0_11/index.html. Before installing any version of JRE, make sure you uninstall any previous versions first.

Supported	Not Supported
	Microsoft JVM
Sun JRE 1.3.1_02 to 1.3.1_20	Sun JRE 1.3.0 to 1.3.0_05 Sun JRE 1.3.1 to 1.3.1_01
Sun JRE 1.4.0 to1.4.0_04 Sun JRE 1.4.1 to 1.4.1_07 Sun JRE 1.4.2 to 1.4.2_13	
Sun JRE 1.5.0 to 1.5.0_11	
Sun JRE 1.6.0 to 1.6.0_16	

♦ Supported versions of the Sun JRE can be downloaded from the following location: http://java.sun.com/products/archive/

♦ It is recommended that the server hosting the WBTs be added to the Trusted Sites security zone in Internet Explorer. This will help prevent browser security settings from preventing the WBTs from running properly. Browser security can be applied at many levels and can be difficult to troubleshoot.

Communication Materials

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♦ *General Availability*

♦ *Web-Based Training*

CERNER

PathNet® Microbiology 2007.19 WBT

Description

This web-based training solution provides a solid foundation for using the *PathNet Microbiology* application. This course is intended for clients who perform microbiology tasks, and can be used by Cerner consultants or clients who want to understand end-user activities.

This WBT provides demonstrations and system simulations allowing participants to perform microbiology tasks online. By the end of the learning activity, participants will be able to use the *PathNet Microbiology* application in their daily work.

WBT Lessons

♦ Enter Quality Control results

♦ Perform a QC Inquiry

♦ Log in specimens

♦ Create a work queue

♦ Set up and adding organisms

♦ Order biochemicals and susceptibilities

♦ Issue reports

♦ Result an MIC and KB

♦ View and canceling tasks

♦ Receive a correlation warning

♦ Cancel a task

♦ Create batch reports

♦ Run inquiries

♦ View orders and results

♦ Create reports

Availability

Cerner Millennium 2007.19

Technical Environment Requirements

The following system requirements apply to all versions (SCORM and stand-alone). The minimum system requirements stated in this document are subject to change as updates are released for *Cerner Millennium* WBT courses.

Personal Computer

♦ Windows 2000 (w/ SP2), XP, or Vista

♦ Pentium II 300 MHz processor (recommended PIII 500 MHz or higher)

♦ 512 MB RAM (minimum 1 GB if using Vista), recommended 1GB or higher

♦ Screen resolution of 1024 x 768

♦ 256 colors or higher

♦ Small fonts

♦ Microsoft ® Internet Explorer (IE) version 5.0 or higher (IE 6.0 recommended) – other browsers are NOT supported.

♦ Sun Java Runtime Environment (JRE) (IMPORTANT: see note below for specific version support)

♦ High-speed (broadband) network/ internet connection (1.5 Mbps recommended)

♦ Adequate PC spacing and ventilation to ensure that PC processor is not overheated and thus slowing processor speed.

♦ Adequate network configuration in a training lab setting

♦ *Note*: Netscape browsers and Mozilla Firefox browsers are not supported.

Web Server (if self-hosting client)

♦ Windows 2000 (SP2) or Windows Server 2003 with Microsoft Internet Information Services (IIS) web server installed

♦ Windows Scripting Engine version 5.6

♦ Dual 2.0 GHz processors

♦ 2 GB of RAM

♦ 50-100 MB available hard disk space per WBT

Note: The server specifications listed above represent a minimum recommendation to host the WBTs. Performance will be greatly impacted by the number of users, the connection speed of users, and the presence of any other applications running on, or content being served from, the web server. The environmental conditions of your particular situation should be taken into account when assessing the technical infrastructure required to host the WBTs for your users.

Browser Configuration

In order to take this training, make sure your browser is configured according to the instructions below.

♦ Check the Internet Explorer settings to validate that cookies and scripting (JavaScript) are enabled.

♦ Make sure your browser is set to check for new versions of the course pages automatically:

     o From Internet Explorer, go to Tools > Internet Options.

     o On the General tab, under the Temporary Internet Files section, click the Settings button.

     o Ensure that your settings are set to "Automatically."

♦ The WBT will not run properly if popup blockers or script blockers are installed.

♦ Version 7.0 or higher of the Flash Player must be installed.

♦ You must make sure your Internet Security settings are set in the following manner:

     o From IE, go to Tools > Internet Options > Security > Internet > Custom Level.

     o Under the ActiveX controls and plug-ins section, make sure that Download signed ActiveX controls is set to Enable.

♦ If you are using Cerner Learning Manager (CLM) to access your WBTs, add *.cernerlearningmanager.com to the list of trusted sites in IE under Tools > Internet Options > Security.

♦ Make sure Java (Sun) is enabled in IE under Tools > Internet Options > Advanced.

Sun Java Runtime Environment (JRE) Configuration

Note: Check with your system administrator or technical support group before changing any settings listed below.

♦ The Sun Java Runtime Environment (JRE) version 1.5.0_11 is recommended and can be downloaded from here: http://java.sun.com/products/archive/j2se/5.0_11/index.html. Before installing any version of JRE, make sure you uninstall any previous versions first.

Supported	Not Supported
	Microsoft JVM
Sun JRE 1.3.1_02 to 1.3.1_20	Sun JRE 1.3.0 to 1.3.0_05 Sun JRE 1.3.1 to 1.3.1_01
Sun JRE 1.4.0 to1.4.0_04 Sun JRE 1.4.1 to 1.4.1_07 Sun JRE 1.4.2 to 1.4.2_13	
Sun JRE 1.5.0 to 1.5.0_11	
Sun JRE 1.6.0 to 1.6.0_16	

♦ Supported versions of the Sun JRE can be downloaded from the following location: http://java.sun.com/products/archive/

♦ It is recommended that the server hosting the WBTs be added to the Trusted Sites security zone in Internet Explorer. This will help prevent browser security settings from preventing the WBTs from running properly. Browser security can be applied at many levels and can be difficult to troubleshoot.

Communication Materials

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♦ ***General Availability***

♦ ***Web-Based Training***

PathNet® Common Services 2007.19 WBT

Description

This web-based training (WBT) solution provides a solid foundation for using the *PathNet Common Services* solutions. This course is intended for clients who perform common core laboratory tasks, and can be used by clients who want to understand end-user activities.

This WBT provides demonstrations and system simulations allowing participants to perform laboratory tasks online. By the end of the learning activity, participants will be able to use the *PathNet Common Services* solutions in their daily work.

WBT Lessons

♦ Launch the Cerner Appbar

♦ Search for a patient

♦ Register a patient

♦ Order patient labs

♦ Place a batch order for patient labs

♦ Add an order for additional testing to an existing order

♦ Modify and order that has been previously placed

♦ Cancel an order that has been previously placed

♦ Search for a patient's results

♦ View a patient's demographic information, order comments, and lab results using the Order List Mode and Flowsheet modes of the Order Result Viewer

♦ Review a result and related information in Flowsheet Mode and graph results for a group of results.

Mark QC results as viewed.Availability

Cerner Millennium 2007.19

Technical Environment Requirements

The following system requirements apply to all versions (SCORM and stand-alone). The minimum system requirements stated in this document are subject to change as updates are released for *Cerner Millennium* WBT courses.

Personal Computer

♦ Windows 2000 (w/ SP2), XP, or Vista

♦ Pentium II 300 MHz processor (recommended PIII 500 MHz or higher)

♦ 512 MB RAM (minimum 1 GB if using Vista), recommended 1GB or higher

♦ Screen resolution of 1024 x 768

♦ 256 colors or higher

♦ Small fonts

♦ Microsoft ® Internet Explorer (IE) version 5.0 or higher (IE 6.0 recommended) – other browsers are NOT supported.

♦ Sun Java Runtime Environment (JRE) (IMPORTANT: see note below for specific version support)

♦ High-speed (broadband) network/ internet connection (1.5 Mbps recommended)

♦ Adequate PC spacing and ventilation to ensure that PC processor is not overheated and thus slowing processor speed.

♦ Adequate network configuration in a training lab setting

♦ *Note*: Netscape browsers and Mozilla Firefox browsers are not supported.

Web Server (if self-hosting client)

♦ Windows 2000 (SP2) or Windows Server 2003 with Microsoft Internet Information Services (IIS) web server installed

♦ Windows Scripting Engine version 5.6

♦ Dual 2.0 GHz processors

♦ 2 GB of RAM

♦ 50-100 MB available hard disk space per WBT

Note: The server specifications listed above represent a minimum recommendation to host the WBTs. Performance will be greatly impacted by the number of users, the connection speed of users, and the presence of any other applications running on, or content being served from, the web server. The environmental conditions of your particular situation should be taken into account when assessing the technical infrastructure required to host the WBTs for your users.

Browser Configuration

In order to take this training, make sure your browser is configured according to the instructions below.

♦ Check the Internet Explorer settings to validate that cookies and scripting (JavaScript) are enabled.

♦ Make sure your browser is set to check for new versions of the course pages automatically:

o From Internet Explorer, go to Tools > Internet Options.

o On the General tab, under the Temporary Internet Files section, click the Settings button.

o Ensure that your settings are set to "Automatically."

♦ The WBT will not run properly if popup blockers or script blockers are installed.

♦ Version 7.0 or higher of the Flash Player must be installed.

♦ You must make sure your Internet Security settings are set in the following manner:

o From IE, go to Tools > Internet Options > Security > Internet > Custom Level.

o Under the ActiveX controls and plug-ins section, make sure that Download signed ActiveX controls is set to Enable.

♦ If you are using Cerner Learning Manager (CLM) to access your WBTs, add *.cernerlearningmanager.com to the list of trusted sites in IE under Tools > Internet Options > Security.

♦ Make sure Java (Sun) is enabled in IE under Tools > Internet Options > Advanced.

Sun Java Runtime Environment (JRE) Configuration

Note: Check with your system administrator or technical support group before changing any settings listed below.

♦ The Sun Java Runtime Environment (JRE) version 1.5.0_11 is recommended and can be downloaded from here: http://java.sun.com/products/archive/j2se/5.0_11/index.html. Before installing any version of JRE, make sure you uninstall any previous versions first.

Supported	Not Supported
	Microsoft JVM
Sun JRE 1.3.1_02 to 1.3.1_20	Sun JRE 1.3.0 to 1.3.0_05 Sun JRE 1.3.1 to 1.3.1_01
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Sun JRE 1.5.0 to 1.5.0_11	
Sun JRE 1.6.0 to 1.6.0_16	

♦ Supported versions of the Sun JRE can be downloaded from the following location: http://java.sun.com/products/archive/

♦ It is recommended that the server hosting the WBTs be added to the Trusted Sites security zone in Internet Explorer. This will help prevent browser security settings from preventing the WBTs from running properly. Browser security can be applied at many levels and can be difficult to troubleshoot.

Communication Materials

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♦ *General Availability*

♦ *Web-Based Training*

◯━CERNER®

PathNet® General Laboratory 2007.19 WBT

Description

The *PathNet General Laboratory* web-based training (WBT) solution provides a solid foundation for using the general laboratory applications. This course is intended for end users who perform laboratory tasks and can also be used by those who want to gain an understanding of those activities.

This is a WBT containing demonstrations and system simulations allowing the participant to perform general laboratory tasks. At the end of this learning activity, participants will be able to use general laboratory applications.

WBT Lessons

♦ Launch the Cerner Appbar

♦ Create and customize a list of pending procedures

♦ Enter and verify results and transfer procedures from one test site to another.

♦ Create and modify a worklist

♦ Enter and verify results in the accession mode

♦ Enter and verify results in differential mode

♦ Select and review a worklist and verify the results

♦ Verify batch results from a test site

♦ Enter a result in the point of care result entry solution.

♦ Calculate and save statistics for QC results

♦ Create a Levy-Jennings chart

♦ Review the lot history for a control

Availability

Cerner Millennium 2007.19

Technical Environment Requirements

The following system requirements apply to all versions (SCORM and stand-alone). The minimum system requirements stated in this document are subject to change as updates are released for *Cerner Millennium* WBT courses.

Personal Computer

♦ Windows 2000 (w/ SP2), XP, or Vista

♦ Pentium II 300 MHz processor (recommended PIII 500 MHz or higher)

♦ 512 MB RAM (minimum 1 GB if using Vista), recommended 1GB or higher

♦ Screen resolution of 1024 x 768

♦ 256 colors or higher

♦ Small fonts

♦ Microsoft ® Internet Explorer (IE) version 5.0 or higher (IE 6.0 recommended) – other browsers are NOT supported.

♦ Sun Java Runtime Environment (JRE) (IMPORTANT: see note below for specific version support)

♦ High-speed (broadband) network/ internet connection (1.5 Mbps recommended)

♦ Adequate PC spacing and ventilation to ensure that PC processor is not overheated and thus slowing processor speed.

♦ Adequate network configuration in a training lab setting

♦ *Note*: Netscape browsers and Mozilla Firefox browsers are not supported.

Web Server (if self-hosting client)

♦ Windows 2000 (SP2) or Windows Server 2003 with Microsoft Internet Information Services (IIS) web server installed

♦ Windows Scripting Engine version 5.6

♦ Dual 2.0 GHz processors

♦ 2 GB of RAM

♦ 50-100 MB available hard disk space per WBT

Note: The server specifications listed above represent a minimum recommendation to host the WBTs. Performance will be greatly impacted by the number of users, the connection speed of users, and the presence of any other applications running on, or content being served from, the web server. The environmental conditions of your particular situation should be taken into account when assessing the technical infrastructure required to host the WBTs for your users.

Browser Configuration

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o On the General tab, under the Temporary Internet Files section, click the Settings button.

o Ensure that your settings are set to "Automatically."

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o From IE, go to Tools > Internet Options > Security > Internet > Custom Level.

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Sun JRE 1.5.0 to 1.5.0_11	
Sun JRE 1.6.0 to 1.6.0_16	

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♦   It is recommended that the server hosting the WBTs be added to the Trusted Sites security zone in Internet Explorer. This will help prevent browser security settings from preventing the WBTs from running properly. Browser security can be applied at many levels and can be difficult to troubleshoot.

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Cerner Learning Studio
Create Flexible eLearning

Cerner Learning Studio™ integrates learning content to create effective web-based training, communication, and knowledge-sharing tools in a consistent delivery environment. Learning developers can utilize *Cerner Learning Studio* to effectively package different forms of media including movies, audio, images, text, links, simulations and live software domains. Supporting learners with a variety of content enables them to learn in the method that best suits their learning needs and time constraints.

Solution at a Glance

- Visual, consistent creation of eLearning and communications

- Develops WBTs, MVPs, and web-based learning and communications

- Supports most widely used web-enabled learning content

Using third party tools like Mzinga Firefly® or Adobe Captivate®, learning developers can create simulations that allow hands-on and performance-based learning. Videos can be created to explain a patient care process, coach them through performing a task, share the project vision and objectives of hospital leaders, or provide quick performance-support. Healthcare professionals can remain focused on their patient care responsibilities through quick performance support that allows them to watch a task being performed before practicing the task or returning to the live system.

Learning development for the rest of us

Cerner Learning Studio was designed to provide your team with a tool that is easy to use, supports your eLearning requirements, and doesn't tie you to proprietary content and development tools. A clearly organized visual interface allows learning developers to quickly set-up a new course, add pages to structure the content, and embed the right learning content to meet your training needs.

Supported learning content includes:

- *Movies* - .avi, .mov, .mpg, .wmf
- *Images* - .jpg, .png, .bmp, .gif
- *Text* - cut and paste from your existing content or create from scratch
- *Live software domains* - why simulate the system when you can provide the real thing?

Developers can preview their course at any time to confirm layout and content decisions, test interactivity, and tune navigation. Developers working with subject matter experts can quickly preview the current state of the course and apply real-time changes to speed the development process.
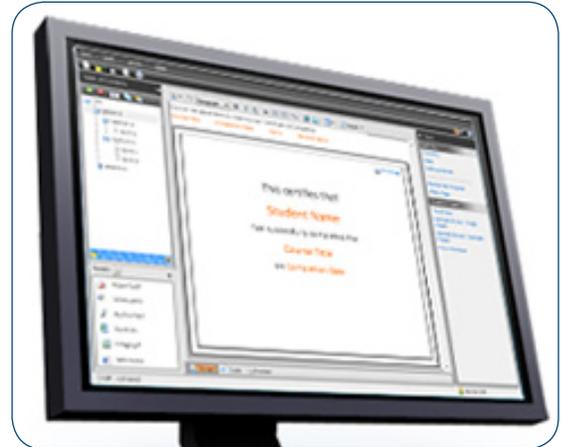
Key Benefits

- Create and maintain WBT and MVP eLearning courses and communications
- Simple licensing provides access for your whole team
- Easy to learn - quick turnaround to results
- Allows the embedding of live software for a more robust learning experience

A bold range of uses

The *Cerner Learning Studio* is not limited to creating eLearning courses. Its flexible structure allows it to meet a variety of learning and communication needs across your organization.

Cerner Learning Studio facilitates Cerner's approach to education and training Learning Forward, which is based on a 70-20-10 model for efficient learning through formal training (WBT/MVP). Because your content is delivered in a consistent course shell, your learners do not waste time figuring out how to get to the content they need.

For additional information about *Cerner Learning Studio*, contact Cerner Learning Services at CernerLearningServices@cerner.com or (888) 334-1024.

CERNER
All Together

Simplified User Authentication
LDAP Authentication Solution

Many Cerner clients want to simplify the log-in process by allowing their users to have a single username and password to access *Cerner Millennium*® as they do to sign on their corporate network. With the LDAP Authentication solution users authenticate to an LDAP directory rather than continue to authenticate against the legacy sec_user user registry. This solution eliminates the need for separate passwords for *Cerner Millennium* domains, thereby reducing the number of passwords that users have to remember when logging into the system and helping to increase the overall security of *Cerner Millennium* applications.

Solution at a Glance

- *Enables you to store user authentication information in a single location, enabling users to access multiple systems and Cerner Millennium domains with a single user name and password.*

The LDAP Authentication Advantage

Before Cerner's LDAP integration, user sign-on information was stored and maintained separately in each *Cerner Millennium* domain. For example, a system configuration with three domains, PROD, CERT, and BUILD, would have user information stored in each domain, requiring users to know passwords in each. Now, LDAP enables you to set up and maintain that information once for each user. Users have the benefit of remembering a single user name and password, while IT staff work is reduced by creating and maintaining users only once.

How LDAP Authentication Works

Using the LDAP Authentication Solution for *Cerner Millennium* does not alter the end user's experience. Users of *Cerner Millennium* will see the same log-in dialog box as if the system was still configured for solution-based authentication. LDAP authentication is configured on the back-end nodes of the *Cerner Millennium* domain using a text-based wizard named LDAP Config (ldap_config) and a minimal schema extension of the LDAP directory for two Cerner-defined attributes. Once the configuration is complete, users can begin using their LDAP username and password to access Cerner solutions.

Key Benefits

- SImplified password management
- Improved security functionality
- Users have a single password across the enterprise for all applications
- Password policy management from a central location
- Simplified enterprise user auditing and activity analysis

LDAP Authentication can be configured at a system level or user level. When configured at the system level, all users authenticating to *Cerner Millennium* solutions will be authenticated against the LDAP directory. This setting works best in new *Cerner Millennium* environments or *Cerner Millennium* environments that have fully converted all of their users from application or solution-based authentication (sec_user.dat) to LDAP-based authentication.

CERNER
All Together™

When *Cerner Millennium* is configured at the user level, account administrators can specify which users will authenticate using their LDAP credentials or *Cerner Millennium* credentials. Many clients choose this option because it allows them to migrate existing user accounts in phases, giving account administrators time to complete the conversion in a controlled manner.

Users can also receive warning notifications from *Cerner Millennium* when their passwords are about to expire, allowing them to change the password within the solution. This is a feature that is configured by the *Cerner Millennium* account administrator.

Pass-Through Authentication Capability

Once *Cerner Millennium* has been configured for LDAP authentication, front-end systems such as user workstations and Citrix servers can be configured for Pass-Through Authentication. Pass-Through Authentication streamlines the authentication process for a user by using the credentials of the logged-on user to log on to *Cerner Millennium*. The *Cerner Millennium* log-on screen never appears and the user is logged on automatically. Previously, clients who wanted to implement explicit log-ons to Citrix applications used both LDAP and Pass-through Authentication with *Cerner Millennium*. Now the LDAP Authentication solution provides a more secure computing environment and a simplified log-on workflow for your users.

The Cerner Commitment

Cerner is prepared to provide effective network protection and optimum ease-of-use through solutions that suit your specific needs and requirements. Our goal is to help you preserve confidentiality and availability of information, while enhancing the user experience and clinical productivity.

Information

For more information on this solution for your organization, contact the Cerner Client Care Team at (866) 221-8877, option 1, or by e-mail at ClientCareTeam@cerner.com.

CERNER
All Together

MethodM

Description

MethodM® is the Cerner® standard approach for engaging with clients to meet their clinical and operational goals through the use of Millennium®. Cerner's methodology provides a clearly defined project scope aligned with your clinical and operational strategies, comprehensive education and training and a Project Management Office function. MethodM also includes the attached list of event and solution-level content to provide guidance and overall support throughout the project. The content has been specifically designed to provide the correct information at the right point to make sound decisions and guide you through the various stages of your project. The content additionally provides a framework for the various processes required to manage and execute your project.

Client Benefits

- MethodM reduces the total cost of ownership through reduction of variance which increases predictability of outcomes.

- MethodM provides structured discipline education that occurs just in time for the point of need.

- MethodM standardizes project support collateral brings with it Cerner's recommended approach and best practice to implementation and clinical workflow process.

- Improves the quality of the engagement by standardizing Cerner implementation of designing, building, testing, and converting solutions.

- All projects using one common methodology to bring clear goals, clear project scope, and clear accountability to all engagements.

Major Features

DESIGN

- The **Preliminary Design Assessment (PDA)** is used to collect important information about your health system prior to project kickoff.

- The **Onsite Workflow Assessments** incorporate the information from the PDA, and include information from departmental walkthroughs and interviews with clinical staff.

- The **Design Decision Management (DDM)** system is an interactive online tool that supports the decision making process with experienced base recommendations and rationale for Millennium.

- The **Data Collection Worksheets** provide a comprehensive method for gathering data that will be used to configure your Millennium system.

BUILD / MAINTAIN

- The **Build Guide** leads the user through the build process, including a summary of work steps and build tools.

- The **Maintenance Training Materials** consists of common maintenance activities to support the Millennium database. Assessments are provided for each solution area to ensure that the concepts covered during the session are retained.

TEST

- The **System Validation Guides** are provided at both the system and solution level, and include validation concepts and Cerner's best practice approach to testing the system build.

- **Unit, System, and Integration Test Scripts** are supplied to assist with validating that the system

MethodM

is ready to be deployed into a production environment.

TRAINING / EDUCATION

- **Open House** consists of a fully functional Millennium domain and demo scripts that the client uses to experience the look and feel of the end-user Millennium solutions and workflows. Access is granted prior to the kickoff event.

- **Web Based Training (WBT)** is provided during the project preparation phase to enable the client to have a guided tour of the Millennium solutions and workflows.

- **Solution Training Guides** include adult learning concepts to educate the end-users on the Millennium system. It provides hands-on training for participants and trains them on Millennium supported workflows.

- **Learning Plan Development** is a strategy that prepares the organization for training the end-users. It addresses timeline, facility, and equipment requirements, as well as supplementary resources needed to prepare end users

CONVERSION

- **Conversion Readiness Assessments** are comprised of a list of tasks that need to be completed prior to conversion. The Cerner and Client Project Teams use the assessment to document whether the tasks have been completed and if not, the reason why, including the risk level and the action plan to complete.

- The **Post Conversion Assessment** focuses on solution and workflow analysis and assesses end user satisfaction, current utilization of the implemented solutions and the accompanying workflows.

Project Management

- **MethodM Online** is an interactive tool that provides easy, efficient online management of your project plans, deliverables, and communication with your team members.

- Detailed **Project Plans** are included in MethodM Online and are comprised of all project related tasks with due dates for the following: Project Management, Technical, Client Learning, Solution, and Adoption.

- The **Escalation Process** is built into the methodology and is supported by MethodM Online. As a by-product of documenting decisions, escalations are generated by the system, and are tracked by the client and Cerner Engagement Team.

- **Event Guides** provide general information regarding all of the major components of a session and include information about who should attend, and what the participants should expect.

- **Event Agendas** are provided for all solutions and include objectives for each event, as well as content that is to be covered during each session.

MethodM Key Events

Client Executive Session

The Client Executive Session is designed to formally initiate senior client leadership and sponsors into a Cerner project. It is designed to provide an opportunity to validate Cerner project alignment with senior leadership expected outcomes as well as establish client leadership expectations, and create an understanding of the project approach, scope and timeline.

MethodM

Project Preparation Session

This event is targeted at delivering knowledge transfer to the client project team and other critical client participants to prepare them for their Cerner implementation. The event consists of several formalized knowledge transfer sessions. An assessment of the client's basic computer skills is conducted. Sessions delivered focus on developing general project management and project team skill as well as the specifics of participating in a Cerner project. Lastly, clients will have an opportunity to use solution WBTs and the Open House database to gain valuable hands-on solution experience in preparation for future events.

Project Kickoff

The Project Kickoff event consists of three distinct activities: The Project Kickoff presentation which is an opportunity for the Client Executives and Project Leadership to create enthusiasm for the project; the kickoff is akin to a pep rally in honor of the project's beginning. Additionally, during the Project Kickoff event the Current State Assessment is conducted, which reviews client's current workflow and processes. This identifies both workflow risks and opportunities relative to Cerner's recommended workflows. The Scope Review Session is an opportunity to provide one final review of the scope document to ensure collective agreement regarding what will be implemented.

System Review

The System Review Event provides a guided overview of the solution relative to Cerner recommended workflow and introduces clients to and/or continues the support of the client in data collection activities. This event provides a guided overview of the solution and the concept of workflow. It introduces and supports the client in data collection activities that will be assigned to them to complete.

Design Review

The Design Review event provides a review of recommended workflow and begins the final processes in client data collection activities and their design decisions for their new system. During Design Review, system design and build are also validated for accuracy. Additionally, during this event the Learning Plan Development Session is conducted, working with clients to outline a plan for identifying and meeting their unique learning needs.

System Validation Session

This one-week session focuses primarily on two areas; first, to further familiarizing the client with the applications to confirm system design and to help them learn more about how to use the system and second, to prepare the client to be able to test their system effectively using test scripts that they will develop.

Trainer & Conversion Preparation

The Trainer and Conversion Preparation event is the portal for transitioning complete system ownership from Cerner to the client. With Cerner's guidance, Client Project Team members will use the provided demo scripts to complete application demos to the project team. The learning plan is validated and finalized, along with the Integration Test plan and Integration Testing Readiness. Conversion planning is officially kicked off during this event.

Maintenance Training

The primary focus of Maintenance Training is to transfer knowledge of how to perform updates to the client system using the database build tools. The emphasis of this session is on common maintenance activities, not design and build. After this session, the client is equipped to make modifications to the reference database. This event is specific to a Cerner Build project.

MethodM

Integration Testing

Integration testing allows for validation of a complete integrated system build. It incorporates validating a day in the life of a patient across systems, departments and workflow processes

Conversion

Licensed solutions are moved to production use.

Post Conversion Review

The Post Conversion Review focuses on solution and workflow analysis and assesses end user satisfaction, current utilization of the implemented solutions and the accompanying workflow. The Executive Summary will include recommendations for optimizing use of the system and potential design enhancements, based on interviews and observations conducted and data points gathered. The Executive Summary will facilitate and enhance the ability to plan next phases of automation.

General Availability
Cerner Critical Care

INet Virtual

Description

INet Virtual is a major Cerner Critical Care offering that allows continuous 24 hours per day expert care by an off site critical care team.

The Cerner Millennium architecture and the Cerner Critical Care solutions allow both the bedside clinicians and the remote team a way to view, document, and order from one single screen within the context of pertinent patient data. *INet Virtual* provides a license to extend all licensed Cerner Critical Care solutions to the remote team of clinicians at a designated workstation.

Direct communication with the care team is facilitated through the use of remote-controlled cameras with high-resolution video and audio hookups provide a real time observation of the patient and activity at the bedside. Evidence-based critical care specific decision-support tools provide early alerts demonstrating a trend to guide physicians through diagnostic and therapeutic decision-making.

Using this solution, critical care patients may be cared for at the remote site by one intensivist and one nurse. Critical care nurses at the patient's bedside maintain on site direct patient care. With *INet Virtual,* along with the appropriate hardware technology, two-way communication into each patient's room is supported, along with high-resolution video and audio that provide the eyes and ears of what is happening real time. Audio transmission of stethoscope-derived heart sounds, breath sounds, and bowel sounds are

possible as well as high-resolution video transmission of the patient, which can illustrate even skin tone and pupillary changes. Thus, the remote monitoring site provides a virtual physical exam, with real-time findings simultaneously visible to the remote team.

Client Benefits

♦ Real-time assessment findings allow immediate intervention. Communication delays are eliminated. Finding the right physician to call, waiting for a return page, and waiting for the pharmacy to get the order are avoided with real-time cross provider order entry and review. Messaging between the remote site, the patient's bedside providers and the facility pharmacy are simultaneous and closed loop. Orders can be placed and results viewed either at the patient's bedside or at the remote site. These simultaneous dynamic workflows allow the bedside and remote clinicians to view and organize patient data and to optimize the care process.

♦ The Remote Intensivist is able to proactively care for patients at an off site critical care unit. Platformed from Cerner Millennium architecture, the remote physician has real-time access to bedside medical devices interface, waveform visualization and capture, as well as live video to the patients.

♦   The Remote Intensivist tracks early awareness of impending negative events or

trends with patient-specific alerts/alarms for immediate intervention.

♦ Improved efficiency in the critical care areas with 24-hour per day physician staffing, decreased hospital and critical care length of stay, and decreased hospital costs.

♦ Improved patient outcomes include optimal patient management, decreased critical care complications and greater consistency with best practice guidelines. Critical decision-making supported by real-time access to the remote critical care team and integrating care processes into one seamless flow.

♦ Licensure of *INet* (IC-20389) is required. By also licensing *INet MD* (IC-20392) quality is improved by integrating plans, orders, documentation, and viewing, and providing data availability of clinical information from multiple locations throughout the continuum of care.

♦ Patient safety is increased with integration with CPOE, which requires licensure of *PowerOrders®* (PS-20576), and use of Cerner's powerful decision support technologies.

♦ With the licensing of *Discern Expert®* (IC-26105), *Critical Knowledge and Outcomes* (KS-26768), patient-specific critical care knowledge and decision support is available for the clinician to view within the workflow at the bedside and in the remote site.

♦ Using *INet MD* (IC-20392), documentation is simplified with Admission, Daily, and Consult critical-care-specific templates, order sets, and notelets. Alarms and Early Alerts are embedded within the documentation and physician coding is a by-product of template completion.

Major Features

♦ *INet Virtual* is the only solution in the industry with a unified seamless solution between the patient and the remote team. Simultaneous viewing of the patient's condition and response to interventions, as well as cross provider bedside device communication and closed loop meds processes help reduce errors and optimize patient safety. Cerner's common data structure provides access to a longitudinal medical record shared by the patient site and the remote site in one view.

♦ *INet Virtual* displays data from all licensed BMDIs (Bedside Medical Device Interfaces), which capture monitored data from the bedside devices and automatically document on the bedside clinician's flowsheet. Vital signs automatically are captured. Intake and output are directly entered in the flowsheet. Both are immediately visible to the remote team. Multicontributor notes allow real-time documentation by the remote team, which is then immediately accessible within the patient's unified medical record. Thus, redundant data entry is eliminated, and the real-time information is visible simultaneously to the remote team

♦ In addition to automation of the flowsheet, *INet Virtual* provides interfaces to infusion pump monitoring networks. Unique to Cerner's *PowerPOC CareGuard* (IC-22774 or PH-22774), which require separate and additional licensure, *PowerPOC CareGuard* has the ability for each infusion to have a separate identification for each pump that can be directly linked to an order. This automates the order to the specific pump with the right patient and the right dose. Platformed from the Cerner Millennium architecture, the remote team has real-time access. This is yet another opportunity for efficient, safe patient care.

- Outcomes evaluation is another unique attribute to *INet Virtual*. Cerner- *APACHE III*, which is bundled within *Critical Knowledge and Outcomes* (KS-26768), provides a unified comprehensive adult severity of illness risk adjustment score as well as a comparative database of over one million patients. Daily, Day One and Day Five predictions are unique to APACHE III – Version J and include critical care and Hospital mortality predictions, as well as LOS predictions.

- *INet Virtual* manages information flow and presentation, supports care management and workflow processes, and encourages timely decisions based on comprehensive data availability and information tailored to the clinician and the patient, both at the patient's bedside and at the remote site.

Supported Interfaces

INet Virtual, in conjunction with licensures for Bedside Medical Device interfaces, supports a variety of bedside medical devices. This includes hemodynamic monitors, ventilator interface, IV pumps and real time waveform capture.

Availability

Cerner Millennium Release 2004

Special Licensing Considerations

INet Virtual is sold as a license.

Software Prerequisites

INet (IC-20389) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

The CPU, memory, and disk requirements for *INet Virtual* are measured in terms of the number of beds, the volume of procedures, the number of interactive users, and the data acquisition resources required.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution:

- *Departmental PowerPlan*™ (IC-22344)
- *INet MD* (IC-20392)
- *Discern Expert*® (IC-26105)
- *Discern Explorer*® (IC-26140).
- *Critical Knowledge and Outcomes* (KS-26768)
- *PowerInsight*™ solutions (various)
- *Inpatient Pharmacy* (PH-20160)

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Multisystem Option

PowerPlan

Description

PowerPlan is a major offering designed to facilitate comprehensive multidisciplinary planning, outcomes management and coordination of care for the patient in the acute care setting. *PowerPlan* provides clinicians with the ability to individualize diagnosis and problem-driven plans of care, including multidisciplinary clinical pathways and care protocols.

Leveraging Cerner's unified Millennium Architecture and *PowerOrders,* which requires separate licensure, *PowerPlan* provides a centralized location for each member of the care delivery team to manage the plan of care. The solution is used to initiate orders for all departments and direct care providers, specifying in detail to all caregivers what is expected of each of them for every patient assignment.

PowerPlan supports diagnosis-based, as well as the NANDA, methodology for nursing and multidisciplinary care planning. Problem/clinical diagnosis-based plan suggestions provide appropriate plan options based on documented problems.

Within the plan, the ability to include expected outcomes and interventions provides further flexibility to individualize the plan to meet patient-specific needs.

Centralized outcome activity review and documentation enables the members of the care team to view patient progression against all expected outcomes defined in the plan as well as capture variance documentation. Access to rationale and supporting evidence is available to the clinician throughout plan management.

Links to third party nursing content as well as locally defined best practice can be associated with any component within the plan of care.

PowerPlan (CA-20344) leverages Cerner's reporting functionality, embedded in the majority of Cerner's major offerings, to provide customized plan and management reporting.

PowerPlan can be licensed facility-wide for all licensed inpatient facilities via licensure of *PowerPlan* CA-20344. Alternatively, *PowerPlan* can be licensed for use in a single department, such as the emergency department or critical care area via licensure of *Departmental PowerPlan* (ER-22344 or IC-22344 respectively).

Client Benefits

- Diagnosis or problem-driven plan selection provides the ability to promote appropriate, optimal and evidence-based best clinical practice. .

- Improved compliance and outcomes can be achieved. Managers and caregivers can analyze and understand the causes of variation, and implement the necessary changes to eliminate it.

♦ PowerPlan supports evidence-based nursing practice by providing links to supporting content at the point of entry and throughout plan management.

♦ Length of stay can be reduced and the timeliness of care delivery improved through the formulation and timely adjustment of plans of care and real-time updates to all care team members.

♦ Care team coordination is optimized as the all members of the team utilized a centralized set of information and expectations.

Major Features

♦ Time zero functionality provides the ability to anchor an order to a time zero component. Additional orders are then offset from the anchor at defined time intervals. When a clinician changes the anchor order time, the related orders will sequence as ordered.

♦ A *PowerPlan* accommodates multi-phase plans of care, allowing clinicians to manage groups of orders over time and encounters as well as concurrently (for example: pain, mobility, and infection) to meet the changing needs of the patient.

♦ PowerPlan offers a flexible structure to support various planning methodologies and content.

♦ Plans may be defined to address medical diagnoses, problems, as well as surgical and other procedures.

♦ Reference text and evidence may be defined at the plan level with hyperlinks to external and internal reference databases supporting the viewing of evidence, policies, and procedures, *Executable Knowledge*® (which requires separate licensure) enables embedding knowledge, evidence and best

practices from a variety of industry-leading sources.

♦ *PowerPlan* leverages *Discern Expert* (which requires separate licensure) rules to enable clinician alerts related to the pre-defined plans of care.

♦ Interdisciplinary plans of care are constructed via a simple build tool. These plans are defined for nursing care, physician care, and for care delivered by an interdisciplinary team.

♦ Discharge plan goals allow the clinician the ability to identify and record goals within the plan of care, defining expectations for patient progression. The clinician then is able to track progress toward discharge by monitoring goals.

♦ Outcome activity displayed with *PowerPlan* provides the status of activity across all active plans indicating the patient's progression. Evaluation performed by the system provides visual cues about the patient's progress within the plan.

♦ Outcome variance tracking allows the clinician to record the reasons identified for patient variance from the expected path, as well as actions taken to address the variance. These reasons and actions can be reviewed for trends, enhancing ongoing quality improvement planning.

♦ *PowerPlan* plans of care can be merged with existing orders to facilitate simultaneous viewing of orders while constructing new plans.

♦ Personal single phase plans of care can be created based on personal treatment preferences. These plans may be saved and reused across patients.

♦ Modifying an order set or plan of care prior to a patient's actual visit is supported. The

clinician may make changes to a standard group of orders and save changes to individualize patient care prior to placing the orders into an active status. The changes are initiated upon patient arrival.

♦ *PowerPlan* components can be managed as a group for efficient rescheduling and discontinuation.

♦ Any number of plans may be associated with a single patient.

♦ PAL & Task lists are populated from *PowerPlan* for single and multiple disciplines.

♦ Drop Down Plan Order Sentences allow clinicians to choose order sentences and to quickly select order details.

"Net" Affiliations

Cerner CareNet, FirstNet, and Critical Care.

Documentation is a by-product of orders being placed from a pathway. PowerChart's *Care Documentation* (PS-22719) is the foundation for charting and is available to all care providers. For the Emergency Department, documentation forms and flowsheets are available via *Emergency Department Care Management* (ER-20280). *PowerPlan* may utilize these same documentation forms and flowsheets to gather data on patients.

Laboratory, radiology and pharmacy orders placed within *PowerPlan* are available within *PathNet*, *RadNet*, and *PharmNet,* respectively.

When used with *PowerInsight*, plan analysis, trending, and management reporting may be performed utilizing information captured through *PowerPlan*.

Special Licensing Considerations

This solution is priced as a license.

Software Prerequisites

Care Documentation (PS-22719) and *PowerOrders* (PS-20576) are required.

For FirstNet, *Emergency Department Care Management* (ER-20280) is required. For the critical care area, either (*INet MD* IC-22344 or *PowerOrders* PS-20576, or *Care Documentation* (PS-22719) or INet (IC-20389) is required,

Availability

Cerner Millennium Production Release 2004.01.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information on the technical environment.

System Resource Considerations

The CPU processing cycle capacity required for *PowerPlan* is determined by the organization's volume, retention, and reliability.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Providing Access to Clinical Data
Cerner's 724Access Downtime Solution

Cerner's *724Access* solution provides 7x24 historical access to all clinical data currently available in the *Cerner Millennium*® production database when the *Cerner Millennium* system or supporting infrastructure is otherwise unavailable yet the network is still functioning. The solution also provides 7x24 access to a more limited subset of clinical data for cases when the network is unavailable. *724Access* provides access to clinical data that is typically less than one minute behind production for both planned and unplanned outages.

Solution at a Glance

Cerner's *724Access* solution allows:

- Access to data when the system is otherwise unavailable, thereby minimizing workflow disruptions for clinicians

Backend Prod Millennium Environment Unavailable, Network Available (Level 1 Outage)

For cases where the system is unavailable but the network is still functional, the *724Access* solution minimizes workflow disruptions to your clinicians by using the same application suite that is normally used by the client during everyday use of *Cerner Millennium*.

724Access can be used for a variety of Millennium applications for this scenario, including the following application solutions:

- PowerChart®
- PowerChart Office
- PathNet®
- Enterprise Scheduling Management (ESM)
- MAR and I&O tabs
- Med Admin/Order Management
- Power Plans/Order Management
- ProFit®
- Surgical PowerChart
- PDM
- SurgiNet®
- PharmNet®
- RadNet®
- FirstNet®

Key Benefits

- Provides consistent data replication of the patient data and the back-end Cerner server software to a separate location
- Provides access to all clinical data during any planned or unplanned event
- Use the same application suites to access *724Access* data

Network is not Available (Level Outage 2)

The *724Access* solution minimizes workflow disruptions for clinicians for various types of outages, including a network outage, Citrix Farm, or other critical core components.

Cerner's *724Access* solution can be used to maintain access to all data typically available in *PowerChart* (with the exception BloodBank). *724Access* works with a variety of applications during this scenario, including:

- Lab Results
- Patient Care Results
- Med Orders

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- Orders
- Vital Signs
- Radiology Documents
- Progress Note Documents
- Other Documents
- Scheduled Appointments
- Intake and Output
- Basic Demographics
- Time Range (How far back data is retrieved, a maximum of 30 days)

724Access can be a critical component to your Business Continuity Plan. Patient care and safety are enhanced during system downtimes by minimizing information and workflow disruption.

Flexible, Cost Effective Solution

With Cerner's *724Access* solution, there are only a few hardware requirements. First, two mid-tier servers are required to support the local data store. Second, the *724Access* solution requires storage and a minimal backend hardware footprint for a copy of the production environment on separate hardware. It does not require the same backend hardware footprint necessary for a production environment. Typically, clients that have implemented *724Access* have used the solution on development hardware.

For either planned or unplanned Level 1 outages, the existing production Citrix farm can be used by pointing servers from the production Citrix farm to the *724Access* solution. With Cerner's *724Access* solution, little ongoing maintenance of the solution is required. *724Access* has automated procedures for replicating all patient data in nearly real-time

to the appropriate location. It also has built-in comprehensive monitoring to ensure the replication of the patient data and software. If problems are encountered with the replication, appropriate notifications will be sent to designated resources.

Secure Access to Patient Information

The *724Access* solution is designed to protect confidential patient information from unauthorized access. In the case of a Level 1 outage, clinicians use their normal *Cerner Millennium* credentials to sign into the system. In the case of a Level 2 outage, they use a specific username/password created for *724Access*. Users do not know this password until a downtime is declared. In either case, all patient access data is tracked.

Why Cerner?

Cerner is here to provide secure, customized solutions that keep you connected to your patients and clinical staff. You can depend on Cerner to increase your clinical and operational performance through our advanced technology solutions that streamline communications, while increasing access to information and improving the overall quality of delivered patient care.

Information

For more information on this solution for your organization, contact the Cerner Client Care Team at (866) 221-8877, option 1, or by email at ClientCareTeam@cerner.com.

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General Availability

CapStone

⊙ CERNER

Enterprise Master Person Index

Description

Enterprise Master Person Index is a facility-wide CapStone offering that enables storage and maintenance of person data, including demographic, relationship, guarantor, employer, and insurance information. *Enterprise Master Person Index* facilitates the integrity of a single person record. *Enterprise Master Person Index* enables the end-user to find the right person at the right time. Additionally, the *Enterprise Master Person Index* provides a solution to identify and eliminate as many duplicate person records as possible.

The *Enterprise Master Person Index* is the foundation of the person-centric *Cerner Millennium* architecture. The breadth and depth of the *Cerner Millennium* data model provides the ability to capture and store a comprehensive set of demographics about a person. The architecture maintains and manages all person identifiers (medical record, community, facility, and national) especially during combine or merging activities and interfacing to non *Cerner Millennium* systems. Key master file identifiers such as physician, insurance carrier and plan alias also are maintained.

Enterprise Master Person Index supports a weighted person search. The advanced search algorithm includes the ability to perform inexact matching of the data provided from the *Cerner Millennium* common person search through all *Cerner Millennium* applications, from a non *Cerner Millennium* system through Millennium Objects,

passively through the inbound ADT interface match and reconcile processes, and is used for doing batch duplicate analysis of person records. Errors such as misspellings, complex transpositions, name swapping, extra characters, and missing characters are all taken into consideration when searching for the persons and determining the weighted value of the record. Thresholds for reconciliation of records or posting to the manual queue can be set by contributor system or a general default.

Foreign systems can query the Millennium Repository through the use of the Millennium Objects. A weighted person list can be displayed via several methods for the user to choose a person. A comprehensive list of relationships and demographics also may be queried and used within the foreign registration workflow.

User-configurable routines provide the basis for the reconciliation logic by which *Enterprise Master Person Index* automatically combines or updates demographic data. Match criteria can include key demographic fields such as name, social security number, gender, and date of birth. The routines are configurable by contributing system. This information can originate from numerous sources and is maintained in an easily accessible, standardized format.

The reconciliation of data from external sources into a single person record requires logic to accommodate identifiers that vary based upon the system from which they originate. Unique identifiers, such as medical record numbers, and common identifiers, such as name, social security

number, date of birth, and gender, aid in assuring that a facility identifier can safely be assigned.

Enterprise Master Person Index supports a facility-wide relational repository for foreign system person data, optionally in conjunction with person data from Cerner's *Registration Management* (CP-20735) within CapStone, Ambulatory *Support Office* (PV-20240) within PowerChart Office, and so on.

Enterprise Master Person Index is very effective when acting in unison with Cerner's comprehensive *Cerner Millennium* solutions. In achieving integration, the pitfalls of information lag and redundancy prevalent in disparate electronic and paper-based systems are avoided. It also is an effective solution as a stand-alone EMPI repository, employing the depth and breadth of the *Cerner Millennium* data model.

Client Benefits

♦ *Enterprise Master Person Index* is a person-centric repository that enables population or community profiles to populate the database prior to the delivery of care, thus providing the health facility with a current and comprehensive demographic profile of its service market.

♦ Advanced reconciliation and storage techniques enable *Enterprise Master Person Index* to store an unlimited number of identifiers, making it HIPAA (Health Insurance Portability and Accountability Act)-ready, regardless of the final decisions reached related to unique national identifiers.

♦ Current demographic, relationship, guarantor, employer, and insurance information shared throughout the health facility expedites registration and scheduling processes and greatly improves patient and staff satisfaction levels, since patients are not forced to repeat

their information at the various sites within the health enterprise.

♦ Community profiles give the health facility the knowledge to begin planning employer- and community-based outreach programs to target specific health populations within the community.

♦ *Enterprise Master Person Index* can receive demographic, relationship, guarantor, employer, and insurance information from the various systems to which it is interfaced and can send updates to these systems when applicable, with licensing of the appropriate interface(s). Therefore, all registration systems can keep their information current and in sync with one another using the logic in *Enterprise Master Person Index*.

♦ Because *Enterprise Master Person Index* acts primarily in the background, reconciling the various demographic records, costs are minimized as *Enterprise Master Person Index* preserves the health facility's current investment in existing legacy systems and reduces training and support costs for the end users of these systems.

♦ As a health facility begins to integrate its various facilities and systems, *Enterprise Master Person Index* is a fundamental cornerstone in proving the benefits of integration at the person level, propelling the facility's integration efforts forward.

♦ *ADTs/Demographics Outgoing* (IF-29220) interfaces to "interested" third-party systems can broadcast a facility-wide person identifier number to enable these systems to identify multiple encounters for the same person. For example, merging health organizations may need to identify all encounters for these persons within certain time frames to create a common bill. This broadcast ability both increases patient satisfaction and enables the

health facility to meet third-party billing requirements, such as Medicare rules.

♦ Based on the ownership and alliances within the health facility, *Enterprise Master Person Index* is an effective tool for integrating person/patient identification across the facility and beyond, regardless of the registration environments within each facility. Given proper authorization, community providers that refer their patients to the health facility can populate *Enterprise Master Person Index* and expedite the registration process for subsequent visits to the health facility.

Major Features

♦ Unique identification of persons across a facility is provided, regardless of the number and type of legacy registration systems contributing to the database.

♦ Demographic, relationship, guarantor, employer, and insurance data generated by Cerner and non-Cerner information systems is stored.

♦ Updates and modifications to existing data are received, with licensing of the appropriate interfaces.

♦ Active integration options, such as terminal emulation and embedded objects, are included that enable current data from *Enterprise Master Person Index* to be pulled directly into a third-party application, thus greatly reducing data entry errors and expediting the data entry process.

♦ *Enterprise Master Person Index* uses client-defined deterministic (match) and weighted (suggest) algorithms within person lookup and person combine tools to quickly and efficiently define and combine person records.

♦ An online potential-match workqueue facilitates manual merging of records that did not meet the auto-combine criteria.

♦ User-customizable potential-match reports and combine reports can be run on demand or at specified intervals within operations.

♦ Indexes to document images generated by a third-party document imaging system are stored, with licensing of appropriate interfaces as needed.

♦ The storage and indexing of an unlimited number of identifiers are supported.

♦ *Enterprise Master Person Index* features fully coded data, with complete audit trails of users and data accessed.

♦ Open interface specifications are supported.

♦ Site-configurable reconciliation rules and matching thresholds are employed.

♦ Accurate, automated indexing of patient demographic information based on the EMPI is provided.

♦ Result and document authentication control is ensured.

♦ Adaptive interfaces are supported.

♦ A multi-tiered client/server architecture is used.

♦ *Enterprise Master Person Index* employs an Oracle relational database.

♦ Structured query language (SQL) reporting tools are supported.

♦ Integration with *Cerner's Millennium* applications is provided.

♦ A platform is provided for long-term data archiving.

♦ Person/patient data-level security is included.

♦ A variety of access methodologies are supported, including direct HL7, Internet, and query interfaces, through foreign ADT systems, magnetic swipe cards, and biometrics systems.

♦ Reconciliation exception logic is supported, which enables flagging of "dummy" registration data such as Jane and John Does.

♦ In addition to the features inherent within *Enterprise Master Person Index, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Supported Interfaces

Unidirectional, bidirectional, and/or solicit interfaces are required with non-Cerner registration systems and feeds. Cerner's *Open Engine* (OE-20850) or an equivalent foreign interface engine is suggested for the non-Cerner data interfaces.

The interfaces to *Enterprise Master Person Index* are "open." That is, any supplier can exchange transactions with *Enterprise Master Person Index* as long as the supplier complies with defined interface requirements, including HL7-compliant systems. Custom interfaces can be developed by Cerner for an additional service fee.

Cerner Millennium Integration Benefits

Benefits of using *Enterprise Master Person Index* in a Cerner *Millennium* environment include the following:

♦ The weighted (suggest) search logic available when *Enterprise Master Person Index* is used with additional *Cerner Millennium* systems enhances the ability to locate the right person in the database via the common person search. It provides a list of potential persons along with a weighted probability score when the user does not enter a key field, such as medical record number. For example, if the user searches for Robert Reynolds, born on 5/10/65, but the patient is in the database as Bob Reynolds, born on 5/10/56, the search returns Bob Smith along with a weighted score. This reduces the number of duplicate persons added to the database and maintains the longitudinal medical record for Robert Smith.

♦ After implementing *Cerner Millennium* systems and uploading person data into the database, potential duplicate records that were not detected by the deterministic match and reconcile parameters can be identified through the use of a batch reconciliation script. The batch script compares person to person using probabilistic logic and creates a list of potential duplicates plus a weighted score signifying how close each set of duplicates is to being the same person. This score is viewable in the tools used when combining person rows.

Availability

Cerner Millennium, Revision HNAM.2000.01

Special Licensing Considerations

This solution is licensed in combination with the appropriate foreign system interface solutions.

Software Prerequisites

ADTs/Demographics Incoming (IF-29010) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

Enterprise Master Person Index employs a multitiered architecture involving a user display and interface layer (which can be both Microsoft Windows- and Web-based), an application logic and database access layer, and a database file system layer. This open architecture supports distributed workload across thousands of PCs, which is appropriate for systemwide usage and much more extensive than the several hundred PCs supported by the common two-tiered architecture.

The CPU, memory, and disk requirements for *Enterprise Master Person Index* are measured in terms of the number of MPI records, the number of interactive users, and the number of interfaced systems.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution:

Registration Management (CP-20735), *Scheduling Management* (CP-20740), *Eligibility Management* (CP-20751) or *Benefits Management* (CP-20752), and *Open Engine* (OE-20850).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Enterprise Data Warehouse

Description

The *PowerInsight Enterprise Data Warehouse* is revolutionizing the way people perform business analysis and make strategic decisions. Remaining competitive depends on centralizing strategic information from various sources, streamlining data access, and facilitating analysis of the information by business units. This structured, enterprise-wide data warehouse combines clinical, management operational and financial data to facilitate strategic decision making, and enables executives/managers to review data from different business viewpoints. Management information in the warehouse consists of process-related data derived from the clinical, operational and financial systems from the Cerner target source, *Cerner Millennium*. Financial information also includes transactions from external General Ledger and Cost Accounting systems. The *PowerInsight Enterprise Data Warehouse* allows a facility to integrate data from multiple source systems into a single reporting and data analysis warehouse. In this way, the *PowerInsight Enterprise Data Warehouse* supports management decision-making regarding the quality of care, clinical practice, strategic profitability, productivity of services, and resources.

The following are examples of the detailed data contained within the *PowerInsight Enterprise Data Warehouse*.

Clinical - The clinical team can measure and manage clinical and service level information. Examples of data analysis includes monitoring of ADT functions, LOS calculations, laboratory data, patient problems, alerts, surgery data, emergency department information, pharmacy details, medication administration data, readmission rates, registration and scheduling information, orders, clinical events, and monitoring a wealth of clinical details captured at the point-of-care. The end user can create reports of clinical guideline compliance as well as the timely action of clinical events, sorted across various dimensions chosen by the user. This type of analysis provides data such as the duration of a specific event and length of time elapsed between events.

Operational - The healthcare user can track the utilization of resources in various ways, such as by patient type, physician, payor, and DRG. Financial, patient, hospital resource utilization and scheduling data are assembled in the same database as clinical activity. The end user can create reports of resource utilization guideline compliance as well as the timely action of clinical events, sorted across various dimensions chosen by the user. This type of analysis provides data such as the duration of a specific event and the length of time elapsed between events. This type of analysis provides data such as the capture of scheduling actions as Cancel, No Show, Edit or moving appointments, Also, slot or resource allocation as open slots, highest volumes, equipment utilization, and personnel productivity. Operational information can be used to identify inappropriate use of tests, based on repeat normal results.

Financial - Financial information enables healthcare users to focus on the strategic positioning of the organization. General Ledger and cost data are captured in the same database as clinical activity. Financial information enables the

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healthcare user to view both the current, as well as the historic key services provided by the organization. The patient population utilizing these services can be viewed by categories such as age, DRG, zip code, payor and charges. Service utilization can be tracked in several ways, such as by top DRGs by volume and revenue, and by usage within individual departments and service lines. Through these reports, the executive can track trends and proactively conduct market planning. Third party general ledger data can be included to construct financial ratios and other analytical indicators, which are used to assess the organizations financial position against strategic planning targets.

Client Benefits

Lower operational costs for management systems by consolidating data from disparate systems and eliminating staffing and maintenance costs.

Easy to use and conducive to long interactive sessions by users. Supports read-intensive data usage.

Ability to analyze operations across multiple facilities by centralizing the data storage into an enterprise-wide warehouse that supports the comparisons with corporate benchmarks.

Improved patient care patterns by supporting the analysis of encounters and episodes of care that cross multiple facilities.

Organizational changes can quickly be made based on timely clinical, operational and financial trend analysis.

Data can be made securely available to authorized users with access to the network, including via the internet.

Efficiency based upon timely action by clinical staff can be measured.

Admissions, Discharges and Transfers can be analyzed to determine how efficiently patient flows occur across an organization.

Variations between current and targeted performance can be identified.

Major Features

Web-based reporting screens.

The Data Warehouse is hosted on its own hardware and its own database instance, thereby reducing reporting and analysis impact to the transactional systems.

Incorporates open interface specifications built into the Enterprise Data Warehouse which consolidates data from potentially both internal and external applications into a single data warehouse.

Analysis and reporting against the data marts is provided via the *PowerInsight* decision support family of solutions, which are powered by the market leading business intelligence tool, Business Objects.

Queries are run on a near real-time basis (Every 24 Hours).

Easy-to-use, yet sophisticated, graphic user interface.

Business calculations are pre-defined. Additional calculations can be user-defined.

Menu-driven report templates are supplied for organizational filtering.

Cerner Millennium Benefits

Benefits of using the *Enterprise Data Warehouse* in a *Cerner Millennium* environment include the following:

Built in data extraction routines for pulling data out of *Cerner Millennium*.

Synchronization of common data dimensions, built in extraction routines allows access to the order catalog.

Usage of the *Enterprise Data Warehouse* reduces the performance overhead of executing complex and time-consuming analysis reporting impact on *Millennium* production system, resulting in fewer reporting restrictions.

Special Licensing Considerations

The Enterprise Data Warehouse will reside on a dedicated IBM AIX server platform running Oracle 10g. Additional presentation Windows NT servers run Business Objects and Websphere for analytical reporting.

This application can be licensed to interact with an institution's set of information systems as sources to the warehouse. These sources can include Cerner and non-Cerner clinical systems, as well as financial and accounting systems and third-party databases. When non-Cerner systems are involved, the appropriate data extraction applications are the responsibility of the client. These data extraction applications must adhere to the data definition specification of the Data Acquisition Architecture.

Technical Environment Requirements

Refer to the Understanding *Cerner Millennium* Technical and Support Requirements document for information about the technical environment.

System Resource Considerations

In order for a client to gain the full benefit of the *PowerInsight Enterprise Data Warehouse* solution it should be installed on its own hardware configuration. One of the benefits of this approach is the reduction of reporting and analysis system overhead created on transaction systems. To this end the *PowerInsight Enterprise Data Warehouse* is

designed to require a minimum extraction footprint within the transaction systems.

Related Solutions

The following Cerner software Solutions significantly extend the functionality of the solution: Regulatory Reporting: NHQM (AMI, SCIP, HF and Pneumonia) PI-20646, and Expanded Use Upgrade PI-20654.

If *PowerInsight* Explorer will be implemented with *PowerInsight Enterprise Data Warehouse*, the *PowerInsight* Explorer solution definition PI- 20610 needs to be reviewed.

A standby or standby equivalent database is recommended to perform the nightly extract against, thus eliminating any performance considerations from the Millennium production system.

Support Considerations

Given the nightly loading of data into the *PowerInsight Enterprise Data Warehouse* from *Cerner Millennium* and non-Cerner application systems, this solution does come with some unique support considerations. First, the extract issues can arise from multiple source systems for which clients must have source system expertise available to troubleshoot the creation of the source system extract files. Secondly, the loading, enhancement, and transformation of the extracted data takes place via a series of trigger-timed operations jobs that typically run during the 11 P.M. to 7 A.M. shift. Any failures occurring during the execution of these jobs will require resource availability to conduct tier 1 issue triage.

Communication Materials

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General Availability

PharmNet

Outpatient Pharmacy

Description

Outpatient Pharmacy is a major PharmNet offering designed to automate the prescription order management process in the retail pharmacy setting. This solution's unique features provide the necessary prescription and clinical information for efficient order entry, refill, and dispensing processes. *Outpatient Pharmacy* supports drug-allergy, drug-drug, and drug-food interaction checking, as well as dose range management. Other features include online claims processing, support for dispensing device interfaces (with appropriate licenses), compound drug support, and reporting capabilities. When *Outpatient Pharmacy* is combined with *Inpatient Pharmacy* (PH-20160), the integrated medication profile provides a single view for both inpatient and retail medication orders.

With licensure of *Registration Management* (CP-20735) within CapStone or an optional foreign system interface, ADT (admission, transfer, and discharge) and patient demographic information is automatically transmitted to *Outpatient Pharmacy,* eliminating duplicate patient registration.

Outpatient Pharmacy fully supports the following activities in the pharmacy:

- *Patient registration*
- *Pharmacy order entry*
- *Dose Range Management*
- *Batch refill and return-to-stock processing*
- *Patient information leaflets*
- *Online claims processing*
- *Compound drug support*

- *Prescription tracking*
- *Clinical management and drug utilization review*
- *Downtime processing*
- *Retail pharmacy reporting*
- *Database tools*
- *HL7-Compliant interfaces (supporting solution)*
- *Foundations*

Client Benefits

- Automates the order entry, dispensing, and refill processes in the retail setting, streamlining workflow

- Enhances the overall financial management of the retail pharmacy, improving cash flow

- Integrates with other Cerner solutions to enable review of medication use across the continuum of care, improving patient safety and quality of care

Major Features

- *Patient Registration* is a feature of Cerner's *Foundations,* which is embedded as the underlying foundation of every major software offering that Cerner develops. It provides the ability to enter demographic, financial, insurance, and clinical information for a specific patient within *Pharmacy Order Entry.* As changes are made either manually or through a foreign system ADT interface, the *Patient Registration* component ensures that users have access to the most current patient demographic information.

♦ *Pharmacy Order Entry* provides the user with several options for selecting medications, such as by brand name, generic name, solution identification number (such as NDC), or mnemonic. *Pharmacy Order Entry* supports the selection of therapeutic alternatives and generic substitutions. During order entry, pharmacy personnel have direct access to patient registration information and can easily access and update patient demographics and insurance, employer, and prescriber information. Prescription details and financial information entered by default during the order conversation streamline the processing of prescription orders. Patient profile actions can be performed during order entry and include refill, cancel, copy, modify, discontinue, inquire, request history, request label, void, and transfer. *Pharmacy Order Entry* provides the ability to enter pharmacy products into the database and supports the entry of investigational drugs and nonprescription (that is, over the counter or OTC) items, as well as the processing of compound medication prescriptions. Interaction checking, drug utilization review, and other clinical interventions are fully supported throughout the order entry conversation. Pricing and third-party claims adjudication occurs automatically upon processing of prescriptions. The system provides for the generation of labels, receipts, and counseling information.

♦ A *Dose Range Management* component establishes minimum and maximum dose checking guidelines for the safe administration of medication, so that medication orders can be screened for the minimum and maximum values of specific drugs based upon age ranges, routes of administration, single, daily and therapy doses, and other patient-specific modifiers including renal status and lifetime therapy limits on specific drugs.

♦ *Batch Refill and Return-To-Stock Processing* is used for efficient refill and return processing of multiple prescriptions in a batch mode. The batch refill and return function can be performed using bar-code technology. The system enables users to monitor, modify, review, or add adjudication information to prescription orders. To help assess patient medication compliance, refill checks are performed, such as early/late and extra refill notification and prescription expiration.

♦ *Patient Information Leaflets* can be viewed online, and they print automatically with all new prescriptions. *Patient Information Leaflets* can be printed on demand if needed. Depending upon the language of the patient, these leaflets can be printed in English or Spanish. Cerner Multum, a wholly owned subsidiary of Cerner Corporation, provides the embedded content for the leaflets.

♦ *Online Claims Processing* is used to perform submission, editing, queueing, and monitoring of third-party prescription claims. The adjudication function also supports resubmission and reversal of claims and provides the ability to send denial overrides and prior authorizations. Pre-adjudication checks can be performed, such as limits on dispense quantity, days supply, price, and OTC medications, which decreases prescription claim submission time and expenses.

♦ *Compound Drug Support* is provided within *Outpatient Pharmacy.* Users can predefine commonly dispensed compound prescriptions in the database or build compounds during pharmacy order entry. *Compound Drug Support* is designed to enable users to adjudicate compound prescription claims via online claims processing to third-party prescription plans.

♦ *Prescription Tracking* provides the ability to track the movement of prescriptions throughout the pharmacy dispensing process. *Prescription Tracking* captures the user, date, and time for certain events in the processing of prescriptions. By capturing this information, workload analysis can be performed. Events such as filling, checking, dispensing, packaging, shipping, delivery, and counseling can be tracked for each prescription and can be defined by the user. This enables users to tailor events specific to the prescription dispensing process for the pharmacy.

♦ *Clinical Management and Drug Utilization Review* is provided for clinical analysis. Users can quickly and easily view the patient's clinical summary and add/edit demographic, allergy, and problem information. Additionally, users can view current prescription interactions, a summary of clinical results, and a patient's medication profile, as well as monitor lab values. *Clinical Management and Drug Utilization Review* supports documentation of clinical conflict/interaction, intervention, and outcome information, which can then be tracked by the system. With the addition of *Discern Expert* (PH-26105), Cerner's clinical decision support system, rules and alerts can be written to notify users in real time as prescription use problems arise.

♦ *Downtime Processing* enables the processing and dispensing of prescriptions when the system has experienced an interruption. The downtime process enables users to remain operational until the system responds. This process can be activated or deactivated automatically or via user interaction.

♦ *Retail Pharmacy Reporting* is used to print various reports for clinical and management usage. Reports can be generated by location, patient name, health plan, payment method, dispense category, user, or physician. Also, these reports can be set up in operations to be run automatically by the system. *Retail Pharmacy Reporting* has the flexibility to run single-transaction or multi-facility reports.

♦ *Database Tools* provide the backbone of information for *Outpatient Pharmacy* and are used to build the reference tables for this solution. The tools have the flexibility to be customized with site-specific information.

♦ *HL7-Compliant Interfaces* to all major suppliers that support HL7-compliant standards are optionally available for licensing. For example, *Outpatient Pharmacy* can be interfaced to patient registration and billing systems, as well as automated dispensing devices used in the retail setting.

♦ In addition to the features inherent within PharmNet*, Foundations* functionality is also included. *Foundations* refers to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks. *Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components (Technical Environment Management, Security Management, User Management,* and so on), *Functional Components* (for example, *Person Management, Order Management,* and *Result Processing),* and *Operational Components (Operation/System Management, System Integration,* and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *Outpatient Pharmacy* in Cerner Millennium's environment include the following:

♦ With *Care Documentation* (PS-22719) and *PowerOrders* (PS-20576) within PowerChart or *Clinical Office With PowerNote* (PV-20230) within PowerChart Office, the medication process is truly a closed loop, since providers can process prescription orders online and transmit them to *Outpatient Pharmacy.* When *Inpatient Pharmacy* is added, practitioners throughout the healthcare facility have online access to an integrated patient medication history for both the inpatient and retail setting.

♦ With the *General Laboratory* (PA-20070) offering within PathNet, patient-specific physiologic calculations and actual results are available in *Outpatient Pharmacy.* Laboratory results from *General Laboratory* can be monitored based on the patient's medication therapy.

♦ With the PathNet *Microbiology* (PA-20075) offering installed, the online antibiogram feature within PharmNet provides pharmacists with information about the susceptibility patterns of microorganisms to antibiotics based on the site of infection.

Availability

Cerner Millennium 2000, version 2000.01

Software Prerequisites

One of the following is required: *MediSource Foundation (Retail/Clinic)* (PH-22160), *MediSource Foundation By Net, Per Facility* (KS-22005), *MediSource Foundation Facility-wide)* (KS-22004), *MediSource Patient Specific* (KS-22001) or *Knowledge Catalog* (KS-26801, KS-28802, or KS-26803).

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Inpatient Pharmacy* (PH-20160), *PowerOrders* (PS-20576), *Registration Management* (CP-20735), *Care Documentation* (PS-22719), *Clinical Documentation Management (ClinDoc)* (PH-22275), *Departmental Clinical Supply Chain for PharmNet* (PH-25201), *Discern Expert* (PH-26105), *Discern Explorer* (PH-26140), *General Laboratory* (PA-20070), *Microbiology* (PA-20075), *Clinical Office With PowerNote* (PV-20230), and *Billing & Accounts Receivable* (PF-20450).

Communication Materials

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General Availability

Point of Care

CERNER®

Point of Care Medication Administration

Description

Point of Care Medication Administration is a Cerner Millennium™ offering that supports the use of bar-coding technology to ensure safe administration of medications at the bedside.

Point of Care Medication Administration automates the documentation of medication administration and documentation of tasks related to specific physician/nursing orders at the point of care (POC). This solution set provides notification to the clinician when inconsistencies occur that could represent potential medication administration errors. The solution brings the power of Cerner's Millennium architecture to the point of care, without reliance on HL7 interfaces.

Cerner's Point of Care solutions facilitate patient safety through barcode verification of the "Five Rights" data review and collection, as well as medical devices integration at the patient bedside.

The solution offers two deployment options – either via mobile carts leveraging tethered barcode scanners (C*areAdmin*) or through the use of handheld devices (*CareMobile)*. By combining both deployment offerings in a single offering, Cerner provides clients with the ability mix and match depending on their organization's workflow requirements. It will be noted later in this document that technical and scope requirements will differ depending on the actual method chosen for implementation.

Client Benefits

- Provides full medication administration capabilities associated with the additional licensure of the electronic medication administration record (eMAR)

- Promotes improved patient care in terms of quality, accuracy, and safety (decrease human errors in the care process), facilitating improved outcomes

  - Automates the Positive Patient Identification (PPID) process

  - Automates "Five Rights" verification through use of barcode technology:

    - Right Patient
    - Right Medication
    - Right Dose
    - Right Route
    - Right Time

- Enables the capture of pharmacy charges upon medication administration:

  - Provides greater accuracy for medication administration and charges

  - Captures charges at the point of care, thereby improving cash flow and accelerating the claims process

  - Promotes efficiency and timesaving by eliminating manual activities associated with the billing process (credits)

- Provides legal documentation for medication administration and other patient care tasks

- Facilitates compliance with JCAHO standards for patient identification

- Eliminates illegible notation

- Promotes streamlined operations and workflow by providing consistent control and standardization of documentation

- Incorporates collection and documentation at the bedside, as part of normal workflow and a by-product of the care process

Major Features

Major features include:

♦ Full medication administration documentation functionality

♦ Provides flexible task list related medication administration and vital signs collection

♦ Enhanced patient safety, via automating the process of verifying the "Five Rights" through barcode technology

♦ Audit reporting

♦ Seamless, real-time sharing of data across all domains, including patient demographics and allergies

♦ Provides flexible patient lookup options (such as name/FIN/MRN/Location)

♦ Clients can choose to deploy via either mobile carts with tethered barcode-scanning device or handheld devices with an integrated barcode scanning device

♦ Incorporates a full-screen view of tasks associated with care process

♦ The ability to ad-hoc order medications in an emergent situation

♦ When deploying *CareMobile* and with the additional licensure of *CareAware MDBus for CareMobile,* nurses can auto program IV pumps to ensure proper setting as part of the "five rights" verification

Cerner Millennium™ Integration Benefits

Benefits of using Point of Care solutions in a Cerner Millennium environment include the following:

♦ Promotes patient safety through the real-time, seamless sharing of data, which provides a complete, accurate, and consistent view of the patient

♦ Provides streamlined workflow throughout the medication administration process by incorporating documentation at the point of care

♦ Single file structure/common architecture eliminates duplication of build and maintenance effort associated with:

   o Formulary

   o Allergies

   o Clinical Events

With the *MillenniumMobile* Framework serving as the platform for the *CareMobile* solution, the infrastructure for the incorporation of additional mobile applications is established when deployed via handheld devices.

Availability

Point of Care Medication Administration was first generally available with Cerner Millennium Production Release 2004.01.

Special Licensing Considerations

Point of Care Medication Administration is sold as a license.

When choosing to deploy via handheld devices, Millennium Mobile is also required. It requires separate licensure through Cerner Technologies and serves as the platform for *CareMobile*.

Software Prerequisites

Electronic Medication Administration Record (MAR) (PS-22732) and Inpatient *Pharmacy* (PH-20160).

Technical Environment Requirements

It is required that clients include a "Point of Care/Meds Administration Assessment" as part of their deployment strategy when implementing the *CareMobile* solution.

If deploying *CareMobile,* a Radio Frequency (RF) network must be installed at the client's facility. Clients will also be required to purchase additional technology infrastructure licenses including IBM WebSphere and *MillenniumMobile* Framework licenses.

System Resource Considerations

Based upon the findings of the "Point-of-Care/Meds Administration Assessment," clients can determine a deployment that best meets their mode of practice. *CareAdmin* would require the purchase and incorporation of mobile carts, while

CareMobile and *Care Aware* solutions require the use of handheld devices.

Related Solutions

The following Cerner software solution(s) significantly extends the functionality of the *CareMobile* solution: *CareAware MDBus for CareMobile.*

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

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Provide a positive patient experience
Cerner RadNet RIS

Cerner RadNet® Radiology Information System (RIS) provides you with the tools to work more efficiently while providing patients with a positive personal experience and delivering superior care.

Advanced technology and access to vital clinical information enables radiology practitioners to do more than automate basic radiology processes. They can deliver more effective, more personal care—all while expanding and optimizing your business.

RadNet RIS helps you streamline departmental operations—from registration and order entry, through worklist management and image interpretation, to image and result distribution and business analysis. When you need such critical data as allergies, lab values or current medications, radiology clinicians can access it quickly. *RadNet* also allows your department to perform exam coding and procedural documentation more efficiently, as well as streamline documentation. With only a few key strokes, you can optimize revenue and profitability.

Heighten safety and efficiency

When your department uses *RadNet*, you can establish and maintain peak levels of safety, convenience and efficiency. A more ordered, more streamlined workflow management helps you improve the healthcare experience. Access to vital clinical information enables radiologists to care for their patients with precision and efficiency. *RadNet* allows your department to:

- Schedule multiple resources and resolve scheduling conflicts
- Automate processes for exam protocols, ensuring the appropriate images are acquired the first time
- Receive alerts related to abnormal lab values and medications that contraindicate radiology procedures
- Speed access to exam results and decrease decision-making time through integrated images and reports

Solution at a Glance

Cerner RadNet RIS provides you with:

- Decision support tools to avoid errors
- Access to vital clinical information
- Support for paperless workflow
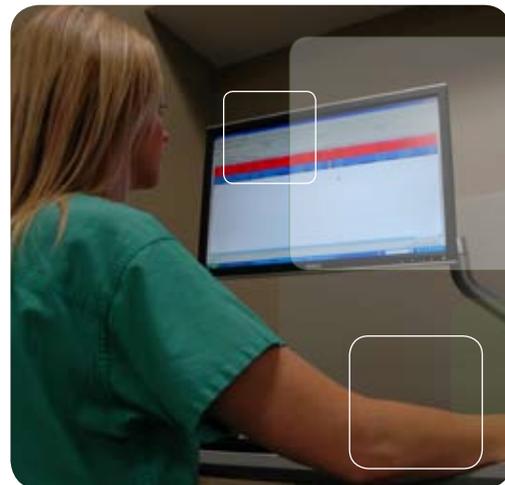
Key Benefits

- Improve patient satisfaction
- Maximize productivty with efficient workflow
- Optimize revenue and profitability

Maximize your investment

RadNet also helps you and your department improve operational efficiency and increase revenue. When your department deploys *RadNet*, you can:

- Eliminate the need for a paper within your workflow through role-based worklists, clinical documentation and integrated document imaging
- Ensure prompt, accurate reimbursement by accurately capturing supply charges, CPT and appropriate ICD9 codes at the point of care
- Improve report generation and result turnaround times via integrated speech recognition and digital dictation
- Perform real-time outcomes analysis of clinical and operational data through the powerful, easy-to-use, *Discern Analytics®* management reporting package.

Enhance radiology processes

Because *RadNet* embeds knowledge into radiology workflow, you can enhance departmental efficiency from registration through report distribution and billing. The solution's integrated multi-facility scheduling logic helps you maximize resource use and ultimately improve patient satisfaction. *RadNet*'s Digital Dictation inherently links the patient and the result, allowing you to eliminate matching errors and streamline transcriptions.

Your department also can support a zero-click workflow through Radiology Desktop, which consolidates and integrates all tasks associated with producing a radiology report.

And finally, *Discern Advisor® for Radiology* provides ordering clinicians with radiology decision support and clinical content, helping them order the appropriate procedures.

RadNet also provides you with an extensive set of tracking tools and functions. Online graphical representations of image folder hierarchy, along with outside images and temporary folder tracking, help you locate studies quickly and easily. Inquiry functions allow you to detect missing and delinquent loans. You can also track image loans across multiple facilities.

Through *RadNet*, tracking exams becomes an easier, more efficient process. Departments track multi-step procedures while establishing quick, accurate supply charging. An online worklist displays instant workload updates. Technical comments documentation eliminates paper communication to the radiologist. And the solution's medication documentation and reporting features help you enhance safety.

RadNet also allows you to use a graphical display of patient's location within department or organization. As a result, patient tracking becomes an integrated, easily managed part of your workflow. You also have transporter worklist and activity history tracking functions. A visible warning indicates excessive wait times, helping you ensure a positive patient experience.

Deliver superior care

Radiology processes are inherently complex. Working more efficiently requires automating time-intensive tasks while eliminating cumbersome and unnecessary steps. The *RadNet RIS* solution allows your department to do that, ensuring your staff will spend more time focusing on the patient. And with *RadNet*, you have the information solution you need to reduce you patients' waiting times and stress, ensuring a positive experience.

For more information on *Cerner RadNet* and other imaging and radiology solutions, please contact your Cerner representative or visit **www.cerner.com/radiology**.

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CERNER
All Together™

RadNet

Integrated Digital Dictation

CERNER®

Description

Integrated Digital Dictation is a supporting RadNet solution that provides the capabilities to perform digital dictation of radiology reports from the Radiology Desktop. *Integrated Digital Dictation* is added to the Radiology Desktop to create a powerful tool for radiologists and transcriptionists to dramatically streamline workflow. Integrating this solution within the Radiology Desktop, inherently links the patient demographic information with the dictated report, virtually eliminating mismatching errors, and streamlining the report creation process for more efficient report turnaround. *Integrated Digital Dictation* eliminates the need for an interface with a standalone dictation system, thus eliminating maintenance costs. In addition, the voice files created by *Integrated Digital Dictation* are accessible by authorized users for emergent review prior to transcription . An optional unique speech microphone is available to eliminate desktop clutter by incorporating microphone, mouse control and barcode reader into a single integrated device for control of the RadNet Radiology Desktop and *Integrated Digital Dictation.*

Client Benefits

Increases efficiency by combining the tools required for dictation into a single, easy to use application within *RadNet*

Creates a simplified and standardized workflow process for radiologists and transcriptionists by providing configurable worklists.

Supports on-line communication between radiologists and Transcriptionist to minimize errors and optimize corrections

Maximizes patient safety and transcriptionists productivity by automatically linking the voice file to the exam order eliminating mismatches.

Significantly enhances report creation workflow when integrated with optional *Cerner ProVision PACS Workstation*. This provides a single point of entry which inherently links the images, order and voice file for patient safety and maximum productivity.

Major Features

Automatic synchronization of voice file to the order eliminates mismatched information and ensures patient safety.

Voice file playback is available within the *Radiology Desktop* to enable validation of typed report to dictated report.

Prior voice files can be accessed for comparative studies. (The storage of on-line voice files is configurable by the user)

Configurable transcriptionist worklists allow the user to select studies based on a range of criteria to speed workflow.

Availability

HNA Millennium, Revision HNAM.2003.

Special Licensing Considerations

This solution is licensed on a per-device basis; one license is required for each radiologist and transcriptionist workstation. A minimum of four device licenses is required.

Software Prerequisites

Radiology Management – Cerner Millennium (RA-20135) and *Digital Dictation Integration Software* (RA-22252) are required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

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The electronic capture of patient signatures
Cerner's eSignature Solution

Cerner's eSignature solution allows patients to sign electronic documents with a handwritten signature on a signature pad or tablet, which in turn permanently embeds the signature in an imaged document. This electronic signature capability eliminates the time and resources required to print, scan and copy paper documents that require signatures.

How the eSignature Solution Works

This electronic signature capture solution allows patient signatures to be captured on various types of hospital forms, including: Hospital Admission Forms, Insurance Forms, Advanced Beneficiary Notices (ABN) and Privacy Statements.

Once the signature is captured through a USB-attached signature pad or a software-based capture on a tablet PC, the signed electronic document is filed into an image repository. At this point, the legally binding signature has been permanently "burned" into the document and cannot be altered, removed or transferred to another document.

Hospital staff and clinicians have access to the signed documents through the patient's electronic medical record instead of having to track down a signed paper document that has been physically filed and stored within the healthcare facility. By replacing this time-consuming manual method with electronic signature capture, hospitals can improve their overall ROI through enhanced process efficiencies.

Solution at a Glance

The eSignature solution:

- Provides an electronic signature capture on patient forms
- Stores signed documents as clinical or non-clinical documents in *Cerner ProVision™ Document Imaging*
- Can be launched from a variety of *Cerner Millennium®* applications

Key Benefits

- Eliminates the need to file and store printed patient forms
- Allows easy access to signed forms through the patient's electronic medical record
- Improves efficiency and patient satisfaction

Why Cerner?

Cerner is here to provide secure, customized solutions that keep you connected to your patients and clinical staff. You can depend on Cerner to increase your clinical and operational performance through our advanced technology solutions that streamline communications, while increasing access to information and improving the overall quality of delivered patient care.

For more information about this solution for your organization, contact the Cerner Client Care Team at (866) 221-8877, option 1, or by e-mail at ClientCareTeam@cerner.com.

CERNER®

Worklist Manager (Modality Worklist)

Description

Worklist Manager (Modality Worklist) is a supporting *Cerner ProVision® PACS* offering that operates along with the separate licensure of *RadNet® Radiology Management* (RA-20135) and provides native DICOM services for use in a PACS environment as well as the ability to manage the movement of images throughout the healthcare enterprise. *Worklist Manager (Modality Worklist)* provides enhanced DICOM services to support DICOM Modality Worklist and Modality Performed Procedure Step. The power of coupling *RadNet* with the *Cerner ProVision PACS* architecture allows seamless integration of centralized worklist management into filmless and film-based environments without a requirement for an external "broker" and its associated interfaces.

Worklist Manager (Modality Worklist) makes it possible to directly exchange patient and study information between the *RadNet* Radiology Management System and any PACS solution that uses standard DICOM 3.0 services. By utilizing these standard DICOM services, information exchange occurs seamlessly, providing a central database on the RIS for storage of important departmental and enterprise information about images, as well as traditional RIS-level text and events.

Worklist Manager (Modality Worklist) is a DICOM Modality Worklist Service Class Provider (SCP). Any modality that supports DICOM Modality *Worklist Manager,* as a Service Class User (SCU), can query for an updated worklist directly from the modality console or workstation. When selected from the worklist, the patient demographic information will be directly inserted

into the DICOM headers of the associated images during the acquisition process. For those modalities that do not support modality worklist, *RadNet* Radiology Information Systems can provide a unique DICOM Study Validation Service, with the separate licensure through *Cerner®* Technologies of Study Validation.

Client Benefits

♦ Supports paperless environment — eliminates requisitions and order documents.

♦ Saves radiologist time — images are already linked to patient and order demographic data — no need to find the paper requisition and identify patient on another system.

♦ Technologists are more productive and data is accurate

♦ Reduces errors from manually inputting patient demographic information — images are automatically linked to patient and order demographic data.

♦ No intermediary device such as a "PACS broker" or conversion of RIS data to data useful to a PACS (no "Broker") is required.

♦ Supports standard, direct DICOM communication. Technologist and radiologist worklists facilitate automation of manually collected data, promotes a "paperless" and "filmless" environment.

Major Features

♦ Native DICOM 3.0 SCP/SCU services.

♦ Support for DICOM Modality Worklist and Modality Performed Procedure Step.

Availability

Cerner Millennium® Release 2003, version 2003.01

Special Licensing Considerations

This solution is priced based on the number of diagnostic procedures utilizing the Worklist Manager.

Software Prerequisites

Radiology Management (RA-20135) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, and the Cerner Millennium Support Guide accessible through the Cerner Knowledge Network (CKN).

Cerner also provides solution-specific brochures, fliers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

CareAware MultiMedia

Cerner ProVision Web

Description

Cerner ProVision Web ™ is a Web-based image distribution solution that provides fast secure access to patient images via the Internet or hospital intranet through the *PowerChart*® Electronic Medical Record (EMR). Designed to deliver images within the physician's normal workflow, *Cerner ProVision Web* offers single-click contextual access within the PowerChart EMR flow sheet. There is no need to log into a different application, search for the patient or use a foreign interface.

Cerner ProVision Web optimizes physician workflow by image enabling the EMR. Coupled with the security of the *Cerner Millennium*® architecture, only physicians with the proper privileges can view their patient images within *Cerner ProVision Web.*

Cerner ProVision Web easily scales from a small departmental-sized system to a multi-facility or enterprise-wide medical image distribution management system. For organizations implementing *PowerChart*, *PowerChart Office*®, *SurgiNet*®, *FirstNet*®, or *CVNet*®, *Cerner ProVision Web* is the ideal solution to seamlessly integrate images in context with the patient's EMR.

Cerner ProVision Web also may be used as a standalone image distribution system for teleradiography and referring physicians' image distribution to replace film.

Cerner ProVision Web provides the distribution, storage and viewing of images and is the first step in building your enterprise-wide, multimedia image management system. *Cerner ProVision Web* is more than a Web-based image distribution solution for just images. It adds an entirely new dimension to the EMR and creates a foundation for viewing much more than radiology images. You have the option to build upon *Cerner ProVision Web* by storing, distributing and viewing DICOM multimedia objects for radiology, cardiology, oncology, anatomic pathology, ECG and more.

The capability to manage various multimedia objects is a core option within the *Cerner Millennium* architecture. This capability is called Cerner's *CareAware MultiMedia*™ (CAMM). The CAMM architecture ensures that multimedia objects (radiology images, cardiology images, anatomic pathology and more) are managed in a manner that allows retrieval in a contextually relevant manner by other Cerner solutions such as *RadNet*®, *FirstNet*, *CVNet*, or *PowerChart*. In addition, CareAware MultiMedia supports the management of non-DICOM objects such as scanned documents, digital photographs and more.

Deployment

Since *Cerner ProVision Web* is unified within the *Cerner Millennium* architecture, it can be rapidly deployed across the enterprise. Using existing resources (including Citrix) there is no need to load new software on any client system. Upgrades are automatically downloaded, and existing IT resources and network infrastructure are leveraged efficiently. With *Cerner ProVision Web's* intuitive, easy-to-use user interface, physicians can quickly access and view images minimizing training expense and speeding deployment.

Advanced Technology

Cerner ProVision Web supports the industry standard JPEG 2000 image compression scheme. JPEG 2000 offers a variety of compression levels ranging from "highly compressed" to "lossless

compression." The user can select JPEG 2000 compression ratios depending on modality type (i.e. CT, MR, etc.). The end result is quicker image access and more cost-effective image storage without any sacrifice to image quality.

Internet protocols, JPEG 2000 compression and DICOM STORE, MOVE and Query/Retrieve are the standard services provided by *Cerner ProVision Web.* This provides universal secure access for all clinicians.

Client Benefits

The Unified solution of *Cerner ProVision Web* and *PowerChart* EMR offers the following key benefits not available with standard web-based image distribution systems:

- Provides a single solution for:
  - Clinical Review
  - Consultation
  - General image distribution to clinicians
- Saves time with single-click access to images within the context of the EMR
- Extends radiology images to the point of care
- Eliminates the need to provide separate log-ins and passwords. Instead images are viewed within the *PowerChart* information system.
- Delivers Web-based distribution for easy enterprise-wide deployment and low IT maintenance
- Offers high image quality with industry standard JPEG 2000 compression technology
- Restricts access through Virtual Private Network (VPN) or Secure Socket Layer (SSL)
- Follows the HIPAA compliant security model. *Cerner Millennium* ensures that only those with proper privileges are able to view images
- Establishes the foundation for future management and viewing of multimedia objects such as cardiology, pathology, oncology, ECG, digital photos and more

Major Features

- Easy to uses robust tools are available for optimal imaging viewing:

- Layout Control
  - Increases or decreases the number of images on the screen
- User Defined JPEG 2000 decompression:
  - Increases the loading performance on overloaded or low bandwidth networks
  - Provides user specific preferences for JPEG 2000 compression ratios depending on modality type
- User Defined Sequence Detection for CT and MR (series splitting)
- Multifunction Mouse Modes:
  - Window/Level
  - Pan
  - Zoom
  - Magnifier
- MPR Calculation and Display
- Range of Zoom Functions
  - Zoom Slider
  - Best Fit
  - Match one pixel on image to one pixel on screen
- Real Length Display
- Zoom Region of Interest (ROI)
- Flip/Mirror Images
- Window/Level Functions
  - Auto Window/Level
  - Reset DICOM-Values
  - User Defined Window/Level Settings
- Pseudo-Colors LUTs for Nuclear Medicine
- Cine/Scroll Functions
  - Link series/multi-frame images
  - Synchronized ECG and Image display
  - R-Wave triggered cine
  - Sequential Cine of all multi-frame images within one series
- Paper Print and JPEG Export of View Port
- Orthopedic Measurements
- Image Rescale
- User-Defined Scout Display
- Histogram Equalization
- Integrated Context Sensitive Help
- Displays and Uses DICOM 3.0 Objects
  - Image Objects
  - Key Image Notes (KO)

- Grayscale Soft Copy Presentation States (GSPS/PR)
- Display structured reports (SR)

"Net" Affiliations

This solution is affiliated with the major offerings within *RadNet* and *CVNet.* .

Availability

Cerner Millennium Release 2000, version 2000.01.

The software, hardware and professional services licenses for viewing images via *Cerner ProVision Web* are not included within the major offerings of *PowerChart*, *PowerChart Office*, *CVNet*, *SurgiNet*, *RadNet*, or *FirstNet*. The ability to view images requires the licensing of *Cerner ProVision Web*.

Special Licensing Considerations

Cerner ProVision Web is licensed by admissions and Outpatient visits

Cerner ProVision Web supports image-viewing applications in the Radiology domain (i.e. application tools for viewing, analysis and manipulation of images emanating from the radiology department). Cardiology and other specialty imaging applications (including domain specific specialized viewing, analysis and manipulation) are available for an incremental license fee.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Images for distribution are transmitted to *Cerner ProVision Web* using the DICOM 3.0 protocol. Nodes (modalities or DICOM devices) must be DICOM 3.0 compatible.

Related Solutions

The following Cerner software solutions significantly extend the functionality of this solution: *Cerner ProVision PACS*™ (and related modules) and Study Validation Server.

- *RadNet*
- *CVNet Invasive Lab Management* (CV-20480)
- *CVNet Noninvasive Lab Management* (CV-20486)
- *Cerner ProVision Cardiac Imaging*, which includes Cerner Technology line items as well as *Cardiac Modality Worklist* (CV-22471).
- *CareAware MultiMedia*

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help and web-based end-to-end reference material

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

CareAware MultiMedia

Cerner ProVision™ Workstation

Description

Cerner ProVision™ Workstation combines extensive image viewing and analysis capabilities with a simple, intuitive user interface. To provide users with increased flexibility, this workstation is available in a wide range of multi-monitor and ultra high- resolution configurations.

The *Cerner ProVision Workstation* functions in either stand-alone configurations or in unity with the Cerner *RadNet® Radiology Information System*. The multiple monitor configuration capitalizes on the single log-in unified *RadNet Radiology Desktop* with *Cerner ProVision Workstation*. This allows access to not only the images, but the EMR and reporting tools as well.

Cerner ProVision Workstations run on standard PCs. Workstations provide the facility with a broad spectrum of solutions and users may customize the Workstation to suit individual preferences. Automated presentation protocols render current and prior studies into clinically relevant personalized displays.

Cerner ProVision Workstation increases productivity and efficiency while preserving an ergonomic workflow for the radiologist.

Client Benefits

Cerner ProVision Workstation offers the following key benefits:
- Enhanced workflow with on the fly Viewing Protocols
- Ergonomic design with innovative automatic scrolling through large data sets
- Seamless integration with Cerner CareAware MultiMedia™
- Eliminates the need for "modes", every viewport is a 3D viewport

- Easy to configure personal settings, customizable layouts and modality specific tools at the physician's fingertips
- Manage expanding data sets with new viewing abilities; dynamically change the slice thickness, spacing and angle of any volume data set
- Easy to maintain and upgrade with no interruption of service using Java Webstart

Major Features

Easy to use robust tools are available for optimal imaging viewing:
- Layout Control:
  - Customize and save any layout
- Multifunction Mouse Modes:
  - Window/Level
  - Pan
  - Zoom
  - Scroll:
    - Auto Scroll
    - Interactive Cine Scroll
- Multi Planar Reconstruction:
  - Any plane in any viewport
  - Maximum Intensity Projection
  - Minimum Intensity Projection
  - Averaging
  - Oblique
  - MPR correlation of images
- Arbitrary rotation of any image
- Slice properties controller
  - Adjust slice thickness
  - Adjust slice spacing
- Range of Zoom Functions
  - Use scale to zoom
  - Best Fit
  - Zoom Region of Interest (ROI)
  - Location zoom
- Automatic linking of series
- Drag and drop functionality
- Customizable toolbars

- Customizable right mouse menu:
  - Modality specific tools

"Net" Affiliations

RadNet

Cerner Millennium Integration Benefits

Foundational to the *Cerner ProVision Workstation* workflow is the *Cerner Millennium®* Architecture including *RadNet* and the Radiology Desktop. This unique architecture places the user at the center of the electronic medical record (EMR), rather than events. Clinicians have access to a truly comprehensive EMR (including clinical results) as well as an entire range of clinical information. When physicians use *Cerner ProVision* Workstation, they have that information at their fingertips. Instant access to this critical information helps you increase patient safety and efficiency within your organization. Caregivers make faster, better-informed decisions.

Availability

Cerner Millennium Release 2007.12, Archive version 5.0

Special Licensing Considerations

Software licensing will be based on volume of radiology procedures.

Software Prerequisites

Cerner ProVision Workstation is installed in conjunction with *CareAware MultiMedia- DICOM* MM-22270.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

Cerner ProVision Workstation supports a wide variety of diagnostic quality monitors.

At a minimum, the standard configuration should be the followed:

Platform: Intel

RAM: 4 GB of RAM

Processors: Dual 2.4 GHz

Hard Drives: 2x300 GB SAS, 10000 RPM

Operating System: Windows XP SP2

Vendors: Dell, IBM, HP

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution:

Cerner ProVision Web (MM-22273)

RadNet: to include *Radiology Desktop.*

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material, and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers, and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

⊛ CERNER

Clinical Documents Medical Document Management Incoming

Description

Clinical Documents Medical Document Management (MDM) Incoming is an optional interface designed to support the electronic transfer of data between Cerner Millennium and Dictation, Transcription and Voice Recognition Systems. The interface will allow for co-management of the production and tracking of the various phases in document production.

Client Benefits

♦ Enables Cerner users to view results immediately that have been entered and validated in a foreign system, facilitating quality care delivery

♦ Provides results to physicians in a more timely fashion to promote quick and accurate clinical evaluations and treatment of patients

♦ Minimizes telephone calls to obtain results, while reducing possible transcription errors

Major Features

♦ Real-time processing is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

Availability

Cerner Millennium® Release 2003, version 2003.01

Special Licensing Considerations

The *Clinical Documents MDM Incoming* license allows for a connection from one foreign system.

Additional fees for increased service hours may apply when custom scripting is required to meet mutually agreed-upon specifications. If this interface is activated in a production environment lacking any scoped or specified functionality for any reason, additional fees for increased service hours may apply for any remaining or enhanced functionality to be activated.

Software Prerequisites

One or more of the major offerings within the Cerner system(s) using this solution and either an Open Port Technical Protocol (IF-29560 through IF-29625) or an Open Engine Communication Service (OE-22850 through OE-22890) are required.

One channel license fee is charged per foreign system. If multiple point-to-point connections (Cerner to multiple Foreign Systems) are required, addition channel licenses and professional service hours may apply.

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Owner: Marketing Pricing & Packaging
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Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, Web-based reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Planned Development

Open Port

⊖ CERNER

Clinical Documents Outgoing (Discrete)

Description

Clinical Documents Outgoing (Discrete) is an Open Port Database Connectivity Server providing the ability to electronically transmit clinical document transactions in discrete data format from a Cerner system to a foreign information system, interface engine, or database repository.

This interface functionality enables users of the Cerner system to control data transmission timing and selection criteria, while the foreign system user controls report receipt and format presentation.

This interface is *not* to be used for the transmission of either radiology *(RadNet)* or anatomical pathology *(PathNet)* documents. Either *Results Outgoing (Discrete Data Elements)* or *Results Outgoing (Displayable Text)* should be used for transmitting these results.

NOTE: This product is in the early stages of development. It has been described here to assist with budgetary planning. This product description is subject to change.

Client Benefits

◆ Provides foreign systems users with the ability to view clinical documents along with other clinical results immediately

◆ Minimizes or eliminates the need to print and distribute hard copies of documents

◆ Minimizes phone calls to obtain clinical document results

Major Features

◆ Individual sections of the document can be suppressed or transmitted independently

◆ Sections of the document are sent separately and may be stored as such in foreign database

◆ Real-time processing is supported

◆ HL7 Universal Interface functionality and configurable options are supported. An HL7 MDM message type for Document Management is transmitted

◆ Audit trail and exception reporting are provided

Availability

For CareNet, CVNet, FirstNet, PowerChart, PowerChart Office, Health Information Management, and SurgiNet: Planned for future availability in *Cerner Millennium*

Special Licensing Considerations

The *Clinical Documents Outgoing (Discrete)* license entitles only an outgoing connection.

Professional Services fees will be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the necessary

changes to implement the interface according to the mutually agreed upon specifications.

If the client does not implement all functionality of this product in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional Professional Services fees will be applied for Cerner's efforts to modify the interface.

Software Prerequisites

Either an Open Port Technical Protocol (IF-29560 through IF-29625) or Open Engine Communication Services (OE-22850 through OE-22890 is required.

In addition, one of the following line items for *Medical Transcription Management* (XX – 22810) is required:

CareNet (CA-22810, (ER-22810), PowerChart (PS-22810), PowerChart Office (PV-22810), Health Information Management (MR-20410), and SurgiNet (SU-22810)

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

Communication Materials

Cerner provides user documentation for its software applications in the form of online Help and computer-based training (CBT).

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

CERNER

Pyxis MEDSTATION Interface

Description

Pyxis MEDSTATION Interface is an optional pharmacy device interface that provides a communication link between the Pyxis pharmacy console and PharmNet's *Inpatient Pharmacy* (PH-20160), with the licensure of these solutions. (Pyxis uses a controller called Procar for the Pyxis MEDSTATION devices.)

This bidirectional interface supports transmission of pharmacy orders and medication profiles to the Pyxis console from PharmNet's *Inpatient Pharmacy* Also, the interface supports the transmission of charging transactions generated by dispensing events on Pyxis back to PharmNet.

New features have been added to this interface to provide the following functionality:

♦ Pass through ADT information – an HL7 ADT message can originate from a foreign registration system or can be generated by a Cerner patient management message and sent to the Pyxis system.

♦ Allergy trigger options:

– Allergies are sent with each order. This option is a snapshot of the patient's allergies at the time the order is placed.

– The allergy segment is included in the HL7 ADT message. This option requires the pass through ADT functionality mentioned above.

– Allergy discrete triggers are sent at the person level. An HL7 message is sent with a Cerner defined trigger event when

an allergy is added, modified, or deleted by a Cerner Millennium user. This message simulates an HL7 A60 trigger event. All other existing allergies are sent along with the allergy which has been changed.

♦ Formulary updates are sent to Pyxis in a real-time mode. When a new item is added, changed, or deleted, a message is sent to the Pyxis system.

Client Benefits

♦ Automated billing from the Pyxis MEDSTATION dispensing events results in both time and cost savings.

♦ Increases accuracy of the drug dispensing process

♦ Increases productivity and accountability of staff who dispense drugs

♦ Control of medication dispensing is extended beyond the pharmacy department

♦ Time savings for nursing and pharmacy personnel by eliminating the need to physically inventory narcotics

Major Features

♦ Pocket-load and unload transactions from the Pyxis MEDSTATION device is supported

♦ With Departmental Materials Management, dispensing events from Pyxis MEDSTATION will adjust inventory quantities in PharmNet

♦ TCP/IP network protocol is included

♦ Real time processing is supported

♦ HL7 Universal Interface functionality and configurable options are supported

♦ Audit trail and exception reporting is included

Availability

For PharmNet Inpatient: Cerner Millennium, Release 2000, version 2000.01

Special Licensing Considerations

This solution is licensed on a "per channel" basis with support calculated per group of ten devices.

The *Pyxis MEDSTATION Interface* license entitles both incoming and outgoing connections.

Software Prerequisites

Inpatient Pharmacy (PH-20160) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this application:

Departmental Materials Management (PH-25200).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

Purchase Order Acknowledgment Inbound (855)

Description

Purchase Order Acknowledgment Inbound (ANSI X.12 EDI 855) is a supporting supply chain interface offering that provides the ability to accept purchase order acknowledgments inbound from external materials vendors or pharmaceutical wholesalers/distributors.

With the acceptance of purchase order acknowledgments the user will have real-time access to price discrepancies and other relative purchase order data communicated from the external vendor or wholesaler/distributor system.

The interface can be used in conjunction with other EDI supply chain interfaces or as a standalone solution to automate the purchasing process.

Client Benefits

- No manual communication required to resolve vendor/internal system discrepancies

- Eliminate human error involved in the purchase order discrepancy management process

- Streamline the purchase order correction process

- Ensure database accuracy by completing updates based on purchase order comments received

- Reduced overall overhead cost of the purchasing process by streamlining the purchasing process

Major Features

- The EDI ANSI X.12 transaction set 855 is received.

- Automated acceptance of vendor or wholesaler/distributor purchase order comments

- Configurable based on vendor/wholesaler requirements

- Audit trail available for analysis

- Transmission error resolution support

"Net" Affiliations

Supply Chain, PharmNet

Availability

Cerner Millennium 2007 (was released Nov 2006)

Software Prerequisites

PO-20201 Clinical Supply Chain or *PH-25201 Departmental Clinical Supply Chain for Pharmacy* is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *IF-29562 Purchase Order Outbound (850), IF-29526 Electronic Invoice Inbound (810), and IF-29524 Advanced Shipment Notice Inbound (856)* interfaces.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

⟨ **CERNER**®

Purchase Order Outbound (850)

Description

Purchase Order Outbound (ANSI X.12 EDI 850) is a supporting supply chain interface offering that provides the ability to transmit purchase orders outbound from the relevant Cerner Supply Chain solution to external materials vendors or pharmaceutical wholesalers/distributors.

With the transmission of purchase orders outbound on this interface, the user will not be required to fax, phone, or mail purchase orders. Instead, the user will transmit purchase orders electronically as a by-product of confirming the purchase order for submission.

The interface can be used in conjunction with other EDI supply chain interfaces or as a standalone solution to automate the purchasing process.

Client Benefits

- No manual transmission of purchase orders to vendors or wholesalers

- Eliminate human error involved with the transmission of purchase orders to vendors or wholesalers

- Minimize or eliminate the need to print purchase orders

- Reduced the overall overhead cost of the purchasing operation by streamlining the communication process

Major Features

- Automated seamless transmission of purchase orders outbound to vendors and/or wholesalers

- Configurable based on vendor/wholesaler requirements

- Increased accuracy in the purchasing process

- Audit trail available for transmission analysis

- Transmission error resolution support

"Net" Affiliations

Supply Chain, PharmNet

Availability

Cerner Millennium 2007 (was released in Nov 2006)

Software Prerequisites

PO-20201 Clinical Supply Chain or *PH-25201 Departmental Clinical Supply Chain for Pharmacy* is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *IF-29522 Purchase Order Acknowledgment Inbound (855), IF-29526 Electronic Invoice Inbound (810), and IF-29524 Advanced Shipment Notice Inbound (856)* interfaces.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

 CERNER

Unidirectional Device Interface

Description

Unidirectional Device Interface provides a communication link between an analyzer (that is, a medical device or instrument) and the *PathNet Laboratory Information System.*

This unidirectional interface is designed as a timesaving tool, supporting the automated transmission of both numeric and alphanumeric result data from the analyzer to the Cerner system with little if any human intervention. It is unidirectional in nature because the data flows in one direction only, from the device to the Cerner system.

Client Benefits

♦ The automatic transfer of result data from the analyzer to the Cerner system reduces human intervention and automates processes.

♦ The elimination of manual data entry minimizes human error, increasing accuracy.

♦ Improved efficiency in the clinical department results in time and cost savings.

Major Features

♦ Instrument result flags that identify problem values are captured from the device. The client can define whether to post the result flag with the result, prevent the result from posting, or ignore the flag completely.

♦ Quality control (QC) and patient results are available for immediate result verification once they are transmitted from the instrument.

♦ Some interfaces support online, immediate result verification and reporting, depending on the instrument's capability.

♦ A complete audit trail of communications from the medical device to the Cerner system is provided.

Supported Interfaces

Cerner has developed interfaces to more than 300 medical devices. A list of interfaces in the Cerner library is available via CKN. Additional interfaces are possible; however, specifications for these products will need to be reviewed by Cerner in order to determine interfacing feasibility

The *Unidirectional Device Interface* license is applicable to the existing library of interfaces and does not apply to devices not previously interfaced. In some cases, if it is determined that Cerner can provide an interface; the existing license from the contract will be applied.

Availability

For PathNet: *HNA Millennium,* Revision HNAM.2000.01

Special Licensing Considerations

This product is licensed on a per-device basis. A *Unidirectional Device Interface* license is required for every instrument model to be interfaced. The license is only applicable for the original interface purchased. This license describes functionality; however, instrument specific product codes will be updated to reflect the make and model of the interface. When a new instrument model is purchased, either as an addition or substitute, a new *Unidirectional Device Interface* license is required.

Assuming the interface supports bar-code recognition technology, the client should specify this desired capability at the time of licensing.

Software Prerequisites

General Laboratory (PA-20070), *Microbiology* (PA-20075), *Blood Bank Transfusion* (PA-20090);

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Related Products

The following Cerner software product(s) significantly extend the functionality of this product: *Bidirectional Device Interface* (IF-29655).

Support Considerations

Cerner's support is limited to the interface aspects of this product solution, not to native medical device functionality, which is directly supported by that product's supplier.

Communication Materials

Cerner provides user documentation for its software products in the form of online Help.

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability

Open Port

CERNER

Bidirectional Device Interface

Description

Bidirectional Device Interface provides a communication link between a laboratory analyzer (that is, a medical device or instrument) and the *PathNet Laboratory Information System*.

The bidirectional interface is designed as a timesaving tool, allowing patient demographics and work orders to be downloaded automatically to the analyzer and results to be recorded/uploaded automatically to the PathNet system with little if any human intervention.

Client Benefits

♦ The automatic transfer of data between the analyzer and the PathNet system reduces human intervention and automates processes.

♦ The elimination of manual data entry minimizes human error, increasing accuracy.

♦ Improved efficiency in the laboratory results in time and cost savings.

Major Features

♦ Depending on the analyzer's capability, transmitted patient information can include name, age (in years), birth date, medical record number, financial number, nursing station or location, and room and bed

♦ Depending on the analyzer's capability, transmitted order information can include accession number, bar code, or other sample identifier; requested collection date and time; drawn date and time; collection priority (routine vs. STAT); and ordering doctor name or number

♦ Patient demographics and order information can be transferred via one of two methods: direct download or host query. With direct download, the order is transmitted automatically to the instrument as soon as it receives an "In Lab" status. With host query, the order is kept in a queue and is not transmitted to the instrument until the instrument sends a request for it. The actual method supported varies based on the instrument

♦ Some interfaces support online, immediate result verification and reporting, depending on the instrument's capability

♦ A complete audit trail of communications between the medical device and the PathNet system is provided

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Supported Interfaces

◆ Cerner has developed interfaces to more than 300 medical devices. A list of interfaces in the Cerner library is available via CKN. Additional interfaces are possible; however, specifications for these products will need to be reviewed by Cerner in order to determine interfacing feasibility

◆ The *Bidirectional Device Interface* license is applicable to the existing library of interfaces and does not apply to devices not previously interfaced. In some cases, if it is determined that Cerner can provide an interface; the existing license from the contract may be applied

Availability

For PathNet: *HNA Millennium*, Revision HNAM.2000.01

Special Licensing Considerations

This product is licensed on a per-device basis. A *Bidirectional Device Interface* license is required for every instrument model to be interfaced. The license is only applicable for the original interface purchased. This license describes functionality; however, instrument specific product codes will be updated to reflect the make and model of the interface. When a new instrument model is purchased, either as an addition or substitute, a new *Bidirectional Device Interface* license is required.

Assuming the interface supports bar-code recognition technology, the client should specify this desired capability at the time of licensing.

Software Prerequisites

General Laboratory (PA-20070) or *Microbiology* (PA-20075) is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information about the technical environment.

Related Products

The following Cerner software product(s) significantly extend the functionality of this product: *Unidirectional Device Interface* (IF-29650).

Support Considerations

Cerner's support is limited to the interface aspects of this product solution, not to native medical device functionality, which is directly supported by that product's supplier.

Communication Materials

Cerner provides user documentation for its software products in the form of online Help.

Cerner also provides product-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

CERNER

PC Encoder Interface

Description

The *PC Encoder Interface* is an Open Port medical device interface that provides a communication link between an encoder and Health Information Management's *ProFile* (MR-20400). This bidirectional interface supports both the transmission of patient demographics to the encoder from *ProFile* and the return of coded and DRG data from the encoder.

The interactive interface is designed as a timesaving device, allowing numeric and alphanumeric results to be recorded automatically in the Cerner Millennium® system. These results are then made available for inquiry, printing or communication to other systems.

Client Benefits

♦ Improves efficiency with demographic data downloaded to the encoder and results recorded automatically during the encoding process

♦ Makes encoded data immediately available to other systems

♦ Reduces chances for error with manual processes performed only once

♦ Simplifies work queue management with work assignments automatically generated

♦ Eliminates redundancy

Major Features

♦ Demographic data is downloaded to the encoder, and coded and abstracted data is uploaded from the encoder.

♦ Work queues are created for charts to be coded.

♦ Cumulative performance reporting is available.

♦ A customized transaction layout is defined based on the third-party encoding system.

♦ Optionally, account balances, received via an interface from the financial system, can be used for prioritization, with licensing of *Open Account Balances Incoming* (IF-29140).

♦ Coded data and signature indicators optionally can be passed via a foreign system interface to non-Cerner systems, with licensing of *Abstracted/Coded Data Outgoing* (IF-29325).

Availability

For Health Information Management: Cerner Millennium Release 2000.01

Document Title   PC Encoder Interface   Owner: Marketing Pricing & Packaging
Tracking: Document # 26LIT000476   Version 1.0   Effective date: 09-14-2005
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may not be reproduced or transmitted without the express written consent of Cerner.   Page 1 of 2

Special Licensing Considerations

The *PC Encoder Interface* is licensed on a "per-device" basis.

A foreign encoder system PC is required. Some suppliers require special software or licensing considerations, in order for their encoders to be interfaced. Cerner Corporation is not responsible for the hardware, software licensing, pricing or installation requirements of the encoder PC. The specific encoder provider should be contacted directly for pricing and configuration.

Software Prerequisites

ProFile (MR-20400) is required.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

Related Solutions

Abstracted/Coded Data Outgoing (IF-29325).

Installation Considerations

The *PC Encoder Interface* can be installed during the initial implementation engagement of *Health Information Management*, or the installation can be subsequently performed as an add-on implementation engagement. Since each interface is customized, the design, installation, testing, and sign-off period will vary for each client. Clients are required to participate in the installation and testing process.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

Document Title   PC Encoder Interface   Owner: Marketing Pricing & Packaging
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General Availability
Open Port

Billing Outgoing (Batch)

Description

Billing Outgoing (Batch) is an Open Port Database Connectivity Server that provides the ability to electronically transfer patient charge and credit transactions to a foreign billing system generally once a day in batch mode via an interface output queue.

Client Benefits

◆ Eliminates manual re-entry of billing information into the foreign system, thereby reducing personnel needed

◆ Minimizes human errors that can occur with manual data entry

◆ Minimizes skipped charges

◆ Provides for more timely billing, thereby reducing late charges

Major Features

◆ Person identification, financial number, diagnosis, billing code, price, charge/credit flag, and other pertinent data is transmitted.

◆ Billing transactions are controlled by organization, client, type, and location.

◆ Batch processing is supported.

◆ HL7 Universal Interface functionality and configurable options are supported.

◆ Resend capabilities are supported.

◆ Audit trail and exception reporting is provided.

Availability

For CareNet, FirstNet, Cerner Critical Care, PathNet, PharmNet, PowerChart, PowerChart Office, ProCall, RadNet, and SurgiNet: *HNA Millennium,* Revision HNAM.2000.01

Special Licensing Considerations

The *Billing Outgoing (Batch)* license entitles only an outgoing connection.

Professional Services fees will be quoted as necessary for a Cerner foreign systems specialist to write the necessary scripts and make the necessary changes to implement the interface according to the mutually agreed upon specifications.

If the client does not implement all functionality of this solution in the initial installation engagement and later wishes to activate the remaining portion, the client will not be assessed additional license fees; however, additional Professional Services fees will be applied for Cerner's efforts to modify the interface.

Software Prerequisites

Either an Open Port Technical Protocol (IF-29560 through IF-29625) or Open Engine Communication Services (OE-22850 through OE-22890 is required.

Technical Environment Requirements

Refer to the *Understanding HNA Millennium Technical and Support Requirements* document for information on the technical environment.

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

General Availability
Supply Chain

⟨⊢ **CERNER**®

Materials Management

Description

Materials Management is a comprehensive Supply Chain offering designed to support management of the entire healthcare supply chain, including requisitioning, purchasing, receiving, invoice matching, inventory management, and distribution processes.

Materials Management provides contemporary concepts in resource management, including traditional, stockless, and just-in-time inventory methods; consignment; multisite and multi-entity perpetual inventory management and PAR inventory support.

Materials Management includes the following capabilities:

- ♦ Requisition*s*
- ♦ Purchasing
- ♦ Receiving
- ♦ Inventory Control
- ♦ Distribution Management
- ♦ Management Reporting

Client Benefits

- ♦ Assist in automating the processes around managing supplies.

- ♦ Ability to more efficiently manage, and continuously maintain optimal inventories; contain costs; and capture departmental costs.

- ♦ End to End supply management capability across the entire health system

- ♦ Improved purchasing receiving and distribution capability to manage inventory more efficiently

- ♦ Reduced vendor/purchasing administration costs through the use of full EDI capabilities, with licensing of the appropriate interfaces

Major Features

Requisitions support:

- ♦ Electronic requisitioning

- ♦ Replenishment automation for both stock and nonstock item

- ♦ System-generated recommended order lists

- ♦ Requisition templates by location

Purchasing component:

- ♦ Auto PO creation from requisition

- ♦ Multi level on-line approval process

- ♦ Online inquiry for purchase orders and requisitions.

Receiving component

- ♦ Receipt by exception

- ♦ "Blind" receiving

Inventory Control component:

♦ Perpetual or PAR managed inventory within locations

♦ Location and locator support

♦ Inventory costing by location

♦ Physical and cycle count capability

Distribution Management component:

♦ Wireless PAR management

♦ Wireless Picking

Management Reporting:

♦ Summary or detail reports, such as ABC, usage, stock status reports

♦ Full transaction history inquiry

♦ In addition to the features inherent within *Materials Management*, Foundations functionality is also included*. Foundations* refer to Cerner's definition of those common processes or tasks that are shared across clinical and administrative domains and applications, technical areas, and project or production tasks*. Foundations* is included in all major Cerner licensed software solutions and includes *Technical Components* (*Technical Environment Management, Security Management, User Management*, and so on), *Functional Components* (for example, *Person Management, Order Management, Charge Services and Result Processing*), and *Operational Components* (*Operation/System Management, System Integration*, and so on). The majority of the componentry applies to all Cerner solutions, though a few specific components may not be applicable to every solution line. Refer to the *Foundations* Solution Description for more information.

Cerner Millennium Integration Benefits

Benefits of using *Materials Management* in a Cerner *Millennium* environment include the following:

♦ The ability to update supply status based on events occurring within licensed Cerner clinical systems

♦ The ability to manage the logistical needs of Cerner clinical departments where subunit accountability is necessary (such as pharmacy), thereby consolidating redundant purchasing activities without affecting service levels or inventory accuracy

Availability

Cerner Millennium Release 2000, Version 2000.01

Special Licensing Considerations

Par Level Management requires barcode devices, label printers, and related communication infrastructure licensed separately.

Customization of standard interfaces is available on a time and materials basis.

EDI Communications requires OpenEngine or other third-party mapping software.

Technical Environment Requirements

Refer to the *Understanding Cerner Millennium Technical and Support Requirements* document for information about the technical environment.

System Resource Considerations

The amount of system resources required depends on activity volume and the complexity of the installation.

Related Solutions

The following Cerner software solution(s) significantly extend the functionality of this solution: *Discern Expert* (PO-26105), *Discern Explorer* (PO-26140), *Surgical Management* (SU-20310), and *Inpatient Pharmacy* (PH-20160).

Communication Materials

Cerner provides comprehensive user documentation for its software solutions in the form of online Help, web-based end-to-end reference material and computer-based training (CBT).

Cerner also provides solution-specific brochures, flyers and other communications in print. This information may also be accessed through our website at www.cerner.com or through our sales organization at (816) 201-0054.

ATTACHMENT D

PEMRS INTERFACES

**ATTACHMENT D
PEMRS INTERFACES**

Capitalized terms used in this Attachment D without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

1.   Interfaces consist of two categories:

    (1)   Medical Devices Interfaces (MDIs)

    (2)   External systems Interfaces

2.   MDIs

    MDIs consist of the capture and storage of patient, quality control, and standard test result data from the following medical devices:

    (1) Beckman Coulter Act 2/Act 5 Diff automated instruments (for CBC)

    (2) Siemens Diagnostics Clinitek Status automated instruments (for Urinalysis)

    (3) Telcor J & J Lifescan SureStep POCT automated instruments (for blood glucose)

3.   External Systems Interfaces

    An external system Interface is characterized by three attributes. The first attribute is the pair of systems exchanging data. The second attribute is the specific transaction that defines the data to be exchanged and the format of the exchange. The third attribute is the nature of the data exchange timing requirement which may be either real time (asynchronous) or batch (e.g., SFTP or EDI).

    (1)   Phase 1 System Interfaces

    The following external systems Interfaces shall be provided by CONTRACTOR as part of Phase 1, and are referred to as "Phase 1 Interfaces":

    A. COUNTY's Probation Case Management System (PCMS),

    B. COUNTY's Mental Health Integrated System (IS),

    C. COUNTY's Sunquest System, and

    D. LabCorp System

(2)   Optional Phase Interfaces

The following external systems Interfaces are referred to as "Optional Phase Interfaces." For each Optional Phase Interface, CONTRACTOR shall not provide such Optional Phase Interface unless and until Amendment has been entered into in accordance with Subparagraph 6.3 of the body of the Agreement with respect to such Optional Phase Interface:

A. COUNTY's Psychotropic Medication Authorization (PMA) online application,

B. COUNTY's QuadraMed System,

C. COUNTY's Jail Hospital Information System (JHIS),

D. COUNTY's Misys System,

E. COUNTY's PYXIS System, and

F. COUNTY's Emergency Department Information System (EDIS)

The Phase 1 Interfaces shall be designed by CONTRACTOR as part of External Systems Interface Specifications (Deliverable 5.2) and developed and delivered to COUNTY by CONTRACTOR as part of Built and Tested External Systems Interfaces (Deliverable 9.2.3) of this Statement of Work (Exhibit A).

External systems Interfaces consist of two categories:

(1)   External systems Interfaces which are proprietary to COUNTY, consisting of COUNTY's Probation Case Management System (PCMS), COUNTY's Mental Health Integrated System (IS), COUNTY's Psychotropic Medication Authorization (PMA) process, including the PMA Online Application, COUNTY's Jail Hospital Information System (JHIS), and other Interfaces designated as proprietary to COUNTY in the Conceptual Design Document (Deliverable 3.3) and/or External Systems Interface Specifications (Deliverable 5.2) under Exhibit A (Statement of Work).

(2)   External systems Interfaces which are not proprietary to COUNTY, consisting of COUNTY's Sunquest System, LabCorp System, COUNTY's Misys System, COUNTY's QuadraMed System, COUNTY's Emergency Department Information System (EDIS), and other Interfaces designated as not proprietary to COUNTY in the Conceptual Design Document (Deliverable 3.3) and/or External Systems Interface Specifications (Deliverable 5.2) of Exhibit A (Statement of Work).

External systems Interfaces include the transfer of data between PEMRS and other software systems, both within and external to COUNTY. Schedule I (External System Interfaces) of this Attachment D of Exhibit A (Statement of Work) specifies each Interface by the first two of the three defining attributes, the corresponding external system(s) and the specific transaction. The third attribute, including updates to the first two attributes, will be specified based upon System design as defined in the Conceptual Design Document (Deliverable 3.3) or External Systems Interface Specifications (Deliverable 5.2) for such external system Interface. Some Interface transactions will be performed on-line in near real time and other Interfaces will be performed on a batch basis.

Regardless of what interface engine is identified by the COUNTY as its preferred engine, in accordance with standards established in writing by the COUNTY's Project Director, the CONTRACTOR's Open Engine (OE) software will be used to enable external systems Interfaces to and from PEMRS. Industry standard interfaces including those of Health Level 7 (HL7), American Society for Testing and Materials (ASTM), American National Standards Institute Accredited Standards Committee X-12 (ANSI ASC X-12), and other Standards Development Organizations (SDOs) designated from time to time by the Federal Department of Health and Human Services, or generally accepted in the Healthcare Information Technology Industry, shall be used where applicable.

Phase 1 System Interfaces:

(1)   COUNTY's Probation Case Management System (PCMS) – Interfaces with COUNTY's Probation Case Management System (PCMS) are required to track minors' admission, registration, demographics, moves and transfers, location, classification, scheduling, discharge, release and other data. This Interface shall be bi-directional and near real time as defined in the Conceptual Design Document (Deliverable 3.3) and/or External Systems Interface Specifications (Deliverable 5.2) for such Interface.

(2)   COUNTY's Integrated System (IS) - Interfaces with COUNTY's Department of Mental Health Integrated System (IS) are required to track minors' mental health demographics and treatment data and to ensure that COUNTY can meet its mental health treatment reporting obligations to the State of California. This Interface may be bi-directional as defined in the Conceptual Design Document (Deliverable 3.3) and/or External Systems Interface Specifications (Deliverable 5.2) for such Interface. This Interface may be real time or batch file transfer as defined in the Conceptual Design Document (Deliverable 3.3) and/or External Systems Interface Specifications (Deliverable 5.2) for such Interface.

(3)   COUNTY's Sunquest System –Interfaces for laboratory orders
        processing and results reporting are required with COUNTY's
        Sunquest System that routinely process Probation minors' tests.
        These Interfaces shall be bi-directional and near real time as
        defined in the Conceptual Design Document (Deliverable 3.3) or
        External Systems Interface Specifications (Deliverable 5.2) for such
        Interface.

(4)   LabCorp System –Interfaces for laboratory orders processing and
        results reporting are required with the LabCorp System that
        routinely process Probation minors' tests. These Interfaces shall be
        bi-directional and near real time as defined in the Conceptual
        Design Document (Deliverable 3.3) or External Systems Interface
        Specifications (Deliverable 5.2) for such Interface.

Optional Phase Interfaces:

(1)   COUNTY's Psychotropic Medication Authorization (PMA) Interfaces
        with COUNTY's Department of Mental Health electronic PMA are
        required to track psychoactive drug prescription orders and the
        authorization by the Court or the parent. During the design of this
        Interface, the parties will determine whether the Interface shall be
        bi-directional and whether the Interface shall be in real time or
        batch file transfer mode.

(2)   COUNTY's QuadraMed System – Interfaces to the COUNTY's
        QuadraMed System are required to track and transfer health care
        data for minors who are provided care by COUNTY's Department
        of Health Services or COUNTY hospitals and network of services.
        During the design of this Interface, the parties will determine
        whether the Interface shall be bi-directional and whether the
        Interface shall be in real time or batch file transfer mode.

(3)   COUNTY's Jail Hospital Information System (JHIS) – Interfaces
        with COUNTY's Sheriff Department JHIS are required to transfer
        minor's medical records to JHIS from PEMRS as minors transfer to
        the jail when they become adults or are assigned by the Court.
        During the design of this Interface, the parties will determine
        whether the Interface shall be bi-directional and whether the
        Interface shall be in real time or batch file transfer mode.

(4)   COUNTY's Misys System –Interfaces for laboratory orders
        processing and results reporting are required with COUNTY's Misys
        System that routinely process Probation minors' tests. During the
        design of this Interface, the parties will determine whether the

Interface shall be bi-directional and whether the Interface shall be in real time or batch file transfer mode.

    (5)   <u>COUNTY's PYXIS System</u> – Interface to the COUNTY's PYXIS med station is required to track unit dose. During the design of this Interface, the parties will determine whether the Interface shall be bi-directional and whether the Interface shall be in real time or batch file transfer mode.

    (6)   <u>COUNTY's Emergency Department Information System (EDIS)</u> – Interfaces to the COUNTY's Wellsoft EDIS are required to track and transfer health care data for minors who are provided care by COUNTY's Department of Health Services of COUNTY hospitals' emergency rooms. During the design of this Interface, the parties will determine whether the Interface shall be bi-directional and whether the Interface shall be in real time or batch file transfer mode.

Schedule I: External System Interfaces

Phase 1 System Interfaces

Outbound from	Inbound to	Partner	Transaction/Function
PCMS	PEMRS	Probation	ADT/Registration/Movement/Sch
PEMRS	COUNTY's Sunquest laboratory system	DHS	ORM/ Lab orders
Sunquest laboratory system	PEMRS	DHS	ORU/Lab Results
PEMRS	LabCorp	LAC-USC	ORM/ Lab orders
LabCorp	PEMRS	LAC-USC	ORU/Lab Results
PEMRS	Integrated System[1] (IS)	DMH	Services and procedures
Integrated System[1] (IS)	PEMRS	DMH	MH Episode History

Optional Phase Interfaces

Outbound from	Inbound to	Partner	Transaction/Function
PMA	PEMRS	DMH	Psychotropic Medication Authorization
PEMRS	PMA	DMH/Probation	Psychotropic Medication order
QuadraMed	PEMRS	DHS	Services and procedures
PEMRS	JHIS	LASD	ADT, EMR
EDIS	PEMRS	DHS	ADT
PEMRS	EDIS	DHS	ADT
PEMRS	Unknown	LAC-USC	ORM/Radiology Orders
Unknown	PEMRS	LAC-USC	ORM/Radiology Results
PEMRS	PCMS	Probation	Diet
PEMRS	PCMS	Probation	Medication
	PYXIS		

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1 When DMH implements IBHIS, this will be upgraded to interface with that system.

ATTACHMENT E

PEMRS TRAINING

Capitalized terms used in this Attachment E without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
1	COUNTY Executive Session	Task 1 thru Task 3	This session is designed to initiate leadership into the COUNTY System implementation at their health system, and to energize, educate, set expectation and inform executives about opportunities for their involvement in the project and provide technical review of domain requirements and hardware status. The objectives of this session are: - Energize and educate leaders about the project in general and provide specific knowledge, such as timelines, expectations, and expected benefits. - Encourage leadership to become involved in the project. - Inform leadership as to how they can effectively lead the project and successfully achieve its desired outcomes - Clarify leadership's vision for the future and how the System will help enable it. - Review with leadership	Estimated 8 hours	COUNTY personnel who are engaged in the project leadership (PLT)

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			recommended strategies for leading the project ▪ Provide opportunity for discussion of attendee questions		
2	Project Preparation Session and Project Kick-Off	Task 1 thru Task 3	Project Kickoff consists of three distinct activities: The Project Kickoff presentation, Current State Analysis, and Scope Review Sessions. Provide COUNTY with a high-level overview of the concepts behind documenting current state, identifying process improvement opportunities, and designing future state. Participate in a hands-on process improvement activity to build comfort and knowledge in how to determine opportunities for process improvement. Discover the benefits and inherent values in conducting process re-design. Develop an understanding of how to use Method M and Bedrock during the process design stage of the implementation project.	Estimated 80 hours	COUNTY personnel responsible for current state, process improvements, and future state design (JCHS, JJMH, Probation)

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			Assist the COUNTY project team in determining the appropriate next learning steps following the Project Preparation Session (e.g., PC basics, Project Management Workshop, Project Team Workshop, Solution and Tools Introduction and Millennium Fundamentals).		
3	Process Demo. for each Appl. Software Module	Task 6 Task 7	Provide the COUNTY a high-level overview of some of the CONTRACTOR'S recommended "best practices" for how the Application Software can improve their processes. Guide the COUNTY to look for features of the Application Software they want to incorporate in their design. Demonstrate the possibilities of what the Application Software can do, but not how to use the Application Software.	Estimated 2 hours each for up to 26 classes (once for each Appl. Software Module)	COUNTY personnel who are responsible for designing future state processes and who are responsible for deciding product database configurations.
4	Design Consulting Session for each Application Software Module	Task 3	Provide the COUNTY the opportunity to analyze the current state results, consider identified areas of improvement opportunities, and to begin consideration of future state design processes. Prepare the COUNTY to begin	Estimated 24 hours each for up to 26 classes (once for each Appl.	COUNTY personnel who are responsible for assisting in design of the future state process workflows.

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			designing future state.	Software Module)	
5	Database Build Workshop	Task 6 Task 7	Introduce the COUNTY to CONTRACTOR'S database building tools and how to effectively utilize them for decision making purposes. Define the "order of the build" for each Application Software module. Populate the database tables with valid information. Define a review process for monitoring and controlling the database build.	Estimated 4 hours each for up to 26 classes (once for each Appl. Software Module)	COUNTY personnel who are responsible for deciding product database configurations
6a	System Review Workshop	Task 4 Task 11	Define roles & responsibilities of COUNTY technical team. Review technical architecture. Discuss CONTRACTOR standards & terminology. System demonstration Establish context for Data Collection Materials Identify and discuss Integration topics	Estimated 40 hours	COUNTY Technical Team

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			Organize assignments and discuss next steps Review the Outcomes established for the COUNTY		
6b	Design Review Workshop	Task 6 Task 7	Present the design decisions to date for each solution and confirm these decisions are accurate. Review global database decisions including security. Provide initial application education. Provide an understanding of workflow using the Cerner system. Establish, and/or continue to establish context for Data Collection Materials. Deliver and discuss Data Collection Materials. Identify and discuss Integration topics. Review the Event Summary and Sign-off process. Organize assignments and discuss	Estimated 40 hours	COUNTY personnel who are responsible for assisting in design

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			next steps. Review the Outcomes established for the client.		
7	System Validation Session	Task 6 Task 7 Task 8	Provide recommendations to COUNTY regarding testing. Identify the COUNTY agencies which will play a role in System validation testing. Develop a Validation Strategy. Create a test plan which includes recommended components. Develop a Testing Plan for each phase of testing. Develop COUNTY-specific unit and System test scripts. Design drafts of testing scripts. Define issue tracking process.	Estimated 8 hours for each, for the duration of 4-5 days	All COUNTY team members responsible for conducting the User Acceptance Tests. Individuals who assisted in the design and build of the System.
8	Train the Trainer Workshop for Care Delivery Documentation, such as, but not limited to	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software	Estimated 24 to 40 hours each Application Software	Designated COUNTY User trainers.

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
	the following Application Software modules: Clinical Data Repository; CareNet: (PowerChart/Power Office Management, PowerOrders, PowerForms, PowerNote; and Clinical Documentation		module. Identify the work steps that support the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.	module.	
9	Train the Trainer Workshop for Patient Tracking and Management, such as, but not limited to the following Application Software modules: CapStone: (Registration and Scheduling); and Profile.	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support the workflow processes for these Application Software modules. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.	Estimated 24 to 40 hours each Application Software module.	Designated COUNTY User trainers.

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
10	Train the Trainer Workshop for Ancillary Systems such as, but not limited to the following Application Software modules: RadNet, PharmNet and PathNet.	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.	Estimated 24 to 40 hours each Application Software module.	Designated COUNTY User trainers.
11	Train the Trainer Workshop for Medication Management, such as, but not limited to the following Application Software modules: eMAR and CPOE.	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage	Estimated 24 to 40 hours each Application Software module.	Designated COUNTY User trainers.

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
			large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.		
12	Train the Trainer Workshop for imaging Applications Software modules such as, but not limited to CPDI and CareAware Multi-Media Digital Object	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.	Estimated 24 to 40 hours	Designated COUNTY User trainers.
13	Train the Trainer Workshop for Knowledge Content and Patient Education, such as, but not limited to the following Application Software modules:	Task 6 Task 7	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support	Estimated 24 to 40 hours	Designated COUNTY User trainers.

Class	Training Title	TASK Cross Reference	Training Objectives Description	Estimated Course Duration	Class Attendees
	Cerner Knowledge Content for Ambulatory and Krames Patient Education.		the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.		
14	Train the Trainer Workshop for any of the Optional Phase Systems, upon full execution of an Amendment by the COUNTY.	Task 7 Task 8	Provide education to the designated COUNTY User trainers. Introduce the COUNTY trainers to the role of the Application Software module. Identify the work steps that support the workflow processes for this Application Software module. Provide recommendations on how to effectively implement and manage large-volume training requirements. Assist the COUNTY trainers in developing effective facilitation skills.	Estimated 24 to 40 hours ea. Optional Phase System.	Designated COUNTY User trainers.

ATTACHMENT F

OTHER PROFESSIONAL SERVICES FEE SCHEDULE

ATTACHMENT F
OTHER PROFESSIONAL SERVICES FEE SCHEDULE

Capitalized terms used in this Attachment F without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

Other professional services as described in Subparagraph 7.5 (Other Professional Services) of the body of this Agreement and in connection with the provision of Optional Phase Systems shall be provided to COUNTY based upon the CONTRACTOR's Published Rate Schedule at the time of quotation or the following schedule, whichever is lowest. Adjustments to the hourly rate, if any, shall be calculated in accordance with Paragraph 73 (Cost of Living Adjustment) of the body of this Agreement.

Item #	CONTRACTOR Staff Level	Agreement Effective Date Maximum Hourly Rate
1	Practice Director	$465.00
2	Project Executive	$380.00
3	Consulting Architect	$425.00
4	Project Architect	$305.00
5	Project Manager	$340.00
6	Senior Application Specialist – Installation	$255.00
7	Application Specialist – Installation	$205.00
8	Entry Level Application Specialist – Installation	$150.00
9	Consulting Executive	$425.00
10	Physician Executive	$595.00
11	Consulting Manager	$340.00
12	Senior Consultant	$295.00
13	Consultant	$255.00
14	Technical Practice Director	$465.00
15	Technical Project Manager	$375.00
16	Senior Technical Consultant	$375.00
17	Technical Consultant	$315.00

Item #	CONTRACTOR Staff Level	Agreement Effective Date Maximum Hourly Rate
18	Lead Systems Engineer	$295.00
19	Senior Systems Engineer	$255.00
20	Systems Engineer	$210.00
21	Lead Systems Analyst - FSI	$295.00
22	Senior Systems Analyst - FSI	$255.00
23	Systems Engineer	$210.00
24	Lead Systems Analyst - MDI	$255.00
25	Senior Systems Analyst - MDI	$205.00
26	Systems Engineer	$210.00
27	Lead Technical Engineer	$220.00
28	Senior Technical Engineer	$200.00
29	Technical Engineer	$175.00
30	Learning Project Manager	$340.00
31	Senior Learning Consultant	$295.00
32	Learning Consultant	$255.00
33	Senior Multi-media Developer	$295.00
34	Multi-media Developer	$255.00

ATTACHMENT G

(RESERVED)

ATTACHMENT H

COUNTY FACILITIES

ATTACHMENT H
COUNTY Facilities

Capitalized terms used in this Attachment H without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

Headquarter Offices:

JCHS Headquarters	1925 Daly St.	Los Angeles, CA 90031
Mental Health Headquarters	550 S. Vermont Ave.	Los Angeles, CA 90020
Probation Headquarters	9150 E. Imperial Hwy	Downey, CA 90242
Kenneth Hahn Hall of Administration	500 W. Temple St.	Los Angeles, CA 90012

DHS Facilities:

Harbor – UCLA Medical Center	1000 W. Carson St.	Torrance, CA 90502
High Desert Health System	44900 N. 60th St. West	Lancaster, CA 93536
LAC+USC Healthcare Network	1200 N. State St.	Los Angeles, CA 90033
Martin Luther King, Jr. Multi-Service Ambulatory Care Center	12021 S. Wilmington Ave	Los Angeles, CA 90059
Rancho Los Amigos National Rehabilitation Center	7601 E. Imperial Hwy	Downey, CA 90242
ValleyCare Olive View – UCLA Medical Center and Health Center	14445 Olive View Dr.	Sylmar, CA 91342

Juvenile Halls:

Barry J. Nidorf Juvenile Hall	16350 Filbert St.	Sylmar, CA 91342
Central Juvenile Hall	1605 Eastlake Ave.	Los Angeles, CA 90033
Los Padrinos Juvenile Hall	7285 Quill Dr.	Downey, CA 90242

Camps:

Camp Afflerbaugh	6631 N. Stephens Ranch Rd.	La Verne, CA 91750
Camp Gonzales	1301 N. Las Virgenes Rd.	Calabasas, CA 91302
Camp Holton	12651 N. Little Tujunga Cyn. Rd.	Sylmar, CA 91342

*Please Note: The location of these facilities may be moved at anytime in the sole discretion of the Chief Probation Officer to any other location within Los Angeles County.

Camp Jarvis[1]	5300 W. Avenue I	Lancaster, CA 93536
Camp Kilpatrick	427 S. Encinal Cyn. Rd.	Malibu, CA 90265
Camp Mc Nair[1]	5300 W. Avenue I	Lancaster, CA 93536
Camp Mendenhall	42230 N. Lake Hughes Rd.	Lake Hughes, CA 93532
Camp Miller	433 S. Encinal Cyn. Rd.	Malibu, CA 90265
Camp Munz	42220 N. Lake Hughes Rd.	Lake Hughes, CA 93532
Camp Onizuka[1]	5300 W. Avenue I	Lancaster, CA 93536
Camp Paige	6601 N. Stephens Ranch Rd.	La Verne, CA 91750
Camp Resnik[1]	5300 W. Avenue I	Lancaster, CA 93536
Camp Rockey	1900 N. Sycamore Cyn. Rd.	San Dimas, CA 91773
Camp Routh	12500 Big Tujunga Cyn. Rd.	Tujunga, CA 91042
Camp Scobee[1]	5300 W. Avenue I	Lancaster, CA 93536
Camp Scott	28700 Bouquet Cyn. Rd.	Santa Clarita, CA 91390
Camp Scudder	28750 Bouquet Cyn. Rd.	Santa Clarita, CA 91390
Camp Smith[1]	5300 W. Avenue I	Lancaster, CA 93536
Dorothy Kirby Center	1500 S. Mc Donnell Ave.	Los Angeles, CA 90022

Area Office:

Vermont Office	3965 S. Vermont Ave	Los Angeles, CA 90037

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[1] Camps located at 5300 W. Avenue I, Lancaster, CA 93536 are also referenced as "Camp Challenger" or "Challenger"

*Please Note: The location of these facilities may be moved at anytime in the sole discretion of the Chief Probation Officer to any other location within Los Angeles County.

ATTACHMENT I

SPECIFIED JHIS APPLICATION SOFTWARE

ATTACHMENT I
Specified JHIS Application Software

Capitalized terms used in this Attachment I without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of this Exhibit A (Statement of Work).

Phase 1 System Application Software Modules

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
Medical Data Repository (Open Clinical Foundation Data Repository)	PowerChart[1] (Clinical Data Repository, PowerOrders, PowerNote)	PowerOrders (PS-20576) Clinical Office with PowerNote (PV-20230)
Open Engine	Open Engine	Open Engine (OE-20850) TCP/IP Communication Services (OE-22850) Asynchronous Communication Services (OE-22870)
Radiology (RadNet)	RadNet (Radiology Management)	Radiology Management (RA-20135)
Pharmacy (PharmNet)	PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)	Inpatient Pharmacy (PH-20160) MediSource Foundation (KS-22004) Departmental Clinical Supply

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[1] PowerChart is the same as PowerChart Office Management System.

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
		Chain for Pharmacy (PH-25201)
Laboratory (PathNet)	PathNet (General Laboratory, Microbiology)	General Laboratory (PA-20070) Microbiology (PA-20075) Anatomic Pathology (PA-20080) CAP SNOMED III (PA-22214)
Patient Management and Tracking (CareNet Patient Management, CareNet Patient Tracking)	Capstone: (Registration Management, Scheduling Management)	Registration Management (CP-20735) Patient Tracking (CP-20735)
Order Management (CareNet Order Management)	PowerChart (Clinical Data Repository, PowerOrders, PowerNote) Computerized Physician Order Entry (CPOE) CareNet: (Electronic Medication Administration Record (e-MAR), Clinical Documentation, PowerForms)	PowerOrders (PS-20576) Medication Administration Record (PS-22732)
Care Documentation (CareNet Care Documentation)	CareNet: (Electronic Medication Administration Record (e-MAR), Clinical Documentation, PowerForms)	Care Documentation (PS-22719)

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
Medical Record Tracking (Profile)	Profile (Health Information Management (HIM))	ProFile (MR-20400)
Scheduling (CareNet Scheduling)	Capstone: (Registration Management, Scheduling Management)	Scheduling Management (CP-20740)
Materials Management (ProTrack)	N/A	N/A
Human Resources (Lawson Insight)	N/A	N/A

Optional Phase Systems Application Software Modules

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
Care Coordination (CareNet Care Coordination)	CareNet: PowerPlan	PowerPlans (CA-20344)
Quality Assurance/Risk Management (Open Management Foundation Data Repository)	PowerInsight	PowerInsight Enterprise Data Warehouse (PI-20616)
Pharmacy (PharmNet)	PharmNet (Outpatient Pharmacy)	Outpatient Pharmacy (PH-20170)
Financials (ProCure)	Financials	Materials Management (PO-20200)
Interfaces	Open Port Licensed Software	Billing Outgoing (Batch) (IF-29275) PO Acknowledgement Inbound (IF-29522) PO Outbound (IF-29562) Unidirectional Device Interface (IF-29650) Bidirectional Device Interface (IF-29655) PC Encoder Interface (IF-29665)

EXHIBIT B

SCHEDULE OF PAYMENTS

EXHIBIT B

SCHEDULE OF PAYMENTS

Capitalized terms used in this Exhibit B without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of Exhibit A (Statement of Work).

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
1.1	Project Preparation Session						
1.2	Confirmed and Updated PEMRS Assessment						
1.3 (Key)	**Project Control Document (PCD)**	**$84,000**				**$8,400**	**$75,600**
			1.4	CONTRACTOR Delivery and Certification of Remote Hosting Services Plan and First Quarter Remote Hosting Services	$241,500		$241,500
2.1	MethodM Project Kickoff Event						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
2.2	Project Status Reports						
3.1	Trained COUNTY Staff						
3.2	Clinical and Business Processes Analysis						
3.3 (Key)	**Conceptual Design Document**	**$158,760**				**$15,876**	**$142,884**
			4.1	CONTRACTOR Tested and Certified Build Domain	$400,000	$40,000	$360,000
4.2	CONTRACTOR Delivered, Prepared, Configured, Tested and Certified CONTRACTOR-owned Hardware and Operating Software at COUNTY Facilities required for the System Software to perform in accordance with the Specifications and the Agreement						
4.3	CONTRACTOR Installed, Tested and Certified PEMRS Networking Equipment and Communications						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	Infrastructure						
4.4 (Key)	**CONTRACTOR Installed, Tested and Certified Phase 1 System Application Software Modules**	**$158,760**				**$15,876**	**$142,884**
			4.5	CONTRACTOR Certification of Second Quarter Remote Hosting Services	$241,500		$241,500
5.1	Medical Devices Interfaces (MDIs) Specifications	$11,544				$1,154	$10,390
5.2	External Systems Interfaces Specifications	$62,151				$6,215	$55,936
6.1.1 (Key)	**Design Documentation for each Phase 1 System Application Software Module**	**$977,734**				**$97,773**	**$879,961**
6.1.2	Built and Unit Tested Each Phase 1 System Application Software Module	$733,301				$73,330	$659,970
6.1.3	System Tested Each Phase 1 System Application Software	$488,867				$48,887	$439,980

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	Module						
			6.1.4	CONTRACTOR Certification of Third Quarter, Remote Hosting Services	$241,500		$241,500
6.2.1	Integration Test Plans and Test Scripts for the Phase 1 System						
6.2.2 (Key)	**Successful Integration Test Results for the Phase 1 System**	**$244,434**				**$24,443**	**$219,990**
			6.2.3	CONTRACTOR Certification of Fourth Quarter Remote Hosting Services	$241,500		$241,500
6.3.1	System Cutover and Conversion Plan for the Phase 1 System						
6.3.2	Verified System Cutover and Conversion Plan for the Phase 1 System						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
			6.3.3	CONTRACTOR Certification of Fifth Quarter Remote Hosting Services	$241,500		$241,500
6.4.1	Documented Training Classes and Training Materials for the Phase 1 System						
6.4.2	Trained COUNTY Trainers for the Phase 1 System						
6.5	Reference Documentation for the Phase 1 System						
6.6 (Key)	**Successfully Conducted User Acceptance Testing of the Phase 1 System**	**$158,760**				**$15,876**	**$142,884**
6.7 (Key)	**Production Use of the Phase 1 System at all COUNTY Facilities (Sum of Holdback Amounts for Remote Hosting Service Initiation Fee)**						**$40,000**
6.8	Post-Implementation Review Report for the Phase 1 System						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
6.9 (Key)	**Production Use of the Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities (Sum of Holdback Amounts for Phase 1 System Deliverables)**						$348,269
7.0.1 (Key)	**Revised and Updated Project Control Document (PCD) for each Optional Phase System [1]**						
7.0.2 (Key)	**Updated Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), Specifications, Exhibit D (Service Level Agreement), Specified Hardware and Operating Software, and Conceptual Design Document for each Optional Phase System**						

[1] Work performed under Task 7 (Optional Phase System Application Software Development) will require the application of an Amendment under Paragraph 6 of the body of the Agreement.

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
7.0.3	Updated Interface Design for each Optional Phase System						
7.1.1 (Key)	**Design Documentation for each Optional Phase System**						
7.1.2	Built and Unit Tested each Optional Phase System						
7.1.3	System Tested each Optional Phase System						
7.2.1	Integration Test Plans and Test Scripts for each Optional Phase System						
7.2.2 (Key)	**Successful Integration Test Results for each Optional Phase System**						
7.3.1	System Cutover and Conversion Plan for each Optional Phase System						
7.3.2	Verified System Cutover and Conversion Plan for each Optional Phase System						
7.4.1	Documented Training Classes and Training Materials for						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	each Optional Phase System						
7.4.2	Trained COUNTY Trainers for each Optional Phase System						
7.5	Reference Documentation for each Optional Phase System						
7.6 (Key)	**Successfully Conducted User Acceptance Testing of Each Optional Phase System**						
7.7	Production Use of each Optional Phase System at all COUNTY Facilities						
7.8	Post-Implementation Review Report for each Optional Phase System						
7.9 (Key)	**Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities**						
8.1	Documented Technical Configuration and Plan for the COUNTY Use of the 724Access Application						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	Software Module[2]						
8.2	Certification of Hardware and Software for the 724Access Application Software Module						
8.3	Trained COUNTY Technical Staff						
8.4	System Prepared for 724Access Implementation						
8.5	Successful Test and Validation of the 724Access Environment						
8.6 (Key)	**Operational 724Access for the Production Domain**						
9.1	Installed and Tested Medical Device Interfaces (MDIs)	$23,438				$2,344	$21,094
9.2.1	Built and Tested PEMRS Side of External System Interface						
9.2.2	Built and Tested External Side of External Systems Interfaces						

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[2] Work performed under Task 8 (Design and Implementation of the 724 Access System) will require the application of an Amendment under Paragraph 6 of the body of the Agreement.

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
9.2.3	Built and Tested External Systems Interfaces	$126,186				$12,619	$113,567
10.1	System Operations Plan						
10.2	Business Continuity Plan						
10.3	Application Management Services Operational Plan						
10.4	Set up and Configured Application Management Services	$96,000				$9,600	$86,400
10.5	Set up and Configured P2Sentinel Security Services						
11.1	Technical Configuration of the Production Domain						
11.2 (Key)	**CONTRACTOR Tested and Certified Production Domain**	**$158,760**				**$15,876**	**$142,884**
12.1	RESERVED						
12.2	RESERVED						
13.1	Operational Readiness Test Plan						
13.2	Documentation of Operational Readiness Tests Results and Certification for the Phase 1						

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	System and for each Optional Phase System						
14.1	Change Management Plan						
15.1	System Design Reports for Custom Programming Modifications and Additional Interfaces [3]						
15.2	Built and Tested Custom Programming Modifications and Additional Interfaces						
15.3	Production Use of Custom Programming Modifications and Additional Interfaces						
	Sum of Deliverables	$3,482,694			$1,607,500		$5,090,194
	Aggregate System Maintenance Fees [4]	$1,622,272					
	Aggregate Remote Hosting Services Fees[4]	$5,968,519					

[3] Work performed under Task 15 (Custom Programming Modifications and/or Additional Interfaces) will require the application of a Change Notice or an Amendment under Paragraph 6 of the body of the Agreement.
[4] Aggregate for Initial Term. See Paragraph 8.0 (Invoices and Payments) of the body of the Agreement and Exhibit D (Service Level Agreement) for payment terms.

Phase 1 System Deliverable			Remote Hosting Services Milestone			Holdback Amount	Payment Upon Approved Invoice
Deliverable Number	Deliverable Description	Deliverable Fixed Price	Deliverable Number	Description	Milestone Fixed Price		
	Aggregate Upgrades Implementation Services Fees[4]	$501,078					
	Aggregate Application Management Services Fees[4]	$2,404,579					
	Aggregate P2Sentinel Security Services Fees[4]	$251,486					
	OPS Pool Dollars	$689,279					
	Implementation Pool Dollars	$476,000					
	Contract Sum	**$17,003,408**					

EXHIBIT C

PROJECT SCHEDULE

EXHIBIT C
PROJECT SCHEDULE

Capitalized terms used in this Exhibit C without definition have the meaning given to such terms in the body of the Agreement and if not defined therein, in the body of Exhibit A (Statement of Work).

I. Delivery Schedule

Deliverable	Description	Weeks After Effective Date	Associated Milestone
1.1	Project Preparation Session	6	
1.2	Confirmed and Updated PEMRS Assessment	8	
1.3 (Key)	**Project Control Document (PCD)**	**9**	**1**
1.4	CONTRACTOR Delivery and Certification of Remote Hosting Services Plan and First Quarter Remote Hosting Services	9	1
2.1	MethodM Project Kickoff Event	8	
2.2	Project Status Reports	Monthly	
3.1	Trained COUNTY Staff		
3.2	Clinical and Business Processes Analysis		
3.3 (Key)	**Conceptual Design Document**	**17**	**1**
4.1	CONTRACTOR Tested and Certified Build Domain	2	1
4.2	CONTRACTOR Delivered, Prepared, Configured, Tested and Certified CONTRACTOR-owned Hardware and Operating Software at COUNTY Facilities required for the System Software to perform in accordance with the Specifications and the Agreement	20	
4.3	CONTRACTOR Installed, Tested and Certified PEMRS Networking Equipment and Communications Infrastructure	20	

Deliverable	Description	Weeks After Effective Date	Associated Milestone
4.4 (Key)	**CONTRACTOR Installed, Tested and Certified Phase 1 System Application Software Modules**	**14**	**2**
4.5	CONTRACTOR Certification of Second Quarter Remote Hosting Services	22	1
5.1	Medical Devices Interfaces (MDIs) Specifications	14	
5.2	External Systems Interfaces Specifications	14	
6.1.1 (Key)	**Design Documentation for each Phase 1 System Application Software Module**	**33**	**2**
6.1.2	Built and Unit Tested Each Phase 1 System Application Software Module	41	
6.1.3	System Tested Each Phase 1 System Application Software Module	50	
6.1.4	CONTRACTOR Certification of Third Quarter, Remote Hosting Services.	35	2
6.2.1	Integration Test Plans and Test Scripts for the Phase 1 System	41	
6.2.2 (Key)	**Successful Integration Test Results for the Phase 1 System**	**52**	**2**
6.2.3	CONTRACTOR Certification of Fourth Quarter Remote Hosting Services.	48	2
6.3.1	System Cutover and Conversion Plan for the Phase 1 System		
6.3.2	Verified System Cutover and Conversion of the Phase 1 System		
6.3.3	CONTRACTOR Certification of Fifth Quarter Remote Hosting Services.	61	3
6.4.1	Documented Training Classes and Training Materials for the Phase 1 System		

Deliverable	Description	Weeks After Effective Date	Associated Milestone
6.4.2	Trained COUNTY Trainers for the Phase 1 System		
6.5	Reference Documentation for the Phase 1 System		
6.6 (Key)	**Successfully Conducted User Acceptance Testing of the Phase 1 System**	**57**	**3**
6.7 (Key)	**Production Use of the Phase 1 System at all COUNTY Facilities**	**63**	**3**
6.8	Post-Implementation Review Report for the Phase 1 System		
6.9 (Key)	**Production Use of the Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities**	**67**	**4**
7.0.1 (Key)	**Revised and Updated Project Control Document (PCD) for each Optional Phase System** [1]		
7.0.2 (Key)	**Updated Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), Specifications, Exhibit D (Service Level Agreement), Specified Hardware and Operating Software, and Conceptual Design Document for each Optional Phase System**		
7.0.3	Updated Interface Design for each Optional Phase System		
7.1.1 (Key)	**Design Documentation for each Optional Phase System**		
7.1.2	Built and Unit Tested each Optional Phase System		

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[1] Work performed under Task 7 (Optional Phase System Application Software Development) will require the application of an Amendment under Paragraph 6 of the body of the Agreement.

Deliverable	Description	Weeks After Effective Date	Associated Milestone
7.1.3	System Tested each Optional Phase System		
7.2.1	Integration Test Plans and Test Scripts for each Optional Phase System		
7.2.2 (Key)	**Successful Integration Test Results for each Optional Phase System**		
7.3.1	System Cutover and Conversion Plan for each Optional Phase System		
7.3.2	Verified System Cutover and Conversion of each Optional Phase System		
7.4.1	Documented Training Classes and Training Materials for each Optional Phase System		
7.4.2	Trained COUNTY Trainers for each Optional Phase System		
7.5	Reference Documentation for each Optional Phase System		
7.6 (Key)	**Successfully Conducted User Acceptance Testing of each Optional Phase System**		
7.7	Production Use of each Optional Phase System at all COUNTY Facilities		
7.8	Post-Implementation Review Report for each Optional Phase System		
7.9 (Key)	**Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities**		

Deliverable	Description	Weeks After Effective Date	Associated Milestone
8.1	Documented Technical Configuration and Plan for the COUNTY Use of the 724Access Application Software Module[2]		
8.2	Certification of Hardware and Software for the 724Access Application Software Module		
8.3	Trained COUNTY Technical Staff		
8.4	System Prepared for 724Access Implementation		
8.5	Successful Test and Validation of the 724Access Environment		
8.6 (Key)	**Operational 724Access for the Production Domain**		
9.1	Installed and Tested Medical Devices Interfaces (MDIs)	**52**	
9.2.1	Built and Tested PEMRS Side of External System Interfaces		
9.2.2	Built and Tested External Side of External Systems Interfaces		
9.2.3	Built and Tested External Systems Interfaces	52	
10.1	System Operations Plan		
10.2	Business Continuity Plan		
10.3	Application Management Services Operational Plan		
10.4	Set up and Configured Application Management Services	**59**	
10.5	Set up and Configured P2Sentinel Security Services		
11.1	Technical Configuration of the Production Domain		

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[2] Work performed under Task 8 (Design and Implementation of the 724Access System) will require the application of an Amendment under Paragraph 6 of the body of the Agreement.

Deliverable	Description	Weeks After Effective Date	Associated Milestone
11.2 (Key)	**CONTRACTOR Tested and Certified Production Domain**	62	3
12.1	RESERVED		
12.2	RESERVED		
13.1	Operational Readiness Test Plan		
13.2	Documentation of Operational Readiness Tests Results and Certification for the Phase 1 System and for each Optional Phase System		
14.1	Change Management Plan		
15.1	System Design Reports for Custom Programming Modifications and Additional Interfaces[3]		
15.2	Built and Tested Custom Programming Modifications and Additional Interfaces		
15.3	Production Use of Custom Programming Modifications and Additional Interfaces		

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[3] Work performed under Task 15 (Custom Programming Modifications and/or Additional Interfaces) will require the application of a Change Notice or an Amendment under Paragraph 6 of the body of the Agreement.

EXHIBIT C
PROJECT SCHEDULE

II. Milestone Definitions

Milestone	Definition
1	Successful Delivery of the Conceptual Design Document in accordance with Subtask 3.3 (Develop Conceptual Design Document) of this Statement of Work (Exhibit A).
2	Successful Integration Tests for the Phase 1 System in accordance with Subparagraph 9.2 (CONTRACTOR Tests) of the Agreement and Subtask 6.2 (Plan and Perform Integration Tests for the Phase 1 System) of this Statement of Work (Exhibit A).
3	Production Use of the Phase 1 System at all COUNTY Facilities in accordance with Subtask 6.7 (Implement the Phase 1 System for Production Use at all COUNTY Facilities) following successful User Acceptance Testing of the Phase 1 System as set forth in Subparagraph 9.3 (User Acceptance Tests) of the Agreement and Subtask 6.6 (Conduct User Acceptance Testing of the Phase 1 System) of this Statement of Work (Exhibit A).
4	Maintenance of Production Use of the Phase 1 System for thirty (30) consecutive days with no Deficiencies as set forth in Subtask 6.9 (Maintain Production Use of Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities) of this Statement of Work (Exhibit A).
5	For each Optional Phase System, Successful Delivery of the Updated Conceptual Design Document for such Optional Phase System in accordance with Subtask 7.0.2 (Update Exhibit G (PEMRS Assessment) and its attachments, the Onsite Workflow Assessment (OWA), the Conceptual Design Document, the Specifications, Exhibit D (Service Level Agreement), and the Specified Hardware and Operating Software, for each Optional Phase System) of this Statement of Work (Exhibit A).
6	For each Optional Phase System, successful Integration Tests for such Optional Phase System, all then-implemented Optional Phase Systems, and the Phase 1 System in accordance with Subparagraph 9.2 (CONTRACTOR Tests) of the Agreement and Subtask 7.2 (Plan and Perform Integration Tests for each Optional Phase System) of this Statement of Work (Exhibit A).

Milestone	Definition
7	For each Optional Phase System, Production Use of such Optional Phase System at all COUNTY Facilities in accordance with Subtask 7.7 (Implement each Optional Phase System for Production Use at all COUNTY Facilities), following successful User Acceptance Testing of each Optional Phase System as set forth in Subparagraph 9.3 (User Acceptance Tests) of the Agreement and Subtask 7.6 (Conduct User Acceptance Testing of each Optional Phase System) of this Statement of Work (Exhibit A).
8	For each Optional Phase System, together with all other then-implemented Optional Phase Systems and the Phase 1 System, maintenance of Production Use of such Optional Phase System for thirty (30) consecutive days with no Deficiencies as set forth in Subtask 7.9 (Maintain Production Use of each Optional Phase System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities) of this Statement of Work (Exhibit A).

EXHIBIT C
PROJECT SCHEDULE

III. Chronology Table

Week from Effective Date	Task Number	Description
2	4.1	CONTRACTOR Tested and Certified Build Domain
6	1.1	Project Preparation Session
8	1.2	Confirmed and Updated PEMRS Assessment
8	2.1	MethodM Project Kickoff Event
9	1.3	Project Control Document
9	1.4	CONTRACTOR Delivery and Certification of Remote Hosting Services Plan and First Quarter Remote Hosting Services
14	4.4	CONTRACTOR Installed, Tested and Certified Phase 1 System Application Software Modules
14	5.1	Medical Devices Interfaces (MDIs) Specifications
14	5.2	External Systems Interfaces Specifications
17	3.3	Conceptual Design Document
20	4.2	CONTRACTOR Delivered, Prepared, Configured, Tested and Certified CONTRACTOR-owned Hardware and Operating Software at COUNTY Facilities required for the System Software to perform in accordance with the Specifications and the Agreement
20	4.3	CONTRACTOR Installed, Tested and Certified PEMRS Networking Equipment and Communications Infrastructure
22	4.5	CONTRACTOR Certification of Second Quarter Remote Hosting Services
33	6.1.1	Design Documentation for each Phase 1 System Application Software Module
35	6.1.4	CONTRACTOR Certification of Third Quarter, Remote Hosting Services
41	6.1.2	Built and Unit Tested Each Phase 1 System Application Software Module
41	6.2.1	Integration Test Plans and Test Scripts for the Phase 1 System
48	6.2.3	CONTRACTOR Certification of Fourth Quarter Remote Hosting Services.
50	6.1.3	System Tested Each Phase 1 System Application Software Module
52	6.2.2	Successful Integration Test Results for the Phase 1 System
52	9.1	Installed and Tested Medical Devices Interfaces (MDIs)
52	9.2.3	Built and Tested External Systems Interfaces
59	10.4	Set up and configured Application Management Services

Week from Effective Date	Task Number	Description
57	6.6	Successfully Conducted User Acceptance Testing of the Phase 1 System
61	6.3.3	CONTRACTOR Certification of Fifth Quarter Remote Hosting Services.
62	11.2	CONTRACTOR Tested and Certified Production Domain
63	6.7	Production Use of the Phase 1 System at all COUNTY Facilities
67	6.9	Production Use of the Phase 1 System for Thirty (30) Consecutive Days with No Deficiencies at all COUNTY Facilities

EXHIBIT D

SERVICE LEVEL AGREEMENT

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EXHIBIT D

SERVICE LEVEL AGREEMENT

SOFTWARE MAINTENANCE, REMOTE HOSTING SERVICES,
UPGRADES IMPLEMENTATION SERVICES,
AND APPLICATION MANAGEMENT SERVICES

This Exhibit D (together with all Schedules hereto, "Service Level Agreement" or "SLA") is attached to, and defines the services levels to be provided under, that certain Agreement dated _____, 2010 (together with all Exhibits and Attachments, the "Agreement"), by and between County of Los Angeles (COUNTY) and Cerner Corporation (CONTRACTOR) for a Probation Electronic Medical Records System (PEMRS) for COUNTY's Probation Department (Probation) and health care providers serving minors residing in its halls and camps.

Capitalized terms used in this SLA without definition have the meanings given to such terms in the body of the Agreement and if not defined therein, in the body of Exhibit A (Statement of Work) of the Agreement. As used herein, the following terms have the following meanings:

"1st Level Help Desk" shall have the meaning set forth in Section VI.A.(2)(d) of this SLA.

"2nd Level Help Desk Services" shall have the meaning set forth in Section IV.A.(5) of this SLA.

"Approved Change Management Plan" shall have the meaning set forth in Section V.A.(1)(b) of this SLA.

"Approved Upgrade Plan" shall have the meaning set forth in Section III.A.(1)(h) of this SLA.

"Availability," "Availability Warranty" shall have the meaning set forth in Schedule I (Service Level Commitments) to this SLA.

"Back-end System" shall have the meaning as set forth in Section II.C.(3) of this SLA.

"Build Domain" shall have the meaning set forth in Exhibit A of the Agreement.

"Certification Domain" shall have the meaning set forth in Exhibit A of the Agreement.

"Change Management Plan" shall mean Deliverable 14.1 of the Statement of Work (Exhibit A) of the Agreement.

"Corrective Maintenance" shall have the meaning set forth in Section I.A.(1) of this SLA.

"COUNTY Representative" shall have the meaning as defined in the introductory of this SLA.

"Domain" shall have the meaning set forth in Exhibit A of the Agreement.

"Front-end System" shall have the meaning as set forth in Section II.C.(4) of this SLA.

"LAN" shall mean Local Area Network.

"Major System Change" shall mean a backend upgrade, operating system upgrade, Upgrade, SAN upgrade, or Oracle®[1] database upgrade.

"Mock Upgrade" shall mean the process of creating, when necessary, and managing the domain(s) and performing a mock test resulting from the installation of an Upgrade.

"P2Sentinel Security Services" shall have the meaning set forth in Section II.C.(2)(i) of this SLA.

"PLT" shall mean Project Leadership Team.

"Production Domain" shall have the meaning set forth in Exhibit A of the Agreement.

"Report Management" shall have the meaning as set forth in Section IV.A.(4) of this SLA.

"Response Time" shall mean the elapsed time for a User's execution of a transaction which has an associated Response Time Management System standard when using the Production Domain, rounded up to the nearest second.

"Response Time Management System" or "RTMS" shall mean the Response Time measurement tool installed by CONTRACTOR and enabled on the Production Domain.

"Response Time Warranty" shall have the meaning set forth in Schedule I (Service Level Commitments) to this SLA.

"RRD" shall mean remote report distribution.

"Scheduled Downtime" shall mean the aggregate total duration in minutes of scheduled or planned System Downtime set forth in the System Operations Plan approved by COUNTY as Deliverable 10.1 of Exhibit A (Statement of Work) or as oth-

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[1] Oracle is a registered trademark of Oracle Corporation and/or its affiliates.

erwise mutually agreed by the COUNTY's Project Director and CONTRACTOR. With respect to any quarter and excluding COUNTY-requested Scheduled Downtime, if Scheduled Downtime in such quarter exceeds the limits set forth in Attachment A (PEMRS Functional, Technical and Operational Requirements) to Exhibit A (Statement of Work), then such excess shall be considered Unscheduled Downtime.

"Security Incident" shall have the meaning set forth in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)) of the Agreement.

"Service Package" (sometimes "Patch") shall mean an Update supplied as a fix or enhancement of a specific hosted System Component.

"Severity Level" shall have the meaning set forth in Schedule I (Service Level Commitments) to this SLA.

"System Software Support" shall have the meaning set forth in Section I.A.(1) of this SLA.

"System Stabilization Period" shall mean the seventy-two (72) hour period following each of i) first Production Use of the Phase 1 System or any Optional Phase System and ii) implementation of a Major System Change.

"System Availability" shall have the meaning set forth in Schedule I (Service Level Commitments) of this SLA.

"Temporary Domain" shall have the meaning set forth in Exhibit A of the Agreement.

"Update" shall have the meaning set forth in Section I.A.(6) of this SLA.

"Upgrade" shall have the meaning set forth in Section I.A.(6) of this SLA.

"Unscheduled Downtime" shall mean all Downtime occurring in the Production Domain other than Scheduled Downtime. Unscheduled Downtime includes, but is not limited to, Downtime resulting from a problem that has not been resolved as is required by this SLA.

"WAN" shall mean Wide Area Network.

CONTRACTOR shall provide the following "Services" in respect of the System and described in more detail in the remaining provisions of this SLA:

- SYSTEM MAINTENANCE (SECTION I),

- REMOTE HOSTING SERVICES (SECTION II),

- UPGRADES IMPLEMENTATION SERVICES (SECTION III), AND

- APPLICATION MANAGEMENT SERVICES (AMS) (SECTION IV)

In general, these Services provide all maintenance, support, hosting, Upgrade implementation and application management services required for the Phase 1 System and each applicable Optional Phase System to operate (and to be operated by all Users at all COUNTY Facilities) in accordance with the Specifications and otherwise with the Agreement. Without limiting the foregoing, the Services include maintenance of the Phase 1 System's and each applicable Optional Phase System's compliance with the Response Time and Availability Warranties as provided in this SLA.

Additionally without limiting the foregoing, CONTRACTOR shall provide, manage, monitor, control, and report on System security in accordance with the Specifications as provided in Section II (Security Requirements) of Attachment A (PEMRS Functional, Technical, and Operational Requirements) of Exhibit A (Statement of Work) of the Agreement. In addition to the reporting requirements set forth in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)) to the Agreement, CONTRACTOR shall promptly report to COUNTY's Project Manager by email or telephone all County-related Security Incidents, but in no event later than two (2) hours following CONTRACTOR knowledge of the Security Incident, with subsequent notification in writing to follow shortly thereafter in accordance with the timeframes set forth in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)).

In addition, on a monthly basis, CONTRACTOR shall summarize any non-County related Security Incidents of which CONTRACTOR has knowledge that have occurred during the period and their remediation at a high level with COUNTY Project Manager using telephone or email communications, as determined by CONTRACTOR in its sole discretion. These high level summaries shall include the nature of the incident(s), steps taken to remediate the associated threat(s) or vulnerability(ies), and any residual risk(s). The summaries shall not include any information that could reveal the customer(s) affected directly by the incident.

Paragraph 6 (Change Notices and Amendments) of the body of the Agreement provides the overall change management procedures for the Agreement. Without limiting said provisions, CONTRACTOR shall manage changes relative to this SLA as specified in Section V below and the Change Management Plan accepted by the COUNTY as Deliverable 14.1 (Change Management Plan) of Exhibit A (Statement of Work) of the Agreement. COUNTY and CONTRACTOR acknowledge that both shall participate in regular change control meetings and that the approved Change Management Plan will control all System change processes, including workflows and parameter or other changes that impact System performance.

Also defined herein are services that involve active participation of COUNTY. Unless otherwise specified herein as a COUNTY obligation, CONTRACTOR shall perform all Services as defined herein.

CONTRACTOR shall deliver all Upgrades and Updates, all Documentation and all other Deliverables required under this SLA to COUNTY in accordance with Subparagraph 4.6 (Delivery of Work) of the body of the Agreement. Further, as of the Effective Date, no hardware or other equipment is being purchased from CONTRACTOR by COUNTY pursuant to this Service Level Agreement or under other professional services or otherwise.

With respect to all Services defined herein, COUNTY will identify three alternates (in addition to COUNTY's Project Manager) to serve as COUNTY's support contacts (hereafter referred to as the "COUNTY Representatives"). Only COUNTY's Representatives shall be authorized to request Services defined herein (when in accordance with this SLA, the Services require an explicit COUNTY request to initiate their delivery) on behalf of COUNTY. COUNTY may change its Representative(s) by written notice to CONTRACTOR.

In addition to the four COUNTY Representatives identified in the paragraph immediately above, COUNTY will identify a Security Representative to provide COUNTY security services and information including but not limited to identity management, User provisioning, role definitions, group management, and other security services required of COUNTY in respect to CONTRACTOR's provision of the Remote Hosting Services (as defined below) and the proper operation of CONTRACTOR's Millennium LDAP Authentication with Pass-through Application Software module.

In respect to the Services specified in this Service Level Agreement, CONTRACTOR's Project Director shall designate the single point of contact for all communications, including, without limitation, the methods, telephone numbers, email and other addresses to be used by COUNTY to communicate with CONTRACTOR's staff providing such Services.

This Service Level Agreement also contains attached Schedules II-V which specify the fees that COUNTY will pay to CONTRACTOR in consideration of the Services defined herein. These fees specify the monthly and, if applicable, one-time and/or annual fees payable by COUNTY in accordance with this SLA and otherwise with the Agreement for CONTRACTOR's provision of the Services defined herein. These fees also specify those amounts, specified in Schedule III herein, that COUNTY will pay to CONTRACTOR in the event that COUNTY exceeds the Response Time and Availability Warranty assumptions specified in Schedule I to this SLA.

I.   SYSTEM MAINTENANCE

        Without limiting the introductory portions of this SLA or otherwise the provisions of the Agreement, CONTRACTOR shall provide the following System maintenance services:

A.   SUPPORT SERVICES

(1)   CONTRACTOR shall: (a) correct the failure of the System Software to operate in accordance with Specifications and otherwise with this Agreement (such correction of the System Software is hereafter referred to as "Corrective Maintenance") and (b) provide Upgrades and Updates of the System Software as defined in Section I.A(6) below. Hereafter, Corrective Maintenance, Upgrades and Updates are collectively referred to as "System Software Support". Corrective Maintenance shall be either of a critical support nature or of a routine support nature. For purposes of System Software Support, Interfaces shall be deemed part of Application Software and shall receive the same System Software Support services.

(2)   CONTRACTOR shall assist COUNTY with problem (a.k.a. Deficiency) determination and resolution. Problem determination describes, without limitation, the activities associated with engaging in a service request, checking background and change management information, reviewing service activity, assessing issues, trouble shooting, and developing a problem statement. The problem statement is used to determine the category of service required to further investigate the problem, develop a resolution, communicate the resolution, execute the resolution, and confirm the results. Problem determination and resolution activities may be initiated by COUNTY via telephone or email to CONTRACTOR's designated single point of communication or by posting to the designated area of Cerner.com.

CONTRACTOR shall provide a web based designated area in Cerner.com where COUNTY can submit, review, update, or request closure for a service request from CONTRACTOR, as well as determine when a service request is assigned, owner of the service request, and the time the service request is assigned. CONTRACTOR will provide reports of service requests, upon request from COUNTY and shall also make such reports available to COUNTY on the designated area. Such reports shall include, at a minimum, the complete history of each service request from submittal by COUNTY to resolution and including all updates.

CONTRACTOR's investigation of every problem shall continue as needed, with a goal of restoring performance of the applicable System Component in accordance with the Specifications and otherwise with the Agreement, in accordance with the timeframes set forth in Table 1 of Schedule I (Service Level Commitments) to this SLA, based upon the Severity Level.

If it is determined in accordance with Section I.A(8) below that a problem is caused by an item listed in Section I.A(8), then except as expressly provided in this SLA, CONTRACTOR shall not be obligated to provide Corrective Maintenance to remedy such problem. COUNTY may request that CONTRACTOR provide further Corrective Maintenance in respect of such problem as other professional services pursuant to Subparagraph 7.5 (Other Professional Services) of the body of this Agreement. Notwithstanding the foregoing, CONTRACTOR shall, at no further cost to the COUNTY, consult and collaborate with COUNTY staff and any provider of the Specified Hardware, Specified Operating Software and/or any interfacing external COUNTY system in connection with such problem.

(3)   CONTRACTOR shall furnish and perform critical support services twenty-four (24) hours per day, seven (7) days per week, every day of each year for support of the System Software. Critical problems are those categorized as Severity Levels 1 and 2 as defined in Table 1 of Schedule I (Service Level Commitments) to this SLA.

CONTRACTOR shall meet the service levels commitments with respect to resolving critical problems, as identified on Table 1 of Schedule I (Service Level Commitments) to this SLA, for ninety-five percent (95%) of COUNTY's service requests identified by COUNTY as Severity Level 1 or 2. Less than five percent (5%) of requests may require longer resolution times. In the event that the assigned resolution times are not met by CONTRACTOR, CONTRACTOR shall immediately submit to COUNTY a written action plan and status report and shall take other actions as set forth in Section A (System Software Support Service Level Commitments) of Schedule I (Service Level Commitments) to this SLA. Each plan is subject to the written approval of COUNTY Project Director. If CONTRACTOR does not resolve the problem within the time set forth in said approved action plan, then the period immediately following the submittal of the Severity Level 1 or 2 service request through the date of resolution of the problem shall automatically constitute Unscheduled Downtime and credits shall apply as provided in Schedule I.

(4)   Routine support services are non-critical. CONTRACTOR shall provide routine support services during the hours specified in Deliverable 10.1 (System Operations Plan) of Exhibit A (Statement of Work) of the Agreement and onsite support as needed. Non-critical problems are those categorized as Severity Levels 3 and 4 as defined in Table 1 of Schedule I (Service Level Commitments) to this SLA.

CONTRACTOR shall meet the service level commitments with respect to resolving non-critical problems, as identified on Table 1 of Schedule I (Service Level Commitments) to this SLA, for ninety-five percent (95%) of COUNTY's service requests identified by COUNTY as Severity Level 3 or 4 problems. Less than five percent (5%) of requests may require longer resolution times. In the event that the assigned resolution time standards are not met by CONTRACTOR, CONTRACTOR shall immediately submit to COUNTY a written action plan and report and take such other actions as set forth in Section A (System Software Support Service Level Commitments) of Schedule I (Service Level Commitments) to this SLA. Each plan is subject to the written approval of COUNTY Project Director. If CONTRACTOR does not resolve the service request within the time set forth in said approved action plan, except in the case where the reason for CONTRACTOR inability to so resolve is attributable to necessary modification of Baseline Software code (subject to COUNTY's ability to reassign a severity level to such service request as described in Schedule I), then the period immediately following the submittal of the Severity Level 3 or 4 service request through the date of resolution of the problem shall automatically constitute Unscheduled Downtime and credits shall apply as provided in Schedule I.

(5) Corrective Maintenance shall be performed as follows:

(a) For Severity Levels 1 or 2, COUNTY may request Corrective Maintenance by CONTRACTOR's designated telephone number or posting to the designated area in Cerner.com.

(b) For Severity Levels 3 or 4, County may request Corrective Maintenance by posting to the designated area in Cerner.com.

(c) As part of Corrective Maintenance, COUNTY will provide CONTRACTOR with information and assistance reasonably requested by CONTRACTOR as necessary to detect, simulate and correct the failure of the System to operate in accordance with the Specifications and the Agreement.

(d) CONTRACTOR shall provide COUNTY with revised and installed System Components and avoidance procedures to correct program errors when such procedures are within COUNTY's capability to control or perform.

(e) At CONTRACTOR's option and expense, CONTRACTOR may perform Corrective Maintenance at COUNTY Facility (ies).

        (f)   CONTRACTOR shall provide Corrective Maintenance for the then current and three (3) most recent prior Upgraded versions of the System Software for the term of the Agreement. With respect to Specified Hardware and Specified Operating Software Compatibility problems, CONTRACTOR's obligations to provide Corrective Maintenance shall be subject to Subparagraph 10.1.D.4 of the body of the Agreement.

    (6)   Except as expressly set forth in this Section I.A(6), "Upgrades" shall mean major releases and/or versions of the System Software made available to CONTRACTOR's other customers pursuant to support arrangements similar to the support arrangements provided to COUNTY, regardless of whether such other customers use Remote Hosting Services. "Updates" shall mean updates, corrections, service packs/packages, modifications and/or new releases and versions of the System Software other than Upgrades, in each case, made available to CONTRACTOR's other customers pursuant to support arrangements similar to the support arrangements provided to COUNTY, regardless of whether such other customers use Remote Hosting Services. "Upgrades" and "Updates" also include but are not limited to the following:

        (a)   California (State) adopts or amends laws or issues regulations which are deemed necessary by the State governing body, and when COUNTY notifies CONTRACTOR of such in writing or which CONTRACTOR otherwise learns of, including, but not limited to, changes to Title 15 or Title 24 of the California Code of Regulations and/or the Welfare and Institutions Code.

        (b)   Federal agencies adopt regulations which are deemed necessary by and/or through Federal agencies (examples include but are not limited to, the Federal regulations issued by Internal Revenue Service (IRS), Drug Enforcement Administration (DEA), Centers for Medicare and Medicaid Services (CMS), Federal Drug Administration (FDA), and/or the Office of the National Coordinator for Health Information Technology (ONCHIT)).

        (c)   Standards Development Organizations (SDOs) publish changes of standards used in the System for general use which CONTRACTOR adopts and implements for its customers. Such SDOs include the Certification Commission for Health Information Technology (CCHIT) and the National Commission for Correctional Health Care (NCCHC), Health Level 7 (HL7), and/or ANSI X.12;

provided that the item giving rise to such Updates or Upgrades impacts at least one of CONTRACTOR's customers (excluding other Los Angeles County departments) pursuant to support arrangements similar to the support arrangements provided to COUNTY, regardless of whether such other customers use Remote Hosting Services.

Solely with respect to Third Party Software, COUNTY acknowledges that CONTRACTOR's ability to provide Updates and Upgrades are limited to those Updates and Upgrades that CONTRACTOR is authorized to distribute. Such acknowledgement in no way limits CONTRACTOR's other obligations under the Agreement with respect to such Third Party Software, including but not limited to CONTRACTOR's warranty obligations under Subparagraph 10.1 of the body of the Agreement and CONTRACTOR's obligations under this SLA to provide Corrective Maintenance.

(7)   At no additional cost to COUNTY other than the applicable fees identified in Schedules IV and V of this SLA, CONTRACTOR shall install, configure, Tailor, integrate and convert such number of Upgrades and Updates as further specified in Section III (Upgrades Implementation Services) and/or Section IV (Application Management Services) of this Service Level Agreement.

(8)   CONTRACTOR is not required to perform Corrective Maintenance with respect to System failures to the extent directly caused by:

(a)   COUNTY use of the System inconsistent with the terms of the Agreement, including usage levels that exceed limits specified in Attachment A (PEMRS Functional, Technical and Operational Requirements) and/or Attachment B (Schedule of PEMRS Software) of Exhibit A (Statement of Work) and/or the Response Time and Availability Warranty assumptions set forth in Schedule I (Service Level Commitments) of this SLA, as initially determined by COUNTY but subject to Paragraph 46 (Dispute Resolution Procedure) of the body of this Agreement.

(b)   Use of User or network devices and/or software, or connection methods and/or changes of COUNTY WAN/LAN connectivity not approved by CONTRACTOR in writing before such Use, or malware or any malicious act that affects the System and is introduced by COUNTY, as initially determined by COUNTY but subject to Paragraph 46 (Dispute Resolution Procedure) of the body of this Agreement. The parties understand and agree that Specified Hardware and Operating Software have already been approved by CONTRACTOR.

(c)   Specified Hardware or Operating Software failures (other than Compatibility issues and Deficiencies of Specified Hardware or Operating Software caused by System Software), but solely to the extent the System Software or performance Deficiency is caused by or results directly from a failure of Specified Hardware or Operating Software, as determined by CONTRACTOR, to COUNTY's Project Director's reasonable satisfaction.

(d)   Failure of COUNTY to authorize CONTRACTOR to implement an update or upgrade of the Front-End System or Back-End System recommended by CONTRACTOR subject to the provisions of the approved Deliverable 14.1 (Change Management Plan), provided such change does not modify Specified Hardware and Operating Software and that CONTRACTOR assures that the change enables the System to operate in accordance with the Specifications and otherwise the Agreement.

(e)   Failure of external COUNTY systems (other than Compatibility issues and Deficiencies of external COUNTY systems caused by System Software), that operate within an Interface provided by the System operating in the Production Domain, including changes of the interfaced external COUNTY system not approved by CONTRACTOR that affect the Interface or fail to comply with the Interface Specifications provided by CONTRACTOR and approved by COUNTY as Deliverable 5.2 (External Systems Interfaces Specifications) of Exhibit A (Statement of Work) of the Agreement, as initially determined by COUNTY but subject to Paragraph 46 (Dispute Resolution Procedure) of the body of this Agreement.

(f)   Documented introduction by COUNTY of a System change that adversely affects System performance and was not introduced in accordance with the Change Management Plan approved as Deliverable 14.1 (Change Management Plan) of Exhibit A (Statement of Work), as initially determined by COUNTY but subject to Paragraph 46 (Dispute Resolution Procedure) of the body of this Agreement.

(9)   CONTRACTOR shall provide Upgrades and Updates to the System Software pursuant to the terms of this SLA, provided COUNTY is paying maintenance and support fees in accordance with the Agreement. CONTRACTOR will not be responsible for the installation or "retrofitting" of those Upgrades and Updates to Application Software modules which contain modifications which CONTRACTOR has previously identified to COUNTY's Project Di-

rector in writing and in advance of making such modification, as in-compatible with Baseline Software, unless COUNTY elects to re-quest and CONTRACTOR agrees to provide such service as other professional services pursuant to Subparagraph 7.5 (Other Profes-sional Services) of the body of this Agreement.

(10)   Without limiting Subparagraph I.A(5)(f) above, in the event CONTRACTOR intends to discontinue System Software Support of any Application Software module, CONTRACTOR shall provide COUNTY with a minimum of two (2) years prior written notice and shall continue System Software Support during such period.

B.   SYSTEM SOFTWARE SUPPORT TERM AND FEES

(1)   For the Phase 1 System, CONTRACTOR shall provide and COUNTY shall receive System Software Support commencing upon COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement, and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

For each Optional Phase System, CONTRACTOR shall provide and COUNTY shall receive System Software Support commencing upon COUNTY's written approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement, and continuing for the Term of the Agreement, unless otherwise terminated in accor-dance with the provisions of the Agreement.

(2)   For the Phase 1 System, System Maintenance Support fees shall commence upon approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) and shall be payable monthly or, if applicable, annually in advance, unless otherwise provided herein. The amount of the System Maintenance Support fees shall be in accordance with Schedule II (System Maintenance Fees) to this SLA.

For each Optional Phase System, System Maintenance Support fees shall commence upon approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities) and shall be payable monthly or, if applicable, annually in advance, un-less otherwise provided herein. The amount of the System Main-tenance Support fees shall be in accordance with Schedule II (Sys-tem Maintenance Fees) of this SLA.

II.   REMOTE HOSTING SERVICES

Without limiting the introductory paragraphs of this SLA or otherwise the provisions of the Agreement, CONTRACTOR shall provide the following five (5) services as "Remote Hosting Services," as necessary to operate PEMRS 24 hours per day, 7 days per week, every day of each year in accordance with the Specifications, including but not limited to the Remote Hosting Specifications described in Section III (Remote Hosting Services) of Attachment A (PEMRS Functional, Technical, and Operational Requirements) of Exhibit A (Statement of Work), and otherwise with the Agreement, in accordance with the Response Time and Availability Warranties set forth on Schedule I (Service Level Commitments) to this SLA.

1   Facility Management (operation and management of CONTRACTOR's high availability Tier 4 physical facilities in Kansas City, MO identified below).

2   Network Management (operation and management of CONTRACTOR's Local Area and Wide Area Networks (LAN/WAN))

3   System Management (operation and management of the data processing systems and equipment required for System operation)

4   Database Management (administration of the data base management system required for System operation)

5   Interface Management (monitoring and managing medical devices and external systems Interfaces)

CONTRACTOR shall host PEMRS at its high availability, Tier 4 Cerner Technology Centers ("CTC") located at:

777 NW Blue Parkway   3200 N Rockcreek
Lee's Summit MO.   Kansas City, MO 64117

With respect to each Optional Phase System, COUNTY will elect whether to implement Remote Hosting Services for such Optional Phase System. Recognizing that certain Optional Phase Systems are not amenable to remote hosting (e.g., PACS), CONTRACTOR shall host all Optional Phase Systems per COUNTY election in the sole discretion of the COUNTY's Project Director.

A.   <u>FACILITY MANAGEMENT</u>

CONTRACTOR shall provide and manage the facilities necessary to operate PEMRS in accordance with the Specifications and otherwise with this Agreement. CONTRACTOR's provision and management of the facilities shall include, but not be limited to, the following:

(1)   CTC Environment

CONTRACTOR shall provide the CTC identified above to host the computing and network environment. CONTRACTOR shall provide the CTC equipment, operating software, and other software, regardless by whom produced or supplied, required to operate PEMRS in accordance with the Specifications and otherwise with the Agreement.

CONTRACTOR shall manage, monitor and control each CTC and shall provide all Domains in accordance with the Domain strategy documented in the Conceptual Design Document (Deliverable 3.3) of the Statement of Work (Exhibit A) and recommended in the Exhibit G (PEMRS Assessment) of the Agreement and its attachments.

(2)   CTC Management and Monitoring

CONTRACTOR shall operate and maintain each CTC, in accordance with Tier 4 standards. CONTRACTOR shall manage, monitor, control and activate each CTC, including but not limited to such CTC physical structure and environment, power supplies and generators, chiller systems (pressure, temperature, alarm, standby), electrical rooms (moisture, Uninterrupted Power Supply (UPS)), computer room air-conditioning units (air conditioning, power, moisture, humidity and temperature), Auto Transfer Switches, and UPS/generator system as incoming power dictates.

(3)   CTC Physical Security

CONTRACTOR shall provide physical security in each CTC as specified in "Security Requirements" (Section II) of Attachment A (PEMRS Functional, Technical and Operational Requirements) of Exhibit A (Statement of Work) of the Agreement. CONTRACTOR shall monitor security events and promptly report to COUNTY's Project Manager by email or telephone all County-related Security Incidents, but in no event later than two (2) hours following CONTRACTOR knowledge of the Security Incident, with subsequent notification in writing to follow shortly thereafter in accordance with the timeframes set forth in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)). In addition, on a monthly basis, CONTRACTOR shall summarize any non-County related Security Incidents of which CONTRACTOR has knowledge that have occurred during the period and their remediation at a high level with COUNTY Project Manager using telephone or email communications, as determined by CONTRACTOR in its sole discretion. These high level summa-

ries shall include the nature of the incident(s), steps taken to reme-
diate the associated threat(s) or vulnerability(ies), and any residual
risk(s). The summaries shall not include any information that could
reveal the customer(s) affected directly by the incident.

(4)   Disaster Recovery

In the event of a disaster affecting any CTC providing services to
COUNTY under this Agreement, CONTRACTOR shall invoke an al-
ternate data center and shall recover the Production Domain as first
priority, followed by non-Production Domains in accordance with
COUNTY assigned priorities.

CONTRACTOR, with participation and support by COUNTY as
needed, shall mobilize an emergency response team. The system
backups will be used to recover the System in the Production Do-
main in such alternate data center. CONTRACTOR shall test the
restored environment and notify COUNTY to begin its testing and
validation process for System acceptance and return to the Users.

B.   NETWORK MANAGEMENT

CONTRACTOR shall provide, support, monitor, manage, and control the
communications between the CTC and the COUNTY necessary to opera-
tion PEMRS in accordance with the Specifications and otherwise with the
Agreement. This shall include, but not be limited to, the following:

(1)   CTC Network Operation

CONTRACTOR shall provide, support, monitor and maintain high-
availability (99.9%) networks designed to remain fully operational in
the event of any single equipment failure, such as, but not limited
to, routers, switches, load balancers, redundant power circuits,
power distribution, and firewalls in each CTC. CONTRACTOR shall
provide, operate, monitor, manage and control all network equip-
ment, operating software, all software and console systems at the
CTCs necessary to host the System and support the servers and
databases required for the System to operate in accordance with
the Specifications and otherwise with the Agreement.

CONTRACTOR shall:

(a)   Install, manage, configure, support, and maintain WAN circuits
and WAN equipment in the CTC as required for PEMRS to
operate in accordance with the Specifications and otherwise
with the Agreement;

    (b)   Monitor Response Times of the Phase 1 System and each applicable Optional Phase System, including round trip latency, as required for PEMRS to operate in accordance with the Specifications and otherwise with the Agreement.

(2)   CONTRACTOR-provided WAN communications.

CONTRACTOR shall provide, monitor, manage, support, and control the WAN communications network infrastructures and operations required to operate PEMRS in accordance with the Specifications and otherwise with the Agreement, including primary and secondary communications circuits between the CTCs and a single point of demarcation at COUNTY Facilities, which shall be readily and commercially available via public carrier, defined and provided by COUNTY as recommended in Exhibit G (PEMRS Assessment) of the Agreement and its attachments, and as specified in Deliverable 3.3 (Conceptual Design) of Exhibit A (Statement of Work) of the Agreement.

CONTRACTOR shall:

(a)   Provide and provision WAN circuits in a manner that maximizes existing physical circuit diversity consistent with the best practice for obtaining physical circuit diversity, provide circuits that are sized for the Phase 1 System and each applicable Optional Phase System in accordance with industry best practices for appropriate bandwidth, quality of service and responsiveness and the Specifications and provision and manage all circuits in conjunction with CONTRACTOR's communications carriers (this process does not guarantee physical diversity; but rather provides the best practice for obtaining physical diversity);

(b)   Provide all communications equipment necessary to terminate these WAN circuits and provide secure connection at COUNTY's single point of demarcation and provide ongoing monitoring, management, and support including but not limited to routers, switches, firewalls, out-of-band-management consoles and power reboot switches as well as channel service unit (CSU) and data service unit (DSU) circuit termination equipment;

(c)   Provide monitoring systems, device management and polling systems necessary to manage and control the network, monitor and control CONTRACTOR-provided network routers, including utilization, memory, exception reporting, syslog, confi-

guration management and access control list (ACL) hits/denies;

(d) Monitor and control CONTRACTOR-provided WAN links ups/downs, error thresholds, bandwidth, and committed information rate packet flow/loss, and monitor and control COUNTY gateway ups/downs, routers, switches, and power supplies.

C. SYSTEM MANAGEMENT

CONTRACTOR shall provide and manage secure computing systems necessary to operate PEMRS as provided in the System Operations Plan (Deliverable 10.1) of Exhibit A (Statement of Work) of this Agreement and in accordance with the Specifications and otherwise with the Agreement. CONTRACTOR's System Management shall include, but not be limited to the following.

(1) System Management

CONTRACTOR shall:

(a) Provide, configure, support, manage, monitor and control all components of the System, required to continue and maintain System Response Time and Availability levels as provided in this SLA.

(b) Use appropriate management methods, resources, and tools needed to meet or exceed System Response Time and Availability Specifications as provided in this SLA, including, but not limited to, System capacity analysis and planning, use of appropriate software necessary to monitor the System, best practice internal change management processes and procedures for systems management, and the System Software Support and problem management processes, procedures and escalation guidelines in accordance with the provisions of this Service Level Agreement, including but not limited to Schedule I (Service Level Commitments).

(c) Monitor System performance and tune System components to ensure System Response Time and Availability levels as provided in this SLA.

(d) Monitor, manage, and control the computing systems to report and alert on compromised System health, security, Availability and/or capacity, and act to prevent and/or correct Deficiencies, by taking such actions as rebooting Systems on a recurring

schedule to optimize Domain performance, performing System level daylight savings time management, applying operating software service packs to the System and/or infrastructure as required to maintain System health, security, Availability, performance, and capacity, including but not limited to executing any special instructions necessary for such service packs.

(e)   Provide external access via Internet to Citrix servers in the CTC for occasional access by COUNTY Users authorized for such use by the COUNTY's Project Director, and provide access instructions and passwords for said external Users.

(2)   Security Management

CONTRACTOR shall provide and manage the System to ensure security in accordance with the Specifications and this Agreement.

CONTRACTOR shall:

(a)   Promptly report to COUNTY's Project Manager by email or telephone all County-related Security Incidents, but in no event later than two (2) hours following CONTRACTOR knowledge of the Security Incident, with subsequent notification in writing to follow shortly thereafter in accordance with the timeframes set forth in Exhibit J (CONTRACTOR'S Obligations As a "Business Associate" Under Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH)). In addition, on a monthly basis, CONTRACTOR shall summarize any non-County related Security Incidents of which CONTRACTOR has knowledge that have occurred during the period and their remediation at a high level with COUNTY Project Manager using telephone or email communications, as determined by CONTRACTOR in its sole discretion. These high level summaries shall include the nature of the incident(s), steps taken to remediate the associated threat(s) or vulnerability(ies), and any residual risk(s). The summaries shall not include any information that could reveal the customer(s) affected directly by the incident.

(b)   Provide security software and equipment security controls, provide and maintain updated Virus detection and correction, provide logical security using lockdown procedures post Production Use, provide URL access to COUNTY approved Inter-

net sites, implement and monitor network intrusion detection systems throughout the CTCs' networks, monitor and report System security errors, exceptions and attempted violations to COUNTY as dictated by standard procedures and as provided by periodic reporting schedules established by the COUNTY's Project Director in collaboration with CONTRACTOR's Project Director.

(c)   Secure backup media with check-in and check-out proce- dures, store COUNTY's backup media in a manner that will protect the confidentiality of the data stored on them and en- sure that such data remain COUNTY's property including pro- vision of secure environment(s) for on-site and off-site backup storage.

(d)   Appoint a corporate IT Security Manager and other security personnel as mutually agreed by the COUNTY's Project Direc- tor and CONTRACTOR's Project Director to monitor and en- force security procedures and resolve exception report issues.

(e)   Provide four Primary Domain Controllers (PDCs) in CTCs to facilitate integration of the Millennium LDAP Authentication Pass-through Application Software module and COUNTY pro- vided integrated PEMRS Active Directory.

(f)   Provide, implement, and support the COUNTY domain control- lers located in the CTC.

(g)   Provide anti-virus protection, service management, and ser- vice monitoring agents on domain controllers located in the CTC.

(h)   Provide a secured environment for the COUNTY's Primary Domain Controllers operating in CTC.

(i)   Install, provide, monitor and manage the enterprise level audit logging, tracking, and reporting services enabled by CONTRACTOR's P2Sentinel Security Services to support COUNTY's requirements as specified in Attachment A (PEMRS Functional, Technical, and Operational Require- ments) of Exhibit A (SOW) of this Agreement (as further de- scribed in this Subparagraph II.C(2)(i), "P2Sentinel Security Services").

    (i)   Provide the hardware, software and maintenance needed to ensure that the P2Sentinel Security Ser-

vices operate in accordance with the Specifications and otherwise the Agreement;

(ii)   Provide and manage off-site backup of the P2Sentinel Security Services data;

(iii)   Provide connectivity and network services as necessary for the COUNTY to utilize the P2Sentinel Security Services;

(iv)   Work with COUNTY to implement an appropriate selection of audited transactions;

(v)   Work with COUNTY to define and configure the reports to be delivered regularly together with custom and *ad-hoc* reporting capabilities; and

(vi)   Advise COUNTY as appropriate on advisable monitoring and action procedures regarding P2Sentinel tracking and reports.

(3)   Back-End System Management

CONTRACTOR shall provide, install, manage, maintain, support and control all hardware, operating software, including operating system and database software, and resources needed to access the System and execute the System Software, in order for the Phase 1 System and each Optional Phase System elected by the COUNTY for which remote hosting services apply to operate in the CTCs in accordance with the Specifications and otherwise with the Agreement (herein, sometimes the "Back-end System").

CONTRACTOR shall:

(a)   Provide Back-end System computing including CPUs, memory and data storage.

(b)   Acquire, provide, install, manage and maintain operating software and related licenses for the Back-end System required to operate the required Domains(s), including, but not limited to, payment of ongoing maintenance and support fees required for such operating software and related licenses.

(4)   Front-End System Management

CONTRACTOR shall provide, install, manage, maintain, support and control required front-end software such as without limitation Microsoft and Citrix Software, necessary to facilitate COUNTY and

Response Time and Availability in a consistent and efficient manner across all system Domains. Such CONTRACTOR's database management services shall include, but not be limited to the following.

(1) Database Installation and Upgrade

CONTRACTOR shall:

(a) Acquire, install, operate, maintain, support, and upgrade Database Management Systems software.

(b) Provide appropriate database management methodologies, resources and tools to manage, troubleshoot, back up and recover the database in all Domain(s).

(2) Database Performance Management and Monitoring

CONTRACTOR shall:

(a) Monitor and report on database security, performance and capacity.

(b) Provide, manage, and control database storage required to operate and maintain PEMRS.

(c) Maintain offsite backup of the System and COUNTY data. Such backup shall operate and perform in a manner comparable to CTC with respect to both System and COUNTY data.

(d) Monitor alert logs, monitor and control number of extents remaining, free space, free space deficits, file and table space, instance status, lock conflicts, space available in table space, status of listeners, and performance characteristics such as SGA and I/O.

(e) Reorg /defragment database objects/table space as necessary to maintain performance.

(f) Monitor and control purge job activity to ensure purges are completing successfully.

(3) Database Backup, Restore, and Recovery

CONTRACTOR shall:

(a) Define, maintain, document and enforce backup requirements as needed.

(b) Define and enforce System-wide recovery and backup re-quirements, perform System backups as specified in CONTRACTOR's standard backup procedure, provide tape rotation, verify backup logs, coordinate offsite storage functions, including logging, tracking, labeling, ordering, receiving and sending tapes, replacing tapes and disks in storage re-quired in accordance with the prescribed schedule to ensure System performance, availability and reliability, and restoring System data as required.

(c) Schedule and test routine recovery procedures.

E.   INTERFACE MANAGEMENT

CONTRACTOR shall provide and manage Interfaces necessary to oper-ate PEMRS 24 hours per day, 7 days per week, every day of each year in accordance with the Specifications and otherwise with the Agreement. CONTRACTOR shall implement and maintain Interface management ser-vices and support in a consistent and efficient manner across all Domains. All external system Interfaces and medical devices Interfaces (MDIs) shall connect via COUNTY-provided LAN/WAN into the CONTRACTOR pro-vided and provisioned WAN circuit(s) via the single point of demarcation.

(1) Interface Monitoring

CONTRACTOR shall:

Monitor CONTRACTOR inbound cycle times over-threshold alarms, external system Interfaces connectivity, and CONTRACTOR out-bound Interface queue counts and over-threshold alarms.

(2) Interface Management

CONTRACTOR shall:

(a) Notify COUNTY of Interface issues that affect service.

(b) Work with COUNTY to identify and correct Interface opera-tional or performance problems in accordance with Section IV, "Application Management Services (AMS)" of this SLA.

F.   REMOTE HOSTING SERVICES TERM AND FEES

(1) For the Phase 1 System, CONTRACTOR shall provide and COUNTY shall receive Remote Hosting Services commencing upon the Effective Date, and continuing for the term of the Agree-ment, unless otherwise terminated in accordance with the provi-sions of the Agreement.

For each Optional Phase System where COUNTY determines that Remote Hosting Services apply and elects to implement an Optional Phase System, CONTRACTOR shall provide and COUNTY shall receive Remote Hosting Services commencing upon execution of the applicable Change Notice or Amendment under Paragraph 6 (Change Notices and Amendments) of the Agreement and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

(2)   Payments for Remote Hosting Services for the Phase 1 System from the Effective Date until COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement shall be in accordance with Exhibit B (Schedule of Payments). Monthly Remote Hosting Services fees for the Phase 1 System shall commence on the COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly Remote Hosting Services fees shall be in accordance with Schedule III (Remote Hosting Services and P2Sentinel Security Services Fees) to this SLA.

(3)   For each Optional Phase System where COUNTY determines that Remote Hosting Services apply and COUNTY elects to implement such Optional Phase System, payments for Remote Hosting Services from execution of the applicable Change Notice or Amendment until COUNTY's written approval of Deliverable 7.7 (Production Use of the Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement shall be in accordance with the applicable Change Notice or Amendment. Monthly Remote Hosting Services fees shall commence on COUNTY's written approval of Deliverable 7.7 (Production Use of the Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work) of the Agreement, and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly Remote Hosting Services fees shall be in accordance with Schedule III (Remote Hosting Services and P2Sentinel Security Services Fees) to this SLA.

G.   P2SENTINEL SECURITY SERVICES TERM AND FEES

(1)   For the Phase 1 System, CONTRACTOR shall provide and COUNTY shall receive P2Sentinel Security Services commencing upon the COUNTY's acceptance of Deliverable 6.2.2 (Successful Integration Test Results for the Phase 1 System), and continuing

for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

For each Optional Phase System where COUNTY determines that P2Sentinel Security Services apply and elects to implement an Optional Phase System, CONTRACTOR shall provide and COUNTY shall receive P2Sentinel Security Services commencing upon execution of the applicable Change Notice or Amendment under Paragraph 6 (Change Notices and Amendments) of the Agreement and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

(2)   Payments for P2Sentinel Security Services for the Phase 1 System from the Effective Date until COUNTY's written approval of Deliverable 6.6 (Successfully Conducted User Acceptance Testing of the Phase 1 System) of Exhibit A (Statement of Work) of the Agreement shall be in accordance with Exhibit B (Schedule of Payments). Monthly P2Sentinel Security Services fees for the Phase 1 System shall commence on the COUNTY's written approval of Deliverable 6.6 (Successfully Conducted User Acceptance Testing of the Phase 1 System) of Exhibit A (Statement of Work) of the Agreement and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly P2Sentinel Security Services fees shall be in accordance with Schedule III (Remote Hosting Services and P2Sentinel Security Services Fees) to this SLA.

For each Optional Phase System where COUNTY determines that P2Sentinel Security Services apply and COUNTY elects to implement such Optional Phase System, payments for P2Sentinel Security Services from execution of the applicable Change Notice or Amendment until COUNTY's written approval of Deliverable 7.6 (Successfully Conducted User Acceptance Testing of each Optional Phase System) of Exhibit A (Statement of Work) of the Agreement shall be in accordance with the applicable Change Notice or Amendment. Monthly P2Sentinel Security Services fees shall commence on COUNTY's written approval of Deliverable 7.6 (Successfully Conducted User Acceptance Testing of each Optional Phase System) of Exhibit A (Statement of Work) of the Agreement, and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly P2Sentinel Security Services fees shall be in accordance with Schedule III (Remote Hosting Services and P2Sentinel Security Services Fees) to this SLA.

III.   UPGRADES IMPLEMENTATION SERVICES

Without limiting the introductory portions of this SLA or otherwise the provisions of the Agreement, CONTRACTOR shall provide all professional services and Remote Hosting Services infrastructure necessary to complete up to three (3) Upgrades of the System during the term of the Agreement when the COUNTY elects, as directed by the COUNTY's Project Director in his sole judgment, to implement such Upgrade of the Phase 1 System and/or each Optional Phase System, provided by CONTRACTOR consistent with Sections I.A(6), ("Upgrades Implementation Services"). CONTRACTOR shall upgrade the System to the most recent generally available code level in accordance with the Specifications, the Specifications described in Section III (Remote Hosting Services) of Attachment A (PEMRS Functional, Technical, and Operational Requirements) of Exhibit A (Statement of Work) and otherwise with the Agreement. Upgrades Implementation Services includes, without limitation, acquisition, creation, implementation and support of the necessary Domains at the CTC, installation, configuration and Tailoring of each Application Software module, and all reports associated with such module, and recommended changes, if any, to the Specified Hardware and Operating Software. Upon implementation of each Upgrade as provided in this Section III of this SLA, the resulting System shall automatically be subject to all provisions of this Agreement, including but not limited to the provisions of each Section of this SLA. (Professional services necessary to implement updates are described below, in Section IV (Application Management Services.)

A.   UPGRADE SERVICES

(1)   UPGRADE IMPLEMENTATION SERVICES PROJECT PLANNING AND MANAGEMENT

CONTRACTOR shall provide Upgrade project planning and management services in writing to ensure that the Upgraded System operates in accordance with the Specifications and otherwise with the Agreement.

CONTRACTOR shall:

(a)   Update and maintain the Specifications (including but not limited to System functionality and Tailoring of the System Software, relevant Remote Hosting Services Specifications such as but not limited to capacity of Production and non-Production Domains (in particular Mock Upgrade and Certification Domains), and requirements for Specified Hardware and Specified Operating Software), Project Plan, Domain strategy, Project Control Document ("PCD"), Communications Plan, Cutover Plan, and Conceptual Design Document for the Phase 1 System and each Optional Phase System.

(b)   Update the documents incorporated by reference as Exhibit G (PEMRS Assessment) of this Agreement and its attachments as needed to ensure that the Upgraded System will perform in

accordance with the Specifications and otherwise with the Agreement and deliver the modifications in writing, which shall automatically be incorporated in Exhibit G (PEMRS Assessment) of this Agreement as an additional attachment thereto.

(c)   Determine and document initial package requirements, including but not limited to the data base build requirements and the identification and resolution of potential issues with Tailoring of the System, implementation of user-defined components, and issues with installed code.

(d)   Document the testing plan in accordance with Subparagraph 9.2 (CONTRACTOR Testing) of the Agreement. CONTRACTOR shall coordinate testing as provided in the updated PCD and Conceptual Design Document, including, but not limited to, definition of testing requirements, identification of appropriate testers, and engagement of appropriate resources to complete the build and testing.

(e)   Identify, document and mitigate Upgrade project risks and identify and secure project resources.

(f)   Ensure that CONTRACTOR provided Tailoring, previously implemented Upgrades and Updates, Cerner Command Language (CCL) scripts and custom reports, are identified, modified, and repackaged as necessary to ensure that the Upgraded System will operate in accordance with the Specifications and the Agreement.

(g)   Ensure that appropriate CONTRACTOR resources are scheduled for Upgrade and post Upgrade support.

(h)   Obtain COUNTY approval for the updated PCD, Conceptual Design Document, Exhibit G (PEMRS Assessment) of this Agreement and its attachments, Risk Mitigation Plan, Test Plan, Communications Plan, and Cutover Plan (the "Approved Upgrade Plan").

(2)   UPGRADE PROJECT IMPLEMENTATION SERVICES

CONTRACTOR shall implement the Upgrade of the System in accordance with the Approved Upgrade Plan developed and approved by COUNTY as defined in Section III.A(1) (Upgrade Implementation Services Project Planning And Management) of this SLA.

CONTRACTOR shall:

(a)   Acquire, install, implement, configure and enable the Domain(s) and then-current related resources such as the Lights On network®, MethodM®, Bedrock®, and software necessary to complete, test, and validate the Upgrades to be implemented in accordance with the provisions of the Agreement.

(b)   Ensure that no updates to the System are implemented affecting the Production Domain during the Upgrade project.

(c)   Perform non-passive build steps, and application security merges for all Domains.

(d)   Configure Interfaces for Non-Production Domains in accordance with the Domain strategy and Approved Upgrade Plan.

(e)   Validate Non-Production Domains that will be Upgraded in order to ensure that such Domains are true copies of the Production Domain prior to performing Upgrade activities.

(f)   Upgrade Non-Production Domains per Domain strategy and the Approved Upgrade Plan, including but not limited to loading Front-end System code warehouse and configuring the Multum, remote report distribution ("RRD"), and charting servers.

(g)   Upgrade Front-End System devices in the Production Domain (including but not limited to Multum, charting, RRD).

(h)   Upgrade the Production Domain in accordance with the Approved Upgrade Plan.

(i)   Perform CONTRACTOR tests in accordance with the provisions of Subparagraph 9.2 of the Agreement (CONTRACTOR Testing) and the Approved Upgrade Plan.

(j)   Refresh COUNTY's Certification Domain in accordance with the Approved Upgrade Plan.

(k)   Manage Upgrade project issues list and work with COUNTY to achieve issue resolution until code moved to Production Use.

(l)   Provide training updates to COUNTY trainers related to the Upgraded System in a manner similar to Subtask 6.4.2 of Exhibit A (Statement of Work).

(m)   Provide mentoring, knowledge transfer, and resources to COUNTY in a manner similar to Subtask 3.1 of Exhibit A (Statement of Work).

      B.   UPGRADES IMPLEMENTATION SERVICES TERM AND FEES

          (1)   For the Phase 1 System, CONTRACTOR shall provide and COUNTY shall receive Upgrade Implementation Services commencing upon COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work), and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of this Agreement.

                For each Optional Phase System, CONTRACTOR shall provide and COUNTY shall receive Upgrade Implementation Services commencing upon COUNTY's written approval of Deliverable 7.7 (Production Use of Each Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work), and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

          (2)   For the Phase 1 System, monthly Upgrade Implementation Services fees shall commence upon COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly Upgrade Implementation Services fees shall be in accordance with the Schedule IV (Upgrades Implementation Services) to this SLA.

                For each Optional Phase System, monthly Upgrade Implementation Services fees shall commence upon COUNTY's written approval of Deliverable 7.7 (Production Use of Each Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work) and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly Upgrade Implementation Services fees for each Optional Phase System shall be in accordance with Schedule IV (Upgrades Implementation Services) to this SLA.

IV.   APPLICATION MANAGEMENT SERVICES (AMS)

Without limiting the introductory portions of this SLA or otherwise the provisions of the Agreement, CONTRACTOR shall further support the System by providing Application Management Services ("AMS") as defined in this Section of this Service Level Agreement in order to ensure that the System operates in accordance with the Specifications and otherwise with the Agreement. CONTRACTOR shall provide as part of AMS, professional services that enable the COUNTY to continue in operation and to use the System at its highest levels of functionality and efficiency, without requiring COUNTY to initiate a service request, or to hire third parties and/or assign COUNTY staff to perform routine System performance tun-

ing, content management activities and additional or modified Tailoring, and/or reports requested by Users.

CONTRACTOR shall provide the following as AMS:

1. User Account Management (maintenance and monitoring of the User database)

2. System Operations Monitoring (monitor and report on System performance and on published CONTRACTOR notifications and alerts)

3. System Content Management (continuous Updates of content including, but not limited to, codes and code sets, rules, and decision support and service packages)

4. Monitoring and support of Cerner Command Language (CCL) reports in addition to standard reports supplied with the System

5. 2nd Level Help Desk Services for preventive and troubleshooting activities that cannot be resolved locally by COUNTY's 1st Level Help Desk as defined in this SLA.

The services provided by CONTRACTOR as part of AMS supplement, but do not replace or substitute for, those services provided for in Section I (System Maintenance) of this SLA. CONTRACTOR shall provide these AMS on a full time basis, 24 hours per day, 7 days per week, every day of each year during the term of this Agreement. CONTRACTOR shall fully staff these AMS and shall provide and manage these services in addition to and in collaboration with CONTRACTOR's delivery of System Software Support as specified in Section I of this SLA, Remote Hosting Services as specified in Section II and Upgrade Implementation Services as specified in Section III.

A.   APPLICATION MANAGEMENT SERVICES

CONTRACTOR shall provide professional services required to ensure that the Phase 1 System and each Optional Phase System is available for Users.

(1)   USER ACCOUNT MANAGEMENT

CONTRACTOR shall:

(a) Provide and maintain User database for System Software-specific security such as authorizations, application access, task access, print authorization, positions, and role setup.

(b) Maintain individual User accounts upon COUNTY notification of (a) new, modified, and/or terminated User account(s).

(2)   SYSTEM OPERATIONS MONITORING

CONTRACTOR shall:

(a) In connection with support of PEMRS, ensure that COUNTY receives all announcements, alerts, trouble messages, and resolution recommendations from any component of CONTRACTOR's operations, such as but not limited to flashes, illuminations, and distributions published by CONTRACTOR for its customers, together with CONTRACTOR's recommendations for COUNTY and/or CONTRACTOR action.

(b) Monitor the System operating in the Production Domain and correct operations when warranted to ensure Response Time and Availability in accordance with this SLA.

(c) On a scheduled periodic basis, monitor and report on orphaned/incorrect/incomplete journal transactions and advise COUNTY of appropriate means of preventing the occurrence and persistence of such orphaned/incorrect/incomplete transactions, including Corrective Maintenance as provided in Section I of this SLA and/or such additional Tailoring or modification of System as may be required.

(d) Monitor System notifications (i.e., flashes, advisories, application and system guides, knowledge base articles, etc.) and take necessary action as indicated to ensure the System continues to operate in accordance with the Specifications and otherwise with the Agreement, as approved in writing by the COUNTY's Project Director.

(e) Maintain remote report distribution settings, develop workflow documentation, build and maintain reference databases, perform event code/event set changes as required, monitor and correct errors with Interfaces, chart servers, operations jobs, RRD, and printing.

(f) Document operations jobs performance and completion timings and create operations profiles to inventory and baseline transaction volumes.

(g) Notify COUNTY help desk of issues found that affect service that are within COUNTY control to correct or prevent.

(h) Take appropriate corrective and/or preventive action when notified by CONTRACTOR or COUNTY of anomalies found in the review of posting and error logs and/or System inbound/outbound Interface queue counts.

(i) Ensure that active Interfaces are operational and monitor and cycle inbound Interfaces as required to establish connections and start transactions, and maintain CTC side of external system and medical device Interfaces.

(j) Take appropriate corrective and/or preventive action when notified by CONTRACTOR, COUNTY, or System of anomalies in monitored chart queue status, chart volume trends, and errors in chart servers, configurations, and/or formats.

(k) Monitor charting and RRD for successful completion, document and map RRD queues, verify chart status, monitor print queue for successful completion, restart print queue upon failed print jobs, re-submit unsuccessful charts, and retransmit failed RRD requests.

(l) Inventory, document, and review operations jobs for efficient use of System resources, and take appropriate corrective and/or preventive action when CONTRACTOR, COUNTY, or System reports anomalies or non-completion of monitored operations, and restart jobs when required.

(3) SYSTEM CONTENT MANAGEMENT

CONTRACTOR shall provide continuous Updates of System content including but not limited to each of Multum/Medisource, ICD-9 (as well as ICD 10 when implemented), CPT-4, code content included in Service Packages, when the publishers of such packages or content issue Updates and COUNTY, in the sole discretion of the COUNTY's Project Director, elects to install them as provided in Section III of Attachment A (PEMRS Functional, Technical, And Operational Requirements) of Exhibit A (Statement of Work).

With respect to such COUNTY election, CONTRACTOR shall:

(a) Maintain standard content updates in accordance with the COUNTY elections.

(b) Install and test subscription updates, service packages and fixes and assure the integrity of the resulting data, perform Front-end System special instructions for service package loads, and perform service package certification guidelines as needed.

(c) Design and conduct CONTRACTOR tests as described in Subparagraph 9.2 (CONTRACTOR Tests) of the body of the Agreement, of the Tailored System as needed to ensure the

integrity of the System and its continued operation in accordance with the Specifications and otherwise with the Agreement.

(4)   REPORT MANAGEMENT

CONTRACTOR shall provide continuous management and support of reports that are operating in the Production Domain as of Final System Acceptance for the Phase 1 System and/or each Optional Phase System, to ensure that the System continues to operate in accordance with the Specifications and otherwise with the Agreement ("Report Management"). In the context of this Section IV.A(4), the following kinds of reports are included:

- Reports supplied by the System without Tailoring or development using CCL;

- Tailored standard reports and reports other than those supplied by the standard System without Tailoring or development of CCL; and

- Reports developed using Discern Expert and Discern Explorer Reports, rules, and/or alerts.

In respect to such continuous management and support, CONTRACTOR shall:

(a)   Create and maintain the inventory of all reports that are used in the Phase 1 System and each Optional Phase System and maintain such reports.

(b)   Tailor such reports and/or rules to address changes requested by COUNTY.

(c)   Tailor and test such reports and rules and/or alerts to address changes required for content updates, and troubleshoot reports operating in the Production Domain as required by COUNTY or as required by Updates.

(5)   2nd LEVEL HELP DESK SERVICES

CONTRACTOR shall provide a fully staffed and comprehensive Help Desk Services for any requests that are determined by the COUNTY's Project Director, in his sole judgment, to be outside the scope of issues that can be resolved by COUNTY's help desk ("2nd Level Help Desk Services"). In respect to the 2nd Level Help Desk Services, CONTRACTOR shall:

(a)   Answer questions regarding System usage.

      (b)   Recommend short-term and long-term problem prevention and resolution practices and procedures to COUNTY for practices and procedures within COUNTY's control.

      (c)   Troubleshoot and resolve external system and medical device Interface errors on the CONTRACTOR-side of Interfaces.

      (d)   Manage COUNTY requests and report periodically on status to COUNTY and COUNTY's PLT.

(6)   OPERATIONS MANAGEMENT

    CONTRACTOR shall

      (a)   Add/remove operations jobs.

      (b)   Set purge jobs and schedule jobs to run, set up and review purges and operations jobs, and monitor purge jobs to ensure purges are completing successfully.

B.   <u>APPLICATION MANAGEMENT SERVICES TERM AND FEES</u>

(1)   For the Phase 1 System, CONTRACTOR shall provide and COUNTY shall receive AMS commencing upon COUNTY's written approval of Deliverable 10.4 (Set up and Configured Application Management Services) of Exhibit A (Statement of Work), and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of this Agreement.

For each Optional Phase System, CONTRACTOR shall provide and COUNTY shall receive AMS commencing upon COUNTY's written approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facilities) of Exhibit A (Statement of Work), and continuing for the term of the Agreement, unless otherwise terminated in accordance with the provisions of the Agreement.

(2)   For the Phase 1 System, monthly AMS fees shall commence upon COUNTY's written approval of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities) of Exhibit A (Statement of Work) and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly AMS fees shall be in accordance with Schedule V (Application Management Services (AMS) Fees) to this SLA.

For each Optional Phase System, monthly AMS fees shall commence upon COUNTY's written approval of Deliverable 7.7 (Production Use of each Optional Phase System at all COUNTY Facili-

ties) of Exhibit A (Statement of Work) and shall be payable monthly in advance, unless otherwise provided herein. The amount of the monthly AMS fees shall be in accordance Schedule V (Application Management Services (AMS) Fees) to this SLA.

V.   CHANGE MANAGEMENT

This SLA specifies the details of CONTRACTOR services to be provided in connection with System Support Services, Remote Hosting Services, Upgrades Implementation Services, and Application Management Services. In providing these Services, taken as a whole, CONTRACTOR shall provide all System functions and services necessary for COUNTY and Users to receive the benefits of the System and its continued Use with minimal assigned COUNTY or third party staffing. CONTRACTOR shall manage and deliver these services consistently over time in addition to and in collaboration with each service so that COUNTY receives the benefit of all Services specified herein to enable the System to operate and continue to operate in accordance with the Specifications and the provisions of the Agreement.

CONTRACTOR shall manage change with respect to such Services in accordance with the provisions of Paragraph 6 (Change Notices and Amendments) of the Agreement. Without limiting said provisions, CONTRACTOR shall further manage changes relative to this SLA as specified in the approved Deliverable 14.1 (Change Management Plan) of the Statement of Work (Exhibit A) of the Agreement and this Section V of this Service Level Agreement.

Also described herein are certain roles and responsibilities of COUNTY with respect to change management, such as appropriate notice of change requirements to CONTRACTOR. Unless explicitly assigned to COUNTY, all roles and responsibilities with specified in this Service Level Agreement, including, without limitation, change management roles and responsibilities, shall be the responsibility of CONTRACTOR.

A.   CHANGE MANAGEMENT PROCESS

(1)   Change Management Procedure and Control

(a)   CONTRACTOR shall provide a copy of CONTRACTOR's standard change management procedure to COUNTY. This change management procedure shall, without limitation, integrate and provide for all CONTRACTOR's change management as it affects the following Services specified in this Service Level Agreement: System Maintenance (Section I), Remote Hosting Services (Section II), Upgrades Implementation Services (Section III), and Application Management Services (Section IV) taken together and as a whole.

(b)   CONTRACTOR's Project Director and COUNTY's Project Director will collaborate on determining a final format and procedure for change management that is based on and extends as necessary on Deliverable 14.1 (Change Management Plan) and i) ensures that changes occur in a controlled environment so that all parties understand the potential impact of an impending change, ii) identifies potentially affected Systems and processes prior to implementation of the change(s), iii) provides for appropriate CONTRACTOR testing and COUNTY validation, and iv) is implemented to ensure that System operates and continues to operate in accordance with the Specifications and the Agreement. CONTRACTOR shall document such process and submit them for COUNTY review and approval of COUNTY's Project Director. Once approved, this Document shall be the "Approved Change Management Plan".

(c)   CONTRACTOR shall ensure that all changes that affect Production Domains have been approved in writing by COUNTY's Project Director before implementation, which approval shall not be unreasonably withheld. COUNTY agrees to provide reasonable and appropriate maintenance windows and to participate in the testing of all changes as reasonably required.

(d)   CONTRACTOR shall provide and maintain an automated change management system for the centralized reporting and tracking of changes as authorized by the COUNTY's Project Director.

(e)   CONTRACTOR shall conduct scheduled change management meetings.

(f)   CONTRACTOR shall perform post-mortem reviews on problems that affect service level standards, as well as root cause analysis if possible.

(g)   CONTRACTOR shall notify COUNTY's help desk of issues that affect service and may be within the scope of COUNTY's ability to prevent or resolve.

(h)   CONTRACTOR shall provide and maintain a method for proper escalation of problems within CONTRACTOR's management.

(i)   CONTRACTOR shall log all incidents and problems in accordance with documented processes.

       (j)   CONTRACTOR shall ensure proper notification and escalation in accordance with CONTRACTOR's standard operating procedures as approved by COUNTY's Project Director.

   (2)   Certification Domain

       (a)   CONTRACTOR shall provide, equip, configure and maintain a Certification Domain in accordance with the Domain Strategy defined in the approved Conceptual Design Document (Deliverable 3.3 of Exhibit A) and as recommended in the Exhibit G (PEMRS Assessment) and its attachments.

       (b)   CONTRACTOR shall maintain, provision and monitor the Certification Domain as needed for Upgrades, Updates and/or ongoing System testing so that said Certification Domain is continuously available to CONTRACTOR and COUNTY for use in validation and testing as necessary to operate the System in accordance with the Specifications and otherwise with the Agreement.

   (3)   Change Management

CONTRACTOR shall manage change and the change management process as provided in this section and in the Approved Change Management Plan.

       (a)   CONTRACTOR shall lead and attend change management meetings.

       (b)   CONTRACTOR shall provide, communicate, and maintain risk management analysis.

       (c)   CONTRACTOR shall test and COUNTY will validate all System changes in accordance with the provisions of Approved Change Management Plan prior to moving them to Production Use.

       (d)   CONTRACTOR shall test Upgrades and Updates in order to assure the integrity of the resulting data and continued operation of the System in accordance with the Specifications and otherwise with the Agreement.

VI.   <u>COUNTY ROLES AND RESPONSIBILITIES</u>

COUNTY recognizes that CONTRACTOR provides services defined in this SLA based on the assumption that COUNTY will participate actively and discharge its responsibilities as defined in this Section. COUNTY will provide governance and staffing, certain facilities and equipment, and certain services required, and sub-

ject to Exhibit G (PEMRS Assessment) and its attachments to enable the System to operate in accordance with Specifications and the Agreement.

A.   GOVERNANCE AND STAFFING

(1)   Governance

COUNTY will:

(a)   Continue to provide and maintain the Inter-Agency Project Leadership Team (PLT)

(b)   Provide and manage internal COUNTY communications with all COUNTY agencies and officials

(c)   Provide decision-making and decision support when necessary to direct certain COUNTY options, such as the election to implement an Optional Phase System, how to host System Components, Upgrade project planning and approval, prioritization of System changes, and/or purchase of other professional services as provided in Subparagraph 7.5 of the Agreement.

(d)   Collaborate with CONTRACTOR to ensure orderly and controlled change processes that ensure the change process operates as provided in Paragraph 6 (Change Notices and Amendments) of the body of the Agreement, the approved Deliverable 14.1 (Change Management Plan) of the Statement of Work (Exhibit A) of the Agreement and this Section V of this Service Level Agreement.

(e)   Collaborate with CONTRACTOR to establish a compliance review function of the PLT, in the event that either COUNTY or CONTRACTOR, as the case may be, determines that a compliance review is necessary under the applicable of clause (i) or (ii) below. Subject to PLT governance and process

(i)   Should CONTRACTOR have knowledge to believe that COUNTY is not in compliance with any applicable Federal, State or local law, rule or regulation as it relates to COUNTY's use of the System in the Production Domain, and CONTRACTOR reasonably believes that such non-compliance poses a significant legal or financial risk to CONTRACTOR, then CONTRACTOR shall provide written notification to COUNTY detailing the specific area of non-compliance and proposing an agenda for review of

such area of non-compliance. At a mutually agreed upon time and pursuant to a mutually agreed upon agenda, COUNTY agrees to review with CONTRACTOR at no additional cost to COUNTY, the specific area of non-compliance. Should the parties jointly determine that COUNTY is not in compliance with any applicable Federal, State or local law, rule or regulation, CONTRACTOR and COUNTY agree to work together to develop a mutually agreed upon re-mediation plan, including a timeframe for completion thereof. Development of the remediation plan shall be at no additional cost to COUNTY. If a remediation plan has not been completed within the applicable timeframe, then the parties will discuss the risk and/or impact to CONTRACTOR and COUNTY in continuing the Remote Hosting Services relationship.

(ii)   In addition, if either party determines that CONTRACTOR is not in compliance with any appli-cable Federal, State or local law, rule or regulation as it relates to Remote Hosting Services, that (a) is par-ticular to this Agreement, and (b) was either enacted or modified after the Effective Date, and CONTRACTOR reasonably determines that the cost for CONTRACTOR to achieve compliance with such applicable law, rule or regulation will result in CONTRACTOR incurring additional costs in an excess of ten (10%) of CONTRACTOR's costs for providing Remote Hosting Services as of the date of the determination (such costs being documented to COUNTY's satisfaction), then CONTRACTOR shall submit a proposal to COUNTY identifying commer-cially reasonable options for CONTRACTOR to con-tinue to provide the Remote Hosting Services, which may include (i) any resulting changes to the Remote Hosting Services fees, or (ii) any resulting changes in the service level commitments described in this Exhi-bit D. Any changes to the Agreement required as a result of the parties agreeing to implement one of the proposed options shall be in accordance with Para-graph 6 of the body of the Agreement. If the parties are unable to reach agreement within one hundred and eighty (180) days of CONTRACTOR's submis-sion of the options, CONTRACTOR and COUNTY will discuss the risk and/or impact to CONTRACTOR and COUNTY in continuing the Remote Hosting Services

relationship notwithstanding CONTRACTOR's non-compliance.

    (iii)   Following all of the steps set forth in the applicable of clause (i) or (ii) above, including but not limited to the risk and/or impact discussions, if the parties agree that it is not feasible to continue with the Remote Hosting Services relationship, then CONTRACTOR shall work with COUNTY to identify an alternative hosting solution for COUNTY. CONTRACTOR and COUNTY will work together to develop a migration plan and CONTRACTOR shall provide COUNTY with a quote for any additional work required beyond the Remote Hosting Services, which may include the following: (a) any equipment and third party software necessary; (b) any associated maintenance services; and (c) professional services necessary for such transition. COUNTY reserves the right to acquire any foregoing from a vendor other than CONTRACTOR. CONTRACTOR and COUNTY will also execute a mutually-agreeable Amendment to this Agreement to accommodate the change in operation of the System Software, which Amendment shall be executed in accordance with Paragraph 6 of the body of the Agreement. When the transition is complete and all CONTRACTOR-provided on-site equipment returned, COUNTY will no longer be obligated to pay the Remote Hosting Services fees for the transitioned System Software, and such services will be terminated; however, CONTRACTOR will continue to provide System Software support so long as COUNTY continues to pay the associated System Software support fees in accordance with this Agreement.

    (f)   Attend meetings as appointed by the COUNTY's Project Manager.

(2)   Staffing

COUNTY will:

    (a)   Provide three full time contact staff in addition to the Project Manager. Their principal role will be to act as representatives in communication of service requests and issues to CONTRACTOR and as COUNTY liaison for all CONTRACTOR services. The duties of these positions are: reviewing and approving CONTRACTOR's project plans,

scheduling Upgrade events, testing, monitoring COUNTY equipment and services, and providing CONTRACTOR with necessary information regarding COUNTY equipment and configurations.

(b) Provide a fifth staff person (in addition to the four identified in (a)) to act as a security specialist. The duties of this position are: definition of roles and groups, establishing User profiles, and notifying CONTRACTOR of User profile and/or role changes, new accounts, and major expected environmental changes.

(c) Provide, supervise and provision super Users to support System Software. The duties of these Users are: requesting and prioritizing changes such as modifications to Custom Command Language (CCL) reports, changes of rules and alert triggers, and providing the description of the require-ments and mock-up of the expected changes, and validation of changes before requesting COUNTY's Project Director's authorization to move them to the Production Domain.

(d) Provide an internal COUNTY help desk that will serve as the first point of contact for Users and also communicate planned outages and other status events to Users ("1st Level Help Desk").

B.   FACILITIES AND EQUIPMENT

(1) Facilities

COUNTY will:

(a) Provide the address of the point of demarcation to CONTRACTOR upon request.

(b) Provide space and a temperature controlled environment and rack space for CONTRACTOR provided equipment (such as wide area network equipment, replication and imag-ing servers, and other necessary equipment) installed at COUNTY Facilities.

(c) Notify CONTRACTOR of any issues or concerns associated with connections such as equipment to COUNTY network.

(d) Provide dual uninterrupted power supply, separate power circuits, and connectivity, adequate power, cooling and phys-ical security for such CONTRACTOR provided equipment.

(2) Equipment

COUNTY will:

(a) Provide and manage Specified Hardware and Operating Software, including:

    (i) Provide and manage COUNTY's LAN and WAN connectivity to Users and all devices necessary to connect Users to the System, on COUNTY's side of the point of demarcation.

    (ii) Provide out-of-band management access to CONTRACTOR in the form of a dedicated analog line and a Plain Old Telephone Service (POTS) line for out of band management.

    (iii) Provide and manage COUNTY systems, software and connectivity that are not part of PEMRS (e.g.: Microsoft Word, Excel® spreadsheet software, Access™ database software, and Microsoft client access licenses (CALs) for COUNTY's devices, and others used to display or analyze data at the user desktop).

    (iv) Provide peripheral technologies certified by CONTRACTOR or selected in consultation with CONTRACTOR's Project Director and approved by COUNTY's Project Director.

    (v) Manage, maintain and control COUNTY's peripheral devices and device configurations.

(b) Provide, install and maintain Specified Hardware or Operating Software in the event of an Upgrade in accordance with the Approved Upgrade Plan.

C.   SERVICES

(1) Notification and Information to CONTRACTOR

COUNTY will:

(a) Provide not less than 6 months notice to CONTRACTOR of material changes to COUNTY growth impacting the scope of use and Response Time/Availability assumptions set forth in Schedule 1 (Service Level Commitments) to this SLA (e.g., order volumes, number of Concurrent Users, Interface transactions).

(b) Notify CONTRACTOR of COUNTY planned events that will affect the System such as outages.

(c) Provide operator guides and support contact information for COUNTY provided equipment and software.

(d)   Provide local network and host information including the address of demarcation, exchange ID, and local adapter addresses.

(e)   Provide CONTRACTOR with virtual access to peripherals and Interfaces as needed to support System.

(f)   Provide CONTRACTOR with a permanent local administrator account and password on COUNTY's PDCs located in the CTC, and permit CONTRACTOR's agents to be installed and run on the COUNTY's PDCs.

(g)   Set purge and retention criteria based on COUNTY's clinical requirements, and schedule purge jobs for CONTRACTOR to run in.

(h)   Provide the content information for the Microsoft Terminal Server Database.

(i)   Notify CONTRACTOR when cycling Interfaces and/or when Interfaces fail to operate in accordance with Specifications.

(j)   Grant physical access and assistance in accordance with the Agreement as needed to CONTRACTOR and provide as-needed occasional support for CONTRACTOR's equipment installed at COUNTY Facilities.

(k)   Consult with CONTRACTOR in connection with any planned changes affecting the System such as potential Compatibility issues and/or performance implications.

(l)   When notifying CONTRACTOR of problems distinguish between network and System Software problems to the extent feasible given information about the System available to COUNTY's technical staff.

(2)   Configuration of Specified Hardware and Operating Software

COUNTY will:

(a)   Operate, maintain, manage and control PEMRS front end technology owned by COUNTY.

(b)   Define, setup, and verify printers for Non-Production Domains.

(c)   Define and manage printer routings.

(d)   Configure COUNTY side of Interfaces, medical devices, PACS (if implemented as part of an Optional Phase System), and local devices such as printers and scanners when relevant to the System.

      (e)   Purchase and install any third party enhancements to COUNTY equipment or network connected to System whether or not available in the public domain, to comply with State and Federal regulatory requirements.

(3)   Testing

COUNTY will:

      (a)   Ensure that COUNTY introduces no changes to Specified Hardware and Operating Software affecting the Production Domain during an Upgrade project.

      (b)   Test and validate COUNTY side of Interfaces

      (c)   Perform User Acceptance Tests of Upgrades, with appropriate CONTRACTOR guidance, in a manner similar to Subtasks 6.6 and 7.6 of the Statement of Work.

      (d)   Authorize changes that affect the Production Domain, and validate all changes to the Phase 1 System and/or each Optional Phase System prior to authorizing CONTRACTOR to move them to Production, including without limitation Upgrades and Updates.

(4)   Monitoring and Control

COUNTY will:

      (a)   Provide CONTRACTOR with notice, within three days of occurrence of a problem being reported, with a general description of the problem.

      (b)   Schedule maintenance windows in collaboration with CONTRACTOR's Remote Hosting Services.

      (c)   Backup Specified Hardware and Operating Software and verify restored environments controlled by COUNTY.

      (d)   Analyze and tune Tailored components or Custom Reports provided by COUNTY.

      (e)   Monitor Interfaces and Interface connectivity and cycle as necessary.

      (f)   Review posting and error logs and take appropriate action.

      (g)   Identify and resolve COUNTY's LAN and WAN problems (confirmed by the COUNTY's Project Director in consultation with CONTRACTOR's Project Director to be solely within control of COUNTY).

(h)   Monitor charting, remote report distribution, and printing ser-
vices that rely solely on COUNTY equipment and correct or
resubmit failed jobs.

(i)   Escalate issues and problems within COUNTY.

(5)   Training

COUNTY will:

(a)   Plan training programs as needed for Upgrades, identify re-
sources, arrange for CONTRACTOR support including Train
the Trainers, and communicate the program to Users.

(b)   Conduct User training.

VII.   <u>COUNTY FACILITIES</u>

COUNTY Facilities for which the Service Level Agreement, including System
Maintenance (Section I), Remote Hosting Services (Section II), Upgrades Imple-
mentation Services (Section III), and Application Management Services (Section
IV) taken singly and together as a whole shall be provided by CONTRACTOR
are those listed in Attachment H (COUNTY Facilities) to Exhibit A (Statement of
Work) of this Agreement.

VIII.   <u>OPTION TO TERMINATE SERVICE LEVEL AGREEMENT</u>

In addition to any other termination provisions stated in the body of this Agree-
ment, COUNTY may, at its sole option, elect to terminate all or any part of the
Services included in this Service Level Agreement, including:

- System Maintenance (Section I),

- Remote Hosting Services (Section II),

- Upgrades Implementation Services (Section III), and

- Application Management Services (AMS) (Section IV).

A.   COUNTY shall provide at least ninety (90) days written notice to
CONTRACTOR of such election prior to the effective date of termination
under this Section VIII.   In the event of such a termination,
CONTRACTOR shall be entitled to seek payment for Deliverables com-
pleted by CONTRACTOR and approved by COUNTY in accordance with
this Agreement prior to the effective date of such termination, as is pro-
vided under Subparagraph 32.3 with respect to COUNTY's termination for
convenience.

B.   If, in accordance with this Agreement COUNTY desires to transition the
System Software to its own facility at the end of term of this Agreement or

upon termination of Remote Hosting Services, COUNTY will notify CONTRACTOR in writing of such intent to transition concurrently with its notice of termination of the Remove Hosting Services. Upon such notice, CONTRACTOR and COUNTY will work together to develop a migration plan and CONTRACTOR shall provide COUNTY with a quote for any additional work required beyond the Remote Hosting Services, which may include the following: (a) any equipment and third party software necessary; (b) any associated maintenance services; and (c) professional services necessary for such transition. COUNTY reserves the right to acquire any foregoing from a vendor other than CONTRACTOR. CONTRACTOR and COUNTY will also execute a mutually-agreeable Amendment to this Agreement to accommodate the change in operation of the System Software, which Amendment shall be executed in accordance with Paragraph 6 of the body of the Agreement. CONTRACTOR will not be required to begin any of the foregoing obligations relating to the transition unless or until COUNTY is current in paying any amounts payable hereunder in accordance with this Agreement as of the date CONTRACTOR receives COUNTY's notice of transition. When the transition is complete and all CONTRACTOR-provided on-site equipment returned, COUNTY will no longer be obligated to pay the Remote Hosting Services fees for the transitioned System Software, and such services will be terminated; however, CONTRACTOR will continue to provide System Software support so long as COUNTY continues to pay the associated System Software support fees in accordance with this Agreement.

SCHEDULE I

SERVICE LEVEL COMMITMENTS

In addition to CONTRACTOR's other obligations under this SLA and otherwise in the Agreement, this Schedule I further specifies the service level commitments for the following:

A   SYSTEM SOFTWARE SUPPORT SERVICE LEVEL COMMITMENTS

B   RESPONSE TIME AND AVAILABILITY SERVICE LEVEL COMMITMENTS

(1)   Response Time and Availability Service Level Assumptions

(2)   Response Time Service Level Commitments

(3)   Availability Service Level Commitments

C   REMEDIES AND CREDITS

A.   SYSTEM SOFTWARE SUPPORT SERVICE LEVEL COMMITMENTS

A COUNTY Representative will assign one of the Severity Levels described in Table 1 immediately below to each COUNTY service request. In Table 1, "Criterion" describes the condition leading to COUNTY's service request to CONTRACTOR. "Resolution Time" shall mean the duration of the period from the time of COUNTY submittal of said service request to the implementation of a validated solution and/or acceptable work around approved by COUNTY's Project Director, less the time during resolution requiring action by the COUNTY. With respect to any service request, COUNTY shall have the right to reassign a Severity Level based upon the situation underlying such service request.

In the event that the duration of CONTRACTOR resolution time exceeds the standards set forth in Table 1 (Service Request Resolution Duration Standards) below, COUNTY will notify CONTRACTOR's Project Director of the inadequate response time and the CONTRACTOR's Project Director shall correct it. In the event that the duration of CONTRACTOR resolution time exceed the standards set forth in Table 1, CONTRACTOR shall immediately submit to COUNTY a written action plan and status report which shall i) describe the original problem encountered in the service request, ii) explain why CONTRACTOR was not able to correct the problem within the specified resolution time standard, iii) propose corrective action and a revised plan for resolution. CONTRACTOR shall be available for discussion with COUNTY regarding possible workarounds and any other issues of concern via telephone, email, chat forum, or Cerner.com.

Table 1: Service Request Resolution Duration Standards

Severity Level	Criterion	Resolution Time Standard
1	**Immediate** All COUNTY Facilities lose System Availability or functionality, or critical data are missing or incorrect, or patient care and safety are impacted, and no workaround is known to COUNTY that both COUNTY and CONTRACTOR have agreed to implement.	Within 4 hours
2	**High** One or more COUNTY Facilities experience loss of System Component Availability or System Response Time is degraded. System processing is severely impacted and no acceptable workaround is known to COUNTY. Patient care is impacted and patient safety will be impacted if the situation is permitted to continue, and no workaround is known to COUNTY that both COUNTY and CONTRACTOR have agreed to implement.	Within 12 hours
3	**Moderate** Loss of some System Component functionality or procedural use with no immediate impact on patient care or safety or an acceptable workaround is known to COUNTY, and can be or has been implemented by Users. The loss of functionality may impact patient care if the situation is permitted to continue. Issues that would have been considered Severity Levels 1 or 2 that have a workaround as described in the criterion for Severity Levels 1 and 2 above will be reassigned as a Severity Level 3.	Within 3 business days

Severity Level	Criterion	Resolution Time Standard
4	**Minor** All questions related to implemented features, questions of a complex nature, and other service requests that do not affect patient care or safety.	Within 6 business days

B.   RESPONSE TIME AND AVAILABILITY SERVICE LEVEL COMMITMENTS

(1)   Response Time and Availability Service Level Commitment Assumptions

The Response Time and Availability Warranties set forth on this Schedule I are subject to the assumptions contained in this Section B(1). CONTRACTOR asserts and COUNTY agrees that CONTRACTOR shall size the Production Domain (as defined in Exhibit A (Statement of Work)) based on the data set forth below as provided by COUNTY.

Should these specified assumptions be exceeded during any Response Time or Availability measurement period, CONTRACTOR shall notify COUNTY of the changes and COUNTY will pay additional fees as described in Schedule III of this SLA in accordance with the Agreement. Should COUNTY determine that the assumptions will be permanently exceeded, COUNTY will so notify CONTRACTOR and CONTRACTOR shall recommend remediation steps that will restore Response Time and Availability in accordance with the provisions of Paragraph 6 (Change Notices and Amendments) of the Agreement.

(a)   The Response Time and Availability Warranties are subject to Section I.A(8) of the body of this SLA.

(b)   COUNTY will maintain 350 Peak Concurrent Logons (as defined in Exhibit A) or less.

(c)   COUNTY will receive Remote Hosting Services on the Phase 1 System and any Optional Phase System as specified in Exhibit A (Statement of Work).

(d)   COUNTY will require Domains as specified in Attachment A (PEMRS Functional, Technical, and Operational Requirements) of Exhibit A (Statement of Work).

(e)   COUNTY's use of Open Engine is limited only to PEMRS.

(f)   COUNTY's use of CPDI will not exceed the following assumptions:

- (60) Gigabytes of images added per year

- CONTRACTOR's CAMM server based solution

- Batch capture (assumes all COUNTY Facilities share same set of batch services)

- (3) Database servers (located at CTC) (2 production (clustered) and 1 test)

- (2) ACIS Servers (located at CTC) (1 production and 1 test)

- (4) Ascent Capture Server (located at a COUNTY Facility) (3 production and 1 test)

(2)   Response Time Warranty

(a)   During all periods within each month when the System is operating in Steady State in the Production Domain, and so long as COUNTY is paying the applicable Remote Hosting Services and Application Management Services fees in accordance with the Agreement, CONTRACTOR warrants that the Response Times for 90% of all executed transactions, which have a corresponding RTMS timer, shall not exceed two (2) seconds ("Response Time Warranty"). The Response Time Warranty shall be subject to the assumptions stated in B.(1) of this Schedule I.

If CONTRACTOR fails to meet the Response Time Warranty for a given month, then a "Performance Issue" will be deemed to exist.

With respect to any Performance Issue, COUNTY reserves the right to categorize the Severity Level of such Performance Issue as described in Section A of this Schedule I. In all such cases, CONTRACTOR shall remedy such failures within the applicable timeframe set forth in this Schedule I for such Severity Level. If CONTRACTOR does not resolve the problem within the time set forth in said approved action plan, then the period of such failure to meet the Response Time Warranty shall automatically constitute Unscheduled Downtime, measured from the time the COUNTY Project Director assigned a Severity Level to said failure and the time of resolution, and credits shall apply as provided in Section I.C(1) of this Schedule I (Service Level Commitments).

(b)   Response Time Measurement

(i)   Response Time performance shall be measured by CONTRACTOR's Response Time Management System enabled on the COUNTY's Production Domain.

(ii)   CONTRACTOR shall be responsible for the enablement and operations of the Response Time Management System.

(iii)   The Response Time Management System shall collect measurements continuously and shall write those transactions to enable continuous monitoring and reporting sufficient for COUNTY to determine compliance with the Response Time Warranty.

(c)   Response Time Reporting and Analysis

(i)   Standard monthly Response Time performance reports shall be available through CONTRACTOR's self-service Lights On Network dashboard reporting system which is accessible to COUNTY via www.cerner.com.

(ii)   CONTRACTOR shall provide COUNTY access to CONTRACTOR's self-service Lights On Network dashboard reporting system for COUNTY to have access to monthly response time reports

(iii)   CONTRACTOR shall train COUNTY's Project Director, or designee on how to access monthly response time reports.

(iv)   COUNTY will work with CONTRACTOR on establishing and reporting issues.

(3)   <u>Availability Service Level Commitment</u>

(a)   <u>Formula and Monitoring</u>

"System Availability" shall mean the percentage of time the System or any System Component is Available during a specific month and shall be calculated as follows, expressed as a percentage:

- Twenty-four (24) hours <u>multiplied by</u> sixty (60) minutes <u>multiplied by</u> the number of days in the applicable month (A) <u>minus</u> the total number of minutes of Unscheduled Downtime during the month (B) <u>divided by</u>

- Twenty-four (24) hours <u>multiplied by</u> sixty (60) minutes <u>multiplied by</u> the number of days in the applicable month.

"Available" shall mean that the System and each System Component is available and operational in accordance with the Specifications and otherwise with this Agreement.

CONTRACTOR shall monitor and report System Availability. In addition, CONTRACTOR shall monitor and evaluate CONTRACTOR's logs of COUNTY service requests that show a resolution relating to System Availability. For purposes of tracking Unscheduled Downtime duration, the Unscheduled Downtime will begin at the earlier of (a) appearance of a System Availability issue on CONTRACTOR's monitoring tools and (b) COUNTY's report of such System Availability issue to CONTRACTOR in accordance with this SLA. Unscheduled Downtime ends at the point in time when Users have the ability to access and use the System in accordance with the Specifications and otherwise with this Agreement.

(b)   Availability Warranty

During all periods within each month when the System is operating in Steady State in the Production Domain, and so long as COUNTY is paying the applicable Service Level Agreement fees in accordance with the Agreement CONTRACTOR represents and warrants that the System and each System Component shall be Available 99.9% of the time, during each month ("Availability Warranty"). The Availability Warranty shall be subject to the assumptions listed above in Section B(1) of this Schedule I.

(c)   Availability Corrective Action

A period of Unscheduled Downtime shall be corrected in accordance with the provisions of this SLA. For the period of Unscheduled Downtime, credits shall begin to accrue in accordance with Section C(1) of this Schedule I. Unscheduled Downtime shall commence as provided by this Schedule I (Service Level Commitments) of this SLA and shall end when the COUNTY's Project Director provides CONTRACTOR with a written determination that the Unscheduled Downtime has been corrected to COUNTY's Project Director's satisfaction.

C.   CREDITS AND OTHER REMEDIES

This Section C (Credits and Other Remedies) of this Schedule I sets forth the credits and other remedies that shall apply in the event that CONTRACTOR fails meet the service level commitments of this Schedule I or otherwise in the SLA or Agreement.

(1)   Credits

Credits shall accrue as specified in this Section C(1) of this Schedule I of the SLA.

Credits shall not accrue for Scheduled Downtime or for any Deficiency resulting from any of the conditions listed in Subparagraph I.A.(8) of this SLA.

COUNTY will not unreasonably delay performance of Corrective Maintenance recommended by CONTRACTOR for any System Components for which CONTRACTOR is providing Application Management Services or Remote Hosting Services as provided in this SLA.

For the Phase 1 System and for each Optional Phase System Component for which this Service Level Agreement applies, during the term of the Agreement, COUNTY shall be entitled to credits in the amounts specified in Table 2 "Downtime Credits" below. Credits shall apply i) in the event that any System Component fails to meet the Availability Warranty, measured and reported as specified in Subparagraph B.(3) of this Schedule I of this SLA above, ii) in the event that a period of Unscheduled Downtime has commenced because of failure of System to meet the Response Time Warranty as specified in Subparagraph B.(2) of this Schedule I of this SLA above, or iii) as provided in Sections I.A.(3) and/or I.A.(4) of this SLA.

Table 2: Downtime Credits

Percentage of Time System Is Available	Credit
Less than 99.9% but greater than or equal to 99.0%	7% of Monthly AMS and Remote Hosting fees
Less than 99.0% but greater than or equal to 98.0%	14% of Monthly AMS and Remote Hosting fees
Less than 98.0% but greater than or equal to 95.0%	20% of Monthly AMS and Remote Hosting fees
Less than 95.0% but greater than or equal 90.0%	50% of Monthly AMS and Remote Hosting fees
Less than 90%	100% of Monthly AMS and Remote Hosting fees

(2)   Other Remedies

a. CONTRACTOR's Infrastructure Improvement

Without limiting the foregoing, CONTRACTOR, acting reasonably, shall determine (subject to Paragraph 46 (Dispute Resolution Procedures) of the Agreement), whether changes to the Production Domain, such as additional hardware, increased LAN/WAN connectivity capacity, infrastructure configuration changes and/or infrastructure tuning changes, will re-

solve the Deficiency. Consistent with such determination, CONTRACTOR shall provide such changes to the Production Domain at no additional cost to COUNTY.

b. Termination

In the event that System Availability falls below 98.0% for any three (3) consecutive months, regardless of credit accruals, then COUNTY may exercise its rights under the Agreement to terminate for CONTRACTOR's default or otherwise under the Agreement.

(3)   Remedies Exclusive

UNLESS AND UNTIL COUNTY TERMINATES THIS AGREEMENT FOR DEFAULT IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT, COUNTY'S RIGHTS UNDER THIS SCHEDULE I, TOGETHER WITH THE OTHER RIGHTS EXPRESSLY PROVIDED FOR IN THIS AGREEMENT, SHALL CONSTITUTE COUNTY'S SOLE AND EXCLUSIVE REMEDY TO ENFORCE CONTRACTOR'S OBLIGATIONS UNDER THIS EXHIBIT D (SERVICE LEVEL AGREEMENTS).

SCHEDULE II
SYSTEM MAINTENANCE FEES

Item	Phase 1 Application Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
1	PowerChart (Clinical Data Repository, PowerOrders, PowerNote)	Footnote 1					
2	CareNet (Electronic Medication Administration Record (eMAR), Clinical Documentation and PowerForms)	Footnote 1					
3	Capstone (Registration Management and Scheduling Management)	Footnote 1					
4	PathNet (General Laboratory, Microbiology) – Medical Devices Interfaces	$482	$496	$511	$527	$542	$559
5	PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)	Footnote 1					
6	RadNet (Radiology Management)	Footnote 1					
7	ProFile (Health Information Management (HIM))	Footnote 1					
8	Interfaces	$1,254	$1,292	$1,330	$1,370	$1,411	$1,454
9	Computerized Physician Order Entry (CPOE)	Footnote 1					

Item	Phase 1 Application Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
10	Discern Expert	Footnote 1					
11	Discern Explorer	Footnote 1					
12	Millennium LDAP Authentication Pass-through	$1,250	$1,288	$1,326	$1,366	$1,407	$1,449
13	CareAware Multi-Media Foundation – Digital Objects	$849	$874	$901	$928	$956	$984
	Subtotal Phase 1 System Maintenance Support Fees[1]	**$3,835**	**$3,950**	**$4,069**	**$4,191**	**$4,316**	**$4,446**

Fees above for Production Use through the end of the Initial Term include a 3% annual increase. If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the Application Software module support can be renewed at the last monthly rate charged plus a 3% annual increase.

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[1] Provided that the scope of use limits for JHIS Application Software as set forth in Attachment B (PEMRS Software) to Exhibit A (Statement of Work) have not been exceeded and payment of support fees is current for these items under the JHIS Agreement in accordance with the terms of the JHIS Agreement, no additional System Software Support fees will be assessed for the JHIS Application Software.

Item	Phase 1 Third Party Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
1	Cerner ProVision Document Imaging (CPDI)	$5,117	$5,117	$5,117	$5,117	$5,117	$5,117
	Subtotal Phase 1 System Third Party Maintenance Support Fees[1]	**$5,117**	**$5,117**	**$5,117**	**$5,117**	**$5,117**	**$5,117**

If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the Third Party Software module will require a quote to determine renewal fees.

Item	Phase 1 Subscription Based Application Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
1	Krames Patient Education Content (not to exceed 13 COUNTY Facilities)	$5,688	$5,859	$6,034	$6,215	$6,402	$6,594
2	Knowledge Content Solutions for Ambulatory (including Cerner Knowledge Tool (Cerner KM) and Multum/Medisource)	$600	$618	$637	$656	$675	$696

Item	Phase 1 Subscription Based Application Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
3a	Web Based Training – (Standard PathNet and Learning Studio)	$1,624	$1,673	$1,723	$1,775	$1,828	$1,883
3b	Web Based Training – (120 Custom Simulations[2])	$8,280	$8,280	$0	$0	$0	$0
4	Classroom Curriculum Development (8, 4-hour classes)[3]	$6,624	$6,624	$0	$0	$0	$0
5	CMT	$1,250	$1,288	$1,326	$1,366	$1,407	$1,449
6	CPT (Codes and Medical Terminology) (not-to-exceed 100 Users)	$104	$104	$104	$104	$104	$104
	Subtotal Subscription-Based Phase 1 System [2 and 3]	**$24,170**	**$24,446**	**$9,824**	**$10,116**	**$10,416**	**$10,726**

Fees above for Production Use through the end of the Initial Term include a 3% annual increase. If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the subscription based Application Software module support can be renewed at the last monthly rate charged plus a 3% annual increase.

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[2] Custom Web Based Training has been mutually agreed upon to pay the one-time fee monthly payable in advance by County for 20 months following COUNTY acceptance of Deliverable 6.7 (Production Use of the Phase 1 System at all COUNTY Facilities).
[3] Classroom Curriculum Development has been mutually agreed upon to pay the one-time fee monthly payable in advance by County for 20 months following COUNTY acceptance of Deliverable 6.7(Production Use of the Phase 1 System at all COUNTY Facilities).

Item	Optional Phase System Appli-cation Software Modules	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
1	Telemedicine[4]	Footnote 4					
2	CareNet: PowerPlan	Footnote 1					
3	724Access Solution[5]	Footnote 5					
4	Enterprise Master Patient Index (EMPI)[4]	Footnote 4					
5	PowerInsight	Footnote 1					
6	PharmNet (Outpatient Pharma-cy)	Footnote 1					
7	CareAdmin[4]	Footnote 4					
8	Radiology Dictation[4]	Footnote 4					
9	eSignature (Patient Electronic Signature)[4]	Footnote 4					
10	Cerner Picture Archiving and Communications System (PACS)[4]	Footnote 4					

[4] Optional Phase Systems will require mutual agreement on scope and pricing prior to Amendment execution under Paragraph 6 of the body of the Agreement.
[5] Optional Phase System Third Party Software will require mutual agreement on scope and pricing prior to Amendment execution under Paragraph 6 of the body of the Agreement.

		Monthly					
Item	**Optional Phase System Application Software Modules**	**Production Use ("Prod") Through 12 Months**	**Prod + 12 Months through Prod +24 Months**	**Prod + 24 Months through Prod +36 Months**	**Prod + 36 Months through Prod +48 Months**	**Prod + 48 Months through Prod +60 Months**	**Prod + 60 Months through End of Initial Term**
11	Financials	Footnote 1					

Fees above for Production Use through the end of the Initial Term include a 3% annual increase. If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the Optional Phase System Application Software module support can be renewed at the last monthly rate charged plus a 3% annual increase.

SCHEDULE III

REMOTE HOSTING SERVICES AND P2SENTINEL SECURITY SERVICES FEES

Remote Hosting Services Fees and P2Sentinel Security Services Fees for Phase 1 System

Item	Phase 1 System	Monthly					
		Production Use ("Prod") Through 12 Months	**Prod + 12 Months through Prod +24 Months**	**Prod + 24 Months through Prod +36 Months**	**Prod + 36 Months through Prod +48 Months**	**Prod + 48 Months through Prod +60 Months**	**Prod + 60 Months through End of Initial Term**
	Section II.B Remote Hosting Services (Recurring Fees)[6]	$80,500	$82,915	$85,402	$87,965	$90,603	$93,322
	P2Sentinel Security Services [7]	$3,260	$3,358	$3,459	$3,562	$3,669	$3,779
	Total Remote Hosting Services and P2Senintel Security Services Fees	**$83,760**	**$86,273**	**$88,861**	**$91,527**	**$94,273**	**$97,101**

Fees above for Production Use through the end of the Initial Term include a 3% annual increase. If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the Remote Hosting Services and P2Sentinel Security Services can be renewed at the last monthly rate charged plus a 3% annual increase.

Scope of use expansion for Remote Hosting Services or P2Sentinel Security Services may be subject to additional fees. CONTRACTOR will provide quote(s) for scope of use expansion pricing when necessary and the Agreement will be updated accordingly in accordance with Paragraph 6 of the Agreement.

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[6] For Remote Hosting Services fees prior to Production Use see Exhibit B (Schedule of Payments).
[7] CONTRACTOR shall invoice COUNTY for P2Sentinel Security Services fees at the rate of $3,260 per month for a total amount not to exceed the amount identified as the Aggregate P2Sentinel Security Services Fees on Exhibit B of this Agreement (72 months) for such service. Fees will be payable for such services upon COUNTY acceptance of Deliverable 6.6 (Successfully Conducted User Acceptance Testing of the Phase 1 System). CONTRACTOR shall invoice COUNTY as provided in Subparagraph II.G(2) of this Service Level Agreement.

SCHEDULE IV

UPGRADES IMPLEMENTATION SERVICES FEES

Item	Phase 1 System	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
	Upgrades Implementation Services	$6,758	$6,961	$7,170	$7,385	$7,606	$7,834

SCHEDULE V

APPLICATION MANAGEMENT SERVICES (AMS) FEES

Item	Phase 1 System	Monthly					
		Production Use ("Prod") Through 12 Months	Prod + 12 Months through Prod +24 Months	Prod + 24 Months through Prod +36 Months	Prod + 36 Months through Prod +48 Months	Prod + 48 Months through Prod +60 Months	Prod + 60 Months through End of Initial Term
	Application Management Services[8]	$32,000	$32,960	$33,949	$34,967	$36,016	$37,097

Fees for Production Use through the end of the Initial Term above include a 3% annual increase. If the term of the Agreement is extended beyond the Initial Term in accordance with Paragraph 5 of the Agreement, the Application Software module support can be renewed at the last monthly rate charged plus a 3% annual increase.

Scope of use expansion for Application Management Services may be subject to additional fees. CONTRACTOR will provide quotes for scope of use expansion pricing when necessary and the Agreement will be updated accordingly in accordance with Paragraph 6 of the Agreement.

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[8] CONTRACTOR shall invoice COUNTY for Application Management Service (AMS) fees at the rate of $32,000 per month for a total amount not to exceed the Aggregate sum as specified in Exhibit B of this Agreement (70 months) for such service. Fees shall be payable for such services provided one month prior to COUNTY acceptance of Deliverable 6.7 (Production Use of the Phase 1 System at all County Facilities). CONTRACTOR shall invoice COUNTY as provided in Paragraph IV.B(2) of this Service Level Agreement.

EXHIBIT E

(RESERVED)

EXHIBIT F - CONTRACTOR'S EEO CERTIFICATION

_____
CONTRACTOR'S Name

_____
Address

_____
Internal Revenue Service Employer Identification Number

GENERAL

In accordance with Section 4.32.010 of the Code of the County of Los Angeles, CONTRACTOR, supplier, or vendor certifies and agrees that all persons employed by such firm, its affiliates, subsidiaries, or holding companies are and will be treated equally by the firm without regard to or because of race, color, religion, ancestry, national origin, age, condition of physical or mental disability, marital status, political affiliation or sex and in compliance with all antidiscrimination laws of the United States of America and the State of California.

CONTRACTOR'S CERTIFICATION

		(circle one)	
1.	The CONTRACTOR has a written policy statement prohibiting discrimination in all phases of employment.	Yes	No
2.	The CONTRACTOR periodically conducts a self-analysis or utilization analysis of its work force.	Yes	No
3.	The CONTRACTOR has a system for determining if its employment practices are discriminatory against protected groups.	Yes	No
4.	Where problem areas are identified in employment practices, the CONTRACTOR has a system for taking reasonable corrective action to include establishment of goals or timetables.	Yes	No

_____
Name and Title of Signer

_____
Signature   Date

EXHIBIT G

PEMRS ASSESSMENT

The documents entitled (a) LA County Probation Assessment – OPPTY ID#1-HUZTDR/CO#128, Project Control Document, dated April 25, 2008, and (b) LA County Probation Department Technology Assessment, Version 2, dated August 2008 are incorporated by reference as Exhibit G (PEMRS Assessment).

ATTACHMENT A
TO
EXHIBIT G (PEMRS ASSESSMENT)

The document entitled Addendum 1 to LA County Probation Future State Technology, dated February 2010, is incorporated by reference as Attachment A (Update No. 1 to PEMRS Assessment) to Exhibit G (PEMRS Assessment).

EXHIBIT H

PEMRS PROJECT PLAN, VERSION 4, DATED SEPTEMBER 2009

PEMRS Project Plan, Version 4, dated September 2009, is incorporated by reference as Exhibit H (PEMRS Project Plan, Version 4, dated September 2009).

EXHIBIT I

REQUIRED SUBCONTRACT PROVISIONS

THIS SUBCONTRACT AGREEMENT (hereafter "Agreement") is made and entered into this _____ day of _____, 20___, by and between _____ _____, located at _____(hereafter "CONTRACTOR"), and _____ _____, located at _____ (hereafter "SUBCONTRACTOR").

WHEREAS, CONTRACTOR has entered into Los Angeles County Contract No. _____ (hereafter "Prime Contract") with the County of Los Angeles, State of California (hereafter "COUNTY") for the purpose of _____;and

WHEREAS, in order to fulfill all of its obligations to COUNTY under the Prime Contract, CONTRACTOR desires to engage SUBCONTRACTOR to perform work in the area(s) of _____; and

WHEREAS, SUBCONTRACTOR desires to perform such work in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, CONTRACTOR and SUBCONTRACTOR agree as follows:

1.   APPLICABLE DOCUMENTS:

1.1   Interpretation:

Exhibits 1, 2 and 3 are attached to and form a part of this Agreement. In the event of any conflict or inconsistency in the definition or interpretation of any word, responsibility, schedule, or the contents of any task, subtask, deliverable, goods, service, or other work, or otherwise, between the Prime Contract and the body of this Agreement and the Exhibits thereto, or between Exhibits, such conflict or inconsistency shall be resolved by giving precedence first to the Prime Contract and then to the Exhibits according to the following priority:

1.   The body of this Agreement

2.   Exhibit 1 -   Statement of Work

3.   Exhibit 2 -   Additional Terms and Conditions

4.   Exhibit 3 -   Subcontractor's EEO Certification

5.   Exhibit 4 -   Confidentiality of CORI

1.2   Entire Agreement:

The body of this Agreement, and the Exhibits thereto, shall constitute the complete and exclusive statement of understanding between the parties which supersedes all previous agreements, written or oral, and all communications between the parties relating to the subject matter of this Agreement.

1.3   Definitions:

Unless otherwise defined in this Agreement, all capitalized terms shall have the meanings as set forth in the Prime Contract.

2.   PRIME CONTRACT:

Notwithstanding any other provision of this Agreement, this Agreement is a subcontract under the Prime Contract and each and all of the provisions of the Prime Contract and any Amendments thereto shall extend to and be binding upon the parties to this Agreement.

3.   WORK:

Pursuant to the provisions of this Agreement, SUBCONTRACTOR shall fully provide, complete and deliver on time all the tasks, subtasks, deliverables, goods, services, and other work set forth in Exhibit 1 (Statement of Work). Time is of the essence of SUBCONTRACTOR's performance hereunder.

4.   PERSONNEL:

4.1   All SUBCONTRACTOR personnel performing work under this Agreement shall be subject to the prior and continuing approval of CONTRACTOR and COUNTY. If at any time during the term of this Agreement, any SUBCONTRACTOR personnel is not approved by CONTRACTOR or COUNTY, then SUBCONTRACTOR shall, immediately upon receipt of written or oral notice from CONTRACTOR or COUNTY, replace such personnel with substitute qualified personnel or take such other action as requested by CONTRACTOR or COUNTY.

4.2   If at any time during the term of this Agreement, any SUBCONTRACTOR personnel ceases performance for any reason, including, but not limited to, resignation or termination, then SUBCONTRACTOR shall, within five (5) working days, replace such personnel with substitute qualified personnel.

4.3   SUBCONTRACTOR shall be solely liable and responsible for providing to, or on behalf of, all persons performing work pursuant to this Agreement, all employee compensation and benefits. CONTRACTOR and COUNTY shall have no liability or responsibility for the payment of any salaries, wages, unemployment benefits, disability benefits, Federal, State, and local taxes, or other compensation

benefits, or taxes, for any personnel provided by or on behalf of SUBCONTRACTOR.

4.4   SUBCONTRACTOR understands and agrees that all persons performing work under this Agreement are, for purposes of workers' compensation liability, the sole employees of SUBCONTRACTOR and not employees of CONTRACTOR or COUNTY. SUBCONTRACTOR shall be solely liable and responsible for any and all workers' compensation benefits to any person as a result of injuries arising from or connected with any work performed by or on behalf of SUBCONTRACTOR pursuant to this Agreement.

4.5   SUBCONTRACTOR shall maintain the confidentiality of all records and information, including, but not limited to, COUNTY Materials, billings, COUNTY records, detainee records and information, and detainee patient records and information, in accordance with all applicable Federal, State and local laws, regulations, ordinances, guidelines and directives relating to confidentiality, security and non-disclosure. SUBCONTRACTOR shall inform all of its officers, employees and agents providing services hereunder of the confidentiality provisions of this Agreement. Further, SUBCONTRACTOR shall require each of its officers, employees and agents, to be bound in writing by confidentiality, security and non-disclosure provisions at least as protective of the COUNTY as the confidentiality, security and non-disclosure provisions of this Agreement. The indemnification obligations set forth in Subparagraph 12.1 shall include, but shall not be limited to, any and all loss, damage, liability, and expense arising from any breach by SUBCONTRACTOR and/or any of its officers employees or agents of the confidentiality, security and non-disclosure provisions of this Agreement.

4.5.1   With respect to any COUNTY Materials, billings, COUNTY records, detainee records and information, and detainee patient records and information that is obtained by SUBCONTRACTOR, SUBCONTRACTOR shall: (1) not use any such information for any purpose whatsoever other than carrying out the express terms of this Agreement; (2) promptly transmit to COUNTY all requests for disclosure of any such information; (3) not disclose, except as otherwise specifically permitted by this Agreement, any such information to any person or organization other than COUNTY without COUNTY's prior written authorization that the information is releasable; and (4) at the expiration or termination of this Agreement, return all such information to COUNTY or maintain such information according to the written procedures sent to SUBCONTRACTOR by COUNTY for this purpose.

4.5.2   SUBCONTRACTOR hereby acknowledges the right of privacy of all persons as to whom there exists any detainee records and information, and detainee patient records and information. CONTRACTOR shall protect, secure and keep confidential all detainee records and information, and detainee patient records and information in compliance with all federal, State and local laws, rules, regulations, ordinances, guidelines and directives, relating to confidentiality and

information security (including any breach of the security of the System, such as any unauthorized acquisition of detainee records and information, and detainee patient records and information that compromises the security, confidentiality or integrity of personal information), including California Civil Code Section 1798.82. Further, SUBCONTRACTOR shall take all reasonable actions necessary or advisable to protect all detainee records and information, and detainee patient records and information in its possession, custody or control from loss or damage by any cause, including fire, theft or other catastrophe. In addition, if requested by COUNTY's Project Director, SUBCONTRACTOR shall provide notification to all persons whose unencrypted personal information was, or is reasonably believed to have been, acquired by any unauthorized person, and the content, method and timing of such notification shall be subject to the prior approval of COUNTY's Project Director.

4.5.3   By State law (California Welfare and Institutions Code Sections 827 and 828 an California Penal Code Sections 1203.5, 1203.9 and 11140 through 11144), adult and juvenile records and Probation Department case information which is in SUBCONTRACTOR's care and possession is confidential and no information related to anyone except those authorized employees of the Probation Department and law enforcement agencies.

A.   SUBCONTRACTOR shall give each of its employees who will have access minor records during the course of performing work under this Agreement copies of all cited code sections, and a Confidentiality of CORI form in the form attached hereto as Exhibit 4 (Confidentiality of CORI), regarding confidentiality of the information in adult and juvenile records. SUBCONTRACTOR shall retain an original executed Confidentiality of CORI form for each such employee and shall forward copies of each such Confidentiality of CORI form to CONTRACTOR within five Working Days of the start of such employee having access to COUNTY records under this Agreement.

B.   SUBCONTRACTOR shall inform all of its officers, employees, agents and subcontractors of the above provisions and that any knowing and intentional violation of such State law is a misdemeanor.

5.   COMPENSATION:

All compensation to SUBCONTRACTOR under this Agreement shall be paid by CONTRACTOR and shall be as set forth in Exhibit 2 (Additional Terms and Conditions). CONTRACTOR shall be solely liable and responsible for any and all payments and other compensation to SUBCONTRACTOR and its officers, employees, and agents. COUNTY shall have no liability or responsibility whatsoever for any payment or other compensation for SUBCONTRACTOR or its officers, employees, and agents. Without limitation of the foregoing, SUBCONTRACTOR disclaims any right to seek any payment from COUNTY for

any and all compensation or recovery of any of its costs, or to assert any lien against COUNTY, its assets or rights in the System or any element thereof, on account thereof.

6.   TERM:

The term of this Agreement shall commence on _____ and shall continue through _____ unless sooner terminated, in whole or in part, as provided in this Agreement.

7.   TERMINATION:

CONTRACTOR shall have the right to terminate this Agreement, in whole or in part, at any time by giving written notice to SUBCONTRACTOR when such action is deemed by CONTRACTOR to be in its best interest. This Agreement shall also terminate, in whole or in part, upon receipt by CONTRACTOR of written notice from COUNTY that COUNTY no longer approves the continuation of the whole or any part of this Agreement.

8.   THIRD PARTY BENEFICIARY:

CONTRACTOR and SUBCONTRACTOR understand and agree that this Agreement is entered into for the benefit of COUNTY and that COUNTY is hereby expressly made a third party beneficiary of this Agreement.

9.   AMENDMENTS:

The provisions of the body of this Agreement and the Exhibits thereto shall not be changed in any way by CONTRACTOR or SUBCONTRACTOR without the prior written consent of COUNTY, and any unapproved change shall be null and void. No changes to the body of this Agreement or the Exhibits thereto shall be valid and effective unless made in the form of a written Amendment which is approved in writing by COUNTY and which is formally executed by authorized officials of CONTRACTOR and SUBCONTRACTOR.

10.   PROHIBITION AGAINST ASSIGNMENT AND DELEGATION:

This Agreement, or any interest therein, including, but not limited to, any claim for monies due or to become due with respect thereto, shall not be assigned or delegated, or both, by CONTRACTOR or SUBCONTRACTOR, and any assignment or delegation shall be null and void, except that in the event of termination of the Prime Contract, CONTRACTOR has the right to assign this Agreement to COUNTY.

11.   PROHIBITION AGAINST SUBCONTRACTING:

No performance of this Agreement, or any part thereof, shall be subcontracted by SUBCONTRACTOR, and any subcontract shall be null and void.

12.   INDEMNIFICATION, INSURANCE AND PERFORMANCE BOND:

12.1   Indemnification: CONTRACTOR and SUBCONTRACTOR agree to indemnify, defend, and hold harmless each other, their officers, employees, and agents from and against any and all liability and expense, including defense costs and legal fees, arising from or connected with claims and lawsuits for damages or worker's compensation benefits relating to CONTRACTOR's or SUBCONTRACTOR's operations or their services, which result from bodily injury, death, personal injury, or property damage (including damage to property owned by or in the care, custody, or control of either party).

12.2   Insurance:

Without limiting either party's indemnification of the other and during the term of this Agreement, CONTRACTOR and SUBCONTRACTOR shall each provide and maintain at its own expense the following programs of insurance. Such programs and evidence of insurance shall be satisfactory to the COUNTY and shall be primary to and not contributing with any other insurance maintained by the COUNTY. Certificates or other evidence of coverage shall be delivered to ___ _____ prior to commencing services under this Agreement, shall specifically identify this Agreement, and shall contain the express condition that COUNTY is to be given written notice by registered mail at least thirty (30) days in advance of any modification or termination of insurance.

12.2.1 Liability:

Such insurance shall shall include:

1.   General liability insurance written on a commercial general liability form or on a comprehensive general liability form covering the hazards of premises/ operations, contractual, independent contractors, products/completed operations, broad form property damage, and personal injury with a combined single limit of not less than Two Million Dollars ($2,000,000) per occurrence.

       a.   If written with an annual aggregate limit, the policy limit should be no less than Three Million Dollars ($3,000,000).

       b.   If written on a claims made form, CONTRACTOR and SUBCONTRACTOR shall continue to name COUNTY as an additional insured or provide an extended two (2) year reporting period commencing upon termination or cancellation of this Agreement.

COUNTY shall have additional insured status on the general liability policy.

2.   Comprehensive auto liability endorsed for all owned, non-owned, and hired vehicles with a combined single limit of not less than One Million Dollars ($1,000,000) per occurrence.

3.   Professional liability insurance covering liability arising from any error, omission, negligent or wrongful act of the SUBCONTRACTOR, its officers or employees with limits of not less than Two Million Dollars ($2,000,000) per occurrence and Three Million Dollars ($3,000,000) aggregate. Such insurance shall be maintained for not less than two (2) years upon termination or cancellation of the Agreement, or the policy shall provide an extended two year reporting period commencing upon termination or cancellation of the Agreement.

12.2.2 Workers' Compensation:

Insurance in an amount and form to meet all applicable requirements of the Labor Code of the State of California, including Employers Liability with a One Million Dollar ($1,000,000) limit, covering all persons who provide services for CONTRACTOR and SUBCONTRACTOR.

12.3   Performance Bond:

Prior to the effective date of this Agreement, SUBCONTRACTOR shall furnish to COUNTY a performance bond in the sum of not less than ten percent (10%) of the total compensation due to SUBCONTRACTOR under this Agreement payable to the County of Los Angeles and CONTRACTOR and executed by a corporate surety licensed to transact business as a surety in the State of California. Such bond shall be conditioned upon faithful performance by SUBCONTRACTOR of the terms and conditions of the Agreement, and shall be renewed to provide for continuing liability in the above amount notwithstanding any payment or recovery thereon. At its sole option, COUNTY may accept Certificates of Deposit, Cash Deposits, or United States Government Securities in lieu of commercial bonds to meet this provision. Such alternative performance bonds shall be made payable to County of Los Angeles and CONTRACTOR and shall be deposited with the COUNTY as instructed by COUNTY's Project Director in writing.

12.4   Failure to Procure or Maintain Insurance and Performance Bond:

Failure on the part of SUBCONTRACTOR to procure or maintain the required insurance or performance bond shall constitute a material breach of this Agreement upon which this Agreement may be terminated pursuant to Paragraph 7 (Termination).

13.   RECORDS AND AUDITS:

13.1   SUBCONTRACTOR shall maintain accurate and complete financial records of its activities and operations relating to this Agreement in accordance with generally accepted accounting principles. SUBCONTRACTOR shall also maintain accurate and complete employment and other records relating to its performance of this Agreement. SUBCONTRACTOR agrees that COUNTY, or its duly authorized representatives, shall have access to and the right to examine, audit, excerpt, copy, or transcribe any pertinent transaction, activity, or records relating to this Agreement. All such material, including, but not limited to, all financial records, time cards and other employment records, and proprietary data and information, shall be kept and maintained by SUBCONTRACTOR and shall be made available to CONTRACTOR and COUNTY during the term of this Agreement and for a period of five (5) years thereafter unless written permission of both CONTRACTOR and COUNTY is given to dispose of any such material prior to such time. All such material shall be maintained by SUBCONTRACTOR at a location in Los Angeles County, provided that if any such material is located outside Los Angeles County, then, at COUNTY's option, SUBCONTRACTOR shall pay COUNTY for travel, per diem, and other costs incurred by COUNTY to examine, audit, excerpt, copy or transcribe such material at such other location.

13.2   In the event that an audit is conducted of SUBCONTRACTOR specifically regarding this Agreement by any Federal or State auditor, or by any auditor or accountant employed by SUBCONTRACTOR or otherwise, then SUBCONTRACTOR shall file a copy of such audit report with COUNTY's Auditor-Controller within thirty (30) days of SUBCONTRACTOR's receipt thereof, unless otherwise provided by applicable Federal or State law or under this Agreement. COUNTY shall make a reasonable effort to maintain the confidentiality of such audit report(s).

13.3   Failure on the part of SUBCONTRACTOR to comply with the provisions of this Paragraph 13 shall constitute a material breach of this Agreement upon which CONTRACTOR may immediately terminate or suspend this Agreement.

14.   PROPRIETARY CONSIDERATIONS AND CONFIDENTIALITY:

       THE FOLLOWING PARAGRAPH 14 SHALL APPLY ONLY TO INTELLECTUAL PROPERTY, PROCESSES, APPLICATIONS, DEVELOPMENTS, MATERIALS, DATA, AND INFORMATION, IF ANY, DEVELOPED UNDER THIS AGREEMENT.

14.1   CONTRACTOR and SUBCONTRACTOR agree that all intellectual property, processes, applications, developments, materials, data, and information developed under this Agreement shall become the sole property of COUNTY, and SUBCONTRACTOR hereby assigns and transfers to COUNTY all SUBCONTRACTOR's right, title, and interest in and to all such intellectual

property, processes, applications, developments, materials, data, and information, provided that SUBCONTRACTOR may retain possession of all working papers prepared by SUBCONTRACTOR. During and subsequent to the term of this Agreement, COUNTY shall have the right to inspect any and all such working papers, make copies thereof, and use the working papers and the information contained therein.

14.2   Whenever requested by COUNTY, SUBCONTRACTOR shall: (1) promptly execute and deliver to COUNTY all papers, instruments, and other documents requested by COUNTY to reflect SUBCONTRACTOR's assignment and transfer to COUNTY of all SUBCONTRACTOR's right, title, and interest in and to the items described in this Paragraph 14, and (2) promptly perform all other acts necessary to carry out the terms of this Agreement.

14.3   Except as expressly permitted by this Agreement, CONTRACTOR and SUBCONTRACTOR shall not disclose to any third party, and shall protect the security of and keep confidential all intellectual property, processes, applications, developments, materials, data, and information received or produced under this Agreement.

15.   <u>PATENT, COPYRIGHT AND TRADE SECRET INDEMNIFICATION:</u>

SUBCONTRACTOR shall indemnify, defend, and hold harmless CONTRACTOR and COUNTY from and against any and all claims, liability, damages, costs, and expenses, including, but not limited to, defense costs and attorneys fees, for or by reason of any actual or alleged infringement of any patent, copyright, or any actual or alleged trade secret disclosure or misappropriation arising from or related to the operation and utilization of SUBCONTRACTOR's work under this Agreement.

16.   <u>WARRANTIES:</u>

16.1   SUBCONTRACTOR represents, warrants, covenants, and agrees that SUBCONTRACTOR shall promptly correct any and all defects, errors, or omissions in the tasks, subtasks, deliverables, goods, services, and other work provided pursuant to this Agreement in order to conform and comply with all specifications, requirements, standards, and representations set forth in this Agreement. The correction of any such defects, errors or omissions shall be at no cost to CONTRACTOR or COUNTY.

16.2   SUBCONTRACTOR further represents, warrants, covenants, and agrees that:

1.   SUBCONTRACTOR shall strictly comply with the specifications, requirements, standards, and representations set forth in this Agreement.

2.   All tasks, subtasks, deliverables, goods, services, and other work shall be provided and/or performed in a timely and professional manner by qualified personnel.

3.   Any software or data analysis used by SUBCONTRACTOR shall be available to CONTRACTOR and COUNTY during the term of this Agreement and for a period of four (4) years thereafter, provided that this warranty shall only apply to software or data analysis owned by or under the control of SUBCONTRACTOR and related to this Agreement;

4.   All tasks, subtasks, deliverables, goods, services and other work shall be completed in accordance with this Agreement, the Prime Contract, industry standards, and hardware manufacturers' specifications.

5.   All hardware and software provided under this Agreement shall perform according to the requirements as set forth in Exhibit 1 (Statement of Work).

6.   All documentation developed under this Agreement shall be uniform in appearance.

7.   SUBCONTRACTOR shall not cause any unplanned interruption of the operations of, or accessibility to any System Component through any device, method or means including, without limitation, the use of any Virus, "lockup," "time bomb," or "key lock," "worm," device or program, or disabling code, which has the potential or capability of compromising the security of any of COUNTY's confidential or proprietary information or of causing any unplanned interruption of the operations of, or accessibility of any System Component to COUNTY or any User or which could alter, destroy, or inhibit the use of any System Component, or the data contained therein (collectively referred to for purposes of this Subparagraph as "Disabling Device(s)"), which could block access to or prevent the use of any System Component by COUNTY or Users. SUBCONTRACTOR represents, warrants and agrees that it has not purposely placed, nor is it aware of, any Disabling Device on any System Component provided to COUNTY under the Prime Contract, nor shall SUBCONTRACTOR knowingly permit any subsequently delivered System Component to contain any Disabling Device.

8.   SUBCONTRACTOR shall use its best efforts to prevent Viruses from being incorporated or introduced into the System. SUBCONTRACTOR shall prevent Viruses from being incorporated or introduced into any System Component prior to delivery thereof to COUNTY, and shall utilize its best efforts to prevent any Viruses being incorporated or introduced in the process of SUBCONTRACTOR's loading of any System Component,

or being introduced in the process of SUBCONTRACTOR's performance of any work under this Agreement.

9.   Any and all software and hardware provided under this Agreement will accurately determine chronological dates and accurately perform all calculations, data manipulations, sorting and transmission of date data regardless of whether the date data represents or references different centuries.

17.   <u>COMPLIANCE WITH APPLICABLE LAW:</u>

17.1   SUBCONTRACTOR's activities hereunder shall comply with all applicable Federal, State, and local laws, rules, regulations, ordinances, guidelines, codes and directives, and all provisions required thereby to be included in this Agreement are incorporated herein by this reference thereto. SUBCONTRACTOR shall have up to fifteen (15) days to correct any noncompliance with COUNTY rules, regulations, ordinances, guidelines, codes and directives following written notice from COUNTY or CONTRACTOR including written copies of such applicable rules, regulations, ordinances, guidelines, codes and/or directives.

17.2   SUBCONTRACTOR shall indemnify, defend, and hold harmless COUNTY, its districts administered by COUNTY, and its elected and appointed officers, employees, and agents from and against any and all claims, demands, damages, liabilities, losses, costs, and expenses, including, but not limited to, defense costs and legal, accounting and other expert, consulting or professional fees, arising from or related to any violation on the part of SUBCONTRACTOR, its employees, or agents of any such laws, rules, regulations, ordinances, guidelines, codes or directives.

18.   <u>FAIR LABOR STANDARDS:</u>

SUBCONTRACTOR shall comply with all applicable provisions of the Federal Fair Labor Standards Act, and shall indemnify, defend, and hold harmless CONTRACTOR and COUNTY, their officers, employees and agents from any and all liability, including, but not limited to, wages, overtime pay, liquidated damages, penalties, court costs, and attorneys' fees arising under any wage and hour law, including, but not limited to, the Federal Fair Labor Standards Act, for work performed by SUBCONTRACTOR's employees for which CONTRACTOR or COUNTY may be found jointly or solely liable.

19.   <u>RESTRICTIONS ON LOBBYING:</u>

19.1   <u>Federal Funds Projects:</u>

If any Federal funds are to be used to pay for any of SUBCONTRACTOR's work under this Agreement, SUBCONTRACTOR shall fully comply with all certification and disclosure requirements prescribed by Section 319 of Public Law 101-121 (31 United States Code Section 1352) and any implementing regulations, and shall ensure that each of its subcontractors receiving funds provided under this Agreement also fully complies with all such certification and disclosure requirements.

19.2   All Projects:

SUBCONTRACTOR and each COUNTY lobbyist or COUNTY lobbying firm as defined in Los Angeles County Code Section 2.160.010, retained by SUBCONTRACTOR, shall fully comply with the County Lobbyist Ordinance, Los Angeles County Code Chapter 2.160. Failure on the part of SUBCONTRACTOR or any COUNTY lobbyist or COUNTY lobbying firm retained by SUBCONTRACTOR to fully comply with the County Lobbyist Ordinance shall constitute a material breach of this Agreement upon which COUNTY may immediately terminate or suspend this Agreement.

20.   NONDISCRIMINATION AND AFFIRMATIVE ACTION:

20.1   SUBCONTRACTOR certifies and agrees that all persons employed by it, its affiliates, subsidiaries or holding companies are and will be treated equally without regard to or because of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, in compliance with all applicable Federal and State anti-discrimination laws and regulations.

20.2   SUBCONTRACTOR shall certify to, and comply with, the provisions of Exhibit 4 (SUBCONTRACTOR's EEO Certification).

20.3   SUBCONTRACTOR shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, in compliance with all applicable Federal and State anti-discrimination laws and regulations. Such action shall include, but is not limited to: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

20.4   SUBCONTRACTOR certifies and agrees that it will deal with its subcontractors, bidders or vendors without regard to or because of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap.

20.5   SUBCONTRACTOR certifies and agrees that it, its affiliates, subsidiaries or holding companies, will comply with all applicable Federal and State laws and regulations, including, but not limited to:

      1.   Title VII, Civil Rights Act of 1964;

      2.   Section 504, Rehabilitation Act of 1973;

      3.   Age Discrimination Act of 1975;

      4.   Title IX, Education Amendments of 1973, as applicable; and

      5.   Title 43, Part 17, Code of Federal Regulations, Subparts A & B;

and that no person shall, on the grounds of race, color, religion, ancestry, national origin, sex, age, or physical or mental handicap, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under, this Agreement or under any project, program, or activity supported by this Agreement.

20.6   SUBCONTRACTOR shall allow COUNTY representatives access to its employment records during regular business hours to verify compliance with the provisions of this Paragraph 20 when so requested by COUNTY.

20.7   If COUNTY finds that any of the provisions of this Paragraph 20 have been violated, such violation shall constitute a material breach of this Agreement upon which COUNTY may terminate or suspend this Agreement. While COUNTY reserves the right to determine independently that the anti-discrimination provisions of this Agreement have been violated, in addition, a determination by the California Fair Employment Practices Commission or the Federal Equal Employment Opportunity Commission that SUBCONTRACTOR has violated State or Federal anti-discrimination laws or regulations shall constitute a finding by COUNTY that SUBCONTRACTOR has violated the anti-discrimination provisions of this Agreement.

20.8   The parties agree that in the event SUBCONTRACTOR violates the anti-discrimination provisions of this Agreement, COUNTY shall, at its option, be entitled to the sum of Five Hundred Dollars ($500) pursuant to California Civil Code Section 1671 as liquidated damages in lieu of terminating or suspending this Agreement.

21.   EMPLOYMENT ELIGIBILITY VERIFICATION:

SUBCONTRACTOR warrants that it fully complies with all Federal and State statutes and regulations regarding the employment of aliens and others and that all its employees performing work under this Agreement meet the citizenship or alien status requirements set forth by Federal and State statutes and regulations. SUBCONTRACTOR shall obtain, from all employees performing work hereunder, all verification and other documentation of employment eligibility status required by Federal and State statutes and regulations as they currently exist and as they

may be hereafter amended. SUBCONTRACTOR shall retain all such documentation for the period prescribed by law. SUBCONTRACTOR shall indemnify, defend and hold harmless CONTRACTOR and COUNTY, their officers and employees, from and against any employer sanctions and any other liability which may be assessed against SUBCONTRACTOR, CONTRACTOR or COUNTY in connection with any alleged violation of any Federal or State statutes or regulations pertaining to the eligibility for employment of any persons performing work hereunder.

22.   SUBCONTRACTOR PERFORMANCE DURING CIVIL UNREST OR DISASTER:

SUBCONTRACTOR recognizes that the health facilities maintained by COUNTY provide services essential to the residents of the communities they serve, and that these services are of particular importance at the time of a riot, insurrection, civil unrest, natural disaster or similar event. Notwithstanding any other provision of this Agreement, full performance by SUBCONTRACTOR during any riot, insurrection, civil unrest, natural disaster, or similar event is not excused if such performance remains physically possible without related danger to SUBCONTRACTORS' employees and suppliers. During any such event in which the health or safety of any SUBCONTRACTOR's staff members would be endangered by performing their services on-site, such staff members may perform any or all of their services remotely.

23.   LICENSES, ETC.

SUBCONTRACTOR shall obtain and maintain in effect during the term of this Agreement all licenses, permits, registrations, accreditations, and certificates required by all Federal, State, and local laws, ordinances, rules, regulations, guidelines, and directives, which are applicable to SUBCONTRACTOR's services under this Agreement. A copy of each such license, permit, registration, accreditation, and certificate required by all applicable Federal, State, and local laws, ordinances, rules, regulations, guidelines, and directives shall be provided, in duplicate, to CONTRACTOR.

24.   COMPLIANCE WITH THE COUNTY'S JURY SERVICE PROGRAM

This Agreement is subject to the provisions of the COUNTY's ordinance entitled Contractor Employee Jury Service as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

25.   SUBCONTRACTOR'S RESPONSIBILITY AND DEBARMENT

This Agreement is subject to the provisions of the COUNTY's ordinance entitled Determinations of Contractor Non-Responsibility and Contractor Debarment as

codified in Chapter 2.202 of the Los Angeles County Code.

26.   NOTICE TO EMPLOYEES REGARDING THE FEDERAL EARNED INCOME CREDIT

SUBCONTRACTOR shall notify its employees residing or working in the State of California, and shall require each subcontractor performing work under this Agreement to notify its employees residing or working in the State of California, that they may be eligible for the Federal Earned Income Credit under the federal income tax laws. Such notice shall be provided in accordance with the requirements set forth in Internal Revenue Service Notice No. 1015.

27.   SAFELY SURRENDERED BABY LAW

SUBCONTRACTOR acknowledges that COUNTY places a high priority on the implementation of the Safely Surrendered Baby Law. SUBCONTRACTOR understands that it is COUNTY's policy to encourage all COUNTY contractors to voluntarily post the COUNTY's "Safely Surrendered Baby Law" poster in a prominent position at SUBCONTRACTOR's place of business. COUNTY's Department of Children and Family Services will supply the SUBCONTRACTOR with the poster to be used. Information on how to receive the poster can be found on the Internet at www.babysafela.org.

28.   CAPTIONS AND PARAGRAPH HEADINGS:

Captions and paragraph headings used in this Agreement are for convenience only and are not a part of this Agreement and shall not be used in construing this Agreement.

29.   WAIVER:

No waiver of any breach of any provision of this Agreement shall constitute a waiver of any other breach or of such provision. Failure of any party to enforce at any time, or from time to time, any provision of this Agreement shall not be construed as a waiver thereof. The rights and remedies set forth in this Paragraph 24 shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

30.   GOVERNING LAW, JURISDICTION AND VENUE:

This Agreement shall be governed by, and construed in accordance with, the laws of the State of California applicable to agreements made and to be performed within that State. Without limiting the foregoing, CONTRACTOR and SUBCONTRACTOR intend that this Agreement shall be subject to the provisions of the Uniform Commercial Code as enacted in California, and the parties hereto

shall retain all of their rights and remedies thereunder. CONTRACTOR and SUBCONTRACTOR agree and consent to the exclusive jurisdiction of the courts of the State of California for all purposes regarding this Agreement and further agree and consent that venue of any action brought hereunder shall be exclusively in the County of Los Angeles, California.

31.   SEVERABILITY:

If any provision of this Agreement is adjudged void or invalid for any reason whatsoever, but would be valid if part of the wording thereof were deleted or changed, then such provision shall apply with such modifications as may be necessary to make it valid and effective. In the event that one or more of the provisions of this Agreement is found to be invalid, illegal or unenforceable in any respect, such provision shall be deemed deleted herefrom and the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

32.   AUTHORIZATION WARRANTY:

SUBCONTRACTOR represents and warrants that the person executing this Agreement for SUBCONTRACTOR is an authorized agent who has actual authority to bind SUBCONTRACTOR to each and every term, condition, and obligation of this Agreement and that all requirements of SUBCONTRACTOR have been fulfilled to provide such actual authority.

33.   NOTICES:

All notices or demands required or permitted to be given or made under this Agreement, unless otherwise specified, shall be in writing and shall be addressed to the parties at the following addresses and delivered: (1) by hand with signed receipt, (2) by first-class registered or certified mail, postage prepaid, or (3) by facsimile transmission followed within twenty-four (24) hours by a confirmation copy mailed by first-class registered or certified mail, postage prepaid. Notices shall be deemed given at the time of signed receipt in the case of hand delivery, three (3) days after deposit in the United States mail as set forth above, or on the date of facsimile transmission if followed by timely confirmation mailing. Addresses may be changed by either party giving ten (10) days prior written notice thereof to the other party.

1.   If to CONTRACTOR:

With a copy to COUNTY, addressed as follows:

Project Director

Probation Department

[INSERT ADDRESS]

2.   If to SUBCONTRACTOR:

With a copy to COUNTY, addressed as follows:

Project Director

Probation Department

[INSERT ADDRESS]

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SUBCONTRACT AGREEMENT TO COUNTY AGREEMENT #

_____

IN WITNESS WHEREOF, CONTRACTOR and SUBCONTRACTOR have caused this Agreement to be signed by their duly authorized officers on the day and year first set forth hereinabove.

[CONTRACTOR]

By: _____
        Name:
        Title:

[SUBCONTRACTOR]

By: _____
        Name:
        Title:

EXHIBIT 1

STATEMENT OF WORK

(To be prepared by CONTRACTOR and SUBCONTRACTOR)

EXHIBIT 2

ADDITIONAL TERMS AND CONDITIONS

(To be prepared by CONTRACTOR and SUBCONTRACTOR)

EXHIBIT 3

SUBCONTRACTOR'S EEO CERTIFICATION

_____

Subcontractor's Name

_____

Address

_____

Internal Revenue Service Employer Identification Number

GENERAL

In accordance with Paragraph 4.32.010 of the Code of the County of Los Angeles, the above-referenced Subcontractor certifies and agrees that all persons employed by such firm, its affiliates, subsidiaries, or holding companies are and will be treated equally by the firm without regard to or because of race, religion, ancestry, national origin, or sex and in compliance with all anti-discrimination laws of the United States of America and the State of California.

SUBCONTRACTOR'S CERTIFICATION

		(circle one)	
1.	The subcontractor has a written policy statement prohibiting discrimination in all phases of employment.	YES	NO
2.	The Subcontractor periodically conducts a self analysis or utilization analysis of its work force.	YES	NO
3.	The Subcontractor has a system for determining if its employment practices are discriminatory against protected groups.	YES	NO
4.	Where problem areas are identified in employment practices, the Subcontractor has a system for taking reasonable corrective action, to include establishment of goals or timetables.	YES	NO

_____

Name and title of signer

_____

Signature   Date

EXHIBIT 4

CONFIDENTIALITY OF CORI

Criminal Offender Record Information (CORI) is that information which is recorded as the result of an arrest, detention or other initiation of criminal proceedings including any consequent proceedings related thereto. As an employee of_____ during the legitimate course of your duties, you may have access to CORI. The Probation Department has a policy of protecting the confidentiality of CORI.

You are required to protect the information contained in case files against disclosure to all individuals who do not have a right-to-know or a need-to-know this information.

The use of any information obtained from case files or other related sources of CORI to make contacts with probationers or their relatives, or to make CORI available to anyone who has no real and proper reason to have access to this information as determined solely by the Probation Department is considered a breach of confidentiality, inappropriate and unauthorized.

Any _____ employee engaging in such activities is in violation of the Probation Department's confidentiality policy and will be subject to appropriate disciplinary action and/or criminal action pursuant to Section 11142 of the Penal Code.

I have read and understand the Probation Department's policy concerning the confidentiality of CORI.

_____

Signature

_____

Name (Print)

_____

Title

_____

Date

EXHIBIT J

CONTRACTOR'S OBLIGATIONS AS A "BUSINESS ASSOCIATE" UNDER HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT OF 1996 (HIPAA) AND THE HEALTH INFORMATION TECHNOLOGY FOR ECONOMIC AND CLINICAL HEALTH ACT (HITECH) (BUSINESS ASSOCIATE AGREEMENT)

Under County Agreement No. _____ (together with all exhibits and attachments thereto, all as amended from time to time, "Agreement"), Contractor ("Business Associate") provides goods, services and other work ("Services") to County ("Covered Entity") and Business Associate receives, has access to or creates Protected Health Information in order to provide those Services.

Covered Entity is subject to the Administrative Simplification requirements of the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191 ("HIPAA"), and regulations promulgated thereunder, including the Standards for Privacy of Individually Identifiable Health Information ("Privacy Regulations") and the Health Insurance Reform: Security Standards ("the Security Regulations") at 45 Code of Federal Regulations (C.F.R.) Parts 160 and 164 (together, the "Privacy and Security Regulations"). The Privacy and Security Regulations require Covered Entity to enter into a contract with Business Associate ("Business Associate Agreement") in order to mandate certain protections for the privacy and security of Protected Health Information, and those Regulations prohibit the disclosure to or use of Protected Health Information by Business Associate if such a contract is not in place.

Further, pursuant to the Health Information Technology for Economic and Clinical Health Act, Public Law 111-005 ("HITECH Act"), effective February 17, 2010, certain provisions of the HIPAA Privacy and Security Regulations apply to Business Associates in the same manner as they apply to Covered Entity and such provisions must be incorporated into the Business Associate Agreement.

This Business Associate Agreement and the following provisions are intended to protect the privacy and provide for the security of Protected Health Information disclosed to or used by Business Associate in compliance with HIPAA's Privacy and Security Regulations and the HITECH Act, as they now exist or may hereafter be amended. Therefore, the parties agree as follows:

DEFINITIONS

1.1   "Breach" has the same meaning as the term "breach" in 45 C.F.R. § 164.402.

1.2   "Disclose" and "Disclosure" mean, with respect to Protected Health Information, the release, transfer, provision of access to, or divulging in any other manner of Protected Health Information outside Business Associate's internal operations or to other than its employees.

1.3   "Electronic Health Record" has the same meaning as the term "electronic health record" in the HITECH Act, 42 U.S.C. section 17921. Electronic Health Record means an electronic record of health-related information on an individual that is created, gathered, managed, and consulted by authorized health care clinicians and staff.

1.4   "Electronic Media" has the same meaning as the term "electronic media" in 45 C.F.R. § 160.103. Electronic Media means (1) Electronic storage media including memory devices in computers (hard drives) and any removable/transportable digital memory medium, such as magnetic tape or disk, optical disk, or digital memory card; or (2) Transmission media used to exchange information already in electronic storage media. Transmission media include, for example, the internet (wide-open), extranet (using internet technology to link a business with information accessible only to collaborating parties), leased lines, dial-up lines, private networks, and the physical movement of removable/transportable electronic storage media. Certain transmissions, including of paper via facsimile, and of voice via telephone, are not considered to be transmissions via electronic media, because the information being exchanged did not exist in electronic form before the transmission.

1.5   "Electronic Protected Health Information" has the same meaning as the term "electronic protected health information" in 45 C.F.R. § 160.103. Electronic Protected Health Information means Protected Health Information that is (i) transmitted by electronic media; (ii) maintained in electronic media.

1.6   "Individual" means the person who is the subject of Protected Health Information and shall include a person who qualifies as a personal representative in accordance with 45 C.F.R. § 164.502(g).

1.7   "Minimum Necessary" refers to the minimum necessary standard in 45 C.F.R. § 164.502 (b) as in effect or as amended.

1.8   "Privacy Rule" means the Standards for Privacy of Individually Identifiable Health Information at 45 Code of Federal Regulations (C.F.R.) Parts 160 and 164, also referred to as the Privacy Regulations.

1.9   "Protected Health Information" has the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to the information created or received by Business Associate from or on behalf of Covered Entity. Protected Health Information includes information that (i) relates to the past, present or future physical or mental health or condition of an Individual; the provision of health care to an Individual, or the past, present or future payment for the provision of health care to an Individual; (ii) identifies the Individual (or for which there is a reasonable basis for believing that the information can be used to identify the Individual); and (iii) is received by Business Associate from or on behalf of Covered Entity, or is created by Business Associate, or is made accessible to Business Associate by Covered Entity. "Protected Health Information" includes Electronic Protected Health Information.

1.10   "Required By Law" means a mandate contained in law that compels an entity to make a Use or Disclosure of Protected Health Information and that is enforceable in a court of law. Required by law includes, but is not limited to, court orders and court-ordered warrants; subpoenas or summons issued by a court, grand jury, a governmental or tribal inspector general, or any administrative body authorized to require the production of information; a civil or an authorized investigative demand; Medicare conditions of participation with respect to health care providers participating in the program; and statutes or regulations that require the production of information, including statutes or regulations that require such information if payment is sought under a government program providing benefits.

1.11   "Security Incident" means the attempted or successful unauthorized access, Use, Disclosure, modification, or destruction of information in, or interference with system operations of, an Information System which contains Electronic Protected Health Information. However, Security Incident does not include attempts to access an Information System when those attempts are not reasonably considered by Business Associate to constitute an actual threat to the Information System.

1.12   "Security Rule" means the Security Standards for the Protection of Electronic Health Information also referred to as the Security Regulations at 45 Code of Federal Regulations (C.F.R.) Part 160 and 164.

1.13   "Services" as defined in the preamble of this Business Associate Agreement.

1.14   "Unsecured Protected Health Information" has the same meaning as the term "unsecured protected health information" in 45 C.F.R. § 164.402.

1.15   "Use" or "Uses" mean, with respect to Protected Health Information, the sharing, employment, application, utilization, examination or analysis of such Information within Business Associate's internal operations.

1.16   Terms used, but not otherwise defined in this Business Associate Agreement shall have the same meaning as those terms in the HIPAA Regulations and HITECH Act.

OBLIGATIONS OF BUSINESS ASSOCIATE

2.1   Permitted Uses and Disclosures of Protected Health Information. Business Associate:

(a)   shall Use and Disclose Protected Health Information only as necessary to perform the Services, and as provided in this Business Associate Agreement;

(b)   shall Disclose Protected Health Information to Covered Entity upon request;

(c)   may, as necessary for the proper management and administration of its business or to carry out its legal responsibilities:

i.   Use Protected Health Information; and

ii.   Disclose Protected Health Information if the Disclosure is Required by Law or to agents and/or subcontractors with respect to which the procedures outlined in Section 5.2 of this Business Associate Agreement have been complied.

Business Associate shall not Use or Disclose Protected Health Information for any other purpose or in any manner that would constitute a violation of the Privacy Regulations or the HITECH Act if so Used or Disclosed by Covered Entity.

2.2   Prohibited Uses and Disclosures of Protected Health Information. Business Associate:

(a)   shall not Use or Disclose Protected Health Information for fundraising or marketing purposes.

(b)   except as otherwise Required by Law, shall not disclose Protected Health Information to a health plan for payment or health care operations purposes if the Individual has requested this special restriction and has paid out of pocket in full for the health care item or service to which the Protected Health Information solely relates.

(c)   shall not directly or indirectly receive payment in exchange for Protected Health Information, except with the prior written consent of Covered Entity and as permitted by the HITECH Act. This prohibition shall not affect payment by Covered Entity to Business Associate. Covered Entity shall not provide such written consent except upon express approval of the departmental privacy officer and only to the extent permitted by law, including HIPAA and the HITECH Act.

2.3   Adequate Safeguards for Protected Health Information. Business Associate:

(a)   shall implement and maintain appropriate safeguards to prevent the Use or Disclosure of Protected Health Information in any manner other than as permitted by this Business Associate Agreement. Business Associate agrees to limit the Use and Disclosure of Protected Health Information to the Minimum Necessary in accordance with the Privacy Regulation's minimum necessary standard as in effect or as amended.

HOA.641649.7

(b)   as to Electronic Protected Health Information, shall implement and maintain administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of Electronic Protected Health Information; effective February 17, 2010, said safeguards shall be in accordance with 45 C.F.R. Sections 164.308, 164.310, and 164.312, and shall comply with the Security Rule's policies and procedure and documentation requirements.

2.4   <u>Reporting Non-Permitted Use or Disclosure and Security Incidents and Breaches of Unsecured Protected Health Information</u>. Business Associate:

(a)   shall report to Covered Entity each Use or Disclosure of Protected Health Information that is made by Business Associate, its employees, representatives, Agents, subcontractors, or other parties under Business Associate's control with access to Protected Health Information but which is not specifically permitted by this Business Associate Agreement or otherwise required by law.

(b)   shall report to Covered Entity each Security Incident of which Business Associate becomes aware.

(c)   shall notify Covered Entity following discovery of each Breach by Business Associate, its employees, representatives, agents or subcontractors of Unsecured Protected Health Information that is known to Business Associate or, by exercising reasonable diligence, would have been known to Business Associate. Business Associate shall be deemed to have knowledge of a Breach of Unsecured Protected Health Information if the Breach is known, or by exercising reasonable diligence would have been known, to any person, other than the person committing the Breach, who is an employee, officer, or other agent of the Business Associate as determined in accordance with the federal common law of agency.

2.4.1   <u>Immediate Telephonic Report</u>. Except as provided in Section 2.4.3, notification shall be made immediately upon discovery of the non-permitted Use or Disclosure of Protected Health Information, Security Incident or Breach of Unsecured Protected Health Information by telephone call to (562) 940-3335.

2.4.2   <u>Written Report</u>. Except as provided in Section 2.4.3, the initial telephonic notification shall be followed by written notification made without unreasonable delay and in no event later than three (3) business days from the date of discovery of the non-permitted Use or Disclosure of Protected Health Information, Security Incident, or Breach of Unsecured Protected Health Information by the Business Associate to the Chief Privacy Officer at:

<div align="center">Chief Privacy Officer

Kenneth Hahn Hall of Administration

500 West Temple Street</div>

HOA.641649.7

Suite 525

Los Angeles, California 90012

HIPAA@auditor.lacounty.gov

(213) 974-2166

(a)   The notification required by Section 2.4 shall include, to the extent possible, the identification of each Individual whose Unsecured Protected Health Information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or Disclosed; and

(b)   with respect to Breaches of Unsecured Protected Health Information only, the notification required by Section 2.4 shall be written in plain language and shall include, to the extent possible, all information required to provide notification to the Individual under 45 C.F.R. 164.404(c) and in a manner that permits Covered Entity to comply with its obligations under Subpart D, Notification in the Case of Breach of Unsecured PHI of the Privacy and Security Regulations, including:

i.   A brief description of what happened, including the date of the Breach and the date of the discovery of the Breach, if known;

ii.   A description of the types of Unsecured Protected Health Information that were involved in the Breach (such as whether full name, social security number, date of birth, home address, account number, diagnosis, disability code, or other types of information were involved);

iii.   Any other details necessary to conduct an assessment of whether there is a risk of harm to the Individual;

iv.   Any steps Business Associate believes that the Individual could take to protect him or herself from potential harm resulting from the Breach;

v.   A brief description of what Business Associate is doing to investigate the Breach, to mitigate harm to the Individual, and to protect against any further Breaches; and

vi.   The name and contact information for the person most knowledge regarding the facts and circumstances of the Breach.

(c)   If Business Associate is not able to provide the information specified in Section 2.4.2 (a) or (b) at the time of the notification required by Section 2.4.2, Business Associate shall provide such information promptly thereafter as such information becomes available.

2.4.3   <u>Request for Delay by Law Enforcement</u>. Business Associate may delay the notification required by Section 2.4 if a law enforcement official states to Business Associate that notification would impede a criminal investigation or cause damage to national security. If the law enforcement official's statement is in writing and specifies the time for which a delay is required, Business Associate shall delay notification, notice, or posting for the time period specified by the official; if the statement is made orally, Business Associate shall document the statement, including the identity of the official making the statement, and delay the notification, notice, or posting temporarily and no longer than 30 days from the date of the oral statement, unless a written statement as described in this section is submitted during that time.

2.5   <u>Mitigation of Harmful Effect</u>. Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to Business Associate of a Use or Disclosure of Protected Health Information by Business Associate in violation of the requirements of this Business Associate Agreement.

2.6   <u>Breach Notification Reimbursement</u>. Business Associate shall reimburse Covered Entity any and all reasonable costs incurred by Covered Entity as a result of Business Associate's Breach of Unsecured Protected Health Information, including costs of providing notification to the Individual under 45 C.F.R. 164.404(c) and in compliance with Covered Entity's obligations under Subpart D, Notification in the Case of Breach of Unsecured PHI of the Privacy and Security Regulations, internet posting, or media publication.

2.7   <u>Availability of Internal Practices, Books and Records to Government Agencies</u>. Business Associate agrees to make its internal practices, books and records relating to the Use and Disclosure of Protected Health Information available to the Secretary of the federal Department of Health and Human Services for purposes of determining Covered Entity's compliance with the Privacy and Security Regulations. Business Associate shall immediately notify Covered Entity of any requests made by the Secretary and provide Covered Entity with copies of any documents produced in response to such request.

2.8   <u>Access to Protected Health Information</u>. Business Associate shall, to the extent Covered Entity determines that any Protected Health Information constitutes a "designated record set" as defined by 45 C.F.R. § 164.501, make the Protected Health Information specified by Covered Entity available to the Individual(s) identified by Covered Entity as being entitled to access and copy that Protected Health Information. Business Associate shall provide such access for inspection of that Protected Health Information within twenty (20) days after receipt of request from Covered Entity or such longer period of time (not to exceed ten (10) additional days) as the Chief Probation Officer may authorize in writing. Business Associate shall provide copies of that Protected Health Information within twenty (20) days after receipt of request from Covered Entity or such longer period of time (not to exceed ten (10) additional days) as the Chief Probation Officer may authorize in writing. If Business Associate maintains an Electronic Health Record, Business Associate shall provide such information in electronic format to enable Covered Entity to fulfill its obligations under the HITECH Act.

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2.9   Amendment of Protected Health Information. Business Associate shall, to the extent Covered Entity determines that any Protected Health Information constitutes a "designated record set" as defined by 45 C.F.R. § 164.501, make any amendments to Protected Health Information that are requested by Covered Entity. Business Associate shall make such amendment within twenty (20) days after receipt of request from Covered Entity in order for Covered Entity to meet the requirements under 45 C.F.R. § 164.526 or such longer period of time (not to exceed twenty-five (25) additional days) as the Chief Probation Officer may authorize in writing.

2.10   Accounting of Disclosures. Upon Covered Entity's request, Business Associate shall provide to Covered Entity an accounting of each Disclosure of Protected Health Information made by Business Associate or its employees, agents, representatives or subcontractors, in order to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 C.F.R. § 164.528 and/or the HITECH Act which requires an Accounting of Disclosures of Protected Health Information maintained in an Electronic Health Record for treatment, payment, and health care operations.

Any accounting provided by Business Associate under this Section 2.10 shall include: (a) the date of the Disclosure; (b) the name, and address if known, of the entity or person who received the Protected Health Information; (c) a brief description of the Protected Health Information disclosed; and (d) a brief statement of the purpose of the Disclosure. For each Disclosure that could require an accounting under this Section 2.10, Business Associate shall document the information specified in (a) through (d), above, and shall securely maintain the information for six (6) years from the date of the Disclosure. Business Associate shall provide to Covered Entity, within ten (10) business days after receipt of request from Covered Entity, information collected in accordance with this Section 2.10 to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 C.F.R. § 164.528. If Business Associate maintains an Electronic Health Record, Business Associate shall provide such information in electronic format to enable Covered Entity to fulfill its obligations under the HITECH Act.

2.11   Indemnification. Business Associate shall indemnify, defend, and hold harmless Covered Entity, including its elected and appointed officers, employees, and agents, from and against any and all liability, including but not limited to demands, claims, actions, fees, costs, penalties and fines (including regulatory penalties and/or fines), and expenses (including attorney and expert witness fees), to the extent arising from or connected with Business Associate's acts and/or omissions arising from and/or relating to this Business Associate Agreement; Business Associate's obligations under this provision extend to compliance and/or enforcement actions of Secretary of the federal Department of Health and Human Services and/or Office for Civil Rights.

OBLIGATION OF COVERED ENTITY

3.1   Obligation of Covered Entity. Covered Entity shall notify Business Associate of any current or future restrictions or limitations on the use of Protected Health Information that would affect Business Associate's performance of the Services, and Business Associate shall thereafter restrict or limit its own uses and disclosures accordingly.

TERM AND TERMINATION

4.1   Term. The term of this Business Associate Agreement shall be the same as the term of this Agreement. Business Associate's obligations under Section 4.3 and, with respect to any Protected Health Information under Section 4.3(b), Sections 2.1 (as modified by Section 4.2), 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, and 5.2 shall survive the termination or expiration of this Agreement to the extent that return or destruction of the Protected Health Information is not feasible.

4.2   Termination for Cause. In addition to and notwithstanding the termination provisions set forth in this Agreement, upon either party's knowledge of a material breach by the other party, the party with knowledge of the other party's breach shall:

(a)   Provide an opportunity for the breaching party to cure the breach or end the violation and terminate this Agreement if the breaching party does not cure the breach or end the violation within the time specified by the non-breaching party;

(b)   Immediately terminate this Agreement if a party has breached a material term of this Agreement and cure is not possible; or

(c)   If neither termination nor cure is feasible, report the violation to the Secretary of the federal Department of Health and Human Services.

4.3   Disposition of Protected Health Information Upon Termination or Expiration.

(a)   Except as provided in paragraph (b) of this section, upon termination for any reason or expiration of this Agreement, Business Associate shall return or destroy all Protected Health Information received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. This provision shall apply to Protected Health Information that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the Protected Health Information.

(b)   In the event that Business Associate determines that returning or destroying the Protected Health Information is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make infeasible. If return or destruction is infeasible, Business Associate shall extend the protections of this Business Associate Agreement to such Protected Health Information and limit further Uses and Disclosures of such Protected Health Information to those purposes that make the return or destruction infeasible, for so long as Business Associate maintains such Protected Health Information.

MISCELLANEOUS

5.1   <u>No Third Party Beneficiaries</u>. Nothing in this Business Associate Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

5.2   <u>Use of Subcontractors and Agents</u>. Business Associate shall require each of its agents and subcontractors that receive Protected Health Information from Business Associate, or create Protected Health Information for Business Associate, on behalf of Covered Entity, to agree to the same restrictions on Use and Disclosure of Protected Health Information of such Protected Health Information that apply to Business Associate.

5.3   <u>Relationship to Services Agreement Provisions</u>. In the event that a provision of this Business Associate Agreement is contrary to another provision of this Agreement, the provision of this Business Associate Agreement shall control. Otherwise, this Business Associate Agreement shall be construed under, and in accordance with, the terms of this Agreement.

5.4   <u>Regulatory References</u>. A reference in this Business Associate Agreement to a section in the Privacy or Security Regulations means the section as in effect or as amended.

5.5   <u>Interpretation</u>. Any ambiguity in this Business Associate Agreement shall be resolved in favor of a meaning that permits Covered Entity to comply with the Privacy and Security Regulations.

5.6   Amendment. The parties acknowledge that the American Recovery and Reinvestment Act of 2009 ("ARRA") requires the Secretary of Health and Human Services to promulgate regulations and interpretative guidance that are not available at the time of executing this Business Associate Agreement. In the event either party determines in good faith that any such regulation or guidance adopted or amended after the execution of this Business Associate Agreement shall cause any paragraph or provision of this Business Associate Agreement to be invalid, void or in any manner unlawful or subject either party to penalty, then the parties agree to renegotiate in good faith to amend this Business Associate Agreement in accordance with the body of the Agreement, in order to comply with the change in law, regulation or interpretative guidance. Furthermore, the parties agree to take such action as is necessary to amend this Business Associate Agreement in accordance with the body of the Agreement from time to time as is necessary for Covered Entity to comply with the requirements of the Privacy and Security Regulations and other privacy laws governing Protected Health Information.

*   *   *

EXHIBIT K

COUNTY'S ADMINISTRATION

CONTRACT NO. _____

COUNTY'S PROJECT DIRECTOR:

Fred Nazarbegian
Los Angeles County Probation Department
9150 E. Imperial Highway
Downey, CA 90242
Phone: (562) 940-3742
Fax: (562) 401-0745
E-mail: Fred.Nazarbegian@probation.lacounty.gov

COUNTY'S PROJECT MANAGER:

John Campbell
Los Angeles County Probation Department
3965 S. Vermont Avenue
Los Angeles, CA 90037
Phone: (323) 730-4511
Fax: (323) 730-5128
E-mail: John.Campbell@probation.lacounty.gov

COUNTY'S CONTRACT MANAGER:

Tasha Howard
Director
Los Angeles County Probation Department
9150 East Imperial Highway, Room C-29
Downey, CA 90242
Phone: (562) 940-2728
Fax: (562) 658-2302
E-mail: Latasha.Howard@probation.lacounty.gov

COUNTY'S CONTRACT ANALYST:

Oscar Rivas
Program Analyst
Los Angeles County Probation Department
9150 East Imperial Highway, Room C-29
Downey, CA 90242
Phone: (562) 940-2646
Fax: (562) 658-4771
E-mail: Oscar.Rivas@probation.lacounty.gov

COUNTY'S CONTRACT MONITOR:

Sandra Torres
Supervising Program Analyst, Contract Monitoring Unit
Los Angeles County Probation Department
7639 South Painter Avenue
Whittier, CA 90602
Phone: (562) 907-3004
Fax: (562) 464-2831
E-mail: Sandra.Torres@probation.lacounty.gov

ADDRESS FOR NOTICES:

Calvin C. Remington
Acting Chief Probation Officer
Los Angeles County Probation Department
9150 E. Imperial Highway
Downey, CA 90242
Facsimile: (562) 803-0519
E-mail: Cal.Remington@probation.lacounty.gov

With a copy to: COUNTY's Project Director as indicated above.

EXHIBIT L

EXHIBIT L

CONTRACTOR'S ADMINISTRATION

CONTRACT NO: _____

CONTRACTOR'S PROJECT DIRECTOR:

Len Giuffre
Cerner Corporation
2800 Rockcreek Parkway
Kansas City, MO 64117
Phone: 816-206-4099
Fax: 816-571-3808
E-mail: lgiuffre@cerner.com

CONTRACTOR'S PROJECT MANAGER:

Greg Smentkowski
Cerner Corporation
2800 Rockcreek Parkway
Kansas City, MO 64117
Phone: 816-885-4637
Fax: 816-571-9819
E-mail: gsmentkowski@cerner.com

CONTRACTOR'S ACCOUNT MANAGER/QUALITY ASSURANCE MANAGER:

Jodi Drury
Cerner Corporation
2800 Rockcreek Parkway
Kansas City, MO 64117
Phone: 816-885-3367
Fax: 816-571-0239
E-mail: jdrury@cerner.com

EXHIBIT L

CONTRACTOR'S AUTHORIZED OFFICIAL(S):

CHANGE NOTICE OR AMENDMENT:

Name: Marc Naugton

Title: Sr. Vice President and Chief Financial Officer

Address: Cerner Corporation
            2800 Rockcreek Parkway
            Kansas City, MO 64117

Phone: (816) 221-1024

Fax: (816) 474-1742

ADDRESS FOR NOTICES:

Title: Attn: President

Address: Cerner Corporation
            2800 Rockcreek Parkway
            Kansas City, MO 64117

**EXHIBIT M
ACKNOWLEDGEMENT & SEXUAL
HARASSMENT/DISCRIMINATION/RETALIATION PROHIBITED FORM**

A copy of this completed document must be forwarded to the Los Angeles County Probation Department Contract Manager within five (5) business days of start of work under the below-referenced contract. All staff described under Subparagraphs 3.8 and 15.4 of such contract must complete an Acknowledgement & Sexual Harassment/Discrimination/Retaliation Prohibited Form. Please forward a copy as follows:

**Los Angeles County Probation Department
Attn: Contracts & Grants Management Division
9150 East Imperial Highway, Room B-82
Downey, CA 90242**

PROJECT NAME: _____

CONTRACTOR/EMPLOYER NAME: _____

LOS ANGELES COUNTY CONTRACT NUMBER: _____

ACKNOWLEDGEMENT

I understand and agree that the above-referenced contractor is a contractor or subcontractor under the above-referenced contract with the County of Los Angeles ("County"). I also understand and agree that such contractor is my sole employer for purposes of the above-referenced contract. I further understand and agree that I must rely exclusively upon my employer for payment of salary and any and all other benefits payable to me or on my behalf by virtue of my performance of work under the above-referenced contract.

I understand and agree that I am not an employee of the County for any purpose whatsoever and that I do not have and will not acquire any rights or benefits of any kind from the County by virtue of my performance of work under the above-referenced contract. I understand and agree that I do not have and will not acquire any rights or benefits from the County pursuant to any agreement between any person or entity and the County.

SEXUAL HARASSMENT/DISCRIMINATION/RETALIATION PROHIBITED

Sexual harassment is a form of unlawful sex discrimination, which is a violation of Title VII of the Civil Rights Act of 1964, as amended, and Chapter 6 of the California Fair Employment and Housing Act. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors and/or other verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of employment; or
- Submission to or rejection of such conduct by an individual is used as a basis for employment decisions affecting such individual; or
- Such conduct has the purpose or effect of unreasonably interfering with an employee's work performance or creating an intimidating, hostile or offensive working environment

The County has a policy that sexual harassment is unacceptable and will not be tolerated. In addition, the County has a policy that individuals should be educated and informed of their rights and responsibilities. Under the above-referenced contract, the above-referenced contractor is required to provide sexual harassment training to certain staff in order to familiarize such staff with policies and reporting procedures. Such training shall be provided by the contractor and shall include the following at a minimum:

1. Definition of Sexual Harassment
2. Definition of Discrimination
3. Definition of Retaliation
4. Their Rights
5. Their Responsibilities
6. Procedure for Reporting Discrimination/Harassment/Retaliation with the Contractor
7. Procedure for Filing a Complaint of Discrimination/Harassment/Retaliation with the Contractor

I have read and understand that as an employee of _____
assigned under the contract that I **must** receive the above referenced training. I _____ hereby confirm that I have received such training and information on _____, 20_____.

NAME (PRINT):	
POSITION:	
SIGNATURE:	DATE:

EXHIBIT N

CONFIDENTIALITY OF CORI

Criminal Offender Record Information (CORI) is that information which is recorded as the result of an arrest, detention or other initiation of criminal proceedings including any consequent proceedings related thereto. As an employee of_____ during the legitimate course of your duties, you may have access to CORI. The Probation Department has a policy of protecting the confidentiality of CORI.

You are required to protect the information contained in case files against disclosure to all individuals who do not have a right-to-know or a need-to-know this information.

The use of any information obtained from case files or other related sources of CORI to make contacts with probationers or their relatives, or to make CORI available to anyone who has no real and proper reason to have access to this information as determined solely by the Probation Department is considered a breach of confidentiality, inappropriate and unauthorized.

Any _____ employee engaging in such activities is in violation of the Probation Department's confidentiality policy and will be subject to appropriate disciplinary action and/or criminal action pursuant to Section 11142 of the Penal Code.

I have read and understand the Probation Department's policy concerning the confidentiality of CORI.

_____
Signature

_____
Name (Print)

_____
Title

_____
Date

EXHIBIT O

SOURCE CODE ESCROW AGREEMENT

The document entitled Master Preferred High Technology Escrow Agreement, made and entered into September 1, 1996, between Cerner Corporation and Data Securities International, Inc., together with all exhibits and attachments thereto, is incorporated by reference as Exhibit O (Source Code Escrow Agreement).

**AMENDMENT NUMBER FIVE
TO
AGREEMENT NO. 71710
FOR A TURNKEY JAIL HOSPITAL INFORMATION SYSTEM (JHIS)
BETWEEN
COUNTY OF LOS ANGELES
AND
CERNER CORPORATION**

This Amendment Number Five (hereinafter "Amendment No. 5") is entered into by and between the County of Los Angeles (hereinafter "COUNTY") and Cerner Corporation (hereinafter "CONTRACTOR"), effective as of JUNE 1, 2010 (as further defined in Section 5 below, "Amendment No. 5 Effective Date"), based on the following recitals:

1.   COUNTY and CONTRACTOR have entered into that certain Agreement No. 71710, dated as of August 11, 1998, amended by Amendment Number One, dated as of August 11, 2003 (together with the Exhibits and Attachments thereto, "Amendment No. 1"), Amendment Number Two, dated as of March 21, 2006 (together with the Exhibits and Attachments thereto, "Amendment No. 2"), Amendment Number Three, dated as of March 18, 2008 (together with the Exhibits and Attachments thereto, "Amendment No. 3"), and Amendment Number Four, effective as of February 17, 2010 (together with all Exhibits and Attachments thereto, "Amendment No. 4") (as amended prior to the date hereof and together with all Exhibits and Attachments thereto, hereinafter "Agreement"), for a Turnkey Jail Hospital Information System for the benefit of COUNTY and, more specifically, its Sheriff's Department.

2.   CONTRACTOR has been developing, installing, implementing and identifying necessary modifications to the System pursuant to the terms and conditions of the Agreement.

3.   CONTRACTOR granted COUNTY a perpetual, nonexclusive license to use in accordance with the Agreement, among other things, the Application Software identified on Attachment I (Specified JHIS Application Software) to this Amendment No. 5 ("Specified JHIS Application Software"), for use by three thousand (3,000) COUNTY-named Users ("User Licenses") in support of the operations at specified facilities operated by the Sheriff's Department, with COUNTY having the right to change the named Users under the User Licenses at any time.

4.   The Sheriff's Department is not currently using the User Licenses to the Specified JHIS Application Software for all three thousand (3,000) COUNTY-named Users.

5.   Pursuant to Change Request No. 128 dated April 11, 2008, issued under the Agreement, COUNTY engaged CONTRACTOR to perform an assessment of the requirements for implementing the Specified JHIS Application Software as an electronic medical records system ("Probation Electronic Medical Records System" or "PEMRS") for the juvenile halls and

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Sheriff's Department   *JHIS Agreement*
Cerner Corporation

camps operated by COUNTY's Probation Department.

6.   Based upon the results of this assessment, COUNTY has determined to engage CONTRACTOR to implement the Specified JHIS Application Software for PEMRS, all as further described in, and subject to the terms and conditions of, COUNTY Agreement No. _____ ("PEMRS Agreement") being entered into between COUNTY and CONTRACTOR concurrently with this Amendment No. 5, and CONTRACTOR desires to be so engaged.

7.   Further based upon the results of this assessment, COUNTY has determined (a) to exercise its rights under this Agreement to name eight hundred (800) PEMRS users under the User Licenses of the Specified JHIS Application Software that are not currently being used by the Sheriff's Department under this Agreement and (b) to transfer such User Licenses to the PEMRS Agreement, all as further described in, and subject to the terms and conditions of, this Amendment No. 5, and CONTRACTOR concurs with such determination.

NOW THEREFORE, in consideration of the foregoing recitals, all of which are incorporated as part of this Amendment No. 5, COUNTY and CONTRACTOR hereby agree as follows:

1. Definitions; Paragraph References.   Capitalized terms used herein without definition (including, without limitation, in the recitals hereto), have the meanings given to such terms in the Agreement, as amended by this Amendment No. 5. Unless otherwise noted, Paragraph references in this Amendment No. 5 shall refer to the body of the Agreement.

2. Transfer of User Licenses.   Recitals 3-7 of this Amendment No. 5 are incorporated specifically into this Section 2 by this reference. COUNTY desires to use under the PEMRS Agreement, eight hundred (800) of the User Licenses with respect to the Specified JHIS Application Software. In order to effectuate the foregoing, (a) COUNTY hereby exercises its right under the Agreement to change the COUNTY-named Users of eight hundred (800) User Licenses with respect to the Specified JHIS Application Software to be users that will be identified under and in accordance with the PEMRS Agreement, (b) COUNTY and CONTRACTOR hereby agree to transfer eight hundred (800) User Licenses with respect to the Specified JHIS Application Software to the PEMRS Agreement, and (c) COUNTY and CONTRACTOR hereby agree that the number of User Licenses with respect to the Specified JHIS Application Software shall be commensurately reduced by this Amendment No. 5, leaving two thousand two hundred (2,200) User Licenses under the Agreement. All of the events described in this Section 2, together with the acceptance under the PEMRS Agreement of the eight hundred (800) Specified JHIS Application Software User Licenses, shall be at no cost to the COUNTY.   Should this Agreement terminate for any reason prior to CONTRACTOR's achievement of Final System Acceptance with respect to a Phase, then COUNTY's License with respect to any Specified JHIS Application Software included in

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Sheriff's Department
Cerner Corporation

Amendment No. 5 to
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such Phase shall revert automatically back to the JHIS Agreement.

3. <u>Amendments to the Body of the Agreement</u>. As of the Amendment No. 5 Effective Date, Subparagraph 11.2.A(i) of Paragraph 11 (Ownership and License) to the body of the Agreement, as amended by Amendment No. 2, is amended and restated in its entirety as follows:

(i) To use the System Software, Development Software, software components of external systems Interfaces which are not proprietary to COUNTY as set forth in Attachment D (JHIS Interfaces) and software components of medical devices Interfaces, including, without limitation, the Third Party Software, on an unlimited number of computers, servers, local area networks and wide area networks, for an unlimited number of Users, except that (a) the number of Users of the following software only shall be limited as follows: (1) for the Application Software, the license permits use by two thousand two hundred (2,200) named Users in support of operations at COUNTY Facilities, with COUNTY having the right to change the named Users at any time; (2) for Item 137 of the Operating Software as specified in Subsection B (Operating Software Installed on Production Hardware) of Section II (System Software) of Attachment B (Schedule of System Hardware and System Software) to Exhibit A (Statement of Work), the license permits use by two thousand seven hundred eighty-seven (2,787) concurrent Users; and (3) for Items 140 through 147 of the Operating Software as specified in Subsection B (Operating Software Installed on Production Hardware) of Section II (System Software) of Attachment B (Schedule of System Hardware and System Software) to Exhibit A (Statement of Work), the license permits use by seventy-five (75) concurrent Users and (b) for specific items of Supplemental CONTRACTOR Software identified on Exhibit M (Supplemental License Provisions – Supplemental CONTRACTOR Software), the scope of use shall be limited as set forth on such Exhibit M;

4. <u>Effectiveness of Amendment No. 5</u>. This Amendment No. 5 is effective as of the date identified in the recitals of this Amendment No. 5, which is the date on which all of the following have occurred (such date, the "<u>Amendment No. 5 Effective Date</u>"):

4.1. COUNTY's Project Director shall have received an original counterpart to this Amendment No. 5, duly executed by an authorized officer of CONTRACTOR;

4.2. County Counsel shall have approved this Amendment No. 5 as to form, as indicated by County Counsel's or County Counsel's designee's original counterpart to this Amendment No. 5; and

4.3. COUNTY's Board of Supervisors shall have approved this Amendment No. 5.

5. <u>No Other Amendments</u>. Except as expressly provided in this Amendment No. 5, all other

County of Los Angeles
Sheriff's Department
Cerner Corporation

Amendment No. 5 to
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provisions, and conditions of the Agreement shall remain the same and in full force and effect.

6. <u>Authority</u>. CONTRACTOR and the person executing this Amendment No. 5 on behalf of CONTRACTOR hereby represent and warrant that the person executing this Amendment No. 5 for CONTRACTOR is an authorized agent who has actual authority to bind CONTRACTOR to each and every item, condition, and obligation of the Agreement and that all requirements of CONTRACTOR have been fulfilled to provide such actual authority.

7. <u>Governing Law</u>. This Amendment No. 5 shall be governed by, and construed in accordance with, the laws of the State of California applicable to agreements made and to be performed within that State.

<p style="text-align:center">*   *   *</p>

County of Los Angeles
Sheriff's Department
Cerner Corporation

Amendment No. 5 to
JHIS Agreement

HOA.655693.5   4

IN WITNESS WHEREOF, the Board of Supervisors has caused this Amendment No. 5 to be subscribed by its Chair and seal of said Board to be hereto affixed and attested to by its Executive Officer, and CONTRACTOR has caused this Amendment to be executed on its behalf by its duly authorized officer, effective as of the Amendment No. 5 Effective Date.

THE COUNTY OF LOS ANGELES

By: _____
    Chair, Board of Supervisors

ATTEST:

Sachi Hamai,
Executive Officer/Clerk
Board of Supervisors

By: _____
Deputy

CERNER CORPORATION

By: _____

PRINT NAME: ___Marc G. Naughton___

TITLE: __Executive VP & Chief Financial
            Officer__

DATE: ___4/2/10___

I hereby certify that pursuant to Section 25103 of the Government Code, delivery of this document has been made.

SACHI A. HAMAI
Executive Officer
Clerk of the Board of Supervisors

By _____
                    Deputy

APPROVED AS TO FORM:

ANDREA SHERIDAN ORDIN
County Counsel

By: _____
    Amanda M. L. Drukker
    Senior Deputy County Counsel

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

#53   JUN 01 2010

County of Los Angeles
Sheriff's Department
Cerner Corporation

HOA.655693.5

Amendment No. 5 to
JHIS Agreement

SACHI A. HAMAI
EXECUTIVE OFFICER

Attachment I

Specified JHIS Application Software

Phase 1 System Application Software Modules

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
Medical Data Repository (Open Clinical Foundation Data Repository)	PowerChart[a] (Clinical Data Repository, PowerOrders, PowerNote)	PowerOrders (PS-20576) Open Clinical Foundation Data Repository (PS-20570) for JHIS only Clinical Office with PowerNote (PV-20230) for PEMRS only
Open Engine	Open Engine	Open Engine (OE-20850) TCP/IP Communication Services (OE-22850) Asynchronous Communication

[a] PowerChart is the same as PowerChart Office Management System. Open Clinical Foundation Data Repository (CONTRACTOR Solution Code PS-20570) was licensed to COUNTY as JHIS Application Software, however, Clinical Office with PowerNote (CONTRACTOR Solution Code PV-20230) will be implemented as PEMRS Application Software. CONTRACTOR therefore agrees by this Amendment No. 5 to convert 800 User Licenses from Open Clinical Foundation Data Repository (CONTRACTOR Solution Code PS-20570) to Clinical Office with PowerNote (CONTRACTOR Solution Code PV-20230), which will be transferred to the PEMRS project by this Amendment No. 5.

County of Los Angeles
Sheriff's Department
Cerner Corporation

Amendment No. 5 to
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JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
		Services (OE-22870)
Radiology (RadNet)	RadNet (Radiology Management)	Radiology Management (RA-20135)
Pharmacy (PharmNet)	PharmNet (Inpatient Pharmacy and Departmental Clinical Supply Chain for Pharmacy)	Inpatient Pharmacy (PH-20160) MediSource Foundation (KS-22004) Departmental Clinical Supply Chain for Pharmacy (PH-25201)
Laboratory (PathNet)	PathNet (General Laboratory, Microbiology)	General Laboratory (PA-20070) Microbiology (PA-20075) Anatomic Pathology (PA-20080) CAP SNOMED III (PA-22214)
Patient Management and Tracking (CareNet Patient Management, CareNet Patient Tracking)	Capstone: (Registration Management, Scheduling Management)	Registration Management (CP-20735) Patient Tracking (CP-20735)
Order Management (CareNet Order Management)	PowerChart (Clinical Data Repository, PowerOrders, PowerNote) Computerized Physician Order Entry (CPOE) CareNet: (Electronic Medication	PowerOrders (PS-20576) Medication Administration Record (PS-22732)

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County of Los Angeles
Sheriff's Department
Cerner Corporation

Amendment No. 5 to
JHIS Agreement

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
	Administration Record (e-MAR), Clinical Documentation, PowerForms)	
Care Documentation (CareNet Care Documentation)	CareNet: (Electronic Medication Administration Record (e-MAR), Clinical Documentation, PowerForms)	Care Documentation (PS-22719)
Medical Record Tracking (Profile)	Profile (Health Information Management (HIM))	ProFile (MR-20400)
Scheduling (CareNet Scheduling)	Capstone: (Registration Management, Scheduling Management)	Scheduling Management (CP-20740)
Materials Management (ProTrack)	N/A	N/A
Human Resources (Lawson Insight)	N/A	N/A

Optional Phase Systems Application Software Modules[b]

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
Care Coordination (CareNet Care Coordination)	CareNet: PowerPlan	PowerPlans (CA-20344)
Quality Assurance/Risk Management (Open Management Foundation Data Repository)	PowerInsight[c]	PowerInsight Enterprise Data Warehouse (PI-20616)
Pharmacy (PharmNet)	PharmNet (Outpatient Pharmacy)	Outpatient Pharmacy (PH-20170)
Financials (ProCure)	Financials	Materials Management (PO-20200)
Interfaces	Open Port Licensed Software	Billing Outgoing (Batch) (IF-29275) PO Acknowledgement Inbound (IF-29522) PO Outbound (IF-29562) Unidirectional Device Interface (IF-

---

[b] Reference to optional phases applies to PEMRS implementation only.

[c] Open Management Foundation Data Repository (CONTRACTOR Solution Code OM-20610) was originally implemented as JHIS Application Software, however, PowerInsight (CONTRACTOR Solution Code PI-20616) will be implemented as PEMRS Application Software. CONTRACTOR therefore agrees by this Amendment No. 5 to convert 800 User Licenses from Open Management Foundation Data Repository (CONTRACTOR Solution Code OM-20610) to PowerInsight (CONTRACTOR Solution Code PI-20616), which will be transferred to the PEMRS project by this Amendment No. 5. CONTRACTOR additionally agrees by this Amendment No. 5 that should the Sheriff's Department ever determine to substitute PowerInsight (CONTRACTOR Solution Code PI-20616) for Open Management Foundation Data Repository (CONTRACTOR Solution Code OM-20610), that the remaining 2,200 User Licenses shall be converted from Open Management Foundation Data Repository (CONTRACTOR Solution Code OM-20610) to PowerInsight (CONTRACTOR Solution Code PI-20616) for the JHIS project, for no additional license fees. Any additional implementation, maintenance and/or support services fees would be part of the applicable of a Change Notice or Amendment entered into in accordance with Paragraph 6 (Change Notices and Amendments) of the body of the Agreement.

HOA.655693.5
County of Los Angeles
Sheriff's Department
Cerner Corporation

Amendment No. 5 to
JHIS Agreement

JHIS Application Software	PEMRS Application Software	CONTRACTOR Solution Code
		29650)
		Bidirectional Device Interface (IF-29655)
		PC Encoder Interface (IF-29665)

ATTACHMENT III

BOARD OF
SUPERVISORS
OFFICIAL COPY

COUNTY OF LOS ANGELES

REQUEST FOR APPROPRIATION ADJUSTMENT

DEPARTMENT OF PROBATION - SUPPORT SERVICES

DEPT'S. NO.   640

May 19, 2010

AUDITOR-CONTROLLER:
THE FOLLOWING APPROPRIATION ADJUSTMENT IS DEEMED NECESSARY BY THIS DEPARTMENT. PLEASE CONFIRM THE ACCOUNTING ENTRIES AND AVAILABLE BALANCES AND FORWARD TO THE CHIEF EXECUTIVE OFFICER FOR HIS RECOMMENDATION OR ACTION.

ADJUSTMENT REQUESTED AND REASONS THEREFOR

FY 2009-10
3 - VOTES

SOURCES	USES
PB-PROVISIONAL FINANCING USES	PROBATION DEPARTMENT- SUPPORT SERVICES
A01-CB-2000-13749-13758	A01-PB-2000-17000-17100
SERVICES AND SUPPLIES - $470,000	SERVICES AND SUPPLIES - $470,000
DECREASE APPROPRIATION	INCREASE APPROPRIATION

SOURCES TOTAL: $ 470,000

USES TOTAL: $ 470,000

JUSTIFICATION

This appropriation adjustment is needed to transfer funds of $470,000 from Provisional Financing Uses to Probation Support Services - Services & Supplies to fund the Probation Electronic Medical Record System (PEMRS) contract for system development.

5/20/10

AUTHORIZED SIGNATURE   [NAME]

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

BOARD OF SUPERVISORS APPROVAL (AS REQUESTED/REVISED)

#53 JUN 0 1 2010

SACHI A. HAMAI
EXECUTIVE OFFICER

REFERRED TO THE CHIEF EXECUTIVE OFFICER FOR ---	☐ ACTION	✓ APPROVED AS REQUESTED
	✓ RECOMMENDATION	☐ APPROVED AS REVISED

AUDITOR-CONTROLLER   BY _Karen Shikuma_ May 20 20 10

B.A. NO. 210

CHIEF EXECUTIVE OFFICER   BY _Jacqueline White_ May 20 20 10

SEND 6 COPIES TO THE AUDITOR-CONTROLLER

PROBATION ELECTRONIC MEDICAL RECORD SYSTEM BUDGET
PROJECT COST PER FISCAL YEAR

Fiscal Years	COST FOR CERNER CONTRACTOR			COST TO THE COUNTY				Grand Total	FUNDING SOURCE			AVAILABLE FUNDING			Funds Remaining
	Cerner Hosting	Cerner Deliverables	Total Cerner	County Clinical (Note 1)	County Technical	JHIS License Maintenance	County Total		Probation PFU	CEO IT Fund	Probation Budget	Total Funds Available	Probation Funding (Note 2)	Total Request	
2009-10 (Note 3)	360,000	0	360,000	0	110,000	0	110,000	470,000	6,040,000	0	0	6,040,000	0	470,000	5,570,000 (4)
2010-11	966,000	4,156,000	5,122,000	911,000	2,578,000	0	3,489,000	8,611,000	0	4,000,000	0	4,000,000	0	8,611,000	959,000 (5)
2011-12 (Q1)	242,408	530,000	772,408	250,000	615,250	0	865,250	1,637,658	0		0	0	0	1,637,658	(678,658) (6)
Subtotal - One-Time	1,568,408	4,686,000	6,254,408	1,161,000	3,303,250	0	4,464,250	10,718,658	6,040,000	4,000,000	0	10,040,000	0	10,718,658	(678,658)
2010-11	0	0	0	0	0	301,000	301,000	301,000	1,800,000	0	1,500,000	3,300,000	301,000	301,000	3,300,000
2011-12 (Q2-Q4)	1,426,000	0	1,426,000	675,000	1,308,750	317,000	2,300,750	3,726,750	1,800,000	0	1,500,000	3,300,000	317,000	3,726,750	3,190,250 (7)
2012-2013	1,870,000	0	1,870,000	685,000	1,198,000	332,000	2,215,000	4,085,000	1,800,000	0	1,500,000	3,300,000	332,000	4,085,000	2,737,250 (8)
2013-2014	1,804,000	0	1,804,000	600,000	1,016,000	349,000	1,965,000	3,769,000	1,800,000	0	1,500,000	3,300,000	349,000	3,769,000	2,617,250
2014-2015	1,828,000	0	1,828,000	600,000	1,016,000	366,000	1,982,000	3,810,000	1,800,000	0	1,500,000	3,300,000	366,000	3,810,000	2,473,250
2015-2016	1,882,000	0	1,882,000	600,000	1,016,000	385,000	2,001,000	3,883,000	1,800,000	0	1,500,000	3,300,000	385,000	3,883,000	2,275,250
2016-2017	1,939,000	0	1,939,000	600,000	1,016,000	403,000	2,019,000	3,958,000	1,800,000	0	1,500,000	3,300,000	403,000	3,958,000	2,020,250
Subtotal - On-Going	10,749,000	0	10,749,000	3,760,000	6,570,750	2,453,000	12,783,750	23,532,750	12,600,000	0	10,500,000	23,100,000	2,453,000	23,532,750	2,020,250
Grand Total	12,317,408	4,686,000	17,003,408	4,921,000	9,874,000	2,453,000	17,248,000	34,251,408	18,640,000	4,000,000	10,500,000	33,140,000	2,453,000	34,251,408	1,341,592

Notes:
(1) County Clinical is made up of Subject Matter Experts from JCHS and JJMH.
(2) This is a Probation future annual budget action in order to fund maintenance for JHIS licenses.
(3) Fiscal Year 2009 - 10 Totals consists of $360,000 for Cerner Hosting Services and County Technical consists of $110,000 of ISD Services only.
(4)   6,040,000-470,000 = $5,570,000
(5)   5,570,000+4,000,000 - 8,611,000 = $959,000
(6)   959,000 - 1,637,658 = -$678,658
(7)   3,300,000+3,300,000+317,000 - 3,726,750 = $3,190,250
(8)   3,190,250+3,300,000+322,000 - 4,085,000 = -$2,737,250

5/20/2010 9:07 AM

May 17, 2010

PEMRS County Staffing and Sundry Services Schedule

Function	Department	Level of Effort	Description	Annual Project Budget	Total Project Budget
Project Management	Probation	3.0 FTE	1 Information Technology Specialist 1 Principal Application Developer 1 Senior Information Systems Analyst **Backup for** 1 Physician	$413,000	$2,912,000
Subject Matter Expertise	DHS	5.6 FTE for two years then 4	1 Nurses 1 Pharmacist 1 Laboratory Specialist 1 Health Information Manager 0.6 Information Technology Resource **Backup for**	$700,000 for two years then $500,000	$3,986,000
	DMH	1.5 FTE for two years then 1	Any combination of psychiatrists, psychologists social workers and health information managers	$200,000 for two years then $100,000	$935,000
Systems Analysts	ISD/ITS	6.0 FTE for two years	One manager and five analysts	$2,739,000 for 30 months plus $424,000 annually over the remaining term	$4,753,000
Other Technical Support and Analysts	ITSSMA, Probation			$1,158,000 for 30 months plus $156,000 annually over the remaining term	$1,899,000
Travel & incidental technical support or equipment	All		Travel to Kansas City for Design/Build events as provided in the plan plus contingency local hardware such as scanners, printers, workstations	$250,000 in first year then $10,000	$310,000
Total					$14,795,000

<u>Notes</u>

The functions and the level of effort amounts for each function were provided in the findings of the PEMRS Assessment. The dollar amounts for each agency's contributions were proposed by the applicable agency during the PLT planning process, and were adopted as part of the Project Plan in September 2009. The travel expenses are essential for success of the implementation method chosen for the project. They are capped. Specific positions to be backed up or funded by PEMRS budget may vary slightly as knowledge is developed during the detailed design and build process.

Significant Negotiation Provisions

All paragraph references are to paragraphs of the recommended Agreement and exhibits and attachments thereto.

1. Holdback Structure: Paragraph 8.4 of the recommended Agreement includes a holdback of ten percent (10%) of the dollar amount of each invoice submitted with respect to implementation of the first phase of PEMRS until the County's final acceptance of the first phase of PEMRS, similar to the holdback provided for under County Agreement No. 71710. Because PEMRS is hosted with Cerner, however, the portion of Cerner's fees allocated to hosting services provided prior to final acceptance of the first phase of PEMRS (approximately $1,207,500) will not be subject to the holdback. However, the hosting services fee of $400,000 for implementation of the initial infrastructure is subject to the ten percent (10%) holdback.

2. Third Party Software: Several restrictions with respect to software included in PEMRS that is owned by third parties (Third Party Software), were not included in County Agreement No. 71710. First, in Paragraph 10.1.D.4 of the body of the recommended Agreement, Cerner limits its warranty that the Third Party Software will be compatible with the minimum hardware and operating software specified by Cerner for use by the County, to the Third Party Software referred to as CPDI Bundle for Cerner ProVision Document Imaging (CPDI). Second, in Paragraph 10.3.G. of the body of the recommended Agreement, Cerner limits its warranty to support the then-existing version and most recent prior versions of Third Party Software only to CPDI. Finally, Cerner grants a perpetual license to Third Party Software only to the extent specified in the pass-through provisions that are attached to Attachment B (Schedule of PEMRS Software) to Exhibit A (Statement of Work) of the recommended Agreement, which in effect is limited to CPDI. In each of these instances, the Probation Department accepted the restriction because all Third Party Software included in the first phase of PEMRS other than CPDI is annual subscription-based content such as procedure codes and explanatory information for patients and parents.

3. Termination for Default: Under Paragraph 31.7 of the recommended Agreement, Cerner will have the ability to terminate the recommended Agreement for the County's failure to timely pay in accordance with the recommended Agreement any undisputed amounts owed to Cerner under a properly prepared invoice when the County has not cured such failure within 180 days following the County's receipt of a written notice from Cerner specifying such failure.

4. Limitation of Liability: Cerner agreed to adopt the limitation of liability specified in County Agreement No. 71710, which is set forth in Paragraph 57 of the recommended Agreement. However, Cerner will also not be liable for any special, incidental or consequential damages, except as specified in Paragraph 31 of the recommended Agreement (relating to the County's termination for default).

5. Compliance Review: Exhibit D (Service Level Agreement) to the recommended Agreement includes two provisions regarding compliance with Federal State or local laws, rules and regulations. First, should Cerner have knowledge to believe that the County is not in compliance with any applicable Federal, State or local law, rule or regulation as it relates to the County's use of the PEMRS in the Cerner hosted environment, and Cerner reasonably believes that such non-compliance poses a significant legal or financial risk to Cerner, then Cerner may request that the County and Cerner jointly review the specific area of non-compliance at a mutually agreed upon time and pursuant to a mutually agreed upon agenda and, if applicable, develop a remediation plan.

   Second, if either party believes that Cerner is not in compliance with a Federal, State or local law, rule or regulation applicable to Cerner's hosting of PEMRS that (a) is particular to the recommended Agreement, and (b) was either enacted or modified after the effective date of the recommended Agreement, and Cerner reasonably determines that the cost for Cerner to achieve compliance with such applicable law, rule or regulation will result in Cerner incurring additional costs in an excess of ten percent (10%) of Cerner's costs for providing hosting services as of the date of the determination (such costs being documented to the County's satisfaction), then Cerner shall submit a proposal to the County identifying commercially reasonable options for Cerner to continue to provide the hosting services, which may include resulting changes to the hosting services fees, or to the service level commitments described in Exhibit D (Service Level Agreement) to the recommended Agreement.

   In the event that the County is unable to complete the remediation plan described above, or if the parties are unable to reach agreement on a commercially reasonable option for Cerner to continue providing hosting services, and the parties agree that it is not feasible for Cerner to continue providing hosting services, then Cerner must work with the County to identify an alternative hosting relationship and provide any additional work required beyond the hosting services in connection with transitioning the County to such alternative hosting relationship, subject to agreement on an amendment to the recommended Agreement for such work.

CIO ANALYSIS
AGREEMENT WITH CERNER CORPORATION FOR
PROBATION ELECTRONIC MEDICAL RECORDS SYSTEM (PEMRS)

CIO RECOMMENDATION: ☒ APPROVE ☐ APPROVE WITH MODIFICATION
☐ DISAPPROVE

Contract Type:
☒ New Contract ☒ Contract Amendment ☐ Contract Extension
☐ Sole Source Contract ☐ Hardware Acquisition ☐ Other (MSA)

New/Revised Contract Term: Base Term: 7 Years # of Option Yrs: 6

Contract Components:
☒ Software ☐ Hardware ☐ Telecommunications
☒ Professional Services

Project Executive Sponsors: <u>Donald Blevins, Chief Probation Officer; John Schunhoff, Interim Director, Health Services; Marvin Southard, Director, Mental Health; Lee Baca, Sheriff</u>

Budget Information :

Y-T-D Contract Expenditures	$ 0
Maximum Contract Amount	$29,725,408
Aggregate Project Amount	$29,725,408

Project Background:

Yes	No	Question
☒	☐	Is this project legislatively mandated? **Required by the County's Settlement Agreements with the United States Department of Justice dated August 14, 2004 and October 31, 2008.**
☐	☒	Is this project sub vented?
☒	☐	Is this project/application applicable to (shared use or interfaced) other departments? If yes, name the other department(s) involved. **Probation, Health Services, Mental Health, Sheriff.**

Strategic Alignment:

Yes	No	Question
☒	☐	Is this project in alignment with the County of Los Angeles Strategic Plan?
☒	☐	Is this project consistent with the currently approved Department Business Automation Plan?
☒	☐	Does the project's technology solution comply with County of Los Angeles IT Directions Document?
☒	☐	Does the project technology solution comply with preferred County of Los Angeles IT and security standards?
☒	☐	Has data for this contract and/or project been entered into the Information Technology Tracking System (ITTS)?

Project/Contract Description:

Under the auspices of the Probation Department (Probation), the Probation, Health Services and Mental Health Departments are requesting Board approval of an Agreement with Cerner Corporation (Cerner) to acquire, implement, host, maintain and manage Cerner Millennium electronic medical records software in order to automate medical and mental health records of juveniles housed in Probation Department juvenile halls and camps. If the optional terms are applied, the Agreement term is 84 months with two 36-month optional terms with a maximum contract sum of $29,725,408. Probation is also requesting authorization to execute the optional terms. In addition, Probation and the Sheriff are seeking Board authorization to amend current County Agreement No. 71710 with Cerner to transfer 800 user licenses to this new Agreement.

Background:

The County is required to provide an electronic medical records system for the Probation Department juvenile halls and camps, per the County's 2004 and 2008 Settlement Agreements with the United States Department of Justice (DOJ). Since February 2007 Probation has documented its plan to utilize Cerner software. Cerner software was originally acquired by the Sheriff's Department in 1998 for the Jail Health Information System (JHIS) and has been in operation for approximately ten years. A sole source justification to use Cerner software for the Probation Electronic Medical Records System (PEMRS) was based on two primary factors: 1) Cerner's proven ability to automate adult medical records in the County's corrections environment and 2) the availability of 800 user licenses at no additional charge.

Medical services for detained minors are provided by the Juvenile Court Health Services (JCHS) unit of the Department of Health Services. Mental health services for detained minors are provided by the Juvenile Justice Mental Health (JJMH) unit of the Department of Mental Health. The Sheriff's Department operates Cerner software as JHIS. As a result of the combined interests of the four departments in this project, an Executive Leadership Team (ELT), comprised of the heads of the four departments, signed a Memorandum of Understanding (MOU) in April 2008 outlining their shared objective of working together to implement PEMRS using Cerner software. In addition, a Project Leadership Team (PLT), comprised of technology and clinician staff from the four departments, was formed to manage the project. The CIO is a participant on the PLT.

On March 18, 2008, the Board approved Amendment Number Three to Agreement No. 71710 with Cerner to perform an assessment that addressed issues including review of PEMRS functional and technical requirements, fit analysis of these requirements against JHIS software, technical options for hosting, County staffing requirements for system implementation and ongoing operations, and estimated project costs and implementation schedule.

Based on the results of the assessment the County developed the PEMRS project and technology approach. This approach identifies a dedicated 20 person County project team comprised of clinical and IT staff from JCHS, JJMH, and Probation during the planned 15-month implementation schedule.

Following implementation and the start of operational use of the system, nine County clinical and IT staff will operate and maintain PEMRS going forward. PEMRS will be externally hosted at Cerner's data centers in Kansas City, Missouri.

Project Justification/Benefits:

Implementation of an electronic medical records system for detained minors will comply with the County's 2004 and 2008 Settlement Agreements with the DOJ. The use of Cerner software has been presented and accepted on the basis of 1) its track record supporting the Sheriff's JHIS adult corrections electronic medical records system; and 2) the cost savings resulting from the utilization of 800 user licenses at no additional cost to the County.

The scope of the software applications included in the PEMRS project was based on a comprehensive review of County functional and technical requirements involving medical and IT personnel from the four primary County departments. Additional software capabilities that would be beneficial but not essential were identified for implementation in a potential future phase that is not funded. The decision to host PEMRS at Cerner's data center was based on estimated cost savings compared to hosting the system internally.

Implementation and system operation staffing requirements were extensively reviewed by PLT managers and committed to by PLT managers and ELT executives. Implementation of PEMRS should improve the effectiveness and efficiency of medical and mental health services provided to detained minors.

The CIO's Chief Information Security Officer assessed Cerner's information security and privacy policies, procedures, and practices and determined them to be satisfactory. Additionally, the CIO determined these same policies, procedures, and practices to be compliant with relevant legislation such as the Health Insurance Portability and Accountability Act, and did not find any other concerns.

Project Metrics:

PEMRS will comply with DOJ requirements and is expected to provide the following operational improvements: reduce Probation/Health Services scheduling conflicts, reduce medical errors, and improve continuity of care. Quantitative metrics have not been defined. The project implementation is scheduled to be completed in 15-months.

The Agreement with Cerner defines metrics for system reliability, system response time, support response time and other factors that are critical to a successful operational system.

Impact On Service Delivery Or Department Operations, If Proposal Is Not Approved:

If this proposed Agreement is not approved, the County would not be in compliance with the DOJ Settlement Agreements.

Alternatives Considered:

Probation determined that Cerner was the most appropriate software choice for PEMRS due to its successful track record supporting the Sheriff's JHIS system for approximately 10 years; and the ability to use 800 licenses at no additional cost, which has been estimated to a savings of at least several million dollars.

Both internal and external PEMRS hosting options were considered. Cerner's hosting approach was deemed most cost-effective. It was extensively reviewed to confirm it would meet the County's requirements for security, privacy, reliability, maintenance and upgrades as well as price protection over the term of the agreement.

Project Risks:

In response to a request by the CEO earlier in 2010 to assess several Probation IT projects, including PEMRS, the CIO identified the following project risks for both implementation and operation of PEMRS:

- **Need for strong County executive sponsorship** – PEMRS is a multi-departmental project that requires strong countywide executive sponsorship to advocate for the project and resolve escalated issues and problems. Although a PEMRS project team has established a project organization, it continues to lack countywide executive participation.

- **Lack of sufficient project contingency reserve** – PEMRS is a significant undertaking that will require a large change management effort to redesign processes, implement best practices, and adopt new technologies. The project implementation budget lacks sufficient contingency reserves to address potential unforeseen events.

- **No funding agreement to address recurring County project staffing** – The PEMRS project team had identified an estimated $1.8 million for ongoing funding required for sustaining system operation and maintenance. No funding had been identified for this requirement.

Risk Mitigation Measures:

Of the three risks identified above, the following were recommended risk mitigation measures:

- Reinstate the PEMRS Executive Steering Committee to provide the necessary level of project executive sponsorship, to be chaired by the DCEO for Public Safety Cluster. It is our understanding that this recommendation has been accepted by the CEO.

- Increase the project contingency budget to 20% of the one-time Agreement cost, from approximately $690,000 to $1.94 million. This recommendation was not acted on.

- Resolve the funding for recurring County project staffing. It is our understanding that the CEO has committed to funding $1.8 million for ongoing County project staffing.

Financial Analysis:

The proposed Agreement's maximum contract sum is $29,725,408. This includes the Agreement seven year base term and six optional years are exercised. The table below details the Agreement costs.

Description	Amount
Travel and Incidental Expenses	$ 476,000
Implementation Services	5,090,195
Professional Services Pool Dollars	689,279
Hosting, Maintenance & Support	10,747,934
Optional Years Hosting, Maintenance & Support	12,722,000
Total	**$ 29,725,408**

The following table identifies projected County staffing costs for the term of the Agreement including optional years (13 years). This assumes no changes in scope and adherence to the project schedule.

Description	Amount	
System implementation[1]	$	4,478,000
Post implementation support[2]		2,700,000
Ongoing system support		17,235,000
Software Maintenance for Transferred Licenses[3]		7,788,000
Total	$	32,201,000

[1]Assumes a 15-month system implementation period
[2]Assumes a 12-month post support period
[3]Software maintenance costs for 800 licenses that are transferred from the Sheriff.

The total project cost of ownership over 13-years would be $61,926,408.

CIO Concerns:

The CIO continues to recommend that the project contingency budget be increased. This recommendation is designed to increase the probability of a successful implementation and the ability to meet the County's probation electronic medical records objectives.

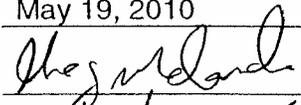## CIO Recommendations:

The Chief Information Office recommends Board approval of the proposed project.

CIO APPROVAL

Date Received: March 30, 2010

Prepared by: John Arnstein

Date: May 19, 2010

Approved:

Date: 5/19/2010

SOLE SOURCE CHECKLIST

Check (X)	JUSTIFICATION FOR SOLE SOURCE CONTRACTS *Identify applicable justification and provide documentation for each checked item.*
X	➤ Only one bona fide source for the service exists; performance and price competition are not available. Cerner is the only company that has provided an integrated electronic medical record system certified by federal agencies with demonstrated capability to provide the necessary processes and functions in a corrections environment at the scale of Los Angeles County (Los Angeles County Sheriff's Department).
X	➤ Quick action is required (emergency situation). 　The time frame set by the County and the Department of Justice for Paragraph 41 of the Settlement Agreement specifies that a plan and process to implement the electronic medical record system must be underway by December 2008. The PEMRS project has been underway and achieving steady progress since November 2007, when the Department of Justice monitors to place the County in substantial compliance based on the plan to implement Cerner. Cerner can build, implement, train and deploy the required system much more rapidly than any competing vendor. Considering the time available compared to the time to conduct a comprehensive competitive procurement, Cerner is the only practical alternative.
NA	➤ Proposals have been solicited but no satisfactory proposals were received.
NA	➤ Additional services are needed to complete an ongoing task and it would be prohibitively costly in time and money to seek a new service provider.
NA	➤ Maintenance service agreements exist on equipment which must be serviced by the authorized manufacturer's service representatives.
X	➤ It is most cost-effective to obtain services by exercising an option under an existing contract. 　The Cerner electronic medical record system technology is proven for medical services in a correctional environment because it has been in use at the Los Angeles County Jail since 1998. At the time of the Agreement with Cerner for the Jails, the County secured 3,000 licenses and provided that the Board of Supervisors may assign these licenses to County users as it chooses without additional charge. The Sheriff is using 1,500 of these licenses. Cerner and the Sheriff have agreed to allocate

	800 of the licenses that are not being used by the Sheriff to Probation for PEMRS. The availability of licenses at no charge represents at least $2.5 million one-time cost avoidance over the implementation costs of similar technology. In addition, leveraging the licenses and the Sheriff's experience will eliminate the cost of a lengthy procurement process and the cost of the internal learning curve that would be associated with the implementation of an alternative medical record system.
X	➤ It is in the best interest of the County e.g., administrative cost savings, excessive learning curve for a new service provider, etc. Cerner was originally engaged using a competitive procurement process in 1997 – 1998. Since then, during the Sheriff's implementation and deployment process, the County has built up a relationship with Cerner and a knowledge base of implementing its applications and technology in a corrections environment. None of the competing electronic medical records systems that are evaluated highly in the marketplace have been implemented in a jail or other correctional institutional environment.
	➤ Other reason. Please explain: The Board of Supervisors ratified the sole source decision in its budgetary action of February 2007 authorizing the Cerner strategy, and did not object to any of the sole source notifications since then.

Jacqueline M Fult   _05/20/10_
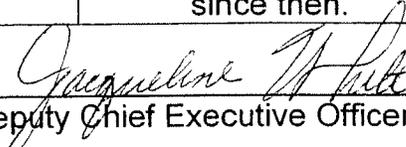
Deputy Chief Executive Officer, CEO   Date

Revised: 3/10