



1903 Wright Place - Suite 120 - Carlsbad, CA 92008  
[www.medsphere.com](http://www.medsphere.com)

## TECHNICAL PROPOSAL



State of Arkansas

**RFP Submission – Bid Number: SP-18-0034**

**Bid Opening Date: 12/12/2017**

**Bid Opening Time: 10:00 a.m., Central Time**

~\*~

Office of State Procurement

1509 West 7<sup>th</sup> Street, Room 300

Little Rock, AR 72201-4222

OSP Buyer: Shane Phillips – 501.324.9322

[Jordan.Phillips@dfa.arkansas.gov](mailto:Jordan.Phillips@dfa.arkansas.gov)

OSP's Main Number: 501.324.9316

# Table of Contents

## Section 1

### Package 1 – Technical Proposal Checklist

- T-1 Executive Summary and Prospective Contractor Information
- T-2 Prospective Contractor Experience and References
- T-3 Prospective Contractor Staffing
- T-4 Functional Requirements
- T-5 Requirements Approach
- T-6 Requirement Plans
- T-7 RFP Submission Checklist

## Section 2

### Package 1 – Technical Proposal Attachment Checklist

- Attachment 1 Letters of Recommendation
- Attachment 2 Letter of Bondability
- Attachment 3 Resumes
- Attachment 4 Implementation and Support Plan
- Attachment 5 EEO Handbook
- Attachment 6 Medsphere Registration
- Attachment 7 Voluntary Product Accessibility

# **Template T-1**

## **Executive Summary and Prospective Contractor Information**

**Response Template**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0 Proposal Signature Page</b> .....	<b>3</b>
<b>2.0 Executive Summary</b> .....	<b>5</b>
<b>3.0 Prospective Contractor Contact Information</b> .....	<b>9</b>
3.1 Subcontractor Contact Information (If applicable).....	10
<b>4.0 Minimum Mandatory Qualifications</b> .....	<b>11</b>

## 1.0 Proposal Signature Page

The Prospective Contractor **must** include the following cover sheet provided in this section 1.0, and an individual authorized to legally bind the Prospective Contractor **must** sign the Cover Sheet in ink and include it in the Proposal copy labeled “Original Proposal.”

**Instructions:** Provide the following information regarding the person responsible for the completion of the response. This person should also be the person OSP and DHS-ASH will contact for questions and/or clarifications.

Type or Print the following information.

PROSPECTIVE CONTRACTOR’S INFORMATION					
Company:	Medsphere Systems Corporation				
Address:	1903 Wright Place, Suite 120				
City:	Carlsbad	:	CA	Zip Code:	92008
Business Designation:	<input type="checkbox"/> Individual		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Public Service Corp
	<input type="checkbox"/> Partnership		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Nonprofit
Minority Designation: <i>See Minority Business Policy</i>	<input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> American Indian		<input type="checkbox"/> Asian American
	<input type="checkbox"/> African American		<input type="checkbox"/> Hispanic American		<input type="checkbox"/> Woman
	<input type="checkbox"/> Pacific Islander American		<input type="checkbox"/> Service Disabled Veteran		<input type="checkbox"/> Service Disabled Veteran
	AR Minority Certification #:		Service Disabled Veteran Certification #:		
PROSPECTIVE CONTRACTOR CONTACT INFORMATION					
<i>Provide contact information to be used for bid solicitation related matters.</i>					
Contact Person:	Paul Corbett		Title:	Vice President, Sales	
Phone:	760.529.2295		Alternate Phone:	480.275.6994	
Email:	paul.corbett@medsphere.com				
CONFIRMATION OF REDACTED COPY					
<input type="checkbox"/> YES, a redacted copy of submission documents is enclosed.					
<input checked="" type="checkbox"/> NO, a redacted copy of submission documents is <u>not</u> enclosed. I understand a full copy of non-redacted submission documents will be released if requested.					
<i>Note: If a redacted copy of the submission documents is not provided with Prospective Contractor’s response packet, and neither box is checked, a copy of the non-redacted documents, with the exception of financial data (other than pricing), will be released in response to any request made under the Arkansas Freedom of Information Act (FOIA). See Bid Solicitation for additional information.</i>					

**ILLEGAL IMMIGRANT CONFIRMATION**

By signing and submitting a response to this *Bid Solicitation*, a Prospective Contractor agrees and certifies that they do not employ or contract with illegal immigrants. If selected, the Prospective Contractor certifies that they will not employ or contract with illegal immigrants during the aggregate term of a contract.

**ISRAEL BOYCOTT RESTRICTION CONFIRMATION**

By checking the box below, a Prospective Contractor agrees and certifies that they do not boycott Israel, and if selected, will not boycott Israel during the aggregate term of the contract.

Prospective Contractor does not and will not boycott Israel.

***An official authorized to bind the Prospective Contractor to a resultant contract shall sign below.***

The signature below signifies agreement that any exception that conflicts with a Requirement of this *Bid Solicitation* will cause the Prospective Contractor’s proposal to be disqualified.



**Authorized Signature:** \_\_\_\_\_ **Title: Chief Government Officer**

**Printed/Typed Name: Richard K. Sullivan**

**Date: December 7, 2017**

## 2.0 Executive Summary

**Instructions:** Provide a brief (three [3] to five [5] page) summary of the key aspects of the Technical Proposal. The Executive Summary should include an overview of the Prospective Contractor’s qualifications, approach to deliver the system and services described in the RFP, time frame to deliver the system and services, proposed team and advantage of this Proposal to DHS-ASH.

<Response>

### Introduction

Founded in 2002 and based in Carlsbad, CA, Medsphere Systems Corporation is an award-winning organization of clinical and technology professionals working to make quality health IT solutions accessible to organizations of virtually any size, shape or budget.

Medsphere is singularly focused our integrated OpenVista Electronic Health Record (EHR) and Revenue Cycle Management (RCM) solution on behavioral health and acute hospitals and facilities and has been implementing our solution for over 16 years including for small to large local, federal and international hospital systems and out-patient clinics.

Medsphere’s [Government Services Division](#) applies VA VistA (the foundation of OpenVista) expertise to development and testing projects for VA and the Indian Health Service (IHS), as well as OpenVista enhancement. Medsphere’s [ChartLogic](#) division enables better ambulatory care via physician practice EHR, revenue cycle management (RCM) and practice management systems and services. Using a vendor-independent approach to helping hospitals solve critical challenges, the [Phoenix Health Systems](#) division provides a host of healthcare IT services, including systems implementation, compliance project management, service desk, end-user device management, infrastructure support, application management and IT leadership. Medsphere’s [Stockell Division](#) provides enterprise-grade Revenue Cycle Management to our customers. Stockell also employs an independent approach to helping hospitals solve critical challenges revolving around all aspects related to billing and revenue.

Below is an excerpt from our Employee Handbook clearly stating our EO policy.

### 1-2. Equal Employment Opportunity

Medsphere is an Equal Opportunity Employer that does not discriminate on the basis of actual or perceived race, color, national origin, ancestry, sex, gender, gender identity, pregnancy, childbirth or

### The Medsphere advantage!

- Medsphere’s staff has hundreds of years of experience in EHR / RCM Behavioral Health hospital and clinic implementations each of whom brings differentiated value to hospital and clinic transformation.
- SaaS hosting accommodations.
- Deep background in EHR implementations:
- Deployed to 400 facilities and 43 hospitals for IHS.
- Deployed OpenVista to 32 BH, Acute and Ambulatory hospitals and hundreds of clinics
- Provide 24/7/365 Tier I, II, and III ITIL-based ESD in supporting peak volume calls in excess of 400 per month and exceeding SLA’s.
- Experts at helping our customers communicate change to take advantage of available benefits.
- Corporate experience in and commitment to promoting Healthcare IT including CCHIT Certification and Meaningful Use.
- Strong team of local and highly respected IT product, services, help desk, and support staff.
- Implement EHR/RCM solution in 4-12 months. The more facilities that are the same, the greater the economies of scale.

**Template T-1 –Executive Summary and Prospective Contractor Information**

related medical condition, religious creed, physical disability, mental disability, age, medical condition (cancer), marital status, veteran status, sexual orientation, genetic information or any other characteristic protected by federal, state or local law. Our management team is dedicated to this policy with respect to recruitment, hiring, placement, promotion, transfer, training, compensation, benefits, employee activities and general treatment during employment.

The Company will endeavor to make a reasonable accommodation to the known physical or mental limitations of qualified employees with disabilities unless the accommodation would impose an undue hardship on the operation of our business. If you need assistance to perform your job duties because of a physical or mental condition, please let the HR Director know.

The Company will endeavor to accommodate the religious beliefs of its employees to the extent such accommodation does not pose an undue hardship on the Company's operations. If you wish to request such an accommodation, please speak with your manager or the HR Director.

Any employees with questions or concerns about equal employment opportunities in the workplace are encouraged to bring these issues to the attention of the HR Director. The Company will not allow any form of retaliation against individuals who raise issues of equal employment opportunity. To ensure our workplace is free of artificial barriers, violation of this policy will lead to discipline, up to and including discharge. Employees must cooperate with investigations pursuant to concerns raised about equal employment opportunities.”

**OpenVista**

As an integrated solution, OpenVista includes applications critical to ensuring patient safety and promoting effective communication among clinicians regarding health concerns. OpenVista provides a comprehensive electronic medical and financial record enabling clinicians and billers to accurately and efficiently capture encounters. Providers can enter, review, and update all order-related information connected with any patient, including ordering lab tests, medications, diets, radiology tests, consults, and procedures. Medsphere at a Glance:

Question		Answer
1.	Company Name	Medsphere Systems Corporation
2.	Respondent(s) Name (Main RFP Contact)	Paul Corbett
3a.	Title	VP Commercial Sales
3b.	Address	1903 Wright Place, Suite 120, Carlsbad, CA 92008
3c.	Phone number	760-692-3700
3d.	Email address	paul.corbett@medsphere.com
4.	Location of Company Headquarters	San Diego, CA
5.	Location of EHR Product Development	San Diego, CA
6.	Year Company Founded	2002
7.	Name of Product(s) (relevant to RFP)	OpenVista and InsightCS

Template T-1 –Executive Summary and Prospective Contractor Information

Question		Answer
8.	Number of implementations	Over 400
9.	Number of Active Users of Product(s)	5,000,000 plus
10.	Representative Clients (please list several)	<p><b>Lutheran Medical Center</b>            Lutheran Medical Center is a full-service, 476-bed teaching hospital that has cared for Brooklyn's diverse communities since 1883. A Level One Trauma Center and Stroke Center, the hospital is also the hub of Lutheran HealthCare, a network of primary, acute and long-term care centers offering a continuum of services from early childhood development, to senior support, to -of-the-art medical care.</p> <p><b>West Virginia Department of Health and Human Resources</b>            The West Virginia Department of Health and Human Resources (WVDHHR) operates seven -owned healthcare facilities, including a 108-bed acute-care hospital, <b>two psychiatric facilities with 150 and 90 beds, respectively</b>, and four long-term care facilities with from 100 to 200 licensed beds.</p> <p><b>Beauregard Memorial Hospital</b>            Beauregard Memorial Hospital in DeRidder, La., has served the citizens of Beauregard and Vernon parishes, and surrounding areas since 1950. The 60-bed acute-care hospital is committed to providing safe, quality, cost-effective healthcare that is responsive to the needs and the values of its communities.</p> <p><b>Stilwell Memorial Hospital</b>            Memorial Hospital of Stilwell, OK, is a 50-bed, non-profit community hospital focused on providing quality care in a value-driven manner. Memorial ensures access to quality healthcare regardless of color, race or religion and actively develops a variety of physician practices for the communities the hospital serves. As the anchor healthcare facility for Stilwell and the surrounding region, Stilwell Memorial services include ambulatory surgery, cardiology, emergency medicine, health education, physical therapy, sleep studies and a women's center.</p> <p><b>Silver Hill Hospital</b>            Silver Hill Hospital is a nationally recognized, independent, not-for-profit psychiatric hospital with 129 licensed beds. Since 1931, they have</p>

Question	Answer
	<p>focused exclusively on providing patients the best possible treatment of psychiatric illnesses and substance use disorders, in the best possible environment. The hospital is affiliated with the Department of Psychiatry at Yale University's School of Medicine.</p>

Medsphere’s implementation process continues to evolve and include progressively more detailed steps determined necessary by lessons learned performing new and ongoing deployments.

### Kickoff and Enterprise Assessment

During this initial stage, Medsphere determines the State’s objectives and needs and then uses that information to create a more refined project plan and work breakdown structure (WBS) for the entire implementation process. Medsphere Enterprise Assessment (EA) establishes the existing within State hospitals including their respective networks and uses gap analysis to identify what needs to be done before OpenVista can be deployed by the Hosting facility.

Also during the EA process, Medsphere works with facility administrators and IT managers to determine data migration requirements; identify the client staff required during deployment; and assist with a training plan for all State personnel. When the EA is complete, Medsphere presents State with a detailed report of the assessment findings to include a “latest” iteration of the project work plan.

When the server and network hardware, etc., is complete, our collective teams will shift focus to purchasing and configuring any additional hardware needed e.g., PCs (workstations), printers, scanners, fax machines, etc. With the required network in place, Medsphere installs demo and training system software, conducts Vista Foundations training for technical staff, and designs and develops the provided and contracted for interfaces required to connect OpenVista.

### Data Conversion/Loading

Medsphere configurators (automated electronic tools enhancing the implementation process) make transferring data from existing system to OpenVista a more rapid and straightforward process than other alternatives. The primary tasks in this phase are managing the configurator schedule, extracting data from existing hospital systems, loading existing data files using Medsphere configurators and preparing patient bar coding functionality.

### OpenVista Specific Application Module Design and Build

Once data is transferred from existing databases to OpenVista, Medsphere must also configure OpenVista applications now populated with State data to accommodate existing workflows and other facility organization. Included in this phase are a series of workgroup meetings in which facility leaders and policymakers revise and standardize processes associated with transition to the OpenVista EHR. Medsphere helps the State personnel create a tailored OpenVista solution through the design and configuration of core applications using System Design Blocks. This crucial phase provides key State personnel with the in depth and knowledge necessary to support the facility after the system is

**Template T-1 –Executive Summary and Prospective Contractor Information**

implemented. When configuration details are determined, Medsphere conducts configuration training and review for each application, and then assists the State to complete the system build process.

## Testing and System Validation

With the tailored OpenVista system in place, Medsphere assists State personnel in confirming that design, build, and configuration were successful through unit and integrated testing, followed by a database freeze and the creation of a live production environment.

## User Training

Using a train-the-trainer methodology, Medsphere training professionals prepare a core group of client hospital and facility personnel to instruct end users. The tools and materials provided adequately prepare facility training staff to conduct formal classroom training for all departments that require knowledge of OpenVista. Before actual training, Medsphere implementation and training professionals prepare a comprehensive training plan and associated materials based on the number of hospital and facility personnel. Medsphere deployment professionals also assist State personnel in establishing a training environment on existing servers where learners can practice with the State's OpenVista configuration.

## Medsphere Go Live Support

Medsphere prepares State personnel for the transition to a live production environment by providing user guides for each deployed application and Quick References (QRs) at each workstation. Additionally, e-Learning modules and online help are available to assist in transition learning. Before the actual transition occurs, Medsphere and State IT staff conduct final interoperability verification and validation testing as a final check on system readiness. With positive confirmation of completed check lists and acceptance by State personnel, the switch is flipped and facility staff begins working in an OpenVista world.

## Post Implementation and Transition to Medsphere Support

During and following Go Live, primary help with OpenVista function is provided by on-site Medsphere consultants. For an initial period, Medsphere monitors both the types of problems end users relay to the Help Desk and the ways in which local support responds. This transition period is an ideal opportunity to iron out any remaining issues and confirm local understanding of OpenVista. Full transition from on-site Medsphere support to the Medsphere Support Center occurs by mutual agreement between the State and Medsphere's Project Manager. Any remaining implementation issues are the responsibility of Medsphere's implementation team, but the transition provides for essential 24x7 support. From this point forward, the State and Medsphere comply with the Medsphere Subscription Service Agreement, relying on the Medsphere Support Center for Tiers Two and Three support.

### 3.0 Prospective Contractor Contact Information

<p><b>Instructions:</b> Complete the following information regarding the Prospective Contractor's headquarters and primary contact for any questions pertaining to the Prospective Contractor's</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Template T-1 –Executive Summary and Prospective Contractor Information

responses to this RFP. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 1. Prospective Contractor Contact Information**

COMPANY HEADQUARTERS INFORMATION:			
Company Size:	217	(Total Number of Employees)	
Annual Revenue:	\$30m		
REGIONAL OR LOCAL OFFICE INFORMATION:			
Company Name:	Medsphere Systems Corporations		
Address:	1903 Wight Place, Suite 120		
City, & Zip Code:	Carlsbad, CA. 92008		
Primary Contact:	Paul Corbett, Vice President, Sales		
Phone:	760.529.2295	Fax:	480.422.2474
E-mail:	Paul.Corbett@medsphere.com		

**3.1 Subcontractor Contact Information (If applicable)**

**Instructions:** Complete the following information regarding the subcontractor’s contact information. If more than one subcontractor is proposed, add more Tables as necessary. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 2. Subcontractor Contact Information**

COMPANY INFORMATION:			
Company Name:	N/A		
Address:			
City, & Zip Code:			
Company Type (Check One):	<input type="checkbox"/> Private	<input type="checkbox"/> Public	
Company Size:	(Total Number of Employees)		
Annual Revenue:			
PRIMARY CONTACT INFORMATION:			
Name:		Title:	

Template T-1 –Executive Summary and Prospective Contractor Information

Address:			
City, & Zip Code:			
Phone:		Fax:	
E-mail:			

### 4.0 Minimum Mandatory Qualifications

The Prospective Contractor **must** provide clear, compelling justification that it meets all of the Minimum Mandatory Qualifications. The Prospective Contractor is encouraged to provide ample references to information contained in the Proposal that supports its attestation. Bidders that fail to provide clear, sufficient evidence that they meet the Minimum Mandatory Qualifications may be subject to disqualification. OSP and DHS-ASH may ask for additional clarifications relating to the Minimum Mandatory Qualifications prior to determination of compliance.

**Instructions:** Complete the following information regarding the Bidder’s ability to meet the Minimum Mandatory Qualifications. Provide specific references to Proposal locations that support the Prospective Contractor’s assertions that it meets the Minimum Mandatory Qualifications. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

Table 3. Minimum Mandatory Qualifications

#	QUALIFICATION ITEM	DOES THE BIDDER MEET QUALIFICATION ITEM?		REFERENCE TO PROPOSAL RESPONSE SECTION
1	The Prime Contractor <b>shall</b> have experience implementing the proposed system(s) in an acute psychiatric facility similar in size and scope to ASH. Prime Contractor and any subcontractors (if applicable) <b>shall</b> provide at least three (3) references from previous engagements of similar size and scope to this RFP. At least one of the references (for Prime Contractor) <b>must</b> be from an acute psychiatric facility. The strongly prefers references that are currently using the system. (Use Template T-2 to demonstrate this experience)	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Attachment 1

#	QUALIFICATION ITEM	DOES THE BIDDER MEET QUALIFICATION ITEM?		REFERENCE TO PROPOSAL RESPONSE SECTION
2	<p>The Prospective Contractor <b>shall</b> have their EHR System successfully implemented and currently in use at a facility that has either:</p> <ol style="list-style-type: none"> <li>1. Passed a Joint Commission survey with the Prospective Contractor’s solution in operation, or</li> <li>2. Been Joint Commission certified while the Prospective Contractor’s solution is in operation.</li> </ol> <p>(Use this Template to provide evidence of qualification. Include letter(s) of reference as required in section 2.5.C of the RFP.)</p>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Attachment 1

<Response>

Please see Attachment 1.

#	QUALIFICATION ITEM	DOES THE BIDDER MEET QUALIFICATION ITEM?		REFERENCE TO PROPOSAL RESPONSE SECTION
1	<p>The Contractor <b>shall</b> be required to obtain performance and payment bonds when deemed necessary by the to protect the 's interest. Situations that may warrant a performance bond include, but are not limited to, the following:</p> <ol style="list-style-type: none"> <li>1. The 's property or funds are to be provided to the contractor for use in performing the contract.</li> <li>2. Substantial progress payments are made before delivery of end items is complete</li> <li>3. The duties of the Contractor, if breach, could expose the to liabilities</li> </ol> <p>(Use this Template to provide evidence of qualification. Include the letter of bondability required by section 2.5.D.3 of the RFP.)</p>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Attachment 2

of Arkansas DHS-ASH  
EHR and Billing System  
RFP #: SP-18-0034  
Template T-1 –Executive Summary and Prospective Contractor Information

<Response>

Please see Attachment 2.

**Template T-3**  
**Prospective Contractor Staffing**  
**Response Template**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0 Prospective Contractor Key Personnel.....</b>	<b>3</b>
1.1 Subcontractor Key Personnel.....	8
<b>2.0 Staff Experience .....</b>	<b>10</b>
<b>3.0 Resumes .....</b>	<b>11</b>
<b>4.0 Staff Retention.....</b>	<b>11</b>

## 1.0 Prospective Contractor Key Personnel

The Prospective Contractor should identify Key Personnel for the Engagement, as described in the RFP (2.7.13 A-H), including:

- Name
- Position in Vendor organization
- Proposed role on Engagement
- Focus of work effort
- % of time for that work effort
- Experience in the proposed role
- Qualifications for the proposed role
- Role in the last project

**Instructions:** Complete the following Table detailing the Key Personnel identified for this Engagement. Add rows as necessary. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 1. Prospective Contractor Key Personnel**

NAME	POSITION IN ORGANIZATION	PROPOSED ROLE ON ENGAGEMENT	FOCUS OF WORK EFFORT	% OF TIME FOR THAT WORK EFFORT	EXPERIENCE IN PROPOSED ROLE (YEARS)	QUALIFICATIONS FOR PROPOSED ROLE	ROLE IN LAST PROJECT
Tom Arnold	Sr. Director	Program Manager	Project Delivery	100%	10	Extensive implementation and training experience as well as significant hospital experience.	MU Sr. Director
Robert Criteser	Lead Data Architect	Lead Data Architect	Architecture	25%	27	Extensive development experience as well as significant hospital experience.	Same
Julie McPherson	Product Manager - Clinical Solutions	Product Manager - Clinical Solution	Clinical Solution Lead	50%	20	Extensive clinical implementation and training experience as well as significant hospital experience	Same
Holly Robinson	Sr. Director – Implementation Services	Implementation PM	Project Delivery	50%	10	Extensive RCM and OpenVista implementation and training experience as well as significant hospital experience. Several years OpenVista implementation PM experience.	Same

State of Arkansas DHS-ASH  
EHR and Billing System  
RFP #: SP-18-0034  
Template T-3 – Prospective Contractor Staffing

Rob Killian	Remote Hosting Engineer/Sr. Director IT	Remote Hosting Engineer/Sr. Director IT	Hosting	25%	15	Extensive IT implementation experience in hospital settings.	Same
Dana Deely	VP Customer Support	VP Customer Support	Customer Service and Support	15%	30	Extensive customer support and maintenance experience in hospital settings.	Same
Brent Freeman	Lead Systems Architect	Lead Systems Architect	IT Delivery	25%	30	Extensive implementation and training experience in hospital settings.	Same
Joy Holman	Sr. Lab Consultant	Sr. Lab Consultant	Lab Configuration/Training	100%	25	Extensive implementation and training experience as well as significant hospital experience.	Same
Sheran Lewis	Sr. Clinical Consultant	Sr. Clinical Consultant	Clinicals Configuration/Training	100%	18	Extensive implementation and training experience as well as significant hospital experience.	Same
Lynne Mundi	Sr. QA	QA/Analyst	Component/Requirement Analyst	25%	20	Extensive QA/QC experience as well as significant hospital experience.	Same
Jared Jonas	Sr. Manager QA	Sr. Manager QA/Analyst	Component/Requirement Analyst	25%	15	Extensive QA/QC experience as well as significant hospital experience.	Same

State of Arkansas DHS-ASH  
 EHR and Billing System  
 RFP #: SP-18-0034

Template T-3 – Prospective Contractor Staffing

Theresa Sawyer	Sr. Clinical Consultant	Sr. Clinical Consultant	Clinicals Configuration/Training	100%	24	Extensive implementation and training experience as well as significant hospital experience.	Same
David Willoughby	Sr. Laboratory Consultant	Sr. Laboratory Consultant	Lab Configuration/Training	75%	28	Extensive implementation and training experience as well as significant hospital experience.	Same
Mark Taylor	Lead SW Developer	Lead SW Developer	Solution/Enhancement Lead	25%	27	Extensive development experience as well as significant hospital experience.	Same
Richard Lewis	Sr. Radiology Specialist	Sr. Radiology Specialist	Radiology Configuration/Training	100%	26	Extensive implementation and training experience as well as significant hospital experience.	Same
Karen Small	Sr. Clinical Consultant	Sr. Clinical Consultant	Clinicals Configuration/Training	100%	22	Extensive implementation and training experience as well as significant hospital experience.	Same
Kathy Steele	Tech Writer	Tech Writer	Technical and User Documentation	38%	28	Extensive technical documentation experience as well as significant hospital experience.	Same

State of Arkansas DHS-ASH

EHR and Billing System

RFP #: SP-18-0034

Template T-3 – Prospective Contractor Staffing

Jo Anne Drake	Implementation Specialist III	Implementation Specialist – Patient Access	Registration/Scheduling Configuration/Training	50%	4	Extensive implementation and training experience as well as significant hospital experience.	Same
Debbie Fridley	Implementation Specialist III	Implementation Specialist – Patient Accounting	Billing/Patient Accounting Configuration/Training	50%	5	Extensive implementation and training experience as well as significant hospital experience.	Same

## 1.1 Subcontractor Key Personnel

The Prospective Contractor should identify the Subcontractor Key Personnel for the Engagement including:

- Name
- Position in subcontractor organization
- Proposed role on Engagement
- Focus of work effort
- % of time for that work effort
- Experience in the proposed role
- Qualifications for the proposed role
- Role in the last project

If proposing subcontractors for any Key Personnel positions, the Prospective Contractor should refer to Section 2.7.13 A-H for specific personnel requirements.

This section should also detail the past work each listed person has had with the Prospective Contractor or their staff.

**Instructions:** Provide a listing of the Subcontractor Key Personnel. This Table should be replicated for each Subcontractor used. Add rows as necessary. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 2. Subcontractor Key Personnel**

NAME	POSITION IN ORGANIZATION	PROPOSED ROLE ON ENGAGEMENT	FOCUS OF WORK EFFORT	% OF TIME FOR THAT WORK EFFORT	EXPERIENCE IN PROPOSED ROLE (YEARS)	QUALIFICATIONS FOR PROPOSED ROLE	ROLE IN LAST PROJECT
N/A							

## 2.0 Staff Experience

The Prospective Contractor should provide evidence that each of the Key Personnel proposed meet the required years of experience as set forth in Section 2.7.13.

**Instructions:** For each Key Personnel listed, indicate the client name and client contact information, whether the engagement was for a public sector agency, project name, start and end dates the team member performed the role, duration of the experience and an overview of the project scope, focused on how it relates to the scope of this RFP.

<Response>

**Medsphere staff: All staff from Table 1 above.**

### **TARAVISTA BEHAVIORAL HEALTH CENTER**

Tom Feight, Project Manager

978-615-5200 [tfeight@taravista.care](mailto:tfeight@taravista.care)

Client Type: Private General Services Hospital

Project Start Date: February 2016 Project End Date: February 2017

Project Scope:

The inpatient mental health facility is utilizing the system's suite of Enterprise Patient Registration, Scheduling, Payer Eligibility Checking, Document Management and Forms Generation, Patient Accounting and Billing, Insurance Follow-up and A/R Collections, Contract Management, Denial Tracking, ERA processing and Reporting applications to control costs, accelerate revenue collection, and deliver exceptional patient and provider service.

The system is being used along with Medsphere's OpenVista electronic health record (EHR), a comprehensive suite of clinical support applications that enables improved patient care and more efficient clinician workflow. As a result, the hospital is gaining a fully interoperable, meaningful use certified enterprise health IT platform.

**Medsphere staff: All staff from Table 1 above.**

### **PONTIAC GENERAL HOSPITAL**

Sanjay Sharma, CIO

248.600.3388 [Sanjay.Sharma@pontiacgeneral.com](mailto:Sanjay.Sharma@pontiacgeneral.com)

Client Type: Private General Services Hospital

Project Start Date: June 2016 Project End Date: December 2016

Project Scope:

Pontiac General Hospital is implementing the OpenVista and InsightCS system suite of Enterprise Clinicals and Ancillaries, Patient Registration, Payer Eligibility Checking (ANSI 270/271), Patient and Resource Scheduling, Document Management and Forms Generation,

Patient Accounting and Billing, Insurance Follow-up and A/R Collections, Contract Management, Denial Tracking, ERA Processing and Reporting applications to control costs, accelerate revenue collection, and deliver exceptional patient and provider service.

**Medsphere staff: All staff from Table 1 above.**

### **BEHAVIORAL CENTER OF MICHIGAN**

Beth Nearhood, Manager of Revenue Cycle

586.261.2186 [bnearhood@behavioralcenter.com](mailto:bnearhood@behavioralcenter.com)

Client Type: Private Behavioral Health Provider

Project Start Date: February 2016 Project End Date: December 2016

Project Scope:

Behavioral Center of Michigan, a 42-bed inpatient facility in the Detroit suburb of Warren implemented the system's suite of Enterprise Patient Registration, Document Management and Forms Generation, Patient Accounting and Billing, Insurance Follow-up and A/R Collections, Contract Management, Denial Tracking, ERA Processing and Reporting applications to control costs, accelerate revenue collection, and deliver exceptional patient and provider service.

The system is implemented along with Medsphere's OpenVista electronic health record (EHR), a comprehensive suite of clinical support applications that enables improved patient care and more efficient clinician workflow. As a result, the hospitals are gaining a fully interoperable, meaningful use certified enterprise healthcare IT platform.

## **3.0 Resumes**

The Prospective Contractor should attach professional resumes of all proposed Key Personnel to this section of the Proposal.

Each resume should demonstrate experience germane to the position proposed. The resume should include work on projects cited under the Prospective Contractor's corporate experience, and the specific functions performed on such projects.

**Instructions:** Provide a resume for each proposed Key Personnel.

<Response>

See Attachment 3.

## **4.0 Staff Retention**

The Prospective Contractor should provide assurances that it will retain the appropriate level of staff to complete the scope of this engagement throughout the contract period. The Prospective Contractor should describe its approach to staff retention, with specific attention to ensuring staff consistency throughout the duration of the Engagement.

**Instructions:** Describe Prospective Contractor’s process and methodology for retaining personnel and ensuring that Key Personnel are consistently engaged on this Engagement. The Prospective Contractor should also discuss steps they have/will take to minimize staff turn-over to avoid costly re-training of Engagement resources.

<Response>

We understand the value of our employees. Medsphere is well aware that the types of professionals we employ are highly sought after in the current job market. Well-educated and occupationally mobile, these individuals realize their worth and expect proper recognition.

Studies show that IT, clinical and engineering professionals respond positively to companies that offer meaningful technical challenges, comfortable working conditions, career growth, and responsive management, as well as competitive salaries and benefits. Historically, one of our strengths as an experienced healthcare IT company has been our ability to maintain a stable work force with employee retention comparable to or better than industry averages.

We have achieved this through an emphasis on competitive salaries, fringe benefits, and incentives, effective employee communication, and a flexible corporate structure and policies that nurture talented, industrious, and career-minded personnel. Medsphere’s corporate culture, focusing on customer satisfaction and employee participation, is the fabric woven throughout the company that has produced spirited, success-oriented teamwork and a high employee retention rate (99%).

## Tab 1: EHR System Requirements

**Directions:** The table below provides the functional and technical requirements for the solution. Bidders must indicate with an 'X' in columns A, B, or C whether their solution supports the following requirements.  
 A = Currently Available in the Solution  
 B = Available via Contractor Modification or Development  
 C = Not Available in the Solution (neither A nor B). If C is selected, in the comments please propose an alternative (that meets the needs of the State) or an explanation of why it is acceptable to forego this requirement. **A Prospective Contractor may not select C for a Mandatory Requirement.**

**Mandatory Requirements are noted by an "x" in the Mandatory Requirement column. A failure to satisfy a Mandatory Requirement shall result in the disqualification of a proposal.**

### High Level Functional Requirements – Electronic Health Records Component

No.	Function	Mandatory Requirement?	Availability			Comments
			A	B	C	
1	The system has the capability to sort all data based on service lines Adults, Adolescents, Forensics, by Guarantors and fields to be specified.		X			
2	The system has the capability to filter data by payer source, diagnosis, specific medication, provider, referral source, and other fields to be specified.		X			
3	The system has the capability to allow data look up on specified fields (e.g. name, account number, location, physician, clinician, social security number, and other fields to be specified, legal status and court orders history by patient).		X			
4	The system must have the capability to apply date and timestamps (in military time) for each entry into the record.	X	X			

5	The system allows the entry of data one time and has the capability to populate all similar fields – write once functionality that is not forms based. (e.g. dates, times, user name, patient name, vital signs, date of birth and other fields to be specified).		X			
6	The system has flexible signature capabilities (i.e. electronic signature, signature pad, pin number) based on document type.		X			
7	The system has the capability to capture and save records in different stages of completion.		X			
8	The system must have the capability to electronically document electronic signature with a timestamp in military time.	X	X			
<b>Configurable View</b>						
9	The system is compatible with audio-visual hardware.					
<b>Security Controls</b>						
10	The system must have the capability to support the implementation of administrative and technical safeguards as required under the Health Insurance Portability & Accountability Act of 1996 (HIPAA) regulations, including the following technical security service requirements and communication / network controls: access control; audit controls; authorization control; data authentication; entry authentication.	X	X			
11	The system must be available to certain user types only, and with various data access restriction levels based on user type.	X	X			
12	System must be able to work with anti-virus software. ASH currently uses System Center Endpoint Protection.	X	X			
13	The system must be ANSI X12 Electronic Transaction Compliant, for both inbound and outbound transactions. (HIPAA Electronic Data Transactions - Standardization of Clinical Data).	X	x			

14	The system must have the capability to provide an audit trail that can capture date, timestamp (in military time) and user ID for all data transactions (creation, modification, view, deletion, auto log off & printing) with the ability for designated employees to easily access this data in a report format to comply with HIPAA requirements.	X					
15	The system must provide the ability for users to print entire patient record.	X	X				
16	The system must have the ability for records to be locked with read only access for specified users.	X	X				
17	The system provides ability to print Patient ID bands.		X				
18	The system has the capability to allow users to electronically transmit patient records securely.		X				
19	The system has the capability to assign clinical codes and credentials.		X				
20	The system must allow for each staff member to have a unique number identifier for documentation purposes. The number is keyed into the electronic system when charges are keyed. The number is linked to all of the specific staff members "billing number" to be defined. When the billing files are created the system will "place/code" in the appropriate information needed for that specific 3 <sup>rd</sup> party provider.	X					X
<b>Legal</b>							
21	The system must have the ability to document and track patient legal status & court orders.	X	X				
22	The system must have the ability to track individual medical records rights in compliance with HIPAA privacy standards.	X	X				
23	The system must have the ability to accept and store electronically transferred data, as well as scanned paper based documents.	X					X
<b>Admissions</b>							
24	The system has the capability to assign a minimum 6-digit Medical Record Number (terminal digit) upon patient's first admission to ASH.						X
25	The system must have the capability to record hospital admission, program transfers, and discharge information for each patient, overall and by service line or program or other fields to be specified.	X	X				

26	The system has the capability to capture Type and Source of Admission, as well as Discharge Status code.		X			
27	The system allows for users to review and sign notes for own visits and calls.		X			
28	The system must have bed management and census capabilities.	X	X			
29	The system supports the ability to search for available beds at ASH.		X			
30	The system must have the ability to gather admission data prior to admission.	X	X			
31	The system must have the ability to create a new admission utilizing set defined data from a patient's previous admission. The system must also assign a new sequential episode of care number related to the current hospital admission	X	X			
32	The system must capture a full Master Patient Index to be a defined set.	X	X			
33	The Master Patient Index must have the ability to search and include all past admission and discharge dates as part of the current record and display the information in a report format.	X	X			
34	The system must have the ability to link and cross-file patient records.	X	X			
35	The system must have a full Intake module, including Demographics, Financial and Guarantor Info, Referral Info, Admission Diagnosis, staff assignments, Alerts, Legal Status and Court Orders, and other fields.	X	X			
<b>Scanning Capabilities for Other Record Documents</b>						
36	The system must have an administration tool (Document Management) for scanning and indexing non-electronic documents.	X	X			
37	The system has the capability to annotate, index, mark-up, search, and sign scanned documents.		X			
38	The system has the capability to securely email scanned documents in and out of the system.		X			
<b>Workflow</b>						
39	The system must have the capability to be accessed on devices using wireless internet connectivity within the hospital and externally.	X	X			

40	The system must have the capability to provide alerts and notifications for work lists / to do lists / tasks per user.	X	X			
41	The system must have the capability to direct work / charts to others for completion on an "as needed" basis.	X	X			
42	The system must have the capability to document clinical notes for individual, group and family sessions.	X	X			
43	The system must have the capability to document clinical shift notes.	X	X			
44	The system must have the capability to customize templates for standard notes.	X	X			
45	The system must have the capability to create customized forms.	X	X			
46	The system must have the capability to allow for user defined automatic routing of information (messages, lab results, other tests, etc.) with override capabilities.	X	X			
47	The system must provide for a list of providers' most used problems per provider.	X	X			
48	They system must have the capability to allow users to create test result letters.	X	X			
49	The system must provide for problem lists and allergy lists, including on-screen indicators of urgent reactions and medications that can be updated or edited.	X	X			
50	The system must have the capability to switch or toggle from one patient record to another quickly and easily.	X	X			
51	The system must have the capability to display a patient summary sheet including patient demographics, problems, medications, allergies, health maintenance, encounter listing, patient tasks, recent encounters, patient picture, personal profile.	X	X			
52	The system must allow for different assessment criteria based on program type (e.g., adolescent assessments, adult assessments, etc.).	X	X			
53	The system must have the capability to allow multiple users to access and edit the same patient record at the same time. The system must prevent users from simultaneously editing the same section of a record. The system must warn or inform all users that they are simultaneously viewing the same record.	X	X			

54	The system must have the capability to link internal information sources and send messages and a link to a patient chart to additional non-ordering providers re: results, documentation.	X	X			
55	The system must have the capability to do dual routing (e.g. one set of results are simultaneously sent to multiple users or roles).	X	X			
56	The system must have the capability to customize alerts based on data / decision support rules and sends alerts to specified clinical staff by role designation.	X	X			
57	The system must provide a link to external sources providing medication information, drug interactions, and contraindications from within a specific patient record (i.e. First Data Bank).	X	X			
<b>Order Entry</b>						
58	The system has the capability to customize order sets based on individual clinician preference.		X			
59	The system has the capability to create orders for pre-admission, admission, privileges, restrictions, medications, lab, imaging, restraint and seclusion, dietary, interventions and medical services.		X			
60	The system has the capability to search orders using key fields and words.		X			
61	The system has the capability for system users to view all orders on a summary sheet for an individual patient.		X			
62	The system has the capability to confirm review of orders based on clinical role.		X			
63	The system has the capability to provide medical necessity and duplicate checking per orderable item.		X			
64	The system has the capability to connect orders to a result for follow-up and reconciliation.		X			
<b>Assessments</b>						
65	The system has the capability for users to easily create a discipline specific template for assessments. (e.g. Interview formats).		X			

66	The system must have the ability to track date sensitive, program specific assessments and provide reminders to the applicable clinician to complete assessments or reassessments.	X				
67	The system must have the ability to view standardized assessments from a 3 <sup>rd</sup> party.	X	X			
<b>Master Treatment Plans</b>						
68	The system contains a treatment plan library of behavioral health specific content.		X			
69	The system must provide the capability for users to build customized treatment plan templates.	X	X			
70	The system must allow patients and family members to sign electronically for each specific treatment plan.	X	X			
71	The system must have the capability to document all components of the treatment and service plans including identified problems and goals for treatment.	X	X			
72	The system must have the capability for users to modify and update treatment plans with a view of the most current plan and an audit trail with previous plans.	X	X			
73	The system must have the capability to set automatic reminders for treatment plan modifications (e.g. completion, update, review, new medical problems, seclusion and restraint documentation) according to ASH and regulatory requirements.	X	X			
74	The system must have a progress measurement tool to track progress toward reaching treatment plan objectives over time with the ability to present this information in a graphical format.	X	X			
75	The system must have the capability to easily switch from one patient treatment plan to another.	X	X			
<b>Assessment, Treatment, Treatment Progress, Outcome Decisions-Support Tools</b>						
76	The system must have a decision tree to facilitate clinical decisions and best practice with clinician rated content for medical care and behavioral healthcare.	X	X			
77	The system must have the capability for users to utilize an electronic clipboard/device (i.e. iPad) for capturing observations and data such as vital signs, safety checks, behavioral checks, and other specified data.	X	X			

78	The system must have the capability for users to roll information forward from note to note.	X	X			
79	The system must provide the option to carry forward review of systems, problem list, medication etc. from previous admission.	X	X			
80	The system must provide the flexibility to document conditions including expanding details (severity, location, modifiers, etc.) for each clinical finding.	X	X			
81	The system must have the capability to allow clinicians to use nomenclature to build their own templates without programming or complex forms.	X	X			
82	The system must have the capability to add comments and details to each clinical finding.	X	X			
83	The system must provide the users with the capability to document ordered diet, nutritional intake, and supplements.	X	X			
84	The system must provide the users with the ability to document a clinical visit using templates.	X	X			
85	The system must have the capability for users to document Restraint and Seclusion events.	X	X			
86	The system must have the capability to prompt and capture an electronic signature from patient for each specific restraint and seclusion event follow-up assessment.	X	X			
87	The system must provide the users with the ability to insert dictation markers into a note for insertion of transcription. The system must allow providers to build a note with a combination of structured data and transcription.	X	X			
88	The system must have an integrated transcription solution with macros, carbon copy and distribution features and full line count reporting.	X	X			
89	The system must have the capability to capture dictation on a mobile device and upload to the system.	X	X			
90	The system must have the capability for users to dictate while navigating through the chart.	X	X			
91	The system must have a dictation management system with intelligent routing and tracking of the status of each dictation job.	X	X			
<b>Medical Conditions</b>						
92	The system has the capability to track medical conditions and have appropriate alerts and reminders as needed.		X			

93	The system must have a patient education library for medical conditions.	X	X			
94	The system must provide the users with the ability to document education and makes available the specific information given to patient, in the record for review. (e.g. patient given a handout on diabetes, specific handout is available to link to the documentation).	X		X		
95	The system must provide the users the ability to document patient response to education.	X	X			
<b>Medications</b>						
96	The system must have an education material library for new medications and ability to document patient response	X	X			
97	The system must have an integrated evidence-based guidelines for medications.	X	X			
98	The system must have the capability to record and monitor medications using drug name, dosage, date range and prescribing physician.	X		X		
99	The system must have the capability for users to document non-medication items on the Electronic Medication Administration Record (e.g. dressing change).	X		X		
100	The system must have the capability for users to schedule medications for future administration. (e.g. medications given every 2 weeks or monthly).	X		X		
101	The system must have the capability for users to document lab results and vital signs within the electronic medication administration record.	X		X		
102	The system must have the ability to document and graphically trend response to medications, and lab results related to medications.	X		X		
103	The system must provide ability to create and display clinical alerts regarding drug interactions, contraindications, and allergies based on documented information within the electronic medical record.	X		X		
104	The system must have the ability to read bar code medications.	X		X		
105	The system must have the capability to store patient's preferred pharmacy phone number, fax number, and address.	X		X		
106	The system must have the capability to provide alerts for drug-disease incompatibility (ex: beta-blocker in asthma).	X		X		

107	The system must have the capability to allow providers to fax prescriptions to pharmacy using patient's stored pharmacy fax number.	X	X			
108	The system must have a prescription writing feature that records date, prescribing physician, type, dose, frequency, and directions.	X	X			
109	The system must have the capability to provide for plain paper prescription printing so that product is sufficient for patient to take to pharmacy.	X	X			
110	The system must have the capability to electronically send to pharmacies using fax and Script standard.	X	X			
111	The system must have a wireless device solution for prescription writing.	X	X			
112	The system must have the capability to track patients using specified medications.	X	X			
113	The system must provide functionality to customize formularies.	X	X			
114	The system must have the capability to search and report on prescribed medications in case of a drug recall.	X	X			
115	The system must have the capability to perform cost analysis of prescribed medications in comparison to formulary and generics.	X	X			
116	The system must have the capability to maintain medication lists based on current and historical medications for individual patients and hospital wide.	X	X			
117	The system must have the capability to provide alternative suggestions for medications.	X	X			
118	The system must provide a list of providers' most prescribed medications and dosages.	X	X			
119	The system must have the capability to perform population queries for decision support.	X	X			
120	The system must have the capability to create a rule to have reminders for staff regarding medication order renewals	X	X			
<b>Group Enrollment and Notes</b>						
121	The system must have the capability to add and delete patients from groups, print group schedules, as well as allowing the ability to view a group under the group leader's name with all patients listed and generate/print an outstanding group roster report.	X	X			

122	The system must provide the ability to users to document all group leaders and assistants for each specific group meeting.	X	X			
123	The system must have the capability to handle progress notes for group therapy services, such that individual notes and group notes can be done simultaneously.	X	X			
124	The system must have the ability to generate a group roster for patients assigned to a specific group, document group attendance, and print an attendance roster for each group session.	X	X			
<b>Track and Enforce Documentation Compliance</b>						
125	The system must have the capability to create automated tasks to remind clinicians of missing or additional documentation required. (e.g. monthly medication updates).	X	X			
126	The system must support compliance with business rules for components of the electronic medical records (such as required fields or forms) to help ensure users comply with organizational requirements.	X	X			
127	The system must have the capability to set rules to require specific data prior to completing documentation. (e.g. stops to not allow finishing a record until specific information is entered).	X	X			
128	The system must have a Clinical Documentation Improvement (CDI) component capable of providing guidelines and edits for concurrent chart review. It must also identify potential compliance risks, frequently missed concepts and issues with working DRGs and ICD9-CM and ICD10-CM codes or have the ability to interface with a CDI and encoder software.	X	X			
<b>Tracking</b>						
129	The system must provide users with the capability to look up location of active patients, residing unit, attending physician.	X	X			
130	The system should provide users with the ability to apply business rules to referral services to manage admissions to the organization's programs. (e.g. whose turn is next to utilize an available bed, court orders take precedence over some admissions).		X			

131	The system must provide the capability for users to record specific patient family members and other relationships, along with their relationship to the patient and multiple contact information.	X	X			
132	The system must have the capability to track date sensitive, program-specific outcome data. (e.g. group meetings, smoking, addiction, and other fields to be specified).	X	X			
133	The system must have the capability to trend program data utilizing a specified date range.	X	X			
134	The system should have the capability for tracking of patients who are in the community (Act 9-11 program, non-discharge, leave of absence, court visits, medical center visits).		X			
135	The system has the capability to integrate ASH's additional databases, such as Patient Tracking for Department of Disability Services, Aftercare, Group Attendance, and Forensic Waiting List.		X			
136	The system should have the ability to track internal and external referral sources.		X			
137	The system must have the ability to capture the primary insurer and indicate the primary insureds' relationship to the patient for billing purposes.	X	X			
138	The system must have the ability to record all assigned care providers and specific date of service. (e.g. primary clinician, temporary clinician, psychologist, social worker, nurse, aide, one on one attendant, recreation staff) and be date-of-service sensitive.	X	X			
<b>System Prompts</b>						
139	The system must have the capability to easily create prompts for user actions (e.g. incomplete data entry of required fields, deletion of data, system log-off warnings).	X	X			
140	The system must have the capability to easily identify required components / data elements in the EHR and send staff alerts for quality indicators (e.g. outcome measures, satisfaction surveys).	X	X			
141	The system must have the capability to display notification to provider of critical lab and other test results for immediate attention with a prioritization alert.	X	X			
<b>Discharge Planning</b>						

142	The system must have the capability to list community providers and their service area.	X	X			
143	The system must have the ability to document and track detailed discharge planning activities for discharges to specific service providers.	X	X			
144	The system has the capability to create custom reports based on discharges to specific service providers.		X			
<b>Medical Conditions and Metrics</b>						
145	The system must have the capability to link medical metrics and document results within a patient record. (e.g. Assessment for involuntary movement scale, weight, blood pressure, body mass index, sugar levels).	X	X			
146	The system must have the ability to display and manage health maintenance alerts including chronic disease reminders per patient.	X	X			
<b>DSM Diagnosis</b>						
147	The system has (or provides for) a problem list with most common problems available for each provider.		X			
148	The system must have the capability to add problems beyond an ICD list to a recognized standard nomenclature (e.g. SNOMEDCT a systematically organized computer process capable of collecting medical terms providing codes, terms, synonyms and definitions used in clinical documentation and reporting.)	X	X			
149	The system must have the capability to translate the diagnosis to current ICD codes as required by third-party payers and state reporting.	X	X			
150	The system must have the capability to review current DSM codes and make recommendations.	X	X			
151	The system must have the capability to view all diagnosis on one screen as appropriate to a patient.	X	X			
152	The system must be able to demonstrate the severity of the patient symptoms over time.	X	X			
153	The system must provide the ability to review ICD-9 and ICD-10 codes and make changes as necessary.	X	X			
154	The system must have the ability to review current DSM codes and make changes as necessary.	X	X			

155	The system must be DSM-V compliant but also have ability to store historical data that includes DSM IV (with Axes), if present.	X	X			
<b>Test Systems</b>						
156	The system must have full size configurable testing and training environments and databases separate from the live environment with a customizable database.	X	X			
<b>Reports</b>						
157	The system must have the capability to easily create custom reports using specified data elements without customized programming.	X	X			
158	The system must have the capability to create standard report templates.	X	X			
159	The system must have the capability to create graphs and charts to display data.	X	X			
160	The system must have the capability to create and distribute reports by user and team to identify incomplete files or requirements within the EHR.	X	X			
161	The system must be able to trend lab data for a specific patient over time.	X	X			
162	The system must be able to draw information from all databases maintained by the solution.	X	X			
163	The system must provide a data dictionary, schema and supporting documentation.	X	X			
164	The system should have a library of common reports available for use on the first day		X			
165	The system must have the ability to save and name certain report templates generated by the State users for re-use in the future.	X	X			
166	The system must be able to run reports in batches and at scheduled times.	X	X			
167	The system must provide an Admission/Discharge report and a Current Unit Census report. All Census reports should include length of stay.	X	X			
168	The system must have the ability to produce reports on case mix indices (such as viewing patients by Program, Age, Guarantor, Suicidal Tendency, 30, 60, 90 days, and other specified fields).	X	X			

## Tab 2: Patient Billing & Account Receivable System System Requirements

Directions: The table below provides the functional and technical requirements for the solution. Bidders must indicate with an 'X' in columns A, B, or C whether their solution supports the following requirements.

A = Currently Available in the Solution

B = Available via Contractor Modification or Development

C = Not Available in the Solution (neither A nor B). If C is selected, in the comments please propose an alternative (that meets the needs of the State) or an explanation of why it is acceptable to forego this requirement. A Prospective Contractor may not select C for a Mandatory Requirement.

Mandatory Requirements are noted by an "x" in the Mandatory Requirement column. A failure to satisfy a Mandatory Requirement shall result in the disqualification of a proposal.

### High Level Functional Requirements – Patient Accounting and Billing Component

No.	Function	Mandatory Requirement?	Availability			Comments
			A	B	C	
<b>Electronic Billing</b>						
1	The system must have the ability to produce electronic billing for all major guarantors (Medicare using PPS billing rules, Medicaid, Blue Cross Blue Shield, etc.), plus continued support for all required billing changes (due to Federal requirements, etc.). Bill frequency (i.e., weekly, monthly, semi-monthly, admit-thru-discharge, etc.) must be controlled by user and payer preference.	X	X			
2	At claims generation a minimum of two reports must be generated for each reimbursement - one report listing all patients billed and the second report listing all patients skipped, along with the reason why (i.e. bypassed due to PPS rules, missing data in a required field, etc.).	X	X			

3	The system must have the ability to concurrently bill using ICD-9, modifiers and ICD-10 diagnosis codes. The system must be able to report ICD-9, ICD-10, modifiers and CPT procedure codes as needed for institutional and professional claims.	X				
4	The system must be compliant with the Version 5010 transaction standard.	X	X			
5	The system must have the ability to report remarks on the electronic claim.	X	X			
6	The system must have the ability to balance bill and re-bill.	X	X			
7	The system must have the ability to refer an account to another user for action via an automated process, as well as follow up tracking regarding what action was taken, when and by whom.	X	X			
8	The system must have the capability to provide an audit trail that can capture date, timestamp (in military time) and user for all data transactions (creation, modification, view, deletion, auto log off & printing) with the ability for designated employees to easily access this data in a report format to comply with HIPAA requirements.	X	X			
9	The system must be able to report certain services as non-covered on 111, 112, and 117 bills.	X	X			
10	The system must support major billing formats, including but not limited to paper HCFA, paper UB, and paper Self Pay.	X	X			
11	The system must support 837P and 837I transactions.	X	X			
<b>Posting of Remittance Advice</b>						
12	The system must have the ability to electronically post Remittance Advices (RA).	X	X			
13	The system must provide for RAs and the ability to electronically back payments out for all major payers.	X	X			
14	The system must allow for manual posting of RAs and the capability to manually back payments out.	X	X			
<b>Entering / Posting of Charges</b>						
15	The system must have the ability to key multiple clients for one service on the same screen and to manually post charges.	X	X			
16	The system must provide immediate notification when a duplicate charge is keyed, along with the ability to override.	X	X			

17	The system must have the capability to handle a large volume of charges per patient per day (in excess of 20)	X	X			
18	The system must provide a flexible editing capability that will allow charges to be posted to accounts immediately after they are confirmed by staff. The confirmation rules will be set by the hospital. An example would be for charges to be allowed to be posted without waiting for a diagnosis to be entered.	X				
<b>Posting of Adjustments</b>						
19	The system must have the ability to do mass adjustment of charges electronically, as well as manual individual adjustments.	X	X			
20	The system must have the ability to handle a large number of Pharmacy adjustments.	X	X			
21	The system must have the ability to produce adjustment reports to be run by Activity Date, Date of Service, Adjustment Code, or Period Date to include patient level detail.	X	X			VIA STANDARD AND/OR END UER CREATED REPORTS.
<b>Transferring of Charges</b>						
22	The system must have the ability to electronically transfer a large volume of charges for one patient and a group of patients (multiple years' / tens of thousands worth).	X	X			VIA HL7 INTERFACE. THE LATER WOULD BE ADDRESSED WITH A CONVERSION OF CHARGES.
23	The system must have the ability to manually transfer individual charges.	X	X			
<b>Billing Modifiers and Codes</b>						
24	The system must have the ability to report condition codes, value codes, span codes, occurrence codes and corresponding dates, on all claims as needed and as outlined in CMS billing manuals.	X	X			
25	The system must have the ability to handle Modifiers as needed for billing (GP, GO, GN, KX, etc.).	X	X			
26	The system must have the ability to handle non-payable functional G-codes as needed for billing.	X	X			
<b>Medicare 117 Claims</b>						
27	The system must have the ability to bill Medicare 117 adjustment claims for long-term patients with the correct A3 benefits exhaust date and condition code.	X	X			

28	The system must also have the ability to report coinsurance days and corresponding value codes/amounts.	X	X			
29	The system must be able to produce 117 adjustment claims that will include dates of service that have already been billed and paid.	X	X			
<b>Medicare 110 Claims</b>						
30	The system must be able to produce Medicare 110 no-pay claims starting on the first non-benefit day.	X	X			
31	The system must be able to report the correct condition codes, span codes, value codes, occurrence codes and corresponding dates on all 110 no-pay claims.	X	X			
32	A claim must be generated every 60 days or until discharge.	X	X			
<b>Self-Pay Statements</b>						
33	The system must have the ability to generate a statement mailer for Self-Pay patients, as well as an itemized bill.	X	X			
34	The system must have the ability to run statements by sub-facility and/or program.	X	X			
35	The system must have the ability to Stop/Hold a statement mailer, as well as a method to release the Hold (this can be as simple as Hold Statement Y/N?).	X	X			
<b>Billing of Secondary Insurance</b>						
36	The system must have the ability to automatically bill paid claims to the next payer after one payer's payment is closed. This must include Medicaid crossover, Medicare Secondary Payer claims, and private insurance when it is secondary to Medicare.	X	X			
<b>Diagnosis Related Groups (DRGS)</b>						
37	The system must have the ability to store DRGs assigned by an industry standard Encoder (at a minimum 3M), as well as DRGs Medicare assigns.	X	X			
38	The system must have the ability to produce reports on DRGs.	X	X			VIA STANDARD AND/OR END USER CREATED REPORTS.
<b>Room and Board Charges</b>						
39	The system must have the ability to automatically generate Room and Board charges from census.	X	X			
<b>Patient Balances</b>						
40	The system must have the ability to view all patient reimbursements on one screen.	X	X			

<b>Collection Letters</b>						
41	The system must have a collection letter system that will generate letters only for discharged patients that have entire remaining balances in self-pay. For patients with insurance, the biller must have the ability to set a date to start collection letters after billing is completed.	X		X		
42	The system must provide the ability to modify the Collection Letter system to meet ASH needs (to bypass patients who have bad addresses, or balances in guarantors other than Self, or for whom ASH does not send statements, as well as holding the letter until a specific date).	X		X		
<b>Billing Reports</b>						
43	The system must have the ability to run reports, both detailed and summarized, based on Revenue codes and/or program codes and/or sub-facility and/or reimbursement and/or CPT code and/or modifiers by activity date or date of service or period date and/or by active and discharged patients.	X		X		VIA STANDARD AND/OR END USER CREATED REPORTS.
44	The system must have the capability to generate reports both at the patient level and as summaries.	X		X		VIA STANDARD AND/OR END USER CREATED REPORTS.
45	The system must have the capability to generate Aged Trial Balance Reports, Cost Report, Quarterly Discharge Report for Department of Health, and Monthly Detailed Demographic Report for the Division of Behavioral Health.	X		X		VIA STANDARD AND/OR END USER CREATED REPORTS.
46	The system must have the ability to generate Aged Trial Balance Reports for active and discharged patients.	X		X		VIA STANDARD AND/OR END USER CREATED REPORTS.
47	The system must be capable of running billing reports by reimbursement, to include amount billed and amount paid.	X		X		VIA STANDARD AND/OR END USER CREATED REPORTS.
48	The system must be able to run reports in batches and at scheduled times.	X		X		
<b>Insurance / Guarantor</b>						
49	The system must have the capability to rank insurances as "Primary, Secondary, Tertiary," and more.	X		X		
50	The system must have the capability to allow input of full insurance contact information, not just Identification Number.	X		X		
51	The system must have the capability to store insurance denials and provide the ability to run reports against that data.	X		X		

52	The system must have the capability to enter Prior Authorizations for insurance companies so that the Prior Authorizations appear as required on the electronic and/or paper claims as applicable.	X	X			
<b>Service / Charge Master</b>						
53	The system must have a Charge Description Master, including medications.	X	X			
<b>Closing of Accounting Period</b>						
54	The system must have the ability to close the accounting period each month, locking the data so that it can no longer be modified.	X	X			
55	The system Reopening of a Closed Period must require a specialized security level.	X	X			
56	The system must produce monthly closeout reports that will provide charge /adjustment /payment information that can be reported to other state agencies.	X	X			
<b>Locking Records</b>						
57	The system must have the ability to allow multiple users to access / update a record at the same time. They system must prevent users from updating/editing the same section of a record at the same time.	X	X			
<b>Multiple Sessions</b>						
58	The system must allow specified users to have multiple sessions open at once.	X	X			
<b>Encoders</b>						
59	The system must meet industry standards and interface with the Encoder (at a minimum 3M).	X	X			
<b>Group Charges</b>						
60	The system must have the capability to add and delete patients from groups, print group schedules, as well as allowing the ability to view a group under the group leader's name with all patients listed and generate/print an outstanding group roster report.	X	X			
61	The system must have the capability to produce a report of unconfirmed services for groups.	X	X			
62	The system must have the capability to automatically remove patients from future groups when discharged.	X	X			

<b>Ancillary Billing</b>					
63	The system must have the capability to evaluate - patients with Medicare Part B, when Medicare Part A benefits exhaust, the system shall be able to submit identified services as ancillary claims to Medicare (i.e. certain lab charges, x-ray charges and therapy charges).	X	X		
<b>Test Systems</b>					
64	The system must have the ability to easily copy software programs, customizable configurations / screens, letters, forms, other items to be specified and data from the live environment and database into a test, training environment and databases.	X	X		
<b>Other Systems</b>					
65	The system must have the capability to incorporate additional Access Databases (such as Patient Tracking for Department of Disability Services, Aftercare, Act 9-11 Program, Forensic Waiting List, and Group Attendance).	X	X		

# **Template T-2**

## **Prospective Contractor Experience/References**

**Response Template**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0 Prospective Contractor Organization Overview .....</b>	<b>3</b>
1.1 Subcontractor Organization Overview (only if applicable).....	4
<b>2.0 Prospective Contractor Corporate Background and Experience .....</b>	<b>5</b>
2.1 Prospective Contractor’s Corporate Background.....	5
2.2 Prospective Contractor’s Experience with Acute Psychiatric Facilities.....	5
2.3 EHR and Billing System Implementations/References .....	7
2.4 Existing Business Relationships with the State of Arkansas.....	18
<b>3.0 Financial Stability.....</b>	<b>18</b>
3.1 Financial Capacity.....	18

## 1.0 Prospective Contractor Organization Overview

The Prospective Contractor should include details of their experience in this section. The details should include organization overview; corporate background; understanding of the relevant domain; and experience.

**Instructions:** Provide all relevant information regarding the general profile of the Prospective Contractor. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 1. Prospective Contractor Organization Profile**

PROSPECTIVE CONTRACTOR ORGANIZATION PROFILE	
<b>Company Name</b>	Medsphere Systems Corporation
<b>Name of Parent Company</b>	N/A
<b>Industry (NAICS) (North American Industry Classification System)</b>	541512, 541519, 541611 and 541618
<b>Arkansas Economic Development Commission Minority Business Certification Number (if applicable)</b>	N/A
<b>Minority Business Number (if applicable)</b>	DUNS – 118289292 Contract Number - GS-35F-0240R
<b>Number of Years in Business</b>	15 years
<b>Number of Years Prospective Contractor has been Providing the Type of System and Services Specified in the RFP</b>	15 years
<b>Number of Employees Providing the Type of Work Specified in the RFP</b>	217
<b>Headquarters in the USA</b>	Carlsbad, CA
<b>Locations in the USA</b>	San Francisco, CA, Cleveland, OH, St. Louis, MO, Richmond, TX
<b>Office Servicing this Account</b>	Carlsbad, CA

## 1.1 Subcontractor Organization Overview (only if applicable)

The Prospective Contractor should only complete this section if proposing subcontractors as part of the Proposal.

**Instructions:** Provide all relevant information regarding the profile of each subcontractor. This section should be duplicated in its entirety for each subcontractor included. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 2. Subcontractor Organization Profile**

SUBCONTRACTOR ORGANIZATION PROFILE	
Subcontractor Name	N/A
Type of Legal Entity	
Headquarters Location	
Date Founded	
Services to be Provided	
Experience of Subcontractor in Performing the Services to be Provided	
Brief Description and Number of Projects that Prospective Contractor has Partnered with this Subcontractor on	
Locations Where Work is to be Performed	

## 2.0 Prospective Contractor Corporate Background and Experience

### 2.1 Prospective Contractor's Corporate Background

The Prospective Contractor should describe its corporate background to provide context of the organization that will be providing the products and services in this RFP.

**Instructions:** Describe the Prospective Contractor's corporate background as it relates to projects similar in scope and complexity to the project described in this RFP.

Medsphere Systems Corporation, founded in 2002, is an organization of committed clinical and technology professionals working to make quality healthcare IT solutions accessible to organizations of virtually any size, shape or budget. Medsphere's [OpenVista®](#) is an acute and behavioral health-oriented portfolio of clinical products and services. The Medsphere team sees the patient as the ultimate beneficiary of broadly adopted healthcare IT. Ultimately, a fully interoperable, nationwide healthcare IT system enables better patient care and gives America a leg up on chronic social problems like substance abuse and homelessness. We cannot succeed in realizing the goal of quality care for all citizens by keeping data in silos and failing to enable communication among disparate systems.

With these goals in mind, Medsphere has recently expanded to incorporate solutions that meet the needs of healthcare providers across the continuum of care.

Medsphere's [Government Services Division](#) applies VA VistA (the foundation of OpenVista) expertise to development and testing projects for VA and the Indian Health Service (IHS), as well as OpenVista enhancement. Medsphere's [ChartLogic](#) division enables better ambulatory care via physician practice EHR, revenue cycle management (RCM) and practice management systems and services. Using a vendor-independent approach to helping hospitals solve critical challenges, the [Phoenix Health Systems](#) division provides a host of healthcare IT services, including systems implementation, compliance project management, service desk, end-user device management, infrastructure support, application management and IT leadership. Medsphere's [Stockell Division](#) provides enterprise-grade Revenue Cycle Management to our customers. Stockell also employs an independent approach to helping hospitals solve critical challenges revolving around all aspects related to billing and revenue.

### 2.2 Prospective Contractor's Experience with Acute Psychiatric Facilities

The Prospective Contractor should describe its experience with implementing systems in acute psychiatric facilities.

**Instructions:** Describe the Prospective Contractor's experience with implementing systems in acute psychiatric facilities. The Prospective Contractor should provide detailed information regarding past projects, philosophy, and how they can leverage their experience to this project.

OpenVista is a fully integrated acute behavioral health EHR. Over the past 17 years, we have invested significant R&D dollars modernizing and enhancing OpenVista for acute behavioral health providers by building in valuable functions, including charting templates, a Multi-Disciplinary Treatment Plan module, group notes and automated discharge summaries.

OpenVista gives providers the flexibility and control to accommodate all operational needs. Best practices developed in collaboration with our customers are recommended to be standardized across the State.

Medsphere has implemented over many acute behavioral health sites. We recognize that the needs for a behavioral health site are quite different from our dozens of acute care sites. It starts with realizing that care plans are different from the traditional plans for acute care. OpenVista allows clinicians the ability to utilize Multi-Disciplinary Treat Plans designed in collaboration with our customers specifically for behavioral health along with group notes and automated discharge summaries.

Medsphere's implementation team understands the needs for behavioral health sites. Our team starts with the assessing the needs via an Enterprise Assessment (EA) and workflow needed to deliver the right solution to complement the top-notch patient care received by patients today. This information controls the configuration of the system.

The experience of the Medsphere team is extensive. The sites implemented to date include state, local, federal and international hospitals and facilities. Each site implemented allows our respective delivery teams to grow by gathering more knowledge, which we share and offer as best practice to our new sites. Our goal is not only to share but also to work collaboratively because we know that behavioral health is different and has unique and specific needs and challenges.

As quoted by Dr. Sigurd Ackerman, CEO of Silver Hill, *"In fewer than six months with OpenVista, we have vastly increased our speed in sharing comprehensive patient information with all members of the treatment team. The adoption of OpenVista by physicians and other clinical providers is almost universal across our facility, enabling a cohesive and integrated digital care environment in which patients receive the highest quality of care."*

Medsphere partners with many acute and behavioral health hospitals including Silver Hill hospital (SHH). The complete OpenVista BH (behavioral health) solution minus radiology was implemented at Silver Hill. Pharmacy is an outsourced service that uses OpenVista Pharmacy and operates onsite. The ADT & financial solutions are provided by Allscripts and interfaced to OpenVista. Additional interfaces were added as post live services. SHH collaborated with Medsphere on the development and deployment of a Multi-Disciplinary Treatment Plan (MDTP) solution with a focus on behavioral health requirements.

Silver Hill Hospital is a nationally recognized, non-profit hospital—129 licensed beds, 275 users, 550-600 patients in FY 2013 – specializing in the treatment of psychiatric and addictive disorders. Silver Hill offers [adolescent](#) and [adult](#) patients a broad and comprehensive range of [programs](#), including both inpatient and extended on-site transitional living programs.

## 2.3 EHR and Billing System Implementations/References

The State has established mandatory qualifications that must be met to submit a proposal as stated in Template T-1 of the RFP.

To satisfy the mandatory qualifications, include at least three (3) references of projects which are of similar size, complexity and scope to this engagement. Each reference chosen should clearly demonstrate the Prospective Contractor’s ability to perform the Scope of Work described in the RFP. One of the references (prime contractor) **must** be from an acute psychiatric facility. The State strongly prefers references that are currently using the system.

**Instructions:** Provide the information requested in the Tables below. The Tables may be replicated if the Prospective Contractor would like to include more than three (3) references. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 3.**

Reference 1

PROSPECTIVE CONTRACTOR INFORMATION	
Name: Medsphere Systems Corporation	Contact/Name: Paul Corbett
Project Dates: August 2006 to Present	Contact Phone: 760.529.2295
CUSTOMER INFORMATION	
Customer Organization: WVDHHR Bureau for Behavioral Health and Health Facilities – (7 sites)	Customer Contact Name: Damon Iarossi
	Customer Phone: 304.356.4832
Customer Address:  350 Capitol Street, Room 350 Charleston WV 25301	Customer Email: <a href="mailto:Damon.E.Iarossi@wv.gov">Damon.E.Iarossi@wv.gov</a>
	Customer Fax:
PROJECT INFORMATION	
Total Contractor Staff:	17
Project Objectives: Medsphere was asked to implement OpenVista at seven sites in the state of West Virginia which included 6 behavioral health sites and one acute care site. Total bed count is now over 900.	

Project Description: Medsphere implemented OpenVista at all seven sites which includes physician order entry, nursing, pharmacy, laboratory, medical record and dietary. Radiology was implemented at the acute care site.	
Prospective Contractor's Involvement: Medsphere staff has implemented OpenVista at all seven sites.	
Project Benefits: <ul style="list-style-type: none"> <li>• Paper to automation</li> <li>• Physician Order Entry</li> <li>• Efficiency in all area</li> <li>• Improvement in patient care</li> </ul>	
<b>KEY PERSONNEL ASSIGNED TO PROJECT</b>	
Name: Harry Gibson	Role: Sr. Director, Implementation/Project Manager
Name: Loyd Bittle	Role: Technical Consultant
Name: Jeremy Coleman	Role: Technical Consultant
Name: Carolyn Kron	Role: Technical Consultant
Name: Faune Salone	Role: HIMIS/PIMS Consultant
Name: Robert Budman	Role: Clinical Consultant
Name: Karen Small	Role: Clinical Consultant
Name: Sheran Lewis	Role: Clinical Consultant
Name: Jan Kesler	Role: Clinical Consultant
Name: Nigel Keep	Role: Clinical Consultant
Name: Joy Holman	Role: Laboratory Consultant
Name: Benee Ketchum	Role: Radiology Consultant
Name: Teresa Sawyer	Role: Radiology Consultant
Name: Ali Lees	Role: Nutrition Consultant
Name: Roy Gryskevich	Role: Pharmacy Consultant
Name: Larry Washington	Role: Pharmacy Consultant
Name: Laurie Larson	Role: Pharmacy Consultant
<b>PROJECT MEASUREMENTS</b>	
Operating Budget of Organization:	# of Employees and External Users:

State of Arkansas DHS-ASH  
 EHR and Billing System  
 RFP #: SP-18-0034  
 Template T-2 – Prospective Contractor Experience/References

Initial contract value:		Actual contract value:			
Reason(s) for Change in contract value:					
Estimated Start & Completion Dates		From:	August 2006	To:	May 2008
Actual Start & Completion Dates		From:	August 2006	To:	May 2008
Reason(s) for Difference Between Estimated and Actual Dates: None. Above are implementation project dates; still contracted with Medsphere and highly referenceable.					
If the Prospective Contractor performed the work as a subcontractor, describe the scope of subcontracted activities: N/A					

Reference 2

PROSPECTIVE CONTRACTOR INFORMATION	
Name: Medsphere Systems Corporation	Contact/Name: Paul Corbett
Project Dates: April 2009 to February 2010	Contact Phone: 760.529.2295
CUSTOMER INFORMATION	
Customer Organization: Silver Hill Hospital	Customer Contact Name: Colin Samuelson
	Customer Phone: 203.801.2266
Customer Address: 208 Valley Road New Canaan, Connecticut 06840	Customer Email: <a href="mailto:csamuelson@silverhillhospital.org">csamuelson@silverhillhospital.org</a>
	Customer Fax:
PROJECT INFORMATION	
Total Contractor Staff:	12
Project Objectives: The objective was to implement OpenVista hospital wide.	

Project Description: Medsphere implemented OpenVista hospital wide. Physician order entry, nursing, pharmacy, laboratory, medical records and dietary.	
Prospective Contractor's Involvement: Medsphere was responsible for the entire implementation of this project.	
Project Benefits: <ul style="list-style-type: none"> <li>• Improve patient care</li> <li>• Physician order entry</li> <li>• Implementation of Multi-Disciplinary Treatment Plan</li> <li>• Efficiencies</li> <li>• Documentation for billing services</li> </ul>	
<b>KEY PERSONNEL ASSIGNED TO PROJECT</b>	
Name: Harry Gibson	Role: Sr Director, Implementation/Project Manager
Name: Loyd Bittle	Role: Technical Consultant
Name: Jeremy Coleman	Role: Technical Consultant
Name: Alli Lees	Role: HIMIS/PIMS/Nutrition
Name: Karen Small	Role: Clinical Consultant
Name: Julie Gibson	Role: Clinical Consultant
Name: Sheran Lewis	Role: Clinical Consultant
Name: Jan Kelser	Role: Clinical Consultant
Name: Nigel Keep	Role: Clinical Consultant
Name: Joy Holman	Role: Laboratory Consultant
Name: Roy Gryskovich	Role: Pharmacy Consultant
Name: Laurie Larson	Role: Pharmacy Consultant
<b>PROJECT MEASUREMENTS</b>	
Operating Budget of Organization:	# of Employees and External Users:
Initial contract value:	Actual contract value:
Reason(s) for Change in contract value:	

State of Arkansas DHS-ASH  
 EHR and Billing System  
 RFP #: SP-18-0034  
 Template T-2 – Prospective Contractor Experience/References

Estimated Start & Completion Dates	From:	April 2009	To:	February 2010
Actual Start & Completion Dates	From:	April 2009	To:	February 2010
Reason(s) for Difference Between Estimated and Actual Dates: None. Above are implementation project dates; still contracted with Medsphere and highly referenceable.				
If the Prospective Contractor performed the work as a subcontractor, describe the scope of subcontracted activities: N/A				

Reference 3

PROSPECTIVE CONTRACTOR INFORMATION	
Name: Medsphere Systems Corporation	Contact/Name: Paul Corbett
Project Dates: May 2013 to April 2014	Contact Phone: 760.529.2295
CUSTOMER INFORMATION	
Customer Organization: IntraCare North Hospital	Customer Contact Name: Phyllis Qualls
	Customer Phone: 832.605.8264
Customer Address: 5500 Guhn Road, Suite 200 Houston TX 77040	Customer Email:
	Customer Fax: 713.974.4483
PROJECT INFORMATION	
Total Contractor Staff:	16
Project Objectives: The objective was to implement OpenVista to provide automated clinical services to their behavioral health facilities, both inpatient and outpatient, to transition them from paper process.	
Project Description: Medsphere implemented OpenVista inpatient and outpatient at their facilities. Physician order entry, nursing, pharmacy, laboratory, medical records and dietary were implemented.	

Prospective Contractor's Involvement: Medsphere completed the entire implementation of OpenVista.	
Project Benefits: <ul style="list-style-type: none"> <li>• Paper to automation</li> <li>• Physician order entry</li> <li>• Improvement of patient care</li> <li>• Improves efficiencies</li> </ul>	
<b>KEY PERSONNEL ASSIGNED TO PROJECT</b>	
Name: Harry Gibson	Role: Sr. Director, Implementation
Name: Holly Robinson	Role: Project Manager
Name: Jeremy Coleman	Role: Technical Consultant
Name: Brent Freeman	Role: Technical Consultant
Name: Randy Nickel	Role: Technical Consultant
Name: Terri Kozlowski	Role: Technical Consultant
Role: Clinical Consultant	Role: Clinical Consultant
Name: Diane Wiegmann	Role: Clinical Consultant
Name: Sheran Lewis	Role: Clinical Consultant
Name: Jan Kesler	Role: Clinical Consultant
Name: Joy Holman	Role: Laboratory Consultant
Name: David Willoughby	Role: Laboratory Consultant
Name: Roy Gryskovich	Role: Pharmacy Consultant
Name: Larry Washington	Role: Pharmacy Consultant
Name: Betsy DeMatto	Role: Dietary Consultant
Name: Richard Lewis	Role: HIMIS/PIMS Consultant
<b>PROJECT MEASUREMENTS</b>	
Operating Budget of Organization:	# of Employees and External Users:
Initial contract value:	Actual contract value:
Reason(s) for Change in contract value:	

Estimated Start & Completion Dates	From:	May 2013	To:	April 2014
Actual Start & Completion Dates	From:	May 2013	To:	April 2014
Reason(s) for Difference Between Estimated and Actual Dates: None. Above are implementation project dates; still contracted with Medsphere and highly referenceable.				
If the Prospective Contractor performed the work as a subcontractor, describe the scope of subcontracted activities: N/A				

### 2.3.1 Subcontractor References (If Applicable)

If the Proposal includes the use of subcontractor(s), include at least three (3) references from scopes of work equivalent to the scope of work proposed of the subcontractor in the Proposal. Each reference chosen should clearly demonstrate the subcontractor’s ability to perform the relevant portion of work requested in the RFP.

**Instructions:** Provide the information requested in the Tables below. Replicate the Table if more than three (3) references are desired. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 4.**

Reference 1

SUBCONTRACTOR INFORMATION	
Subcontractor Name: N/A	Subcontractor Contact/Name:
Project Dates:	Subcontractor Contact Phone:
CUSTOMER INFORMATION	
Customer Organization:	Customer Contact Name:
	Customer Phone:
Customer Address:	Customer Email:
	Customer Fax:
PROJECT INFORMATION	

Project Objectives:			
Project Description:			
Subcontractor's Involvement:			
Project Benefits:			
SUBCONTRACTOR KEY PERSONNEL ASSIGNED TO PROJECT			
Name: (Add more rows as needed)		Role: (Add more rows as needed)	
Name: (Add more rows as needed)		Role: (Add more rows as needed)	
PROJECT MEASUREMENTS			
Operating Budget of Organization:		# of Employees and External Users:	
Estimated One-time costs:		Actual One-time costs:	
Reason(s) for Change in One-time cost:			
Original Value of Subcontractor's Contract:		Actual Total Contract Value:	
Reason(s) for Change in Value:			
Estimated Start & Completion Dates:		From:	To:
Actual Start & Completion Dates:		From:	To:

Reason(s) for Difference Between Estimated and Actual Dates:
--------------------------------------------------------------

Reference 2

SUBCONTRACTOR INFORMATION	
Subcontractor Name: N/A	Subcontractor Contact/Name:
Project Dates:	Subcontractor Contact Phone:
CUSTOMER INFORMATION	
Customer Organization:	Customer Contact Name:
	Customer Phone:
Customer Address:	Customer Email:
	Customer Fax:
PROJECT INFORMATION	
Project Objectives:	
Project Description:	
Subcontractor's Involvement:	
Project Benefits:	
SUBCONTRACTOR KEY PERSONNEL ASSIGNED TO PROJECT	
Name: (Add more rows as needed)	Role: (Add more rows as needed)

State of Arkansas DHS-ASH  
 EHR and Billing System  
 RFP #: SP-18-0034  
 Template T-2 – Prospective Contractor Experience/References

Name: (Add more rows as needed)		Role: (Add more rows as needed)	
<b>PROJECT MEASUREMENTS</b>			
Operating Budget of Organization:		# of Employees and External Users:	
Estimated One-time costs:		Actual One-time costs:	
Reason(s) for Change in One-time cost:			
Original Value of Subcontractor's Contract:		Actual Total Contract Value:	
Reason(s) for Change in Value:			
Estimated Start & Completion Dates:		From:	To:
Actual Start & Completion Dates:		From:	To:
Reason(s) for Difference Between Estimated and Actual Dates:			

Reference 3

<b>SUBCONTRACTOR INFORMATION</b>	
Subcontractor Name: N/A	Subcontractor Contact/Name:
Project Dates:	Subcontractor Contact Phone:
<b>CUSTOMER INFORMATION</b>	
Customer Organization:	Customer Contact Name:
	Customer Phone:
Customer Address:	Customer Email:
	Customer Fax:
<b>PROJECT INFORMATION</b>	

Project Objectives:			
Project Description:			
Subcontractor's Involvement:			
Project Benefits:			
<b>SUBCONTRACTOR KEY PERSONNEL ASSIGNED TO PROJECT</b>			
Name: (Add more rows as needed)		Role: (Add more rows as needed)	
Name: (Add more rows as needed)		Role: (Add more rows as needed)	
<b>PROJECT MEASUREMENTS</b>			
Operating Budget of Organization:		# of Employees and External Users:	
Estimated One-time costs:		Actual One-time costs:	
Reason(s) for Change in One-time cost:			
Original Value of Subcontractor's Contract:		Actual Total Contract Value:	
Reason(s) for Change in Value:			
Estimated Start & Completion Dates:			
	From:		To:
Actual Start & Completion Dates:			
	From:		To:

Reason(s) for Difference Between Estimated and Actual Dates:

## 2.4 Existing Business Relationships with the State of Arkansas

**Instructions:** Describe any existing or recent (within the last five (5) years) business relationships the Prospective Contractor or any of its affiliates and proposed subcontractors has with the State.

<Response>

**None.**

## 3.0 Financial Stability

### 3.1 Financial Capacity

Prospective Contractor's should submit an Independent Auditor's Report and audited financial statements, including any management letters associated with the Auditor's Report with the applicable notes, OMB A-133 Audit (if conducted) for the last fiscal year (an Audit Receipt Letter from Contract Support for each year is acceptable), balance sheet, statement of income and expense, statement of changes in financial position, cash flows and capital expenditures.

Most current financial statements (may be unaudited) should be provided as part of the Technical Proposal. If the Prospective Contractor has not had an audit conducted within the past fiscal year, then the Prospective Contractor should provide the following un-audited financial statements for the last fiscal year:

- a) State of Financial Position (Balance Sheet)
- b) Statement of Activities (Income Statement)
- c) Statement of Cash Flows

If the Prospective Contractor is a corporation that is required to report to the Securities and Exchange Commission (SEC), it should submit its most recent SEC Forms 10K, Annual Reports. If any change in ownership is anticipated during the twelve (12) months following the Proposal due date, the Prospective Contractor should describe the circumstances of such change and indicate when the change is likely to occur.

Additional information may be requested regarding financial stability for the Prospective Contractor and any subcontractors proposed.

**Instructions:** Supply evidence of financial stability sufficient to demonstrate reasonable stability and solvency appropriate to the requirements of this procurement.

<Response>

In 2015 and 2016, Medsphere acquired three firms- Phoenix Health Systems, MNS/NET and ChartLogic. Also, we just closed (2017) on the acquisition of Stockell Healthcare. Stockell and their flagship Revenue Cycle Management (RCM) solution have been integrated with OpenVista for years. Our companies have also been delivering our integrated EHR/RCM to many of our customers over the years. The bottom line is that our collective financials statements are not yet combined into one nor audited.

Medsphere is financially secure and well positioned for growth. Medsphere follows U.S. GAAP for its external financial reporting purposes. However, as most investment analysts acknowledge, U.S. GAAP accounting does not properly reflect the underlying financial economics for those companies who distribute software under a Subscription or Software-as-a-Service (SaaS) Model.

Under GAAP, if a company bundles all software, services, implementation, training, upgrades, maintenance, etc., under one monthly fee, then there is no recognition of revenue of any kind until all services have been delivered and the recipient of the services is running the software and services in a live production environment. As Medsphere bundles all services under our monthly Subscription Services, under GAAP rules, Medsphere does not recognize any revenue until after a client goes live on our system. Then the total contract value is amortized over the term of the contract from that point on.

Therefore, what is not reflected anywhere on the Medsphere audited financial statements is the fact that Medsphere has over \$70 million of unbilled, unpaid, unrecognized contractual obligations from existing clients to remit \$70 million of cash to Medsphere which Medsphere will recognize as revenue in the future. If Medsphere did not distribute our software and services under a Subscription model, much of that revenue would be currently reflected on our income statement and the associated future payment obligations would be reflected on our balance sheet as receivables. This incremental information is considered by investment analysts to be critical to understanding the Medsphere financial statements.

**Template T-5**  
**Requirements Approach**  
**Response Template**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0</b>	<b>Minimum System Compliance .....</b>	<b>3</b>
<b>2.0</b>	<b>System Design .....</b>	<b>7</b>
2.1	Electronic Health Record.....	7
2.2	Patient Accounting and Billing .....	19
<b>3.0</b>	<b>Hardware Requirements .....</b>	<b>26</b>
<b>4.0</b>	<b>User Management .....</b>	<b>30</b>
<b>5.0</b>	<b>System Interfaces and Integration.....</b>	<b>33</b>
<b>6.0</b>	<b>Conversion of Existing Information.....</b>	<b>39</b>
<b>7.0</b>	<b>Ongoing System Maintenance and Updates.....</b>	<b>42</b>
<b>8.0</b>	<b>Reporting .....</b>	<b>55</b>
<b>9.0</b>	<b>Privacy and Security .....</b>	<b>56</b>
<b>10.0</b>	<b>Training and Change Management.....</b>	<b>56</b>
<b>11.0</b>	<b>Ownership of Data and, Disaster Recovery and Business Continuity .....</b>	<b>67</b>
<b>12.0</b>	<b>Optional Services (Not Evaluated).....</b>	<b>68</b>

## 1.0 Minimum System Compliance

Describe your company's choice of one fully integrated EHR and Patient Billing and Accounts Receivable system or two interfaced EHR and Patient Billing and Accounts Receivable systems.

If your company chooses two integrated systems, describe your company's plan to minimize visible interfaces and provide end users with a seamless, single look and feel.

<Response>

Medsphere proposes our one fully integrated EHR and Patient Billing and Accounts Receivable system.

Describe and provide evidence of your system's compliance/certification with Meaningful Use Stage 1 and 2 requirements. Additionally, the Prospective Contractor should provide their plans and a timeline for attaining Stage 3 certification.

<Response>

Medsphere's OpenVista CareVue electronic health record, version 1.7, received complete 2014 edition EHR certification (certificate number IG-2449-14-0012) for the inpatient setting from InfoGard on April 8, 2014.

This **Complete EHR** is **2014 Edition** compliant and has been certified by ONC-ACB in accordance with the applicable certification criteria adopted by the Secretary of Health and Human Services.

The public report for this certification can be found here:

<http://infogard.com/images/cms/files/14-2449-R-0011-PRI%20V1.0%20Medsphere%20PTR.pdf>

This **Complete EHR** is **2015 Edition** compliant and has been certified by ONC-ACB in accordance with the applicable certification criteria adopted by the Secretary of Health and Human Services.

The public report for this certification can be found here:

<https://chpl.healthit.gov/#/product/8884>

Describe how your organization will ensure that the system proposed will remain compliant with HIPAA, Joint Commission, CCHIT, CMS, state, and federal rules and regulations.

<Response>

First, hardware housing the software is located in a secured cloud datacenter and dedicated to the customer. Disks are encrypted at the operating system and SAN level. Hardware housing development and QA environments is housed in a secure, locked center, which is located in a secure building and in a secure Medsphere office (headquarters). OpenVista Cloud is compliant with and supports both HIPPA and HITECH. OpenVista itself provides multi-layered security levels including network login, server/GUI login, and database; configured to division access patient access, option access. Every employee at Medsphere is required to take courses on privacy, security and policies to ensure hardware, software and customer data is secure. If

employee fails to pass comprehensive tests (including HITECH and HIPPA), they are not employable by Medsphere.

Not later than every quarter, we provide updates and upgrades to OpenVista. These updates/upgrades include compliance releases as described in this requirement. Upgrades and updates are included as a part of the paid subscription. These updates and upgrades could also be fixes, approved roadmap items, scheduled releases from ported source, etc. There is no interruption to customer support as these are two different, yet coordinated divisions within Medsphere.

Describe how your system(s) allow ASH to export any and all data elements and allow for data portability through industry standard access protocols.

- a. Provide a file type of the export be readable in Microsoft Excel unless the volume of data exceeds Excel's capacity.

<Response>

The user, in an effort to generate specific reports, merely chooses a course of action, selects the appropriate options, and answers the questions posed by our solution's file manager, which then creates the computer programming needed to carry out the desired plan. Filemanager runs in any American National Standards Institute (ANSI) environment. The majority of OpenVista clinical data is stored in Filemanager files and is retrieved and accessed through Application Programmer Interfaces (API) and user interfaces.

Filemanager also facilitates data access from outside applications. The Database Server (DBS) API enables access to data. Filemanager takes advantage of the database management system API to encapsulate the details of retrieving, validating, and updating data within the CareVue components. Filemanager's import and export tools support data interchange with outside applications such as PC spreadsheets and database programs.

Our database projection tool will allow users to view the and export data via SQL / XML The utilization of standard Java Database Connectivity (JDBC) interfaces also enables commercial off-the-shelf (COTS) reporting tools and data warehousing through Structured Query Language (SQL); this greatly expands OpenVista's ability to provide our customers with analysis tools, metrics, and operational reporting capabilities that exceed stated requirements.

Describe your incident reporting system and how it can meet, at a minimum, the requirements set forth in the RFP.

The discussion may include appropriate screen shots and other descriptive materials in order to fully explain the product.

<Response>

OpenVista utilizes an integrated database for all clinical applications. Each application works in concert with a set of shared data, like orders, patients, etc. These applications are all utilizing the same data, thus all views are looking at real-time results and all reports/analytics including incident reports across our solution can return data from all applications. For example,

- OpenVista enhances third-party reimbursement by providing ready access to clinical information (individual encounter notes, progress and discharge notes, outcome

measurements, case management information, alerts, etc.), comprehensive assessments, treatment plans, suicide incident reports, and documentation of administrative activities.

- Order management and results reporting functionalities that provide faster turnaround times and increase access, at the point of care, to vital exam and test results, e.g., toxicology lab results and abnormal or critical values
- Claim Status Report, Rejection Analysis, Paper Claims, Secondary Claims Processing, Electronic Remittance Advice, Patient Statements, Transaction Summaries of Clearing House Activity, Payment Processing, Real Time RCM Reporting, Productivity Analytics, Overview: Visits, HCPCS/ICD, Insurance, and Demographics.

Administrators can also track system usage and any related incidents through a variety of security reports to include support for both internal or external audits including those related to incidents. Auditing can track system usage through a variety of security reports such as the following:

Database files and fields:

- Review Data Field Audit Trails
- Review Data Dictionary Audit Trails
- Track Data Field Audits
- Track Data Dictionary Audits

General user security reports:

- List Users Report
- User Status Report
- User Inquiry Report
- Finder User Report; Access Level Security Report

User file access security reports:

- List Access by File
- List File Access for Multiple Users

EHR user access security reports:

- Old Access and Verify Codes
- Sign On Log
- Failed Access Attempts
- Unauthorized Access Attempts

Any data load errors or duplicate patient errors are also captured and reported in an exception incident log. There are dozens of usage/tracking reports including:

- IRT (Incomplete Record Tracking) module will allow for review of all incomplete documentation. Authorized users that have been granted the appropriate security can move incomplete records from one user to another to allow for completion.
- Physician deficiency / incidents report
- Med errors and tracking these costs

There is inherent logic built into many of the over 300 standard reports that check for inaccuracies related to parameter misses and check sums, etc. We also set up reports to be

used as baseline reports to test and validate against. Again, setting up baseline quality, incident focused and utilization among other types of reports, our Informatics-based reports feature a full array of leading edge out-of-the-box business intelligence executive dashboards, dynamic work lists, and reports that enable key decision makers once set-up at hospitals to easily and effectively analyze and act upon crucial patient service and financial data. Informatics reports also allows OpenVista users to seamlessly collect and view key statistical and trending data to make the business decisions.

Describe the proposed eMAR/Pharmacy solution. Description should include whether or not the Prospective Contractor will be interfacing with ASH's existing eMAR/Pharmacy solution or proposing an alternative solution (i.e. built in or third party). Prospective Contractor's proposing an alternative option should also describe their ability to interface with the State's current solution as preferred in Section 2.7.2.E.

<Response>

OpenVista includes a fully integrated Pharmacy Application facilitating a closed loop medication management process. OpenVista Pharmacy modules ensure the availability of an always current, accurate and complete medication profile accessible at any time to allow professional evaluation of treatment plans. Pharmacy includes the following functional modules:

- Adverse Reaction Tracking (ART): The Pharmacy ART Module provides a common and consistent structure for data on patient adverse reactions. Using ART, clinicians can enter and validate adverse reaction data and report it to regulatory agencies. ART also links to third-party applications.
- Electronic Medication Administration Record (EMAR): The EMAR Module provides a single location where clinicians can view a patient's entire prescribed medication history. The EMAR Module is automatically updated by BCMA each time a medication is prescribed.
- Inpatient/Outpatient Pharmacy: The Inpatient/Outpatient Pharmacy Module enables clinicians to easily manage the medication regimen of patients seen in outpatient clinics and acute care facilities. The module simplifies monitoring and manages workload and costs. Clinicians and pharmacists benefit from an always current medication profile facilitating professional evaluation of treatment plans.
- Bar Code Medication Administration (BCMA): BCMA employs a graphical user interface (GUI) to improve the accuracy of medication administration and increase the efficiency of documentation. Through the use of a bar code reader, BCMA immediately validates the five "rights" of medication administration right patient, right medication, right dose, right route, right timing and provides real-time access to the medication administration record (MAR).
- Pharmacy Pricing Engine: The Pricing Engine application provides comprehensive management of medication charge calculation and billing interface support, underscoring a fundamental departure from VistA, where billing is not used. Components of the entire package include the pricing rule editor GUI, the Mirth HL7 interface engine, and tools to maintain current data from diverse sources such as First DataBank, drug wholesalers, and the Centers for Medicare and Medicaid Services (CMS).

Although we have interfaced and can if the State desires with third-party pharmacy complimentary applications, we recommend a closed-loop environment.

## 2.0 System Design

### 2.1 Electronic Health Record

Describe how your product performs the functions listed in Template T-4 Electronic Health Records tab. It is preferable for the discussion to be broken out as follows:

1. Functional Grouping (i.e. Software Capability, Reporting, Medications, etc.)
  - a. Mandatory Requirements – The Prospective Contractor may group mandatory requirements into one discussion.
  - b. Optional Requirements

The discussion may include appropriate screen shots and other descriptive materials in order to fully explain the product.

<Response>

#### **OpenVista and Behavioral Health**

As an integrated solution, OpenVista includes applications critical to ensuring patient safety and promoting effective communication among clinicians with regard to health concerns. OpenVista provides a comprehensive electronic medical record enabling clinicians to accurately and efficiently capture clinical encounters. Providers can enter, review, and update all order-related information connected with any patient, including ordering lab tests, medications, diets, radiology tests, consults, and procedures.

#### **Example of OpenVista Functional Modules:**

##### **OpenVista Multi-Disciplinary Treatment Plan (MDTP) – MDTP features include:**

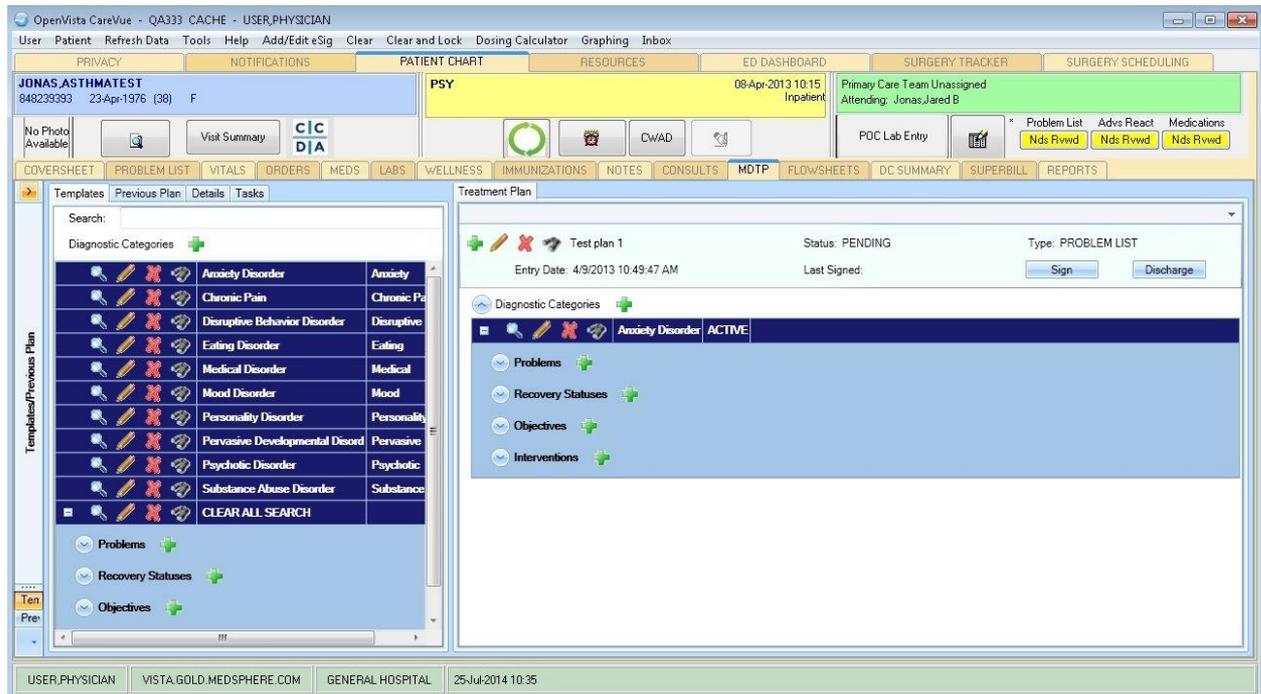
In any hospital environment, treatment of a given patient falls to a care team, not a single clinician. This is especially true in psychiatric or behavioral health environments, where the care team often has separate but equally crucial responsibilities that must be evaluated, coordinated and agreed upon.

Medsphere's OpenVista MDTP enables clinicians and other care team members to electronically plan, coordinate, and document the care that will map the patient's journey back to health. As an electronic tool, MDTP is designed to support the team in complying with regulatory requirements.

The OpenVista MDTP module shown in the figure below focuses on individual care team members treating specific patient problems. A patient may have a diagnosis of major depressive disorder, for example, requiring care for suicidal ideation. The care team must assess the patient's problem and develop a plan that includes, among others, physician, nurse, social worker and other clinicians.

The OpenVista MDTP module has been developed using a component framework. What the end user sees is actually the functional components most suited to the user's role in the patient care team. Thus, the application used by a ward clerk will look much different from that used by a physician. By approaching MDTP from a component perspective, Medsphere has created a module that can be customized to the workflow and task needs of individual care team

members, greatly enhancing efficiency and minimizing the potential for error as care providers' transition to an electronic environment.



### OpenVista MDTP Module

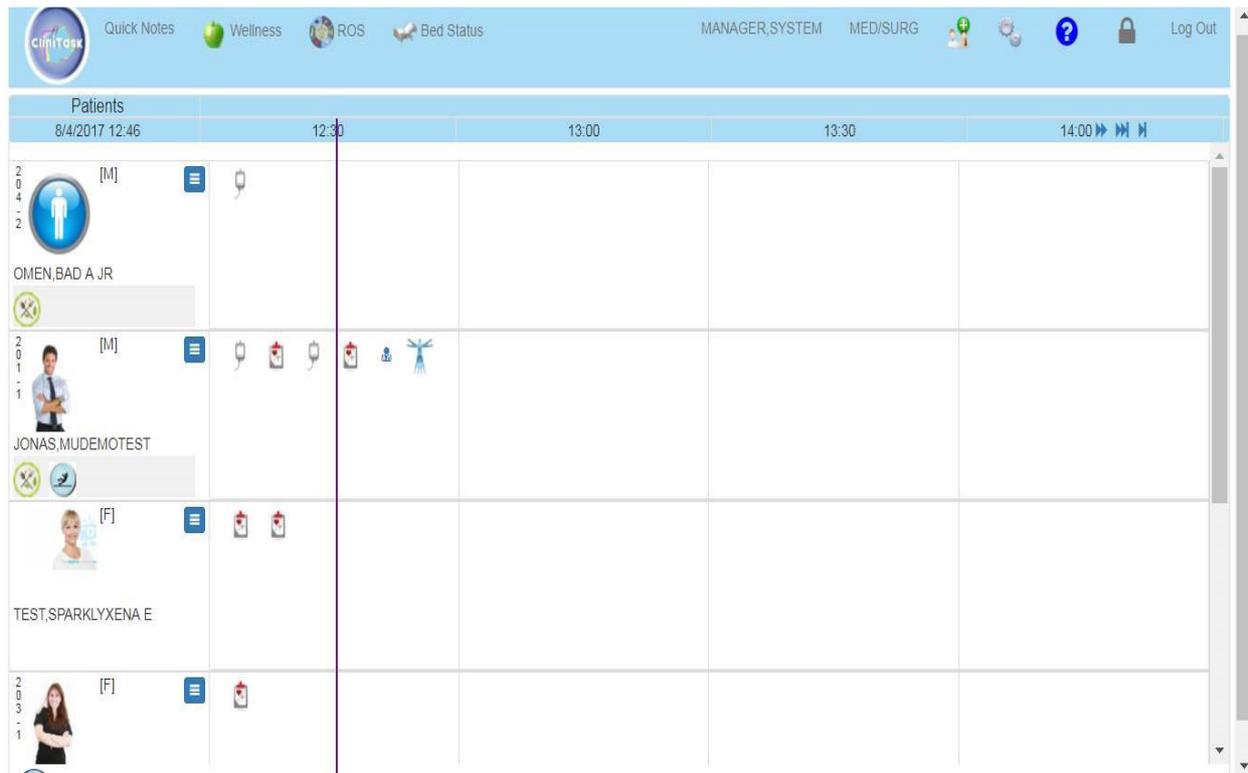
A Treatment Plan may be created by any team member, but in the behavioral health arena, it will generally be created by the Admitting Physician and will contain one or more diagnoses and their associated problems. Problems which are entered into the MDTP and associated with each diagnosis should be the most salient syndrome features to be addressed in this episode of care. After the initial creation of the Treatment Plan with one or more diagnoses and their associated problems is signed and a note is created, the admitting nurse or other clinician will then add the appropriate patient short-term goals and interventions within the required timeframe and sign the Plan.

Team members should be able to easily create and edit a Plan by pulling items (diagnoses, problems, objectives and interventions) from site-defined templates, by pulling items from the patient's previous Plan, or may create new items. The MDTP Team will meet and complete the Comprehensive Multi-Disciplinary Treatment Plan, sign the Plan and create a note, then will meet and update the Comprehensive Plan at the requisite intervals. The MDTP Team may re-evaluate the Plan at any time, and may add significant new diagnoses if necessary.

### OpenVista CliniTask

A multi-disciplinary tool used to better manage patient care. By prompting clinicians to perform required actions critical to patient safety, efficient time management and improved clinical outcomes, CliniTask eliminates redundant documentation and streamlines the provider's ability to see and act on care tasks.

Using the typical daily tasks of a registered nurse as a guide, CliniTask displays varied responsibilities in a single view to streamline patient care and enable more efficient patient outcomes. Shift hand-off, medication rounds, wound care, falls risk assessments—all these and other tasks are managed from a single interface, empowering clinicians to orient their schedules around specific patient needs.



CliniTask Main Screen

### *Essential Tasks*

CliniTask displays uses a grid format to display patient information and associated tasks, enabling clinicians to manage by hour, by task and by patient. Users can change the timeframe to see what is upcoming within a defined period.

The CliniTask list includes orders, vitals, risk assessments, bed status and more. Clinicians can electronically view patients from anywhere in the hospital and manage tasks from a single screen.

### *Smooth Transitions*

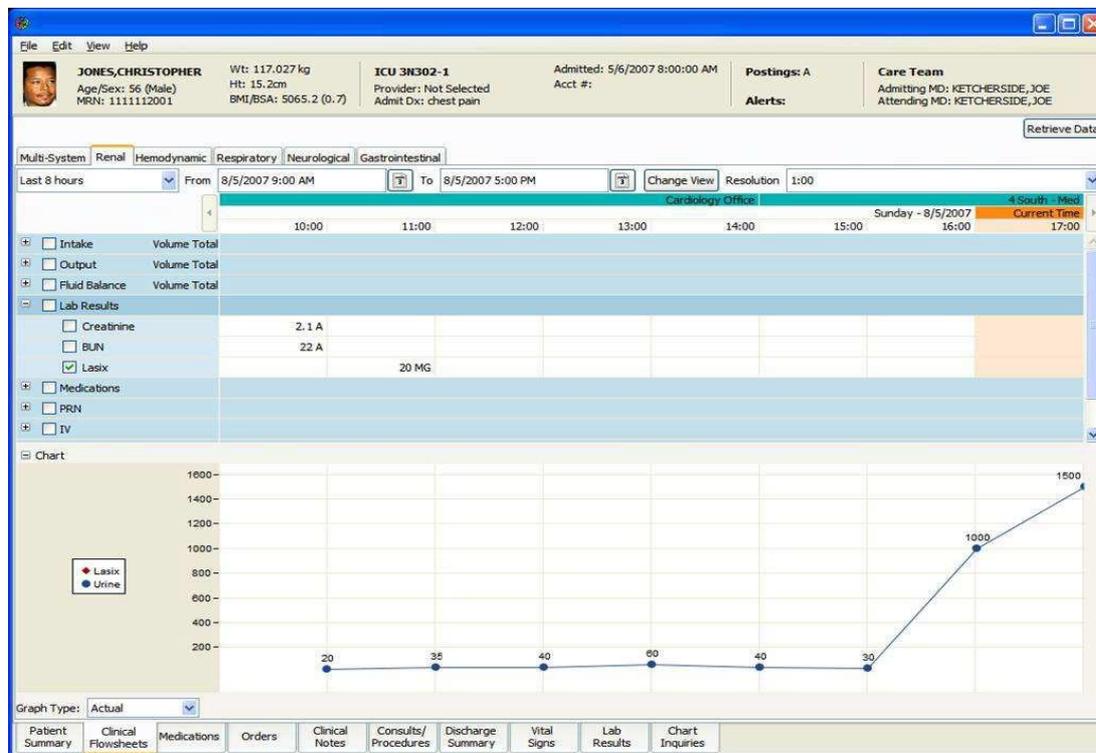
Shift hand-off is more fluid and comprehensive for patients with CliniTask. The tool ensures that clinicians are aware of documents essential to patient care. Because CliniTask covers all tasks in one screen, users can launch a document from within the task list.

### *Best Practices*

CliniTask also embeds in the task list NANDA, NIC, and NOC best practice approaches to clinical care plans. Once a user has identified appropriate care plan interventions and outcomes for the patient, the interventions populate the task list with associated items that must be done within a given timeframe.

## OpenVista Clinical Nursing Flowsheets

Clinical Flowsheets, enable users to document and correlate patient data (vital signs, intake and output, medications, assessments, clinical findings) and tailor the information to meet the unique needs of the nursing unit, care area, or department. The Flowsheets supports multi-disciplinary data views and charting, and will be designed to import validated data directly from the patient monitor and ventilator.



### OpenVista Clinical Flowsheet

A key component for clinical staff, especially nursing, is the flowsheet. One of the longstanding missing features of most EHRs has been the ability to view and record the clinical data necessary in a typical, yet aesthetically pleasing way that eliminates the redundancy and allows clinicians to view data in a manner that helps them to treat and care for their patients. Typical data elements that are included in flowsheets are the types of tasks nurses do at the bedside or within clinic rooms including taking frequent vital signs, conducting nursing assessments, entering shift notes, input/output, lab results and medications administered. This flowsheet effort would provide for an electronic view of the paper flowsheets that nurses and physicians have used for years. The flowsheet places a timeline view of the clinical data in a graphically pleasing format that clinicians are used to viewing, which allows for a streamlined way for clinicians to understand the current status of their patients.

The Nursing Flowsheet is designed for the multiplicity of vital signs that are taken in EDs and on the inpatient and outpatient side. This will tie them all to the visit (admission) date and provide for a way to qualify a measurement (BP standing, ankle BP, O2 on room air or with a mask, rectal temperature, etc.). With Vitals included, the Nursing Flowsheet will allow for frequent capture and recording of vital signs and input/output measurements, permit graphical display, and offer numerous other features essential to the assessment and management of patients.

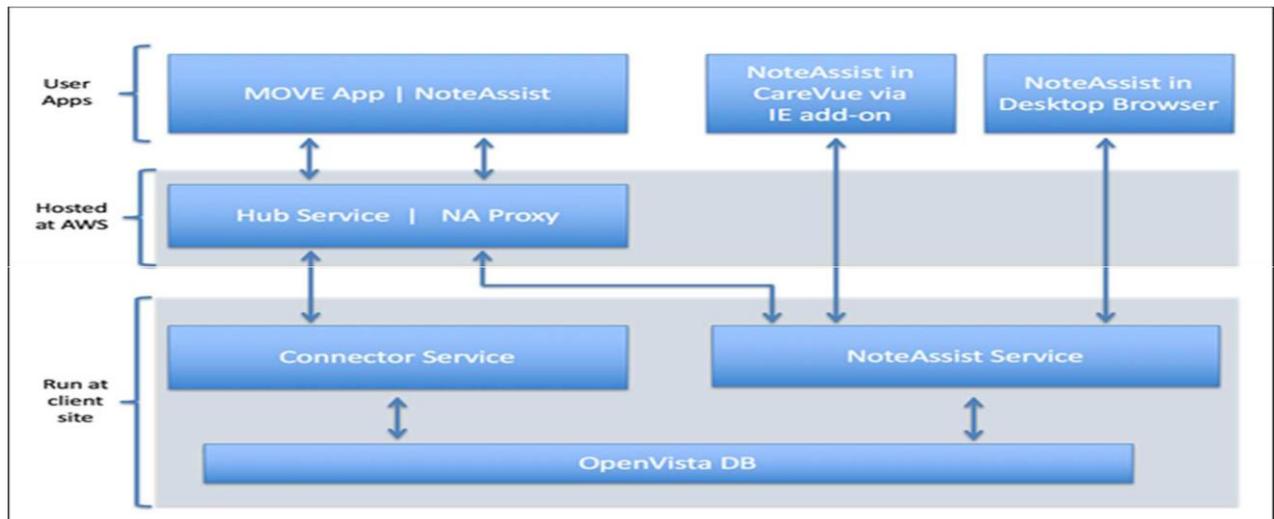
## Mobile OpenVista (MOVE)

MOVE is a native iOS application designed for iPads running iOS 8 or higher. The majority of the MOVE user experience runs in a uiWebView and is served from the Hub.

The Hub Service contains the HTML, JavaScript, databases and code necessary to provide the user experience, including registration and replication of certain key data (e.g., patient lists). The Hub Service primarily accepts requests from the user application and makes requests of the Connector Service.

The Connector Service is installed at the client site and uses web services to request data from OpenVista to respond to the data requests of the Hub. Features of MOVE to date include:

- View Patient Information from OpenVista on the iPad
- Patient Lists
- Rounds and Nursing Summaries
- Note Assist Enhanced Documentation
- NoteAssist is a single page web application that runs in a desktop browser, in CareVue via an IE add-on and in MOVE via its own wkWebView. The NoteAssist Service runs in Glassfish and serves web pages to the client and retrieves and saves data into OpenVista files directly and via our application interface service. When NoteAssist is run inside MOVE, a NA Proxy on the Hub routes requests from the NoteAssist UI to the NoteAssist Service at the client site.
- Alert Tracking



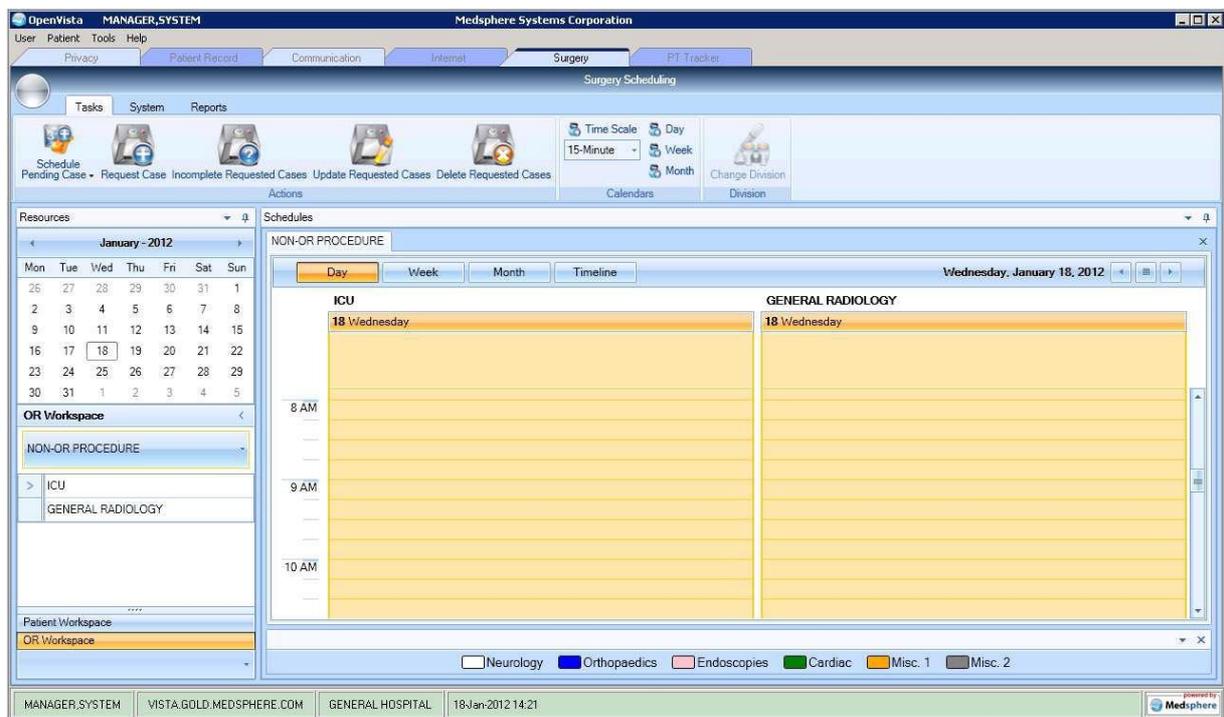
**MOVE High-Level Architecture**

## OpenVista Surgery

Surgery planning and scheduling systems play a critical role in the efficient matching of supply and demand for surgery. Competing performance measures and a number of complicating factors make surgery planning and scheduling challenging. Operating room (OR) managers must consider uncertainty in the duration of surgery and other critical activities, the arrival of unexpected urgent add-on patients and cancellations on the day of surgery while efficiently managing a variety of human and technical resources. Surgery schedules must be designed to balance competing performance criteria such as patient waiting time as well as idle time and overtime for both the OR team and other personnel.

The overall surgery process involves several activities before, during and after the actual surgical procedure. These include preoperative, intraoperative and postoperative stages. Preoperative care starts with the patient's and surgeon's decision to have surgery. Intraoperative care comprises the activities performed in the OR. After surgery, the postoperative stage begins and patients are admitted to a recovery area such as a post-anesthesia care unit (PACU) or Intensive Care Unit depending on the nature of the surgery. To assist in this process and aiding in minimizing operating room throughput the for both the staff and the patient, a graphical interface was created in a Microsoft Windows Presentation Foundation (WPF) program that features the latest tools to create Resources organized by Resource Groups. The Resources allow for the creation, cancellation, and deleting of appointments for multiple patients. Comprehensive reports are provided to deliver accurate statistics and information pertaining to patients and resources.

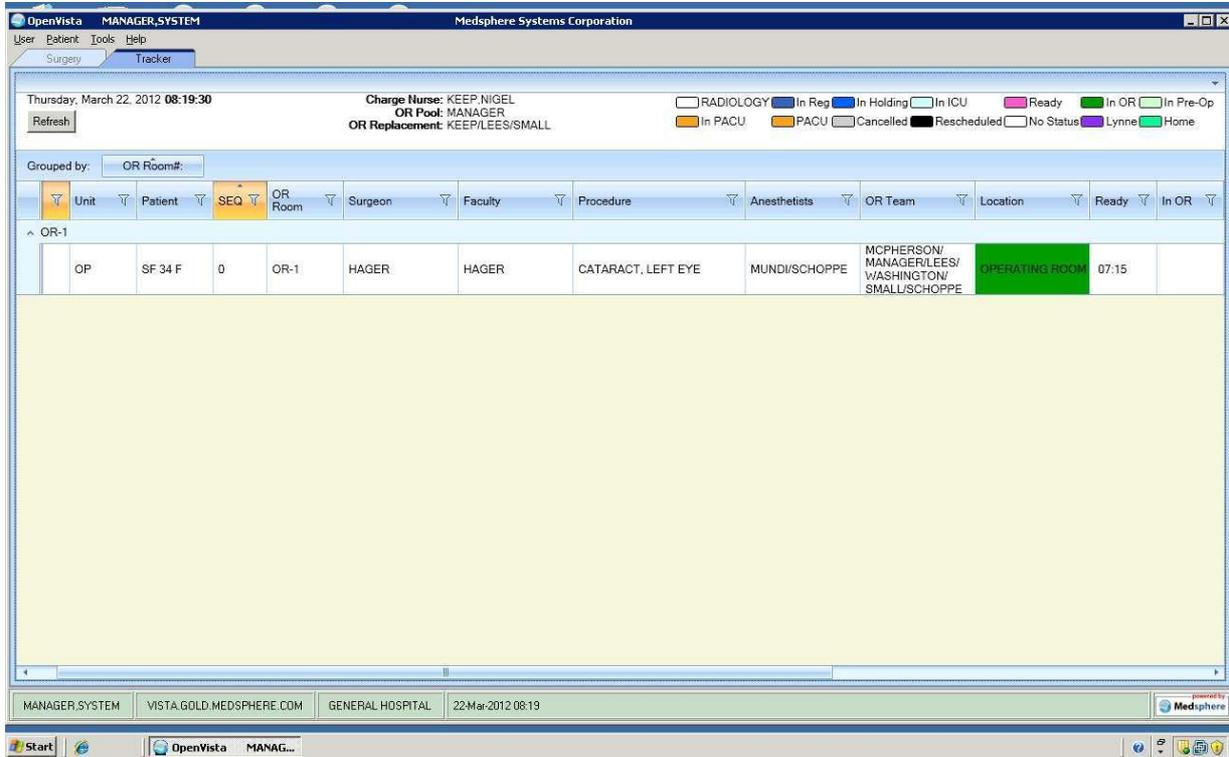
As shown in the figure below, the Surgical Scheduling application features the latest tools to create Resources organized by Resource Groups. The Resources allow for the creation, editing and cancellation of surgical appointments for multiple patients. Comprehensive reports are provided to deliver accurate statistics and information pertaining to patients and resources.



**Surgery Scheduling Module**

## Surgery Patient Tracking Module

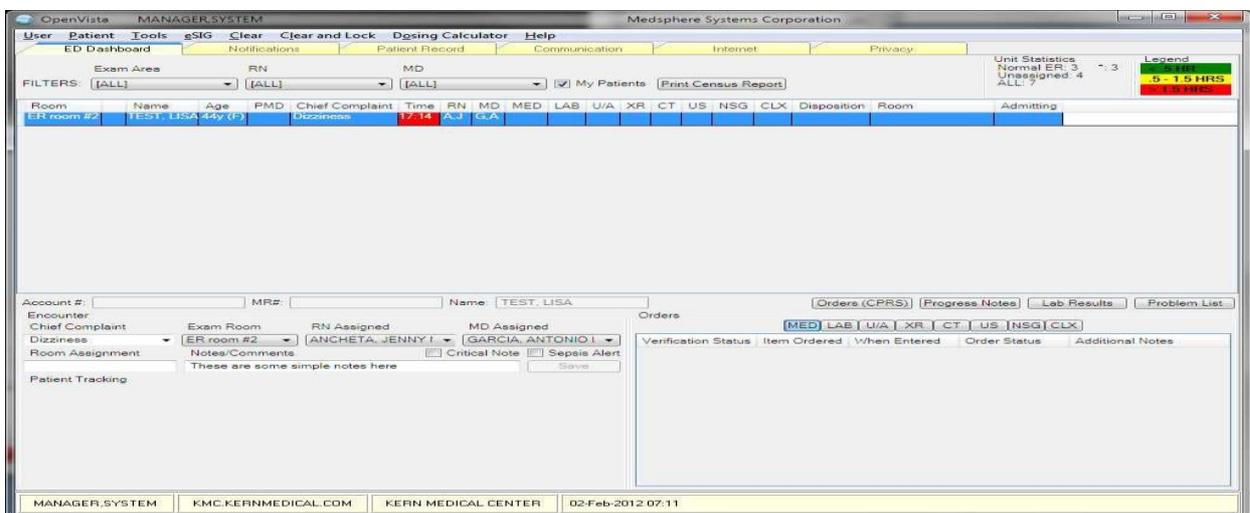
The Surgery Tracking Module tracks patient times and milestones throughout the operative encounter. This will begin on patient check in and continue through discharge of the surgical area.



**Surgery Patient Tracker Module**

## Patient Dashboards

As depicted in the figure below, the Patient Dashboards provides tools to help manage patients while they are located in the ED. This includes both a user-oriented interface that allows updating details about a patient, as well as a 'big board' interface that can be shown on a large screen within the ED that obscures PHI sufficiently to comply with regulatory requirements.



**Patient Dashboards Module**

## **Patient Encounter History Report – PEHR**

A detail report of patient specific encounter information base lined from a continuity of care record, with enhancements to meet the needs of the customers for:

- Insurance company correspondence
- Coding and billing
- Compliance request for additional information
- Medical record reviews,
  - MD requests
- Regulatory site visits
- Medication Reconciliation

The Joint Commission’s National Patient Safety goal #8 requires that facilities accurately and completely maintain a current list of patient medications that are reconciled across all levels of care. A patient’s home medication list consists of prescription medications, OTC medications, vitamins and herbal supplements.

Medsphere OpenVista provides an electronic medication list within the EHR that includes inpatient, outpatient and home medications that may be used as an effective communication tool for all health care practitioners providing care for your patients. This tool can provide an effective means in which to assist the clinician with medication reconciliation by allowing the clinician to transfer home, outpatient and inpatient medications across the patients stay or encounter.

## **Family History**

Family History (FH) is utilized and assists in guiding specific recommendations for disease management and prevention for important risk factors regarding many disorders including cancer, heart disease, diabetes and mental illness. In order to enhance providers’ ability to provide specific recommendations for disease management and prevention, the desired FH Tool is intended to assist Primary Care and Specialty providers with collecting, accessing and utilizing patient’s FH information.

## **CCD/CCR**

C32 documents can serve a variety of purposes, including enabling clinician access to patient data in an emergency scenario, quality reporting, biosurveillance, patient access to their own data via a Personal Health Record (PHR) system, medication/allergy reconciliation, and interoperability to a designated NHIN.

Each C32 document consists of two components: a human readable part known as a “Narrative Block”, which can be displayed by any web browser, and a machine-readable part intended for automated data processing. The machine-readable part may contain more detailed information than the human readable part.

## **Quick Notes**

The Quick Note application provides clinical personnel with an easy way to create a note and attach it to an Electronic Health Record (EHR). This document provides the information necessary to use the application.

The primary function of quick notes is for those occasions where the same note and template is used over and over in a particular clinic. For example, a provider who sees both children and adults, sick and well, would probably use several different note titles and

templates and therefore would not be a good candidate for a Quick Note. By contrast, a provider who only does telephone triage could create the visit, and start up the note and template all with one click.

### **OpenVista Meds**

OpenVista MEDS is a client application enabling users to perform various pharmacy tasks.

### **OpenVista Enterprise Scheduling**

The Scheduling module automates all aspects of the outpatient appointment process, including the ability to check-in/check-out patients, clinic set-up and maintenance, enrollment/scheduling/ discharge of patients to and from various clinics, and the generation of managerial reports, statistical reports, patient letters, and workload reporting. It provides for multiple-appointment booking, which enables the user to schedule, at one-time, numerous appointments on a consecutive day/week basis. This pattern of scheduling supports requirements for clinics such as dialysis treatment and physical therapy.

The system may display numerous messages when an appointment is scheduled depending on the availability of the slot requested. These include notification that the appointment is an overbook, the patient already has an appointment scheduled for that date and time, or the appointment cannot be made due to previous inactivation of the designated clinic. In addition, certain classification questions are prompted during the checkout process, if applicable, to determine if treatment rendered was connected to special circumstances (e.g., Agent Orange, Ionizing Radiation, Persian Gulf, etc.). If an appointment cannot be scheduled because of limitations, the user is prompted to add the appointment information to a Wait List for future scheduling.

Patient Appointment Information gathers appointment data to be loaded into the National Database in Austin for statistical reporting. Patient appointments are scanned from September 1, 2002 to the present, and appointment data meeting specified criteria are transmitted to the Austin Information Technology Center (AITC). Subsequent transmissions will update the National Database. This additional data supplements the existing Clinic Appointment Wait Time extracts.

The functions within Scheduling currently fall into four major categories: Appointment Scheduling, Local Reporting (outputs), National Data Collection, and Module Set-Up and Maintenance.

Features include:

- Creates fixed or variable length clinic patterns
- Provides on-line clinic availability and system identification of conditions such as first available appointment
- Interacts with the Record Tracking module allowing chart request at the time of appointment scheduling
- Generates cancellation, no-show, and pre-appointment letters
- Provides on-line transmission of pertinent visit information to the national database at the AITC
- Patient Appointment Information functionality collects and formats data for Health Level Seven (HL7) batch transmission. It also utilizes new hardware technologies for transmitting data via the VA's Intranet

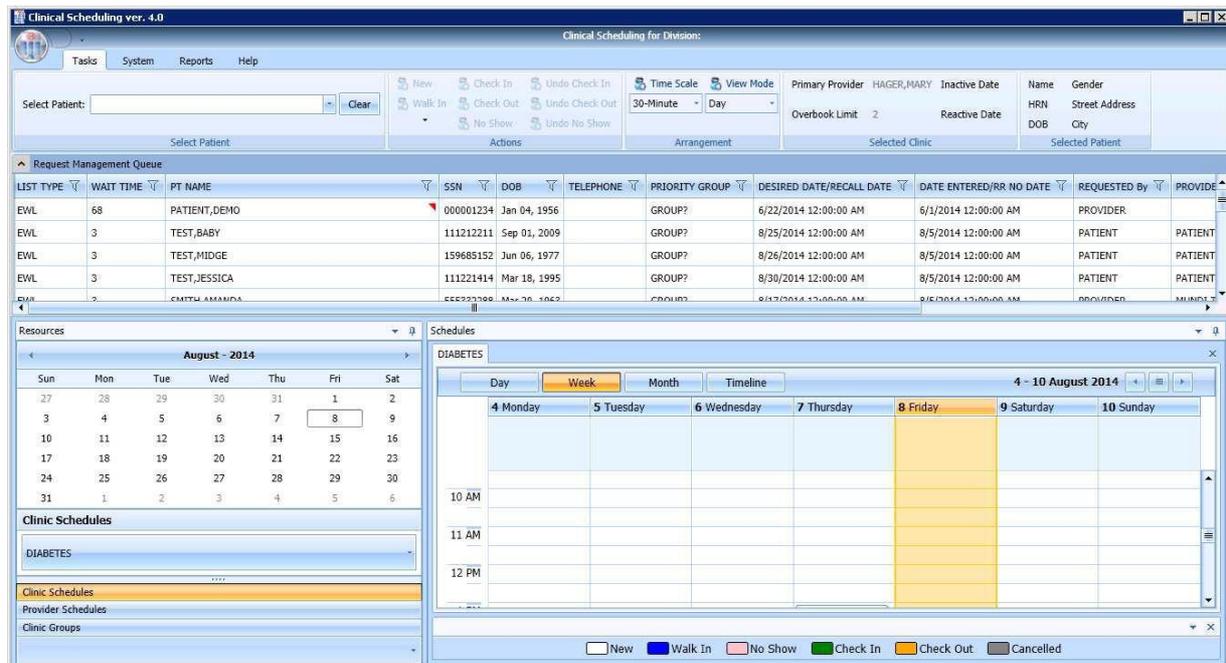
### **Business Benefits**

The Clinical Scheduler enhancements system may display numerous messages when an appointment is scheduled depending on the availability of the slot requested. These

include notification that the appointment is an overbook, the patient already has an appointment scheduled for that date and time, or the appointment cannot be made due to previous inactivation of the designated clinic. In addition, certain classification questions are prompted during the checkout process (if applicable) to determine if treatment rendered was connected to special circumstances (such as Agent Orange, Ionizing Radiation, Persian Gulf, etc.). If an appointment cannot be scheduled because of limitations, the user is prompted to add the appointment information to a Wait List for future scheduling.

- Optimize the quality of healthcare
- Reduce unnecessary physician down time
- Improve wait times between appointments
- Improve physician efficiency and overall patient satisfaction
- Allow user the ability to load clinics into a single window pane and switch between them with a single click
- Enable built-in reports to analyze and track information to improve the efficiency of processing clinic schedules, patient history and appointments, rebooking, and cancellations

Below include screen shots of the enhanced and modernized GUI scheduling application.



**Clinical Scheduler Main Window**

### Clinical Scheduler System Window

The screenshot shows the 'Clinical Scheduler ver. 4.0' interface. At the top, there are menu options: Tasks, System, Reports, and Help. Below the menu is a header area with fields for 'Primary Provider' (HAGER, MARY), 'Inactive Date', 'User', 'Overbook Limit' (2), 'Reactive Date', and 'Division'. A 'Selected Clinic' dropdown is also present.

The main area is titled 'Request Management Queue' and contains a table with the following columns: LIST TYPE, WAIT TIME, PT NAME, SSN, DOB, TELEPHONE, PRIORITY GROUP, DESIRED DATE/RECALL DATE, DATE ENTERED/RR NO DATE, REQUESTED BY, and PROVIDER. The table lists several entries, including PATIENT\_DEMO, TEST\_BABY, TEST\_MIDGE, and TEST\_JESSICA.

Below the queue are two panels: 'Resources' and 'Schedules'. The 'Resources' panel shows a calendar for August 2014 with a date picker set to August 8th. The 'Schedules' panel shows a detailed view for 'DIABETES' with a weekly view for August 4-10, 2014. The schedule shows a yellow highlighted block for Friday, August 8th, from 8 AM to 11 AM. A legend at the bottom indicates status options: New, Walk In, No Show, Check In, Check Out, and Cancelled.

Clinical Scheduler System Window

### Clinical Scheduler Reports Window

This screenshot shows the 'Clinical Scheduler Reports Window'. The interface is similar to the system window, but the 'Reports' menu is open, displaying a list of report options: Reminder Letter, Rebook Letter, Cancellation Letter, Patient Letter, Patient Appointment Report, Patient History Report, Patient HS Merge Report, Clinic Schedules Report, and Walk In Report.

The background content is identical to the previous screenshot, showing the 'Request Management Queue' table, the 'Resources' calendar, and the 'Schedules' view for 'DIABETES' on August 8th, 2014.

Clinical Scheduler Reports Window

## OpenVista CliniDoc

A document imaging solution, is a document scanning, indexing, and viewing application. It relieves the user from dealing with endless amounts of paper associated with the business end of a practice.

CliniDoc provides an easy solution for converting paper documents to electronic images enabling the user to scan, convert, and conveniently retrieve essential documents. Its indexing keys enable rapid searches for documents using multiple identifiers. A unique clipboard function allows users to paste sections of different documents into one for printing and sharing electronically. Main features:

### Scanning

- Compatible with TWAIN compliant scanner
- Supports flatbed, feeder, and duplex scanning
- Generates color, grayscale, and black and white images

### Viewing

- Enables user to pan, zoom, scroll, and rotate Arranges multiple documents in cascade or tile layout

### Annotating

- Includes highlighting and sticky-note annotation
- Enables hiding annotations, as needed

### Printing

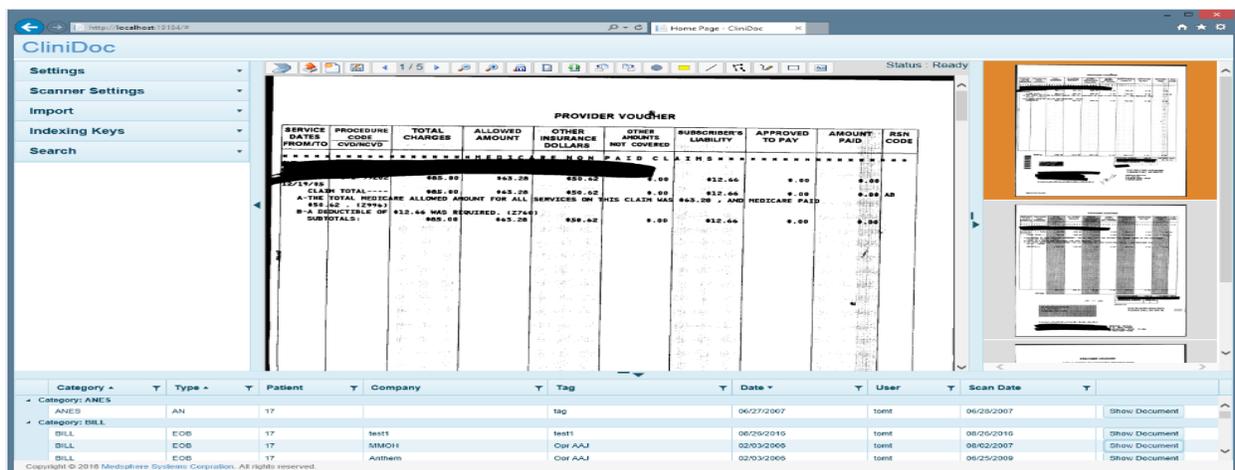
- Prints to any Windows printer, with or without annotations

### Imports

- JPEG and TIFF files

### Exports

- To PDF



**The OpenVista CareVue medications components** provide a single location (MEDS Tab) where clinicians can view a patient’s medication history, including inpatient medications, outpatient prescriptions, and medication inventory taken during admission. Clinicians can also view a comprehensive medication history including prior visits and episodes of care. OpenVista performs formulary checks and checks for duplicate therapy, drug-drug interaction and drug allergies for all orders and at appropriate times when orders are changed. The CareVue Patient Coversheet also incorporates a window where clinicians can view recent inpatient and outpatient medications for rapid inclusion in patient visits and care plans. Medication lists are available via data objects for inclusion in progress notes, discharge summaries and other documents.

Electronic Medication Administration (EMAR) is delivered by OpenVista’s Bar Code Medication Administration (BCMA) module. BCMA uses patient and medication barcodes and a simple workflow to improve safety while efficiently documenting medication administration and checking the five rights—patient, medication, route, time, dose—of medication administration.

### **Care Plans/Patient Goals**

Medsphere’s OpenVista CareVue Multi-Disciplinary Treatment Plan (MDTP) enables clinicians and other care team members to electronically plan, coordinate, and document the care that will map the patient’s journey back to health. As an electronic tool, MDTP is designed to automatically comply with regulatory requirements, removing that issue from the care team’s task list.

The OpenVista CareVue MDTP module focuses on individual care team members treating specific patient problems. A patient may have a medical diagnosis of major depressive disorder, for example, requiring care for suicidal ideation. The care team must assess the patient’s problem and develop a plan that includes, among others, physician, nurse, social worker and therapist perspectives.

The OpenVista CareVue MDTP module has been developed using a component framework. What the end user sees is actually the functional components most suited to the user’s role in the patient care team. Thus, the application used by a ward clerk will look much different from that used by a physician. By approaching MDTP from a component perspective, Medsphere has created a module that can be customized to the workflow and task needs of individual care team members, greatly enhancing efficiency and minimizing the potential for error as care providers transition to an electronic environment.

### **Progress Notes**

The Clinical Documentation Module provides robust templating utilities for creating immediate point-and-click, object-imported, standardized notes that are easy to assemble and use. The templates may be designed for all care providers with an interdisciplinary or individual approach to the note. All notes are viewed from a single point of entry and may be filtered on the fly to provide clinicians with complete clinical information for informed decision making. With Clinical Documentation, users can import documents into OpenVista via different data capture methods: transcription, direct entry, or upload of ASCII-formatted documents.

### **Clinical, Nurse, Patient and Discharge Summaries**

The OpenVista Insight Patient Registration module addresses the needs of acute care, ambulatory, emergency, specialized, rehabilitation and all related health care facilities. The system provides complete on-line, real-time ED registration, outpatient registration; and inpatient admitting, discharge, and transfer (ADT).

OpenVista's Clinical Documentation Module is employed to create Discharge Summaries and other clinical summary documents using templates that can pull in information from notes and structured areas of the chart such as lab results, medications, allergies and problems.

### **Advanced directives**

OpenVista CareVue enables recording of a patient's Advance Directive status using a simple note that records whether or not the patient has an Advance Directive on file. When this note has not been completed, a reminder displays on the patient chart that the Advance Directive note is not yet complete. This assists in meeting the Advance Directive Menu Objective for Meaningful Use.

### **Planning: Computerized Provider Order Entry (CPOE)**

#### **Lab Reports**

Medsphere enables client hospitals and other healthcare entities to meet increasingly more demanding federal and other requirements using OpenVista. OpenVista's built-in FileMan report generator is designed specifically to extract targeted information, including detailed lab reports. This report generator is flexible and can be tailored by end users to create custom ad-hoc reports. The content of these reports may be exported to a third-party tool such as Crystal Reports. Documentation templates may be configured to support required fields and standard choice list responses in order to drive more complete and accurate report generation. A combination of documentation templates, alerts and reminders, and reporting functionality can assist DHS by supporting core measure compliance. Additionally, end users can generate custom Discharge Summaries and Health Summaries using a clinical summary generator.

#### **Radiology Tests**

Medsphere OpenVista Radiology is an integrated system that automates the entire range of diagnostic functions performed in imaging departments, including registration of patients for exams, order entry of requests, tracking and verification reports, and the generation of management statistics and reports. Radiology includes the following functional modules:

- *General Radiology:* The Radiology Module improves organization by creating a separate report for each type of image. Clinicians and technicians can screen or select options by division and imaging location, schedule exams online, print flash cards and jacket labels, and transcribe patient reports. The Radiology Module supports the exchange results with non-OpenVista systems through HL7 messaging.
- *Nuclear Medicine:* The Nuclear Medicine capabilities of the Radiology Application include all functionality described for the application in its entirety. Additionally, Radiology allows users to enter and edit specific radiopharmaceutical data for nuclear medicine testing and results.
- *Worklist:* The Radiology Worklist monitor is a single screen that displays all radiology orders regardless of status. With the Radiology Worklist, users can view all patients, including those pending but not yet scheduled, enabling users to more efficiently schedule workloads and staffing requirements.

#### **Medications**

The OpenVista CPOE module enables clinicians to create orders from within the same area of the clinical record that provides relevant patient data. CPOE offers time-saving functions such as Quick Orders, Clinical Decision Support, Disease Specific Evidence-Based Order Sets, and Time-delay Orders.

## **Consultation Requests**

The OpenVista Consults Tracking module provides an efficient way for clinicians to order consultations and procedures from other providers or services within the healthcare system. It also provides a framework for tracking consults and reporting results or findings. Consults are included in a patient's computerized patient record and are viewed as part of the integrated patient documentation. Healthcare providers can prevent future problems by educating patients about healthy behavior and tracking educational efforts such as patient education lesson plans, appointment attendance, assessments of learning needs, and the capabilities of the patient/family.

**Nursing Orders** - The CPOE module enables clinicians to create orders from within the same area of the clinical record that provides relevant patient data. CPOE offers time-saving functions such as Quick Orders, Clinical Decision Support, Disease Specific Evidence-Based Order Sets, and Time-delay Orders.

## **Implementing: Decision Support**

### **Clinical Guidelines**

OpenVista incorporates clinical guidelines in a few different ways that can be altered and expanded as needed by the implementing facility.

The CPOE module enables clinicians to create orders from within the same area of the clinical record that provides relevant patient data. CPOE offers time-saving functions such as Quick Orders, Clinical Decision Support, Disease Specific Evidence-Based Order Sets, and Time-delay Orders.

Reminders can be configured to trigger based on discrete data in the patient file and are designed to assist with core measures, meaningful use requirements, and other preventative medicine initiatives. Reminders are displayed when opening the cover sheet of a patient chart and can be configured to alert while viewing a chart.

The Clinical Documentation Module provides robust templating utilities for creating immediate point-and-click, object-imported, standardized notes that are easy to assemble and use. The templates may be designed for all care providers with an interdisciplinary or individual approach to the note. All notes are viewed from a single point of entry and may be filtered on the fly to provide clinicians with complete clinical information for informed decision making. With Clinical Documentation, users can import documents into OpenVista via different data capture methods: transcription, direct entry, or upload of ASCII-formatted documents.

OpenVista also provides Web access to client-chosen sites as sources of general or specific information on clinical procedures, medications, etc.

### **Clinical Reminders**

The Clinical Alerts and Reminders Module enhances patient treatment by providing clinicians with relevant information at the point of care. Clinical Reminders empower clinical decision-making by basing reminders on a particular patient's clinical data and allowing facilities to define reminders by local needs. One of the more valuable clinical alerts sets is created at the patient level and is visible to all clinicians across encounters.

### **Drug Allergy Results; Drug-drug Interactions; Drug-lab Interactions**

OpenVista includes a closed-loop medication management system that alerts clinicians to any potential repercussions from prescribed drugs. The Patient Coversheet in OpenVista CareVue includes comprehensive information about patient allergies that, when combined with Clinical

Alerts and Reminders functionality, alerts clinicians when a drug is prescribed or food ordered for a potentially allergic patient. The Orders tab is set up to automatically alert clinicians when a medication may interact negatively with a previously ordered drug, test or procedure.

### **Drug Dosing Support**

OpenVista Bar Code Medication Administration (BCMA) employs a graphical user interface (GUI) to improve the accuracy of medication administration and increase the efficiency of documentation. Through the use of a bar code reader, BCMA immediately validates the five “rights” of medication administration—right patient, right medication, right dose, right route, right timing—and provides real-time access to the medication administration record (MAR).

### **Charting history**

The OpenVista Record Management Module uses chart deficiency tracking, chart locator, and electronic signature functions to maintain and control medical records and images so both are available to a variety of users. Record Management is integrated with associated modules such as Radiology and PIMS. Through access to the PIMS applications, actions related to the MPI may be performed such as merging and unmerging patient records and visits.

### **Evaluating: Results Management**

#### **View Lab Reports; View Radiology Reports**

The OpenVista Document Management module administers the scanning of documents and document storage, and requires verification of each document by the entering clinician. Healthcare professionals can associate scanned and electronically generated documents with online patient records and display them on clinical workstations. Document Imaging makes all patient information quickly available and easily retrievable from a single source, minimizing filing, eliminating paper files, and speeding-up retrieval time for clinicians.

#### **View Radiology Images**

The Radiology Image View/Link Interface is an inbound connection that sends images from the external picture archiving and communications system (PACS) to OpenVista.

#### **View Diagnostic Test Results**

The Transcribed Results Inbound Interface permits external transcription applications to send data to the OpenVista Clinical Documentation Module. Lab results from in-house lab and external reference labs are stored in structured form or as documents and are viewable in the CareVue chart. Written results from diagnostic imaging and exams are also recorded and viewable. Images are viewable if stored in OpenVista document storage or if linked to a PACS system.

#### **View Diagnostic Test Images**

The Document Image Inbound Interface receives document image files from ancillary systems and posts the files as attachments to notes. OpenVista can attach and display TIF, PNG, JPG, BMP, and PDF files. Also, the Radiology Image View/Link Interface is an inbound connection that sends images from the external picture archiving and communications system (PACS) to OpenVista.

#### **View Consultant Reports**

The OpenVista Consults Tracking Module provides an efficient way for clinicians to order consultations and procedures from other providers or services within the healthcare system. It also provides a framework for tracking consults and reporting results or findings. Consults are

included in a patient's computerized patient record and are viewed as part of the integrated patient documentation. Healthcare providers can prevent future problems by educating patients about healthy behavior and tracking educational efforts such as patient education lesson plans, appointment attendance, assessments of learning needs, and the capabilities of the patient/family.

### **Other Functional Requirements:**

#### **User Inbox/Alerts, Schedule, Task List/Workplace Dashboard**

CareVue includes a Notifications Tab that presents each user with a color-coded display of important notifications. This feature presents both alerts and tasks, such as lab tests results that are out of range, and notes and orders that need to be signed.

The optional Patient Dashboard can be implemented for the Emergency Department and shows a list of patients currently in the ED including the status of orders placed for lab and radiology tests, and more.

The OpenVista Insight package can be used to schedule patient appointments as well as resources such as operating rooms.

#### **Workflow Alerts & Flags**

OpenVista Clinical Notifications (alerts) are triggered in real time by patient events such as abnormal lab results, new consultation requests, documents requiring signature/co-signature, orders requiring signature, urgent imaging requests and a number of additional scenarios. The system includes more than fifty notifications in this category that can be configured by provider, attending provider, defined team (nursing, case management etc.), ordering provider and entering user. These notifications are displayed to the user upon log-in. Some notifications are informational only and require users to view them. Others require action, such as those for signature and abnormal/critical labs.

Reminders can be configured to trigger based on discrete data in the patient file and are designed to assist with core measures, meaningful use requirements, and other preventative medicine initiatives. Reminders are displayed when opening the cover sheet of a patient chart and can be configured to alert while viewing a chart.

A flag can be placed on an order when clarification is needed or notification is required. This function used extensively by pharmacy to alert providers of medication orders needing clarification.

## 2.2 Patient Accounting and Billing

Describe how your product performs the functions listed in Template T-4 Patient Accounting and Billing tab. It is preferable for the discussion to be broken out as follows:

1. Functional Grouping (i.e. Electronic Billing, Transferring of Charges, Medicare 117 Claims, etc.)
  - a. Mandatory Requirements
  - b. Optional Requirements

The discussion may include appropriate screen shots and other descriptive materials in order to fully explain the product.

### <Response>

Medsphere's InsightCS® Revenue Cycle Management software system is a true end-to-end, no bolt-ons solution that is helping hospitals, behavioral healthcare providers, and integrated health networks to transform their revenue cycles via reduced AR days, increased cash flow and enhanced efficiencies.

As an all-inclusive suite of patient access (enterprise scheduling, patient registration, eligibility checking), patient accounting (universal billing, collections & payments, contract management), claims management, and informatics solutions, InsightCS can replace any existing HIS and add-on applications.

The system is Meaningful Use Certified, and 5010 and ICD-10 ready. InsightCS enables healthcare providers to:

- Streamline the entire patient access process from scheduling to billing
- Accelerate accounts receivable payment collections
- Perform real-time payer eligibility checks during scheduling and/or registration
- Integrate payer rules and enforce financial accountability
- Achieve a true Digital Financial Record (DFR)
- Reduce billing delays and denials
- Significantly improve clean claims rates
- Eliminate dependencies on and the associated costs of third party applications
- Get real-time information when and where it is needed
- Accurately measure organizational productivity and performance via Business Intelligence

InsightCS fully leverages its superior technical architecture by embedding key functions, such as contract management and an enterprise-wide Master Patient Index (MPI), directly into the application suite resulting in a comprehensive solution set.

### Enterprise RCM Scheduling

*Key components: Resource Utilization, Medical Necessity Checking, Payer Eligibility Checking, Pre- Authorization, Conflict Checking*

The InsightCS Enterprise Scheduling module features a unique drag-n-drop user interface and functions as the coordinator for patients and resources to promote effective and timely scheduling of services and procedures across the enterprise. All necessary information is shared throughout multiple locations and departments, including clinics, ancillary locations and other caregiver facilities.

Every resource, including providers, rooms, equipment, supplies, etc., is supported within the scheduling module addressing all enterprise needs. The module facilitates centralized and departmentalized requirements by taking available information about the service/procedure and resources, and performs a search that returns a range of time slots base upon availability.

## **Patient Registration**

*Key components: Inpatient and Outpatient, MSP, Bi-Directional HL7, Document Management, Digital Signature*

The InsightCS Patient Registration module addresses the needs of acute care, ambulatory, emergency, specialized, rehabilitation and all related health care facilities. The system provides complete on-line, real-time ED registration, outpatient registration; and inpatient admitting, discharge, and transfer (ADT).

All information collected is accessible by departments and personnel enterprise-wide. This capability allows for immediate census information and notification updates to all departments at any location throughout the enterprise network. The printing of registration data can be on demand and both census and statistical reports can be run as needed within pre-defined security guidelines.

The Master Patient Index (MPI) is a component of InsightCS Patient Registration and is accessible by all the applications in the InsightCS application suite. This integration eliminates any redundant data entry and insures that all applications access the latest patient information. This MPI becomes a single source of patient demographic data for the entire enterprise.

## **Patient Accounting**

*Key components: Universal Billing, Integrated Claims Processing, Contract and Reimbursement Management*

InsightCS Patient Accounting provides a sophisticated, comprehensive accounting and collections system that is uniquely engineered to maintain accurate control of all financial data while allowing the flexibility to streamline user tasks. Billing information is integrated within collection processes for timely and accurate account management.

InsightCS Patient Accounting also provides for the administration of multiple operating facilities, featuring a centralized billing and collection facility that includes a common Master Patient Index.

Each billing event automatically initiates the collection process for a patient visit. This event either processes a final bill or an interim bill. The collection activities target various payer sources. The payer may be a third party insurer or the guarantor.

InsightCS Patient Accounting recognizes payment and adjustment activity and performs user-defined actions when these or other trigger events/activities occur. Finally, the collection cycle ends with a zero balance by payment, adjustment or bad debt placement.

## Collections and Payments

*Key components: Denial Tracking, ERA, Automated Workflow, Bad Debt Management.*

The InsightCS Collections and Payments module provides a host of tightly integrated collections and payments management capabilities:

- Management of patient's interim billings
- On-line tickler file system for collectors
- Every key event that occurs in collection system creates an online audit trail
- User-defined collection steps to be established for an unlimited number of payers
- User-defined 'actions' to occur at key intervals during the collection process
- Capture of collector activities for reporting productivity
- Collector activity schedule sorting in multiple ways, including by dollar balance range
- Exception reporting for accounts that have been placed on hold or manually flagged for review
- On-line bad debt query tool to search, analyze and select bad debt candidates

## Informatics

InsightCS Informatics features a full array of leading edge business intelligence executive dashboards, dynamic work lists, and reports that enable key decision makers at hospitals and other healthcare organizations to easily and effectively analyze and act upon crucial patient service and financial data.

InsightCS Informatics allows users to seamlessly collect and view key statistical and trending data to make the business decisions necessary to ensure continued success.

## General Financials, Human Resources, Payroll

Medsphere can also offer (added cost) the Microsoft Dynamics® GP suite of financial management, human resources, and payroll solutions for healthcare providers. Microsoft Dynamics GP is a fully integrated business management solution that can significantly improve the financial and business processes of ASH.

It would allow ASH to standardize and exchange financial information between entities. In addition, key integration functionality exists within InsightCS that updates Microsoft Dynamics GP with user defined revenue posting entries to ensure data integrity and eliminate duplicate data entry.

## 3.0 Hardware Requirements

Describe what hardware your company will use and why this hardware is optimized for the performance of the system.

Provide a systems specification that outlines the server, networking, and communications requirement of its solution.

Provide the location where the solution will reside. Include information that will ensure your solution meets hosting and hardware requirements as set forth in the RFP.

<Response>

**Medsphere Response:**

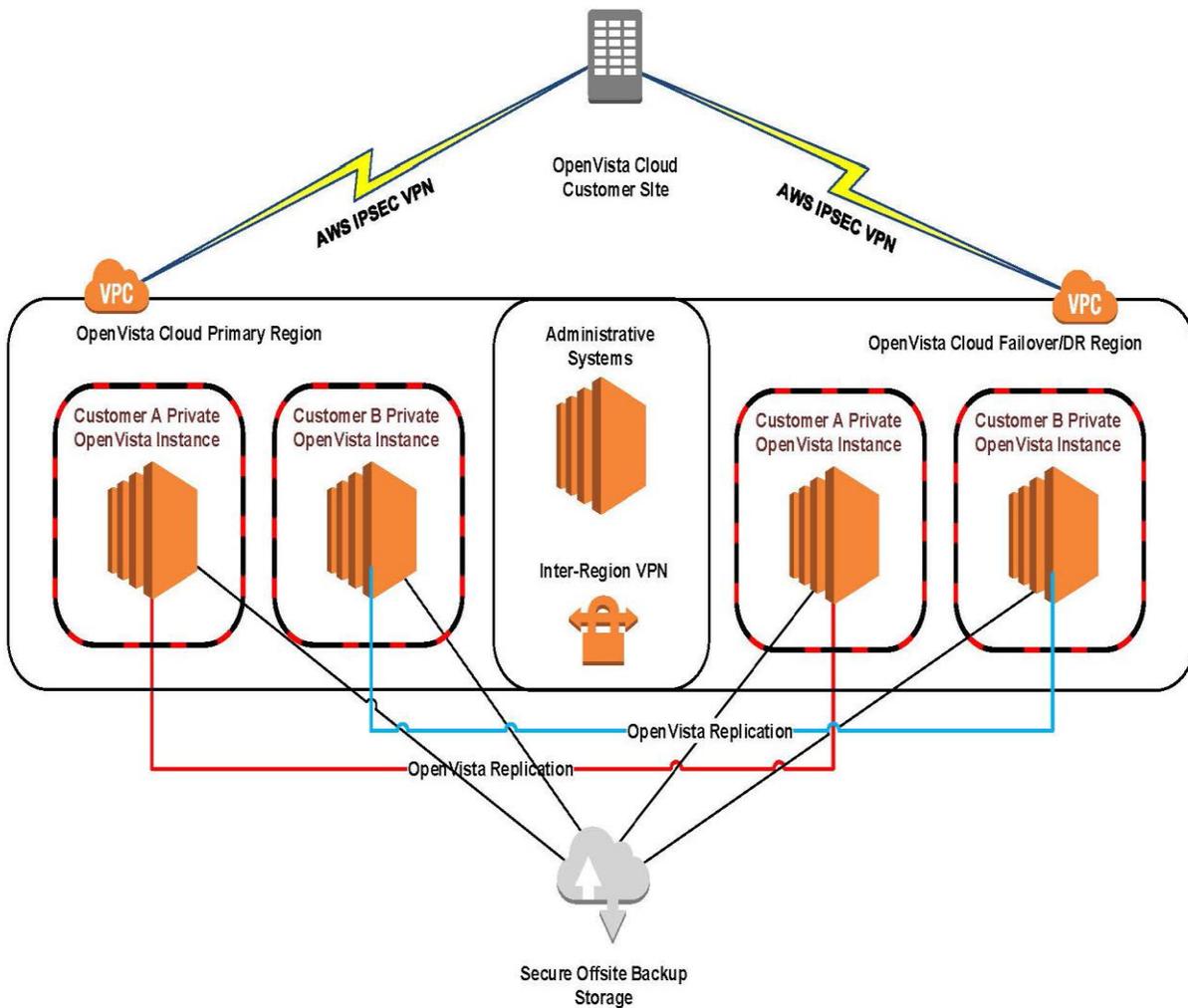
As we work through the Enterprise Assessment, it is understood that the Cloud hardware configuration may change. Below is what is anticipated:

Technology	Specification for Optimal Performance
Database / Application server at AWS locations	
CPU type & speed	4 x 8 vCPUs
Memory size	32 GB
Disk configuration	EC2 EBS volumes directly attached to EC2 instance (A more detailed discussion regarding projected growth, scanning policies, and retention requirements will be conducted during the deployment phase to refine storage requirements.)
Hard drive type & size	See line above
Operating system	CentOS 6
Backup solution	Our EC2 instances (with storage in a blend of SSD-based EBS volumes; primarily EBS) are vertically scaled as needed based on ongoing resource usage analysis.
Peripherals	n/a
Database management system	GT.M 5.5
Network server	N/A; role served by “database” server
Backup server	EC2 snapshots + file level backups + off-site secure storage included. Same hardware as above.
Other:	
Work Stations	
CPU type & speed	Recent Intel i5 or i7 class CPU
Memory	4 GB minimum
Disk configuration	300 GB minimum
Operating system	Windows 7 or newer
Monitor	Recommend at least 20-inch monitors with 1600x900 or 1600x1200 resolution. Minimum supported display is XGA 1024x768, primarily for projectors
Navigational device	Keyboard & mouse
Peripherals	No restrictions
Tablet PCs/PDAs	None natively supported by OpenVista; iPad Air supported by MOVE
Processor	A8+M8 or higher
CPU speed	64-bit type arch
Memory	Minimum 1GB
Disk configuration	Flash
Operating system	iOS 8 or higher
Peripherals (e.g., wireless card)	Standard
Other Peripherals	
Printers	Most devices supported
Document scanners	Most devices supported
Card scanners	Most devices supported
Wireless access points	Any 802.11b/g/n
Communications	

**State of Arkansas DHS-ASH  
EHR and Billing System  
RFP #: SP-18-0034  
Template T-5 – Requirements Approach**

Internet service provider	At least 5x5 Mbps connection to Internet for sites from which OV will be accessed, but may be more per EA collaboration with Americore.
Desktop browser	IE 10 or newer; Firefox; Chrome
Private network type (e.g., frame relay, dial-up)	Ethernet (802.3, 802.11)
Private network bandwidth	100 Mbps or higher
Private network security (e.g., firewall, VPN, SSL)	IPSEC VPN required between sites from which OV Cloud will be accessed and OV Cloud primary & DR instances
External Support for SaaS	
From hospital	None required
Other resources	SaaS OpenVista Cloud is supported by Medsphere

**Below is a high-level diagram of OpenVista Cloud (OVC):**



Client Requirements	
---------------------	--

**State of Arkansas DHS-ASH  
EHR and Billing System  
RFP #: SP-18-0034  
Template T-5 – Requirements Approach**

Makes/models recommended	Dell or equivalent
Operating system	Windows 7 or newer
CPU type & speed	Recent Intel i5 or i7 class CPU
RAM size	4 GB
Hard disk size	300 GB
External drives	n/a
Monitor	Recommend at least 20-inch monitors with 1600x900 or 1600x1200 resolution. Minimum supported display is XGA 1024x768, primarily for projectors
Port requirements	Standard -small footprint client install on desktop
Navigational devices	n/a
Peripherals (e.g., wireless card, speech recognition microphone)	Any 802.11b/g/n.
Other Peripherals	
Printers	Most devices supported.
Document scanners	Most devices supported.
Card scanners	Most devices supported.
Storage devices/media	Most devices supported.
Communications	
Network requirements	Ethernet (802.3, 802.11)
Wireless requirements	At least 5x5 Mbps connection to Internet for sites from which OVC will be accessed
Other:	
General Purpose Licenses: operating system, other (specify)	MS
Delivery methods: client/server, Citrix, ASP client, SaaS (on demand), LAN, WAN	SaaS-IPSEC VPN required between sites from which OVC will be accessed DR instances
Database management system	GT.m, MS SQL
Report writers	SQL and FM Projection to SQL equivalent
Storage management system	File manager, Microsoft

Describe any optimal or minimal specifications for laptops, desktops, and wireless devices which will serve as workstations.

<Response>

Please see tables above.

Describe how your system(s) accept(s), at a minimum, data input through the following input

devices:

- a. PCs/Laptops
- b. Wireless devices (tablets, smartphones, etc.)
- c. document scanners

In addition, describe other input devices that your system(s) can support.

<Response>

Please see tables above.

Describe how your company's solution would run on ASH's existing workstations, tablets, and other wireless devices.

<Response>

Based on our analysis, we believe that the existing workstation will run, tablets and other devices as well and as described in the tables above.

Describe the bandwidth requirements for each individual, networked component (wired and wireless), both the minimum amount to work effectively and the optimal amount for system performance under a Contractor hosted solution.

<Response>

Please see tables above.

Describe what browsers and browser versions your product supports. Describe any plug-ins that may be required. If the solution requires the use of browser cookies, please explain.

<Response>

Please see tables above.

## 4.0 User Management

Describe your system(s) user creation and management process. Please include, at a minimum, how users are added and deleted from the system, a list user types that are currently available out of the box, and how existing user types can be modified or customized to meet the State's needs.

Describe any flexibility that is available within the system to create additional user types not available out of the box, but required by the State.

<Response>

*Access Controls:* OpenVista requires adherence to strict user identification (username and password) rules through several approaches--passwords are set up by systems managers and

only valid for a fixed number of days, previously-used passwords cannot be reused, strong passwords are enforced, etc.--that can be managed by systems administrators. After a pre-determined amount of inactive time, users are given a warning window and then automatically logged off. OpenVista is also customizable according to a given site's requirements for emergency access.

*Audit Controls:* OpenVista tracks all sign-on activity, whether successful or unsuccessful, and allows the system manager to track users who access specific options. At the database level, any field in any file can be audited for changes; the user's identification, previous field value, and time-of-change are captured. Also, OpenVista can be set up so that there is an ongoing audit of every user who merely looks at a patient record.

*Integrity:* OpenVista can require electronic signatures for a form or document before any information can be changed, added to or otherwise altered. In conjunction with a user ID, OpenVista can "lock" a terminal device after several successive unsuccessful sign on attempts to insure that unauthorized users cannot log in.

OpenVista has a separate security infrastructure that is native to the application and the data is stored in the New Person file. Most systems have a separate provider and user database. The username is referred to as the access code and the password as the verify code. Both the Access Code and Verify Code are hidden to the user and should not be shared.

#### 1. Add a User

- From the Eve Menu, choose User Management.
- Choose to Add a New User.  
*Select Systems Manager Menu Option: User Management*

##### ***Add/Delete a New User to the System***

- Grant Access by Profile
- Edit an Existing User
- Deactivate a User
- Reactivate a User
- List users
- User Inquiry
- Switch Identities
- Clear Electronic signature code
- Electronic Signature Block Edit
- Manage User File ...
- OAA Clinical Trainee ...
- Person Class Edit
- Reprint Access agreement letter
- Enter the new users name Last,First with no space between.  
*Enter NEW PERSON's name (Family,Given Middle Suffix):  
DEMONSTRATION,PERSON*  
  
*Are you adding 'DEMONSTRATION,PERSON' as a new NEW PERSON  
(the 129TH)? No// Y*  
  
*INITIAL: PD*  
  
*SSN: 456657654*

*SEX: M*

- You can also access these screens again by using the Edit an Existing user option under the User Management menu. This will allow you to make edits to previously defined users. The system will prompt you to enter the last name of the user and does not file users by either Access or Verify Codes.
- When adding a user who will be involved with the Clinical Information System, assure these steps are taken:
  - Assign the primary/secondary menu options of
    - OR CPRS GUI
    - GMV Vitals
  - Assign the COR Tab
  - Authorized to Write Med Orders (**Used to determine if provider is authorized to write orders**)
  - Assign the proper keys in accordance with user's function:
    - Provider
    - ORES (Provider/Physician)
    - ORELSE (Nurse)
    - OREMAS (Admin Staff)
    - MAG Keys (All who will use the imaging process)

## **2. Access Code/Verify Code Pair**

- ACCESS CODE

6-20 characters mixed alphanumeric.

*An example of an acceptable Access Code: PDNE317*

- VERIFY CODE

8-20 characters mixed alphanumeric and punctuation (except '^', ';', ':')

*Example of an acceptable Verify Code: 8586[FO]*

- VERIFY CODE never expires

This field will control if the users VERIFY code will expire at the interval set by the Kernel System Parameter LIFETIME OF VERIFY CODE. This field should only be used for access to the VistA system from other systems making connection with the RPCBroker and have very controlled access. Only persons with the XUMGR key are allowed to set this flag.

## **3. Grant Access by Profile – Cloning**

To give access to multiple users, by copying or cloning a single user, access the Grant Access by Profile under the User Management Menu. This option will copy the New Person record from one user to another and you can also choose to copy to multiple users. If there are numerous users that need to be added, then this is the best function.

- Choose the Grant Access by Profile from the User Management Menu.
- Enter the name of the user in the format:
  - Lastname,Firstname.
- Choose to Copy the Person's User Class.

## **Keys**

The set of permissions that allow users to see or do certain tasks is referred to as keys in OpenVista. These keys are set in each environment and per user. If a user does not have a

certain key to change the settings on a printer, for example, OpenVista sends a message saying that it did not find the information with a double question mark, '??'.

## 5.0 System Interfaces and Integration

Describe your solutions ability to interface with the products identified in Section 2.7.3.A. Include information regarding how the interface works with each product and how your organization ensures that as upgrades are completed (either with your system or the interfaced system) the interface continues to function as designed.

### <Response>

Medsphere's Interface & Technical Services Group (ITSG) includes a full-service interface team with decades of combined knowledge and expertise in the design, analysis and development of interface solutions that meet and exceed our client's needs. Our team includes expert analysts and programmers allowing us to control and manage every aspect of the integration process from kick-off to go-live with a high degree of efficiency and success.

Medsphere's approach includes having broad experience parsing HL7 data, massaging that data when necessary and then placing that data properly into FileMan data structures using the appropriate FileMan Application Programmer Interfaces (APIs). Through experience, Medsphere has developed and utilized a set of engineering best practices related to the proper construction of interfaces to OpenVista. An important part of these best practices is the proper use of the FileMan DIC and DIE APIs for data lookups and updates respectively. These best practices also address the handling of HL7 errors.

Proper handling of HL7 errors is important for all interfaces but will be especially important related to registration data messages because they will need to be examined for data quality and duplicate patient issues. Data coming from the various DHS systems is expected to have duplicate patients as well as variances in the patient demographic data as well which if unchecked can introduce data quality issues. Proper logic for updates OpenVista will be put in place to ensure that duplicate patients and data inconsistencies are not introduced. An important part of how this will be done will leverage HL7 application level error handling also known as AE errors. Application errors will be returned to the respective system but any necessary action to perform data cleansing is to be performed by the respective system teams. The same or similar data processing logic will be included in the data configurators that are described in the next section on Data Migration Planning. Any data load errors or duplicate patient errors will be captured and reported to the DHS in an exception log and not introduced into OpenVista.

Included in Medsphere's Subscription Agreement is a generous list of interfaces designed to maximize interoperability with other popular systems typically found at existing hospitals today, such as, Reg/ADT, ADM, PACS, Transcription and Lab Instruments. Medsphere also sets up charge interfaces for ancillary services.

Medsphere's OpenVista application also includes a fully integrated Pharmacy Application. This application is an integral piece of the patient care process including allergy checking, interaction checking and Bar Code Medication Administration. An interface to an ADM (Automated Dispensing Machine) is available and included in the Standard Subscription Agreement.

OpenVista further supports the automated filing of discrete physiological measurements from bedside monitors.

The results are sent to OpenVista in an HL7 2.x unsolicited result message. Each individual result is sent in a separate OBX segment.

The values update the values in the Vital Signs tab in the CareVue module.

Remote Automated Laboratory System results such as glucose point of care testing is supported with the Laboratory Point of Care Interface.

The results file automatically to the patient's chart without the necessity of accessioning or reviewing in the laboratory module.

Interfaces that fall out of the specified parameters, as defined above, but are potentially to be interfaced to, are evaluated to assure Medsphere fully understands the level of effort needed to successfully develop the interface:

#### **LIS – Fully integrated LIS available in OpenVista**

Description:

- Patient demographics from the Registration/ADT system will be routed to Laboratory Information System
- Order send from OpenVista
- Results and update statuses from Laboratory Information System into OpenVista
- Charges are routed through financial system

#### **Reference Laboratory Interface**

Description:

- Order send from OpenVista
- Results and update statuses from Reference Laboratory into OpenVista

#### **RIS – Fully integrated RIS available in OpenVista**

Description:

- Patient demographics from the Registration/ADT system will be routed to Radiology Information System
- Order send from OpenVista
- Results and update statuses from Radiology Information System into OpenVista
- Charges are routed through Stockell Insights

#### **Point of Care – RALS**

Description:

- Patient demographics will be routed from the Registration/ADT to Point of Care Testing application.
- Point of Care testing results inbound to Open Vista.

Patient Data, Laboratory Data and Medication data must all be addressed separately to create an all-encompassing strategy, approach and design for migrating existing data. Medsphere has used this design approach successfully for our separate OpenVista EHR customers including in support of the State of West Virginia.

An Admission, Discharge, Transfer (ADT) interface from an outside patient registration system enables EHR applications within OpenVista to function properly while minimizing the manual entry into OpenVista of patient demographic and visit data. The current version of the OpenVista ADT Inbound Interface handles HL7 version 2.3 messages, but in most cases the processing code can be adjusted for other HL7 versions.

The ADT Inbound Interface receives comprehensive real-time data from the patient registration system. The sender can choose to remain connected or connect when data is ready to send. The interface can use either a single or multi-listener, usually on port 5000. The name of this listener is implementation specific. The sending application is responsible for the data until an acknowledgement of receipt from OpenVista has been received.

### Application Parameters

OpenVista requires the inclusion in HL7 messages of both sending and receiving facility fields. Since OpenVista receives data from many different outside applications, this information is required to route the data to the correct processing routine. These names are stored in a file in OpenVista and can be configured to anything the vendor wishes.

The following table identifies message types segments used in the OpenVista ADT Inbound Interface (Req. = required, Opt = optional, Rpt = repeating). Below is a strong example or the tables interface specifications. Note that not all specification are contained within.

ABB	Name	MSH	EVN	PID	NK1	PV1	PV2	GT1	IN1	IN2
A01	Admit a Patient	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt/Rpt
A02	Transfer Pt	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A03	Discharge Pt	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A04	Admit OP (Register)	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A05	Preadmit	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A06	OP to IP Rollover	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A07	IP to Op Rollover	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A08	Update Data	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A11	Cancel Admit OP or IP	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A12	Cancel Transfer	Req	Req	Re	Opt	Req	Opt	Opt	Opt	Opt
A13	Cancel Discharge	Req.	Req.	Req.	Opt	Req.	Opt	Opt	Opt	Opt
A28	Add Patient Data	Req	Req	Req	Opt	Pv1	Opt	Opt	Opt	Opt
A31	Update Patient Data	Req	Req	Req	Opt	Pv1	Opt	Opt	Opt	Opt

### Event Type (EVN)

The event type code is for back compatibility and the event type should be in the message header segment.

No.	Description	R/O	Len	Type	Notes
01	Event Type Code	B	3	ID	
02	Recorded Date/Time	R	26	TS	
03	Date/Time Event planned	O	26	TS	
05	Operator ID	O	60	XCN	May not be stored in OpenVista

### Patient Identification Segment (PID)

The patient identification segment is the most critical component of any HL7 message. Since the patient registration system is the owner of this data, new patients, events, or changes to data need to be reflected in OpenVista. However, OpenVista does not need to know nearly as much data as the patient registration system.

The format of the internal medical record number may need to be negotiated by Medsphere and the client. This record number is not the same as the internal entry number in OpenVista, but is used to validate the patient and send data for lookups to the OpenVista system.

The list below is the fields currently stored in OpenVista. This list can be easily modified if the patient registration system sends other fields.

No.	Description	R/O	Len	Type	Notes	Item#												
	Literal PID				PID													
01	Set ID	O	1	SI	Literal 1	00104												
02	Patient ID External	O	30	CX		00105												
03	Patient ID Internal	R	30	CX	Account number in 29320.8	00106												
04	Alternate Pat ID	O	30															
05	Name	R	30	XP	Name spread over three (3) subfields; components add up to thirty (30) characters	00108												
	<table border="1"> <thead> <tr> <th>SubFld</th> <th>Data</th> <th>Len</th> </tr> </thead> <tbody> <tr> <td>.1</td> <td>Last</td> <td></td> </tr> <tr> <td>.2</td> <td>First</td> <td></td> </tr> <tr> <td>.3</td> <td>Middle</td> <td>1</td> </tr> </tbody> </table>	SubFld	Data	Len	.1	Last		.2	First		.3	Middle	1					
SubFld	Data	Len																
.1	Last																	
.2	First																	
.3	Middle	1																
07	Date/Time of Birth	R	26	TS	HL7 Format	00110												
08	Sex	R	1	IS	M=Male F=Female	00111												

Describe your solutions ability to interface with solutions identified in Section 2.7.3.B. Include information regarding how the interface works with each and how your organization ensures that as upgrades are completed (either with your system or the interfaced system) the interface continues to function as designed.

#### <Response>

HL7 messages transmitted to and from Vista will be transmitted through the Mirth engine. As long as the third-party product supports HL 7, an interface between OpenVista and the third-party component will not be an issue. Most sending and receiving logical links in Vista will be matched with a single Mirth channel. The Mirth engine is part of our core infrastructure and is the layer that handles our HL7 messaging capabilities. The engine is installed on the same hardware platform as the OpenVista server.

Medsphere's ITSG monitors all third-party interfaces to ensure they are up-to-date with the latest, applicable release. Upgrades are included in our quarterly version release cycle.

Describe your solutions ability to interface with solutions identified in Section 2.7.3.C. Include information regarding how the interface works with each and how your organization ensures that as upgrades are completed (either with your system or the interfaced system) the interface continues to function as designed.

<Response>

At the heart of our interoperability solution is Mirth Connect. Mirth connects and shares information across systems with other platforms – both inside and outside your organization.

List and describe any other systems that you integrate with that are similar to those listed in 2.7.3.A.

<Response>

ADT / SISI Filer  
Allscripts  
Allscripts  
AMD Pacs  
Amazing Charts  
Amicus  
Autofax  
BRIT PACS  
Candelis PACS  
CareNotes  
Charges  
Epiphany  
Glucometer  
Greenwich Reference Lab  
Holter Monitor  
iMedConsent  
iMedx Transcription  
Infinitt EKG  
Infinitt PACS  
JVN  
LabCorp Reference Lab  
LabDaq Laboratory  
LaHIE Data Repository  
LandMark Transcription  
LEDI/DI  
MediLink

MedMined  
MedScribe Transcription  
Morris & Dickson Report  
MUSE  
Norwalk Reference Lab  
NovaRad PACS  
OB TraceVue  
Omnicell  
Patient Education System (PES)  
Phillips  
PowerScribe 360  
Quest Reference Lab  
Radiology RIS  
Schuylab  
ScriptPro  
Solis Reference Lab  
TalkTech  
TechScript PACS  
TechScript Transcription  
Vistek PACS

---

Describe your overall approach to developing, testing, implementing, and upgrading system interfaces to other third party systems. Describe the process you use to settle disputes over interfaces between your solution and others.

<Response>

Medsphere's Interface & Technical Services Group (ITSG) includes a full-service interface team with over 50 years of combined knowledge and expertise in the design, analysis, development, implementation, etc., of interface solutions that meet and exceed our client's needs. Our team includes expert analysts and programmers allowing us to control and manage every aspect of the integration process from kick-off to go-live with a high degree of efficiency and success.

Medsphere's approach includes having broad experience parsing HL7 data, massaging that data when necessary and then placing that data properly into FileMan data structures using the appropriate FileMan Application Programmer Interfaces (APIs). Through experience, Medsphere has developed and utilized a set of engineering best practices related to the proper construction of interfaces to OpenVista. An important part of these best practices is the proper use of the FileMan DIC and DIE APIs for data lookups and updates respectively. These best practices also address the handling of HL7 errors.

Proper handling of HL7 errors, whether from our systems or third-party, is important for all interfaces but will be especially important related to understanding where the error lies especially as they relate to registration data messages because they will need to be examined for data quality and duplicate patient issues. Data coming from the various systems is expected to have duplicate patients as well as variances in the patient demographic data as well which if

unchecked can introduce data quality issues. Proper logic for updates OpenVista will be put in place to ensure that duplicate patients and data inconsistencies are not introduced and the offending system is corrected and updated. An important part of how this will be done will leverage HL7 application level error handling also known as AE errors. Application errors will be returned to the respective system but any necessary action to perform data cleansing is to be performed by the respective system teams. The same or similar data processing logic will be included in the data configurators that are described in the next section on Data Migration Planning. Any data load errors or duplicate patient errors will be captured and reported to the state in an exception log and not introduced to the state and into OpenVista.

## 6.0 Conversion of Existing Information

Describe your organization's approach to providing training and technical support to State resources converting the past 30 days of clinical records from paper to the new system prior to Go-Live.

The discussion should follow all requirements set forth in Section 2.7.4.A.1.

<Response>

### **Data Conversion/Loading**

Medsphere configurators (automated electronic tools enhancing the implementation process) make transferring data from existing system to OpenVista a more rapid and straightforward process than other alternatives. The primary tasks in this phase are managing the configurator schedule, extracting data from existing hospital systems, loading existing data files using Medsphere configurators and preparing patient bar coding functionality.

### **OpenVista Specific Application Module Design and Build**

Once data is transferred from existing databases to OpenVista, Medsphere must also configure OpenVista applications now populated with state data to accommodate existing workflows. Included in this phase are a series of workgroup meetings in which facility leaders and policymakers revise and standardize processes associated with transition to the OpenVista solution. Medsphere helps the state create a tailored OpenVista solution through the design and configuration with required core and ancillary applications using System Design Blocks. This crucial phase provides key state personnel with the in depth and knowledge necessary to support the facility after the system is implemented. When configuration details are determined, Medsphere conducts configuration training and review for each application, and then assists the state to complete the system build process.

### **Testing and System Validation**

With the tailored OpenVista solution in place, Medsphere assists the state in confirming that design, build, and configuration were successful through unit and integrated testing, followed by a database freeze and the creation of a live production environment.

Describe your organization's approach to providing the training and technical support necessary to support State resources who will be scanning medical records older than 30 days at time of Go-Live into the system.

The discussion should follow all requirements set forth in Section 2.7.4.A.2.

<Response>

OpenVista's CliniDoc document imaging solution is a back-office document scanning, indexing and viewing application that liberates you from all the paper associated with the business end of your practice. Converting paper documents to scanned electronic images provides clear, measurable benefits:

- Increase revenue through conversion of file space to exam rooms
- Create more time previously spent on retrieval and handling paper documents
- Improve efficiency by enabling on-demand access to important documents by multiple users

CliniDoc enables you to scan and conveniently retrieve the documents that are essential to your back office--payer explanations of benefits (EOB), daily deposits, encounter forms, patient insurance reviews, insurance plan newsletters and billing documentation, insurance contracts and most other documents associated with back-office functions.

CliniDoc's indexing keys enable rapid searches for documents using multiple identifiers: type, MRN, company, date and tag. A unique clipboard function allows users to paste sections of different documents into one for printing and sharing electronically. For example, when attaching an EOB notice for a secondary claim, you can select just the sections pertaining to a specific patient and print them from the clipboard rather than printing out the whole document and manually blacking out unwanted information.

## **CliniDoc Document Management Features**

### ***Scanning***

- Compatible with TWAIN compliant scanner
- Supports flatbed, feeder and duplex scanning
- Generates color, grayscale and black & white images

### ***Viewing***

- Enables user to pan, zoom, scroll, and rotate
- Arranges multiple documents in cascade or tile layout

### ***Annotating***

- Includes highlighting and sticky-note annotation
- Enables hiding annotations, as needed

### ***Printing***

- Prints to any Windows printer, with or without annotations

- Imports JPEG and TIFF files
- Exports to PDF

Assessments including but not limited to clinical, behavioral, medical, psychological, dental, nutritional, physical therapy, occupational therapy and speech.

Training and pre- and post-go live support is included as a part of the subscription fee.

Describe your organization's approach to handling data conversion. This discussion should include information about how your organization handles data conversion from a user's current billing system to the new system.

The discussion should follow all requirements set forth in Section 2.7.4.B.1.

#### <Response>

Medsphere Application Specialists will build the InsightCS RCM tables below based on input from the State core team provided to Medsphere during initial discovery sessions, plus additional information requested of the State during build. Code/description files provided by the State will be converted, if necessary, and loaded to the appropriate InsightCS maintenance file(s). In the event the State is not able to provide an existing record set, Medsphere will attempt to create one from existing publicly available sources where feasible and practical. The State will be provided a spreadsheet or report of all tables of all data to be converted for their review.

The build and data gathering will occur both onsite and remotely. Meetings to discuss data gathering and requirements will be delivered onsite and/or via WebEx sessions. Build/data examples include:

### **1. ADT/Registration and Imaging System Build**

- Profile Maintenance
- System Maintenance
- Location Maintenance
- Codes Maintenance (ADT/Imaging Specific)
- Insurance Maintenance
- Patient Type Maintenance
- Service Maintenance
- Nursing Maintenance
- Room/Bed Maintenance
- User Defined Maintenance
- Registry Maintenance
- ADT Print Routing
- Form Type Maintenance
- Imaging Security Maintenance

### **2. Patient Accounting 1 Build**

- General Ledger Maintenance (Chart of Accounts)
- Adjustment Maintenance
- Payment Maintenance
- Hcpcs Maintenance
- Revenue Maintenance
- NDC Maintenance
- Charge Maintenance
- Codes Maintenance (PA1 Specific)
- Claim Agent Maintenance
- Claim Agent Assignment
- Claim Event Maintenance
- Resolution Path Maintenance
- Diagnosis Maintenance
- Procedure Maintenance
- DRG Maintenance

### **3. Patient Accounting 2 Build**

- Codes Maintenance (PA2 specific)
- Balance Code Assignment
- Payer Code Maintenance
- Collector Maintenance
- Collector Assignment
- Action Maintenance
- Cycle Maintenance
- Payment Plans
- Nightly Processes
- AR Payment Processor
- Contract Maintenance
- Vendor Maintenance
- CAS Reason Maintenance
- 835 Processing Rules

### **4. Medical Records Build**

- APC Maintenance
- Physician Maintenance
- Diagnosis Maintenance
- Diagnosis Related Group Maintenance
- Procedure Maintenance

## **7.0 Ongoing System Maintenance and Updates**

Describe in detail how software maintenance is handled. This should include a discussion regarding the following topics:

- What is included in your maintenance package?

- How does your maintenance meet all requirements in Section 2.7.6.A?
- Will the state be required to upgrade to the latest version of software as it is released?
- What type of user support is available during maintenance periods?

<Response>

Maintenance includes software updates, upgrades, reconfigurations and enhancements, which are typically provided after hours. Medsphere schedules the installation of any updates or upgrades at a mutually agreed upon time to limit the clinical impact. Although it is recommended to take new releases as they become available, Medsphere allows for one cycle to be missed. All maintenance files and templates are provided to the State to ensure IT specialists are up-to-speed on maintenance activities. As State staff are intimately involved with configuring OpenVista, all maintenance files required to support OpenVista are included.

High priority issues arising after regular business hours must be routed to Medsphere via telephone to be promptly received and acted upon.

### **Updates**

Where applicable, updates are delivered remotely online; are generally defined as corrections or other improvements to the features, functionalities and performance of the software; and are currently scheduled for quarterly release.

### **Upgrades**

Upgrades often include core code fixes, enhancements or product modules.

Customer Care typically will load the upgrades and assist hospital personnel in testing recommendations, answering questions and planning the upgrade schedule.

### **Testing New Releases, Updates, and Upgrades**

The same testing and verification process described for on-site deployment applies to all system upgrades and updates deployed through patches. Upgrades and fixes are available only after they are thoroughly tested and approved. The following table lays out the testing plan sequence. The duration is subject to change

We employ an incremental development process, concentrating on small, stable evolutionary releases. The process includes the review of each line of code by two software developers before the code ever reaches quality assurance.

During and following Go Live, primary help with OpenVista function is provided by on-site Medsphere consultants, as required. For an initial period, Medsphere monitors both the types of problems end users relay to the Help Desk and the ways in which local support responds. This transition period is an ideal opportunity to iron out any remaining issues and confirm local understanding of OpenVista. Full transition from on-site Medsphere support to the Medsphere Support Center occurs by mutual agreement between the State and Medsphere's Project Manager. Any remaining implementation issues are the responsibility of Medsphere's implementation team, but the transition provides for essential 24x7 support. From this point forward, the State facility and Medsphere comply with the Medsphere Subscription Service Agreement, relying on the Medsphere Support Center for Tiers Two and Three support.

Medsphere's Customer Care support system architecture includes powerful built-in remote support tools and utilities that enable us to remotely diagnose and remedy issues. If locally implemented, our typical model is to have technical support assigned for remote support that

will also have back reach authority to Customer Care Analysts/Engineers/Technicians. In the event a problem covered under maintenance services can't be resolved remotely, a service representative will be dispatched on-site.

The Medsphere support structure ensures that Medsphere offers real time service. During core support hours an experienced Customer Care Analyst/Technician will answer the phone. In the majority of cases, Support is well aware of the service history of the facility; the Analyst/Technician is responsible for the call closure process and will work with you through to resolution.

Normal core Support hours: Core support hours are weekdays from 5 AM to 5 PM (Pacific Time).

Phone: 1-877-633-7743

Email: support@medsphere.com

Fax: 760-683-3701

Medsphere guarantees timely acknowledgement of incoming questions by phone and email during regular business hours from 5 AM to 5 PM (Pacific).

- All calls will be received within four (4) rings
- All incoming email questions are reviewed on an hourly basis

Non-critical issue support—software updates, upgrades, reconfigurations, enhancements—is provided during core hours. Medsphere will schedule the installation of any updates or upgrades at a mutually agreed upon time to limit the clinical impact on the customer.

High priority issues arising after regular business hours must be routed to Medsphere via telephone in order to be promptly received within four (4) rings.

### **Preventative Maintenance**

The State will receive Medsphere's preventative maintenance service once every quarter. Manual system health checks will be conducted to identify and remedy software problems.

System health checks include:

- Confirm successful database backups
- Monitor memory usage of EHR processes
- Monitor usage of disk space
- Monitor network performance
- Monitor data archive status

Provide a brief descriptive summary of your software development methodology for product enhancements and include a description of your testing and quality assurance process prior to release.
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<Response>

Medsphere will make modifications and enhancements to OpenVista following our Modification and Enhancements Request (MER) process. The MER process will dictate the submittal, cost estimating, and approval for new requirements and functionality for OpenVista. Medsphere will

follow the MER in its review, analysis, estimating, development, test, and deployment of new requirements for OpenVista.

As the State submits and Medsphere receives each MER, we will review the formal request and begin the functional and technical analysis needed to put together cost and schedule estimates for the new requirement. Medsphere will respond with total cost, schedule, and resources required for implementation of the MER. The Estimate will provide details of itemized cost estimates, showing all costs in the form of hours and resources associated with each MER. The estimates will include hours for updating the appropriate deliverable documents, if warranted by the MER. Medsphere will also provide detailed schedule and delivery date that shows any milestones and development/test phases for the MER plus document the impact to the system and/or operations. The MER response will be to provide visibility to the DHS on the effort for developing and testing the MER.

If the State would like to better understand the rationale for the cost or understanding of the tasks associated with the MER, Medsphere will supply additional information and rationale, as needed.

Medsphere will revise and resubmit cost estimates as agreed upon by the State and Medsphere. During the MER process, Medsphere will work in good faith with the State in refining the requirements and coming to agreement on system enhancements and reasonable costs for the modifications. Medsphere will do its best to negotiate requirements and capabilities acceptable to the State.

Once approved with written acceptance from the State, Medsphere will begin Requirements Analysis on the MER. We will review the requirements and specifications delivered by the State and our SOW. Medsphere will update the appropriate sections of the Requirements Verification and Specification document. If clarification or questions on the MER arise, Medsphere will conduct either an electronic System Requirements Review (SRR) or hold an on-line meeting and web conference to review the MER. Medsphere will update the Requirements Verification and Specification document with the results and findings of the SRR.

After approval of the MER and requirements document, Medsphere will perform the development and implementation of the MER using its Agile software development methodology. Medsphere's agile software development process calls for iterative short development cycles with frequent customer review and feedback. The agile software development process calls for iterative, incremental approach to developing and releasing software. Agile principles include commitment to timely and ongoing software deliveries, changing requirements, adaptive development, simplicity in approach, and sustainable development cycles. The Agile Software Development Methodology will consist of a series of short, iterative, typically two-week Sprints to perform Design, Code, and Unit Test. The Sprints will be an iterative approach to reviewing, analyzing, designing, developing, and testing the system capabilities, with prioritizing and accomplishing tasks in small manageable units of development.

During the Sprints, Medsphere will also solicit feedback and user critique from representatives of the State clinical user community on functionality under development. The Sprints will culminate in tested, CM controlled software packages that will then be promoted to a formal, QA Test environment for full integration and formal testing. Medsphere will also make appropriate updates to project deliverable documents affected by each MER. For example, functional and technical design changes will be updated in the Application Design deliverable.

At the conclusion of a Sprint associated with a MER, Medsphere will conduct formal QA test of the package/release. For QA Test, Medsphere will thoroughly test all functional and technical aspects of the MER. For those MERs associated with external systems, Medsphere will include

end-to-end Integration Test as part of the QA Test. Once the MER passes QA Testing, Medsphere will notify the State that the MER is ready for formal testing.

Medsphere will deliver installation instructions for each MER software release in accordance with the project Release Management Plan and Configuration Management Plan. Medsphere will also assist in coordination with other vendors in the testing of the MER. After formal DHS testing (at the State’s discretion) and acceptance of the MER, Medsphere will also coordinate with the State for the production deployment and release of the MER software packages. Medsphere will assure that each MER is deployed without system interruption.

Definitions related to software maintenance and support program:

- **Software Documentation** means the user guides and relevant quick reference guides regarding the Software that Medsphere delivers to the State in paper or digital form with the Software.
- **Object Code Software** means software applications and modules in machine executable code form, including all updates, upgrades and new versions of that software made available by Medsphere.
- **Software** means, collectively, the Master Service and Subscription Agreement licensed Object Code Software, Source Code Software, and MUMPS Software, including any updates, upgrades or new versions made available by Medsphere to the State. “Software” does not include Third-Party Software.
- **Source Code Software** means software applications and modules in human-readable form and that generally requires compilation before it can be processed by a computer system, including all updates, upgrades and applicable new versions of that software made available by Medsphere.

Because the established development process requires the structured review of all code, Medsphere maintains a continuous internal testing cycle (See below). Our SMEs are constantly reviewing recent client versions for functionality and stability.

**Medsphere Testing Plan Sequence**

Testing Focus	Duration	Tests Performed
1. Hardware	20 days	<ul style="list-style-type: none"> <li>• System acceptance tests</li> <li>• System operability checks</li> <li>• Wireless operability checks</li> </ul>
2. Software	12 days	<ul style="list-style-type: none"> <li>• Software test plan development</li> <li>• Validation testing of software</li> <li>• Software test report writing</li> </ul>
3. System	10 days	<ul style="list-style-type: none"> <li>• Interoperability testing</li> <li>• Verification testing</li> </ul>
4. Upgrades/Releases	N/A	<ul style="list-style-type: none"> <li>• Dual coding analysis</li> </ul> <p><b>Note:</b> Validation of upgrades and patches is client-specific and ongoing</p>

There are three different ways an OpenVista release would be generated:

- **Dot Releases:** Once a year, Medsphere disseminates a dot release (e.g., .5, .7, etc.) of OpenVista that includes extensions of existing functionality and defect corrections.
- **Service Packs:** Each quarter, Medsphere releases a Service Pack to OpenVista that is primarily a transmission tool for defect corrections. It is imperative that even minor defects (those not intruding on daily activities) be corrected as quickly as possible, and Medsphere adheres closely to the quarterly release policy.
- **Emergency Fixes:** These are fixes that impact patient safety and should be installed as soon as the change has been tested and verified that the expected outcome is achieved. Regression testing is also performed prior to release to ensure there are no other issues introduced into the software

In all cases listed above, the code change would have been initiated in a Problem Report (PR) or a Change Request (CR). This is the initial report of the problem or change either from the State, the State of West Virginia, other OpenVista users, or even from the Medsphere testing team. These items are evaluated for priority taking into account the impact it has on patient safety. The State Project Manager or their designee would participate in the determination of priority. The technical team would provide an estimated level of effort and all factors would be used to determine how the fix or change would be released.

All code changes are delivered to Release Management by the developers. Once the code is QA Complete, Release Management stores the code changes in a release repository and a release build is created.

There is an “installation” of database function. Loading of Vista patches into OpenVista takes a couple of minutes. Our QA group then performs detailed tests to validate acceptability of patches. If there are GUI changes, those are made to accept any new data and functionality. Once these changes are made, both client and server tests are conducted. QA then advises Support to install release into the State development instance for onsite testing and validation.

Once Medsphere and the State are satisfied that the new release is acceptable, it is moved into Production.

User and operations staff are trained in multiple ways. There is formal classroom training as well as on-the-job training during implementation and go live. If supplemental training is needed, WebEx sessions are conducted by qualified Medsphere staff. All aspects of End User and operations training is covered in guides and manuals (electronic and hardcopy), including detailed Release Notes and “cheat sheets”. Release Notes provide extensive details into what is contained in the Patch Release, its intended functionality and what is affected and related dependencies. The documents and presentations are expected to be loaded to the State central site for ease of access by all users.

Our Release Notes contain expected Key Performance Indicators (KPIs) to enact a specific function. A baseline set of KPIs exists and will be used to assure continuity in total application performance.

Provide an overview of your major and minor release cycle process. In your discussion please include the following:

- What is the frequency for major and minor upgrades?
- What is the typical down time required for major and minor upgrades?
- How are customizations or configurations maintained during an upgrade?
- How are enhancements prioritized (state, federal, Joint Commission)?
- What type of user support is available during major and minor upgrades?
- Provide one brief case illustrative example of a recent software enhancement to your

core product. Please note the development cycle dates from initiation to completion and the testing and release process.

<Response>

Where applicable, updates are delivered remotely online; are generally defined as corrections or other improvements to the features, functionalities and performance of the software; and are currently scheduled for quarterly release. Major upgrades typically take less than an hour; minor releases only a few minutes.

Customizations desired by the can come from different sources: functionality incorporated into OpenVista and, hence, installed by Medsphere but not considered part of the core OpenVista solution; development requested by the State that Medsphere can perform on a time and materials or FFP basis; incorporated into releases of OpenVista, and provided as part of the Subscription Service Agreement.

Medsphere account representatives receive requests for enhancements through the completion of a document (MER) that is then submitted to a select group of experts from several departments. Each request is evaluated by a group of cross-department representatives based on the level of effort required to develop and deliver the request and the value of the requested enhancement to other existing and potential Medsphere clients. These requests are prioritized along with other enhancements for consideration in the overall release strategy and sales and product plan. If an agreement is reached with the State, the work is scheduled.

In addition, Medsphere experts will conduct prototype and development requirements reviews with the State in order to validate assumptions and overall acceptability of the new development effort. Key focus is on user usability and UI and UX.

Provide a copy of your Quality Assurance Guidelines for testing new software releases (i.e. updates, patches, upgrades).

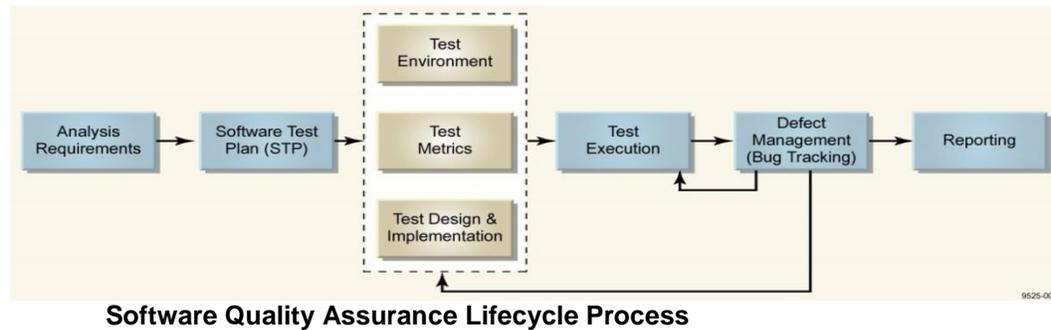
<Response>

MSC will coordinate, manage, and conduct thorough testing of the OVC solution. Our Software Quality Assurance test strategy forms the framework within which the test roles and processes work for the given schedule. The figure below highlights our Software Quality Assurance Lifecycle.

- Testing will occur on the OVC solution through validation of Functional and Non-Functional requirements. This includes the verification of infrastructure associated to the system; data redundancy, multi-tiered architecture, network latency, databases, and integration points.
- Verification is completed on user interface web pages and dependent pages identified during integration.
- Testing also verifies that the requirements have been met, calculations accurate, and business rules are usable.
- Test witnessing and testing quality audits occur with each deliverable.

MSC has proven success with Iterative, Waterfall, Agile, and CAP test methodologies; our flexibility is a benefit to our clients because we tailor our test initiative specifically to the needs of the project. For this project, we recommend an Agile approach, having discernible success on

highly complex and highly visible State, Federal, and International programs utilizing this methodology.



Our Software Quality Assurance solution utilizes the following environments:

- Test Environment: Harnessed environment used for internal staging and verification
- Preproduction: Scaled production like environment utilized for both internal integration and external joint integration testing.
- Production: Live environment utilized for smoke testing once all testing has completed and code promoted to a go-live environment.

Our Software Quality Assurance Functional testing approach and coverage includes:

- Module and System Testing
- Regression Testing
- Data Migration Testing
- User Acceptance Testing
- Go-Live Testing

Our Software Quality Assurance Integration testing approach and coverage includes:

- Would commence after the functional testing exit criteria has been met
- Will be conducted on all functional and non-functional interfaces, which are outlined as part of the RFP as well as all subsequent Integration functional or non-functional documentation.
- Testing will be a validation of each internal system module successfully integrating with one another.
- External integration testing would also be conducted to ensure End to End functionality.

MSC can incorporate early Volume Testing into the Non-Functional testing activities, allowing for early validation of database size limitations and resiliency. The MSC Workload model for non-functional testing is to

- Validate the high availability and failover of all network tiers
- Assure data capture and performance
- Session Persistence, Database functionality, and Server Validation
- Generate EHR Performance activity
- Ensure proper measurement of OVC related metrics
- Assure accurate calculations of OVC systems

Our Software Quality Assurance security testing approach is conducted after integration testing has been completed to assure;

- External Infrastructure Testing
- VPN/RAS Testing
- Internal Infrastructure Testing
- Web Application Testing
- Analysis and Reporting
- Execution of quarterly scans
- Conducts bimonthly penetration testing
- Static Code Analysis
- Database Security scanning

The MSC Team will conduct End to End testing by:

- Creating and executing comprehensive end to end test scenarios with all applicable external parties and conducting end to end assurance prior to user acceptance testing.
- MSC has a reliable blueprint for external joint integration testing that has been utilized in conjunction with State, Federal, and international governing bodies.

Our Software Quality Assurance User Acceptance Testing (UAT) approach includes:

- UAT will be conducted by the State with assistance as needed by MSC once functional and non-functional testing has been completed.
- MSC will coordinate the execution in the test environment
- MSC will assist in the creation of test cases and test scenarios

Our solution utilizes the following testing techniques:

- Data Cycle: Assures how functionals deal with communal data
- Decision Table: Validation of functional conditions
- Elementary Comparison: Validates the decision points within the EHR system
- Edit Validation: Validation of the edits within the system
- Exploratory: Ad-hoc assurance
- Process Cycle: Assures the interoperability with external dependencies
- Real Life: Simulate lifelike usage
- Semantic: Verifies data relationships
- Syntactic: Verifies the attribute compliance
- Smoke: Assurance conducted on each initial release
- Fuzzy: Provides unexpected data to inputs to assure appropriate system response
- Boundary: Assures the ability to tax the thresholds of the system
- Spike: Assures a load at a statistical mean and abruptly increases to a threshold
- Load: Assures a concurrent statistical mean of users
- Soak: Assures a significant concurrent load on the system

MSC utilizes automated testing tools to reduce the amount of time spent for each execution cycle. Additionally, automated scripts can be scheduled for execution outside of peak hours and reviewed during peak hours. MSC will utilize the following Software Test Tools.

- Silk Test
  - Silk Test is a tool for automating functional and regression testing applications. MSC currently has numerous regression scripts that have been built specifically for the OpenVista application, which will be leveraged as regression for this endeavour.
- Smart Bear and Apache Software utilities

- Assures web services and APIs. Allows system to be broken into unique segments to tax the integration points. Utilized for both on static and dynamic resources (files, Servlets, Perl scripts, Java Objects, Data Bases and Queries, FTP Servers and more). This enables SQA to test a range of applications including mobile, Ajax, Flex, HTML 5, .NET, Java, GWT, SOAP, Citrix, ERP and legacy.
- The MSC solution ensures the data integrity and management of the system by
  - Test Execution will be conducted and a baseline established on the initial data, staging area, data dictionary, input data, output data, and data transformation. Upon establishing a baseline on-going regression testing will be conducted to ensure accurate, valid, and consistent databases.
  - The creation of SQA specific data or the utilization of production scrubbed data
  - An automated refresh process to ensure an accurate dataset.
  - A baseline established on initial data.
  - Data will be used for both internal integration and external Joint Integration testing
  - Data migration will be assured for validity, stability, and quality measures

The MSC solution will ensure concise entry/exit criteria in line with the State's expectations. The MSC Team will review the entry criteria, conduct a test readiness review, and a risk assessment prior to beginning each testing stage. In addition, all of the exit criteria should be met in order for the functionality to be released to production or the next execution stage begins.

- A Test Readiness Review will be conducted prior to each stage
- Exit criteria will be met prior to a test stage or production release.
- 100% tests executed
- Severity based defects resolved and test cases passed in accordance to the defect mask.

The MSC Software Quality Assurance Team's best practices, and as part of the Agile Process Library (APL), Test Readiness Reviews are conducted to ascertain the readiness for Module and System, Ready for Operations, Volume and Performance, Integration, and User Acceptance Testing. This review provides transparency by MSC to the State by reviewing requirement traceability, documentation, and test cases for the upcoming test stage as well as the test report from the prior stage. This will align with the entry and exit criteria for each stage.

MSC prioritizes functional and non-functional requirements based on risk. If a risk is deemed acceptable, then testing can be right sized to decrease cycle time. Exploratory testing can be utilized early by allowing test resources access to the development environment. Issues can be found early and resolved out of cycle through collaboration with the development staff prior to code deployment into the test environment. MSC can prioritize testing based on need and code compatibility; certain areas of code can be grouped together to reduce redundant testing.

The MSC SQA Team will conduct impact assessments during non-peak periods to reduce the risk to end users.

- We will analyze the weaknesses detected, evaluate the impact and probability of exploitation associated with each security weakness, formulate corrective actions, and provide recommendations for mitigating the risks associated with the vulnerability.
- MSC will conduct a risk assessment, as part of the Test Readiness Review, assuring any test issues are addressed and the subsequent entry criteria met.
- Testing will be de-risked by priority based execution.

- High availability hardware and thresholds will be executed first and regressed on an on-going basis.

MSC will assure the Support and Monitoring by

- Providing on-going security regression testing and in-depth analysis with each release, quarter, or fiscal year. This will be a combination of all prior high risk testing as well as aligning with up-to-date techniques and processes.
- High availability and volumetric regression testing. E.g. tier failover, CPU usage, log analysis, memory usage, and volumetric trending.

MSC will implement a continual service improvement process, shown in the figure below shows our test management and defect tracking process. This will assure that the program will continue to mature with market trends and SQA best practices through measurement, trending, analysis, reporting, and improvement.



### Continual Service Improvement Process

The MSC solution will provide the following outputs and deliverables:

- Test Cases will be located in a Quality Management tool and its functionality will be utilized to record and execute based on priority.
- A requirement traceability matrix can be extracted out of the Quality Management Tool, as test cases, test runs, and defects will be associated to each applicable requirement.
- Test runs, test execution results, and test issues will be housed within the Quality Management tool
- Expected and actual output along with any associated screenshots will be stored in a centralized location.

The MSC Quality Control process shown in the figure below shows end to end traceability of the program along with a clear and concise resolution path for problem records. Requirements, test cases, test runs, and problem records will be associated to one another to assure

transparency and correlation to one another. MSC will provide progress reporting output from Test Execution in a Test Log and submit to the Client.

Metrics for requirements traceability, test progress, defect management, and overall test phases will be provided weekly, for each test phase, and as needed to ensure transparency.



**Quality Control Process**

The MSC Agile Process Library (APL) contains the template for the proposed test plan that will be provided by the MSC Team to the TDH in accordance with the project schedule. The figure below shows a sample Table of Contents of our proposed test plan.

<b>TABLE OF CONTENTS</b>		
1.	<b>Test Plan Identifier</b>	4
2.	<b>Introduction</b>	4
3.	<b>Test Items</b>	4
4.	<b>Features to be Tested</b>	4
5.	<b>Features Not to be Tested</b>	4
6.	<b>Approach</b>	4
7.	<b>Item Pass/Fail Criteria</b>	4
8.	<b>Suspension Criteria and Resumption Requirements</b>	4
9.	<b>Test Work Products (Deliverables)</b>	4
10.	<b>Testing Tasks</b>	4
11.	<b>Environmental Needs</b>	4
12.	<b>Responsibilities</b>	4
13.	<b>Staffing and Training Needs</b>	4
14.	<b>Schedule</b>	4
15.	<b>Risk and Contingencies</b>	4
16.	<b>Test Readiness Criteria</b>	4
17.	<b>Verification Methods</b>	4
18.	<b>Test Completion Criteria</b>	4
19.	<b>Approvals</b>	4

There are three different ways an OpenVista Cloud (OVC) releases are generated:

- **Dot Releases:** Once a year, Medsphere disseminates a dot release (e.g., .5, .7, etc.) of OpenVista that includes extensions of existing functionality and defect corrections.
- **Service Packs:** Each quarter, Medsphere releases a Service Pack to OpenVista that is primarily a transmission tool for defect corrections. It is imperative that even minor defects (those not intruding on daily activities) be corrected as quickly as possible, and Medsphere adheres closely to the quarterly release policy.

- **Emergency Fixes:** These are fixes that impact patient safety and should be installed as soon as the change has been tested and verified that the expected outcome is achieved. Regression testing is also performed prior to release to ensure there are no other issues introduced into the software

In all cases listed above, the code change would have been initiated in a Problem Report (PR) or a Change Request (CR). This is the initial report of the problem or change either from the State, the State of West Virginia, other OpenVista users, or even from the Medsphere testing team. These items are evaluated for priority taking into account the impact it has on patient safety. The State Project Manager or their designee would participate in the determination of priority. The technical team would provide an estimated level of effort and all factors would be used to determine how the fix or change would be released.

All code changes are delivered to Release Management by the developers. Once the code is QA Complete, Release Management stores the code changes in a release repository and a release build is created.

There is an “installation” of database function. Loading of Vista patches into OpenVista takes a couple of minutes. Our QA group then performs detailed tests to validate acceptability of patches. If there are GUI changes, those are made to accept any new data and functionality. Once these changes are made, both client and server tests are conducted. QA then advises Support to install release into the State development instance for onsite testing and validation.

Once Medsphere and the State are satisfied that the new release is acceptable, it is moved into Production.

User and operations staff are trained in multiple ways. There is formal classroom training as well as on-the-job training during implementation and go live. If supplemental training is needed, WebEx sessions are conducted by qualified Medsphere staff. All aspects of End User and operations training is covered in guides and manuals (electronic and hardcopy), including detailed Release Notes and “cheat sheets”. Release Notes provide extensive details into what is contained in the Patch Release, its intended functionality and what is affected and related dependencies. The documents and presentations are expected to be loaded to the State central site for ease of access by all users.

Our Release Notes contain expected Key Performance Indicators (KPIs) to enact a specific function. A baseline set of KPIs exists and will be used to assure continuity in total application performance.

Describe how your company will provide on-going user support via telephone and email per the requirements set forth in RFP Section 2.7.7.
-------------------------------------------------------------------------------------------------------------------------------------------

<Response>

The Medsphere support structure ensures that Medsphere offers real time service. During core support hours an experienced Customer Care Analyst/Technician will answer the phone. In the majority of cases, Support is well aware of the service history of the facility; the Analyst/Technician is responsible for the call closure process and will work with you through to resolution.

Normal core Support hours: Core support hours are weekdays from 5 AM to 5 PM (Pacific Time).

Phone: 1-877-633-7743

Email: support@medsphere.com

Fax: 760-683-3701

Medsphere guarantees timely acknowledgement of incoming questions by phone and email during regular business hours from 5 AM to 5 PM (Pacific).

- All calls will be received within four (4) rings
- All incoming email questions are reviewed on an hourly basis

Non-critical issue support—software updates, upgrades, reconfigurations, enhancements—is provided during core hours. Medsphere will schedule the installation of any updates or upgrades at a mutually agreed upon time to limit the clinical impact on the customer.

High priority issues arising after regular business hours must be routed to Medsphere via telephone in order to be promptly received within four (4) rings.

## 8.0 Reporting

Describe your solution's reporting capabilities and how it meets requirements set forth in RFP Section 2.7.9.

### <Response>

OpenVista Clloud comes with hundreds of out-of-the-box reports. Additionally, OVC Filemanager is a programmerless database management system (DBMS). It is a collection of computer programs for setting up, maintaining, and accessing an OpenVista database. Filemanager is described as programmerless because it enables creation and maintenance of a database without having to write computer programs. The user, in an effort to generate specific reports, merely chooses a course of action, selects the appropriate options, and answers the questions posed by Filemanager, which then allows for reports to be created. The majority of OpenVista clinical data is stored in Filemanager files and is retrieved and accessed through Application Programmer Interfaces (API) and user interfaces.

Filemanager also facilitates data access from outside applications. The Database Server (DBS) API enables access to data. Filemanager's import and export tools support data interchange with outside applications such as spreadsheets and database programs.

Developing the database projection technology that allows users to view data in a modern, relational database via a MySQL storage engine gives the State the database flexibility it is looking for. The utilization of standard Java Database Connectivity (JDBC) interfaces enables commercial off-the-shelf (COTS) reporting tools and data warehousing through Structured Query Language (SQL); this greatly expands OpenVista's ability to provide the State with analysis tools, metrics, and operational reporting capabilities that exceed stated requirements.

Describe how the reports listed in RFP Section 2.7.9.C can be produced from existing templates, from reports library, or created from the Report Writer feature.

<Response>

See response above.

## 9.0 Privacy and Security

Please describe your company's experience and plan to comply with all applicable State and Federal privacy and security requirements, including but not limited to the specific additional requirements set forth in RFP Section 2.7.10.

<Response>

All hardware housing the software is located in a secured cloud datacenter and dedicated to the customer. Disks are encrypted at the operating system and SAN level. Hardware housing development and QA environments is housed in a secure, locked center, which is located in a secure building and in a secure Medsphere office (headquarters). OpenVista Cloud is compliant with and supports both HIPPA and HITECH. OpenVista itself provides multi-layered security levels including network login, server/GUI login, and database; configured to division access patient access, option access. Every employee at Medsphere is required to take courses on privacy, security and policies to ensure hardware, software and customer data is secure. If employee fails to pass comprehensive tests (including HITECH and HIPPA), they are not employable by Medsphere.

## 10.0 Training and Change Management

Describe how your company will ensure all training is completed sufficiently in advance of "go-live".

<Response>

Medsphere trains all users on site and we also utilize a train-the-trainer methodology. MSC training professionals prepare a core group of State personnel to instruct end users. The tools and materials provided adequately prepare facility training staff to conduct formal classroom training for all departments that require knowledge of OpenVista.

Before actual training, MSC training professionals prepare a comprehensive training plan and associated materials based on the number of facility personnel. MSC deployment professionals also assist State personnel in establishing a training environment on existing servers where learners can practice with the State OpenVista configuration.

MSC prepares the State for the transition to a live production environment by providing user guides for each deployed application and Quick References (QRs) at each workstation.

Before the actual transition occurs, MSC and the State's IT staff conduct last minute interoperability verification and validation testing as a final check on system readiness. With positive confirmation of completed check lists and acceptance by the client, the switch is flipped and facility staff begins working in an OpenVista world.

Prior to, during and following Go Live, primary help with OpenVista function is provided by on-site GDIT Team consultants. For an initial period, the GDIT Team monitors both the types of problems end users relay to the Help Desk and the ways in which local support responds. This transition period is an ideal opportunity to iron out any remaining issues and confirm local understanding of OpenVista.

Full transition from on-site GDIT support to the Support Center occurs by mutual agreement between the State and GDIT Team Project Managers. It is during this transition that the State is further trained in manual support procedures, backup and recovery administration and contingency support processes and procedures. To assist in the transition, GDIT Team will thoroughly review and validate the contents of the Operations Manuals and the concepts of operation and the Contingency Plan that will include the approach to ensuring that the environment and system is fully operational.

Any remaining implementation issues are the responsibility of the GDIT Team implementation team, but the transition provides for essential 24x7 support. From this point forward the State facility and GDIT Team comply with the SLA, relying on the GDIT Team Support Center for Tier 3 support.

It is important to note that, especially in multi-facility implementations such as this that certain efficiencies can be achieved by repeating processes and system builds, then rolling the system out to other facilities. Training programs established in initial implementations can be used more efficiently later in the process, and personnel trained in the first recipient facilities can assist greatly in later training processes.

**Purpose of the Organizational Change Plan:** to provide an introduction or to expand understanding, information, and knowledge about the concepts and application of organizational change processes in general as they related to implementing a new EHR and, specifically, within typical Medsphere sites. Note that every organization is different; however, the plan provides a basic framework for understanding organizational change and how it applies to some of our customer sites, i.e., large health care system sites undergoing change. The following Table of Contents outlines what is included in the plan. Due to the size of the plan only the ToC and the Introduction is provided, which is intended to demonstrate that Medsphere can assist in guiding workflow and change with the State similar to what we performed for the State of West Virginia.

Our basic methodology includes:

**Strategy & Assess.** In the early phases of every deployment, we will interview key stakeholders and leaders to assess their readiness, ability, and willingness to embrace the change. At the start of every deployment, we will assess each facility to determine the level of engagement, communications, and activities required for a successful transition to the new EHR. This assessment includes the site visit and subsequent communications. A similar assessment will be applied in all other engagements.

**Design.** This phase initiates activities requiring action from individual users. It occurs during pre-deployment and identifies individuals to participate in readiness surveys, creates a “hands-on” active involvement and understanding about what an/the EHR is, the benefits of a fully integrated system, how it impacts their role and their role in facilitating a success transition. Actions in this phase include completion of roles assignments and performance of the role impact analysis. We will work with the leadership, managers and staff to engage facility leaders to ensure they are aligned and informed and to ensure their support cascades to other key stakeholders within their facility.

**Construct.** This phase represents the onset of the trainer portion of the deployment. We will continue to be actively engaged with stakeholders. This phase emphasizes and provides data on workforce transition: willingness to engage in training, success in training, feedback on training and on the software. We will identify the specific staff impacted by the change, and we will work closely with the training team to ensure that specific workflow changes are integrated into the role-based training plans, training materials and system access privileges. There will be a continued engagement with stakeholders to ensure buy-in from stakeholders and continue to manage any resistance to the implementation.

**Implement.** Local, instructor-led training is a significant activity during this stage and it includes intense train-the-trainer considerations. By the end, the systems are operational ready; all personnel have been trained; and they begin active system use. Under ordinary circumstances, this phase of the deployment is relatively demanding. At high-risk facilities the change management activities will include intensive communications, training, and/or technical interventions to prevent a schedule slip. The training team must ensure that workflow changes are being appropriately communicated. We will continue to ensure the appropriate level of engagement and communication with stakeholders. Many questions about the EHR will surface as users recognize that change is imminent, and it is essential that leaders are kept aligned and are cascading the appropriate messages to the users.

**Operate and Review.** During this final phase, the facilities move to sustainment and active use of the system. Support will primarily derive from MSC. The phase also includes conducting post-deployment surveys; transition activities and lessons learned which would help us modify change management and communication activities for future deployments (a particularly critical activity in this phase of the next deployments). MSC will continue to provide two-way communication between the end users and the central team. Stakeholders at each facility will be directed to the status reports for subsequent updates as the program continues. A final risk evaluation (and possible intervention) will be applied so as to increase the number of facilities in which the users utilize the full benefits of the new system.

## Typical ToC:

Contributors

Preface

.....  
Introduction

What is Organizational Change? .....

Why is it important to actively manage the change process?

What is the human side of change and why is it important?

What are some critical activities for managing change?

Change Snapshots

What are some pitfalls in implementing change?

What lessons has Medsphere learned to date from its experiences in managing organizational change?

What research has Medsphere done on organizational change?

Is there a relationship between performance improvement and change?

What resources and references are available to managers?

Methodology

Actions and Key Steps

Summary

Appendices:

Appendix A: What resources are available to managers?

Appendix B: What reading materials are available to provide more in-depth information on change, the change process, and the impact of change on staff and managers?

Appendix C: A glossary of organizational change terms

Introduction:

Every organization must change – not only to survive, but also to retain its relevance in a world of intense competition, constant scientific progress, and rapid communication. But in order for change to bring a benefit and advance an organization to a higher level of service and operation, that change must be driven by knowledge.

At sites, this is where the experience of Medsphere and our lessons learned comes into play. All change efforts are fraught with questions:

How do we know when change is needed? How do we know what kind of change is needed? How can we effectively manage change? How do we know that our efforts are producing the desired effects and that the changes we are bringing about are actually desirable?

In this plan, we share some of the important lessons we've learned to date about organizational change – why it's important, what we can do to manage it, and some pitfalls to avoid. Our intent is to help site leaders/managers respond effectively to the great opportunities before us by answering some basic questions with strategic answers and plans to embark on organizational change related to implementing a new EHR. Medsphere uses a question-and-answer format for easier reading and accessibility. Appendices provide managers and others involved in implementing change with resources for additional information and references for more in-depth reading.

We recognize that implementing change is one of the most challenging and critical responsibilities any manager can face. We also recognize that organizational change can be challenging for all those asked to participate in the change process.

We hope that this plan to be provided during implementation will help make the job a little easier. Medsphere is committed to supporting our customers throughout this continuous process, and to developing new tools and resources for facilitating change that will benefit all.

**Articulate clear, specific and realistic goals and strategies.** A vision helps motivate people, but specific goals and strategies are needed to guide them as they undertake the steps necessary to make the vision a reality. In addition, having clear goals helps the organization assess its progress during the change process. One general strategy is to look for natural opportunities to effect change. In other words, search for natural connections among existing programs, events, communication channels, activities and the change program.

If natural connections emerge, utilize them to enhance change efforts. For example, development of teams or introduction of case management could be linked with programs to

improve quality of care. Such connections may also open-up opportunities for creative collaborations and partnerships that might otherwise be overlooked. The key here is to leverage what is already going on and to complement new initiatives being launched. Below are examples of lessons learned:

Example 1:

A chief of medicine at a large teaching hospital was ambivalent about the hospital's change program for implementing Medsphere's EHR patient-centered care solution. Although he could articulate numerous problems regarding delivery of care at the hospital, he did not yet see how the change program could solve these problems. Change leaders at the hospital used several methods to communicate the program's goals throughout the hospital, but the chief and many others viewed this information as meaningless jargon. With many academic and patient care responsibilities, the chief did not make the time to focus on the change program.

This situation changed when the hospital chief executive and the vice president for medical affairs each met with the chief and discussed how the program was designed to improve patient care. They listened to the chief's problems and asked him to help the change program work to address them. They also made commitments to address problems with hospital systems that were important to the chief. In doing so, they noted that these fixes were part of the change program. Over time, as he saw that the change program was addressing issues of importance to him, the chief became a supporter of change.

From this experience, change leaders at the hospital also learned that their communication efforts with staff were ineffective. As a result, they began to use focus groups of staff to critique hospital employee newsletter articles and videotapes about the change program. They found that what seemed perfectly clear to change leaders was not meaningful to many others in the hospital. Accordingly, they set out to develop more effective communication vehicles.

Example 2:

A hospital chief executive did not realize how much his own communications (or perceived lack of communication) signaled a lack of commitment throughout the organization to a multi-million-dollar, multi-year Medsphere EHR change initiative. In fact, the executive was very committed to this program.

He thought that his few communications through formal channels about the change program conveyed to others his support for it and interest in its success. When the change project manager and consultant realized that staff did not view the chief executive as committed to the change, they took immediate action. They worked with him to develop a set of presentations, both formal and informal, about the change process and his vision for it.

Example 3:

This lesson learned illustrates what can happen when top leadership is not on board with an EHR change initiative. At one hospital, a vice president who expressed support for a change program during senior management meetings behaved differently during his own staff meetings and in fact did little or nothing to promote the change process. Without a clear signal that their VP supported change and their efforts to implement it, staff in that department did not work to implement new methods or systems needed under the change program. Ultimately, the change program took longer to implement.

Describe how your company will ensure electronic training sessions such as webinars are available online or through the proposed solution for access by ASH staff and users of the system as set forth in RFP section 2.7.11.B.

<Response>

Medsphere, as a part of our normal training offering, uses webinars to teach users post implementation and/or as a part of refresher courses. Live training sessions are also recorded and made available online to our customers.

Describe your company's Train the Trainer program for training designated State resources to serve as Trainers and how it will meet the requirements set forth in Section 2.7.11.

<Response>

The success of the training program requires that State provide a minimum number of training-related personnel to train and support the system-wide OpenVista implementation. Our Team will provide a set of recommended role descriptions to the State at the start of the project. Please see the Training Role Descriptions below for more information.

Super users, determined jointly by the State and MSC, provide support for end users in each organizational area of the facility and act as the fundamental liaisons between end users and System Analysts. We strongly recommend each site designate two Super users per unit, per shift, for the end user applications (i.e., OpenVista, Bar Code Medication Administration) and at least two Super users for each ancillary application (i.e., Pharmacy, Laboratory, Radiology, HIMS, PIMS, Nutrition, etc.).

State personnel, working with MSC, will be required to schedule end-user training and follow up to insure the attendance of State personnel and successful completion of required training. Due to the large amount of training associated with OpenVista implementation and the complexity of managing a project of this scale, State will assign someone on their staff, or contract for additional services, to act as Training Coordinator.

### **TRAINING ROLE DESCRIPTIONS**

Below contain brief descriptions of each training-related role to which MSC recommends that the State identify staff to support both the immediate OpenVista implementation and long-term training needs.

**Training Coordinator.** The Training Coordinator is responsible for planning, coordinating and evaluating the overall OpenVista training program. This position oversees the development of new training courses, methods and materials that may prove valuable to organization employees. Additionally, the Training Coordinator organizes training processes, ensures computer literacy, sets up training rooms, schedules, and tracks course evaluations.

**Clinical Trainer.** The Clinical Trainer is knowledgeable of the OpenVista application and provides high quality classroom training that results in the application of learned OpenVista functionality by State staff to the successful completion of job duties as required.

**BCMA Trainer.** The BCMA Trainer is knowledgeable of the BCMA, Pharmacy Inpatient Medications module, and the OpenVista applications. The BCMA Trainer provides high quality

classroom training that results in the application of learned BCMA functionality by State staff to successfully complete job duties as required.

**Clinical System Analyst.** The Clinical Systems Analyst is the primary resource for the facility management, as well as the Clinical and BCMA Leads to facilitate an understanding the functionality of the applications and assists in resolving complex OpenVista and BCMA problems. This position works closely with the Training Coordinator, Clinical Trainers and BCMA Trainers to coordinate and conduct OpenVista and BCMA Super user and end user training prior to system go-live and after software updates are distributed. Additionally, this position provides input to other application trainers in the development of user manuals and training materials; share training materials with other clinical applications trainers.

**Super User.** The Super user is a client end user who acts as the primary source of support for other end users in a particular organizational area and responds to questions and problems regarding the OpenVista application. Super users receive more advanced training than other end users and assume additional roles and responsibilities pertaining to system applications. Super users also assist application Leads and/or trainers with end user training and functional go-live support for current and new employees. The workload typically demanded of Super users suggests that department heads are not the most appropriate personnel for these positions. Specific role descriptions have been developed for each of the following:

- ❖ Clinical Super user
- ❖ MDTP
- ❖ BCMA Super user
- ❖ HIMS Super user
- ❖ PIMS Super user
- ❖ Radiology Super user
- ❖ Nutrition Super user
- ❖ Pharmacy Super user
- ❖ IT/Systems Super user
- ❖ Laboratory Super user

Describe your company's approach to providing on site assistance for the State's Trainers as they train the initial batch of Users prior to Go-Live as set forth in Section 2.7.11.E.4.

<Response>

Medsphere prepares the State for the transition to a live production environment by providing user guides for each deployed application and Quick References (QRs) at each workstation.

Before the actual transition occurs, MSC is onsite 24/7 with the State's clinician's and staff conduct last minute training, interoperability verification and validation testing as a final check on system readiness. With positive confirmation of completed check lists and acceptance by the State, the switch is flipped and facility staff begins working in an OpenVista Cloud world.

Describe how your company will work with ASH to support cultural and behavioral shifts as a part of this change management effort and empower ASH to motivate its employees to embrace the solution.

<Response>

**Cultural and behavioral change management strategy**

Medsphere's goal is never to fail in a deployment. Our strategy for achieving this goal is to combine highly structured deployment activities with careful assessment and mitigation of

change management risks. We will use our methodology (as described in some detail above) coupled with a quantitative risk-mitigation approach made possible (and necessary) by the unique circumstances of the State's multi-site deployment. At each site, we will proceed according to a standard approved plan. That plan includes multiple assessments and evaluations from which we will learn if critical risks have been realized. These evaluations will drive interventions at the current deployment site and they will drive learning algorithms that allow concurrent and future deployments to respond earlier to more subtle risks indicators.

Together, these change management activities account for the tremendous breadth of scope, geographies, stakeholders, impacts, culture, and the high concurrency of engagement with the State leadership, staff and Medsphere. In summary, our Change Management Strategy includes the following three elements:

- Follow the disciplined Transform methodology
- Formulate intervention plans for known risks and evaluation criteria for triggering those plans
- Use analytics to refine interventions and predict known risks earlier

Provide sample training material that has been used in past implementations of similar size and scope to ASH's requirements.

#### <Response>

Below includes the first few section of one of our dozens of guides to assist users in operating OVC.

#### Introduction

Medication Reconciliation is intended to identify and resolve medication discrepancies by the process of comparing the medications a patient is currently taking (and should be taking), with newly ordered medications. The comparison addresses duplications, omissions, and interactions, and the need to continue current medications. The types of information that clinicians use to reconcile medications include (among others) medication name, dose, frequency, route, and purpose.

**Important:** To access the Outpatient Medication Reconciliation application, users are assigned the appropriate security keys for their position.

#### Purpose

The Medication Reconciliation component assists in meeting reconciliation requirements from The Joint Commission (TJC) Requirements and National Patient Safety Goals (NPSG.03.06.01) listed below:

1. Obtain information on the medications the patient is currently taking when he or she is admitted to the hospital, or is seen in an outpatient setting. This information is stored in a file and can be retrieved in a format that is useful to those managing medications.
2. Define the types of medication information to be collected in the settings and different patient circumstances.

3. Compare the medication information the patient brought to the hospital with the medications ordered for the patient by the hospital in order to identify and resolve discrepancies.
4. Provide the patient (or family as needed) with written information on the medications the patient should be taking when he or she is discharged from the hospital or at the end of an outpatient encounter (for example, name, dose, route, frequency, purpose).
5. Explain the importance of managing medication information to the patient when he or she is discharged from the hospital or at the end of an outpatient encounter.

## Outpatient Medication Reconciliation

This section discusses the following:

- Nursing Medication Reconciliation Outpatient Medication Reconciliation shows due
- Nursing Outpatient Reconciliation dialog displays upon selection
- User can add a home medication via Medication Reconciliation dialog
- User can mark an outpatient medication as Taking/Not Taking
- User can mark a home medication as Taking/Not Taking
- User can enter When Taking data for medications marked as Taking

## Nursing Outpatient Medication Reconciliation Due

Patients have a new Outpatient visit scheduled by the ADT Interface. The Outpatient Medication Reconciliation displays as due.

## Launching the Nurse Outpatient Reconciliation Dialog

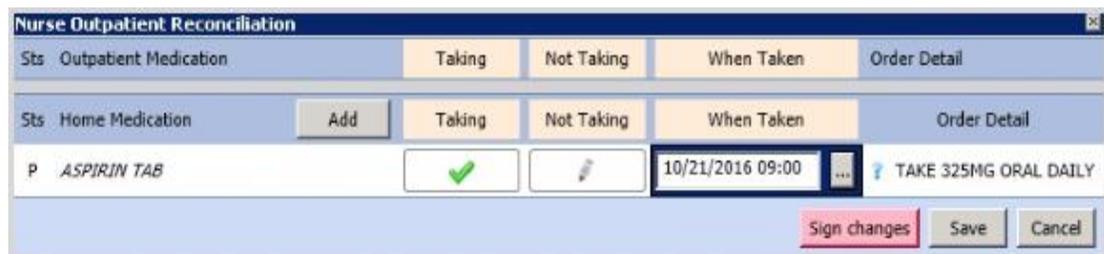


Figure 1. Nurse Outpatient Reconciliation Dialog

1. Log on to OpenVista CareVue. The OpenVista CareVue application launches.
2. Select the Patient Selection pane. The Patient Selection dialog displays with a list of patients to select from.
3. Select a patient. The patient's name, HRN, DOB, and Gender displays in Patient Selection pane. At the same time, Visit Not Selected displays in the Visit pane.

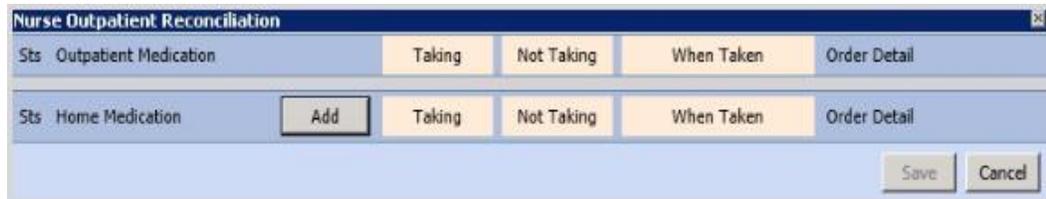
4. Select the Visit Pane. The Encounter Settings Dialog displays with all Appointments/Visits defaulted. The current visit displays for selection.
5. Select the current visit, which is highlighted in blue. The Encounter Provider displays.
6. Click OK. The visit displays in the Visit/Encounter pane. The Medication Reconciliation button is highlighted in red showing the Medication Reconciliation is due.
7. Click the Medication Reconciliation button. The Nurse Outpatient Reconciliation dialog displays.

### **Nurses Adding Home Medication**

To add a home medication, select a patient with a new Outpatient visit and an Outpatient Reconciliation due.

#### ***Add a Home Medication***

1. Click the Medication Reconciliation button. The Outpatient Reconciliation dialog displays.



**Figure 2. Nurse Outpatient Reconciliation**

- The Outpatient Medication section displays with any current outpatient prescription orders.
  - The Add button is available to under the Home Medication section.
2. Click the Add button in the Home Medication section. The Home, Non-VA dialog displays with a list of the facility's available drugs marked for use as home medications.
  3. Select the appropriate home medication from the list. The drug is highlighted in blue to indicate it has been selected.
  4. Click OK. The Home Medication dialog displays.
  5. Confirm the dosage, route, and schedule for patient's home medication. The information displays in the window.
  6. Enter the appropriate text in Comments field, as needed.

#### ***Add a Statement or Explanation***

1. Select a Statement/Explanation as needed. The selection displays with a check-mark in the check-box.
2. Make a selection from the Home Medication Source List. An option button displays as selected.

3. Enter the appropriate text in Medication Reason field, as needed.
4. Select the home medication location. An option button displays as selected.

### **Select the Start Date**

1. Select the Start Date calendar control. The Select Date dialog displays.
2. Select the applicable date, or select Now to enter a start date for the home medication.
3. Click OK. The Start Date dialog closes. The Start date displays.
4. Select the Last Dose Taken calendar control. The Select Date/Time dialog displays.
5. Select the applicable date and time, Now, Midnight, or Today to enter when the last dose was taken.
6. Click OK. The Last Dose Taken date and time display in the field.
  - The Select Accept Order Home Medication message displays under the Home Medication section with a P under the Status column for Pending.
  - The Sign Changes button is pink and available for selection.
  - The Select Sign Changes Order message displays in the Review/Sign Changes dialog.
7. Click OK. The Order Checking displays, as needed.
8. Enter a justification.
9. Click Continue.
  - The Nurse Outpatient Reconciliation dialog displays with new home medication displaying under the Home Medication section.
  - The Home Med Order status updates to Active.
  - A green check-mark is listed under Taking column.
  - A blue question-mark ( ? ) displays.
  - The order details display under right-hand side of the Medication Reconciliation dialog.
  - The Save button is enabled.
10. Click the calendar control button (  ) below the When Taking field. The Select Date/Time dialog displays.
11. Select the date and time for when the home medication was last taken by the patient.
12. Click OK. The Select Date/Time dialog closes, and the date and time display in When Taking text box.
13. Hover over the blue question-mark (  ). The Home Med Order details display.

## 11.0 Ownership of Data and, Disaster Recovery and Business Continuity

Provide the locations of all data centers where the state's information would be housed per the requirements set forth in section 2.7.12.B.3.

<Response>

At the secure AWS facilities located in California (Production) and Virginia (Secondary).

Describe your process for transitioning data back to the client or another contractor at the end of a contract. Please identify what format types are available.

<Response>

We create an .xml file and provide the disk to the State.

Describe how the system can be backed up and how a system recovery would be accomplished.

<Response>

Our EC2 instances (with storage in a blend of SSD-based EBS volumes; primarily EBS) are vertically scaled as needed based on ongoing resource usage analysis.

The backup strategy is multi-layered to ensure that all critical data is available and ready to be restored/accessed.

- Snapshot-based whole-image backups are performed every two hours and stored securely in a remote location. Snapshot-based backups allow for bare metal level restores that can be performed in minutes as opposed to hours for file-based backups.
- Integrated OpenVista backup is run nightly and contains all necessary files to completely restore OpenVista. These backups essentially condense all necessary OpenVista data into a single file for maximum portability.
- File based backups also run nightly and are stored remotely to ensure the necessary data is available in the event of a vendor or regional disaster.
- Security log data such as logins, access and audit data are retained for a period of seven years.
- All backup files are encrypted using AES-256 in both transit and at-rest.
- OpenVista Cloud works in an active/standby configuration, so some manual intervention is required in the event of an extended outage. Recovery takes just a few moments, and the desired recovery time objective of less than an hour can be easily achieved.
- In the event of a disaster or extended outage the backup environment must be manually promoted to the production site at which point operations can resume

- normally. Once the outage has been cleared or corrected at the primary site, a downtime event will need to be scheduled to move operations back to their original primary site.
- OpenVista relies on session ID encryption mechanisms, conforming to MD5 standards, in place within the network infrastructure. OpenVista also utilizes security key assignments that restrict functionality and/or access to specific packages or clients.
  - OpenVista effectively supports the needs of each provider Patient's records are isolated by division. Each patient gets an enterprise record identifier for whichever facility they belong to. Only users with access to that facility can view the patient's record. The OpenVista user templates can be assigned at a system, division, location, and user class and user level. All data is transmitted between regions securely with AES-256 encryption.

Describe the redundancy features that are available in your system.

<Response>

Fully redundant design compensates for failures and keeps the system operational although potentially degraded within the production and secondary datacenters. If an entire data center is lost, then fail over to a secondary data center would occur and the data loss would be minimal if at all. Because there are no local installs, as long as a site has network connectivity to reach a data center, clinical functions are available.

How is the disposal of records handled at the end of a contract with a client? How do you ensure that all information has been destroyed?

<Response>

Medsphere will, upon request, provide a copy to the State of State data. MSC will then provide a certify letter to the State indicated the action take as described above.

## 12.0 Optional Services (Not Evaluated)

Describe your solution's ability to manage the cash receipts program referenced in the RFP Section 2.8.A. Include the features and functionality that are available.

<Response>

The proposed solution does have a Fund Accounting module that was created for one our behavioral related clients, State of Wisconsin. The module is integrated with the patients' admission record. The module does allow for tracking and balancing monies, deposits and for the patient to use to purchase items. This was developed exclusively for the State of Wisconsin. We would be willing to include the software at no additional charge with the understanding that ASH use it in its' current state.

Describe your company's plan to convert the remaining historical billing and associated information into the new system per RFP Section 2.8.B.

<Response>

We can offer the option to convert the historical data older than 12 months. We referenced in another section of the RFP that we are planning on converting the historical billing and associated information for the most recent twelve (12) months. As long as the older years of data is in the same format, we can include this content as well at no additional fee. Note: ASH is responsible to prepare the data from the existing system(s).

Describe your company's plan to migrate historical billing data and associated information onto State servers and provide a graphical user interface (GUI) for accessing the information per RFP Section 2.8.C.

<Response>

Clarification: The above question and response basically states that we can convert all data so long as it is in the same format of the most recent twelve (12) months of planned converted data. If we do this there will be no need to further create conversions to another environment. (State servers). OVC's security at the user level will control what access individuals can have to the converted data. Furthermore, as stated in the above question and response; if ASH can provide the files to be converted, we can convert the entire history into the new proposed solution's relational database.

**Template T-6**  
**Requirement Plans**  
**Response Template**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0 Implementation Plan .....</b>	<b>1</b>
<b>2.0 Communications and Issue Resolution Plan.....</b>	<b>1</b>
<b>3.0 Information Security Plan.....</b>	<b>1</b>
<b>4.0 Training Plan .....</b>	<b>4</b>
<b>5.0 Disaster Recovery and Business Continuity Plan .....</b>	<b>8</b>

## 1.0 Implementation Plan

**Instructions:** Provide an Implementation Plan.

The Implementation Plan should demonstrate that the Prospective Contractor has a thorough understanding of all activities required to seamlessly implement the system. DHS-ASH wants the Prospective Contractor to provide a schedule with the shortest duration while providing enough time to perform activities required to successfully implement the system. Please refer to Section 2.7.5 of the RFP.

The Implementation Plan should show all key elements including details with responsibilities, timelines, durations, milestone dates, deliverables, and Prospective Contractor personnel hours by deliverables during the implementation. The Implementation Plan may be an attachment to the Prospective Contractor's Technical Proposal and tabbed as such in the submission as well as an electronic soft copy (Microsoft Project ® or equivalent and Adobe ® PDF) version in the Prospective Contractor's electronic submission of the Technical Proposal.

All content should be formatted for effective viewing.

Include or attach associated artifacts such as Gantt charts and flowcharts as appropriate.

<Response>

Please see attachment 4.

## 2.0 Communications and Issue Resolution Plan

**Instructions:** Provide a Communications and Issue Resolution Plan.

The Communications and Issue Resolution Plan should demonstrate that the Prospective Contractor has a thorough understanding of all activities required to provide effective and efficient communication and resolution. Please refer to Section 2.7.8 of the RFP.

All content should be formatted for effective viewing.

Include or attach associated artifacts as appropriate.

<Response>

Please see attachment 4.

## 3.0 Information Security Plan

**Instructions:** Provide an Information Security Plan.

The Information Security Plan should demonstrate that the Prospective Contractor has a

thorough understanding of all activities required. Please refer to Section 2.7.10 of the RFP.  
All content should be formatted for effective viewing.  
Include or attach associated artifacts as appropriate.

<Response>

HIPPA compliance is attained in many ways including by configuring users to only be able to view patients within their division. Also, by only giving users the amount of access needed for them to perform their jobs. If a patient is setup as sensitive, all demographics are hidden from the end user. Also, access to these records is monitored and reported to a mailgroup. SSN numbers are truncated to the last four values.

The proposed OVC solution is located at secured AWS cloud datacenters. Disks are encrypted at the operating system and SAN level. Hardware housing development and QA environments is housed in a secure, locked center, which is located in a secure building and in a secure Medsphere office (headquarters).

OpenVista Cloud is compliant with and supports both HIPPA and HITECH. OpenVista itself provides multi-layered security levels including network login, server/GUI login, and database; configured to division access patient access, option access. Every employee at Medsphere is required to take courses on privacy, security and policies to ensure hardware, software and customer data is secure. If employee fails to pass comprehensive tests (including HITECH and HIPPA), they are not employable by Medsphere.

**From our Employee Handbook:**

**9.3 Security**

1 Due to the nature of the work at Medsphere, security and data integrity are of the utmost importance. Many employees interact with data and systems containing protected health information or other confidential and secure data. In a networked environment where one computer on the network can access other computers, every employee is potentially impacted by security concerns.

2 Passwords

2.1 Compromised passwords are a serious threat to data security. No employee should share passwords except in specific cases when requested appropriately. Two components of passwords are addressed by Medsphere policy:

2.2 Duration of use: Medsphere specifies network passwords must be changed every 45 days without exception, thus any compromised passwords will be automatically changed.

2.3 Strength: Strong passwords make automated attacks against user accounts more difficult to exploit. Thus, Medsphere specifies that network passwords must contain a specific mixture of letters, numbers and symbols, outlined in the following criteria:

- a. At least 8 characters in length (longer is better as long as the password can be committed to.

memory. Passwords should never be written down).

Further, MSC agrees to:

1. At all times, comply with the requirements of the Arkansas Personal Information Protection Act and any other State laws, regulations, rules, and policies regarding the privacy and security of information.
2. Provide for physical and electronic security of all Protected Health Information generated or acquired by the Contractor in implementation of the Contract, in compliance with HIPAA, and consistent with the Business Associate Agreement executed between the parties.
3. Within thirty (30) days after Contract Award, provide an Information Security Plan for review and approval by the Contract Monitor. Upon approval, MSC agrees to maintain the plan for the entire Contract term.
  - a. Make any changes to the information security plan requested by the Contract Monitor and resubmit the plan to the Contract Monitor within five (5) Business Days of the request.

On-site security requirement(s):

1. MSC will:
  - a. Provide and complete all necessary paperwork for security access to sign on at the State's site, if requested for any Contractor or Subcontractor employees providing services on site at any State facility.
2. If requested, conduct and provide to the State and DHS Federal criminal background checks, including fingerprinting, for each individual performing services on site at a State facility:
  - a. These checks may be performed by a public or private entity, and if required **shall** be provided by Medsphere to DHS prior to the employee's providing on-site services.
3. MSC understands that DHS **shall** have the right to refuse to allow any individual employee to work on State premises, based upon information provided in a background check and that at all times, at any facility, Medsphere's personnel **shall** ensure cooperation with State site requirements.
  - a. Per the discretion of DHS, Medsphere employees or agents who enter the premises of a facility under DHS or State jurisdiction **shall** be searched, fingerprinted (for the purpose of a criminal history background check), photographed, and required to wear an identification card issued by DHS.
4. Medsphere, its employees and agents, and Subcontractor employees and agents, **shall not** violate Department of Human Services Policy 1002 or other State security regulations or policies about which they may be informed from time to time.
5. Medsphere understands that failure of any of our employees or agents to comply with any security provision of the Contract **shall** be sufficient grounds for the Department to terminate for default.

6. Medsphere understands that we are required to report all security breaches to the Contract Monitor in writing and by telephone within one business hour of discovery.

## 4.0 Training Plan

**Instructions:** Provide a Training Plan.

The Training Plan should demonstrate that the Prospective Contractor has a thorough understanding of all activities required to effectively train staff on how to use the system. Please refer to Section 2.7.11 of the RFP.

The Training Plan should show all key elements including details with responsibilities, timelines, durations, milestone dates, deliverables, and personnel hours by deliverables during the implementation.

All content should be formatted for effective viewing.

Include or attach associated artifacts as appropriate.

<Response>

### Introduction

Medsphere understands that providing responsive patient care requires a staff well trained in OpenVista. We also understand the overarching need for training methods that effectively convey crucial information and retain the attention of learners, in this case, ASH staff.

Medsphere incorporates sensitivity to both the cultural change inherent in transitioning to an electronic medical record and organizational constraints into a mutually agreeable Training Plan, and then consciously works those values into appropriate instruction, whether it is in the classroom, computerized or by other practical means.

### Training Approach

Medsphere's training strategy incorporates instruction for different classes of OpenVista users to present information in diverse, complimentary, and comprehensive ways. Actual instruction occurs both in the formal classroom setting and in practical application. Because not all adults learn in the same way, Medsphere uses various learning approaches to facilitate successful knowledge transfer.

Medsphere places significant emphasis on configuration training and Super user training for the various OpenVista functions and applications. We provide a comprehensive OpenVista curriculum in each of the functional areas to ensure ASH's ability to operate, administer, and support the system after implementation.

Medsphere has extensive experience training on OpenVista systems and recognizes the pace at which training can be assimilated. With that knowledge, the Medsphere training allows time for ASH personnel to internalize changes in one complex function before learning another.

### Training Methodology

Medsphere uses a train-the-trainer approach in which ASH personnel are fully trained to carry out all that is required of a high performance OpenVista trainer. This approach teaches the integration of different instructional methods, including formal classroom preparation and practical application. This approach is essential to ASH's long-term self-sufficiency, especially

given normal staff turnover and anticipated upgrades to OpenVista applications. E-learning modules will also be created and be used to assist for retraining and for training of new staff.

### **Training Curriculum**

Medsphere training program includes a series of curricula that prepare ASH personnel in the respective applications of the OpenVista system.

Medsphere classroom training typically includes at least two levels of content: introductory courses on application functionality and usage and more advanced courses describing configuration activities such as file-building, application set-up, parameters and maintenance. Most courses are conducted in a training room provided by ASH and equipped with a computer and projector for the instructor and a computer for each learner. However, some training will be conducted remotely using Web conferencing tools. This hands-on learning environment is critical in creating a well-prepared training staff with high skill levels.

### **Training Sequence**

Medsphere staggers the sequence of training to match the system implementation:

Phase 1: ASH IT staff are trained on system architecture and infrastructure that are the foundation of OpenVista. This provides the knowledge needed for their role in interacting with the system and interfaces for operational and support purposes.

Phase 2: Medsphere Consultants conduct configuration training to ASH application Leads and Clinical System Analysts over the course of several months. This configuration training curriculum uses a blend of on-site instructor-led classes, hands on exercises, and remote training support.

Phase 3: Medsphere Consultants conduct Super user training for ASH application Super users and Trainers. ASH application trainers are trained on basic, intermediate and advanced functionality of their respective OpenVista applications.

Phase 4: Medsphere mentors ASH application trainers during end user training of OpenVista functionality in preparation for system changeover.

Phase 5: Finally, Medsphere supplements formal classroom training with a robust go-live support program. Medsphere recognizes the key to successful technology adoption is immediate access to support personnel. This is the single most influential aspect of user acceptance in the critical days following Go Live.

### **Course Materials**

Medsphere training courses are supported by thorough documentation in the form of User Guides, Technical Guides, Configuration Guides, and Quick References available in electronic PDF format that can be stored on ASH's preferred secure server. To animate the learning process, lessons and class activities are illustrated and supported by course handouts, practice exercises, and screenshots. This complete package of training materials creates a structured, task-based format that walks ASH staff through application functionality, setup, file building, and the operational procedures of Medsphere OpenVista.

### **Training Instructors**

Medsphere OpenVista instructors are experienced consultants with particular expertise building, utilizing, training, and troubleshooting applications. Most instructors come to Medsphere from long-term associations with their applications at the Department of Veterans Affairs, giving them the kind of real-world experience few other healthcare IT instructors possess.

## **Course Logistics / Location**

Most training is provided on-site in a classroom and, in order to be successful, assumes two key factors:

1. The set-up of at least two training classrooms with computers (one per learner and one for the instructor), and a projector and printers. Training typically lasts from 3-5 days.
2. ASH employees have fundamental computer literacy prior to attending training sessions by Medsphere.

## **Fundamental Computer Literacy**

It is recommended that ASH facility personnel have fundamental computer literacy skills that include but are not limited to logging on to a workstation with a username and password, basic typing and keyboard orientation, and ability to click and scrolling with a mouse.

To assist ASH in meeting this requirement, Medsphere will provide access to a Web-based fundamental computer skills course to be implemented across the enterprise prior to end user training. This performance-focused training tool was designed to assist users in mastering the core computer skills necessary to effectively learn and utilize OpenVista functionality, and, ultimately, to enhance ASH's overall training effort.

Note: A complete list of required fundamental computer skills will be provided to ASH prior to training.

## **Virtual Environment**

Just as separate environments are maintained on facility servers for testing and production, Medsphere also creates a separate environment for training. ASH personnel can learn, practice, make mistakes, and develop their OpenVista skills with the confidence that no error will appear into the production environment.

## **Personnel**

The success of the training program requires that ASH provide a minimum number of training-related personnel to train and support the system-wide OpenVista implementation. Please see the Training Role Descriptions section below for more information.

Super users, determined jointly by ASH and Medsphere, provide support for end users in each organizational area of the facility and act as the fundamental liaisons between end users and System Analysts. Medsphere strongly recommends each site designate two Super users per unit, per shift, for the end user applications (i.e., CareVue, Bar Code Medication Administration) and at least two Super users for each ancillary application (i.e., Pharmacy, Laboratory, Radiology, HIMS, PIMS, Nutrition, etc.).

ASH, working with Medsphere, will be required to schedule end-user training and follow up to insure the attendance of ASH personnel and successful completion of required training. Due to the amount of training associated with OpenVista implementation of this size and the complexity of managing a project of this scale, it is recommended that ASH assign someone from their staff to act as Training Coordinator.

## **Training Role Descriptions**

This section contains brief descriptions of each training-related role to which Medsphere recommends ASH identify to support both the immediate OpenVista implementation and long-

term training needs. For more detailed role descriptions of each, Medsphere will provide very specific role descriptions in a separate document.

### **Training Coordinator**

The Training Coordinator, working collaboratively with Medsphere SMEs, is responsible for planning, coordinating and evaluating the overall OpenVista training program. This position oversees the development of new training courses, methods and materials that may prove valuable to organization employees. Additionally, the Training Coordinator organizes training processes, ensures computer literacy, sets up training rooms, schedules, and tracks course evaluations.

### **Clinical Trainer**

The Clinical Trainer is knowledgeable of the CareVue application and provides high quality classroom training that results in the application of learned CareVue functionality by the ASH staff to the successful completion of job duties as required.

### **BCMA Trainer**

The BCMA Trainer is knowledgeable of the BCMA, Pharmacy Inpatient Medications module, and the CareVue applications. The BCMA Trainer provides high quality classroom training that results in the application of learned BCMA functionality by the ASH staff to successfully complete job duties as required.

### **Clinical System Analyst**

The Clinical Systems Analyst is the primary resource for the facility management, as well as the Clinical and BCMA Leads to facilitate an understanding the functionality of the applications and assists in resolving complex CareVue and BCMA problems. This position works closely with the Training Coordinator, Clinical Trainers and BCMA Trainers to coordinate and conduct CareVue and BCMA Super user and end user training prior to system go-live and after software updates are distributed. Additionally, this position provides input to other application trainers in the development of user manuals and training materials; share training materials with other clinical applications trainers.

### **Super User**

The Super user is a client end user who acts as the primary source of support for other end users in a particular organizational area and responds to questions and problems regarding the OpenVista application. Super users receive more advanced training than other end users and assume additional roles and responsibilities pertaining to system applications. Super users also assist application Leads and/or trainers with end user training and functional go-live support for current and new employees. The workload typically demanded of Super users suggests that department heads are not the most appropriate personnel for these positions. Specific role descriptions have been developed for each of the following:

### **Clinical Super user**

Multi-Disciplinary Treatment Plan (MDTP); BCMA Super user; HIMS Super user; PIMS Super user; Radiology Super user; Laboratory Super user; Nutrition Super user; Pharmacy Super user; IT/Systems Super user

### **Training Evaluation**

Medsphere works with ASH trainers to develop competency assessments for end users to ensure the training content is understood and retained for Go Live. Additionally, learners provide

valuable feedback by evaluating the effectiveness of classes and instructors using a Course/Instructor Evaluation Form. Analysis of the input from these forms is used to improve all aspects of subsequent classes. Users that are able to pass their designated course(s) receive a certificate. Also, a certification process will be built into the e-learning modules.

### **Training Assumptions**

Medsphere training is provided on-site and, in order to be successful, assumes several key factors:

A train-the-trainer model is utilized for the training phase of the project and for long-term new staff training.

ASH has identified a Training Coordinator as described above.

Typically, CareVue training courses include up to ten (10) learners and two (2) instructors, and are about two to four (2-4) hours in length.

There are two instructors for each classroom training session: one as a primary instructor, and the other as an assistant.

ASH facility personnel have fundamental computer skills (as defined in the Fundamental Computer Skills Checklist) prior to attending OpenVista training.

ASH designates two classrooms with computers (one per learner), printers, and document scanners for training sessions. Classrooms also have a computer and projector for the instructor to use.

End user training in each facility starts no more than two to three weeks before system roll-out.

Please describe your approach to post implementation training for new personnel, refresher courses, and ongoing training for existing trained personnel.

Ad Hoc and quarterly webex-based education/training can be set up per direction of ASH. If onsite training is preferred, Medsphere can create a scope of work and level of effort document for ASH perusal to assure all staff is trained. Our typical approach, which is utilized by our customers, is to ensure that Train the Trainers and designated Super Users are active and take first line training responsibilities on. Additionally, on line help and desk based-end user cheat sheets and users' manuals are readily available.

## **5.0 Disaster Recovery and Business Continuity Plan**

**Instructions:** Provide a Disaster Recovery and Business Continuity Plan.

The Disaster Recovery and Business Continuity Plan should demonstrate that the Prospective Contractor has a thorough understanding of all activities necessary for disaster recovery. Please refer to Section 2.7.12 of the RFP.

All content should be formatted for effective viewing.

Include or attach associated artifacts as appropriate.

<Response>

MSC takes the safety and integrity of our customers' data very seriously. Our solutions always take these aspects into consideration as part of the initial design so that they are integral to the system from day 1. As such, we have built redundancy and security into our solution. At the system layer, there will be multiple tiers of storage on the SAN to accommodate real time access of data and logs as well as the archiving of data and logs whose importance is less immediate. This allows the use of less expensive slower drives to store log files and older data that isn't accessed often while providing faster drives for data that must be accessed quickly for day to day use.

After a certain retention period (to be determined by the State), older data will be archived to tapes and stored with the state's contracted retention provider. In addition, disaster recovery can be accommodated by replicating the SAN data and application VMs in a second data center. This allows for much faster restoration of service in the event of a problem at the primary data center and also insures the integrity of the data by providing for a second copy that can be used to restore corrupted or maliciously changed data. This also allows for online upgrades to systems and regular testing of disaster recovery plans with the need for lengthy downtime.

For the virtualization layer we will use VMWare's suite of products. This will allow for multiple copies of application machines in a high availability configuration so performance is better and availability is assured. Again, this also allows for easier upgrades and maintenance along with faster fail-over and restoration of service. Testing of the backup and recovery procedures involving these features will be tested as part of the initial testing conducted prior to go-live and yearly thereafter for the period of performance. Testing of tape backups will be conducted on a schedule to be determined after contract award but should be performed at least once a year as well.

These design elements, combined with regular testing and comprehensive procedures will limit the risk of loss of data or traceability and will ensure availability and possibility of recovery are high.

We recommend standard nightly data backups of all information and, for disaster recovery, a secondary system (or systems if multiple levels are required) at a remote location with a replicated copy of the OpenVista database and applications. In addition, our specific disaster recovery plan for a secondary data center including data replication and failover mechanism is a common option available to the State. To support this remote recovery site, along with other traffic, it is recommended that the State have in place at least 10 MBs of bandwidth, up to a T3 line, from the Central site to the remote locations. Also, we will collaborate with the State to determine the specifics of system backup and recovery during the EA to determine exact bandwidth requirements.

In order to assure facilities data integrity, our staff will create a physical backup of the .dat file. In order to do this, Gtm back up will be initiated from the menu.

There are also options to manually run a full or incremental backup of all or selected databases, and there are links to show the status of the backup and the log of statuses of previous backups. Journals are used to ensure that all transactions are kept as a whole unit.

The history log shows:

- Name of the backup file
- Names the databases that are in the backup
- Name of the new journal file
- Dates and times of the different passes to the database

## Contingency of Operations Plan

MSC will develop and submit a Contingency of Operations Plan to the State that specifies planning for the remediation of specific systems, equipment, software, and operations in the event of critical impact resulting from natural, accidental, or intentional events. This plan will document MSC's plans and procedures to maintain State support during an emergency and will include but not limited to the following items:

- Description of our emergency management procedures and policy
- Description of how MSC will account for our employees during an emergency
- MSC's temporary work locations and alternate facilities
- How MSC will communicate with the State during emergencies
- List of primary and alternate MSC points of contact, each with primary and alternate telephone numbers and email addresses
- Procedure for Natural Emergencies and Other Major Disaster
- Procedure for Terrorist Attack
- Emergency Basics – Bomb Threat
- Procedures for protecting State furnished equipment (if any)
- Procedures for safeguarding sensitive and/or classified State information (if applicable)
- Other Sections Deemed Important by the State

MSC will use the online MSC which is required for all MSC work locations. A draft of a representative COOP plan is included in the following section, a complete final version to be provided post award. Plans are site specific and must be specifically tailored to a specific location, floor plan, defined business and after business hours, facility phone numbers, phone numbers for nearby medical facilities etc. As prescribed in our Contingency Operations Plan, MSC will immediately notify the State point of contact or their designated alternate in an event of an emergency or critical impact resulting from natural, accidental, or intentional events. MSC will activate this plan which includes:

- Communications plan to notify key points of contact within the State designated representative or their designated alternate, and the entire MSC team
- Through secure access methods, provide ability for MSC to access the alternate site remotely from home and/or work out of alternate MSC team office locations
- Contact lists will be maintained with Home, Cell, Work and Home email addresses, as well as, a secure SharePoint site that can be accessed via the Internet for Critical Event Information and Status
- Initiate a "Red-Ball" response which includes confirming contact with all points of contact, and designating primary points of contact for each stakeholder (MSC team members, and designated State contacts), scheduling status calls and/or meetings until the event has concluded and/or permanent change to project work environment completed.

### Draft Contingency of Operations Plan

This Draft Contingency of Operations Plan describes the planning, execution, control, and reconstitution of OpenVista operations activities in support of the State to ensure continuity of operations after an event that disrupts normal operations. This plan describes what happens when one or more departments are required to relocate out of their normal location and conduct operations from a different location. Upon task award, we will work closely with the State managers to finalize this plan and submit the final plan ten days after task order award.

In the event of an emergency or disaster, MSC is committed to mobilizing all necessary resources to support the State mission and to minimize interruptions to normal operations. This plan provides procedures for dealing with emergency situations that may render the State, or the applications and databases hosted on the network client/server platforms, inoperative and unable to perform their critical functions. Copies of this plan should be disseminated to those who have been identified within this plan as having responsibilities related to business continuity. Those individuals should become cognizant of their responsibilities and test periodically to ensure the successful implementation of this plan.

#### Emergency Management Procedures and Policy

MSC utilizes corporate procedure, Emergency Preparedness Plans, to establish the required program elements of a comprehensive emergency preparedness and response system. All employees are to be covered under an Emergency Preparedness Plan (also called Contingency of Operations Plan, Emergency Action Plan, Emergency Response Plan, or Emergency Procedures Plan), which provides for rapid response to emergencies within the workplace. Emergency Preparedness Plans (EPPs) must be available and accessible to all employees at each location.

#### Incorporation of Contingency Directives, Standards and Procedures

Upon contract award, all Contingency Directives, Standards, and Procedures will be requested from the State, reviewed, and incorporated into this Section as appropriate.

#### Account for Employees During an Emergency

During emergency situations, MSC will quickly account for the safety and security of its employees on the OpenVista project. To help facilitate the ability to account for employees' safety and status during periods of emergency (natural or otherwise), the following systems have been established:

- **Out of Area Call-In Number.** If an employee or subcontractor is directed or forced to evacuate their current location to another location, they are to contact MSC as soon as possible to advise the MSC contact that they are safe and to provide a means of contact.
- **Information Website** – To provide employees and contractors with relevant information during an emergency, the MSC intranet will have appropriate information. The web site will be updated on a continuous basis to ensure All project staff are able to get the information they need in a timely manner.
- **Notification Plan / Procedures** – Notification procedures are necessary to establish the organization's response structure to a potential business interruption. Regardless of the disaster or the extent of the damage, initial notification must be made quickly and efficiently. This plan presents a notification process that follows a standard calling-tree structure. The individual witnessing the emergency situation will notify the organization's initial point-of-contact, referred to as the Initial Respondent. The Initial Respondent will make the notifications per the Initial Response checklist. The Initial Respondent will notify the Command Center Team who will then be responsible for further notifications. When notified by the Command Center Team, all team managers become the point-of-contact for their respective teams.

It is important that personnel follow the standard call-tree process whereby they contact those personnel for whom they are responsible. Should there be a break in the chain (someone cannot be contacted), the caller is to proceed to the subsequent name on the list, repeating this process until contact with someone is made. Once all personnel have been contacted (or an

attempt has been made), each final person to have received a call is to contact his respective Team Manager, essentially “closing the loop.” This individual is to verify with the Team Manager (or designee/alternate) that the call tree has been executed to the extent possible. He or she Should also provide the status as to those personnel who were unreachable (on leave, didn’t answer phone/page, etc.) This will mitigate the risk of a breakdown in the call tree process.

Once the Team Manager (or the Team Call Initiator) has been “re-notified,” he or she will have a level of assurance as to who has/has not been notified and is/is not available to respond. The goal from initial call until the final call back to the initiator is 60 minutes.

Once the Contingency Operations Plan has been initiated, the MSC Project Manager will contact MSC to inform them of the situation. The MSC PM will keep an updated list that contains each team member’s work phone number, personal cell phone number, home phone number and personal email address.

Sample operational checklists may include:

- Emergency Calling Directory
- Key Personnel Roster and Essential Functions Checklist

If a cell phone can receive text messages, then it can receive messages generated by an email program (e.g., Microsoft Outlook). The address formats for several major cell carriers are:

#### Communication Approach

Subsequent to activation of the Contingency Operations Plan, the MSC PM or designee will notify:

The State chain of command via voice and/or email as appropriate (specific personnel and method of communication to be determined upon contract award)

State Emergency Operations Center at:

- (Phone numbers to be determined)
- The Office of Security and Emergency Preparedness at (phone number to be determined)
- A broadcast email to the entire State team, as appropriate

Managers and supervisors in the chain will:

- Implement appropriate departmental plans
- Keep both their chain and State counterparts (if any) informed as to implementation status.

Each team will report their operational and personnel status up the chain of command to the MSC PM, who will notify the other project leadership. The PM will subsequently report status to the State designated point of contact. Each team (Unix, SAN, DB, Application Server, Interfacing, System Admin and Clinical Analysts) will also provide information to their counterparts (if any) and copy their chain of command on any such communications. Supervisors will account for personnel in their department using their team roster.

#### Procedures for protecting TDH Furnished Information and Equipment

This Section will be completed upon identification of the State furnished information and/or equipment. The plan will include a description of the automated and optional manual plans and procedure for data center personnel to execute in the event of an emergency situation, natural or otherwise. In situations of advanced warning for an emergency situation, manual precautionary data protections procedures can be followed with the direction of authorized State

personnel as desired for pre-emptive or advance steps when possible. The developed operations manual will be referenced here and contain detailed information for contingency procedures for OpenVista system equipment and software.

#### Procedures for Safeguarding Sensitive and/or Classified Information

In the event that a facility emergency occurs while working with sensitive information such as Patient Health Information (PHI) or Personally Identifiable Information (PII) or other classified material(s) and the situation permits, the material(s) will immediately be secured in the appropriate security container.

If staff is unable to secure the material(s):

- Personnel will gather the classified material(s)
- Personnel will proceed to the nearest emergency exit
- Personnel will report to the designated assembly area with the materials
- Personnel will locate a member of the Security Staff or the MSC PM or designee and surrender control of the classified material(s)

The Field Security Officer (FSO name to be determined) will maintain control of the material(s) until the resumption of normal operations or the relocation to an alternate work location, whichever occurs first.

The FSO will immediately perform an inventory of all classified material and compare the inventory with the current classified manifest, if one exists. If personnel are authorized to report back to the facility the FSO will immediately secure the classified material and report their findings to the PM as well as follow all regulations associated with the handling of classified material. If personnel are relocated, the FSO will present the PM with the newly generated inventory and coordinate with the PM in working towards a mechanism for securing the classified material. The Team has processes and demonstrated success ensuring Continuity of Operations (COOP) in response to sudden workload surges and contingency and disaster recovery situations (see Disaster Recovery section).

**Template T-7**  
**RFP Submission Checklist**

**RFP #: SP-18-0034**

## Table of Contents

<b>1.0 Prospective Contractor Response Checklist.....</b>	<b>1</b>
<b>2.0 Forms Due Prior to Contract Award .....</b>	<b>2</b>
<b>3.0 Attachments .....</b>	<b>4</b>
<b>4.0 Exceptions .....</b>	<b>4</b>

### List of Tables

Table 1. General Requirements.....	1
Table 2. Package 1 Checklist .....	1
Table 3. Package 2 Checklist .....	2
Table 4. Attachment Checklist .....	4

## 1.0 Prospective Contractor Response Checklist

The Prospective Contractor should complete the following Tables to verify that all the RFP response requirements have been completed as instructed. The Prospective Contractor should provide specific references to Proposal locations (e.g., section and page numbers) for each Template included. During the evaluation process, OSP will perform an initial review of the Proposals to confirm these are included. If the items identified in this checklist are not included, the Proposal may be disqualified.

**Instructions:** Complete the following Table. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 1. General Requirements**

PROPOSAL RESPONSE ITEM	COMPLETED AND PROVIDED AS INSTRUCTED?	
	YES X	NO <input type="checkbox"/>
Prospective Contractor's Proposal's stamped date meets date and time specified in the RFP	YES X	NO <input type="checkbox"/>
Proposal is sealed	YES X	NO <input type="checkbox"/>
Technical Proposal and Cost Proposal are sealed in separate envelopes or boxes within the "Sealed Bid." Each Proposal should be clearly marked "Technical Proposal" or "Cost Proposal"	YES X	NO <input type="checkbox"/>
Minimum Mandatory Requirements – The Prospective Contractor has documented proof that it meets the minimum mandatory requirements outlined in the RFP.	YES X	NO <input type="checkbox"/>

**Table 2. Package 1 Checklist**

SECTION / TEMPLATE	PROPOSAL RESPONSE ITEM	COMPLETED AND PROVIDED AS INSTRUCTED?		REFERENCE TO PROPOSAL RESPONSE SECTION
		YES X	NO <input type="checkbox"/>	
T-1	Executive Summary and Prospective Contractor Information	YES X	NO <input type="checkbox"/>	Section 1, T-1 pgs 3 – 12
T-2	Prospective Contractor Experience and References	YES X	NO <input type="checkbox"/>	Section 1, T-2 pgs 3 – 19
T-3	Prospective Contractor Staffing	YES X	NO <input type="checkbox"/>	Section 1, T-3 pgs 4 – 12
T-4	Functional Requirements	YES X	NO <input type="checkbox"/>	Section 1, T-4 pgs not #'d
T-5	Requirements Approach	YES X	NO <input type="checkbox"/>	Section 1, T-5 pgs not #'d ( all)
T-6	Requirement Plans	YES X	NO <input type="checkbox"/>	Section 1, T-6 pgs 1 - 13
T-7	RFP Submission Checklist	YES X	NO <input type="checkbox"/>	Section 1, T-7

**Table 3. Package 2 Checklist**

SECTION / TEMPLATE	PROPOSAL RESPONSE ITEM	COMPLETED AND PROVIDED AS INSTRUCTED?		REFERENCE TO PROPOSAL RESPONSE SECTION
		YES X	NO <input type="checkbox"/>	
C-1	Cost Workbook (mailed separately)	YES X	NO <input type="checkbox"/>	Template C-1

## 2.0 Forms Due Prior to Contract Award

The table below lists the forms which will be required after proposal submission but before contract award. It is strongly recommended that Prospective Contractor(s) provide these items with proposal submission.

FORM ID	FORM NAME	COMMENTS
EO-98-04	Disclosure Form	A fillable PDF is located on the OSP Website. The form can be found here: <a href="http://www.dfa.arkansas.gov/offices/procurement/Documents/contgrantform.pdf">http://www.dfa.arkansas.gov/offices/procurement/Documents/contgrantform.pdf</a> .  Medsphere agrees to complete the Form referenced above upon contract award and upon final price determination found in the signed contract awarded to Medsphere.
	Copy of Prospective Contractor's Equal Opportunity Policy	See Section 1.20 of the RFP.  See Attachment 5 of Medsphere's Response.

FORM ID	FORM NAME	COMMENTS
	Voluntary Product Accessibility Template (VPAT)	<p>See Section 1.23 of the RFP. VPAT template can be found here: <a href="https://www.itic.org/policy/accessibility/vpat">https://www.itic.org/policy/accessibility/vpat</a>.</p> <p>See Attachment 6.</p> <p>ONC HIT Certification Program Test Results Summary for 2015 Edition EHR Certification</p> <p>The Usability People, LLC conducted a usability test of Medsphere Systems Inc.'s OpenVista CareVue EHR.</p> <p><b>Report based on NISTIR 7742 Common; Industry Format for Usability Test Reports</b></p> <p>Date of Usability Test: August 3 to August 8, 2017          Date of Report: August 10, 2017</p> <p>The purpose was to test and validate the usability of the current user interface and provide evidence of usability in the EHR Under Test (EHRUT). Fourteen (14) healthcare providers matching the target demographic criteria participated in the usability test, using the EHRUT in simulated, but representative, tasks. The study focused on measuring the effectiveness of, efficiency of, and satisfaction with OpenVista EHR among a sample of participants representing potential users of the system. These tests show the usability and equal access of the proposed solution and are available to the State for perusal.</p> <p>We will also go through the self-certification criteria upon award.</p> <p>Additionally, Section 508 Compliance - Medsphere's OpenVista is based on the Veterans Health Administration (VHA), which fully supports Section 508 of The Rehabilitation Act and is committed to equal access for all users. Below is an excerpt of VA 508 compliance documentation. Appendix B:</p> <p>Accessibility for Individuals with Disabilities of 508 compliance discusses the features of the CPRS (OpenVista CareVue based on) that allow people who are blind, who have limited vision, or who have limited dexterity to use the software effectively. The features discussed include changing the font and window sizes, changing the background color, configuring a screen reader, and keyboard equivalents for common CPRS commands.</p>
	Vendor Registration	<p>In order to receive payment under any contract award, Contractor must register with DFA online at <a href="https://www.ark.org/vendor/index.html">https://www.ark.org/vendor/index.html</a></p> <p>See Attachment 7 of Medsphere's Response.</p>

<Prospective Contractors to provide images of each form>

### 3.0 Attachments

The Prospective Contractor should identify all attachments that are part of the Technical or Cost Proposals. The Prospective Contractor should provide specific references to Proposal locations (e.g., section and page numbers) for each attachment included. All attachments should be included in both soft and hard Proposal copies.

**Instructions:** Complete the following Table with any attachments to the Technical or Cost Proposals. Add rows as necessary. Do not change any of the completed cells. Any changes to the completed cells could lead to the disqualification of the Proposal.

**Table 4. Attachment Checklist**

ATTACHMENT ID	ATTACHMENT NAME	ATTACHMENT PROVIDED?		REFERENCE TO PROPOSAL RESPONSE SECTION
Attachment 1	Letters of Recommendation	YES X	NO <input type="checkbox"/>	Section 2, Attachment 1
Attachment 2	Letter of Bondability	YES X	NO <input type="checkbox"/>	Section 2, Attachment 2
Attachment 3	Resumes	YES X	NO <input type="checkbox"/>	Section 2, Attachment 3
Attachment 4	Implementation and Support Plan	YES X	NO <input type="checkbox"/>	Section 2, Attachment 4
Attachment 5	EEO Handbook	YES X	NO <input type="checkbox"/>	Section 2, Attachment 5
Attachment 6	Medsphere Registration	YES X	NO <input type="checkbox"/>	Section 2, Attachment 6
Attachment 7	Voluntary Product Accessibility - Vendor Registration	YES X	NO <input type="checkbox"/>	Section 2, Attachment 7

### 4.0 Exceptions

Any requested exceptions to items in this RFP which are NON-mandatory **must** be declared below or as an attachment to this page. Prospective Contractor **must** clearly explain the requested exception, and should label the request to reference the specific solicitation item number to which the exception applies.

Exceptions to Requirements **shall** cause the Prospective Contractor’s proposal to be disqualified.

<Response>

None.

## **Attachment 1 Letters of Recommendation**



# INTRACARE NORTH HOSPITAL

1120 CYPRESS STATION  
HOUSTON, TEXAS 77090  
Phone 281/893-7200  
Fax 281/893-7646

November 1, 2017

To Whom It May Concern:

The mission of IntraCare North Hospital (ICNH), as its name implies, is to provide individualized treatment and care to our patients and their families. We provide high quality, ethical and cost-effective services in a safe and responsive environment.

We are committed to treat patients in the least restrictive environment possible. Hospital staff members strive to create an environment of respect for their patients' rights and dignity.

ICNH is a not-for-profit hospital and has provided behavioral health services to the Houston Community for over 25 years.

ICNH has been live on Medsphere's OpenVista since April 2014. We have been partners with Medsphere ever since using OpenVista. We also have been surveyed and accredited by The Joint Commission (July 2015) since OpenVista was implemented at our hospital.

I would recommend this product for use in your behavioral health facility.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Phyllis Qualls  
Director of Specials Projects  
Email: [pqualls@intracare.org](mailto:pqualls@intracare.org)  
Phone: 832.605.8264  
Fax: 713.974.4483



To Whom It May Concern:

Silver Hill is a nationally recognized, non-profit hospital for the treatment of psychiatric and addictive disorders, a unique and extraordinary place that people have relied on since 1931 to help them find the path back to mental health and wellness.

Adolescent and adult patients have the advantage of our unusually broad and comprehensive range of programs because Silver Hill is a psychiatric hospital providing inpatient, extended on-site residential treatment, and intensive outpatient programs within its extraordinary campus. The combination of an expert clinical staff totally focused on the patient's recovery and an environment conducive to healing make Silver Hill a hospital that doesn't "feel" like a hospital, but rather like a comfortable place in the Connecticut countryside.

Silver Hill has been live on Medsphere's OpenVista solution since February of 2010. Since that time, we have partnered with Medsphere on many development projects related to behavioral health including the Multi-Disciplinary Treatment Plans (MDTP) and NoteAssist products. Below are links to sites that fully describe these product:

<http://www.medsphere.com/open-vista/enterprise-wide-integrated-solution/mdtp>

<http://www.medsphere.com/resources/news/news-releases/3577-medsphere-introduces-openvista-noteassist-to-transform-clinical>

Our entire clinical staff uses OpenVista daily. We have been Joint Commission certified since OpenVista has been in production at our facilities.

I would recommend this product for your behavioral health clinicians and patient care.

This is my contact information.

Colin Samuelson  
Director – IT  
Silver Hill Hospital  
203-801-2266  
[csamuelson@silverhillhospital.org](mailto:csamuelson@silverhillhospital.org)

Sincerely,

A handwritten signature in black ink, appearing to read "Colin Samuelson", followed by a long horizontal line extending to the right.

Colin Samuelson  
Director-IT



STATE OF WEST VIRGINIA  
DEPARTMENT OF HEALTH AND HUMAN RESOURCES

Jim Justice  
Governor

**Bureau for Behavioral Health & Health Facilities**

350 Capitol Street, Room 350  
Charleston, West Virginia 25301  
Telephone: (304) 558-0627 Fax: (304) 558-1008

Bill J. Crouch  
Cabinet Secretary

November 1, 2017

To whom it may concern:

The West Virginia Department of Health and Human Resources (WVDHHR) is comprised of five bureaus: Bureau for Behavioral Health and Health Facilities; Bureau for Child Support Enforcement; Bureau for Children and Families; Bureau for Medical Services; and Bureau for Public Health. DHHR has a statewide presence and employs nearly 6,000 individuals. (Source-.dhhr.wv.gov)

The Bureau for Behavioral Health and Health Facilities is charged with overseeing the seven state owned hospitals which range from 41 beds to 200 beds and provide a wide array of services to include one acute care facility, four long term care facilities and the State's two psychiatric facilities.

All seven facilities began utilizing Medsphere's OpenVista in May of 2008. Since that time, the Bureau has partnered with Medsphere on many projects and initiatives relevant to our facilities. Our entire clinical staff uses OpenVista daily. We also have been Joint Commission certified since OpenVista's been in production at our facilities.

If you have any questions or would like to talk about how we operate and/or use Medsphere's solution, please contact me using the information provided below.

Damon E. Iarossi  
Deputy Commissioner  
WVDHHR Bureau for Behavioral Health and Health Facilities  
350 Capitol Street, Room 350  
Charleston WV 25301  
Tel: (304) 356-4832

Email: [Damon.E.Iarossi@wv.gov](mailto:Damon.E.Iarossi@wv.gov)

Sincerely,

A handwritten signature in blue ink, appearing to read "Damon Iarossi".

Damon Iarossi  
Deputy Commissioner

## **Attachment 2 Letters of Bondability**



77 Water Street, 17th Floor  
New York, NY 10005  
onebeacon.com

November 8, 2017

Shane Phillips, OSP Buyer  
Arkansas Office of State Procurement  
1509 West 7th Street, Room 300  
Little Rock, AR 72201-4222

**Re: State of Arkansas, Office of State Procurement-  
Arkansas State Hospital - Prequalification for Electronic Health Record & Patient Billing &  
Accounts Receivable System Bid No. SP-18-0034**

This letter is to advise you that Medsphere Systems Corporation is a valued surety client of Atlantic Specialty Insurance Company, which is one of the main underwriting companies of the OneBeacon Insurance Group, Ltd. Medsphere Systems Corporation remains in good standing and is afforded surety capacity of \$3 Million in aggregate.

It is our opinion that Medsphere Systems Corporation is qualified to perform contracts that fall within this range and their normal scope. This letter is not an assumption of liability, nor is it a bid bond or a performance bond. It is issued only as a bonding reference requested from us by our client. OneBeacon Insurance Group's decision to issue surety bonds on behalf of Medsphere Systems Corporation will be subject to our standard underwriting including but not limited to acceptance of the financial condition of our client, contract terms and conditions, bonds forms and project financing.

OneBeacon Insurance Group, Ltd. is a subsidiary of Intact Financial Corporation (TSX: IFC) which is A+ rated by A.M. Best with a financial size category of XV and is included in The Department of the Treasury's Listing of Certified Companies.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joan DeLuca", written over a horizontal line.

Joan DeLuca,  
Attorney-in-Fact

Attachments

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

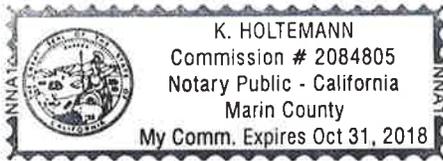
State of California )  
County of Marin )

On November 8, 2017 before me, K. Holtemann, Notary Public,  
*Date Here Insert Name and Title of the Officer*  
personally appeared Joan DeLuca  
*Name(s) of Signer(s)*

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature *K. Holt*  
*Signature of Notary Public*

*Place Notary Seal Above*

**OPTIONAL**

*Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.*

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_ Document Date: \_\_\_\_\_

Number of Pages: \_\_\_\_\_ Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Individual  Attorney in Fact
- Trustee  Guardian or Conservator
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Individual  Attorney in Fact
- Trustee  Guardian or Conservator
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_



# Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Debra Y. Frabel, Mark M. Munekawa, Lawrence J. Coyne, Nerissa S. Bartolome, Nancy L. Hamilton, Yvonne Roncagliolo, Kelly Holtemann, Joan DeLuca, Ian J. Campbell, Alicia Dass, Patrick R. Diebel**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **sixty million dollars (\$60,000,000)** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this eighth day of December, 2014.

STATE OF MINNESOTA  
HENNEPIN COUNTY



By   
Paul J. Brehm, Senior Vice President

On this eighth day of December, 2014, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.



  
Notary Public

I, the undersigned, Assistant Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 8th day of November, 2017

This Power of Attorney expires  
October 1, 2019



  
James G. Jordan, Assistant Secretary

## **Attachment 3 Resumes**



**Medsphere**<sup>®</sup>  
Transforming Healthcare

## **Resumes**

November 2017

## Table of Resumes

Thomas L. Arnold.....	1
Robert E Criteser, Jr .....	2
Dana Deely .....	3
Quinn P. DiLucente, RPh .....	4
Jo Anne Drake .....	Error! Bookmark not defined.
Brent Freeman .....	5
Debbie Fridley .....	6
Gilbert Gutierrez.....	7
Joy A. Holman .....	8
Jared B. Jonas.....	9
Robert B. Kilian .....	10
Terri Kozlowski, PMP .....	11
Richard A. Lewis .....	12
Sheran Lewis .....	13
Julie McPherson.....	14
Lynne M. Mundi .....	15
Holly Robinson .....	16
Teresa Sawyer .....	17
Steve Shelton .....	18
Karen Small .....	19
Kathy Steele.....	20
Mark M. Taylor .....	21
Diane Wiegmann, BSN, MEd .....	22
David P. Willoughby.....	23

## Thomas L. Arnold

### Objective

Perform project manager tasks on time, and provide on-budget system implementation. Is a manager and consultant with excellent customer interaction, communication and writing skills, extensive expertise in business process engineering, information technology, financial analysis and business metrics.

### Experience

#### 05/2011 to Present – Medsphere Systems Corporation

##### Senior Project Manager

- Implementing OpenVista at community hospitals

#### 07/2009 to 04/2011 – DSS, Inc.

##### Senior Project Manager

- Responsible for pre-sales support as well as project planning and implementation of VistA electronic health records systems for clinics and hospitals
- Managed implementation of vxVistA EHR for a Community Mental Health Center
- Developed project plan and managed initial execution stages of EHR deployment for a university-based behavioral health clinic with 800 users
- Coordinated first twelve months of development of templates to replace customers' existing EHR with vxVistA

#### 2007 to June 2009 – Aspire Behavioral Health, Inc.

##### Chief Information Officer

- Responsible for all aspects of information technology for a company starting a group of small behavioral health hospitals
- Responsibilities included selection, contracting and deployment of electronic health records, business systems, and telecommunications
- Implemented a low-cost network with dual-server redundancy and automatic failover for high availability, using Open Source software
- Installation and administration of Pyxis Medication Machine

#### 08/2008 to 03/2009 – Aspire Behavioral Health of Colorado, LLC

##### Safety Officer

- Served as interim safety officer for a new hospital
- Saw the facility through successful Joint Commission survey and accreditation within three months of admitting the first patients

### Education

- Certified Project Management Professional, Certification #1352120
- MBA – Daniels College of Business, University of Denver
- AB with Major in Sociology – Harvard College

## Robert E Criteser, Jr

### Objective

- Supporting the Laboratory, Mental Health, and Surgery departments
- Train Doctors and Nurses on how to use the CPRS and BCMA applications
- Work with multiple flavors of the VA's VistA system to include Medsphere's OpenVista and IHS' RPMS
- Developing server-side applications for 15 years to support both the clinical and administrative services

### Experience

#### 2005 to Present – Medsphere Systems Corporation

##### Senior Software Engineer

- Software Development Manager
  - Manage team of up to five full-time and contractor developers
  - Responsible for managing developer resources for current and upcoming projects
  - Develop, maintain, and support OpenVista server applications
- Software Developer: Mumps Programming Language
  - Development of HL7 interfaces to improve efficiency of software usage
  - Development of enhancements within pharmacy software package
  - Development of enhancements within laboratory software package
  - Stringent testing, evaluation and customization of the software prior to deployment at customer sites
  - Efficient support of application within both Linux and Windows environments using a Cache platform with an understanding of support on a GT.M platform
- Team Lead: Laboratory Client Services
  - Creation of training materials of the laboratory software package to be used by customers as well as other members of the deployment team
  - Pre-deployment evaluation of customer laboratory needs and concise communication of software functionality

#### 2001 to 2005 – VA San Diego Healthcare System

##### Laboratory Information Manager/Computer Programmer

- Maintain the Laboratory and Surgery software packages in VistA
- Development of utilization reports for usage by Surgery services
- Development of Class III local software for the Laboratory and Surgery services
- Installation of released patches for the Laboratory, Surgery, and Oncology packages

### Education

- BS in Computer Science, San Diego State University
- Prerequisite Courses required for Computer Science, Grossmont Community College
- Computer Programming Classes, Kirkwood Community College

## Dana Deely

### Objective

- 15+ years management experience at both Sr. Manager- and Director-level roles
- Demonstrating expertise and leadership in defining and implementing corporate initiatives
- Successfully manage multidimensional projects and teams, and directing activities for successful product launch and support of broad and diverse product portfolios
- Demonstrating strong analytical skills for assessing and allocating appropriate resources for project management fulfillment

### Experience

#### 2008 to Present – Medsphere Systems Corporation

##### Senior Director, Customer Care

- Oversees tactical and strategic operations of the customer technical support team on open source software for the healthcare industry
- Responsible for timely solution delivery, customer communication, staff utilization, staff allocation, and process definition
- Responsible for overseeing managers, team leads, and individual contributors on cross-functional product and process support teams
- Liaises with third-party firms and suppliers of complementary products, services, and technologies

#### 2004 to 2007 – Invitrogen Corporation

##### Senior Manager, Tech Support North America

- Directed all customer support teams across North America spanning 6 geographic regions with nine direct reports
- Established key performance indicators and dashboard metrics to monitor contact volume, contact channel, productivity and staffing model to understand, maintain, and enhance service levels
- Instituted performance review criteria to ensure consistent calibration amongst all North American sites, clearly defining the performance expectations of a Customer Care Specialist

#### 1996 to 2004 – Stratagene

##### Director of Technical Services

- Directed global strategy (North America, Europe, Japan) in providing customer support on >2000 products
- Major participant in all new Product Launch Teams
- Coordinated and implemented comprehensive Sales and Distributor training

### Education

- BS in Medical Technology – University of North Texas
- Medical Technologist – Certified by American Society of Clinical Pathologists

## Quinn P. DiLucente, RPh

### Objective

- Perform analysis of the Inpatient pharmacy workflow
- Perform analysis of the Medication Process workflow

### Experience

#### 2011 to 2015 – Cerner Corporation

##### PharmNet and Medication Process Consultant

- Experienced in the design and build of the PharmNet application
- Experienced in the design and build of CPOE, including PowerChart, eMAR, BCMA and Medication Reconciliation

#### 2010 to 2011 – St. John's Medical Center

##### Staff Pharmacist

- Hospital pharmacist duties using the McKesson Paragon pharmacy system
- Order review and distribution
- Aminoglycoside dosing, preparation, distribution

#### 2008 to 2009 – Flagstaff Medical Center

##### IT Pharmacy Manager

- Responsible for reviewing and updating IT pharmacy policies and procedures
- Responsible for IT processes and implementation as the pertained to the hospital and specifically the Pharmacy department
- Participated in the maintenance of the Cerner Millennium PharmNet application used by the pharmacy
- Participated in the testing and implementation of the Cerner eMAR application at both Flagstaff Medical Center and Verde Valley Medical Center

#### 2001 to 2008 – Denver Health and Hospital Authority

##### Pharmacy Manager

- Lead pharmacist at the Denver county jail pharmacy, a correctional care facility that houses over 2300 inmates
- Participated in the development of an EMR system for the infirmary that included an eMAR application and a pharmacy computer system
- Participated in the design and implementation of the current medication dispensing process at the facility
- Responsible for the development and maintenance of the medication formulary

### Education

- Started BS in IT – Western Governors University
- UConn-HIMSS Healthcare IT Certificate – University of Connecticut
- BS in Pharmacy – Duquesne University

## Brent Freeman

### Objective

- Highly skilled IT Professional with over 25 years Systems Administration and Management experience
- Proficient with Red Hat/CentOS Linux, Sun Solaris, Windows Server, SAN & NAS storage administration, FC switch configuration, backup administration, application administration
- Experience with MUMPS based systems

### Experience

#### 05/2011 to Present – Medsphere Systems Corporation

##### Technical Solutions Architect

- Installation, configuration, maintenance and troubleshooting of VistA and VistA-derived EHR (Electronic Health Record) software
- Routine tasks include Windows Server and Red Hat Linux systems administration, technical writing, and customer support

#### 04/2003 to 05/2011 – Computer Sciences Corporation / BAE Systems Information Technology

##### Senior Lead Systems Administrator

- Responsible for all facets of system administration including planning, installation, integration, configuration, storage management, monitoring, system hardening, and backup administration
- Received BAE Systems 2009 Security Award for “outstanding contributions to IT Security”
- Technical Team Lead for large program developing GIS applications
- Managing workflow, planning projects, coordinating scheduled outages, Liaison to Program customer

#### 08/2001 to 04/2003 – Computer Sciences Corporation

##### UNIX Line of Service Manager

- Managed 21 UNIX System Administrators supporting Western Region of BAE Systems
- Ensured that contractual server availability commitments were met
- Balanced the workload in the group
- Assigned and monitored projects
- Prepared monthly productivity and availability reports

### Education

- Units completed toward BS in Information Systems – Redlands University
- Certificate in Project Management – University of California
- Certificate in UNIX System Administration and C/C++ Programming – Southern Methodist University

## Debbie Fridley

### Objective

- Work with clients during implementation to advise and design an InsightCS<sup>®</sup> solution that maximizes best practices, contract, scope and project schedule

### Experience

#### 05/2013 to Present – Stockell Healthcare Systems, Inc.

##### Implementation Specialist

- Works with clients during implementation to advise and design an InsightCS<sup>®</sup> solution that maximizes best practices, contract, scope and project schedule
- Works with the implementation staff to develop appropriate training for client users based on the design and use of the application's configuration
- Delivers training during System Build and Train the Trainer phases of client project

#### 11/2005 to 05/2013 – St. Louis Connect Care

##### Director of Patient Financial Services

- Directed operations of three successful departments and integrated services with other departments and software applications
- Developed effective quality indicators and tracking mechanisms to measure department success
- Worked to Establish a Shared Vision and shape strategy
- Applied systems thinking and was part of a team to implement the Electronic Medical Record
- Implemented a new Practice Management system by providing set-up, training, testing, and developed procedure manuals
- Provided resources to develop meaningful use, and PQRS for providers through process controls and system administration. Promoted Continuous Learning and Employee Development

#### 05/1999 to 11/2005 – BJC HealthCare

##### Analyst

- Implemented set-up and initial roll out of ConnectCare's EHR system (iEHR)
- Analyze and resolve problems related to applications, software, communications, and hardware components of the EHR system
- Provide support for the Medical Manager and iEHR applications
- Assisted in testing and implementation of system upgrades

### Education

- Trained in Lean Kaizen, Microsoft Office products, crystal reporting, Intergy Practice Management Systems, LEHR, and HL7 – Maric College
- Recipient of the Process Improvement Award while at BJC HealthCare

## **Gilbert Gutierrez**

### **Objective**

- Develop and Maintain HIPAA Compliant Medi-Cal X12 interfaces to State of California
- Provide quality work as a senior ensemble interface developer
- Provide quality work Senior eGate interface developer

### **Experience**

#### **2010 to 2012 / 2015 to Present – Medsphere Systems Corporation**

##### **Integration Consultant**

- Develop, implement, and maintain real-time and batch interfaces
- Implement CPRS (VA/Vista, IHS RPMS, and OV) modules
- Implement the following interfaces – Radiology and Acute Medical Transcriptions interfaces, Pharmacy Automated Dispense Machines (Pyxis and Omnicell), Lab EDI, Lab, Radiology, Dietary, and Pharmacy orders
- Developed new HL7 Interface for Allergies and Meaningful Use criteria using FileMan and MUMPS

#### **07/2014 to 09/2015 – LifeLabs**

##### **Senior Cache Consultant**

- Converted legacy MUMPS Laboratory routines to Cache Classes. Convert Globals to Classes
- Made requested enhancements using Cache classes and routines

#### **2012 to July 2014 – Quest Diagnostics**

##### **Senior Cache Consultant**

- Review, analyze, and modify the MUMPS TOP CAT Lab application
- Review, analyze, and modify the CACHE Clinical Trials system
- Responsible for designing, encoding, testing, debugging, and documenting programs
- Experience in regulated CFR Part11 software development
- Experienced in Intersystems Cache Objects and object script

#### **2011 to 2012 – Long Beach Memorial Care Hospital, Long Beach CA**

##### **Consultant / Interface Developer**

- Support Clover Leaf Interface Engine conversion
- Developed and maintained real-time and batch interfaces using Cache Ensemble Interface 2010 software
- Developed HL7 ADT, Order, Lab, Pharmacy, Results and Staff Updates interfaces

### **Education**

- BS in Computer Science – California Lutheran University
- Associate of Science in Marketing – Moorpark Junior College

## Joy A. Holman

### Objective

- Provide assistance in software implementation and configuration support
- Provide Data Innovations implementation and configuration support
- Provide end-user employee training

### Experience

#### 2008 to Present – Medsphere Systems Corporation

##### Senior Laboratory Consultant

- Perform software implementation and configuration support
- Perform Data Innovations implementation and configuration support
- Perform interface testing and configuration support
- Provide End-user employee training
- Helped develop Meaningful Use stages I and II
- Performed LOINC/SNOMED configuration/training
- Implemented the OpenVista Laboratory module at 13 sites, including Micro and AP
- Interfaced 17 reference labs, including LabCorp and Quest
- Spearheaded interfacing of over 80 laboratory instruments for all departments at all sites, including Micro
- Trained lab resources at all implementation sites to configure OV Lab

#### 2012 to 2013 – Growe Technologies

##### Technical Consultant

- Support and maintain change management of Legacy GE Ultra LIS system while client transitioned to Epic Beaker, including instruments and instrument interfaces.
- Support issues with both Ultra and Beaker

#### 2005 to 2008– GE Healthcare

##### Implementation Analyst

- Performed implementation/technical support for Centricity Laboratory integration products
- Prepared detailed product specifications to meet specific customer requirements
- Interfaced and tested laboratory instruments
- Decreased customer support calls to analysts by 30% by designing new validation testing guide to assist customers in testing new interfaces and filters.
- Reduced customer wait time for new and/or current interface modules

### Education

- Master of Science – Trident University
- BS in Health Systems – Northern Arizona University
- AA in Applied Science – Phoenix College

## Jared B. Jonas

### Objective

- Find unique and cost-effective solutions through application of excellent logical, reasoning and analytical abilities
- Identification and resolution of issues
- Maintain system software via testing, hot fixes, and releases
- Problem solving in healthcare information systems
- Find unique and cost-effective solutions through application of excellent
- Logical, reasoning and analytical abilities

### Experience

#### 06/2006 to Present – Silver Hill Hospital

##### Systems Analyst

- Systems implementation, development, administration, support, and end-user training
- Design and maintain regular reporting functions and systems documentation
- Peer Mentor for Customer Service Initiative

#### 2003 to 2006 – Self-Employed IT Consultant

##### Independent IT Services Consultant

- Contract services for local small businesses
- Design, implementation, administration, and support of LANs and Windows Domains using Server 2003, Exchange, Web, and SQL Servers

### Education

- Bachelors of Business Administration, Management Information Systems – Western Connecticut State University
  - Summa Cum Laude – Information Security Management Option
  - Management Information Systems Award, 2012
- Candidate for BS in Mechanical Engineering – Massachusetts Institute of Technology

## Robert B. Kilian

### Objective

- Use knowledge, skill, experience, and professionalism to perform the duties of a Director of Information Technology in a corporate IT environment
- Lead a skilled team dedicated to improving IT infrastructure
- Maximize productivity, security, and availability through IT innovation while minimizing costs

### Experience

#### 01/2006 to Present – Medsphere Systems Corporation

##### Director, Information Technology

- Transformed Medsphere's IT infrastructure from a loosely integrated collection of technologies and practices, into a cutting edge, structured, modern organization
- Reduced physical server hardware footprint by nearly 95% through use of virtualization technologies, massively reducing energy costs
- Reduced VM/server provisioning time from hours to minutes by developing automated OS imaging & deployment systems
- Brought IT-related infrastructure and policies into compliance with HIPAA/HITECH to ensured ongoing compliance
- Manage IT Operations, Helpdesk/Support, Configuration Management, Software Release Management, and Technical Implementation teams

#### 05/2006 to 08/2006 – First American Corporation

##### UNIX Systems Administrator (Contract)

- Responsible for maintaining 700 enterprise-class application/database/Webservers running RHEL 3/4 AS; 300+ Sun/Fujitsu servers running Solaris, and HP-UX on 5 HP rps4440 systems
- Built, configured, and deployed custom Linux systems on x86 and x86\_64 systems
- Built, configured, and deployed Solaris 8, 9 and 10 to customer specifications on SPARC and x86 hardware
- Implemented Sun Directory Services LDAP system to provide centralized authentication for all Linux, Solaris, and HP-UX machines
- Provided system health & status reports to customers and performance tuning when required
- Heavy scripting to automate administration tasks and generate reports
- Maintained/improved in-house MySQL/PHP/Apache system administration database to provide instant status reports on all systems

### Technical Skills/Knowledge

- **Certifications:** Red Hat Certified Engineer (RHEL 4)
- **Operating Systems:** Red Hat Enterprise Linux 3-6; Fedora 3-17; CentOS 3-6, Solaris 8/9 (SPARC), Solaris 10/11 (x86/SPARC), HP-UX, Windows 2000/XP/Vista/7/Server 2003 & 2008

## Terri Kozlowski, PMP

### Objective

- Perform analysis and design of multi-product integration across divergent workflows, data structure, and business cases
- Design implementation process for system integration modules
- Implement resource scheduling process for timely completion of projects

### Experience

#### 2013 to Present – Medsphere Systems Corporation

##### Senior Manager – Interfaces and Technical Solutions Group

- Worked with the Open Source version of the VA EHR system VISTA
- Installed and implemented interfaces to the OpenVista application
- Established processes and project plans for system interface implementation
- Created specifications and department documentation
- In one year, installed the OpenVista application in three different facilities, including installation in the U. S. territory of America Samoa

#### 2006 to 2013 – QuadraMed Healthcare Systems

##### Senior Technical Consultant

- Lead interface/implementation analyst responsible for the implementation of over 100 interfaces throughout the Daughters of Charity Health systems in a four-year period
- Main resource for interfacing QuadraMed QCPR with various blood-bank applications, including developing and implementing the interfaces between QCPR and Medware HCLL
- Main resource responsible developing/ implementing interfaces between QCPR and automated medication dispensing systems
- Programmed and validated Meaningful Use, Phase Two certification for Syndromic Reporting, Immunization, and Reportable Laboratory Results

#### 2004 to 2006 – Perot Consulting

##### Senior Systems Analyst, Clinical Systems

- Clinical systems support analyst charged with the installation, management, support, and troubleshooting of the clinical information systems and related HL7 interfaces
- Implemented Cerner Laboratory Systems throughout the Catholic Healthcare West facilities in Southern California

### Education

- MA in Business Administration – University of Redlands
- BS in Information Systems – University of Redlands
- Certificate Degree in Medical Technology – Baton Rouge Community College

## Richard A. Lewis

### Objective

- Provide leadership with multi-department accountability and expertise in the diagnostic disciplines of imaging and laboratory
- Create and effectively manage outpatient strategies, while motivating teams to greater performance
- Provide solid asset management ability and cost containment focus

### Experience

#### 2012 to Present – Medsphere Systems Corporation

##### Diagnostic Services

- Full administrative responsibility for Imaging Services, Pathology, Cardiac Diagnostics, outpatient outreach services, as well as consultative responsibility for all capital projects requiring imaging or radiation producing equipment and facility design
- Shepherded Imaging and Pathology departments through Joint Commission, American College of Radiology, Food and Drug Administration, College of American Pathologists, State of Connecticut, and Nuclear Regulatory Commission accreditation and inspection processes

#### 2009 to 2012 – Saint Raphael Healthcare System

##### Director, Diagnostic Services

- Restructured front office operations to reduce registration errors and improve both patient access to Imaging Services as well as customer satisfaction
- Significant improvement in employee satisfaction and engagement as measured by employee surveys
- Creation of capital improvement strategy and clinical business plans related to the replacement of over \$5MM in equipment in Imaging and Pathology
- Provided project leadership to create a critical-results reporting system, as well as hired and developed the team to assess, implement and staff this service
- Along with CEO and CFO/COO, functioned as member of management board for joint venture providing MRI services for the healthcare system
- Part of turnaround team reducing system revenue losses of \$36MM to a profit of \$2MM in three years

### Education

- MA in Business Administration – University of Redlands
- BS in Information Systems – University of Redlands
- Certificate Degree in Medical Technology – Baton Rouge Community College

## Sheran Lewis

### Objective

- Present demonstrations of CPRS to major hospitals
- Begin set up and training for CPRS
- Assist major hospitals with training users for Go-Live for Order Entry

### Experience

#### Present – Medsphere Systems Corporation

##### Clinical Systems Analyst

- Acted as POC for two sites at Oklahoma Department of Veterans Administration (ODVA)
- Acted as POC for the Midland Hospital site to meet the workload objective of entering progress notes templates, orders, and clinical reminders into the Midland production system
- Assisted and acted as POC for two psychiatric hospitals, one acute care hospital and two long term care facilities in West Virginia to implement CPRS
- Created quick orders, generic (nursing) orders, order menus, and progress note templates for various sites
- Worked with CPRS developers in testing the “new CPRS”

#### U.S. Department of Veterans Affairs (VA)

##### Automated Data Processing Application Coordinator (ADPAC)

- Provided assistance and support to the Chiefs, Section Chiefs, and staff
- Responsibilities included Decentralized Hospital Computer Program (DHCP) software management for surgical package, testing, verifying, and determining site parameters

#### Phoenix Healthcare, Inc.

##### Systems Analyst

- Responsible for building a ready-to-go version of OpenVista derived from Medsphere
- Began building the system for go-live in October
- Created orders and progress note templates specific for specific sites
- Worked with Sequence Managers at implementing VistA at a small surgical clinic in Alabama

### Education

- Attended Business University for 18 semester hours

## Julie McPherson

### Objective

- Coordination of implementation and maintenance
- Configuration and training for sales team on various products

### Experience

#### 2009 to Present – Medsphere System Corporation

##### Clinical Product Manager

- Performed functionality enhancements on the Surgery package, MDTP, ED Patient Dashboard, Flowsheets, Meaningful Use, and TIU
- HBIPS Functionality (Seclusion/Restraint) documentation and reporting
- Privacy Flag enhancement
- Overall support for enhancements and fixes to all packages
- Requirement Documents for all enhancements and fixes
- Release Notes for all fixes
- Product Demos for all packages and functionality
- Transition training and demos for CC, Implementations, and Sales teams for all packages and functionality
- Management of Development and QA activities for product functionality and fixes assigned to me.
- User Guide, Configuration Guide, and Quick Reference Guides for all packages

#### 2001 to 2009 – VA North Texas Health Care System

##### Clinical Application Coordinator

- Coordination of implementation and maintenance for the Computerized Patient Record System (CPRS)
- Responsible for planning and organizing training for staff with a wide variety of backgrounds
- Manipulate parameters from VistA (MUMPS) software menus and FileMan to maintain optimal performance of CPRS
- Evaluate specific procedures to determine the most effective use of CPRS when implementing new computerized processes
- Prepare project plans for implementation of enhancements or new products.
- Uses troubleshooting tools such as National Online Information Sharing (NOIS), Remedy, and FORUM to stay informed of pending problems and resolutions

### Education

- FileMan and Clinical Reminders Training
- Trinity Valley Community College
- Grand Saline High School

## Lynne M. Mundi

### Objective

- Perform as a Senior QC Analyst for the healthcare software industry
- Writing clear and detailed manual test plans
- Committed to delivering high quality work

### Experience

#### 03/2008 to Present – Medsphere System Corporation

##### Quality Assurance Analyst

- Installation of KIDS and GUI builds to CareVue and OpenVista
- Develop, maintain, and execute test plans and test cases based on design, functional requirements and other manual test procedure documents
- Responsible for testing, Laboratory, HL7 Interfaces, Radiology, Nursing/Physician, Allergies, Reminders/Notes, TIU, ICD, Consult, Surgery, AutoFax reporting, Immunization, Laboratory Point of Care, and Dental modules
- Responsible for tracking and reporting defects found during software release cycles
- Perform regression testing and integrated testing for current software release
- Worked on Meaningful Use reports
- Review design and end user documentation

#### 08/2007 to 02/2008 – CS Partners, LLC

##### Senior QC Analyst

- Effectively maintained hospital laboratory systems HL7 order and results during conversion to a new information system via remote connection

#### 09/2002 to 08/2007 – Cogent Healthcare

##### Application Support Analyst

- Managed end-user support with emphasis on Web application and PDA applications support
- Continued software testing and implementation for new application to support the application development department
- Lead Analyst for vital mobile and Web-based charge application project
- Tested and implemented Core Measures on hand held devices for nurses
- Developed, maintained, and executed test plans and test cases based on design, functional requirements and use case documents for web based EHR and PDA hand held device
- Provided direct support to 350 on-site and remote employee locations throughout the United States via phone or email for software and hardware issues

### Education

- A.S. in Medical Laboratory Technology – Chippewa Valley Technical College

## Holly Robinson

### Objective

- Ensure project schedule, budget, and client satisfaction goals are consistently met for each assigned project
- Provide executive management with status updates and reports on the progress of contracted work
- Report any issues with mitigation plans for assigned projects

### Experience

#### 2012 to Present – Medsphere Systems Corporation

##### Senior Director, Implementation Services

- Manages all OpenVista and Insights implementation efforts through completion
- Builds and manages an effective team to promote efficient implementation project management output
- Provide leadership in developing and implementing project management goals, methodologies and procedures
- Ensure project schedule, budget and client satisfaction goals are consistently met for each assigned project
- Provide executive management with status updates and reports on the progress of contracted work
- Report any issues with mitigation plans for assigned projects
- Communicate and provide status updates and reports to the customer executive team, executive sponsor, project manager and departmental teams to ensure contractual obligations are met

#### 2010 to 2012 – Stockell Healthcare Systems, Inc.

##### Project Lead / Implementation Specialist

- Managed multiple projects simultaneously according to the project contracts, scopes, and schedules for the end-to-end implementation of the Patient Accounting Health Information System
- Assisted and advised client in correct build of multiple Charge Masters for multi-location hospitals
- Worked with remote staff to deliver the project on-time, within budget, meeting required quality standards
- Communicated effectively with C-Level leaders and other partner vendors
- Advised clients on test scenarios to include that would maximize efficiency during implementation phase.

### Education

- BS in Business Administration/Major in Finance – Southeast Missouri State University
- EMT Certification

## Teresa Sawyer

### Objective

- Maintain knowledge of OpenVista EHR System to provide go-live support for the electronic medical record
- Provide training and support to the Radiology Department, while using the electronic medical record

### Experience

#### 2004 to Present – Medsphere Systems Corporation

##### Radiology Consultant

- Successfully designed, configured, trained, and implemented the Radiology System for the following Medsphere projects:
  - Oklahoma State Veterans Homes
  - Midland Memorial Hospital, Midland, TX (Interfaced System)
  - West Virginia DHHR and Community Clinics, West Virginia
  - Lutheran Medical Center, Brooklyn, NY
  - Memorial Hospital, Sweetwater County, Rock Springs, Wyoming
  - Meadowlands Hospital, Secaucus, NJ
  - Kern Medical Center, Bakersfield, CA
  - Columbia Basin Hospital, Ephrata, WA
  - Guadalupe Hospital, Santa Rosa, NM
  - Stilwell Memorial Hospital, Stilwell, OK
  - Valley General Hospital, Monroe, WA
  - Lyndon Baines Johnson Hospital, American Samoa

#### 1995 to 2004 – Central Texas Veterans Health Care System

##### Administrative Officer, Imaging Service

- Studied department operations to improve workflow and processes, simplify reporting procedures and implement cost reductions
- Automated clinic scheduling for specialized imaging exams such as CT, Ultrasound, MRI and Fluoroscopy, which dramatically reduced no-show rates and increased productivity
- Maintained Radiology/Nuclear Medicine computer information system for multi divisions and multi imaging locations
- Provided first line technical support for voice activated dictation system utilized by radiologists in report preparation
- Participated on VistA Imaging Implementation Team with primary responsibility of analyzing and modifying department workflow changes

### Education

- Associates Degree, graduated with honors, Perkinson College, Perkinson, MS
- Additional courses at the University of Southern Miss. and Mississippi State University

## Steve Shelton

### Objective

- Provide expert HL7 support
- Provide expert support for major Software Systems Implementation
- Provide expert support in Systems Security & Disaster Recovery Planning
- Provide expert support in Database Design and Management

### Experience

#### 2012 to Present – Medsphere Systems Corporation

##### Senior Interface Engineer

- Development of interface design
- Works on programming and implementation for multiple projects

#### 1989 to 2012 – QuadraMed Healthcare Systems

##### Senior Technical Consultant

- Managed large-scale enterprise migration projects, systems conversions, application interfaces and performance tuning and monitoring of applications/systems
- Helped set long-range technical direction and architectural overview
- Created a utility that would decrease the implementation time required by 50%
- Designed the interface infrastructure for the QCPR product
- Created a suite of interface utilities that would allow users to manage/monitor the interfaces
- Developed new API's as needed for the QCPR product so that ADT, orders, results, and appointment messages could be filed appropriately
- Transformed processes/toolsets of geographically dispersed medical unites into a cohesive, standardized set of solutions that elevated efficiency and accuracy hospital-wide
- Gathered and assessed needs from internal business units; created custom solutions to resolve issues
- Automated previously manual, time-consuming processes to drive gains in data tracking/accuracy, workgroup efficiency and profitability

## Karen Small

### Objective

- Coordinate the system design, optimization, and report generation of clients' EHRs
- Provide successful BCMA implementations that come in on time and on budget
- Develop Clinical Decision Support content to improve patient care outcomes
- Provide support to client sites, Product Management, Quality Assurance, and Customer Care

### Experience

#### 07/2008 to Present – Medsphere Systems Corporation

##### Clinical Systems Analyst, Transformation Services

- Coordinates the system design, optimization, and report generation of clients' EHRs
- Design documentation templates, orders, order sets and menus to facilitate provider adoption and compliance with facility and regulatory guidelines, as well as meeting individual provider needs
- Design and develop Clinical Reminders and Reminder Dialogs for maximal patient outcomes such as Core Measures, Immunizations, and Fall Prevention
- Design and develop training material for both internal (company), as well as client use including, System Design Blocks, QRCs, and manuals for various system components
- Function as the QA clinical liaison performing system testing, as well as designing testing scripts, most recently for the EP MU Measures
- Participates in client-site Enterprise Assessments, coordinate beta and integrated testing, and perform post go-live optimization visits
- Assists with the planning, development, and coordination of customer implementation plans with particular emphasis on clinical processes, including workflow and bar code medication administration
- Participate in all aspects of customer training, including program development designed specifically to train and educate clinical staff on optimal use of OpenVista EHR

#### 08/2009 to 03/2012 – Document Storage Systems, Inc.

##### Senior Clinical Applications Coordinator

- Participated in all phases of EHR implementation from site assessment to go-live support
- Developed user templates and dialogs for efficient charting within the EHR that met regulatory guidelines
- Achieved Project Manager Professional status

### Education

- MS in Nursing Informatics and BS in Nursing – University of Pittsburgh School of Nursing – Graduated summa cum laude
- Diploma in nursing – Shadyside Hospital School of Nursing

## Kathy Steele

### Objective

- Manage technical documentation responsibilities for all of Medsphere Systems
- Coordinate all project documentation, including online Help
- Work closely with project managers to ensure documentation is complete and delivered on time

### Experience

#### 02/2008 to Present – Medsphere Systems Corporation

##### Manager, Technical Documentation

- Currently manages Medsphere's Technical Documentation department, which provides documentation support for all Medsphere projects
- Designs, writes, and/or edits online Help, user guides, installation guides, configuration guides, technical manuals, release notes, and requirements/specifications documents

#### 07/2007 to 01/2008 – Triad Financial Technical Division

##### Contract Senior Technical Writer

- Within the Information Technology (IT) division, designed and wrote online procedures, job aids, policies, procedures, run guides, and quick reference cards for Triad's eProject PPM6 PMO software
- Also designed and wrote online Sarbanes-Oxley-related policies, procedures, and guidelines

#### 06/2006 to 07/2007 – Fremont Investment & Loan Technical Division

##### Senior Technical Writer

- Maintained the main RoboHelp (online) policies, procedures, and guidelines projects for the Commercial Loan Service Center and the Asset Management Department
- Developed, wrote, and edited online policies, procedures, and guidelines for Fremont's Commercial Loan Division
- Created process flowcharts for various procedures utilizing Visio

#### 12/2004 to 06/2006 – ACC Capital Holdings Corporation: Argent Mortgage Company, Irvine, CA; Ameriquest Mortgage Company

##### Senior Technical Writer

- Wrote and maintained the main RoboHelp policies and procedures projects for Loan Operations, Loan Origination, Capital Markets Division, and Argent State Specific
- Developed, wrote, and edited Sarbanes-Oxley (SOX) online standards and procedures

### Education

- California State University Northridge, CA, BA Journalism
- Technical Writing Courses, UCLA

## Mark M. Taylor

### Objective

- Creating software that provides enterprise-wide automation for all aspects of patient care and administration
- Leading teams to produce the highest quality code in a timely fashion through the implementation of solid SDLC principles, as well as through mentorship and nurturing of developers to achieve maximum output

### Experience

#### 03/2010 to Present – Medsphere Systems Corporation

##### Senior Software Developer

- Developed 2014 Meaningful Use CQM and Objective report systems for our commercial product
- Development Lead for 2011 Meaningful Use CQM reporting system for Indian Health Service
- Develop GUI applications for the Indian Health Service RPMS software
- Write Mumps-based remote procedures to retrieve data from the database
- Write Java-based Web-services to serve data to the front-end GUI
- Implement Intermec printer-support for pharmacy labels
- Team Lead for Medsphere's Meaningful Use reporting efforts (including attestation reports)
- Develop and maintain software for Medsphere's open-source VistA-based software
- Research and design a solution to provide a comprehensive Data Model to IHS
- Implementation of InterSystems DeepSee business intelligence software using FileMan files

#### 03/1989 to 03/2010 – QuadraMed Corporation

##### Principal/Lead Software Engineer

- Feature Team Lead on large-scale projects, developing mission-critical software enhancements
- Oversee work of all software engineers to ensure quality and timeliness of assignments
- Coordinate and manage design, prototypes, coding, testing and documentation
- Perform peer review for all technical design specifications written by other SW Engineers
- Perform code review for all code changes made throughout the system
- Investigate and resolve all severe/critical customer support issues
- Developed and implemented procedures to obtain ISO 9001 Certification
- Ensure that all procedures are followed to maintain ISO 9001 Certification

### Education

- BS in Computer Science – California State University, San Bernardino
- Additional Classes towards Management Certificate

## **Diane Wiegmann, BSN, MEd**

### **Objective**

- Work with clinical, ancillary, and support departments and functions in hospital and health insurance settings
- Work with organizations for responsible patient safety, risk management, education, accreditation and performance improvement

### **Experience**

#### **2012 to Present – Medsphere Systems Corporation**

##### **Consultant**

- Currently responsible for assessing the EHR needs of the clinical departments and physicians and training the Clinical Team to configure templates, orders and other components of the EHR

#### **2010 to 2012 – Cigna Healthcare**

##### **Nurse Case Manager Specialist/Supervisor**

- Supervised a multidisciplinary team providing case management and health coaching services
- Involved with account implementation team to transition new clients
- Coordinate processes with other Cigna locations via teleconferencing, WebEx, shared documents, and email communication

#### **2009 to 2010 – DW and Company**

##### **Founder and President**

- Focused on partnering with businesses and individuals to achieve improved results
- Facilitate proven processes in the areas of strategic planning, leadership, management and team leader development, sales, customer loyalty, and process improvement

#### **2000 to 2009 – Weirton Medical Center**

##### **Administrator/Director**

- Provide hospital-wide education, clinical risk management, JCAHO coordination, Health Information Management and Patient Safety
- Administratively responsible for organizational areas of Performance Improvement, Utilization Management, HIPAA and Infection Control
- Administrative responsibilities have included Medical/Surgical inpatient units, Skilled Care, Behavioral Health, Radiology, and Laboratory

### **Education**

- Master of Education in Adult Education – Pennsylvania State University
- BS in Nursing, magna cum laude – West Virginia University
- Certificate in Six Sigma Greenbelt
- Certificate in Lean Six Sigma
- Certificate in Six Sigma Black Belt

## David P. Willoughby

### Objective

- Validate, troubleshoot, and maintain laboratory instrumentation
- Implement and maintain the LIS systems

### Experience

#### 11/2012 to Present – Medsphere Systems Corporation

##### Laboratory Consultant

- Proficient in configuring and using the Lab module of OpenVista
- Gained experience using VA FileMan
- Laboratory Implementations:
  - Served as primary Laboratory Consultant for successful OpenVista implementation at IntraCare North Hospital, Houston, TX
  - Served as primary Laboratory Consultant for successful Phase II Go Live at Memorial Hospital Stilwell, Stilwell, TX
  - Served as primary Laboratory Consultant for successful OpenVista Implementation at Valley General Hospital, Monroe, WA
  - Served as primary Laboratory Consultant for successful OpenVista Implementation at LBJ Tropical Medical Center, American Samoa

#### 01/2012 to 11/2012 – HcTec

##### Laboratory Analyst

- In preparation for implementation of HMS LIS systems conducted evaluations of hospital laboratory operations to identify gaps and opportunities for improvement related to conversion from legacy LIS systems
- Managed required database builds within established project timelines
- Planned and supervised super user and end user training
- Worked with entire project team to conduct unit and integrated testing of system
- Provided go-live support for system conversion
- Remediated issues prior to project completion and turn over to corporate support

#### 4/2011 to 9/2011 – Centennial Medical Center

##### Director, Laboratory Services

- Managed Cerner Classic System by making database changes for new tests including tests added to reference lab interface. Responsible for System operations
- Wrote programs to extract information from the Cerner system using CCL
- Reconciled all charges for the laboratory

### Education

- BS in Microbiology – Texas Tech University
- BS in Medical Technology – Tarleton State University

## **Attachment 4 Implementation and Supportability Project Plan (ISPP)**



# ASH

## Electronic Health Record Program Implementation and Supportability Project Plan (ISPP)

Medsphere Systems Corporation

Version:	1.1\0
Date:	

Approved by:

---

---

Date

(Fill Name)  
PM

## Record of Changes

Release/ Revision No.	Date	Author	A=Add M=Modify D=Delete	Description of Change
1			A	Initial version
2				
3				

# Table of Contents

1.0 Executive Summary .....	1
2.0 Objectives.....	2
3.0 Assumptions .....	3
4.0 EHR System Scope .....	4
5.0 Key Stakeholders .....	5
6.0 Fielding and Logistics Support Structure .....	7
6.1 Command and Control .....	7
6.2 Organizational Responsibilities.....	7
7.0 Controlling Documents.....	12
8.0 Deployment .....	13
8.1 Deployment Overview & Strategy.....	13
8.2 Pre-Deployment Actions .....	18
8.3 Change Management.....	21
8.3.1 Change Management Strategy.....	21
8.3.2 Change Management Plan.....	25
8.3.3 Key Personnel.....	26
8.3.4 Change Management Key Events .....	32
8.4 Communications .....	35
8.4.1 Communications Strategy .....	35
8.4.2 Communications Plan .....	36
8.5 Training .....	38
8.5.1 Training Strategy.....	38
8.5.2 Training Plan .....	39
8.6 Post-Deployment Analysis.....	42
9.0 Supportability .....	43
9.1 Supportability Overview & Strategy .....	43
9.2 Maintenance and Support Concept.....	44
9.2.4 Post Go-live On-Site Support (OSS) .....	47

9.2.5 Warranties and Licensing .....	47
9.2.6 Intellectual Property .....	47
9.3 Service Desk Support Concept.....	48
9.3.1 Workflow.....	48
9.3.2 Service User Support Work Flow.....	49
9.3.3 The Service Desk Customer Relationship Management (CRM) Intake and Approval Process.....	53
9.4 Supportability Communications.....	
9.4.1 Supportability Communications.....	53
9.5 Supportability Training.....	54
9.6 Product Support Performances.....	55
9.6.1 Sustainment Performance Requirement.....	55
9.6.2 Expected Business Outcomes.....	56
9.6.3 Demonstrated (Tested) Sustainment Performance .....	58
9.6.4 Information Assurance (IA) Requirements .....	59
9.6.5 Mission Assurance Category (MAC) and Confidentiality Level .....	59
9.6.6 Baseline IA Control Sets.....	59
9.6.7 Software Assurance (SwA) Requirements .....	61
9.7 Regulatory/Statutory Requirements that Influence Sustainment Performance .....	61
9.8 Management .....	61
9.8.1 Manpower and Personnel.....	62
9.8.2 Sustainment Relationships .....	62
9.8.3 Product Support Arrangement.....	62
9.8.4 Configuration Management.....	62
9.8.6 Program Review Results .....	65
9.8.7 Sustainment Strategy Considerations.....	65
<b>Appendixes .....</b>	<b>68</b>
Appendix A: Microsoft Project Task and Schedule chart.....	68
Appendix B: Acronyms .....	70
Appendix C: Implementation and Deployment Checklist .....	94

## 1.0 Executive Summary

ASH (hereinafter “ASH”) has acquired a solution for modernization of their clinical information management systems. Maintaining complete and accurate medical records is an essential part of patient care management. Practitioners need access to patients’ longitudinal health records to ensure that relevant data are accessible for decisions and in support of clinical management. ASH has multiple legacy healthcare systems and data stores, developed, which need to be modernized/interfaced to ensure and enable sustainability and flexibility, and to improve the continuity of care.

ASH sought proposals for an electronic health record (EHR) to replace its current EHR. This includes 1) interoperability/interfaces between that OpenVista and remaining ASH systems, 2) development of software and interfaces, as needed 3) implementation, 4) training, 5) reporting capabilities and 6) other related information system services.

ASH is a 222-bed, secure, acute psychiatric inpatient facility located in Little Rock, Arkansas. The hospital is a component of the Division of Behavioral Health Services (DBHS), which is one division of the Arkansas Department of Human Services (DHS). ASH’s mission is to provide psychiatric services that promote recovery in a safe and caring environment. ASH is licensed by the Arkansas Department of Health and the Centers for Medicare and Medicaid Services, and is accredited by The Joint Commission. The hospital has nine distinct physical units covering three (3) service areas: 1) General Adult, 2) Forensic, and 3) Adolescent.

1. **General Adult Service:** The General Adult Service area is comprised of three, 30-bed units for persons eighteen (18) years of age and older. To be admitted to this area an individual must first be screened at one of the fifteen (15) Community Mental Health Centers (CMHCs) located across the state. The screening for appropriate admission is based on continuity of care and treatment which provides the least restrictive setting.
2. **Forensic Service:** The Forensic Service area is comprised of four 24-bed adult units whose mission is to assess and treat individuals with mental illness who have allegedly committed a crime, and to consult with the Court of Record and Law Enforcement. All persons treated on Forensic Services have been court-ordered for either an evaluation or treatment secondary to the legal charges they have received.
3. **Adolescent Service:** The Adolescent Service area is comprised of two units: an eighteen (18) bed co-educational program for adolescents thirteen (13) to seventeen (17) years of age who are in need of acute or residential psychiatric care and an 18-bed program for adolescent males thirteen (13) to seventeen (17) years of age who have committed a sexual offense. Patients may be referred by local CMHCs, other divisions of DHS, private treatment providers, or the juvenile courts.

The released RFP was issued on behalf of the Arkansas State Hospital, an acute psychiatric facility, to obtain proposals and a contract for a proven, COTS Electronic Health Record (EHR) System and Patient Billing and Accounts Receivable System. This plan addresses the RFP requirement:

1. Fully integrated system for EHR and Patient Billing and Accounts Receivable

When implemented, Medsphere's proposed OpenVista Cloud (OVC) solution will provide access to authoritative sources of clinical data; enable improved population health, patient safety, and quality of care; support an enhanced patient care experience; and serve as a tool to maximize medical readiness for ASH patients.

Medsphere will deliver a modernized the OpenVista EHR system via the Cloud to unify and increase accessibility of evidenced-based healthcare delivery and decision-making. Medsphere will continue to collaborate with ASH program leadership and staff to ensure compatibility and interoperability with the standardized healthcare data framework and exchange standards as they evolve and become available. OpenVista applications support standardized workflows, healthcare delivery, and data standards that when implemented will enable improved electronic exchange of information. Each segment may have unique requirements during deployment, testing, training, and acceptance testing leading to go live and support.

## 2.0 Objectives

The objectives of this plan are as follow:

- Enable rapid deployment of OpenVista EHR System to ASH site locations in a cost-effective manner and with as little disruption as possible to the mission of the respective departments of ASH.
- Conduct change management, which includes site visits, role identification, training, data management, and other pre- and post-deployment activities to establish conditions for successful deployment.
- Provide a work breakdown for managing the people-side of the OpenVista EHR System implementation as it progresses through a continuously accelerating deployment method.
- Apply change management principles to support the mission, program goals, and objectives of ASH and the OpenVista EHR System.
- Provide oversight and guidance on planning and executing of the ASH Initial Implementation Training, through collaboration between Medsphere and ASH teams.
- Support the adoption, review, and approval of deployment and supportability materials by the appropriate departments.
- Emphasize the integration of the OpenVista EHR System capability functionality into the end-user's workflow to ensure maximal user adoption.
- Leverage the appropriate mix of training methods to target large and small groups of end-users with different training needs.
- Leverage ASH infrastructure staff's existing processes related to post-production and post-deployment program manager support, systems integration, maintenance, training, and implementation.
- Provide guidance to ASH regarding roles and responsibilities for the various staff involved in the post-production support activities.
- Provide effective and timely product availability and support by defining the sustainment management approach.
- Raise awareness about the benefits of a OpenVista EHR System to staff and other interested audiences, beneficiaries, and other key stakeholders.

- Encourage enthusiastic acceptance and buy-in by healthcare professionals within ASH for the OpenVista EHR System.
- Engage with deployment departments early and often to provide progress updates in a consistent, regular, unified manner.

### 3.0 Assumptions

To develop the framework for the ASH ISPP, Medsphere made some necessary assumptions. If these assumptions prove to be incorrect, Medsphere and ASH will address and make the changes as required. The assumptions of the ISPP (this Plan) are as follows:

- ASH and Services stakeholders have identified the key personnel associated with the OpenVista EHR System and they are actively engaged in the coordination process.
- ASH will work with Medsphere to employ the deployment strategy.
- Site visits will be conducted onsite based on the department's need, through telecommunications or with the option of traveling to a be mutually agreed upon.
- Medsphere in tight coordination with ASH will request and coordinate site visits through the ASH leadership team well in advance of Go-live.
- Responsibilities and tasks will be identified during the site visits and addressed in the site-specific work breakdown task list; timelines will be included (see Attachment 1).
- The Deployment Checklist will be provided to the leadership team and the tasks will be completed as depicted in the timeline.
- The requirement for offsite training, if any desired, would be minimal and determined on a case-by-case basis in coordination with ASH leadership. Every attempt will be made to reduce time and costs associated with any required offsite training.
- Virtual training methods will be employed when available and deemed appropriate. Travel costs, per master agreement, will be borne by ASH for any offsite training.
- Change management during the implementation phase, will be a recurring event managed by Medsphere, in cooperation with leadership, department leads, clinical application coordinators, and subject matters experts (SMEs).
- Change management is a critical requirement as a successful deployment depends on it; change management is the responsibility of the entire enterprise.
- Training curriculum is aligned to clinical workflows.
- Medsphere training products and materials will be delivered as a part of the overall solution offering and will have been validated by the Medsphere and ASH department leads and SMEs.
- Medsphere, in coordination with ASH's assigned change management team, will work closely together to manage the scheduling of training.
- Training will ultimately be a combination of Instructor-Led live and virtual, and over-the-shoulder training provided to the user to assist in building and just in time for Go-live.
- Logistics (i.e., materials, personnel, escalation plans, governance structure) for sustainment training and Medsphere Customer Care support will be finalized prior to Go-live.
- Functional SMEs will be provided by ASH in support of the OpenVista EHR System for a specific duration of time.
- The ASH environment (i.e., infrastructure, end-user devices and required tasks) will be ready to support the new solution prior to OpenVista EHR System deployment.

- Readiness review will be held prior to the commencement of User Acceptance Testing (UAT).
- ASH staff may experience a “temporary” decrease in productivity due to the implementation of the OpenVista EHR System.
- Data conversion/transfer/necessary mapping of terminology and data from the legacy system to the OpenVista EHR System may take place prior to Go-live, if required.

## 4.0 OpenVista EHR System Deployment Scope

EHRAs discussed, ASH will implement an electronic health record (EHR) to replace its current EHR wholly or partially. This would include analysis and proposal for 1) interoperability/interfaces between that EHR and selected ASH systems, 2) development of software and interfaces by Medsphere and appropriate 3<sup>rd</sup> party vendors, 3) implementation of OpenVista EHR System, 4) training, 5) reporting capabilities and 6) any other related information system services such as Customer Support and configuration/release management.

The OpenVista EHR System will be used by hundreds of end-users that span the ASH facilities in the direct care of its patients. These end-users are defined as clinical, technical, training administrative, and support staff that will be organized by their departments/facilities, care delivery team, and role.

## 5.0 Key and Implementation Stakeholders

ASH key stakeholders include members of the executive and leadership team, various departments and facilities. Below is the complete list of the respective joint Executive/Leadership and joint clinical and technical implementation teams.

### ASH Executive/Leadership Team

Last Name	First Name	Department	Title / Function	Responsibility
		Patient Accounting/Home Health	Home Health/DME Home Billing	Home Health/DME
		Information Systems	Systems Administration	Technology Lead
		Information Systems	Financial Systems Analyst	Financial Analyst
		Dietary	Director of Nutrition	Dietary Lead
		Physician's Practice	Administrator	Hospital Physicians Practice Lead
		Physician's Practice	Manager	Physician's Practice Manager
		Clinical	VP, CMO	Physician Lead / Champion
		<b>Administration</b>	<b>Chief Information Officer</b>	<b>Executive Sponsor</b>
		Information Systems	Business Analyst	Issues Tracking & Management
		<b>Executive</b>	<b>Chief Operating Officer</b>	<b>COO, Director of Decision Support</b>
		Ambulatory Billing Office	Billing and Collections Administrator	Physician Practice Billing

		Information Systems	Security	IT Security Management
		Radiology	Director of Radiology	Radiology Lead
		Physician's Practice	Business Administrator	Physicians Practice Admin
		Executive	VP Finance, CFO	Executive Sponsor
		Reimbursement	Director Reimbursement	Patient Finance Services/Secondary
		Information Systems	Clinical Analyst	IS Clinical Analyst
		Infection Control	Nurse	Infection Control Secondary Lead
		Information Systems	Clinical Analyst	IS Clinical Analyst
		Information Systems	Clinical Analyst Lead	IS Clinical Team Lead
		Laboratory	Director	Laboratory Lead
		Information Systems	Business Analyst / Surgery	Surgery Business Analyst Lead
		Patient Portal	Executive Director	Executive Sponsor
		LIS	Laboratory Administrator	Hospital Lab Team Lead
		Legal	Legal Counsel	
		<b>Executive</b>	<b>Board President, CEO</b>	<b>Executive Sponsor</b>
		Legal	Legal Counsel	
		Medigain	Billing (Third Party)	3rd Party Billing
		Central Registration	Director Central Registration	Registration
		Information Systems	Clinical Educator	Clinical Liaison/Educator
		<b>Clinical</b>	<b>CNO</b>	<b>Clinical Lead/Executive Sponsor</b>
		Information Systems	Interface Engineer	Interface Lead
		Information Systems	Scanner IT Coordinator	BCMA Project Lead
		Respiratory Therapy / Sleep Lab	Director	Respiratory Therapy / Sleep Lab Director
		Cardiac	Nursing Director	Hospital Clinical Team Lead
		<b>Clinical</b>	<b>Assistant CNO</b>	<b>Clinical Lead</b>
		Pharmacy	Outpatient Pharmacy Retail	Outpatient/Retail Pharmacy
		Information Systems	Clinical Analyst	Audit Compliance
		Infection Control	Director	Infection Control Primary Lead
		Information Systems	Application Director	Application Impact Management
		Patient Accounting	Medicare Supervisor	Patient Finance / Medicare Supervisor

		NICU	Nursing Director	Hospital Clinical Team Lead
		Process/Programming	Process Director	Process Design/Programmers' Lead
		Director	Patient Financial Services	Hospital Patient Accounting
		Information Systems	Clinical Analyst (BCMA)	Clinical Liaison/Analyst
		Information Systems	Project Manager	Project Manager
		Information Systems	Financial Systems Analyst	Financial Analyst
		HIM	Director Medical Records	PIM Lead
		Oncology	Inpatient Clinical Manager	Oncology Manager
		Outpatient Clinical	Business Analyst	Outpatient Business Analyst
		Clinical/Financial	AVP, Clinical/Finance Integration	Case Management Lead
		Clinical	Director of Pharmacy	Pharmacy Lead
		Pre-Registration	Registrar	Registration
		Clinical	Risk Mgt. / Patient Safety	Clinical Team/MU Team
		Information Systems	Insight Project Coordinator	Nutrition Main POC
		ER	Nursing Director	Emergency Department

**Medsphere Team**

Lichtenwald	Irv	Executive	CEO/President	Executive
Sullivan	Richard	Executive	CRO/CGO	Executive
Robinson	Holly	Implementation Services	Sr. Director, Implementation Services	Project Manager
Sekercak	Katie	Sr. Clinical Support	Sales/Implementation	Assistant PM
Wiegmann	Diane	Implementation Services	Sr. Clinical/BCMA Consultant	Clinical Consultant
Lewis	Sheran	Implementation Services	Clinical Consultant	Clinical Consultant
DeMatto	Betsy	Implementation Services	Nutrition/HIM Consultant	Nutrition Consultant
Sawyer	Teresa	Implementation Services	Radiology Consultant	Radiology Consultant
Gryskovich	Roy	Implementation Services	Pharmacy/BCMA Consultant	Pharmacy Consultant/Deputy PM
Willoughby	David	Implementation Services	Laboratory Consultant	Laboratory Consultant

Holman	Joy	Implementation Services	Lead Laboratory Consultant	Laboratory Consultant
Freeman	Brent	Technical Solutions Group	Technology Consultant	Technology Consultant
Kozlowski	Terri	Technical Solutions Group	Integration Team Lead	Interface Engineer / Integration Lead
Drake	Jo Anne	Implementation Services	Revenue Cycle Team	Revenue Cycle Team
Jeter	Allison	Implementation Services	Revenue Cycle Team	Revenue Cycle Team

### ASH Implementation Team

	Team	Last Name	First Name	Department	Title / Function	MSC Resp
<b>Executives</b>	Executive Team			Executive	CEO	Executive Team
	Executive Team			Executive	CFO	Executive Team
	Executive Team			Executive	COO	Executive Team
	Executive Team			Executive	Dept COO	Executive Team
	Executive Team			Executive	CIO	Executive Team
	Executive Team			Clinical	Asst CIO	Executive Team
	Executive Team			Clinical	CNO	Clinical Lead
	Executive Team			Clinical	CMO	Physician Champion
<b>CareVue / Insight</b>	Multi-Disciplinary Team			Clinical	CNO	Clinical Lead
	Multi-Disciplinary Team			Information Systems	Clinical Educator	Clinical Liaison/Educator
	Multi-Disciplinary Team			Clinical	CMO	Physician Champion
	Multi-Disciplinary Team			Medical Records	HIM Director	HIM/PIM Lead
	Multi-Disciplinary Team			Clinical	Risk Mgt. / Patient Safety	Clinical Team/MU Team
	Multi-Disciplinary Team			Pharmacy	Director of Pharmacy	Pharmacy Lead
	Multi-Disciplinary Team			Nutrition and Food Service	Director of Food Services	Nutrition Lead

	Multi-Disciplinary Team			ER	Nursing Director	Clinical Team
	Multi-Disciplinary Team			Radiology	Radiology Dept Manager	Radiology Lead
	Multi-Disciplinary Team			Physician's Practice	Administrator	Hospital Physicians Practice Lead
	Multi-Disciplinary Team			Laboratory	Lab Director	Lab Team Lead
	Multi-Disciplinary Team			Director of Admissions	Director of Admissions	Registration Lead
	Multi-Disciplinary Team			IS	Director of IT	Technology/ Integration Lead

<b>CareVue</b>	OP Clinical Team			Clinical	VP Rehab	Clinical Lead
	OP Clinical Team			OP Clinical	Administrator	Clinical Team
	OP Clinical Team			Family Practice/OMT/Residency Program	Manager	Clinical Team
	OP Clinical Team			Harold OB/Gyn/Primary Care	Practice Manager	Clinical Team
	OP Clinical Team			Medical Records	HIM Director	Clinical Team
	OP Clinical Team			Information Systems	Training Analyst	Clinical Team
	OP Clinical Team			Cardiology	Floor Manager	Clinical Team
	IP Clinical Team			Clinical Documentation / Case Mgmt	Director	Clinical Team
	IP Clinical Team			Clinical		Clinical Team
	IP Clinical Team			Information Systems	Training Analyst	Clinical Team
	IP Clinical Team			Information Systems	Clinical Analyst (BCMA)	Clinical Liaison/Analyst
	IP Clinical Team			Clinical	Director IP Acute Care Therapy	Clinical Team

	IP Clinical Team			Clinical	VP Rehab	Clinical Lead
	IP Clinical Team			ER	Director IP Acute Care Therapy	Clinical Team
	IP Clinical Team			7E	HIM Director	Clinical Team
	IP Clinical Team			Information Systems	Clinical Analyst	Clinical Team
<b>CareVue</b>	Physician Champion			Clinical	Medical Director	Physician Champion
	Physician Champion			Clinical	Chief of Staff	Physician Champion
	Physician Champion			Clinical	Physician	Physician Champion
	Physician Champion			Clinical	Physician	Physician Champion
<b>CareVue</b>	Lab Team			Laboratory	Blood bank	Lab Team
	Lab Team			Laboratory	Hematology, Urines, Serology	Lab Team
	Lab Team			Laboratory	Microbiology	Lab Team
	Lab Team			Laboratory	Chemistry/P OC	Lab Team
	Lab Team			Laboratory	LIS Administrator	Lab Team
	Lab Team			Laboratory	Lab Director	Lab Team Lead
	Lab Team			Laboratory	Pathology	Lab Team
	Lab Team			Laboratory	IT Analyst	Lab Team
<b>Both</b>	HIM/PIM Team			Medical Records	HIM Director	HIM/PIM Lead
	HIM/PIM Team			Medical Records	Medical Records	HIM/PIM Team

	HIM/PIM Team			Director of Admissions	Director of Admissions	HIM/PIM Team
	HIM/PIM Team			IS	IT Analyst	HIM/PIM Team
	HIM/PIM Team			Clinical Documentation / Case Mgmt	Director	Clinical Team
	HIM/PIM Team			Medical Records	Medical Records	HIM/PIM Team
<b>CareVue</b>	Nutrition Team			Nutrition and Food Service	Director of Food Services	Nutrition Lead
	Nutrition Team			Nutrition and Food Service	Registered Dietitian	Nutrition Team
	Nutrition Team			Nutrition and Food Service	Registered Dietitian	Nutrition Team
	Nutrition Team			Nutrition and Food Service	Registered Dietitian	Nutrition Team
	Nutrition Team			Bariatric Clinic	Registered Dietitian	Nutrition Team
	Nutrition Team			Ancillary Services	IT Analyst	Nutrition Team
<b>CareVue</b>	Radiology Team			Radiology	Radiology Dept Manager	Radiology Lead
	Radiology Team			Radiology	RIS/PACS Administrator	Radiology Team
	Radiology Team			Radiology	Imaging System/IT Analyst	Radiology Team
	Radiology Team			Radiology	Mgr of Diagnostic Center	Radiology Team
	Radiology Team			Radiology	Nuclear Medicine Supervisor	Radiology Team
	Radiology Team			Radiology	OVIS Rad Tech	Radiology Team
<b>Both</b>	Technology/Integration Team			IS	Director of IT	Technology/Integration Lead
	Technology/Integration Team			IS	IT	Technology/Integration Team

	Technology/Integration Team			IS	IT	Technology/Integration Team
	Technology/Integration Team			IS	IT	Technology/Integration Team
<b>CareVue</b>	Pharmacy Team			Pharmacy	Director of Pharmacy	Pharmacy Lead
	Pharmacy Team			Pharmacy	IT Analyst	Pharmacy Team
	Pharmacy Team			Pharmacy	Pharmacist	Pharmacy Team
	Pharmacy Team			Pharmacy	Pharmacist	Pharmacy Team
	Pharmacy Team			Pharmacy	Pharmacist	Pharmacy Lead
	Pharmacy Team			Pharmacy	OP Pharmacy	Pharmacy Team
<b>Insight</b>	Registration Team			Director of Admissions	Director of Admissions	Registration Lead
	Registration Team			Information Systems	Financial Systems Analyst	Financial Analyst
	Registration Team			Physician's Practice	Business Administrator	Physicians Practice Admin
	Registration Team			Clinical/Financial	AVP, Clinical/Finance Integration	Case Management Lead
	Registration Team			Pre-Registration	Registrar	Registration
	Registration Team			Revenue Cycle		
	Registration Team					
	Registration Team					
<b>Insight</b>	Hosp Clinic Scheduling Team			Centralized Scheduling	Scheduling Lead	
	Hosp Clinic Scheduling Team					
	Hosp Clinic Scheduling Team			Pre-Registration	Registrar	Registration

	Hosp Clinic Scheduling Team					
	Hosp Clinic Scheduling Team					
	Clinic Scheduling Team			Outpatient Clinical	Business Analyst	Outpatient Business Analyst
	Clinic Scheduling Team			Physician's Practice	Business Administrator	Physicians Practice Admin
	Clinic Scheduling Team			OP Clinical	Administrator	Clinical Team
	Clinic Scheduling Team					
	Clinic Scheduling Team					

<b>Insight</b>	Patient Accounting Team			Director	Patient Financial Services	Hospital Patient Accounting
	Patient Accounting Team			Information Systems	Financial Systems Analyst	Financial Analyst
	Patient Accounting Team			Outpatient Clinical	Business Analyst	Outpatient Business Analyst
	Patient Accounting Team			Ambulatory Billing Office	Billing and Collections Administrator	Physician Practice Billing
	Patient Accounting Team			Patient Accounting	Medicare Supervisor	Patient Finance / Medicare Supervisor
	Patient Accounting Team			Clinical/Financial	AVP, Clinical/Finance Integration	Case Management Lead
	Patient Accounting Team			Charge Master		

<b>Insight</b>	Collections Team			Director	Patient Financial Services	Hospital Patient Accounting
	Collections Team			Ambulatory Billing Office	Billing and Collections Administrator	Physician Practice Billing
	Collections Team			Information Systems	Financial Systems Analyst	Financial Analyst
	Collections Team			Reimbursement		

	Collections Team			Finance		
	Collections Team					
	Collections Team					

After the completion of successful and full deployment and training of the OpenVista EHR System run by Medsphere’s and ASH’s implementation teams, respectively, ASH will be responsible for the clinical, technical, and training preparation and execution of their daily workload. Medsphere Customer Care will act in close coordination with ASH regarding support and maintenance of the OpenVista EHR System and Medsphere’s Enterprise Account Executive will act as the central point of contact and lead for coordination of all remaining aspects dealing with ASH. These teams and liaisons will guide each site through the deployment and post-deployment process.

As the ASH clinical leadership team is the point of contact for deployment activities for all clinical capabilities, Medsphere will collaborate closely with each department and facilities’ representative(s) to ensure all concerned parties are apprised of project-related activities. This collaboration process will include ensuring the deployment leads are informed of the progress. All stakeholders and partners in the deployment will coordinate through the designated liaisons. This will ensure that all persons affected by the deployment are appropriately informed.

Medsphere will coordinate with the ASH project leadership to develop and evolve the deployment schedule. The deployment schedule is developed in conjunction with, and approved by, ASH leadership and key department representatives in tight coordination with Medsphere. The schedule accounts for program and resource constraints that affect the deployment. The key ASH stakeholders and assigned liaisons will use the Enterprise Assessment and department questionnaires, deployment checklist and the project plan to coordinate deployment lifecycle efforts, to include action items, process to inform and task responsible parties, and track estimated time of completion for tasks. The ASH Project Manager will track all risks, concerns, issues, and other feedback from the department/sites; convey that information to the ASH leadership and Medsphere, where appropriate; and develop a “Lessons Learned” document to be used in future department deployments.

The ASH implementation team is responsible for a) knowledge transferred/gained through Medsphere-provided training, b) assignment and investment in the resources designated under the customer project team within the statement of work, c) knowledge transfer to the Medsphere project team of the current state and envisioned future state as it relates to the use of OpenVista HER System, and d) the customer activities necessary for the successful completion of the project.

The following descriptions provide an understanding of the minimum ASH staff requested by Medsphere for successful execution and completion of OpenVista HER System implementation.

- **Executive Sponsor.** A senior executive, who administers, oversees, provides funding, resolves issues, approves major deliverable or scope changes, and is responsible for the overall success of the implementation project. The executive sponsor serves as champion and spokesperson for the implementation project within ASH.
- **Physician Champion.** A practicing physician who understands the processes of care, has a good relationship with physician peers and ASH facility administrators, and has a passion for improving healthcare quality through information technology.

- **Project Manager.** ASH assigns a dedicated project manager to initiate, plan, execute, and control the implementation through the completion of ASH’s implementation project. The project manager should have experience with project management tools to track, manage and communicate project progress, and the authority to manage all phases of the implementation project including contracts, assessment, deployment, testing, training and transition to Subscription Service.
- **Clinical Lead.** A practicing clinician who understands the processes of care and has a good relationship with their peers, facility administrators and IT staff, and has a passion for improving the quality of healthcare through the use of information technology. The assigned clinical lead will be dedicated to the project and will need to be supported by other assigned clinical team members.
- **Application Leads (based on OpenVista modules implemented).** Recommended that ASH assign nearly full-time “Application Leads” dedicated to the support of OpenVista EHR System during and after implementation.
- **System Manager.** The System Manager must be knowledgeable about the management, operations, and maintenance of ASH’s network and individual facilities. This includes experience with network setup, cabling, server setup, hardware components, device connection, and general troubleshooting of infrastructure. It is helpful for the System Manager to have knowledge about application management, operations, and maintenance of end-user PCs, experience with computer room setup; and an understanding of application loading, etc.
- **ASH Multidisciplinary Team.** Medsphere highly recommends that an OpenVista EHR System multidisciplinary team be formed by ASH to be functional throughout the project implementation. This formal team approach to project design and ongoing communication is essential for the overall success of the project. The objective of the Open Vista Multidisciplinary Team is to coordinate decision making as it relates to OpenVista EHR System. Recommended activities include the following: Evaluating current workflow and policies/procedures, determining system setup configuration settings and documenting them, modifying workflow and procedures as necessary to support the use of the solutions while documenting them, and communications to necessary facility departments and administration related to the overall project. Participants should include all project assigned staff indicated above and representatives for areas, if needed, that will be impacted by the OpenVista EHR System implementation – some may participate on an ad hoc basis.

Below table details the roles, responsibilities, qualifications and availability of each member of the Medsphere implementation and support team. In terms of supervision, contact between Medsphere and ASH representatives is managed by the Medsphere project manager and ASH’s project manager, giving ASH one primary point of contact for all project related activities. Should issues arise after hours, the project manager is still the point of contact regardless of what time it is.

Title	Role	OpenVista Expertise
	Summary of duties and responsibilities	Specific areas of OpenVista expertise for each team member by Vista Application categories that they are expert in.

Project Manager	<p>Manage system implementation from kickoff to Go Live</p> <p>Act as point of contact between customer and Medsphere</p> <p>Coordinate site visits to ensure facility and resource availability</p> <p>Maintain communication among all teammates</p>	<p>The project manager is primarily responsible for effectively managing team members with specific VistA expertise. All team members report directly to the project manager, who communicates with the facility project manager. In an overarching sense, the project manager is responsible for all system components.</p>
Technologist (IT Specialist)	<p>Assess network server/infrastructure plans</p> <p>Assist in device selection process and setup</p> <p>Review printer and image scanner deployment strategy</p> <p>Confirm Medsphere environment methodology and setup</p> <p>Train customer IT staff</p>	<p>FileMan, GUI components, (FMDC)</p> <p>HL7 (HLO/VistA Messaging)</p> <p>Kernel, Kernel Delphi/C# components, (KDC), Kernel Toolkit, Kernel Unwinder</p> <p>List Manager</p> <p>M-to-M Broker</p> <p>MailMan</p> <p>Master Patient Index/Patient</p> <p>Demographics (MPI/PD)</p> <p>Name Standardization</p> <p>National Patch Module</p> <p>Remote Procedure Call (RPC) Broker</p> <p>Resource Usage Monitor</p> <p>SlotMaster (Kernel ZSLOT)</p> <p>SQL Interface (SQLI)</p> <p>Standard Files and Tables</p> <p>Statistical Analysis of Global</p> <p>Growth (SAGG)</p> <p>VistALink, XML Parser (VistA)</p>

Interface Engineer	<p>Design and deploy interfaces to meet specifications</p> <p>Coordinate all activity related to activity related to integration between CDHS systems</p>	N/A
Clinical Consultants	<p>Manage the deployment of Clinical Information System (CareVue)</p> <p>Provide adequate guidance for development, deployment, training, and support</p> <p>Communicate with CareVue staff and customers</p> <p>Manage documentation of CareVue activities</p> <p>Prepare trainers to teach the CareVue system</p>	<p>Patient Summary</p> <p>Clinical Alerts and Reminders</p> <p>Consults Tracking</p> <p>Orders Communication/Results</p> <p>Reporting</p> <p>Clinical Documentation</p> <p>Computerized Provider Order Entry</p> <p>Clinical Image Viewer</p> <p>Intake/Output</p> <p>Vital Signs</p> <p>BCMA</p>
Pharmacy Consultants	<p>Participate on the Enterprise Assessment Team to evaluate customer pharmacy needs</p> <p>Configure pharmacy software packages</p> <p>Develop and monitor pharmacy interfaces</p> <p>Train end-users on pharmacy software</p> <p>Create enhancements requested for OpenVista</p> <p>Assist in implementing FileMan reports, setting up TaskMan and CareVue</p>	<p>Adverse Reaction Tracking</p> <p>Electronic Medication</p> <p>Administration Record</p> <p>Inpatient/Outpatient Pharmacy</p> <p>BCMA</p>

<p>HIMS/PIMS Consultants</p>	<p>Participate on the Enterprise Assessment Team to evaluate customer HIMS/PIMS needs</p> <p>Configure HIMS/PIMS software packages</p> <p>Develop and monitor HIMS/PIMS Interfaces</p> <p>Train end-users on HIMS/PIMS software</p> <p>Create enhancements requested for OpenVista</p>	<p>Admission, discharge and transfer</p> <p>Patient Registration</p> <p>Master Patient Index</p> <p>Patient Merge</p> <p>Incoming/Outgoing Messages</p> <p>ADT Inbound</p> <p>Patient Charges</p> <p>Outbound</p> <p>Document Management</p> <p>Record Management</p> <p>Electronic Signature</p> <p>Transcribed Documents</p> <p>Incoming/Outgoing Messages</p> <p>Transcribed Results Inbound (to Clinical Documentation)</p> <p>Document Image Inbound (to Clinical Documentation)</p>
<p>Laboratory Consultants</p>	<p>Participate on the Enterprise Assessment Team to evaluate customer laboratory needs</p> <p>Configure laboratory software packages</p> <p>Develop and monitor laboratory interfaces</p> <p>Train end-users on laboratory software</p> <p>Create enhancements requested for OpenVista</p>	<p>Anatomic Pathology</p> <p>Microbiology</p> <p>General Laboratory</p> <p>Incoming/Outgoing Messages</p> <p>Orders Results Inbound</p> <p>Orders Outbound</p>

<p>Radiology Consultants</p>	<p>Participate on the Enterprise Assessment Team to evaluate customer radiology needs</p> <p>Configure radiology software packages</p> <p>Develop and monitor radiology interfaces</p> <p>Train end-users on radiology software</p> <p>Create enhancements requested for OpenVista</p>	<p>General Radiology</p> <p>Nuclear Medicine</p> <p>Incoming/Outgoing Messages</p> <p>Radiology Image Viewer Link</p> <p>(from PACS to the Clinical Documentation Module [non- DICOM])</p> <p>Orders/Results Inbound</p> <p>Orders Outbound</p>
<p>BCMA Consultants</p>	<p>Participate on the Enterprise Assessment Team to evaluate customer BCMA needs</p> <p>Configure BCMA software packages</p> <p>Develop and monitor BCMA Interfaces</p> <p>Train end-users on BCMA software</p> <p>Create enhancements requested for OpenVista</p>	<p>Bar Code Medication Administration</p>
<p>Nutrition Consultants</p>	<p>Participate on the Enterprise Assessment Team to evaluate customer nutrition needs</p> <p>Configure nutrition software packages</p> <p>Train end-users on nutrition software</p> <p>Create enhancements requested for OpenVista</p>	<p>RCM</p> <p>Billing</p> <p>HR</p> <p>Scheduling</p>

Insight Consultants	Participate on the Enterprise Assessment Team to evaluate financial, billing, scheduling, etc., needs  Configure Insights and related software packages  Train end-users on software  Create enhancements requested for Insights	
------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

## 6.0 Fielding and Logistics Support Structure

### 6.1 Implementation and Deployment Control

The Medsphere and ASH project manager's, respectively, in close coordination with the ASH and Medsphere leadership teams, are responsible for providing planning, guidance, direction, control, and the support necessary to field OpenVista EHR Systems within cost, schedule, and performance baselines.

The actual activities with each department and facility will vary in response to unique variables such as the number of personnel to be trained. The project managers will use the approved implementation and deployment strategy to deploy the OpenVista EHR system in the most efficient and effective manner.

### 6.2 Organizational Responsibilities

The respective project managers facilitate the planning, programming and execution necessary to guide the various project tasks and activities through all milestones and are generally responsible for the following activities:

- Support all stakeholders by ensuring right staffs are involved in the dissemination and understanding of materials provided and that they are responsive to the needs of the recipients in achieving project and related training goals.
- Provide management guidance in accordance with life-cycle management procedures for the core / ancillary OpenVista EHR System, including deployment requirements.
- Participate in the development of data to support programmatic decisions in budget preparation and overall OpenVista EHR System execution.
- Serve as the single point of accountability for the implementation and post implementation support of the OpenVista EHR System.
- Lead, oversee, and manage all planning; programming and as requested, budgeting; contracting, as requested; architecture; acquisition and development, as requested; data strategy and management; testing and evaluation planning; infrastructure requirements and funding, as requested; implementation and sustainment related to the OpenVista EHR System.
- Establish overall master project and related implementation plans for the OpenVista EHR System based on compliance with the ASH enterprise architecture in coordination with the ASH IT department and its sub-contractors, if / deemed applicable.
- Report as required (weekly), to the ASH leadership team, and all relevant departments and department leads on the status of projects, initiatives, and programs under the OpenVista EHR System project purview.

Medsphere, in close communication with ASH, is responsible for the development and implementation of the OpenVista EHR System, and accomplishes prescribed tasks and responsibilities depicted in the Proposal, Master License and Subscription Agreement and this document. Under the direction of the Medsphere leadership, the respective Medsphere project and then the enterprise account manager (Larry Washington) has overall responsibility for the project relationship and will consult with the Medsphere project leads through the entire implementation (Holly Robinson) and support lifecycle (Dana Deely). Richard Sullivan (CRO/CGO) is the executive in charge.

In addition, Medsphere is responsible for the following activities:

- Ensures the program is within the control over funds that are received, and key parameters of cost, schedule, and performance thresholds.
- Develops and executes the pre-deployment, deployment, and post-deployment (sustainment) activities.
- Prepares, coordinates, and updates baseline agreements and all program documentation.
- Creates and maintains adequate project schedules through means of the Project Plan, and managing the program's progress via the plan and schedule.
- Develops and coordinates the Test Strategy and participates in validation/operational testing. The test strategy identifies Pilot testing prior to go live at the facilities (if warranted) and ASH. After integrated testing, the solution will be deployed to IOC sites.
- Conducts Configuration Management (CM) in support of the OpenVista EHR System.
- Ensures all integrated logistics support elements, property accountability of any ASH- Furnished Equipment (ASHFE), program documentation requirements, planning, coordination, and evaluation is performed.
- Manages developmental programs in accordance with Medsphere's life-cycle management procedures.
- Develop, coordinate and commit to any acquisition program baselines and reporting all imminent and actual changes of the approved baseline.
- Ensures OpenVista EHR System training and logistics support are synchronized with system/interface development and hardware procurement.
- Validates known performance deficiencies are corrected, tested, and validated before deployment.
- Prepares and submits timely and accurate periodic (weekly) program performance report(s).

## Change Management / Change Agents (CM / CA)

The CM / CA aspects of the project involved key stakeholders consisting of the key Medsphere and ASH staff (see list above). CM / CA are responsible for ensuring that the needs of the ASH clinical and billing community are met across all aspects of the overall development and implementation of the OpenVista EHR System. In doing this, this team of stakeholders promotes and facilitates an empowered patient, healthcare staff, and patient-centric approach that will support each healthcare and interfaced 3<sup>rd</sup> party system, which foster the delivery of effective, efficient, safe, and quality patient care. The stakeholders will perform the following activities:

- Partner with the end users to ensure that the clinical and billable community's voice is heard.
- Ensure inclusion of health information standards in functional, non-functional, product and technical requirements, and architecture artifacts.
- Support the deployment of the OpenVista EHR System through collaboration and forms liaisons within the ASH.
- Maintain relationships with other healthcare-focused governing bodies in support of the OpenVista EHR System.
- Contribute to the establishment of standard clinical processes and methodologies that enhance current healthcare services and encompass industry best practices for world class healthcare delivery.
- Support efforts to increase patient safety, quality, and efficiency through electronic automation of patient care workflow and business processes.
- Contribute to an overall understanding of ASH and application state and federal policies, directives, and procedures; and their direct impact on patient care and the implementation of the OpenVista EHR System.
- Focus on training and education, implementation, workflow process gap analyses, policy gap analyses, change management, and feasibility and scope assessments.
- Address workflow process identification and change management process methodologies.
- Support policy alignment ensuring that workflow process support is at the center of the ASH.
- Support Medsphere in the develop and implementation of comprehensive training plans to facilitate efficient and effective implementation and sustainment of ASH capabilities.

## 7.0 Controlling Documents

The Medsphere and ASH Controlling Documents are the initial responsibility of Medsphere (excepting the ASH RFP). The Medsphere project manager will coordinate, facilitate, and manage the development of the documents with the appropriate parties. Post implementation it is intended that control of the document up to that point, will be controlled by ASH. The Controlling Documents are as follow:

- **Project Objectives:** This document is the RFP. It serves as the main requirements document outlining the initial requirements for the OpenVista EHR System.
- **Deployment and Supportability Project Plan (DSPP):** The DSPP is the master planning document governing all of the major events and support actions required to deploy and sustain the OpenVista EHR System. The DSPP will be continuously updated to reflect the most current information throughout the planning and execution phases of the deployment.
- **OpenVista EHR System Training Plan:** The Training Plan outlines the strategy and plan pertaining to the initial implementation training for all end-users, and specifies which training approaches, methods, proposed schedules by role/site, tools/materials, and curricula will be used while implementing the OpenVista EHR System.
- **Change Management Plan:** The Change Management Plan provides a blueprint for managing the people aspect of the OpenVista EHR System implementation throughout deployment, outlining strategies, and activities the teams will execute to optimize end-user adoption.
- **Deployment Checklist:** The Deployment Checklist outlines the pre-deployment, deployment, and post-deployment action items to be executed in each department / facility as a part of the OpenVista EHR System implementation. It includes a prescriptive list of actionable items that begin after contract award (ACA).
- **Master Services and Subscription Agreement:** The Agreement is a detailed and formal document. It identifies all terms and conditions required to ensure all executive stakeholders on the same page.

## 8.0 Implementation and Deployment

### 8.1 Deployment Overview & Strategy

Medsphere, in close collaboration with ASH, will orchestrate the implementation of the OpenVista EHR System. To the greatest extent possible, Medsphere will leverage the existing implementation processes, policies, and procedures that Medsphere has used previously to implement Systems of this size and complexity. By involving stakeholders early, the Medsphere implementation approach and methodology will be an essential element of success every step of the way. This strategy describes implementation responsibilities for Medsphere and ASH. Any additional resource requirements will be addressed by the Microsoft work breakdown project chart.

The term “Go-live” is defined as when the ASH user population has completed all tasks defined in the Deployment Checklist and is designated as fully capable of accomplishing the mission in the new OpenVista EHR System production environment. Hence, the users “go live” in the OpenVista EHR System and start using that System at a specific date in time as described in the Microsoft work breakdown project chart.

To the greatest extent possible, the strategy as described in this document will be followed for all departments.

### ASH Enterprise Deployment

On successful completion of the EA (Enterprise Assessment), build and infrastructure install, Medsphere will deploy using a “crawl-walk-run” approach. The strategy will maximize the available resources by focusing on priority departments, taking into account organizational activities, reporting relationships, department-specific hosts, and facilities. The term “wave” is being used within this deployment effort to denote a specified number of selected and approved sites and organizations within a region. The selected sites within a wave would most likely have an inseparable relationship due to business activity or mission needs, and would be designated by DoD. Clinics will be deployed at the same time when their medical facility host is deployed; satellite sites and clinics that have a parent-child relationship and are connected to a host will deploy with their parent organization. The intent is to minimize the number of visits to each site by combining implementation and training of the major clinical capabilities regionally. **Note that the below chart is for the initial site only; each site thereafter will take three (3) to four (4) months to implement. It is also conceivable that the first site would only take five (5) to six (6) months as much of the solution is ready to go/configure.**

% Complete	Task Name	Duration	Work	Start	Finish
0%	Master Implementation Plan v. 2.0	490 d?	21,184.93 h	Fri 1/8/18	Mon 12/11/18
0%	Vision/Scope	7 d	922.72 h	Fri 1/8/18	Thu 1/15/18
0%	Contract Signed	6 d	18 h	Fri 1/8/18	Fri 1/15/18
0%	Project Initiation Meeting	15 d	138 h	Mon 1/11/18	Mon 1/11/18
0%	Plan for On-site Executive Kick-Off and Assessment	4 d	206.82 h	Mon 1/11/18	Mon 1/15/18
0%	Enterprise Assessment	59.7 d	561.9 h	Tue 1/20/18	Thu 3/20/18
6%	Project Kick-off	151 d	936 h	Tue 2/23/18	Thu /22/18
6%	Deliver Proposed Project Plan	1 d	936 h	Tue 2/23/18	Thu 2/23/18
0%	System Setup	27 d	730.17 h	Mon 1/25/18	Wed 3/3/18
0%	Network Infrastructure	6 d	7.33 h	Tue 2/2/18	Tue 2/9/18
0%	Confirm Receipt of Software	1 d	6 h	Thu 4/21/18	Thu 4/21/18
0%	Hardware and Software Installation	5 d	223 h	Mon 1/25/18	Wed 2/3/18
0%	Server Maintenance and Support	25 d	8 h	Wed 2/19/18	Thu 3/20/18

0%	Peripheral Hardware Installation	5 d	40 h	Thu 3/13/18	Tue 3/20/18
0%	Interfacing	189 d	1,134.93 h	Tue 2/6/18	Wed 6/3/18
0%	Data Loads	40 d	110.2 h	Thu 4/8/18	Thu 6/8/18
0%	Application Module Design and Build	391.25 d	4,590.82 h	Fri 2/8/18	Mon 7/24/18
0%	Testing and System Validation	115 d	2,203 h	Thu 3/18/18	Fri 8/25/18
0%	Train Users	392 d	2,118.97 h	Mon 6/11/18	Mon 8/24/18
0%	Deployment	50 d	1,347.98 h	Tue 8/1/18	Tue 9/15/18
0%	Post Implementation	93 d	321 h	Mon 10/1/18	Mon 11/1/18
0%	Open Vista CareVue System Optimization	27 d	Ongoing		
0%	Management	366 d	2,892.08 h	Mon 1/28/18	Wed 12/1/18

### Deployment Approach and Schedule

Figure 5 above depicts the high-level implementation and deployment tasks and reflective schedule. The respective project managers will coordinate timeline changes to optimize contract resource usage between the stakeholders and coordinate all initial implementation training.

During this initial stage, Medsphere determines ASH’s objectives and needs and then uses that information to create a more refined project plan and work breakdown structure (WBS) for the entire implementation process. Medsphere Enterprise Assessment (EA) establishes the existing state within the ASH hospitals including their respective networks and uses gap analysis to identify what needs to be done before OpenVista EHR System can be deployed.

Also during the EA process, Medsphere works with ASH’s technical stakeholders and IT managers to determine data migration requirements; identify the client staff required during deployment; and assist with a training plan for all TMC personnel. When the EA is complete, Medsphere presents TMC with a detailed report of the assessment findings to include a “latest” iteration of the project work plan.

When the server and network hardware, etc., is complete and set up and ready to go, Medsphere and ASH teams will shift focus to identifying and if necessary require ASH to purchase and configure any additional hardware needed e.g., PCs (workstations), printers, scanners, fax machines, etc. With the required network and related infrastructure in place, Medsphere installs demo and training system software, conducts Vista Foundations training for technical staff, and designs and develops the provided and contracted for interfaces required to connect OpenVista EHR System.

The implementation will begin with a small, select group of departments and be based on functionality for the most part, to basically establish the Proof of Concept (POC) that the OpenVista EHR System works as designed and configured to meet ASH needs. This approach is designed to capitalize on the experience of the initial implementation, or small number of end users, and then leverage those lessons learned to an increasing number of department, users, and facilities. This approach increases the probability of success and reduces the learning curve for others new to the implementation. Deployment activities will then proceed to another department, encompassing a greater number of departments and later facilities within ASH’s sphere.

This strategy will further validate the full-functionality for reliability, availability, and maintainability of the OpenVista EHR System with “representative sample” of the departments. For purposes of the OpenVista EHR System implementation, deployment typically begins in the billing and associated core and ancillary departments, followed by the remaining department.

Medsphere will use existing processes as the baseline to ensure the implementation follows current policies and procedures for ASH. Medsphere will take the leading role and with the assistance ASH key

clinical stakeholders, will spearhead department visits, change management activities, communications, training and sustainment support, maintain the master schedule, and coordinate closely with all departments to ensure a smooth.

## 8.2 Pre-Deployment Actions

### Deployment Checklist

Medsphere submissions for implementation includes a Deployment Checklist, which specifies the pre-deployment tasks required to implement OpenVista EHR System. Each task within the body of the work breakdown task list/schedule must be met by the suspense date. An example of the critical tasks to be closely monitored by Medsphere includes:

- Availability and operational status of training facilities
- Progress of identifying User role assignments
- Data Conversion and training schedules
- Implementation to Customer Support transition sheet
- Progress of the Deployment Checklist completion
- Proper identification of Super Users, Clinical Champions, and Training Coordinators
- Site network readiness assessment
- Site user device readiness — Determine if adequate, compliant End-User Devices are available to support OpenVista EHR System functionality.

### Data Conversion

Data management is a part of the implementation. Any requirements for data conversion, mapping, data exchange, transfer, or re-hosting will be discovered during the EA. To perform conversion Medsphere configurators will be used. Interfaces and/or contracted for integration with legacy systems efforts typically will be completed during phase II of the overall implementation due typically to 3<sup>rd</sup> party vendor interactions or budget concerns.

### User Role Assignment

User Role Assignments begin within the first month after contract award and well in advance of the Go-live date. Users are first introduced to the OpenVista EHR System roles and the user assignment process during the department visits. “Touch point” visit and phone calls are conducted shortly after to provide further clarification on roles, answer questions, and validate evolving user role assignments. While user role assignments are completed and owned by ASH, they can expect continued support from the Medsphere training team.

User roles and system access profiles provide the basis for user training and later for production usage. The role descriptions provide a detailed report of the roles developed per clinical and billing process areas. Roles address how ASH staff perform work in the new ASH environment. Every activity, e.g., a logical grouping of related tasks that typically need to be executed to complete a specific event as part of a larger process, from the EA defined flows, is aligned to a role with the understanding that some activities involve functional or system transactions, while others may involve manual processes. ASH staff operating in the OpenVista EHR System environment have roles assigned to them by their supervisors that dictate both system access to particular user areas and manual processes that they should perform as part of their duties. Also, some roles described correlate to a common, global solution not specific to each department. User roles address the following:

- How users will perform work in the new ASH environment.
- Proper separation of duties and controls among ASH staff.

- Ability to assign efficiently appropriate activities to designated users avoiding degradation in performance or service.
- Establishing better consistency of duties across departments.
- Proper development of training programs by role (If activities are not mapped properly to roles, training programs can become repetitive or misaligned.)

It is understood that a role is not a job. As part of an individual’s job, he/she is usually associated with several roles. ASH user roles can be individual, department or more enterprise-based roles, and determine the processes that can be performed within the OpenVista EHR System and the data they can see. There is a wide variety of scope through the roles provisioned that authorize the user to perform day-to-day activities. Some roles are available to anyone, while others are restricted.

There are many user roles across the OpenVista EHR System implementation. Examples include physician, provider, nurse, medical technician, administrative technician, etc. Roles may be further customized according to sub-categories, such as type of physician, mid-level provider, PharmD, etc.

### Access Control & Provisioning

Access control and provisioning is as an essential component of deployment. Access control services ensure ASH staff, computer systems and software applications may use only those resources (e.g., files, directories, computers, networks) that they are authorized to use and then only for approved purposes. Access controls protect against unauthorized use, disclosure, modification and destruction of resources, and unauthorized issuing of system commands.

## 8.3 Training

### Training Methodology

Medsphere uses a train-the-trainer approach in which ASH personnel are fully trained to carry out all that is required of a high performance OpenVista EHR System trainer. This approach teaches the integration of different instructional methods, including formal classroom preparation and practical application. This approach is essential to ASH’s long-term self-sufficiency, especially given normal staff turnover and anticipated upgrades to OpenVista EHR System applications.

### Training Curriculum

Medsphere training program includes a series of curricula that prepare ASH personnel in the respective applications of the OpenVista EHR System.

Medsphere classroom training typically includes at least two levels of content: introductory courses on application functionality and usage and more advanced courses describing configuration activities such as file-building, application set-up, parameters and maintenance. Most courses are conducted in a training room provided by ASH and equipped with a computer and projector for the instructor and a computer for each learner. However, some training will be conducted remotely using Web conferencing tools. This hands-on learning environment is critical in creating a well-prepared training staff with high skill levels.

## Training Sequence

Team Medsphere staggers the sequence of training to match the system implementation:

Phase 1: ASH or designated/contracted IT staff is trained on system architecture and infrastructure that are the foundation of OpenVista. This provides the knowledge needed for their role in interacting with the system and interfaces for operational and support purposes.

Phase 2: Medsphere staff conduct configuration training to ASH application Leads and Clinical System Analysts over the course of several months. This configuration training curriculum uses a blend of on-site instructor-led classes, hands on exercises, and remote training support.

Phase 3: Medsphere staff conducts Super user training for ASH application Super users and Trainers. ASH application trainers are trained on basic, intermediate and advanced functionality of their respective OpenVista EHR System applications.

Phase 4: Medsphere mentors ASH application trainers during end user training of OpenVista EHR System functionality in preparation for system changeover.

Phase 5: Finally, Medsphere supplements formal classroom training with a robust go-live support program. Medsphere recognizes the key to successful technology adoption is immediate access to support personnel. This is the single most influential aspect of user acceptance in the critical days following Go Live.

## Course Materials

Medsphere training courses are supported by thorough documentation in the form of User Guides, Technical Guides, Configuration Guides, and Quick References available in electronic PDF format that can be stored on ASH's preferred secure server. To animate the learning process, lessons and class activities are illustrated and supported by course handouts, practice exercises, and screenshots. This complete package of training materials creates a structured, task-based format that walks TS staff through application functionality, setup, file building, and the operational procedures of OpenVista EHR System.

## Training Instructors

Medsphere OpenVista EHR System instructors are experienced consultants with particular expertise building, utilizing, training, and troubleshooting applications. Most instructors come to Medsphere from long-term associations with their applications at the Department of Veterans Affairs, giving them the kind of real-world experience few other healthcare IT instructors possess.

## Course Logistics / Location

Most training is provided on-site in a classroom and, in order to be successful, assumes two key factors:

Setting up of at least two training classrooms with computers (one per learner and one for the instructor), and a projector and printers. Training typically lasts from 3-5 days.

ASH employees have fundamental computer literacy prior to attending training sessions by Medsphere.

## Fundamental Computer Literacy

It is recommended that ASH facility personnel have fundamental computer literacy skills that include but are not limited to logging on to a workstation with a username and password, basic typing and keyboard orientation, and ability to click and scrolling with a mouse.

To assist ASH in meeting this requirement, Medsphere can provide access to a Web-based fundamental computer skills course to be implemented across the enterprise prior to end user training. This performance-focused training tool was designed to assist users in mastering the core computer skills necessary to effectively learn and utilize OpenVista EHR System functionality, and, ultimately, to enhance ASH's overall training effort.

Note: A complete list of required fundamental computer skills will be provided to ASH prior to training.

## Virtual Environment

Just as separate environments are maintained on facility servers for testing and production, Medsphere also creates a separate environment for training. ASH personnel can learn, practice, make mistakes, and develop their OpenVista EHR System skills with the confidence that no error will appear into the production environment.

## Personnel

The success of the training program requires that ASH provide a minimum number of training-related personnel to train and support the system-wide OpenVista EHR System implementation. Medsphere will provide a set of recommended role descriptions to ASH at the start of the project. Please see the Training Role Descriptions section below for more information.

Super users, determined jointly by ASH and Medsphere, provide support for end users in each organizational area of the facility and act as the fundamental liaisons between end users and System Analysts. Medsphere strongly recommends each site designate two Super users per unit, per shift, for the end user applications (i.e., CareVue, Bar Code Medication Administration) and preferably at least two Super users for each ancillary application (i.e., Pharmacy, Laboratory, Radiology, HIMS, PIMS, Nutrition, etc.).

ASH, working with Medsphere, will be required to schedule end-user training and follow up to insure the attendance of ASH personnel and successful completion of required training. Due to the large amount of training associated with OpenVista EHR System implementation and the complexity of managing a project of this scale, ASH will assign someone on their staff, or contract for additional services, to act as Training Coordinator.

## Training Role Descriptions

This section contains brief descriptions of each training-related role to which Medsphere recommends ASH identify to support both the immediate OpenVista EHR System implementation and long-term training needs. For more detailed role descriptions of each, please refer to the specific role descriptions provided by

Medsphere in a separate document.

### Training Coordinator

The Training Coordinator is responsible for planning, coordinating and evaluating the overall OpenVista EHR System training program. This position oversees the development of new training courses, methods and materials that may prove valuable to organization employees. Additionally, the Training Coordinator organizes training processes, ensures computer literacy, sets up training rooms, schedules, and tracks course evaluations.

### Clinical Trainer

The Clinical Trainer is knowledgeable of the CareVue application and provides high quality classroom training that results in the application of learned CareVue functionality by the ASH staff to the successful completion of job duties as required.

### BCMA Trainer

The BCMA Trainer is knowledgeable of the BCMA, Pharmacy Inpatient Medications module, and the CareVue applications. The BCMA Trainer provides high quality classroom training that results in the application of learned BCMA functionality by the ASH staff to successfully complete job duties as required.

### Clinical System Analyst

The Clinical Systems Analyst is the primary resource for the facility management, as well as the Clinical and BCMA leads to facilitate an understanding the functionality of the applications and assists in resolving complex CareVue and BCMA problems. This position works closely with the Training Coordinator, Clinical Trainers and BCMA Trainers to coordinate and conduct CareVue and BCMA Super user and end user training prior to system go-live and after software updates are distributed. Additionally, this position provides input to other application trainers in the development of user manuals and training materials; share training materials with other clinical applications trainers.

### Super User

The Super user is a client end user who acts as the primary source of support for other end users in a particular organizational area and responds to questions and problems regarding the OpenVista EHR System application. Super users receive more advanced training than other end users and assume additional roles and responsibilities pertaining to system applications. Super users also assist application Leads and/or trainers with end user training and functional go-live support for current and new employees. The workload typically demanded of Super users suggests that department heads are not the most appropriate personnel for these positions.

Super users in essence become and evolve into a “higher” level of users who are more knowledgeable on the OpenVista EHR System, and usually assist in validating the “as is” and “to be” workflows (for ASH). This means being a part of the all OpenVista EHR System related workshops during department visits.

Super users will become informal change agents but have different areas of focus. Super users also serve as the ASH user adoption advocates at the organization and are primarily trained on one or more components or capabilities, as well as problem identification and resolution. Individuals selected as Super users should be experts in their fields and will receive specific training. They will serve as local resources for the installations and organizations in each of the specific business process areas. The Super users will work closely with the individual and larger department SMEs.

ASH Super Users will also assist with the training delivery process by serving as an SME in the classroom. Additionally, they are responsible for the following:

- Serving as the site/department SME.
- Facilitating On-The-Job Training of future users after completion of sustainment operations.
- Serving as the intermediate level of Onsite support between users and the Medsphere.
- Supporting functional site readiness / Supervisor Workshops / User Role-Mapping.
- Assisting with the crosswalk from As-Is Legacy to the “to-be” process of the OpenVista EHR System.
- Being successfully trained on multiple areas of the solution to include problem identification and resolution.

Specific role descriptions have been developed for each of the following:

- Clinical Super User
- Multi-Disciplinary Treatment Plan (MDTP)
- BCMA Super user
- HIMS Super user
- PIMS Super user
- Radiology Super user
- Laboratory Super user
- Nutrition Super user
- Pharmacy Super user
- IT/Systems Super user

### Training Evaluation

Medsphere works with ASH trainers to develop competency assessments for end users to ensure the training content is understood and retained for Go Live. Additionally, learners provide valuable feedback by evaluating the effectiveness of classes and instructors using a Course/Instructor Evaluation Form. Analysis of the input from these forms is used to improve all aspects of subsequent classes. Users that are able to pass their designated course(s) receive a certificate. Also, a certification process will be built into the e-learning modules.

### Training Assumptions

Medsphere training is provided on-site and, in order to be successful, assumes several key factors:

- A train-the-trainer model is also recommended as one aspect of the training phase of the project and for long-term new staff training.
- ASH has identified a Training Coordinator, as described above.
- Typically, CareVue training courses include up to ten (10) learners and two (2) instructors, and are about two to four (2-4) hours in length.
- There are two instructors for each classroom training session: one as a primary instructor, and the other as an assistant.
- ASH facility personnel have fundamental computer skills (as defined in the Fundamental Computer Skills Checklist) prior to attending OpenVista training.
- ASH designates two classrooms with computers (one per learner), printers, and document scanners for training sessions. Classrooms also have a computer and projector for the instructor to use.
- End-user training in each facility starts no more than two to three weeks before system roll-out.

Ad Hoc and quarterly Webex-based education/training can be set up per direction of ASH. If onsite training is preferred, Medsphere can create a scope of work and level of effort document for ASH perusal to assure all staff is trained. Our typical approach, which is utilized by our customers, is to ensure that Train the Trainers and designated Super Users are active and take first line training responsibilities on. Additionally, on line help and desk based-end user cheat sheets and user's manuals are readily available.

## 8.4 Communications

### 8.4.1 Communications Strategy

The Deployment Communications Strategy will focus on four phases of the communication process to develop and execute effective communications and engage stakeholders.

1. Develop
2. Implement
3. Evaluate
4. Assess

This process will be done on a recurring, cyclic basis and the communications strategy will be adapted and updated as ASH and stakeholder needs change.

### Communications Assessment

A communications assessment is the foundation of the communication plan. The assessment identifies communications preferences, best practices, and lessons learned by analyzing stakeholder preferences, leadership suggestions, and current communications channels and practices. Tailoring these messages, channels, and other communications activities to the needs of the stakeholder enhances the Medsphere and ASH deployment team's ability to deliver the right information to the right stakeholders at the appropriate time.

A stakeholder analysis section is included because it lays the foundation for developing specific program messages and materials that are tailored to unique stakeholders, and based on their preferences. It is important to:

- Leverage overall lessons learned and best practices from the clinical, functional, and technical communities regarding their past experience with healthcare, and information technology

communications, training, and deployments that can be applied to OpenVista EHR System implementation activities.

- Start the initial communications to inform and engage stakeholders in the OpenVista EHR System selection and deployment process, to encourage adoption of the new system.

#### Target Audiences

- ASH leadership.
- ASH clinical, functional, and technical groups.
- ASH healthcare professionals.

#### Communication Goals and Objectives

- Clearly communicate the rationale for the change to the new OpenVista EHR System.
- Highlight the benefits and impacts of this change to the various stakeholders (targeted messaging).
- Provide consistent, regular, unified messaging across stakeholder groups.
- Manage expectations about the deployment process, disruptions to the provision of care and workflow, as well as the occurrence of unexpected deviations from the schedule.
- Consistently remind stakeholders of the way forward, future vision, and benefits of the new OpenVista EHR System.

#### 8.4.2 Communications Planning

##### Key Communications Elements

- Roles and Responsibilities – Identify roles and responsibilities within the program for developing, approving, and disseminating targeted, timely communications.
- Channels – Identifies the primary vehicles for distributing and disseminating appropriate communications once messages are identified.
- Messages – Identifies the information to be communicated to different stakeholders based on their needs and the goal of the communication.
- Process – Details the specific steps to deliver ASH communications.

##### Communication Tools and Tactics

Communications tools and tactics are critical for conveying consistent ASH-wide and targeted messages to stakeholders at every level, from senior leaders to team members at hospitals impacted by the implementation of the new OpenVista EHR System.

A blended approach is recommended for delivering updates and key messages on a sustained and continuing basis. Stakeholders receive and process information in different ways; they place different values on the information, depending on the source and their experiences with the accuracy of that source.

## Lessons Learned

All end-users will be involved in a post-implementation information gathering process to ensure that initial implementation training lessons learned are captured and used to improve future ASH OpenVista EHR System training.

Medsphere will track and gather lessons learned from end-users and all stakeholders involved in the initial implementation. Medsphere will collect and analyze the relevant responses from the post-implementation evaluation administered to all the ASH stakeholders two weeks after implementation and again two to three months after implementation. Additionally, a competency test will be given that is designed to provide knowledge retention metrics that will also inform future initial implementation training and sustainment training development.

The information gathered through these channels will be summarized by Medsphere and made available to ASH leadership for distribution to relevant parties. It is recommended that these lessons learned are also used to inform on the training process and training materials for future initial new release implementations and sustainment training development.

## Post-Implementation Review (PIR)

A Post-Implementation Review (PIR) verifies the Outcome-based Performance Measures of Effectiveness (OPMOE) and answers the question, “Did ASH get what it needed, and if not, what should be done?”

- The Medsphere project manager in conjunction with ASH’s PM is responsible for articulating outcome-based performance.
- Metrics in the form of measures of effectiveness.
- The PMs are responsible for planning the PIR, gathering data, analyzing the data and assessing the results.
- The ASH PM is responsible for maintaining an integrated program schedule that facilitates the PIR on behalf of ASH.
- The ASH PM is responsible for translating planning into specific PIR implementation events.

To assess to what extent PIR helps ASH to improve its mission, business goals will be set and measures of performance related to these goals will need to be defined. To accomplish that, performance related to strategic goals will be derived. Execution will require collecting current measures to obtain a picture of the current state. The same measures will be collected after implementation/go live/production and compared to pre-implementation measures to assess whether the business goals have been met.

### 8.4.3 Staff Retention

Medsphere understands that people constitute the most important dimension of a healthcare IT product and services vendor’s potential. Consequently, we place a premium on our ability to recruit, train, and retain qualified personnel. Our long experience supporting OpenVista EHR System implementation and development programs has given us a thorough understanding of appropriate skills and certifications for our staff consultants, strong relationships with our colleagues, and proven approaches for capturing high-value staff. Medsphere offers a competitive blend of salary and wages, benefits, financial incentives, career path training, leadership development opportunities, and quality of life features. This helps us as we seek needed

skills, and gives us an exceptionally strong ability to retain qualified staff.

Our approach to staffing involves the timely transition of team resources from one phase to another. The allocation of resources to specific tasks takes into consideration the need for continuity from one phase to the next to ensure that the acquired knowledge and expertise are available where needed. Where appropriate, our PM leverages “specialists,” such as Clinical Analysts, across multiple phases to maximize the effectiveness of these individuals.

Our approach to staffing also involves the timely transition of team resources on and off the project, as necessary. When developing the staffing requirements, Medsphere’s project manager plans for ramp up of certain staff based on the phase of the project. Likewise, staff resource planning includes planning to roll resources off the project once they are not needed. The transitioning of staff is planned to minimize disruption of services, downtime, and operations to ASH. The Medsphere PM participates in weekly staffing meetings to address topics, such as staffing needs, transitioning staff, etc.

#### **PERSONNEL STAFFING AND RESOURCE REQUIREMENTS**

Medsphere used a combination of factors when determining resources necessary to complete the ASH project tasks. This approach leverages resources by sharing staff to maximize resource availability and minimize project delays and overruns. These factors include:

- Creating detailed work packages for the estimation of smaller tasks, which provides additional detail and yields more accuracy in final delivery estimates.
- Evaluating the complexity of the component(s), staff experience with applicable build and conversion tools, and other mitigating risk factors.
- Leveraging prior subject matter experience working on comparable clinical and billing related components or interfaces.
- Providing access to senior architects and technical and functional SMEs, including subcontractors, from outside the project team, for assistance in new design review and /delivery work estimation.
- Using Microsoft project scheduling and tasking software to record and monitor tasks, milestones, resource time estimates, and critical path constraints.

This approach to resource estimation creates a baseline staffing approach that defines target staffing percentages and assignments for each implementation delivery phase. As priorities change, the staffing and scheduling approaches are adjusted accordingly to reflect the types and levels of resources required to accomplish the latest deployment goals.

As part of Medsphere’s standard processes, all team resources ultimately report up to the Medsphere PM who in turn reports to Medsphere’s executive leadership. The Medsphere PM is responsible for making all staffing-related decisions which are reviewed and validated by executive leadership, if needed. Medsphere team members are cross-trained on similar functions to allow for coverage during times when a specific resource cannot be available.

#### **8.4.4 Risk Management and Mitigation**

Medsphere’s risk management process focuses on minimizing risk early in the implementation project lifecycle. During the initial project phase, we apply the team’s knowledge of the project, as well as

experience from similar projects, to identify potential project risks and mitigation strategies. We assess each potential risk based on impact and probability, and then define mitigation approaches and ultimately embed them into our project implementation plan and methodologies. This reduces the impact of known risks before a project starts and continues throughout the project.

Risk is a measure of the inability to achieve overall program objectives within defined cost, schedule, security, scope, resource, and technical constraints. It has two components: (1) the probability of failing to achieve a particular outcome and (2) the impact of failing to achieve that outcome. Another definition used by the Program Management Institute® (PMI®) is uncertain event or condition that, if it occurs, will have a negative or positive effect on one or more project objectives [PMI]. Medsphere views project risks as having the potential to become a threat or in most cases an opportunity. If there are benefits associated with an opportunity, then Medsphere and by default ASH can take certain degrees of risk for a project to be successful. Risks include risks that are internal and external to the program, since both can have an impact on the success.

For processes, risk is a measure of the difference between actual performance of a process and the known best practice for performing that process. In everyday life a risk is an exposure to loss or injury: A factor, thing, element, or course involving uncertain danger. Similarly, in implementation a risk is something that can compromise the success of a project. Examples of potential sources of risk are listed below:

- Requirements
- Block Design missteps
- Development process
- Work environment
- Resources
- Contract
- Project staff dependencies
- Misidentified / missed task dependencies

For the Implementation, Medsphere’s team is using a Risk Register to capture, assess, and monitor risks. The Risk Register will contain three parts: Risk Register, Risk Probability, and Risk Impact. The Risk Probability and Risk Impact will be used to provide a consistent analysis of the probability and impact of the risks in the Risk Register. Use of all three parts of this standard is required for risks, but the information may be developed over time. Tables below show the information that will be captured in the risk register and how that information will be assessed and tracked.

**Risk Register Information**

Status	<ul style="list-style-type: none"> <li>• The current position of the risk, usually either open or closed. Other values can be used as needed.</li> </ul>
Risk Description	<ul style="list-style-type: none"> <li>• Statement of the risk. This field should contain a description of:</li> <li>• Current conditions that may lead to the loss</li> <li>• Loss or consequence</li> <li>• Context of the risk</li> </ul>
Date Identified	<ul style="list-style-type: none"> <li>• Date the risk was identified</li> </ul>
Risk Owner	<ul style="list-style-type: none"> <li>• Name of person responsible for mitigating the risk.</li> </ul>
Stakeholders	<ul style="list-style-type: none"> <li>• Group or individual(s) affected by or in some way accountable for the outcome of the risk. Stakeholders may include project members, suppliers, customers, end users, and others.</li> </ul>

Categories	<ul style="list-style-type: none"> <li>Classification of the risk by customer, technology, cost, schedule, scope, quality, and security. Additional values may be added as needed.</li> </ul>
Probability of Occurrence (%)	<ul style="list-style-type: none"> <li>The chance that a risk will occur, expressed as a percentage. See Risk Probability Standard below.</li> </ul>
Impact Rating	<ul style="list-style-type: none"> <li>Impact is a numerical value, usually between 1 and 5, that represents the impact to the project if the risk comes true. 5 is a HIGH IMPACT and 1 is LOW IMPACT. See Risk Impact Standard below.</li> </ul>
Risk Exposure Ranking	<ul style="list-style-type: none"> <li>The Impact * Probability. Used to rank risks for managing resources</li> </ul>
Mitigation Strategy	<ul style="list-style-type: none"> <li>Selected strategy for mitigating (e.g., avoiding) the risk.</li> </ul>
Mitigation Start Date	<ul style="list-style-type: none"> <li>Date the mitigation activity starts</li> </ul>
Mitigation Stop Date	<ul style="list-style-type: none"> <li>Date the mitigation activity ends</li> </ul>
Contingency Plan	<ul style="list-style-type: none"> <li>The plan for reacting to the risk once it is realized and the even that triggers the contingency plan, if a contingency plan was developed.</li> </ul>
Threshold/Trigger	<ul style="list-style-type: none"> <li>Thresholds for indicators that specify when an action, such as implementing a contingency plan, need to be taken. Triggers are generally used to: <ul style="list-style-type: none"> <li>provide warning on an impending critical event</li> <li>indicate the need to implement a contingency plan to preempt a problem</li> <li>request immediate attention for a risk</li> </ul> </li> </ul>

The purpose of a Risk Probability Information, shown in the Table below is to consistently establish the probability of a risk occurring. The Probability may be modified as information about the risk is acquired or developed.

#### Risk Probability Information

Information	Likelihood	Risk Probability
Cannot mitigate this risk; no known process or workarounds are available	Near Certainty	80-100%
Cannot mitigate this risk, but a different approach might	Highly Likely	60-79%
May mitigate the risk, but workarounds will be required.	Likely	40-59%
Have usually mitigated this type of risk with minimal oversight in similar circumstances	Low	26-39%
Will effectively avoid or can mitigate this risk based on standard practices	Not Likely	<25%

The Project Managers own the risk management process and track all risks and mitigation actions to completion for a given project. While the Project Managers own the process, all project team members are involved in the risk management process. Any team member can identify risks, implement defined risk mitigation actions, and escalate attention to risks when necessary.

Once risks have been identified, mitigation actions are developed, which, when implemented, reduce the negative impact of the risk and/or prevent the risk from occurring. The mitigating actions become part of the baseline risk management plan. The effect of those mitigating actions is then assessed to determine if the risk has been avoided or the impact eliminated. If the risk has not been effectively mitigated, the risk is analyzed

again to determine what additional mitigating actions or contingency plans are required. Once a risk has been successfully avoided or mitigated, it is documented and retired.

Medsphere’s Project Manager will manage project risks by reporting them with the weekly status report to the ASH PM and leadership and escalating as necessary until resolved using the defined mitigation actions.

Throughout the project lifecycle, any factor that cannot be resolved in the course of a work-week and through standard project discussions (e.g., program level status meetings, CCB Reviews) will be classified as risks, added to the risk matrix, until the risk is resolved. For significant/urgent matters, the Project Manager will consult the ASH Project Manager immediately rather than delaying to escalate and engage decision makers.

Medsphere has evaluated some specific potential risks and established possible mitigations. As part of the project Initiation phase, these risks listed in the Table below will be discussed with the project management and leadership teams and fully assessed.

### Sample Risks and Mitigations

Risk No.	Risk Item	Mitigation
1	Physician adoption risk – they continue to use paper	<ul style="list-style-type: none"> <li>• Cheerleading – Project Branding – recruit physician champions</li> <li>• Remove paper forms from clinic</li> <li>• Assess feasibility of setting up training workstations</li> <li>• Communication strategy/plan needed – clarify that this is a clinical transformation project that is using technology to assist transformation</li> <li>• Communicate downstream planned benefits</li> <li>• Continue to allow some end users to contribute (stakeholders)</li> </ul>
2	Large number of inter-dependent tasks – any delays will affect the overall project schedule	<ul style="list-style-type: none"> <li>• Identify Critical Path activities</li> <li>• Identify slack time that can be leveraged</li> <li>• Identify and proceed with non-dependent work efforts</li> <li>• Communicate to stakeholders in advance need for their time/assistance</li> <li>• Factor into schedule any critical timeframes (busier time of year? Flu season? Vacations? Holidays?) That could delay schedule)</li> <li>• Detailed project schedules with meaningful milestones and entry and exit criteria to ensure we stay on schedule.</li> </ul>
3	Significant change in clinical workflow requires addressing cultural issues (i.e., access to paper chart, paper processes including faxing for lab tests)	<ul style="list-style-type: none"> <li>• Provide significant training</li> <li>• Address changes to policies and procedures in advance and incorporate into training</li> <li>• Stress the benefits (automation of lab orders and reports for instance).</li> <li>• Develop transition plans for each workflow that changes</li> <li>• Gain understanding of how much of their policies and procedures are documented</li> <li>• Clarify who is responsible for updating policies and procedures</li> </ul>
4	Resource commitment – competing with other initiatives – IT and non-IT	<p>Request primary and secondary resources – (i.e., resource on medical leave or vacation has a back-up that can fill in)</p> <ul style="list-style-type: none"> <li>• Arrange schedule to lighten workload during prime vacation or holiday timeframes.</li> <li>• Recommend that clinic resources be increased by 10% by realigning staff during “go live” month.</li> </ul>
5	Rapid roll-outs repeat problems with no adjustment time–	Leverage Post Assessment for Pilot as lesson learned document and identify and implement changes to process for future roll-outs.

Risk No.	Risk Item	Mitigation
6	Policies and processes in each region are different	<ul style="list-style-type: none"> <li>• OpenVista EHR is flexible and different polices and processes are not uncommon.</li> </ul>
7	ASH taking this as an opportunity to standardize policies and processes across all their sites	<ul style="list-style-type: none"> <li>• Get ahead as quickly as possible in the project timeline</li> <li>• Team evaluate and come up with gap analysis or process deviation analysis</li> <li>• Another team assigned to bring policies and processes in line</li> </ul>
8	Commitment and allocation of clinic staff to plan and support OpenVista EMR planning and roll-out	<ul style="list-style-type: none"> <li>• Increase staff temporarily at Go live period</li> <li>• Keep stakeholders involved</li> </ul>
9	Procurements by TDH not timely for new hardware/software needed at data center or clinics	<ul style="list-style-type: none"> <li>• Early identification and acquisition</li> <li>• Regular schedule reviews</li> <li>• Change schedule to deploy at a clinic with requisite hardware/software in place</li> </ul>
10	Scope Creep	<ul style="list-style-type: none"> <li>• Clear definition of goals</li> <li>• Strong project management team to hold the line on changes</li> <li>• Rigid Change Management process supported by customer – good for all</li> <li>• Ensure Project Charter with goals and objectives exists – tie all requests to charter.</li> <li>• Formal requirements documents and requirements review.</li> <li>• Requirements with written acceptance criteria (testable)</li> </ul>
11	Requirements are not implemented	<ul style="list-style-type: none"> <li>• Use of a Requirements Management Tool and/or Requirements Traceability Matrix – Excel</li> <li>• ASH participation</li> </ul>
12	Coordination issues across all stakeholders	<ul style="list-style-type: none"> <li>• Regularly scheduled working groups</li> <li>• Appointment of a single point of contact for each new task order for all coordination issues</li> <li>• Development and maintenance of an integrated enterprise level schedule that identifies all major milestones and interdependencies</li> </ul>
13	Inability to get approvals due to misunderstanding of what classifies as “acceptable”	<ul style="list-style-type: none"> <li>• Have quantifiable acceptance criteria attached to each deliverable.</li> <li>• Provide a matrix with each deliverable sign-off sheet that provides the acceptance criteria along with the proof that support the criteria met. (i.e., 95% of UAT test cases passed – provide UAT test report that shows this attached to sign-off sheet).</li> </ul>

Medsphere uses a formal process for managing issues to ensure that problems are identified and resolved as quickly and effectively as possible. The project manager will solicit potential issues from project stakeholders, including the project team, clients, sponsors, and project SMEs. The project manager logs the issue and determines whether the problem can be resolved within the project team or if outside assistance is needed. The project manager assigns the issue to a project team member for investigation and a decision is made to determine who is required in the decision-making process.

The team member(s) investigate the impacts of the issue on budget, schedule and scope and define alternative solutions. Options for the resolution of the issue are shared with the project team and key stakeholders. Each option addresses the impact to project budget, schedule, and scope. Resolution options are discussed and a decision is made as to the best approach to address the issue. If resolving the issue involves changing the budget, schedule or scope of the project, the Change Management process is used to document and approve the change. The project manager will add the appropriate activities to the project plan to ensure the resolution is tracked to completion.

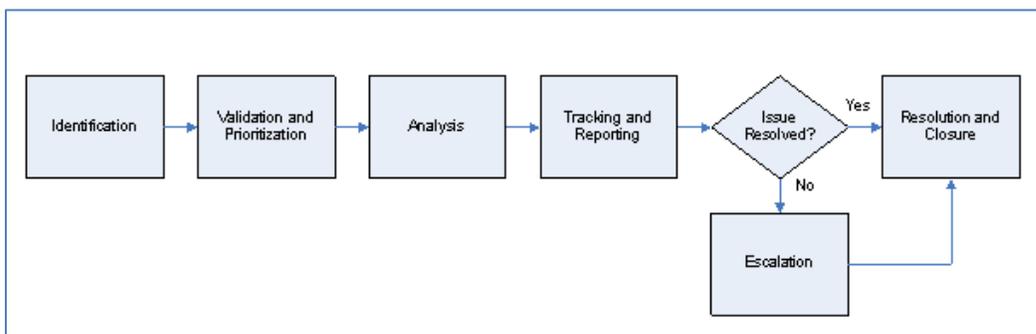
## ISSUE LOG

Throughout the duration of the project, the project manager maintains a formal issues log. The issues log captures key attributes of the issue and all pertinent information required for the resolution of the issue. At a minimum, the following information is identified for each issue.

- Issue #
- Description
- Date Reported
- Who Reported the Issue
- Dependencies
- Assigned To
- Status
- Resolution
- Date Closed

The project manager reviews and updates the issues log with the project team at each project meeting. During the project meeting, issues are identified, recorded and assigned. The issues log is reviewed with the customer and management at regular meetings. New issues are communicated as soon as they are identified. The project manager communicates issue status and resolutions to project team members and other appropriate stakeholders through the project status report, status meetings and other appropriate communication means.

The workflow defined for issue management will be followed and articulated as shown below in the Figure below.



**Issue Management Workflow**

## 9.0 Supportability and Maintainability

### 9.1 Maintenance and Support Concept

Maintenance planning and management establishes maintenance concepts and requirements for the life of the OpenVista EHR System components. It includes, but is not limited to, levels of repair, repair times, testability requirements, support equipment needs, manpower skills, facilities, inter-service, organic and Medsphere mix of repair responsibility, site activation, etc. This element has a great impact on the planning, development, and acquisition of other support elements.

During and following Go Live, primary help with OpenVista EHR System function is provided by on-site Medsphere consultants, as required. For an initial period, Medsphere monitors both the types of problems end users relay to the Help Desk and the ways in which local support responds. This transition period is an ideal opportunity to iron out any remaining issues and confirm local understanding of OpenVista EHR System. Full transition from on-site Medsphere support to the Medsphere Support Center occurs by mutual agreement between ASH and Medsphere's Project Manager. Any remaining implementation issues are the responsibility of Medsphere's implementation team, but the transition provides for essential 24x7 support. From this point forward the ASH facility and Medsphere comply with the Medsphere Subscription Service Agreement, relying on the Medsphere Support Center for Tiers Two and Three support.

Medsphere's Customer Care support system architecture includes powerful built-in remote support tools and utilities that enable us to remotely diagnose and remedy issues. If locally implemented, our typical model is to have technical support assigned for remote support that will also have back reach authority to Customer Care Analysts/Engineers/Technicians.

The Medsphere support model does not include a dispatch layer. ASH would interact directly with Medsphere's dedicated support team. In the event a problem covered under maintenance services can't be resolved remotely, a service representative will be dispatched on-site.

The Medsphere support structure ensures that Medsphere offers real time service. During core support hours an experienced Customer Care Analyst/Technician will answer the phone. In the majority of cases, Support is well aware of the service history of the facility; the Analyst/Technician is responsible for the call closure process and will work with you through to resolution.

**Core Support Hours:** Core support hours are weekdays from 5 AM to 5 PM (Pacific Time).

Phone: 1-877-633-7743

Email: [support@medsphere.com](mailto:support@medsphere.com)

Fax: 760-683-3701

Medsphere guarantees timely acknowledgement of incoming questions by phone and email during regular business hours from 5 AM to 5 PM (Pacific).

- All calls will be received within four (4) rings
  - All incoming email questions are reviewed on an hourly basis
-

Non-critical issue support—software updates, upgrades, reconfigurations, enhancements—is provided during core hours. Medsphere will schedule the installation of any updates or upgrades at a mutually agreed upon time to limit the clinical impact on the customer.

High priority issues arising after regular business hours must be routed to Medsphere via telephone in order to be promptly received within four (4) rings.

### Preventative Maintenance

ASH will receive Medsphere’s preventative maintenance service once every quarter. Manual system health checks will be conducted to identify and remedy software problems.

System health checks include:

- Confirm successful database backups
- Monitor memory usage of EMR processes
- Monitor usage of disk space
- Monitor network performance
- Monitor data archive status

### Updates

Where applicable, updates are delivered remotely online; are generally defined as corrections or other improvements to the features, functionalities and performance of the software; and are currently scheduled for quarterly release.

### Upgrades

Upgrades often include core code fixes, enhancements or product modules.

Customer Care typically will load the upgrades and assist hospital personnel in testing recommendations, answering questions and planning the upgrade schedule.

### Post Implementation and Transition to Medsphere Support

During and following Go Live, primary help with OpenVista function is provided by on-site Medsphere consultants. For an initial period, Medsphere monitors both the types of problems end users relay to the Help Desk and the ways in which local support responds. This transition period is an ideal opportunity to iron out any remaining issues and confirm local understanding of OpenVista. Full transition from on-site Medsphere support to the Medsphere Support Center occurs by mutual agreement between ASH and Medsphere’s Project Manager. Any remaining implementation issues are the responsibility of Medsphere’s implementation team, but the transition provides for essential 24x7 support. From this point forward the ASH facility and Medsphere comply with the Medsphere Subscription Service Agreement, relying on the Medsphere Support Center for Tiers Two and Three support.

# Appendixes

Appendix A: Microsoft Project Task and Schedule chart post award

## Appendix B: Glossary

### Problem Management

The principal purpose of problem management is to find and resolve the root cause of a problem and prevention of incidents.

### Problem

A condition often identified as a result of multiple incidents that exhibit common symptoms. Problems can also be identified from a single significant incident, indicative of a single error, for which the cause is unknown, but for which the impact is significant.

### Change Management

The objective of Change Management is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes to controlled IT infrastructure, in order to minimize the number and impact of any related incidents upon service quality, and consequently improve the day-to-day operations of the organization.

### Change Request

A document or record containing a call for an adjustment of a system; it is of great importance in the Change Management process.

### Configuration Management

Providing accurate and reliable information to the rest of the organization about all the components of the IT infrastructure. Serve as a support to the other processes, in particular to incident management, problem management and changes management.

### Knowledge Management

A range of strategies and practices used in an organization to identify, create, represent, distribute and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizational processes or practice.

Appendix C: Implementation and Deployment Checklist

## **Attachment 5 EEO Handbook**



**Medsphere**<sup>®</sup>  
Transforming Healthcare

## Employee Handbook

## **ABOUT THIS HANDBOOK / DISCLAIMER**

We prepared this handbook to assist you in finding the answers to questions that you may have regarding your employment with Medsphere. Please take the necessary time to read it.

We do not expect this handbook to answer all of your questions. Your leadership team and Human Resources also will be a major source of information.

Neither this handbook nor any other verbal or written communication by a management representative, is, nor should it be considered to be, an agreement, contract of employment, express or implied, or a promise of treatment in any particular manner in any given situation nor does it confer any contractual rights whatsoever. Medsphere adheres to the policy of employment at will, which permits the Company or the employee to terminate the employment relationship at any time, for any reason, with or without cause or notice.

No Company representative other than the CEO may modify at-will status and/or provide any special arrangement concerning terms or conditions of employment in an individual case or generally and any such modification must be in a signed writing.

Many matters covered by this handbook, such as benefit plan descriptions, are also described in separate Company documents. These Company documents are always controlling over any statement made in this handbook or by any member of management.

This handbook states only general Company guidelines. The Company may, at any time, in its sole discretion, modify or vary from anything stated in this handbook, with or without notice, except for the rights of the parties to terminate employment at will.

This handbook supersedes all prior handbooks.

# Table of Contents

---

ABOUT THIS HANDBOOK / DISCLAIMER .....	1
Section 1 - Governing Principles of Employment.....	6
1-1. Welcome Statement .....	6
1-2. Equal Employment Opportunity .....	6
1-3. Non-Harassment .....	7
1-4. Sexual Harassment.....	7
1-5. Workplace Violence .....	8
Section 2 - Operational Policies .....	10
2-1. New Hire .....	10
2-2. Orientation Program.....	10
2-3. Employee Classifications.....	10
2-4. Employee Service Credit .....	11
2-5. Your Employment Records.....	11
2-6. Working Hours and Schedule .....	12
2-7. Recording Time Worked/Time Off .....	13
2-8. Overtime for Non-Exempt Employees .....	13
2-9. Travel Expenses and Reimbursement .....	14
2-10. Travel Time for Non-Exempt Employees .....	14
2-11. Safe Harbor Policy for Exempt Employees .....	15
2-12. Your Paycheck .....	16
2-13. Performance Reviews .....	16
2-14. Record Retention .....	17

Section 3 - Benefits ..... 18

    3-1. Benefits Overview ..... 18

    3-2. Insurance Programs ..... 18

        Health Insurance (Medical, Dental and Vision) ..... 19

        Life and AD&D Insurance ..... 19

        Short-Term Disability Insurance/Long-Term Disability Insurance ..... 19

        COBRA Continuation of Health Insurance Coverage..... 20

        401(k) Plan ..... 22

    3-3. Holidays..... 22

    3-4. Lactation Breaks..... 23

    3-5. Flexible Time Off (FTO)..... 23

    3-6. Paid Sick Leave for California Non-Exempt Employees..... 25

    3-7. Commuter Benefits..... 27

    3-8. Workers' Compensation ..... 27

    3-9. Jury Duty Leave..... 27

    3-10. Witness Leave..... 27

    3-11. Bereavement Leave ..... 28

    3-12. Voting Leave ..... 28

    3-13. Short-Term Disability Leave..... 28

    3-14. Long-Term Disability..... 28

    3-15. Paid Family Leave Benefits for California Employees Only..... 29

Section 4 - Leaves of Absence ..... 30

    4-1. Personal Leave ..... 30

    4-2. Military Leave ..... 31

4-3. Time Off for Military Spouses .....	31
4-4. Pregnancy Disability Leave for California Employees Only .....	32
4-5. Rehabilitation Leave .....	34
4-6. Literacy Assistance Leave for California Employees Only.....	34
4-7. Time Off For Victims of Domestic Violence, Sexual Assault, or Stalking .....	34
4-8. Time Off For School Related Activities for California Employees Only .....	35
4-9. Time Off for Volunteer Firefighters/Disaster Services for California Employees Only .....	35
4-10. Civil Air Patrol Leave for California Employees Only.....	35
4-11. Bone Marrow Donation/Organ Donation Leave .....	36
4-12. Employee Assistance Program.....	36
4-13. Employee Referral Awards .....	36
Section 5 - General Standards of Conduct.....	37
5-1. Workplace Conduct.....	37
5-2. Punctuality and Attendance.....	38
5-3. Personal Appearance and Office Demeanor .....	38
5-4. Open Office Space Etiquette Policy .....	39
5-5. Use of Communication and Computer Systems .....	40
5-6. Use of Social Media .....	41
5-7. Camera Phones/Recording Devices .....	42
5-8. Inspections.....	42
5-9. Smoking .....	42
5-10. Personal Visits and Telephone Calls.....	43
5-11. Solicitation and Distribution .....	43
5-12. Confidential Company Information .....	43

5-13. Conflict of Interest and Business Ethics .....	43
5-14. Use of Facilities, Equipment and Property, Including Intellectual Property .....	44
5-15. Health and Safety .....	45
5-16. Inclement Weather Policy .....	45
5-17. Publicity/Statements to the Media.....	46
5-18. Business Expense Reimbursement.....	47
5-19. References .....	47
5-20. Resigning your Position .....	47
5-21. Exit Interview .....	47
5-22. A Few Closing Words .....	48
General Handbook Acknowledgment .....	49
Receipt of Sexual Harassment Policy.....	50
Receipt of Non-Harassment Policy .....	51
IT Policy.....	52
IT Policy Acknowledgement Form .....	59

## **Section 1 - Governing Principles of Employment**

### **1-1. Welcome Statement**

For those of you who are commencing employment with Medsphere ("Medsphere" or the "Company"), on behalf of Medsphere, let me extend a warm and sincere welcome. We hope you will enjoy your career here and we're glad to have you as a member of the team.

For those of you who have been with us, thank you for your past and continued service.

I extend to you my best wishes for your success and happiness here at Medsphere. We understand that it is our employees who provide the services that our customers rely upon, and who will grow and enable us to create new opportunities in the years to come.

Irv Lichtenwald, Chief Executive Officer

### **1-2. Equal Employment Opportunity**

Medsphere is an Equal Opportunity Employer that does not discriminate on the basis of actual or perceived race, color, national origin, ancestry, sex, gender, gender identity, pregnancy, childbirth or related medical condition, religious creed, physical disability, mental disability, age, medical condition (cancer), marital status, veteran status, sexual orientation, genetic information or any other characteristic protected by federal, state or local law. Our management team is dedicated to this policy with respect to recruitment, hiring, placement, promotion, transfer, training, compensation, benefits, employee activities and general treatment during employment.

The Company will endeavor to make a reasonable accommodation to the known physical or mental limitations of qualified employees with disabilities unless the accommodation would impose an undue hardship on the operation of our business. If you need assistance to perform your job duties because of a physical or mental condition, please let the HR Director know.

The Company will endeavor to accommodate the religious beliefs of its employees to the extent such accommodation does not pose an undue hardship on the Company's operations. If you wish to request such an accommodation, please speak with your manager or the HR Director.

Any employees with questions or concerns about equal employment opportunities in the workplace are encouraged to bring these issues to the attention of the HR Director. The Company will not allow any form of retaliation against individuals who raise issues of equal employment opportunity. To ensure our workplace is free of artificial barriers, violation of this policy will lead to discipline, up to and including discharge. Employees must cooperate with investigations pursuant to concerns raised about equal employment opportunities.

### **1-3. Non-Harassment**

It is Medsphere's policy to prohibit intentional and unintentional harassment of any individual by another person on the basis of any protected classification including, but not limited to, race, color, national origin, disability, religion, marital status, veteran status, sexual orientation or age. The purpose of this policy is not to regulate our employees' personal morality, but to ensure that in the workplace is free of harassment.

If you feel that you have been subjected to conduct which violates this policy, you should immediately report the matter to the HR Director. If you are unable, for any reason, to contact this person, or if you have not received a satisfactory response within five (5) business days after reporting any incident of what you perceive to be harassment, please contact the CEO. If the person toward whom the complaint is directed is one of the individuals indicated above, you should contact any higher-level manager in your reporting hierarchy. Every report of perceived harassment will be fully investigated and where appropriate, corrective action will be taken.

Violation of this policy will result in disciplinary action, up to and including discharge. All complaints will be kept confidential to the extent possible, but confidentiality cannot be guaranteed.

In addition, the Company will not allow any form of retaliation against individuals who report unwelcome conduct to management or who cooperate in the investigations of such reports in accordance with this policy. Employees who make complaints in bad faith may be subject to disciplinary action, up to and including discharge. All employees must cooperate with all investigations.

### **1-4. Sexual Harassment**

It is Medsphere's policy to prohibit harassment of any employee by any supervisor, employee, customer or vendor on the basis of sex or gender. The purpose of this policy is not to regulate personal morality within the Company. It is to ensure that at the Company all employees are free from sexual harassment. While it is not easy to define precisely what types of conduct could constitute sexual harassment, examples of prohibited behavior include unwelcome sexual advances, requests for sexual favors, obscene gestures, displaying sexually graphic magazines, calendars or posters, sending sexually explicit e-mails, text messages and other verbal or physical conduct of a sexual nature, such as uninvited touching of a sexual nature or sexually related comments. Depending upon the circumstances, improper conduct also can include sexual joking, vulgar or offensive conversation or jokes, commenting about an employee's physical appearance, conversation about your own or someone else's sex life, or teasing or other conduct directed toward a person because of his or her gender which is sufficiently severe or pervasive to create an unprofessional and hostile working environment.

If you feel that you have been subjected to conduct which violates this policy, you should immediately report the matter to the HR Director. If you are unable for any reason to contact this person, or if you have not received a satisfactory response within five (5) business days after reporting any incident of what you perceive to be harassment, please contact the CEO. If the person toward whom the complaint is directed is one of the individuals indicated above, you should contact any higher-level manager in your reporting hierarchy. Every report of perceived harassment will be fully investigated and corrective action will be taken where appropriate.

Violation of this policy will result in disciplinary action, up to and including discharge. All complaints will be kept confidential to the extent possible, but confidentiality cannot be guaranteed. In addition, the Company will not allow any form of retaliation against individuals who report unwelcome conduct to management or who cooperate in the investigations of such reports in accordance with this policy. Employees who make complaints in bad faith may be subject to disciplinary action, up to and including discharge. Employees must cooperate with all investigations.

## 1-5. Workplace Violence

Medsphere is strongly committed to providing a safe workplace. The purpose of this policy is to minimize the risk of personal injury to employees and damage to Company and personal property.

We do not expect you to become an expert in psychology or to physically subdue a threatening or violent individual. We specifically discourage you from engaging in any physical confrontation with a violent or potentially violent individual. However, we do expect and encourage you to exercise reasonable judgment in identifying potentially serious situations and alerting management or HR to any situation you perceive to be out of the ordinary.

According to experts in the mental health profession, prior to engaging in acts of violence, troubled individuals often exhibit one or more of the following behaviors: over-resentment, anger and hostility; extreme agitation; making ominous threats such as bad things will happen to a particular person, or a catastrophic event will occur; sudden and significant decline in work performance; irresponsible, irrational, intimidating, aggressive or otherwise inappropriate behavior; reacting to questions with an antagonistic or overtly negative attitude; discussing weapons and their use, and/or brandishing weapons in the workplace. They may also overreact or react harshly to changes in Company policies and procedures; engage in conflicts with co-workers; become obsessed or preoccupied with a co-worker or supervisor; attempt to sabotage the work or equipment of a co-worker; blame others for mistakes and circumstances. They often times demonstrate a propensity to behave and react irrationally.

### **Prohibited Conduct**

Threats, threatening language or any other acts of aggression or violence made toward or by any Company employee IS NOT TOLERATED. For purposes of this policy, a threat includes any verbal or physical harassment or abuse, any attempt at intimidating or instilling fear in others, menacing gestures, flashing of weapons, stalking or any other hostile, aggressive, injurious or destructive action undertaken for the purpose of domination or intimidation. To the extent permitted by law, employees and visitors are prohibited from carrying weapons onto Company premises.

## **Procedures for Reporting a Threat**

All potentially dangerous situations, including threats by co-workers, should be reported immediately to any member of management. Reports of threats may be maintained confidential to the extent maintaining confidentiality does not impede our ability to investigate and respond to the complaints. All threats will be promptly investigated. Employees must cooperate with all investigations. No employee will be subjected to retaliation, intimidation or disciplinary action as a result of reporting a threat in good faith under this policy.

If the Company determines, after an appropriate good faith investigation, that someone has violated this policy, the Company will take swift and appropriate corrective action.

If you are the recipient of a threat made by an outside party, please follow the steps detailed above. It is important for us to be aware of any potential danger in our offices. We want to take immediate and effective measures to protect all employees from the threat of a violent act in the workplace.

## Section 2 - Operational Policies

### 2-1. New Hire

Each newly hired employee will receive a formal written offer letter from the Company. Newly hired employees will be required to acknowledge the Company's IT Policy and Non-Disclosure policy. In addition, we reserve the right to request a drug screen and background check at the Company's discretion.

### 2-2. Orientation Program

During your first few days of employment, you will participate in a New Hire Orientation program conducted by the Human Resources Department and follow up orientation with members of your department, including your immediate supervisor. During the onboarding process you will receive important information regarding the performance requirements of your position, basic Medsphere policies, your compensation, and benefits programs, plus other information necessary to acquaint you with your job and Medsphere. You will also be asked to complete all necessary paperwork at this time, such as medical benefits plan enrollment forms, beneficiary designation forms, and appropriate federal, state, and local tax forms. In addition, you will be required to present Medsphere with information establishing your identity and your eligibility to work in the United States, in accordance with applicable federal law.

### 2-3. Employee Classifications

For purposes of this handbook, all employees fall within one of the classifications below.

**Full-Time Regular Employees** - Employees who regularly work 40 (not less than 30) hours per week who were not hired on a short-term basis.

**Part-Time Regular Employees** - Employees who regularly work fewer than 30 hours per week on a regular basis.

**Short-Term/Temporary Employees** – Full time or part time employees on Medsphere's payroll with an understanding that their employment will be terminated no later than on completion of a specific assignment. Note that temporary employees may be offered and may accept a new temporary assignment with Medsphere and thus still retain temporary status. Such employees may be "exempt" or "nonexempt" as defined below. Short-Term Employees generally are not eligible for Company benefits, but are eligible to receive statutory benefits

Employees hired from temporary employment agencies for specific assignments are employees of the respective agency and not of Medsphere.

**Consultants and Independent Contractors** - Workers who are engaged for a specific task or portion of a job, whether for a brief or extended period. A consultant, or independent contractor, usually provides his/her own software and equipment and reports only on the major developments of the work. While under the general direction of Medsphere, consultants and independent contractors are not Medsphere employees. To be classified an Independent Contractor; the individual must comply with the federal definition of an independent contractor. As an independent contractor, the individual is exempt from participating in any Company sponsored benefit programs. The independent contractor will submit an invoice to the Company per the terms outlined in the independent contractor agreement.

**Exempt /Non-Exempt Status** - In addition to the above classifications, employees are categorized as either "exempt" or "non-exempt" for purposes of federal and state wage and hour laws. Employees classified as exempt do not receive overtime pay; they generally receive the same weekly salary regardless of hours worked. Executives, professionals, employees, outside sales representatives, software development employees, and certain employees in administrative positions are typically exempt.

Non-exempt employees are hourly employees who are subject to overtime regulations and pay, in accordance with applicable federal and state wage and hour laws. You will be informed of your classifications upon hire and informed of any subsequent changes to your classifications.

## 2-4. Employee Service Credit

"Length of service" refers to the length of time that our employees spend as active regular full-time or regular part-time employees with Medsphere. Service begins on the day you become a full-time or part-time Employee.

Length of service may be used in determining certain employee benefits. Employees will not lose credit for service with the Company provided their last day of service was within 60 days of being rehired as an active regular employee. Human Resources will discuss this issue with any rehired employee upon hire.

## 2-5. Your Employment Records

At the time of hire, you provided us with personal information, such as your address, telephone number, emergency contact, and social security number. This information is contained in your confidential personnel file.

Please keep your personnel file up to date by informing the HR Department of any changes. Also, update, the HR Department of any specialized training or skills you may acquire after you begin your employment.

Unreported changes of address, marital status, change in family status, etc. can affect your withholding tax and benefit coverage. Further, an "out of date" emergency contact or an inability to reach you in a crisis could create a significant problem in the event of an emergency.

## 2-6. Working Hours and Schedule

Medsphere normally is open for business from 8:00 a.m. to 5:00 p.m. Monday through Friday (PST).

### **Employee Schedules**

The regular work week for all full-time employees is forty hours, divided into five days, Monday through Friday, with employees regularly scheduled to work eight hours per day. You and your manager will determine your individual work schedule. To accommodate the needs of our business, at some point we may need to change individual work schedules on either a short-term or long-term basis.

Employees who are assigned to client sites will receive their schedules from the on-site supervisor. Any changes to that schedule must be approved by both the client site supervisor and the employee's supervisor at Medsphere.

### **Rest Breaks for Non-Exempt Employees**

Regulatory guidelines state that non-exempt employees who work three-and-one-half (3-1/2) or more hours per day are provided one 10-minute rest break for every four (4) hours or major fraction thereof worked. For purposes of this policy, "major fraction" means any time greater than two (2) hours. For example, if you work more than six (6) hours, but no more than 10 hours in a workday, you are provided and should take two 10-minute rest breaks: one during the first half of your shift and a second rest break during the second half of your shift. If you work more than 10 hours but no more than 14 hours in a day, you are provided, and should take, three 10-minute rest breaks, and so on. Rest breaks should be taken as close to the middle of each work period as is practical. Employees are encouraged to take their rest breaks; they are not expected to and should not work during their rest breaks. Non-exempt employees are paid for all rest break periods. Accordingly, you do not need to record time when taking a rest break.

### **Meal Periods for Non-Exempt Employees**

Regulatory guidelines state, if you work more than 5 hours in a workday, you are provided an unpaid, off-duty meal period of at least 30 minutes. If six (6) hours of work will complete the day's work, you may voluntarily waive your meal period in writing. See Human Resources if you would like to sign and submit a form that waives your right to meal period if you work no more than six (6) hours in a day. Employees who work more than 10 hours in a day are entitled to a second unpaid, off-duty 30 minute meal period. If an employee works no more than 12 hours, the employee can waive his or her second meal period, but only if the first one was not waived in any manner. Any waiver of the second meal period must be in writing and submitted before the second meal period. See Human Resources if you would like to sign and submit a form that waives your right to a second meal period, as explained above. . If you work more than 12 hours you may not waive and should take your second unpaid, off-duty 30 minute meal period.

You are responsible for scheduling your own meal period, but it should begin no later than the end of your fifth hour of work. When scheduling your meal period, you should try to anticipate your work flow and deadlines. Employees are encouraged to and should take their meal periods; they are not expected to work during their meal periods.

During your meal period, you are relieved of all duty and you should not work during this time. When taking your meal period, you should be completely off work for at least 30 minutes. Employees are prohibited from working "off the clock" during their meal period. Those employees who use a time clock must clock out for their meal periods. These employees are expected to clock back in and then promptly return to work at the end of any meal period. Those employees who record their time manually must accurately record their meal periods by recording the beginning and end of each work period.

Unless otherwise directed by your supervisor in writing, you do not need to obtain your supervisor's approval or notify your supervisor when you take your meal period.

## **2-7. Recording Time Worked/Time Off**

All employees must record their actual time worked for time tracking in DataBasics. On a daily basis, non-exempt employees must record their actual time worked. Meal breaks and non-work activities are not to be counted.

Altering, falsifying or tampering with time records is prohibited and subjects the employee to discipline, up to and including discharge.

All employees are required to record their absence from work for reasons such as FTO, sick time (if governed by a mandated sick time provisions), or leave of absence in DataBasics. Employees who are covered by state or locally mandated sick leave laws are also required to log into ADP EZLabor to record hours missed from work due to qualifying sick leave absences.

It is your responsibility to accurately note your time off. Any errors in your time record should be reported immediately to your supervisor, who will attempt to correct legitimate errors.

If you are unclear as to the project codes or activities needed to identify your project category, please review with your supervisor.

## **2-8. Overtime for Non-Exempt Employees**

Like most successful companies, we experience periods of extremely high activity. During these busy periods, additional work is required from all of us. Your supervisor is responsible for monitoring business activity and requesting overtime work if it is necessary. Non-exempt employees generally will be paid overtime at the rate of time and one-half (1.5) times their normal hourly wage for all hours worked in excess of forty (40) hours in one week.

In California, non-exempt employees generally will be paid overtime at a rate of time and one-half (1.5) times their normal hourly wage for hours in excess of eight (8) hours in a day, forty (40) hours in a week or the first eight (8) hours of the seventh straight day of work in a work week.

Employees working in states outside of California will be paid overtime according to state mandated wage and hour laws, or the Fair Labor Standards Act (FLSA) if applicable.

California non-exempt employees generally will be paid double-time for hours worked in excess of twelve (12) in any workday or in excess of eight (8) on the seventh day of the workweek. Employees may work overtime only with management authorization.

## 2-9. Travel Expenses and Reimbursement

Certain positions at Medsphere require the employee to travel. As much notice as possible will be given to the traveling employee, and the preferences of the employee regarding travel arrangements will be considered. For additional information, please read the "Travel Policy and Procedures".

## 2-10. Travel Time for Non-Exempt Employees

Medsphere pays non-exempt employees for travel time in accordance with the Fair Labor Standards Act and applicable state wage and hour regulations.

### **Travel Time – from Home to Work (Portal to Portal)**

Normal travel from home to work and travel from work to home at the end of the work day **is not considered hours worked**. However, if a non-exempt employee regularly reports to a worksite near his/her home, but is required to report to a worksite farther away than the regular worksite, the additional time spent traveling is compensable.

### **Single Day Travel**

Time spent by the non-exempt employee in travel as part of his/her normal work activities – such as travel from the job site to a client during regular working hours is considered hours worked. If the non-exempt employee is required to travel to another city and return home in the same day, the travel time to and from the other city is considered hours worked. When the non-exempt employee takes a lunch break it is **not considered hours worked**.

### **Travel Away from Home Overnight on a Work Day**

Time spent in travel away from home outside of regular working hours as a passenger on an airplane, train, boat, bus or automobile will be compensated at ½ the non-exempt employees regular rate of pay.

All authorized travel time spent driving an automobile (as the driver, not as a passenger) is treated as work hours, regardless of whether the travel takes place within normal work hours or outside normal work hours. A non-exempt employee will receive his/her regular hourly rate for all travel time spent as a driver.

All travel time will be included in overtime compensation using the “weighted average” method.

When an employee travels between two or more time zones, the time zone associated with the point of departure should be used to determine whether the travel falls outside of normal work hours.

### **California Based Non Exempt Employees**

Nonexempt California based employees who travel on Company business are subject to the regulations established by the California Division of Labor Standards and Enforcement as it relates to extended travel time and pay rate for travel time. Specific details of the provisions have been provided to California based nonexempt employees and their manager. Please contact HR for further clarification.

### **Time Keeping During Travel**

Employees are expected to keep accurate time records according to this policy, including separating time considered travel time under the policy and time performing work. Employees are to enter all time worked in DataBasics. Please contact Human Resources for more information on this policy.

Any work that the employee performs while traveling **is considered hours worked** even if these hours are outside his or her normal work schedule.

If compensable travel time results in more than 40 hours worked by a non-exempt employee, the employee will be compensated at an overtime rate of one and one-half times the regular rate.

## **2-11. Safe Harbor Policy for Exempt Employees**

It is our policy and practice to accurately compensate employees and to do so in compliance with all applicable state and federal laws. To ensure that you are paid properly and that no improper deductions are made, you must review your pay stubs promptly to identify and report errors.

If you are classified as an exempt salaried employee, you will receive a salary which is intended to compensate you for all hours you may work for the Company. This salary will be established at the time of hire or when you become classified as an exempt employee. While it may be subject to review and modification from time to time, such as during salary review times, the salary will be a predetermined amount that will not be subject to deductions for variations in the quantity or quality of the work you perform.

Under federal and state law, your salary is subject to certain deductions. For example, unless state law requires otherwise, your salary can be reduced for the following reasons:

- Full-day absences for personal reasons.
- Full-day absences for medical leave.
- Full-week disciplinary suspensions for infractions of our written policies and procedures.
- To offset amounts received as payment from the court for jury and witness fees or from the military as military pay.
- The first or last week of employment in the event you work less than a full week.
- Any full work week in which you do not perform any work.

Your salary may also be reduced for certain types of deductions such as your portion of health, dental or life insurance premiums; state, federal or local taxes; social security; or voluntary contributions to a 401(k) or other voluntary deductions selected.

In any work week in which you performed any work, your salary will not be reduced for any of the following reasons:

- Partial day absences for personal reasons, sickness or disability.
- Your absence on a day because your employer has decided to close a facility on a scheduled work day.
- Absences for jury duty, attendance as a witness, or military leave in any week in which you have performed any work (subject to any offsets as set forth above).
- Any other deductions prohibited by state or federal law.

If you believe you have been subject to any improper deductions, you should immediately report the matter to your supervisor. If the supervisor is unavailable or if you believe it would be inappropriate to contact that person (or if you have not received a prompt and fully acceptable reply), you should immediately contact the HR Department or any other supervisor in the Company with whom you feel comfortable.

## **2-12. Your Paycheck**

All Medsphere employees are paid by direct deposit. Annually, a payroll schedule calendar will be distributed. If a scheduled payday falls on a company observed holiday or weekend, you will be paid on the day preceding the weekend or holiday whenever possible.

Your pay stub itemizes deductions made from your gross earnings. By law, the Company is required to make deductions for Social Security, federal income tax and any other appropriate taxes. These required deductions also may include any court-ordered garnishments. Your pay stub will also differentiate between regular pay and overtime pay.

If you believe there is an error in your pay, bring the matter to the attention of the HR Department immediately so the Company can address the matter quickly.

All paychecks and travel reimbursements will be a direct deposit into accounts identified by the employee. Employees can change routing at any time they wish by contacting Human Resources.

## **2-13. Performance Reviews**

Depending on your position and classification, Medsphere endeavors to review your performance regularly, typically on an annual basis. However, please understand that a positive performance evaluation does not guarantee an increase in salary, a promotion, or continued employment. Compensation increases and the terms and conditions of employment, including job assignments, transfers, promotions, and demotions, are determined by and at the discretion of management.

Performance discussions provide both the supervisor and employee with an opportunity to focus on job accomplishments, recognize performance strengths and development needs. During your performance discussions goals, objectives, and development plans will be established.

In addition to these formal performance evaluations, the Company encourages you and your supervisor to discuss your job performance on a frequent and ongoing basis. Performance objectives can change throughout the year, so having regular feedback sessions provides an opportunity for both the supervisor and employee to ensure that performance objectives are aligned.

Refer to the “Preparing for your Annual Review” guide for details on preparing the Employee Self Evaluation form.

## **2-14. Record Retention**

The Company acknowledges its responsibility to preserve information relating to audits, investigations and litigation. Failure on the part of employees to follow retention of records deemed important can result in possible civil and criminal sanctions against the Company and its employees and possible disciplinary action against responsible individuals (up to and including termination of employment). Each employee has an obligation to contact the Human Resources Department to inform them of a potential or actual litigation, external audit, investigation or similar proceeding involving the Company that may have an impact on record retention protocols.

## Section 3 - Benefits

### 3-1. Benefits Overview

It is Medsphere's practice to provide a combination of benefits to all eligible employees. In keeping with this goal, each benefit program has been carefully constructed. These benefits include time-off benefits, such as FTO and holidays, and insurance and other health and welfare plan benefits. We are constantly evaluating our benefit offerings and practices to keep up with changing needs. The next few pages contain a brief outline of the benefits programs Medsphere provides for you and your family. Of course, the information presented here is intended to serve only as a guideline. Annually, updated benefit information is provided during open enrollment.

The descriptions of the insurance and other plan benefits merely highlight certain aspects of the applicable plans for your general information only. The details of those plans are spelled out in the official plan documents, which are available for review upon your request from the Human Resources Department. Additionally, the provisions of the plans, including eligibility and benefits provisions, are summarized in the summary plan descriptions ("SPDs") for the plans (which may be revised from time to time). In the determination of benefits and all other matters under each plan, the terms of the official plan documents shall govern over the language of any descriptions of the plans, including the SPDs and this handbook.

Medsphere (including the officers and administrators who are responsible for administering the plans) retains full discretionary authority to interpret the terms of the plans, as well as full discretionary authority with regard to administrative matters arising in connection with the plans and all issues concerning benefit terms, eligibility and entitlement.

While the Company intends to maintain these employee benefits, it reserves the absolute right to modify, amend or terminate these benefits at any time and for any reason.

If you have any questions regarding your benefits, please contact the Human Resources Department.

### 3-2. Insurance Programs

Regular full-time employees may participate in the Company's insurance programs. Under these plans, eligible employees will receive comprehensive health and other insurance coverage for themselves and eligible their family members, as well as other benefits.

Upon enrolling in these plans, you will receive summary plan descriptions (SPDs) describing the benefits in greater detail. Please refer to the SPDs for detailed plan information. Of course, feel free to speak to Human Resources if you have any further questions.

## **Health Insurance (Medical, Dental and Vision)**

All regular full time employees working 30+ hours per week and their eligible dependents are able to participate in Medsphere's group health insurance program.

Medsphere strives to offer Medical Insurance plans that offer flexibility in choice for employees. This can include a Preferred Provider Organization, a Health Maintenance Organization, and a High Deductible Plan. The availability of plan flexibility will be dependent upon your geographic area. Not all plans are available nationwide. For specifics about each plan, please consult the Human Resources Department.

Medsphere pays a large portion of the annual premium cost for employee benefits. Employees pay for a portion of the premium with pre tax deductions. Annually benefit rates are reviewed with the various benefit carriers.

Eligible employees have the flexibility to select all; none or a combination of health benefits that meet their personal needs. Benefits can only be changed during the annual open enrollment or when a qualifying event occurs (marriage, divorce, birth/adoption of a child, court order, death and several other events). Please contact Human Resources immediately when you have a change in status so that benefit adjustments can be made.

Coverage for eligible employees is effective on the first of the month following the first month of employment. Coverage under the various plans terminates at the end of the month that your employment with Medsphere terminates. Please review Medsphere's policy, set forth in this handbook, regarding continuing group health insurance benefits after termination. For further details regarding health insurance coverage, consult the Human Resources Department.

## **Life and AD&D Insurance**

All regular full time eligible employees working more than 30 hours per week will be eligible to participate in Medsphere's life insurance program. Coverage under this program is voluntary. In order to enroll in dependent coverage, the employee must elect coverage for themselves. Insurance premiums are age banded and will increase at certain stages.

Life insurance benefits terminate the day your employment with Medsphere ceases. Specifics about coverage costs can be obtained from Human Resources. Please review Medsphere's policy, set forth in this handbook, regarding continuing group health insurance benefits after termination.

## **Short-Term Disability Insurance/Long-Term Disability Insurance**

Medsphere provides voluntary Short-Term and Long-Term disability insurance benefits for all regular full time employees working more than 30 hours per week.

Under the voluntary Short-Term Disability insurance program, employees who are disabled for more than seven days, whether by accident, illness or pregnancy, and suffer income loss, are eligible to receive benefits that represent a percentage of the wages they are losing. In states where Short Term Disability Insurance is provided, this voluntary plan will coordinate benefits with those offered by the individual state, but the benefit will not exceed the maximum allowed benefit under the plan. Time allowed for Short-Term Disability is outlined in the plan document. Employees will need to provide certification of disability. Short – Term Disability is for 13 weeks. Keep in mind, states that provide Short-Term Disability coverage may have different periods of coverage than the voluntary plan.

Under the voluntary Long-Term Disability program, employees who are disabled for more than 90 days because of injury or sickness are eligible to receive a benefit equivalent to 60 % of their basic monthly earnings to a maximum benefit outlined in the plan provisions. Benefits continue for as long as your qualifying disability continues in accordance with the maximum benefits periods specified in our Summary Plan Description or until the employee reaches social security eligibility.

Coverage normally ends on the employee's last day of employment. If you are receiving benefits at the time your employment ends, coverage remains until the end of the disability or the end of the maximum benefit period, whichever comes first.

For further details regarding Short-Term and Long-Term Disability insurance benefits, please contact the Human Resources Department.

### **COBRA Continuation of Health Insurance Coverage**

In compliance with the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), Medsphere offers employees and/or their covered dependents the opportunity for a temporary extension of health coverage (called "continuation coverage") at group rates in certain instances where coverage would otherwise terminate. This continuation coverage will be identical to the coverage provided for active employees and their covered dependents. An affected employee or covered dependent does not have to show that he or she is insurable to elect continuation coverage. Persons who are not covered on the day of the qualifying event (defined below) are not eligible for continuation coverage.

If an employee and/or an employee's covered dependents do not elect to continue coverage and pay the required cost within the time period described below, coverage will terminate on the day of the "qualifying event" (defined below).

An employee and/or an employee's covered dependents will have the right to elect continuation coverage for a maximum period of eighteen months upon the occurrence of one of the following (defined as the "qualifying event"):

The termination of an employee's employment for any reason (including voluntary resignation or retirement) except for gross misconduct; or

The reduction of an employee's hours to a level where the employee is no longer eligible for coverage.

A covered dependent will have the right to elect continuation coverage for a maximum period of (36) thirty-six months upon the occurrence of one of the following "qualifying events":

The death of the employee, spouse or parent; or

The divorce or legal separation of the employee and the covered dependent- spouse; or

The divorce or legal separation of the employee who is the parent of a covered dependent child; or

The employee-spouse or parent becomes eligible for Medicare; or a covered child is no longer eligible as a dependent, i.e. a child attains age 26 or is no longer dependent upon the employee for principal support.

If a covered dependent's coverage has been extended for up to eighteen months because of an employee's termination or reduction of hours, and a second "qualifying event" occurs as described above during the period for which continuation coverage is effective, the covered dependent is eligible for an extension of continuation coverage, but in no event may the continuation coverage period with respect to all such "qualifying events" exceed thirty-six months.

Under COBRA, an employee or an employee's covered dependent has the responsibility to inform the Human Resources Department of any divorce, legal separation, or a child losing dependent status, as described above. The employee must notify the Human Resources Department and elect continuation coverage no later than sixty days after one of these events occurs; otherwise, the right to continuation coverage will be lost.

Medsphere is responsible for notifying the Insurance Company of your death, termination of employment, reduction in hours, or Medicare eligibility. After receiving notice that one of these events has happened, the Human Resource Department will in turn notify the employee that the employee and/or the employee's covered dependents may elect continuation coverage within (60) sixty days from the date of such notification. The right of continuation coverage will be lost if it is not elected within this period.

If the employee and/or the employee's dependents elect continuation coverage, the full monthly cost of the coverage plus a 2% administrative charge will be imposed. Medsphere will no longer pay any portion of the cost. Specific information about the cost of continuation coverage can be obtained by contacting the Human Resources Department.

Continuation coverage will be terminated on the earliest of:

The date on which the 18 or 36-month period after the "qualifying event" ends; or

The date on which the coverage plan is terminated for all Medsphere employees; or

The last day of the month for which the last payment has been received by the Human Resources Department; or

The date on which the covered person becomes covered under any other group medical care plan; or

The date on which the covered person who is divorced from the current or former Medsphere employee remarries and becomes covered under a new health plan; or

The date on which the covered person becomes eligible for Medicare; or

Upon the occurrence of any other event specified by the coverage plan and not prohibited by applicable law.

Please contact Human Resources for detailed explanation of COBRA benefit.

### **401(k) Plan**

Medsphere has established a 401(k) saving plan that is available to all regular full time benefit eligible employees. Eligibility to participate in the plan begins on the date of hire, with enrollments on the first of every month. The purpose of the plan is to encourage eligible employees to save on a pretax basis and to build a financial reserve for retirement.

Under the plan, eligible employees may elect to have Medsphere withhold a percentage of compensation through payroll deductions to the maximum allowed by law and contribute that amount to the plan as a savings contribution. Employees may suspend their contributions at any time and may also increase or decrease the amount of their contributions as of the first day of any pay period by contacting the Human Resources Department. Withdrawals from the plan are permitted once an employee has attained age 59½, and loans are permitted in the event of financial hardship as defined in the plan.

After termination (whether voluntary or involuntary), an employee has ninety days to transfer his or her 401(k) funds. If funds have not been transferred by the end of this period, Medsphere may elect to distribute the account to the employee in one single sum payment. All penalties and taxes incurred by this distribution are the sole responsibility of the employee. Twenty percent of the value of the account will be withheld for taxes at the time of distribution.

Please contact Human Resources or reference the Summary Plan Description for specific questions.

### **3-3. Holidays**

The Company observes eleven (11) holidays per year. Holidays are designated at the beginning of each year and are subject to change. Regular full-time employees will be paid for the following holidays:

New Year's Day  
Martin Luther King Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Day After Thanksgiving  
Christmas Day  
Christmas Holiday (either before or after Christmas Day)

Plus, one additional day to be identified annually

Holidays falling on a Saturday are normally observed on the preceding Friday. Holidays falling on a Sunday are normally observed on the following Monday.

In order to be eligible to receive holiday pay, you are required to work your regularly scheduled hours the workday preceding and workday following the holiday. In accordance with Medsphere policy, an approved FTO day or any other excused and paid day off, is considered a day worked for purposes of holiday pay eligibility.

Employees who are assigned to a client site are expected to follow the client's holiday schedule. Medsphere employees working at government facilities may be reassigned other duties on government holidays that are not recognized as Medsphere holidays.

If a holiday falls within an employee's assigned work schedule the eligible employee will receive an alternate day off at the option of the Company.

### **3-4. Lactation Breaks**

The Company will provide a reasonable amount of break time for an employee who wishes to express breast milk for her infant child. If possible, the break time must run concurrently with rest and meal periods already provided to the employee. If break time cannot run concurrently with rest and meal periods, it will be unpaid.

The Company will make reasonable efforts to provide the use of a room or location other than a bathroom stall for the employee to express milk in private. This location may be the employee's private office, if applicable.

Please consult Human Resources if you have questions regarding this policy.

### **3-5. Flexible Time Off (FTO)**

The practice of Flexible Time Off (FTO) allows employees the opportunity to take ownership of how they manage their time off. We trust that individuals know when they can take time off and still achieve their performance objectives. Advance communication with his/her manager continues to be essential for work load planning before time off is authorized.

## **Covered Employees**

The FTO practice applies to all full time, nonexempt and exempt benefit eligible employees. As long as employees maintain their work performance at an acceptable level, communicate with their manager and have received approval, employees will continue to be paid their salary for those times which they are taking FTO. We trust that employees know how to manage their time and will take responsibility as an owner, to balance their work expectations and time off requests.

## **Recording Flexible Time Off (FTO)**

All employees are required to enter all hours worked, and all approved time off in the Data Basics system. This requirement ensures that Medsphere is in compliance with the CAS (cost accounting standards) and is prepared for any potential audits from agencies validating information during contract bidding.

## **Personal Time Off (PTO) Hours Prior to FTO**

Employees who transitioned to FTO from the previous Personal Time Off (PTO) practice and have an unused accrual balance, will have that balance “frozen” and at the time the employee leaves the Company, it will be cashed out at the amount noted in their FTO Acknowledgment form. Employees with a frozen PTO balance may also use this balance to cover a portion of unpaid leaves (e.g. waiting period for disability leave, medical leave or personal leave). Reach out to HR if you know you will be going out on leave and they can review the specific waiting period time in various states or how to best utilize your accrued balance for a leave. See various leave policies for definition of unpaid leaves.

## **How much time can I take off?**

The Flexible Time Off practice is not defined by time allocation. Employees are viewed as owners, and as such, we trust that employees will do what is necessary to ensure that their work is completed and that their time off will not impact the progress of project deliverables. We ask that employees give their manager as much advance notice as they realistically can, in addition to providing any information that is required in order for the function to operate effectively during the employee’s FTO period (e.g. tasks that may need to be assigned while the employee is on FTO). FTO requests will be managed by the department manager to ensure that all team members have the opportunity to take the requested time off throughout the year. We understand that there may be times when the FTO request could be denied due to department work/project commitments. If the employee is requesting a long period of FTO, it’s important to communicate the request early so that effective planning and work coverage can take place. Communication and planning is imperative to effectively managing FTO requests.

## **What if I’m sick and need to take the day off?**

Call your manager, let he/she know that you’re ill and can’t work. You are responsible for keeping your manager advised of your status and when you think you will be returning to work. For extended periods of illness or excessive absences a return to work release may be required.

The FTO policy is designed to meet and exceed sick leave laws and ordinances at the federal, state, and local level. Contact Human Resources if you have any questions about state sick leave laws and ordinances, or events which qualify for usage of FTO due to illness.

## **Performance Expectations**

As long as employees are in good standing, maintain their performance at an acceptable level, communicate their request for FTO to their manager and have received approval to take the time off, employees will continue to be paid their salary for those times which they are on FTO.

## **Leadership Responsibility**

A Department leader has the responsibility for assessing his/her team's work load and business objectives and is obligated to communicate with the employee as soon as possible regarding their FTO request. The leader also has the responsibility of managing the FTO practice in a fair and equitable manner, while ensuring that the employee's and the department objectives are achieved. Should there be excessive time off taken that impacts the employee's performance and the achievement of work objectives, leadership will address those issues immediately.

## **3-6. Paid Sick Leave for California Non-Exempt Employees**

### **Eligibility**

Pursuant to the Healthy Workplaces, Healthy Families Act of 2014, the Company provides paid sick leave to employees who, on or after July 1, 2015, work in California for thirty (30) or more days within a year.

### **Sick Leave Grant**

At the beginning of each year, California based employees are granted three (3) days (or twenty- four (24) hours) of paid sick leave. No further paid sick leave will be granted until the following year.

On July 1, 2015, eligible employees will have three (3) days (24 hours) available to utilize for sick leave. Effective January 2016 and annually thereafter, three (3) days will be provided each year pursuant to the Healthy Workplaces, Healthy Families Act.

### **Usage**

Newly hired employees can use granted paid sick leave beginning on the 120th day of employment. Paid sick leave may be used in minimum increments of two (2) hours.

Paid sick leave may be used for the following reasons:

1. For diagnosis, care, or treatment of an existing health condition of, or preventive care for, an employee or an employee's family member meaning a child (including biological, adopted, or foster child, stepchild, legal ward, or a child to whom the employee stands in loco parentis, all regardless of age or dependency status); spouse; registered domestic partner; parent (including biological, adoptive, or foster parent, stepparent, or legal guardian of an employee or the employee's spouse or registered domestic partner, or a person who stood in loco parentis when the employee was a minor child); grandparent; grandchild; or a sibling.

2. For an employee who is a victim of domestic violence, sexual assault, or stalking:
  - a. To obtain or attempt to obtain a temporary restraining order, restraining order, or other injunctive relief;
  - b. To help ensure the health, safety, or welfare of the victim or the victim's child;
  - c. To seek medical attention for injuries caused by domestic violence, sexual assault, or stalking;
  - d. To obtain services from a domestic violence shelter, program, or rape crisis center as a result of domestic violence, sexual assault, or stalking;
  - e. To obtain psychological counseling related to an experience of domestic violence, sexual assault, or stalking; or
  - f. To participate in safety planning and take other actions to increase safety from future domestic violence, sexual assault, or stalking, including temporary or permanent relocation.

### **Notice & Documentation**

Sick leave requests can be given orally or in writing and must be approved by the employee's manager. If the need for paid sick leave is foreseeable, the employee must provide reasonable advance notification. In the event of an unforeseeable need for sick leave, the employee must notify his/her manager as soon as possible.

### **Recording use of paid sick leave**

For tracking purposes, employees are required to enter sick time taken in the ADP EZlabor system as well as the DataBasics system as soon as possible.

### **Payment**

Eligible employees will receive sick leave pay at their normal base pay rate. Use of paid sick leave is not considered hours worked for purposes of calculating overtime.

Employees will be notified of their available paid sick leave on their pay statement.

### **Carryover & Payout**

Paid sick leave does not carry over from year to year, and unused paid sick leave under this policy will not be paid out at separation.

### **Enforcement & Retaliation**

Retaliation or discrimination against an employee, who requests paid sick days or uses paid sick days, or both, is prohibited, and employees may file a complaint with the Labor Commissioner against an employer who retaliates or discriminates against the employee.

If employees have any questions regarding this policy, they should contact Human Resources.

### **3-7. Commuter Benefits**

Medsphere offers a commuter benefits program. Employees may elect a pretax benefit of up to the maximum annual allowable for transit, vanpooling or parking. Employees are eligible to enroll or cancel their commuter benefits at any time. For more information, please contact the HR Department.

### **3-8. Workers' Compensation**

On-the-job injuries are covered by our Workers' Compensation Insurance Policy. Coverage is provided at no cost to you. If you are injured on the job, no matter how slightly, report the incident immediately to your supervisor. Failure to follow Company procedures may affect your ability to receive Workers' Compensation benefits.

Any leave of absence due to a workplace injury runs concurrently with all other Company leaves of absence. Reinstatement from leave is guaranteed only if required by law. Employees who need to miss work due to a workplace injury must also request a formal leave of absence. See the Leave of Absence sections of this handbook for more information.

### **3-9. Jury Duty Leave**

Medsphere realizes that it is the obligation of all U.S. citizens to serve on a jury when summoned to do so. All employees will be allowed time off to perform such civic service as required by law. You are expected, however, to provide the Company with proper notice of your request to perform jury duty and with your verification of service. You also are expected to keep management informed of the expected length of your jury duty service and to report to work for the major portion of the day if you are excused by the court. If the required absence presents a serious conflict for management, you may be asked to try to postpone your jury duty. Employees on jury duty leave will be paid for their jury duty service in accordance with state law; however, exempt employees will be paid their full salary for any week in which they perform any work for the Company.

### **3-10. Witness Leave**

An employee called to serve as an expert witness in a judicial proceeding on behalf of the State will be granted leave with pay. An employee who is summoned to appear in court as an expert witness, but not on behalf of the State may use available FTO and personal time to cover the period of absence.

Employees subpoenaed for witness duty must notify their supervisor as soon as possible.

### 3-11. Bereavement Leave

We know the death of a family member is a time when you wish to be with the rest of your family. If you are a regular full-time employee and you lose a close relative, you will be allowed paid time off of up to three (3) days to assist in attending to your obligations and commitments. For the purposes of this policy, a close relative includes a spouse, domestic partner, child, parent, sibling or any other relation recognized by applicable laws. **One (1) day leave is available in the event of the death of your grandparents, father-in-law, mother-in-law, son-in-law, or daughter-in-law.** Paid leave days only may be taken on regularly scheduled, consecutive workdays following the day of death. You must inform your supervisor prior to commencing bereavement leave.

### 3-12. Voting Leave

In the event an employee does not have sufficient time outside of working hours to vote in a statewide election, the employee may take off sufficient working time to vote. This time should be taken at the beginning or end of the regular work schedule, whichever allows the most free time for voting and the least time off from work. An employee will be allowed a maximum of two (2) hours of voting leave on Election Day without loss of pay. Where possible, the supervisor should be notified of the need for leave at least three (3) working days prior to the Election Day.

### 3-13. Short-Term Disability Leave

Medsphere also provides voluntary Short-Term Disability insurance (see benefits).

This is solely a monetary benefit and not a leave of absence provision. Employees who plan to be off work for an extended period of time must also request a formal leave of absence. See the Leave of Absence sections of this handbook for more information. Employees are encouraged to review their states offer of Short Term Disability benefits to determine their benefit options.

### 3-14. Long-Term Disability

Regular full-time employees are eligible to elect Long-Term Disability Insurance coverage, subject to all terms and conditions of the agreement between the Company and the insurance carrier.

This is solely a monetary benefit and not a leave of absence. Employees who will be off of work for an extended period of time must also request a formal leave of absence. See the Leave of Absence sections of this handbook for more information.

### **3-15. Paid Family Leave Benefits for California Employees Only**

An employee who is off work to care for a child, spouse, parent, or registered domestic partner with a serious health condition, or to bond with a new child, may be eligible to receive benefits through the California "Paid Family Leave" (PFL) program, which is administered by the Employment Development Department (EDD).

These benefits are financed solely through employee contributions to the PFL program. That program is solely responsible for determining if an employee is eligible for such benefits.

Generally there is a waiting period during which no PFL benefits are available. The EDD can provide additional information about any applicable waiting period.

If you need to take time off work to care for a child, spouse, parent, or registered domestic partner with a serious health condition or to bond with a new child please advise the Human Resources Department, and you will be given information about the EDD's PFL program and how to apply for benefits. Employees also may contact their local Employment Development Department Office for further information. You should maintain regular contact with the Human Resources Department during the time you are off work so we may monitor your return-to-work status. In addition, you should contact the Human Resources Department when you are ready to return to work so we may determine what positions, if any, are open to you.

When an employee applies for PFL benefits, the Human Resources Department will determine if the employee has any frozen PTO and personal days available. If the employee has accrued but unused time available, then the employee will be required to use up to two (2) weeks of such time before becoming eligible for PFL benefits.

Employees taking time off work to care for a child, spouse, parent, or domestic partner with a serious health condition or to bond with a new child are not guaranteed job reinstatement unless they qualify for such reinstatement under federal or state family and medical leave laws.

Any time off for Paid Family Leave purposes will run concurrently with other leaves of absence, such as Family and Medical Leave, if applicable. Please see the "Family and Medical Leave" policy in this Handbook for eligibility requirements.

## Section 4 - Leaves of Absence

### 4-1. Personal Leave

If you are ineligible for any other Company leave of absence, Medsphere, under certain circumstances, may grant you a personal leave of absence without pay. A written request for a personal leave should be presented to management at least 30 days before the anticipated start of the leave. Your request will be considered on the basis of staffing requirements and the reasons for the requested leave, as well as your performance and attendance records. Normally, a leave of absence will be granted for a period of up to four (4) weeks. However a personal leave may be extended if, prior to the end of your leave, you submit a written request for an extension to management and the request is granted. We will continue your health insurance coverage during your leave if you submit your share of the monthly premium payments to the Company in a timely manner, subject to the terms of the plan documents.

If you have a frozen PTO balance, you will be required to use this prior to beginning the unpaid portion of your leave. Once such accrued benefits are exhausted, the balance of your leave will be without pay, unless you are eligible for short-term disability benefits in accordance with applicable state law.

If the leave is unexpected, you should notify your supervisor and the Human Resources Department as far in advance of the anticipated leave date as reasonable. Normally, notification should be within two business days from the time the need for leave becomes necessary.

If the leave is requested for medical reasons and you are not eligible for FMLA and CFRA, medical certification also must be submitted for time off and it will follow the requirements of short term disability leave. You will be required to use any frozen PTO balance you have during your personal medical leave.

When you anticipate your return to work, please notify management of your expected return date. This notification should be made at least one week before the end of your leave.

Upon completion of your personal leave of absence, the Company will attempt to return you to your original job, or to a similar position, subject to prevailing business considerations.

Reinstatement, however, is not guaranteed.

Failure to advise management of your availability to return to work, failure to return to work when anticipated, or your continued absence from work beyond the time approved by the Company, will be considered a voluntary resignation of your employment.

Medical leave runs concurrently with any Company-provided Short-Term Disability Leave of Absence.

## 4-2. Military Leave

If you are called into active military service or you enlist in the uniformed services, you will be eligible to receive an unpaid military leave of absence. To be eligible for military leave, you must provide management with advance notice of your service obligations unless you are prevented from providing such notice by military necessity or it is otherwise impossible or unreasonable for you to provide such notice. Provided your absence does not exceed applicable statutory limitations, you will retain reemployment rights and accrue seniority and benefits in accordance with applicable federal and state laws. Please ask management for further information about your eligibility for Military Leave.

If you are required to attend yearly Reserves or National Guard duty, you can apply for an unpaid temporary military leave of absence not to exceed the number of days allowed by law (including travel). You should give management as much advance notice of your need for military leave as possible so that we can maintain proper coverage while you are away.

## 4-3. Time Off for Military Spouses

If an employee works, on average, at least 20 hours per week and his or her spouse is a qualified member of the United States Armed Forces, the National Guard or the Reserves, the employee is eligible to take leave for a period of up to 10 days while his or her spouse is home during a qualified leave period. When an employee is also eligible for military family member exigency leave, leave under this policy shall also count toward the employee's leave entitlement under the Family and Medical Leave Act (FMLA), where the time off meets the definition of FMLA military exigency leave.

### **Required Notice to Employer**

Within two business days of receiving official notice that the employee's spouse will be on leave, he/she must provide notice to the Company of his/her intent to take military spouse leave.

### **Required Documentation**

The employee must submit written documentation to the Company certifying that during his/her requested time off, the employee's spouse will be on leave from deployment during a period of military conflict.

### **Leave is Unpaid**

Leave granted under this policy is unpaid.

### **Definitions**

For the purposes of this policy, the following definitions apply:

**"Qualified Member"** means any of the following:

- (a) A member of the United States Armed Forces who is deployed during a period of military conflict to an area designated as a combat theater or combat zone by the President of the United States; or
- (b) A member of the National Guard who is deployed during a period of military conflict; or
- (c) A member of the Reserves who is deployed during a period of military conflict.

**"Period of Military Conflict"** means any of the following:

- (a) A period of war declared by the U.S. Congress; or
- (b) A period of deployment for which members of the Reserves are ordered to active duty.

**"Qualified Leave Period"** means the period during which the qualified member is on leave from deployment during a period of military conflict.

#### **4-4. Pregnancy Disability Leave for California Employees Only**

If you are disabled by pregnancy, childbirth or related medical conditions, you are eligible to take a pregnancy disability leave (PDL). If you are affected by pregnancy or a related medical condition, you are also eligible to transfer to a less strenuous or hazardous position or to less strenuous or hazardous duties, if such a transfer is medically advisable and can be reasonably accommodated. Employees disabled by qualifying conditions may also be entitled to other reasonable accommodation where doing so is medically necessary. In addition, if it is medically advisable for you to take intermittent leave or work a reduced schedule, the Company may require you to transfer temporarily to an alternative position with equivalent pay and benefits that can better accommodate recurring periods of leave.

The PDL is for any period(s) of actual disability caused by your pregnancy, childbirth or related medical condition up to four (4) months per pregnancy. For purposes of this policy, "four months" means time off for the number of days the employee would normally work within the four calendar months (one-third of a year, or 17.3 weeks or 122 days); following the commencement date of taking a pregnancy disability leave. For a full time employee who works five eight-hour days per week, or 40 hours per week, "four months" means 88 working and/or paid eight-hour days 693 hours of leave entitlement, based on an average of 22 working days per month for 17.3 weeks in four months times 40 hours per week. Employees working a part-time schedule will have their PDL calculated on a pro-rata basis.

The PDL does not need to be taken in one continuous period of time, but can be taken on an as needed basis.

Time off needed for prenatal or postnatal care, severe morning sickness, gestational diabetes, pregnancy-induced hypertension, preeclampsia, doctor-ordered bed rest, postpartum depression, loss or end of pregnancy, and recovery from childbirth or loss or end of pregnancy are all covered by your PDL.

To receive reasonable accommodation, obtain a transfer, or take a PDL, you must provide sufficient notice so the Company can make appropriate plans - 30 days' advance notice if the need for the reasonable accommodation, transfer or PDL is foreseeable, otherwise as soon as practicable if the need is an emergency or unforeseeable.

You are required to obtain a certification from your health care provider of your need for pregnancy disability leave or the medical advisability of an accommodation or for a transfer. The certification should include:

- 1) the date on which you became disabled due to pregnancy or the date of the medical advisability for a transfer;
- 2) the probable duration of the period(s) of disability or the period(s) for the advisability of a transfer; and
- 3) a statement that, due to the disability, you are either unable to work at all or to perform any one or more of the essential functions of your position without undue risk to yourself or to other persons; or a statement that, due to your pregnancy, a transfer to a less strenuous or hazardous position or duties is medically advisable.

Upon request, Human Resources shall provide you with a medical certification form that you can take to your doctor.

As a condition of your return from pregnancy disability leave or transfer, the Company requires you to obtain a release to return to work from your health care provider stating that you are able to resume your original job duties with or without reasonable accommodation.

At your option, you can use any accrued paid time off as part of your PDL before taking the remainder of your leave on an unpaid basis. We require, however, that you use any available sick time during your PDL. The substitution of any paid leave will not extend the duration of your PDL.

We encourage you to contact the California Employment Development Department regarding your eligibility for state disability insurance for the unpaid portion of your leave.

If you do not return to work on the originally scheduled return date nor request in advance an extension of the agreed upon leave with appropriate medical documentation, you may be deemed to have voluntarily terminated your employment with the Company. Failure to notify the Company of your ability to return to work when it occurs, or your continued absence from work because your leave must extend beyond the maximum time allowed, may be deemed a voluntary termination of your employment with the Company, unless you are entitled to Family and Medical Leave.

Upon your return from a covered PDL, you will be reinstated to your same position in most instances.

Taking a PDL may affect some of your benefits and your seniority date. If you want more information regarding your eligibility for PDL and the impact of the leave on your seniority and benefits, please contact Human Resources.

Any request for leave after your disability has ended will be treated as a request for family care leave under the California Family Rights Act (CFRA) and the federal Family and Medical Leave Act (FMLA), if you are eligible for that type of leave. PDL runs concurrently with FMLA (but not CFRA). Please refer to the FMLA policy.

#### **4-5. Rehabilitation Leave**

Medsphere is committed to providing assistance to our employees to overcome substance abuse problems. The Company will reasonably accommodate any employee who wishes to voluntarily enter and participate in an alcohol or drug rehabilitation program. This accommodation may include time off without pay or an adjusted work schedule, provided the accommodation does not impose an undue hardship on the Company. You may also use accumulated PTO days, if applicable, for this purpose.

You should notify Human Resources if you need such accommodation. The Company will take reasonable steps to safeguard your privacy with respect to the fact that you are enrolled in an alcohol or drug rehabilitation program.

#### **4-6. Literacy Assistance Leave for California Employees Only**

We are committed to providing assistance to employees who require time off to participate in an adult education program for literacy assistance. If you need time off to attend such a program, you should inform your direct supervisor or the Human Resources Department. The Company will attempt to make reasonable accommodations for you by providing unpaid time off or an adjusted work schedule, provided the accommodation does not impose an undue hardship on the Company. The Company will attempt to safeguard the privacy of your enrollment in an adult education program.

#### **4-7. Time Off For Victims of Domestic Violence, Sexual Assault, or Stalking**

Victims of domestic violence or sexual assault, or stalking may take time off work to obtain help from a court, seek medical attention, obtain services from an appropriate shelter, program, or crisis center, obtain psychological counseling, or participate in safety planning, such as permanent or temporary relocation. We may require proof of an employee's participation in these activities. Whenever possible, you must provide your supervisor reasonable notice before taking any time off under this policy. Contact HR to determine specific coverage for your state.

No employee will be subject to discrimination or retaliation because of his or her status as a victim of domestic violence, sexual assault or stalking. Victims of domestic violence, sexual assault or stalking may request other accommodations in the workplace such as implementation of safety measures.

#### **4-8. Time Off For School Related Activities for California Employees Only**

Parents, guardians, or grandparents with school children from kindergarten through Grade 12, or who attend licensed child day care facilities, are provided unpaid time off (up to a maximum of eight (8) hours in one (1) calendar month and forty (40) hours in one (1) calendar year) to participate in school or day care activities if they work at a location with twenty-five (25) or more employees. We may require proof of an employee's participation in these activities. You must provide reasonable advance notice to your Supervisor before taking any time off under this policy. Parents, guardians, or grandparents with custody of schoolchildren who have been suspended also are allowed to take unpaid time off to appear at the school pursuant to the school's request.

#### **4-9. Time Off for Volunteer Firefighters/Disaster Services for California Employees Only**

An employee who is a volunteer firefighter, reserve peace officers, volunteer "First Responder" emergency rescue personnel, or members of medical disaster response teams sponsored by the State of California are permitted unpaid time off, not to exceed fourteen (14) days per calendar year, for the purpose of engaging in fire or law enforcement training. If you request time off under the policy you must notify your direct supervisor immediately after the need for the leave becomes known.

#### **4-10. Civil Air Patrol Leave for California Employees Only**

An employee who has been employed 90 days or more is permitted to request up to 10 calendar days of unpaid leave per year to respond to an emergency operational mission of the California Wing of the Civil Air Patrol. Such leave is limited to three days for each emergency operational mission, unless the government entity that authorized the mission extends it and the Company approves the additional time off. Upon expiration of the leave, an employee will generally be reinstated to his or her position with equivalent seniority, benefits, pay and other terms and conditions of employment.

Employees requesting time off must notify their direct supervisor as soon as possible after learning the intended dates upon which such leave will begin and end. Approval of any leave request is conditioned upon certification from the proper Civil Air Patrol Authority of the employee's eligibility to take such leave. Failure to provide the required certification will result in denial of leave.

## **4-11. Bone Marrow Donation/Organ Donation Leave**

### **Bone Marrow Donation**

An employee who has been employed for at least 90 days may request a leave of absence for up to five business days in any one-year period to undergo a medical procedure to donate bone marrow. Employees must provide a certification from their physician regarding the purpose and length of each leave requested. An employee must use any frozen PTO, FTO time, or sick leave (if available through state mandate), but the use of FTO, frozen PTO or sick leave does not extend the term of this leave. If FTO, frozen PTO, or sick leave is not available, the time off for such procedure shall be paid, but the paid time off shall not exceed five days. Bone marrow donation leave will not be designated as FMLA or CFRA leave time. Employees will receive health benefits for the duration of their Bone Marrow Donation Leave and upon returning from such leave will have a right to return to the same or equivalent positions they held before such leave.

### **Organ Donation Leave**

An employee who has been employed for at least 90 days may request a leave of absence for up to 30 business days in any one-year period to undergo a medical procedure to donate an organ. Employees must provide a certification from their physician regarding the purpose and length of each leave requested. An employee must use up to two weeks of FTO, frozen PTO balance or, sick leave (per mandated state laws) but the use of vacation accrual, sick leave or paid time off does not extend the term of the leave. If FTO, frozen PTO balance or sick leave is not available, the time off for such procedure shall be paid however the paid time off shall not exceed 30 days.

Organ donation leave will not be designated as FMLA or CFRA leave time. Employees will receive health benefits for the duration of their organ donation leave and upon returning from such leave will have a right to return to the same or equivalent positions they held before such leave.

## **4-12. Employee Assistance Program**

Medsphere provides an employee assistance program for employees. EAP provides free, confidential help with a variety of personal issues you might be facing. The program offers qualified counselors to discuss your concerns. Further details can be obtained by contacting an EAP Counselor at (888)231-7015.

## **4-13. Employee Referral Awards**

The Company encourages all employees to refer qualified job applicants for available job openings. All employees, with the exception of Managers, Directors, Vice Presidents and Human Resources personnel, are eligible to receive employee referral awards. When making referrals instruct the applicant to provide the referring employees name in their email communication with the HR department. The referral award is \$1000, less applicable taxes, of which \$500 is payable at the time of hire and \$500 payable the first pay period after the employees completes six (6) months of employment. The referring employee must be an employee in order to receive the referral award. The award is issued for regular full time hires.

## Section 5 - General Standards of Conduct

### 5-1. Workplace Conduct

As an integral member of the Medsphere team, you are expected to accept certain responsibilities, adhere to acceptable business principles in matters of personal conduct, and exhibit a high degree of personal integrity at all times. This not only involves sincere respect for the rights and feelings of others, but also demands that both in your business and your personal life you refrain from behaviors that might be harmful to you, your coworkers and/or Medsphere, or that might be viewed unfavorably by current or potential customers or by the public at large.

Whether you are on or off duty, your conduct reflects on the Company. You are, consequently, encouraged to observe the highest standards of professionalism at all times. "Professional" is defined as exhibiting a courteous, conscientious, and generally businesslike manner, conforming to the technical and ethical standards of our industry.

Because everyone may not have the same idea about proper workplace conduct, it is helpful to adopt and enforce rules all can follow. Unacceptable conduct may subject the offender to disciplinary action, up to and including termination, at the Company's sole discretion. The following are examples of some, but not all, conduct which can be considered unacceptable:

1. Obtaining employment on the basis of false or misleading information.
2. Stealing, removing or defacing Medsphere property, co-worker's property, client's property and/or disclosure of confidential information.
3. Completing another employee's time records.
4. Violation of safety rules and policies.
5. Fighting, threatening or disrupting the work of others or other violations of Medsphere's Workplace Violence Policy.
6. Failure to follow lawful instructions of a supervisor.
7. Failure to perform assigned job duties, engaging in insubordination.
8. Establishing a pattern of excessive absenteeism or tardiness.
9. Gambling on Company property.
10. Willful or careless destruction or damage to Company assets or to the equipment or possessions of another employee or client.
11. Engaging in excessive, unnecessary, or unauthorized use of Medsphere's supplies, particularly for personal purposes.
12. Performing work of a personal nature during working time.
13. Violation of the Solicitation and Distribution Policy.
14. Violation of Medsphere's Harassment or Equal Employment Opportunity Policies.
15. Violation of the Communication and Computer Systems Policy.
16. Unsatisfactory job performance.

17. The unlawful or unauthorized use, abuse, solicitation, distribution, theft, possession, transfer, purchase, or sale of drugs, drug paraphernalia or alcohol by an individual anywhere on Company premises, while on Company business (whether or not on Company premises), or while representing the Company, reporting to work or remaining on duty after using drugs or alcohol in any amount that adversely affects the employee's ability to perform the functions of the job. Please refer to your Company's specific policy (if any) for additional information.

18. Any other violation of Company policy.

Obviously, not every type of misconduct can be listed. Note that all employees are employed at-will, and Medsphere reserves the right to impose whatever discipline it chooses, or none at all, in a particular instance. The Company will deal with each situation individually and nothing in this handbook should be construed as a promise of specific treatment in a given situation. However, Medsphere will endeavor to utilize progressive discipline but reserves the right in its sole discretion to terminate an employee at any time for any reason.

The observance of these rules will help to ensure that our workplace remains a safe and desirable place to work.

## **5-2. Punctuality and Attendance**

You were hired to perform an important function at Medsphere. As with any group effort, operating effectively takes cooperation and commitment from everyone. Therefore, your attendance and punctuality are very important. Unnecessary absences and lateness are expensive, disruptive and place an unfair burden on your co-workers. Excessive absenteeism or tardiness could result in disciplinary action up to and including discharge. Unreported absences of three consecutive work days generally will be considered a voluntary resignation of your employment with the Company. Employees must contact their supervisor as soon as they know they will be off work and keep them posted as to their anticipated return to work date.

## **5-3. Personal Appearance and Office Demeanor**

Discretion in style of dress and behavior is essential to the efficient operation of Medsphere. Employees are, therefore, required to dress in appropriate "business casual" attire and behave in a professional, businesslike manner. Please use good judgment in your choice of work clothes and remember to conduct yourself at all times in a way that best represents you and Medsphere.

Employees are required to keep their work environment clean and orderly. Before departing at the end of their workday, employees should log off the network without shutting down their computers, lock all files and cabinets and clear all work materials of a sensitive or confidential nature from desk surfaces.

Because of Medsphere's open environment, courtesy to your co-workers and cube neighbors is important. Please keep noise levels to a minimum, and respect the privacy of others. For further information, please see the Open Office Space Etiquette Policy.

Employees failing to adhere to proper Medsphere standards with respect to appearance and demeanor will be subject to disciplinary action.

#### 5-4. Open Office Space Etiquette Policy

Medsphere is configured in an open office environment. This has many advantages, including:

- Fostering “team” spirit amongst work groups
- Allow more interaction between groups
- Use the space more efficiently

Unfortunately, there can be drawbacks to cubical work area as well. It can be noisy, lack privacy or security for sensitive materials, or personal items. Please be polite to your coworkers and cube neighbors and remember the following:

**Permission:** Do not remove items of any kind from another employee's cubical or work area without that employee's prior permission. "Work area" includes conference rooms where employees may be working.

**Noise:** Keep the noise level to a minimum within your work area. This includes talking with members of your group, other employees or talking on the phone. Also, try to keep the ringer volume low or placed on vibrate for cell phone and beepers.

**Conversations:** Take all longer conversations to a conference room. They are the best places for privacy and confidentiality, and you will avoid disturbing your fellow workers.

**Sensitivity:** Be aware of the possible sensitivity level of the work being done by the other employee. Don't be offended if the person turns over paper, changes the document on the screen, or asks you to wait a moment while she/he clears the desk.

**Music:** Wear headphones if you choose to play music. If you cannot wear headphones, then keep the volume at level not heard outside your work area.

**Privacy:** Do not look through papers, drawers, shelves, etc. of another's work area, unless directly instructed to do so by the employee or an authorized staff member.

**Respect:** Respect all employees' property, whether personal property or the company property the employee is currently using.

## 5-5. Use of Communication and Computer Systems

Medsphere's communication and computer systems are intended for business purposes and may be used only during working time; however limited personal usage is permitted if it does not hinder performance of job duties or violate any other Company policy. This includes the voice mail, e-mail and Internet systems. Users have no legitimate expectation of privacy in regard to their use of the systems.

Medsphere may access the voice mail and e-mail systems and obtain the communications within the systems, including past voice mail and e-mail messages, without notice to users of the system, in the ordinary course of business when the Company deems it appropriate to do so. The reasons for which the Company may obtain such access include, but are not limited to: maintaining the system; preventing or investigating allegations of system abuse or misuse; assuring compliance with software copyright laws; complying with legal and regulatory requests for information; and ensuring that Company operations continue appropriately during an employee's absence.

Further, Medsphere may review Internet usage to ensure that such use with Company property, or communications sent via the Internet with Company property, are appropriate. The reasons for which the Company may review employees' use of the Internet with Company property include, but are not limited to: maintaining the system; preventing or investigating allegations of system abuse or misuse; assuring compliance with software copyright laws; complying with legal and regulatory requests for information; and ensuring that Company operations continue appropriately during an employee's absence.

The Company may store electronic communications for a period of time after the communication is created. From time to time, copies of communications may be deleted.

The Company's policies prohibiting harassment, in their entirety, apply to the use of Company's communication and computer systems. No one may use any communication or computer system in a manner that may be construed by others as harassing or offensive based on race, national origin, sex, sexual orientation, age, disability, religious beliefs or any other characteristic protected by federal, state or local law.

Since the Company's communication and computer systems are intended for business use, these systems may not be used to solicit for religious or political causes or outside organizations.

Further, since the Company's communication and computer systems are intended for business use, all employees, upon request, must inform management of any private access codes or passwords.

Unauthorized duplication of copyrighted computer software violates the law and is strictly prohibited.

No employee may access, or attempt to obtain access to, another employee's computer systems without appropriate authorization.

Comprehensive Medsphere IT Policy is attached in Appendix section.

Violators of this policy may be subject to disciplinary action, up to and including termination.

## 5-6. Use of Social Media

Medsphere respects the right of any employee to maintain a personal blog or web page or to participate in a social networking, Twitter or similar site, including but not limited to Facebook and LinkedIn. However, to protect Company interests and ensure employees focus on their job duties, employees must adhere to the following rules:

Employees may not post on a personal blog or web page or participate on a social networking, Twitter or similar site during working time or at any time with Company equipment or property.

All rules regarding confidential and proprietary business information apply in full to personal blogs, web pages, social networking, Twitter and similar sites. Any information that cannot be disclosed through a conversation, a note or an e-mail also cannot be disclosed in a personal blog, web page, social networking, Twitter or similar site.

Whether an employee is posting something on his or her own blog, web page, social networking, Twitter or similar site or on someone else's, if the employee mentions the Company and also expresses either a political opinion or an opinion regarding the Company's actions, the poster must include a disclaimer. The poster should specifically state that the opinion expressed is his/her personal opinion and not the Company's position. This is necessary to preserve the Company's good will in the marketplace.

Any conduct that is impermissible under the law if expressed in any other form or forum is impermissible if expressed through a blog, web page, social networking, Twitter or similar site. For example, posted material that is discriminatory, obscene, defamatory, libelous or threatening is forbidden. Company policies apply equally to employee social media usage. Employees should review their Employee Handbook for further guidance.

Medsphere encourages all employees to keep in mind the speed and manner in which information posted on a blog, web page, and/or social networking site is received and often misunderstood by readers. Employees must use their best judgment. Employees with any questions should review the guidelines above and/or consult with their manager or Human Resources. Failure to follow these guidelines may result in discipline, up to and including termination.

### **Portable Communication Device Use While Driving**

Employees who drive on Company business must abide by all state or local laws prohibiting or limiting PCD (cell phone or personal digital assistant) use while driving. Further, even if usage is permitted, employees may choose to refrain from using any PCD while driving. "Use" includes, but is not limited to, talking or listening to another person or sending an electronic or text message via the PCD.

Regardless of the circumstances, including slow or stopped traffic, if any use is permitted while driving, employees should proceed to a safe location off the road and safely stop the vehicle before placing or accepting a call. If acceptance of a call is absolutely necessary while the employee is driving, and permitted by law, the employee must use a hands-free option and advise the caller that he/she is unable to speak at that time and will return the call shortly.

Under no circumstances should employees feel that they need to place themselves at risk to fulfill business needs.

Since this policy does not require any employee to use a cell phone while driving, employees who are charged with traffic violations resulting from the use of their PCDs while driving will be solely responsible for all liabilities that result from such actions.

Texting and e-mailing while driving is prohibited in all circumstances.

### **5-7. Camera Phones/Recording Devices**

Due to the potential for issues such as invasion of privacy, sexual harassment, and loss of productivity, no employee may use a camera phone function on any phone on company property or while performing work for the Company unless requested to do so for Company business and it does not violate privacy or harassment policies.

The use of tape recorders, or other types of voice recording devices anywhere on Company property, including to record conversations or activities of other employees or management, or while performing work for the Company, is also strictly prohibited, unless the device was provided to you by the Company and is used solely for legitimate business purposes.

### **5-8. Inspections**

Medsphere reserves the right to require employees while on Company property, or on client property, to agree to the inspection of their persons, personal possessions and property, personal vehicles parked on Company or client property, and work areas. This includes vehicles, desks, cabinets, work stations, packages, handbags, briefcases and other personal possessions or places of concealment, as well as personal mail sent to the Company or to its clients. Employees are expected to cooperate in the conduct of any search or inspection.

### **5-9. Smoking**

Smoking is prohibited on Company premises. Employees are to adhere to state and city regulations regarding minimum distance from building when smoking.

## **5-10. Personal Visits and Telephone Calls**

Disruptions during working time can lead to errors and delays. Therefore, we ask that personal telephone calls be kept to a minimum.

For safety and security reasons, employees are to accompany visitor at all times

## **5-11. Solicitation and Distribution**

Solicitation by an employee of another employee to purchase non business related items is prohibited while either employee is on working time. "Working time" is the time an employee is engaged, or should be engaged, in performing his/her work tasks for Medsphere. Solicitation of any kind by non-employees on Company premises is prohibited at all times.

Distribution of advertising material, handbills, printed or written literature of any kind in working areas of Company is prohibited at all times. Distribution of literature by non-employees on Company premises is prohibited at all times.

## **5-12. Confidential Company Information**

During the course of work, an employee may become aware of confidential information about Medsphere's business, including but not limited to information regarding Company finances, pricing, products and new product development, software and computer programs, marketing strategies, suppliers, customers and potential customers. An employee also may become aware of similar confidential information belonging to the Company's clients. It is extremely important that all such information remain confidential, and particularly not be disclosed to our competitors. Any employee who improperly copies, removes (whether physically or electronically), uses or discloses confidential information to anyone outside of the Company may be subject to disciplinary action up to and including termination. Employees may be required to sign an agreement reiterating these obligations.

## **5-13. Conflict of Interest and Business Ethics**

It is Medsphere's policy that all employees avoid any conflict between their personal interests and those of the Company. The purpose of this policy is to ensure that the Company's honesty and integrity, and therefore its reputation, are not compromised. The fundamental principle guiding this policy is that no employee should have, or appear to have, personal interests or relationships that actually or potentially conflict with the best interests of the Company.

It is not possible to give an exhaustive list of situations that might involve violations of this policy. However, the situations that would constitute a conflict in most cases include but are not limited to:

1. Holding an interest in or accepting free or discounted goods from any organization that does, or is seeking to do, business with the Company, by any employee who is in a position to directly or indirectly influence either the Company's decision to do business, or the terms upon which business would be done with such organization.
2. Holding any interest in an organization that competes with the Company.
3. Being employed by (including as a consultant) or serving on the board of any organization which does, or is seeking to do, business with the Company or which competes with the Company.
4. Profiting personally, e.g., through commissions, loans, expense reimbursements or other payments, from any organization seeking to do business with the Company.

A conflict of interest would also exist when a member of an employee's immediate family is involved in situations such as those above.

This policy is not intended to prohibit the acceptance of modest courtesies, openly given and accepted as part of the usual business amenities, for example, occasional business-related meals or promotional items of nominal or minor value.

It is your responsibility to report any actual or potential conflict that may exist between you (and your immediate family) and the Company.

#### **5-14. Use of Facilities, Equipment and Property, Including Intellectual Property**

Equipment essential in accomplishing job duties is often expensive and may be difficult to replace. When using property, employees are expected to exercise care, perform required maintenance, and follow all operating instructions, safety standards and guidelines.

Please notify your supervisor if any equipment, machines, or tools appear to be damaged, defective, or in need of repair. Prompt reporting of loss, damages, defects, and the need for repairs could prevent deterioration of equipment and possible injury to employees or others. The supervisor can answer any questions about an employee's responsibility for maintenance and care of equipment used on the job.

Improper, careless, negligent, destructive, or unsafe use or operation of equipment can result in discipline, up to and including termination.

Further, the Company is not responsible for any damage to employees' personal belongings unless the employee's supervisor provided advance approval for the employee to bring the personal property to work.

Employees also are prohibited from any unauthorized use of the Company's intellectual property, such as audio and video tapes, print materials and software.

## 5-15. Health and Safety

The health and safety of employees and others on Company property are of critical concern to Medsphere. The Company intends to comply with all health and safety laws applicable to our business. To this end, we must rely upon employees to ensure that work areas are kept safe and free of hazardous conditions. Employees are required to be conscientious about workplace safety, including proper operating methods, and recognize dangerous conditions or hazards. Any unsafe conditions or potential hazards should be reported to management immediately, even if the problem appears to be corrected. Any suspicion of a concealed danger present on the Company's premises, or in a product, facility, piece of equipment, process or business practice for which the Company is responsible should be brought to the attention of management immediately.

Periodically, the Company may issue rules and guidelines governing workplace safety and health. The Company may also issue rules and guidelines regarding the handling and disposal of hazardous substances and waste. All employees should familiarize themselves with these rules and guidelines, as strict compliance will be expected.

Any workplace injury, accident, or illness must be reported to the employee's supervisor as soon as possible, regardless of the severity of the injury or accident.

## 5-16. Inclement Weather Policy

Medsphere has several facilities located across the country that house numerous employees. Medsphere understands that at times employees may face difficulty reporting to work or performing work from their home office due to inclement weather or natural disasters. Some examples may include but are not limited to earthquakes, storms, tornados, blizzards or severe temperatures.

### **Communication with Employees**

A safety administrator will be designated for each Medsphere office location. In addition to the safety administrator, the Human Resources Department will be a vital source of information for Company activities or closures during inclement weather or natural disasters.

Employees at a location impacted by inclement weather or an emergency situation will receive an e-mail communication before the start of work with instructions regarding the operational status of the location and whether to report to work or stay home.

On days when weather conditions worsen as the day progresses, Medsphere may decide to close or release non-essential personnel early. In such cases, a decision and an announcement will be made by the CEO, Human Resources or the safety administrator for the location.

## **Use of Sound Personal Judgment Regarding Reporting for Work**

Employees instructed to report to work should use discretion and sound judgment regarding their capability to transport themselves to work without severe consequences. Medsphere understands that each employee could be uniquely affected by inclement weather or natural disaster in their specific location. If an employee is unable to reach the worksite he or she should inform management immediately but no later than the start of the work day. Medsphere will review each work absence due to inclement weather or natural disaster on a case by case basis.

## **Working from Home**

Employees with the ability to work remotely in the event of inclement weather or natural disaster are expected to work as scheduled. Employees unable to perform work remotely should notify their manager immediately.

## **Pay Practices or Wages for Exempt Employees**

Exempt employees will receive their full salary due to absence from work for a partial day or partial week absence due to inclement weather or a natural disaster. Exempt employees unable to perform work for a full workweek due to inclement weather or a natural disaster may request FTO, pending the approval of their manager.

## **Pay Practices for Non-Exempt Employees**

Non-exempt employees will receive their hourly rate for time worked during a partial day absence. Non-exempt employees will receive no wages if no work is performed in the event of partial, full day or full week absence. For more information, contact your Human Resources Department.

## **5-17. Publicity/Statements to the Media**

All media inquiries regarding the position of the Company as to any issues must be referred to the CEO. Only the CEO is authorized to make or approve public statements on behalf of the Company. No employees, unless specifically designated by the CEO, are authorized to make those statements on behalf of Company. Any employee wishing to write and/or publish an article, paper, or other publication on behalf of the Company must first obtain approval from the CEO.

## 5-18. Business Expense Reimbursement

Employees will be reimbursed for reasonable approved expenses incurred in the course of business. These expenses must be approved by your supervisor, and may include air travel, hotels, motels, meals, cab fare, rental vehicles, or gas and car mileage for personal vehicles. All expenses incurred must be submitted through the Databasics system. Actual receipts, supporting the expenses, must be submitted to the Office Manager in Carlsbad. Employees are expected to exercise restraint and good judgment when incurring expenses. You should contact your supervisor in advance if you have any questions about whether an expense will be reimbursed.

Refer to the comprehensive Travel Policy for specific travel details

## 5-19. References

Medsphere will respond to reference requests through the Human Resources Department. The Company will provide general information concerning the employee such as date of hire, date of termination, and positions held. Please refer all requests for references to the Human Resources Dept.

**Only the Human Resources Department may provide references.**

## 5-20. Resigning your Position

Should you decide to leave the Company, we ask that you provide your supervisor with at least two (2) weeks advance notice of your departure. This advance notice will allow for a smooth transition of your job responsibilities. All Company property including, but not limited to, keys, access fobs, laptop computers, etc. must be returned at the time of separation. Employees also must return all of the Company's Confidential Information upon separation. To the extent permitted by law, employees will be required to repay the Company (through payroll deduction, if lawful) for any lost or damaged Company property.

As noted previously, all employees are employed at-will and nothing in this handbook changes that status.

## 5-21. Exit Interview

Employees who resign are requested to participate in an exit interview with Human Resources, if possible.

During the Exit Interview process, Human Resources will review reasons for leaving (if voluntary); discuss benefit continuation and how to handle stock option grants.

## 5-22. A Few Closing Words

This handbook is intended to give you a broad summary of things you should know about Medsphere. The information in this handbook is general in nature and, should questions arise, a member of management should be consulted for complete details. While we intend to continue the policies, practices, rules and benefits described in this handbook, Medsphere, in its sole discretion, may always amend, add to, delete from or modify the provisions of this handbook and/or change its interpretation of any provision set forth in this handbook at any time without prior notification. Please do not hesitate to speak to management if you have any questions about the Company or its personnel policies and practices.

## General Handbook Acknowledgment

This Employee Handbook is an important document intended to help you become acquainted with Medsphere. This document is intended to provide guidelines and general descriptions only; it is not the final word in all cases. Individual circumstances may call for individual attention.

Because the Company's operations may change, the contents of this Handbook may be changed at any time, with or without notice, in an individual case or generally, at the sole discretion of management.

Please read the following statements and sign below to indicate your receipt and acknowledgment of this Employee Handbook.

**I have received and read a copy of Medsphere's Employee Handbook. I understand that the policies, rules and benefits described in it are subject to change at the sole discretion of the Company at any time.**

**I further understand that my employment is terminable at will, either by myself or the Company, with or without cause or notice, regardless of the length of my employment or the granting of benefits of any kind.**

**I understand that no representative of Medsphere other than the CEO or the HR Director may alter "at will" status and any such modification must be IN AN INDIVIDUAL CASE OR GENERALLY in a signed writing.**

**I understand that my signature below indicates that I have read and understand the above statements and that I have received a copy of the Company's Employee Handbook.**

Employee's Printed Name: \_\_\_\_\_ Position: \_\_\_\_\_

Employee's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

The signed original copy of this acknowledgment should be given to management - it will be filed in your personnel file.

## Receipt of Sexual Harassment Policy

It is Medsphere's policy to prohibit harassment of any employee by any supervisor, employee, customer or vendor on the basis of sex or gender. The purpose of this policy is not to regulate personal morality within the Company. It is to ensure that at the Company all employees are free from sexual harassment. While it is not easy to define precisely what types of conduct could constitute sexual harassment, examples of prohibited behavior include unwelcome sexual advances, requests for sexual favors, obscene gestures, displaying sexually graphic magazines, calendars or posters, sending sexually explicit e-mails, text messages and other verbal or physical conduct of a sexual nature, such as uninvited touching of a sexual nature or sexually related comments. Depending upon the circumstances, improper conduct also can include sexual joking, vulgar or offensive conversation or jokes, commenting about an employee's physical appearance, conversation about your own or someone else's sex life, or teasing or other conduct directed toward a person because of his or her gender which is sufficiently severe or pervasive to create an unprofessional and hostile working environment.

If you feel that you have been subjected to conduct which violates this policy, you should immediately report the matter to the HR Director. If you are unable for any reason to contact this person, or if you have not received a satisfactory response within five (5) business days after reporting any incident of what you perceive to be harassment, please contact the CEO. If the person toward whom the complaint is directed is one of the individuals indicated above, you should contact any higher-level manager in your reporting hierarchy. Every report of perceived harassment will be fully investigated and corrective action will be taken where appropriate. Violation of this policy will result in disciplinary action, up to and including discharge. All complaints will be kept confidential to the extent possible, but confidentiality cannot be guaranteed. In addition, the Company will not allow any form of retaliation against individuals who report unwelcome conduct to management or who cooperate in the investigations of such reports in accordance with this policy. Employees who make complaints in bad faith may be subject to disciplinary action, up to and including discharge. All employees must cooperate with all investigations.

I have read and I understand Medsphere's Sexual Harassment Policy.

Employee's Printed Name: \_\_\_\_\_ Position: \_\_\_\_\_

Employee's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

The signed original copy of this receipt should be given to management - it will be filed in your personnel file.

## Receipt of Non-Harassment Policy

It is Medsphere's policy to prohibit intentional and unintentional harassment of any individual by another person on the basis of any protected classification including, but not limited to, race, color, national origin, disability, religion, marital status, veteran status, sexual orientation or age. The purpose of this policy is not to regulate our employees' personal morality, but to ensure that in the workplace, no one harasses another individual.

If you feel that you have been subjected to conduct which violates this policy, you should immediately report the matter to the HR Director. If you are unable for any reason to contact this person, or if you have not received a satisfactory response within five (5) business days after reporting any incident of what you perceive to be harassment, please contact the CEO. If the person toward whom the complaint is directed is one of the individuals indicated above, you should contact any higher-level manager in your reporting hierarchy. Every report of perceived harassment will be fully investigated and corrective action will be taken where appropriate. Violation of this policy will result in disciplinary action, up to and including discharge. All complaints will be kept confidential to the extent possible, but confidentiality cannot be guaranteed. In addition, the Company will not allow any form of retaliation against individuals who report unwelcome conduct to management or who cooperate in the investigations of such reports in accordance with this policy. Employees who make complaints in bad faith may be subject to disciplinary action, up to and including discharge. All employees must cooperate with all investigations.

Employee's Printed Name: \_\_\_\_\_ Position: \_\_\_\_\_

Employee's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

The signed original copy of this receipt should be given to management - it will be filed in your personnel file.

## IT Policy

Medisphere Systems Corporation 2011

### 1.0 Company-owned Equipment & Resources

- 1 The use of any software and business equipment, including, but not limited to, fax machines, copy machines, computers, phone system, and Internet services for private purposes is strictly prohibited. Employees using this equipment for personal purposes do so at their own risk. Further, employees are not permitted to use a code, access a file or retrieve any stored communication unless authorized to do so or unless they have received prior clearance from an authorized Medisphere representative. All passwords used by an employee to protect individual documents must be given to the employee's supervisor on request. In this way, if the employee is absent, the document is still retrievable.
- 2 Storage of non- business-related data on company equipment is forbidden without written authorization from the employee's manager and the approval of IT Operations in circumstances where a valid need to store such data on company equipment can be demonstrated.
- 3 Medisphere may provide cellular phones with email capabilities to employees with a valid business need (reasons including but not limited to frequent travel and on-call duties). All data contained on these devices is the property of Medisphere Systems and the company reserves the right to access and review the contents of any mobile device for any purpose.

### 2.0 Employee-owned Equipment

- 1 Employees must obtain authorization from IT Operations before connecting any personally- owned device (including smart phones, computers, or other electronic devices) to Medisphere's network or electronic mail systems (excluding Medisphere's web-based email service which may be accessed from non-company-owned computers without prior approval).
- 2 Before purchasing a personally-owned device with the intent to connect it to Medisphere's network or electronic mail systems, the employee should consult with IT Operations to ensure the device meets current security criteria.
- 3 Any employee-owned device that does not meet Medisphere's network security criteria (as determined by IT Operations) shall not be connected to the company's network or systems.
- 4 Upon termination, Medisphere will remotely wipe clean any employee-owned smart phone that has been connected to the company's electronic mail system or network through any advanced synchronization agreement (ActiveSync, BlackBerry Enterprise Server).
- 5 IT Operations will not support and cannot guarantee functionality of employee- owned equipment (including but not limited to computers, phones, printers, and home networking equipment). An attempt may be made to help an employee resolve an issue related to employee-owned equipment as a good faith effort (determining where the problem may lie, basic troubleshooting to eliminate software/equipment, etc.).

### **3.0 Software Policy**

- 1 Software shall not be installed by any employee other than IT Operations staff unless the software in question is of a business-critical nature and IT Operations cannot be contacted in a timely manner to install or approve the installation of the software. IT Operations must be notified retrospectively of installations required by business-critical time constraints that occurred without pre-approval.
- 2 Software that is not required for business use shall not be installed on any company equipment without written approval from the employee's manager and approval from IT Operations. Discovery of unauthorized software by IT Operations may result in revocation of employee's administrative access to the system containing the unauthorized software and/or removal of the unauthorized software without notification to the employee.
- 3 Employees are not permitted under any circumstances to remove, disable, or otherwise impede the function of any monitoring, remote management, or security software (including but not limited to the Altiris client and Symantec Endpoint Protection suite) unless under the direction and with the authorization of IT Operations. Employees found to be violating this policy are subject to disciplinary action, up to and including termination.

### **4.0 Smart Phones**

- 1 Medsphere provides electronic mail-capable phones to those employees who can demonstrate a valid business need.
- 2 Approval Process:
  - 2.1 To obtain approval for such a device a request shall be submitted by the employee to their manager outlining their need for such a device.
  - 2.2 Once approved by the manager, the request shall be submitted to a representative of Medsphere's Finance Department for approval.
  - 2.3 Finance will submit the request to IT Operations to ensure the device will be compatible with Medsphere's network and electronic mail systems and to ensure compliance of the device with Medsphere's security standards.
  - 2.4 IT Operations will notify the appropriate parties to procure the device.
- 3 Before purchasing a personal smart phone with the intent to connect it to Medsphere's network or electronic mail systems, refer to section 2 of this policy.
- 4 Medsphere will reimburse employees a reasonable amount of their smart phone cost or monthly bill if an employee demonstrates a business use for their smart phone approved by management.

## 5.0 Email

- 1 Medsphere maintains an electronic mail system. This system is provided by the company to assist in the conduct of business within the company and communicate with clients and vendors outside the company. The electronic mail system hardware is Medsphere property. Additionally, all messages composed, sent, or received on the email system are and remain the property of Medsphere. The use of the email system is reserved solely for the conduct of business at Medsphere. It may not be used for personal business.
- 2 The email system may not be used to solicit or proselytize for commercial ventures, religious or political causes, outside organizations, or other non-job-related solicitations.
- 3 The email system is not to be used to create any offensive or disruptive messages. Among those which are considered offensive, are any messages which contain sexual implications, racial slurs, gender-specific comments, or any other comment that offensively addresses someone's age, sexual orientation, religious or political beliefs, national origin, or disability.
- 4 The email systems shall not be used to send or receive copyrighted materials, trade secrets, proprietary financial information, or similar materials without prior authorization.
- 5 The company reserves the right to review, audit, intercept, access and disclose all messages created, received or sent over the electronic mail system for any purpose. The contents of electronic mail properly obtained for legitimate business purposes, may be disclosed within the company without the permission of the employee.
- 6 The confidentiality of any message should not be assumed. Even when a message is erased, it is still possible to retrieve and read that message. Further, the use of passwords for security does not guarantee confidentiality. All passwords must be disclosed to the company upon request by the employee's manager and with the approval of an authorized Human Resources representative.
- 7 Notwithstanding Medsphere's right to retrieve and read any email messages, such messages should be treated as confidential by other employees and accessed only by the intended recipient. Employees are not authorized to retrieve or read any email messages that are not sent to them. Any exception to this policy must receive prior approval from Medsphere's COO and an authorized Human Resources representative.
- 8 Employees shall not use a code, access a file, or retrieve any stored information, unless authorized to do so. Employees should not attempt to gain access to another employee's messages without the latter's permission.
- 9 Anyone discovering a violation of this policy should instantly report it to IT Operations management and Human Resources.
- 10 Any employee who violates this policy or uses the electronic mail system for improper purposes shall be subject to disciplinary action, up to and including termination.

## 6.0 Internet

- 1 Medsphere provides its employees high speed internet access for the job-related purposes only. When you download files, please make sure you are downloading from a trusted source. If it is necessary to download a file from an unknown source, you must download to your individual hard drive and run a virus scan on the file before saving the file to a shared directory or drive. Files over fifty megabytes should be downloaded outside of core business hours whenever possible, to avoid performance delays to others using the internet

- 2 Use of the high speed network connection or Medsphere related software, accounts, etc., for private purposes is strictly prohibited. Employees do so at their own risk.
- 3 Furthermore, Medsphere will not tolerate the use of the Internet for viewing or downloading inappropriate material, including, but not limited to, sexual, racist, or hate-based material. Any employee found using the Medsphere's high speed connection, whether on Medsphere premises or not, for such purposes will be subject to disciplinary action, up to and including termination.
- 4 The company reserves the right to monitor, intercept, and disclose any network traffic for any purpose. The contents of intercepted network traffic properly obtained for legitimate business purposes may be disclosed within the company without the permission of the employee.
- 5 Employees are requested to advise the Systems Administrator or Human Resources of any observed violations of this policy.

## **7.0 System Requests**

- 1 All new system requests (new servers, VMs, re-installation of operating systems, replacement computers, setup of new network tunnels, etc.) require that no less than two weeks' notice be provided to IT Operations. Requests shall include all necessary information to be considered valid.
- 2 In emergencies (system crashes, hardware failures, etc.) replacement systems will be deployed in accordance with the IT Operations Service Level Agreement.
- 3 Naming Conventions

3.1 All systems will be named according to IT Operations naming conventions. An alias may be requested to simplify access.

## **8.0 Backups**

- 1 To request that a particular server, application, or other data is added to the backup rotation, contact IT Operations.
- 2 Until a centralized user data backup system is created (in process), employees are responsible for the backup of data on their Medsphere-issued computers (servers are backed up using a separate system).
- 3 Each employee is provided a personal file share on Medsphere's SAN on their hire date (automatically mapped as drive "P:" for Windows users; accessed by mapping \\filer\username\$ for Linux users).
- 4 All important documents and/or data should be copied to this share on a regular basis for safekeeping.

## **9.0 Employee/User Accounts**

- 1 New Employee Setup Requests
- 2 All new employee requests must be submitted to IT Operations no less than two weeks before the employee's start date (as specified on the signed offer letter).
- 3 It is a common occurrence that some hires are made where the entire hiring process may occur in under two weeks. In these cases, IT Operations should be notified immediately upon receiving a verbal acknowledgement that a prospect has accepted the offer. IT Operations cannot guarantee that equipment will be available upon the employee's start date but will make a best effort to have all equipment and accounts prepared on the employee's start date.

- 4 All new employee requests shall be submitted using the appropriate forms which may be obtained from Human Resources.

### **9.1 Account Requests (existing employees)**

- 1 At least one week notice shall be given to IT Operations for all new account requests (including system accounts for existing employees, service accounts, accounts on standalone servers, etc.).
- 2 Account requests shall be made on a per-user basis. "Group" requests are not valid due to the ever-changing memberships within groups and the resulting challenges presented when performing security audits.

### **9.2 Administrative Access**

- 1 The requestor is required to demonstrate a valid reason (or reasons) why administrative access is required on a per-user basis, subject to approval by IT Operations.
- 2 The level of administrative access issued is subject to discretion of IT Operations. Access to particular commands may be issued in lieu of full pseudo access on Linux systems; membership to groups that allow a particular subset of administrative rights may be issued rather than full administrative access on Windows systems.
- 3 Any abuse of administrative rights (using administrative rights for any purpose other than those specified in the request(s) for administrative rights) will result in immediate revocation of administrative rights.

### **9.3 Security**

- 1 Due to the nature of the work at Medsphere, security and data integrity are of the utmost importance. Many employees interact with data and systems containing protected health information or other confidential and secure data. In a networked environment where one computer on the network can access other computers, every employee is potentially impacted by security concerns.
- 2 Passwords

2.1 Compromised passwords are a serious threat to data security. No employee should share passwords except in specific cases when requested appropriately. Two components of passwords are addressed by Medsphere policy:

2.2 Duration of use: Medsphere specifies network passwords must be changed every 45 days without exception, thus any compromised passwords will be automatically changed.

2.3 Strength: Strong passwords make automated attacks against user accounts more difficult to exploit. Thus, Medsphere specifies that network passwords must contain a specific mixture of letters, numbers and symbols, outlined in the following criteria:

2.4 At least 8 characters in length (longer is better as long as the password can be committed to memory. Passwords should never be written down)

- At least one uppercase alpha
- At least one lowercase alpha
- At least one number
- At least one special character (!, @, #, \$, %, ^, etc.)

## **10.0 Termination of Employment**

- 1 Upon termination of employment with Medsphere, all access to Medsphere’s systems, network, hardware, and other IT-related resources will be discontinued at the time that the termination becomes effective.
- 2 All company-owned hardware must be surrendered to the employee’s direct supervisor, Human Resources, or IT Operations immediately upon termination.
- 3 All systems recovered from terminated employees will be backed up and inventoried by IT Operations. Access to these systems will not be provided to others until a backup has been made. To request access to a system recovered from a terminated employee contact IT Operations.
- 4 If an employee receives an exception to purchase their hardware upon termination, the device will be wiped and the software restored to the state in which it was purchased (may or may not include operating system or other software). Every effort will be made to retain any personal information contained upon the device but integrity/safety of personal data cannot be guaranteed.
- 5 Exceptions made to any portion of the “Termination of Employment” section of the IT Policy must be approved by at least two Medsphere executive officers. IT Operations must be notified prior to the termination in writing outlining the details of the exception(s).

## **11.0 IT Operations Response Times**

- 1 IT Operations will use the following guidelines in prioritizing requests and will strive to begin working on the problem within the target timeframe. Actual response times may be shorter or longer depending on the volume of requests at any one time.
- 2 Business hours are defined as Monday-Friday, 7:30am - 4:30pm Pacific
- 3 Off hours are defined as Monday-Friday, 4:30pm - 7:30am; weekends; company holidays

<b>Priority</b>	<b>Criteria</b>	<b>Business Hours Target Response*</b>	<b>Off-Hours &amp; Holidays</b>
1	Affects all employees / system-wide outage; or is mission critical and there is no workaround available.  Examples: E-mail services are not functional; network is unavailable; etc.	Will call or page technicians for immediate response.	Will call or page technicians for immediate response.
2	Affects one to five individuals, no workaround available.  Examples: Laptop does not power on; cannot print a document; etc.	4 hours	Next business day
3	Affects fewer than five people, workarounds available.  Examples: Email client issue, but Webmail accessible; computer cannot access Wi-Fi, but can use the wired network.	4 hours	Next business day
4	No effect on productivity, or because of unsupported software.  Examples: Minor issues with laptop, video or sound quality, etc. unauthorized or unsupported software issues.	8 hours	Next business day

4 During Business hours, at least one IT team member will be available at Medsphere corporate should an emergency arise. In the case of a priority one issue during off hours or a holiday, please call Rob Kilian on his mobile number listed in the company directory unless other on-call information has been published at that time.

\* Target Response is defined as the time between receipt of the call and the time than work begins on the problem. Due to the wide diversity of problems that can occur, and the methods needed to resolve them, response time IS NOT defined as the time between the receipt of a call and problem resolution.

## IT Policy Acknowledgement Form

As an employee of Medsphere Systems Corporation, I recognize and understand that Medsphere's email systems and computer systems are to be used for conducting Medsphere's business only. I understand that the use of this equipment for private purposes is strictly prohibited. Further, I agree that all passwords must be disclosed to the company upon request by my manager and with the approval of an authorized Human Resources representative. I agree not to access a file or retrieve any stored communication other than where authorized unless there has been prior clearance by an authorized company representative.

I am aware that Medsphere reserves and will exercise the right to review, audit, intercept, access and disclose all matters on Medsphere's email systems and computer systems at any time, with or without employee notice, and that such access may occur during or after working hours. I am aware that use of a company- provided password or code does not restrict Medsphere's right to access electronic communications. I am aware that violations of this policy may subject me to disciplinary action, up to and including discharge from employment.

I authorize that I have read and that I understand the company's policy regarding email and use of equipment located in the Medsphere IT Policy. I acknowledge that I have read and that I understand this notice.

Employee's Printed Name: \_\_\_\_\_ Position: \_\_\_\_\_

Employee's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

The signed original copy of this receipt should be given to management - it will be filed in your personnel file.

**Attachment 6 Medsphere 2015 Edition Summative Study**  
**(EHR Usability Test Report of OpenVista CareVue)**



**EHR Usability Test Report of OpenVista CareVue**  
Product Version: 2

*Report based on NISTIR 7742 Common Industry Format for Usability Test Reports*

Date of Usability Test: August 3 to August 8, 2017  
Date of Report: August 10, 2017

Report Prepared By:



The Usability People, LLC  
4000 Legato Road, Suite 1100  
Fairfax, VA 22033

[www.TheUsabilityPeople.com](http://www.TheUsabilityPeople.com)

## TABLE OF CONTENTS

Executive Summary.....	3
Introduction.....	4
Method.....	5
Participants.....	5
Study Design.....	9
Tasks.....	10
Test Location.....	11
Test Environment.....	12
Test Forms and Tools.....	13
Participant Instructions.....	14
Procedure.....	15
Usability Metrics.....	17
Data Scoring.....	18
Results.....	20
Data Analysis and Reporting.....	20
Reliability.....	20
Effectiveness and Efficiency.....	20
Satisfaction.....	21
Specific Task Result Details (Including criteria evaluated).....	26
Discussion of Findings.....	38
Effectiveness.....	38
Efficiency.....	38
Satisfaction.....	39
Summary of Major Findings.....	39
Risk Analysis.....	39
Areas for Improvement.....	41
Appendices.....	42
Appendix A: Recruiting Screener.....	42
Appendix B: Informed Consent Form.....	43
Appendix C: Participant Guide.....	44
Appendix D: System Usability Scale Questionnaire.....	50
Appendix E: Computer System Usability Questionnaire.....	51
Appendix F. References.....	53

## Executive Summary

On August 3rd through August 8, 2017, The Usability People, LLC conducted a summative usability test of the Medsphere OpenVista CareView system. The test was conducted in the Fairfax, VA office of The Usability People over remote tele-conferencing sessions using *GotoMeeting*. The purpose was to test and validate the usability of the current user interface and provide evidence of usability of OpenVista CareView v2 as the EHR Under Test (EHRUT). Ten (10) healthcare providers matching the target demographic criteria participated in the usability test using the EHRUT in simulated, but representative tasks. The study focused on measuring the effectiveness of, efficiency of, and satisfaction with OpenVista CareView among a sample of participants representing potential users of the system. Performance data was collected on twelve (12) tasks typically conducted on an EHR. Tasks created were based upon the criteria specified within the test procedure structure for evaluating conformance of Electronic Health Record (EHR) technology to the certification criteria defined in certification criteria identified in 45 CFR Part 170 Subpart C of the Health Information Technology: 2015 Edition Health Information Technology (Health IT) Certification Criteria<sup>1</sup>.

Results of the study indicated that the OpenVista CareView system was quite satisfactory with regards to effectiveness and efficiency and that the participants were satisfied with the system.

---

<sup>1</sup> [2015 Edition Health Information Technology \(Health IT\) Certification Criteria](#), 2015 Edition Base Electronic Health Record (EHR) Definition, and ONC Health IT Certification Program Modifications

## **Introduction**

The Electronic Health Record System Under Test (EHRUT) tested for this study, OpenVista CareView v2, was specifically designed to present medical information to healthcare providers on desktop computers in standard healthcare settings. This study tested and validated the usability of the OpenVista CareView v2 user interface and provides evidence of the usability of OpenVista CareView with representative exercises and in realistic user conditions. To this end, measures of effectiveness and efficiency, such as time on task, number of errors made, and completion rates were captured during usability testing. Satisfaction was assessed and user comments collected using two industry-standard questionnaires: the System Usability Scale (SUS) and the Computer System Usability Questionnaire (CSUQ).

## Method

### Participants

Ten (10) individuals (4 men and 6 women) participated in the EHRUT (OpenVista CareView V2). The recruiting process for participants first identified known OpenVista CareView users of various geographic areas and demographics, targeting a cross-section of the population based on diversification of job role and length of experience with OpenVista CareView. Those who responded to the invitation to take part in the study were directed to an online questionnaire that served as the participant screener. (The screening questionnaire is provided as Appendix A.) Participants meeting the criteria for participation in the study were contacted and scheduled via email, or telephone and confirmed for their testing session.

Participants in the usability test of OpenVista CareView had a variety of healthcare backgrounds and demographic characteristics.

Table 1 presents participant characteristics, including demographics, professional experience, computing experience, and previous EHR experience. Participant characteristics reflect the audience of current and future users and meet the criteria designated in the 2015 Edition Certification Companion Guide for Safety-enhanced design - 45 CFR 170.315(g)(3). None of the participants were from the vendor organization (MedSphere) that produced and supplied the evaluated system nor did any participant have any direct connection to the testing organization (*The Usability People, LLC*). All participants were compensated for their time.

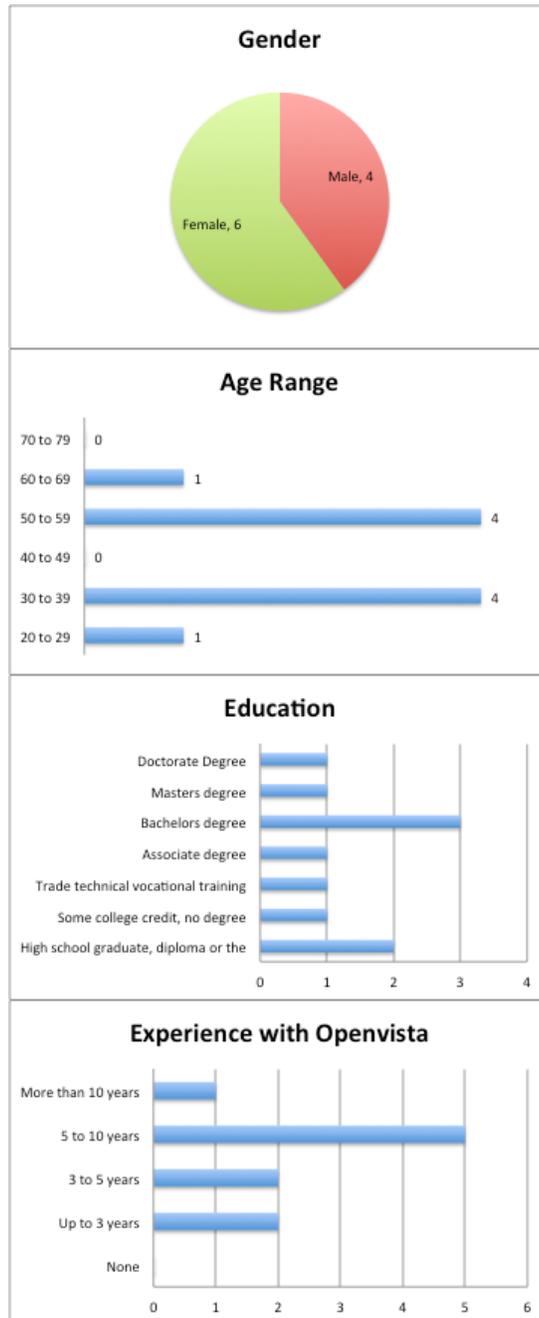
**Table 1. Participant Characteristics**

Part ID	Gender	Age	Education	Role/Title	Professional Experience (yrs.)	EHR Experience (yrs.)	Experience with OpenVista (yrs.)	Assistive Tech Needs
P01	Female	30 to 39	Associate degree	RN-Clinical Analyst	7	5	4	None
P02	Male	20 to 29	Bachelor's degree	IT Manager	6	7	3	None
P03	Male	30 to 39	Doctorate degree (e.g., MD, DNP, DMD, PhD)	Clinical Pharmacy Manager	13	6	6	None
P04	Female	30 to 39	High school graduate, diploma or the equivalent	Clinical Application Specialist	16	9	9	None
P05	Female	50 to 59	Bachelor's degree	Radiology Manager	30	17	6	None
P06	Male	50 to 59	High school graduate, diploma or the equivalent	Clinical Applications Specialist (CAS)	10	10	10	None
P07	Male	50 to 59	Master's degree	Clinical Informaticist	29	20	1	None
P08	Female	50 to 59	Some college credit, no degree	Health Information Manager	0	7	7	None
P09	Female	30 to 39	Bachelor's degree	Clinical Informatics, RN	5	5	2y	None
P10	Female	60 to 69	Trade technical vocational training	LVN	40	11	11y	None

## Summary of Participant Characteristics:

Participants had experience with the occupation and expertise that aligns with the capability under testing. The cohort of users who are selected as participants was varied with the product and its intended users. Their characteristics reflected the audience of current and future users.

<b>Gender</b>	
Male	4
Female	6
<b>Age Range</b>	
20 to 29	1
30 to 39	4
40 to 49	0
50 to 59	4
60 to 69	1
70 to 79	0
<b>Education</b>	
High school graduate, diploma or the equivalent	2
Some college credit, no degree	1
Trade technical vocational training	1
Associate degree	1
Bachelors degree	3
Masters degree	1
Doctorate Degree	1
<b>Years of Experience with OpenVista</b>	
None	0
Up to 3 years	2
3 to 5 years	2
5 to 10 years	5
More than 10 years	1





## Study Design

The overall objective of this usability test was to uncover areas where the OpenVista CareView system performed well – that is, effectively, efficiently, and with satisfaction – and areas where the system failed to serve the clinical documentation and workflow needs of users. Data from this test may be used as a baseline for future tests of updated versions of OpenVista CareView and/or for comparing OpenVista CareView with other EHRs presenting the same tasks. In short, this testing serves as both a means to record or benchmark current usability and to identify areas where improvements must be made.

Participants had a range of experience with EHRs in general, and also had direct experience and/or training with the OpenVista CareView system. Participants completed the test of OpenVista CareView usability during individual 60-90-minute *GotoMeeting* sessions. During the test, each participant interacted with various components of the OpenVista CareView system. Each participant was provided with the same instructions.

OpenVista CareView was evaluated for effectiveness, efficiency and satisfaction as defined by the following measures collected and analyzed for each participant:

- Number of tasks successfully completed without assistance
- Time to complete the tasks
- Number and description of errors
- Path deviations
- Participant's verbalizations (comments)
- Participant's satisfaction ratings of the *system*

## Tasks

Medsphere Inc. constructed a total of twelve (12) tasks to be realistic and representative of the clinical documentation and workflow activities a user might engage with the OpenVista CareView system in actual medical settings. The twelve (12) tasks were created based upon the criteria specified within the test procedure structure for evaluating conformance of Electronic Health Record (EHR) technology to the certification criteria as defined in 45 CFR Part 170 Subpart C of the Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology.

The tasks focused on the twelve 2015 Edition certification criteria specified by ONC:

- Section 170.315(a)(1) Computerized provider order entry – medications
- Section 170.315(a)(2) Computerized provider order entry – laboratory
- Section 170.315(a)(3) Computerized provider order entry – diagnostic imaging
- Section 170.315(a)(4) Drug-drug, drug-allergy interaction checks
- Section 170.315(a)(5) Demographics
- Section 170.315(a)(6) Problem list
- Section 170.315(a)(7) Medication list
- Section 170.315(a)(8) Medication allergy list
- Section 170.315(a)(9) Clinical decision support
- Section 170.315(a)(14) Implantable device list
- Section 170.315(b)(2) Clinical information reconciliation and incorporation
- Section 170.315(b)(3) Electronic prescribing

A copy of the tasks presented to participants in the usability test of OpenVista CareView can be found in Appendix C.

## Test Location

All participants were tested on the OpenVista CareView system during remote conferencing sessions using *GotoMeeting*. Each participant was requested in advance to secure a quiet room with minimal distractions and a desktop or laptop computer that could connect to the Internet with a *GotoMeeting* session. Although the type of computer, operating system and display resolution of the remote participant system was unknown, the system that was used by the test administrator and controlled by the remote participant was a Dell Inspiron Laptop running the Windows 10 operating system at a resolution of 1366x768 pixels. During a given *GotoMeeting* session, only the test administrator and participant communicated with one another.

The *GotoMeeting* usability test session was conducted by a test administrator from the testing organization (*The Usability People, LLC*) working from a small conference room at The Usability People's Fairfax, VA location. A data logger from the EHRUT organization also took detailed notes on each session, including user comments and other ratings following each task. During a session both the test administrator and the data logger(s) could see only the participant's screen and hear the participant's comments, questions, and responses.

## Test Environment

While the EHRUT typically would be used in a hospital, healthcare office, or ambulatory center facility, testing of the OpenVista CareView system was conducted via remote connection during individual *GotoMeeting* sessions. Each participant called into a *GotoMeeting* session and was connected by the test administrator to the application.

The OpenVista CareView application itself ran on a Windows Client platform on a LAN connection using a sample database that was set up specifically for the test. Participants used a mouse and keyboard when interacting with the EHRUT and were given remote control of the administrator's workstation to perform the tasks.

### **Test Forms and Tools**

As part of the usability test, several documents and instruments were used. Examples of the documents used during the usability test, including an informed consent form, the tasks, and post-test questionnaires, can be found in Appendices B to E, respectively.

Participants' interaction with OpenVista CareView was captured and recorded digitally using the *Morae* screen capture software running on the test administrator's workstation. Verbal responses were recorded through either the microphone integrated into the participant's computer or through a telephone connection. This information was electronically transmitted to the administrator and to the data logger during each test session.

## Participant Instructions

The administrator read the following instructions aloud to each participant:

*Thank you for participating in this study. Your input is very important. Our session today will last about 60 to 90 minutes. During that time you will use an instance of an electronic health record. I will ask you to complete a few tasks using this system and answer some questions.*

*Please note that we are not testing you; we are testing the system. Therefore if you have any difficulty this may mean that something needs to be improved in the system. I will be here in case you need specific help, but I am not able to instruct you or provide help in how to use the application.*

*Overall, we are interested in how easy (or how difficult) this system is to use, what in it would be useful to you, and how we could improve it. I did not have any involvement in its creation, so please be honest with your opinions.*

*All of the information that you provide will be kept confidential and your name will not be associated with your comments at any time. Should you feel it necessary you are able to withdraw at any time during the testing.*

Participants were then given twelve (12) tasks to complete.

## Procedure

Upon connection to the online meeting tool (*GotoMeeting*), each participant was greeted, his or her identity verified, and matched to a name on the participant schedule. Participant names were replaced with participant IDs so that a given individual's data cannot be linked to his/her identity. Prior to beginning testing, each participant reviewed and signed an informed consent form (See Appendix B).

Staff members of the *Usability People*, a usability test administrator administered the test. The administrator moderated the session by providing both verbal and written instructions for the overall usability test and for each of the tasks comprising the test. The administrator also monitored task success, path deviations, number and description of errors, and audio-recorded participant verbal comments. A data logger logged task times, obtained post-task rating data, and took notes on participant comments and administrator feedback.

For each of the twelve (12) tasks, participants were provided written instructions on screen and were able to flip back and forth between the EHRUT and the written instructions. Following the administrator's instructions, each participant performed each task by first reading the task then stating in his or her own words his or her interpretation of the task requirements. When the participant's interpretation matched the actual goal of the task, the administrator instructed the participant to begin and task timing began. Task time was stopped and recorded when the test administrator observed on their workstation that the participant had successfully completed the task. If a participant failed to complete a task before the expected amount of time for each task, that task was marked as "Timed Out." After each task, the test administrator asked the participant, "On a scale from 1 to 5, where 1 is 'Very Difficult and 5 is 'Very Easy,' how satisfied were you with the ease of use for this task?" This same procedure was conducted for each of the twelve (12) tasks.

Following completion of the twelve (12) EHR tasks, the administrator electronically presented to the participant two post-test questionnaires (System Usability Scale (SUS), see Appendix D and Computer System Usability Questionnaire (CSUQ), see Appendix E). After the participant completed both questionnaires, the administrator thanked each participant for his or her time and allowed the participant to make any comments on or ask any questions about the system and/or the tasks presented. For each session, the participant's schedule, demographic information, task success rate, time on task, errors, deviations, verbal responses, and post-test questionnaire were digitally recorded. The system was then reset to proper test conditions for the next participant.

## Usability Metrics

According to the *NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records* (NIST IR 7741, November, 2010) EHRs should support a process that provides a high level of usability for all users. The goal is for users to interact with the system effectively, efficiently, and with an acceptable level of satisfaction. To this end, metrics for effectiveness, efficiency and user satisfaction were captured during the usability testing. The goals of the test were to assess:

- Effectiveness of OpenVista CareView by measuring participant success rates and errors.
- Efficiency of OpenVista CareView by measuring the average task time and path deviations.
- Satisfaction with OpenVista CareView by measuring ease-of-use ratings.

Table 2 details how tasks were scored, errors evaluated, and the time data analyzed:

## Data Scoring

**Table 2. Scoring Protocols for Effectiveness, Efficiency, and Satisfaction**

Measures	Rationale and Scoring
Effectiveness:	
<b>Task Success</b>	<p>A task was counted as “Success” if the participant was able to achieve the correct outcome, without assistance, within the time allotted on a per task basis.</p> <p>The total number of Successes was calculated for each task and then divided by the total number of times that task was attempted. Results are provided as a percentage.</p>
Effectiveness:	
<b>Task Failures</b>	<p>If the participant abandoned the task, did not reach the correct answer or performed it incorrectly, or reached the end of the allotted time before successful completion, the task was counted as “Fail.” No task times were taken for failed attempts.</p> <p>The total number of errors was calculated for each task and divided by the total number of times that task was attempted. Results are presented as the average error rate.</p> <p>Note: Not all deviations are counted as errors</p>
Effectiveness:	
<b>Prompted Successes</b>	<p>Because some tasks are dependent upon the successful completion of previous tasks, participants may receive a limited number of “prompts” to help prepare the system data for the pre-requisites for subsequent tasks.</p> <p>When a participant was able to complete the data entry on a task with 3 or fewer prompts, the task was counted as an “Assisted” competition. No task times were recorded for Assisted completions.</p>
Efficiency:	
<b>Task Deviations</b>	<p>The participant’s path (i.e., steps) through the application was recorded. Deviations occur if for example, the participant navigated to an incorrect screen, clicked on an incorrect menu item, followed an incorrect link, or interacted incorrectly with an on-screen control.</p>

Measures	Rationale and Scoring
Efficiency:	
<b>Task Time</b>	<p>Each task was timed from the administrator’s prompt “Begin” until said, “Done.” If the participant failed to say, “Done,” timing stopped when the participant stopped performing the task.</p> <p>Only task times for tasks that were successfully completed were included in the average task time analysis. Average time per task was calculated for each task.</p>
Satisfaction:	
<b>Ease of Use ratings</b>  <b>System Satisfaction</b>	<p>Participant’s subjective impression of the ease of use of the application was measured by administering both a single post-task question as well as two post-session questionnaires.</p> <p>After each task, the participant determined on a scale of 1 to 5 their subjective satisfaction with performance on the task. These data are averaged across participants.</p> <p>To measure participants’ confidence in and likeability of the EHR overall, the testing team administered electronic versions of the System Usability Scale (SUS) and the Computer System Usability Questionnaire (CSUQ). See the SUS questionnaire as Appendix D., and the CSUQ as Appendix E.</p>

## **Results**

### **Data Analysis and Reporting**

The results of the usability test of the OpenVista CareView system were analyzed according to the methods described in the Usability Metrics section above and are detailed below. Note that the results should be evaluated relative to the study objectives and goals, as outlined in the study design section above. The data should yield actionable results that, if corrected, yield material, positive impact on user performance.

#### **Reliability**

During the entire data collection phase, it was observed that the system provided a consistent and reliable interface to each participant as they completed their tasks. As each participant completed their assigned tasks, the system provided the same information and responded to their input with the same verbiage and using the same mode of communication (e.g. Pop-up message, or embedded assistance).

#### **Effectiveness and Efficiency**

Table 3 presents a summary of overall task performance showing task, mean time on task, task completion rates, mean path deviations and mean task satisfaction:

**Table 3. Usability Test Results**

Task	Mean Task Time	SD	Completion Rate (%)	Mean # Path Deviations	SD	Mean Task Satisfaction	SD
Task 1 Demographics--170.315(a)(5)	0:34	0:22	100%	0.10	0.30	4.80	0.40
Task 2 Medication Allergy List--170.315(a)(8)	1:19	0:39	90%	1.30	1.85	3.89	0.74
Task 3 CPOE – Diagnostic Imaging--170.315(a)(3)	1:52	0:52	100%	0.70	0.78	3.90	0.70
Task 4 Medication List--170.315(a)(7)	2:04	0:49	100%	0.00	0.00	4.20	0.98
Task 5 Drug-drug, Drug-allergy Checks--170.315(a)(4)	1:25	0:34	100%	0.10	0.30	4.60	0.66
Task 6 Implantable Device List--170.315(a)(14)	0:58	0:42	100%	0.30	0.64	4.30	0.90
Task 7 Problem List--170.315(a)(6)	1:10	0:28	100%	0.00	0.00	3.50	1.20
Task 8 Clinical Decision Support--170.315(a)(9)	1:10	0:49	100%	0.20	0.40	4.50	1.02
Task 9 Clinical Info Reconciliation/Incorp--170.315(b)(2)	6:43	1:44	90%	1.50	2.06	3.70	0.90
Task 10 CPOE – Laboratory--170.315(a)(2)	1:35	0:20	100%	0.30	0.46	4.70	0.46
Task 11 CPOE – Medications--170.315(a)(1)	1:00	0:35	100%	0.40	0.80	4.80	0.60
Task 12 Electronic Rx--170.315(b)(3)	4:10	1:44	90%	1.40	1.20	2.50	0.81

As Table 3 shows, relative to optimal performance standards as defined by Medsphere and The Usability People, participant performance in the OpenVista CareView *EHR* usability test was quite satisfactory. The overall average task completion rate was ninety-eight (98) percent.

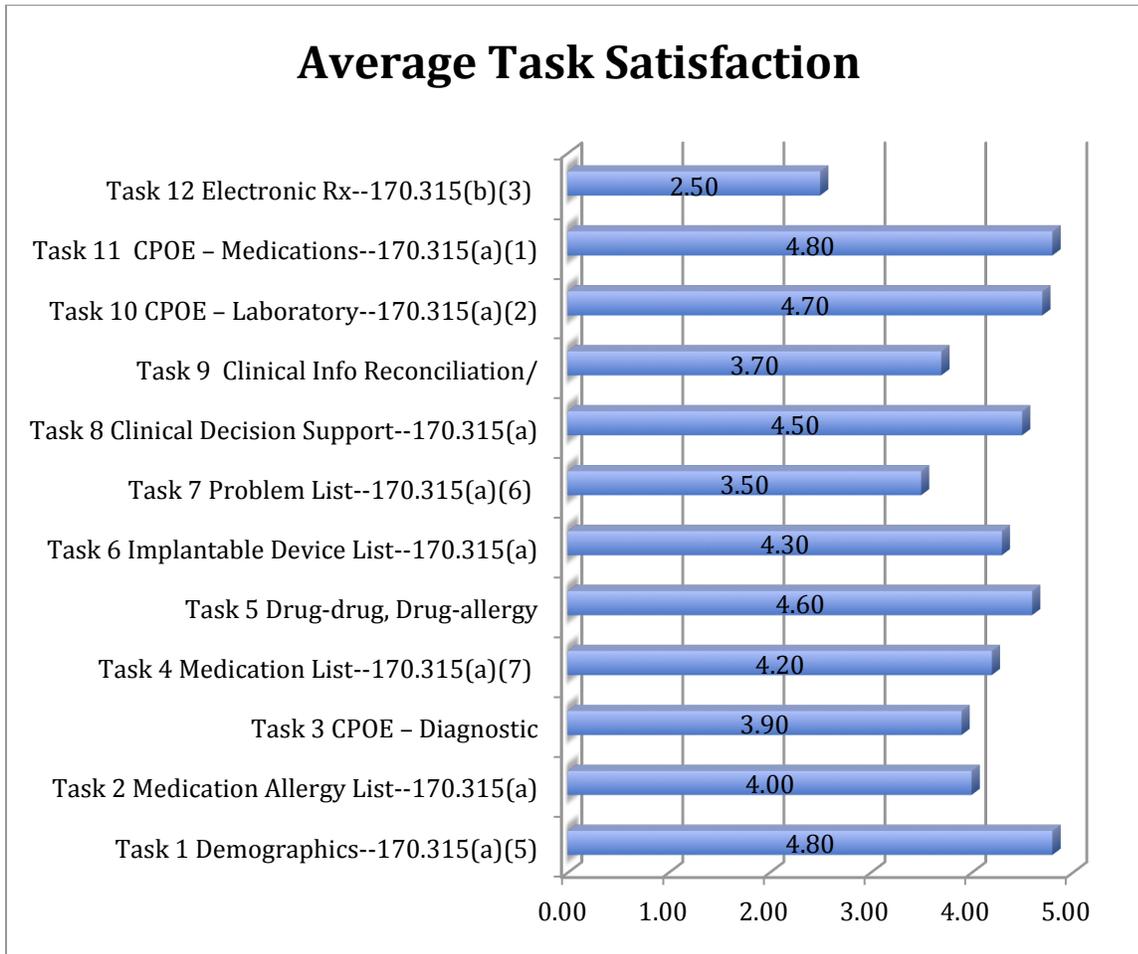
**Satisfaction**

***Individual Task Satisfaction***

Participants verbally indicated their satisfaction with the ease of use for each task using a scale of “1” (“Very Difficult”) to “5,” (“Very Easy”). As Figure 1 shows individual task

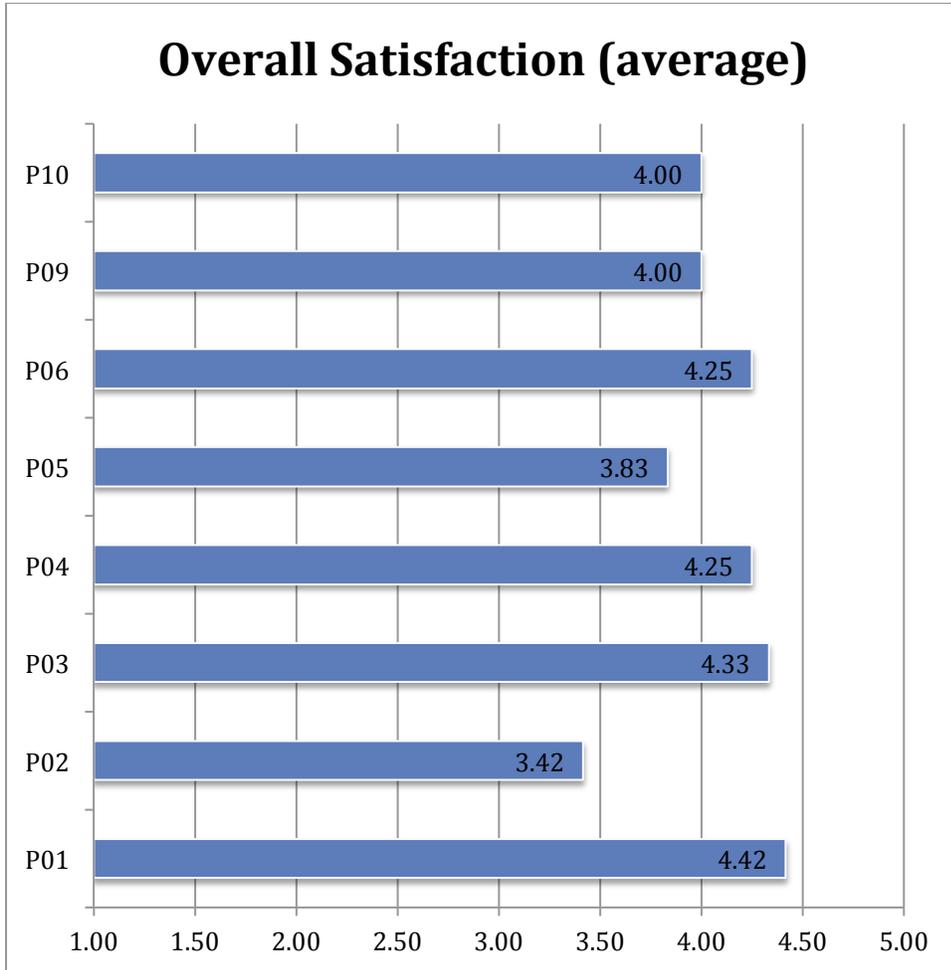
satisfaction ranged from a low of 2.5 out of 5 on Task 12 (*E-Prescribing*) to a high of 4.8 out of 5 on Tasks 1, and 11 (*Demographics and CPOE Medications*).

**Figure 1. Satisfaction Ratings of Individual Tasks**



### ***Individual Participant Satisfaction***

In general, the participants were very satisfied with the ease of use of the OpenVista CareView system. The following chart displays overall satisfaction for each participant:



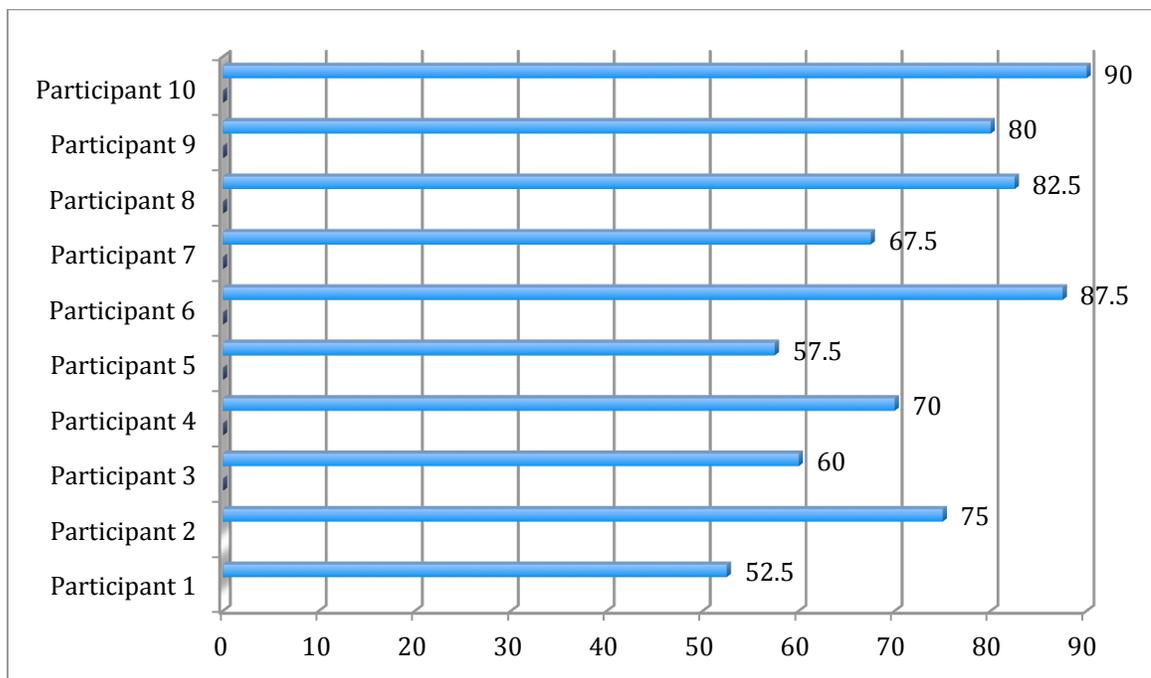
The average overall task satisfaction rate was 4.05 out of 5.

### **System Usability Scale**

The System Usability Scale (SUS) is a simple, 10-item Likert-type attitude scale providing a global subjective assessment of usability from the user's perspective (John Brooke at Digital Equipment Company developed the SUS in 1986). The SUS scale is scored from 0 to 100; scores under 60 represent systems with less than optimal usability, scores over 80 are considered better than average. See Appendix D for a copy of the SUS.

The mean total SUS score for the OpenVista CareView *EHR* was seventy-two (72) and ranged from a low of fifty-three (53) and a high of ninety (90). Overall, participant-users rated their satisfaction with the OpenVista CareView *EHR* system to be within the range of a usable and satisfying *EHR*.

The following graph shows the SUS score by each participant:



### **Computer System Usability Questionnaire**

Using the Computer System Usability Questionnaire (CSUQ; Lewis, J. R. (1995). (See: IBM Computer Usability Satisfaction Questionnaires: Psychometric Evaluation and Instructions for Use. International Journal of Human-Computer Interaction, 7:1, 57-78).), participants rated each of 19 items of the CSUQ questionnaire on a scale from 1 to 7, with a rating of 7 being most in agreement with the positively-worded item. Responses for each item were summed and averaged to four scales – Interface Quality, Information Quality, System Usefulness- and an overall scale. See Appendix E for a copy of the CSUQ.

Figure 2 displays CUSQ ratings for each of the four scales. In general, participants in the OpenVista CareView study rated system usability to be high. On Interface Quality, the average score for the participants was 4.97/7; on Information Quality, the average score 4.87/7; on System Usefulness, the average score was 5.23/7; and the overall average CUSQ score was 5.07/7.

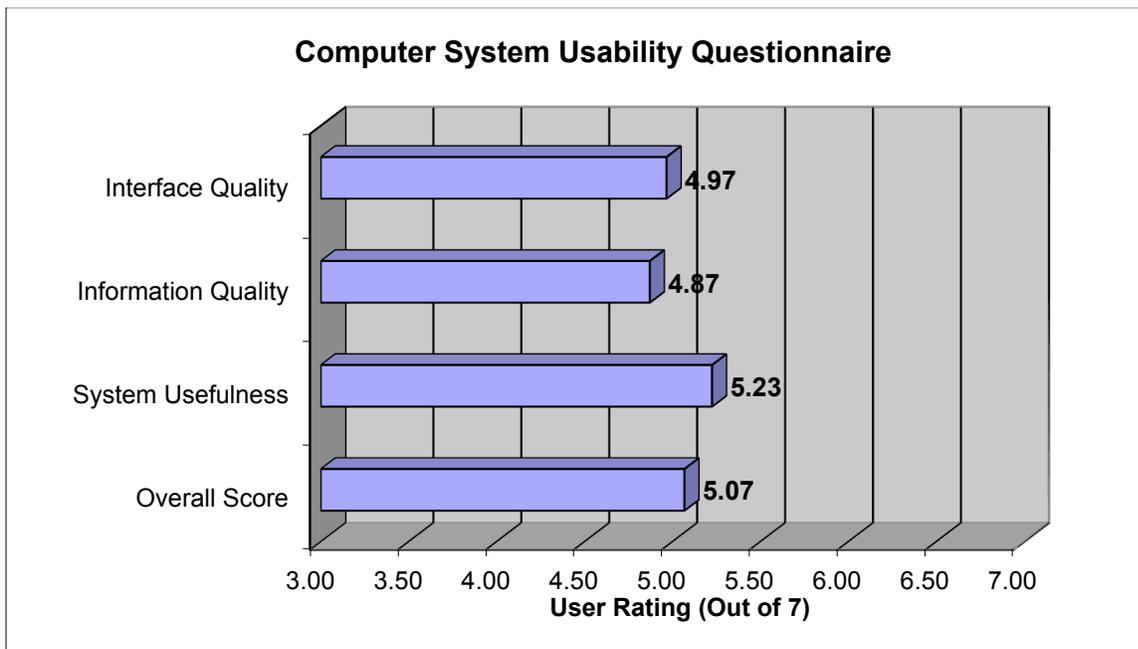


Figure 2. Computer System Usability Questionnaire

## Specific Task Result Details (Including criteria evaluated)

### Task 1

Participant Number	Task 1 Demographics--170.315(a)(5)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:18	Success	0	5
P02	0:45	Success	1	4
P03	0:19	Success	0	5
P04	0:26	Success	0	5
P05	1:29	Success	0	5
P06	0:13	Success	0	5
P07	0:54	Success	0	4
P08	0:24	Success	0	5
P09	0:29	Success	0	5
P10	0:20	Success	0	5

Expected Time on Task	0:30	(SD)
Average Time on Task	0:34	0:22
Average Task Satisfaction	4.80	0.40
Average #Path Deviations	0.10	0.30
Percent Success	100%	

## Task 2

Participant Number	Task 2 Medication Allergy List--170.315(a)(8)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	1:22	Success	2	3
P02	2:31	Success	1	4
P03	0:56	Success	0	4
P04	1:25	Success	1	4
P05	1:46	Fail	6	3
P06	0:43	Success	0	5
P07	0:58	Success	0	4
P08	2:26	Success	3	3
P09	0:36	Success	0	5
P10	0:55	Success	0	5

Expected Time on Task	1:00	(SD)
Average Time on Task	1:19	0:39
Average Task Satisfaction	4.00	0.77
Average #Path Deviations	1.30	1.85
Percent Success	90%	

### Task 3

Participant Number	Task 3 CPOE – Diagnostic Imaging--170.315(a)(3)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	1:39	Success	0	4
P02	1:01	Success	0	3
P03	3:01	Success	2	4
P04	1:22	Success	0	5
P05	3:22	Success	2	4
P06	1:05	Success	0	4
P07	2:57	Success	1	3
P08	1:35	Success	1	4
P09	0:52	Success	0	5
P10	1:50	Success	1	3

Expected Time on Task	2:00	(SD)
Average Time on Task	1:52	0:52
Average Task Satisfaction	3.90	0.70
Average #Path Deviations	0.70	0.78
Percent Success	100%	

## Task 4

Participant Number	Task 4 Medication List--170.315(a)(7)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	1:10	Success	0	5
P02	2:58	Success	0	2
P03	1:28	Success	0	5
P04	1:49	Success	0	5
P05	3:58	Success	0	5
P06	1:15	Success	0	4
P07	2:22	Success	0	4
P08	2:17	Success	0	4
P09	1:35	Success	0	3
P10	1:47	Success	0	5

Expected Time on Task	1:30	(SD)
Average Time on Task	2:04	0:49
Average Task Satisfaction	4.20	0.98
Average #Path Deviations	0.00	0.00
Percent Success	100%	

## Task 5

Participant Number	Task 5 Drug-drug, Drug-allergy Checks--170.315(a)(4)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:56	Success	0	5
P02	1:43	Success	0	3
P03	0:47	Success	0	5
P04	1:13	Success	0	5
P05	2:29	Success	1	5
P06	1:25	Success	0	4
P07	1:20	Success	0	5
P08	2:17	Success	0	4
P09	0:47	Success	0	5
P10	1:08	Success	0	5

Expected Time on Task	1:30	(SD)
Average Time on Task	1:25	0:34
Average Task Satisfaction	4.60	0.66
Average #Path Deviations	0.10	0.30
Percent Success	100%	

## Task 6

Participant Number	Task 6 Implantable Device List--170.315(a)(14)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:26	Success	0	5
P02	0:36	Success	0	4
P03	0:56	Success	0	4
P04	0:29	Success	0	5
P05	2:42	Success	2	2
P06	0:33	Success	0	5
P07	1:53	Success	1	4
P08	0:40	Success	0	5
P09	0:31	Success	0	5
P10	0:57	Success	0	4

Expected Time on Task	1:30	(SD)
Average Time on Task	0:58	0:42
Average Task Satisfaction	4.30	0.90
Average #Path Deviations	0.30	0.64
Percent Success	100%	

## Task 7

Participant Number	Task 7 Problem List--170.315(a)(6)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:28	Success	0	5
P02	1:17	Success	0	2
P03	1:10	Success	0	1
P04	1:17	Success	0	3
P05	2:06	Success	0	4
P06	0:43	Success	0	3
P07	1:25	Success	0	4
P08	0:41	Success	0	5
P09	1:38	Success	0	4
P10	0:55	Success	0	4

Expected Time on Task	1:00	(SD)
Average Time on Task	1:10	0:28
Average Task Satisfaction	3.50	1.20
Average #Path Deviations	0.00	0.00
Percent Success	100%	

## Task 8

Participant Number	Task 8 Clinical Decision Support--170.315(a)(9)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:31	Success	0	5
P02	1:25	Success	0	5
P03	0:39	Success	0	5
P04	0:51	Success	0	5
P05	2:42	Success	1	3
P06	0:47	Success	0	5
P07	0:45	Success	0	5
P08	2:44	Success	1	2
P09	0:37	Success	0	5
P10	0:34	Success	0	5

Expected Time on Task	1:30	(SD)
Average Time on Task	1:10	0:49
Average Task Satisfaction	4.50	1.02
Average #Path Deviations	0.20	0.40
Percent Success	100%	

## Task 9

Participant Number	Task 9 Clinical Info Reconciliation/Incorp--170.315(b)(2)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	6:18	Success	3	3
P02	8:02	Success	0	3
P03	6:32	Success	1	5
P04	6:36	Success	1	3
P05	1:48	Fail	7	3
P06	5:14	Success	0	5
P07	8:34	Success	0	3
P08	6:33	Success	2	4
P09	5:43	Success	0	5
P10	6:51	Success	1	3

Expected Time on Task	5:00	(SD)
Average Time on Task	6:43	1:44
Average Task Satisfaction	3.7	0.90
Average #Path Deviations	1.50	2.06
Percent Success	90%	

## Task 10

Participant Number	Task 10 CPOE – Laboratory--170.315(a)(2)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	1:10	Success	0	5
P02	1:28	Success	0	5
P03	1:30	Success	0	5
P04	1:44	Success	0	4
P05	2:22	Success	1	5
P06	1:14	Success	0	4
P07	1:42	Success	1	5
P08	1:41	Success	0	5
P09	1:14	Success	0	4
P10	1:45	Success	1	5

Expected Time on Task	1:30	(SD)
Average Time on Task	1:35	0:20
Average Task Satisfaction	4.7	0.46
Average #Path Deviations	0.30	0.46
Percent Success	100%	

## Task 11

Participant Number	Task 11 CPOE – Medications--170.315(a)(1)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	0:39	Success	0	5
P02	1:19	Success	0	5
P03	0:27	Success	0	5
P04	0:36	Success	0	5
P05	1:38	Success	2	5
P06	0:26	Success	0	5
P07	2:21	Success	2	3
P08	0:52	Success	0	5
P09	0:44	Success	0	5
P10	0:55	Success	0	5

Expected Time on Task	1:00	(SD)
Average Time on Task	1:00	0:35
Average Task Satisfaction	4.80	0.60
Average #Path Deviations	0.40	0.80
Percent Success	100%	

## Task 12

Participant Number	Task 12 Electronic Rx--170.315(b)(3)			
	Task Time	Outcome	# Path Deviations	Task Satisfaction
P01	2:25	Success	0	3
P02	5:01	Prompted	3	1
P03	1:18	Success	0	4
P04	3:21	Success	0	2
P05	7:38	Success	3	2
P06	5:51	Success	2	2
P07	5:10	Success	1	3
P08	3:06	Success	1	2
P09	4:56	Success	3	3
P10	3:46	Success	1	3

Expected Time on Task	3:00	(SD)
Average Time on Task	4:10	1:44
Average Task Satisfaction	2.50	0.81
Average #Path Deviations	1.40	1.20
Percent Success	90%	

## Discussion of Findings

In general, the participants performed very well and felt satisfied with the OpenVista CareView system. A few of the participants struggled initially with some portions of a few tasks but in general most were able to successfully complete a majority of the tasks with little or no difficulty. Participants were mostly able to perform all tasks successfully on their own with no assistance or external documentation. The participant average performance rate was high, as were the overall participant satisfaction rates. The OpenVista CareView system appears to be a highly usable EHR.

### Effectiveness

Of the twelve (12) tasks presented, a large majority of the tasks were successfully completed by all of the participants. Over all of participants, the mean successful task completion rate was very high with an overall average rate of ninety-eight (98) percent indicating that in general the participants had little or no difficulty completing the tasks.

The amount of prior experience with EHR systems and with specific OpenVista CareView functions was related to successful task performance; participants with more prior experience were more likely to successfully complete tasks than those less prior experience.

### Efficiency

Participants who successfully completed tasks generally completed those tasks within an acceptable time. Some tasks were completed more quickly than the calculated optimal time, while several tasks took slightly longer than expected. The tasks that took the longest required the participants to navigate to a particular unfamiliar portion of a page, interact with a workflow, locate and select specific actions. Those tasks may be performed more quickly with a minor update to the information architecture or the user experience.

Some participants made errors when attempting to navigate toward solving their assigned tasks. These errors may be associated with those participants not being familiar and not understanding the presented information architecture of the OpenVista CareView *EHR* system. As noted above, prior experience with EHR systems was related to successful task

completion. Similarly, experience and practice with the given system may have positive effects with regard to user efficiency.

### **Satisfaction**

Participants were satisfied with the OpenVista CareView *EHR* system; ratings on the SUS (mean = 72 out of a possible 100) and the CSUQ (Overall score = 5.07 out of a possible 7.0) demonstrated a level of satisfaction with the system.

On the CSUQ, participants ranked the scale “(System Usefulness)” highest of the three scales, suggesting that the system provided an effective and efficient user interface. Individual task satisfaction ratings were related to individual user performance. Those participants who were able to successfully complete tasks were also more likely to rank those tasks as satisfying, while those participants who did poorly or were not able to complete a task ranked those tasks as less satisfying. Overall however, the participant satisfaction with OpenVista CareView *EHR* was slightly less than expected given the high-performance data.

### **Summary of Major Findings**

This evaluation demonstrated that the OpenVista CareView system is a very usable system with a relatively short learning curve. Participants with minimal amounts of experience using unfamiliar portions of the OpenVista CareView system before the study experienced little initial difficulty understanding the navigation and information architecture. Participants with more experience were able to solve most tasks without difficulty or error.

### **Risk Analysis**

The following table presents a prioritized list of tasks prioritized by the risk of error as observed during the testing.

Table 5. Risk Analysis

Task	Description	Percent Complete	Risk Status
Task 1 Demographics--170.315(a)(5)	Verify Patient Demographics	100%	None
Task 2 Medication Allergy List--170.315(a)(8)	Verify and enter an allergy	90%	Low
Task 3 CPOE – Diagnostic Imaging--170.315(a)(3)	Create an imaging order	100%	None
Task 4 Medication List--170.315(a)(7)	Enter Home Medications	100%	None
Task 5 Drug-drug, Drug-allergy Checks--170.315(a)(4)	Medical Allergy checks	100%	None
Task 6 Implantable Device List--170.315(a)(14)	Verify an implanted device	100%	None
Task 7 Problem List--170.315(a)(6)	Enter a new diagnosis/problem	100%	None
Task 8 Clinical Decision Support--170.315(a)(9)	React to and resolve a CDS reminder	100%	None
Task 9 Clinical Info Reconciliation/Incorp--170.315(b)(2)	Reconcile and incorporate data	90%	Low
Task 10 CPOE – Laboratory--170.315(a)(2)	Enter lab orders	100%	None
Task 11 CPOE – Medications--170.315(a)(1)	Enter Medication order	100%	None
Task 12 Electronic Rx--170.315(b)(3)	Electronically prescribe medication	90%	Low

## **Areas for Improvement**

The following is a partial list of potential areas for improvement. Making these and other minor enhancements will improve the overall user experience of the OpenVista CareView system and increase the effectiveness, efficiency, and satisfaction for both experienced and novice OpenVista CareView users.

- **Indication of Required Fields**

A frequent error was caused when participants attempted to submit a form within interface that contained required fields that were not completed. This is likely because the system did not provide a clear indication of which fields are required. Adding a visual indication of required fields would likely eliminate many of these errors observed.

- **Large List Navigation**

A common issue that many participants had was that they had difficulty finding a specific item that was presented within a large scrollable list. Perhaps adding some navigational hierarchy to these lists may help to remove this issue.

- **Feedback upon task completion**

Some errors occurred when users performed several additional steps that were not required. They ended up creating duplicate orders because they were not given a salient visual indication that their current order was ordered. Providing clear feedback that the user's actions have been successful may remove this issue.

## Appendices

### Appendix A: Recruiting Screener

1. Are you male or female?
2. Have you participated in a focus group or usability test in the past 6 months?
3. Do you, or does anyone in your home work in marketing research, usability research, and/or web design?
4. Do you, or does anyone in your home, have a commercial or research interest in an electronic health record software or consulting company?
5. Which of the following best describes your age?  
20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, 90-99, 100 and older.
6. Which of the following best describes your education level?
  - No high school diploma
  - High school graduate, diploma or the equivalent
  - Some college credit, no degree
  - Trade technical vocational training
  - Associate degree
  - Bachelor's degree
  - Master's degree
  - Doctorate degree (e.g., MD, DNP, DMD, PhD)
7. Do you require any assistive technologies to use a computer?
8. Please describe your medical or nursing credentials
9. What is your current job title?
10. How long have you held this position? (Number of years):
11. What type of facility do you work in and what is your role there?
12. How are medical records handled at your (main) workplace?  
 All Paper     Some Paper/Some Electronic     All Electronic
13. How many EHRs do you use or have you worked with?
14. How many years have you used an electronic health record?
15. How many years have you used the OpenVista Careview system?
16. About how many hours per week do you spend using a computer?
17. What computer platform(s) do you usually use?  
 PC     Mac     Other
18. In the last month, about how often have you used an electronic health record?  
 Did not use last month     Every day     A few times a week.

## Appendix B: Informed Consent Form

The Usability People would like to thank you for participating in this study. The purpose of this study is to evaluate an electronic health records system. If you decide to participate, you will be asked to perform several tasks using the prototype and give your feedback. The study will last about 60-90 minutes.

### *Agreement*

I understand and agree that as a voluntary participant in the present study conducted by The Usability People. I am free to withdraw consent or discontinue participation at any time. I understand and agree to participate in the study conducted and recorded by The Usability People.

I understand and consent to the use and release of the video recording by The Usability People. I understand that the information and video is for research purposes only and that my name and image will not be used for any purpose other than research. I relinquish any rights to the video and understand the video recording may be copied and used by The Usability People without further permission.

I understand and agree that the purpose of this study is to make software applications more useful and usable in the future.

I understand and agree that the data collected from this study may be shared outside of The Usability People. I understand and agree that data confidentiality is assured, because only de-identified data – i.e., identification numbers not names – will be used in analysis and reporting of the results.

I agree to immediately raise any concerns or areas of discomfort with the study administrator. I understand that I can leave at any time.

### **Please check one of the following:**

YES, I have read the above statement and agree to be a participant.

NO, I choose not to participate in this study.

**Signature:** \_\_\_\_\_ **Date** \_\_\_\_\_

## Appendix C: Participant Guide

*Important: Be sure your computer has a two-button mouse, which will allow you to click the left button to select items on the screen and click the right button to choose actions you can perform on the selected item.*

User Name: Emily Litella  
Access Code: EL12345  
Verify Code: EL12345.  
Electronic Signature: 123456

---

### *Scenario 1:*

---

**Pat Matthews was just admitted to the Med/Surg unit from the Emergency Department with a primary diagnosis of Cellulitis. Four days ago, Pat ran into the edge of a coffee table while visiting a friend out of state. Since the injury, Pat has reported increased redness, swelling, and pain to the right lower leg. Pat was seen at an out of state urgent care two days ago and was given a prescription for Clindamycin. The redness and swelling has progressed and, upon returning home today, Pat decided to be seen in the Emergency Department. Pat has a past medical history of Diabetes Mellitus.**

- **Task #1:** While the CNA helps Pat get settled and oriented to the room, you review Pat's demographic information. Identify the patient's age, sex, and language.

---

*Verbally inform the proctor of the patient's age, sex, and language when you have completed this task.*

---

- **Task #2:** Pat tells you that s/he has an allergy to Penicillin that caused hives in the past.
  1. Does this patient currently have any allergies/Adverse Reactions documented?
  2. Enter Penicillin as an allergy for this patient.

---

*Verbally inform the proctor if the patient had any existing allergies and inform the proctor when you have completed this task.*

---

- Task #3: You decide an Xray of the right lower leg is needed. The imaging type is general radiology. The imaging procedure is Tibia and Fibula RT 2 views. Available modifiers is Right. The reason for the study is Injury. The requested date is today, routine urgency, and transport mode is wheelchair. Sign your order.

---

*Verbally inform the proctor when you have completed this task.*

---

- Task #4: Pat reports that s/he is currently taking two Home Medications: Miglitol and the Clindamycin that the urgent care prescribed. Enter Miglitol and Clindamycin as current medications for this patient:
- Miglitol 50mg oral three times a day before meals (TIDAC). Pat took the last dose at 0700 today.
  - Clindamycin 300mg oral every 8 hours (Q8H). Clindamycin was started two days ago and Pat took the last dose at 0700 today.

---

*Verbally inform the proctor when you have completed this task.*

---

- Task #5: You determine that Pat needs a different antibiotic for the cellulitis. Place an inpatient order for Dicloxacillin Cap 500mg oral every 6 hours (Q6H). Note the allergy order check alert. You have decided the clinical benefits of Dicloxacillin outweigh the risks for this patient.

Finish placing the order and sign.

Enter "Clinical benefits outweigh the risks" as a justification for the reason you are continuing to order Dicloxacillin.

---

*Verbally inform the proctor when you have completed this task.*

---

---

## Scenario 2:

---

**Patient George McDaniel, 64yo male, was admitted to your Med/Surg unit with a diagnosis of Renal Calculi. George has an extensive history of kidney stones and has been receiving pain medications and IV fluids. Several stones have passed, however several stones remain. His pain is worsening and is no longer adequately controlled by the pain medicine. George is scheduled for a ureteral stent placement and shock wave lithotripsy today.**

- **Task #6:** George is a poor historian and is unable to tell you if he currently has any implantable devices. Navigate to the problem list tab and locate the tab for Implantable Devices.
  1. Does this patient currently have any documented Active or Inactive implantable devices?
  2. If so, what is the Brand?
  3. Does the device have any warnings related to MRI's?

---

*Verbally inform the proctor whether the patient has any implantable devices; the brand, if applicable; and if there are any MRI warnings related to the device, if applicable.*

---

- **Task #7:** Upon reviewing the Problem List, you note that arthritis is not listed as a problem. George told you that he has a history of arthritis.

Enter "Chronic Arthritis" as a problem.

---

*Verbally inform the proctor when you have completed this task.*

---

- Task #8: On the patient's Cover Sheet, you note this patient has an Advanced Directive reminder due. Also, it is a unit requirement to ask all patients whether they have Advanced Directives prior to their procedure. George states he does not have an Advanced Directive and he is adamant he is not interested in discussing advanced directive options.

Add an Advanced Directive Note for this patient.

Sign the Note.

---

*Verbally inform the proctor when you have completed this task.*

---

---

### **Scenario 3:**

---

**Anna Davis, 19yo, has just arrived on the Med/Surg unit as a transfer from General Hospital due to lack of floor bed availability with a diagnosis of Nausea, Vomiting and Diarrhea. She has had several episodes of both vomiting and diarrhea over the past 2 days. Anna has an established IV and had a bolus of 1,000 ccs of Normal Saline infused before her transfer. Her IV of Normal Saline is currently at 125 ccs/hr. Her lab work from General is borderline and was drawn prior to the IV fluids. Anna is currently unable to hold any PO fluids down.**

- **Task #9:** You recognize that Anna has pertinent medical history information documented at General Hospital that you would like to incorporate into her chart at this hospital. A CCDA was sent via secure email and has been uploaded to Anna's chart.
1. Click on the Clinical Information Reconciliation button. View the Document and review the patient's lab results, problems, medications and allergies, etc. from General Hospital.
  2. Reconcile Medications. Add the Levothyroxine medication as a Home Med. The form is tablet, the dose as 0.025mg, the route is oral, and the schedule is daily. The Home Medication List Source is the medical record. The Location of Medication is Home.
  3. Reconcile Adverse Reactions.
    - a. Add the Strawberry allergy. The Nature of Reaction is an Allergy. The Event Code is a Food Allergy. The Source is Other Medical Provider. Select Rash as the Signs/Symptoms and click OK.
    - b. Add the Sulfa allergy. The Nature of Reaction is an Allergy. Event Code is Drug Allergy. Source of Information is Other Medical Provider. Select Hives as the Signs/Symptoms and click OK.
  4. Reconcile Problems. Add Asthma, Complete Trisomy 21, and Hypothyroidism to the list to reconcile. Add Nausea, Vomiting, and Diarrhea and make this problem a Diagnosis and Primary Diagnosis.

---

*Verbally inform the proctor when you have completed the Clinical Information Reconciliation.*

---

- Task #10: You decide to order lab work to compare to Anna's previous lab results from General.

Order Stat CBC w/Diff and CMP lab tests. The clinical indication is Nausea, Vomiting, and Diarrhea.

Sign your order. You do not wish to Print Orders.

---

*Verbally inform the proctor when you have completed this task.*

---

- Task #11: As soon as you finish placing the laboratory orders, you realize you also meant to order Zofran for nausea.

Order Zofran (Ondansetron) 4mg IV every 6 hrs (Q6H) as needed (PRN) for nausea/vomiting.

Sign your order.

---

*Verbally inform the proctor when you have completed this task.*

---

- Task #12: After observing Anna overnight, and giving IV fluids and Zofran as needed, Anna is feeling much better. Her lab work has improved and her parents feel comfortable taking her home.

Create an outpatient medication order for discharge in CareVue for Zofran ODT (Ondansetron tab, oral disintegrating) oral 4mg every 8 hours (Q8H) as needed (PRN) for nausea/vomiting.

Dispense a 3 day supply and quantity of #9 with 0 refills.  
The Clinical Indication is Nausea, Vomiting, Diarrhea.

Electronically transmit the prescription using eRx to VA Pharmacy 10.6MU 7723. Find the Ondansetron order in the list within the eRx current medications list, and click it to begin the process of reviewing and transmitting to the selected pharmacy.

---

*Verbally inform the proctor when you have completed this task.*

---

## Appendix D: System Usability Scale Questionnaire

	Strongly disagree				Strongly agree
1. I think that I would like to use this system frequently	<input type="checkbox"/>				
	1	2	3	4	5
2. I found the system unnecessarily complex	<input type="checkbox"/>				
	1	2	3	4	5
3. I thought the system was easy to use	<input type="checkbox"/>				
	1	2	3	4	5
4. I think that I would need the support of a technical person to be able to use this system	<input type="checkbox"/>				
	1	2	3	4	5
5. I found the various functions in this system were well integrated	<input type="checkbox"/>				
	1	2	3	4	5
6. I thought there was too much inconsistency in this system	<input type="checkbox"/>				
	1	2	3	4	5
7. I would imagine that most people would learn to use this system very quickly	<input type="checkbox"/>				
	1	2	3	4	5
8. I found the system very cumbersome to use	<input type="checkbox"/>				
	1	2	3	4	5
9. I felt very confident using the system	<input type="checkbox"/>				
	1	2	3	4	5
10. I needed to learn a lot of things before I could get going with this system	<input type="checkbox"/>				
	1	2	3	4	5

## Appendix E: Computer System Usability Questionnaire

Please provide your impression of the usability of the system by answering each of the questions below:

1. Overall, I am satisfied with how easy it is to use this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

2. It was simple to use this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

3. I can effectively complete my work using this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

4. I am able to complete my work quickly using this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

5. I am able to efficiently complete my work using this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

6. I feel comfortable using this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

7. It was easy to learn to use this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

8. I believe I became productive quickly using this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

9. The system gives error messages that clearly tell me how to fix problems

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

10. Whenever I make a mistake using the system, I recover easily and quickly

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

11. The information (such as online help, on-screen messages, and other documentation) provided with this system is clear

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

12. It is easy to find the information I needed

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

13. The information provided for the system is easy to understand

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

14. The information is effective in helping me complete the tasks and scenarios

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

15. The organization of information on the system screens is clear

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

16. The interface of this system is pleasant

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

17. I like using the interface of this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

18. This system has all the functions and capabilities I expect it to have

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

19. Overall, I am satisfied with this system

Strongly Disagree 1 2 3 4 5 6 7 NA Strongly Agree

## Appendix F. References

**NISTIR 7741** - [NISTIR 7741 Guide to the Processes Approach for Improving the Usability of Electronic Health Records](#), Robert M. Schumacher, User Centric, Inc., Svetlana Z. Lowry, Information Access division, Information Technology Laboratory, National Institute of Standards and Technology, U.S. Department of Commerce, National Institute of Standards and Technology, Version 0.2, 15-Nov.2010.

**NISTIR 7742** - [NISTIR 7742 Customized Common Industry Format Template for Electronic Health Record Usability Testing](#), Robert M. Schumacher, User Centric, Inc., Svetlana Z. Lowry, Information Access division, Information Technology Laboratory, National Institute of Standards and Technology, U.S. Department of Commerce, National Institute of Standards and Technology, Version 0.2, 15-Nov.2010.

**NISTIR 7804** - [NISTIR 7804 Technical Evaluation, Testing, and Validation of the Usability of Electronic Health Records](#), Svetlana Z. Lowry, Matthew T. Quinn, Mala Ramaiah, Robert M. Schumacher, Emily s. Patterson, Robert North, , Information Access division, Information Technology Laboratory, National Institute of Standards and Technology, U.S. Department of Commerce, National Institute of Standards and Technology, Version 0.2, 15-Feb.2012.

**ONC** - [2015 Edition Certification Companion Guide Safety- Enhanced Design - 45 CFR 170.315\(g\)\(3\) 3/30/2016](#)

**ONC** - [2015 Edition Certification - Test Procedure for §170.315\(g\)\(3\) Safety Enhanced Design](#)

**CSUQ** - [Lewis, J. R. \(1995\). IBM Computer Usability Satisfaction Questionnaires: Psychometric Evaluation and Instructions for Use. International Journal of Human-Computer Interaction, 7, 57-78.](#)

**SUS** - [Brooke, J. SUS: a "quick and dirty" usability scale.](#) In P. W. Jordan, B. Thomas, B. A. Weerdmeester & A. L. McClelland (eds.) Usability Evaluation in Industry. London: Taylor and Francis.

## **Attachment 7 Voluntary Product Accessibility – Vendor Registration**

# DFA Arkansas Department of Finance and Administration

## Thank you for registering as a vendor with the State of Arkansas.

You may change your information by returning to <https://www.ark.org/vendor/> and accessing the "My Business Information" section.

Below is the information submitted for your registration. This vendor will be active once approved by the Office of State Procurement.

- **Name (as shown on your tax return):** MEDSPHERE SYSTEMS CORPORATION
- **Business name, if different from above:**
- **Address:** 1903 WRIGHT PLACE, SUITE 120
- **City:** CARLSBAD
- **State/ZIP/Country:** CA, 92008 US
- **Business Phone:** 7606923743
- **Fax Number:** 7606833701
- **Corporate E-Mail Address:** [Irv.Lichtenwald@Medsphere.com](mailto:Irv.Lichtenwald@Medsphere.com)
- **Salesperson:**
- **Sales Phone:**
- **Sales E-Mail Address:**
- **Minority Indicator:** Not Applicable
- **Certified Minority:** N/A
- **Certification No.:** N/A
- **Work Center:** No
- **Payment Terms:** Net due in 30 days
- **1099 Reporting:** Exempt from 1099
- **Account Type:**
- **Account Holder:**
- **Remittance Contact:** IRV H. LICHTENWALD
- **Remittance Department:**
- **Remittance Address:** 1903 WRIGHT PLACE, SUITE 120
- **Remittance City:** CARLSBAD
- **Remittance State:** CA
- **Remittance Country:** US
- **Remittance Zip/Postal Code:** 92008

## W-9 Information

- **Exempt from backup withholding?:** YES
- **Name:** IRV H. LICHTENWALD
- **Name (as shown on your tax return):** MEDSPHERE SYSTEMS CORPORATION

Vendor Registration

- **Business Type:** CORPORATION
- **Address:** 1903 WRIGHT PLACE, SUITE 120
- **City:** CARLSBAD
- **State:** CA
- **Zip Code:** 92008

## Goods/Services:

**92000 - Information Processing, Computer and Software Serv**

**20800 - Computer Software for Desktop and Notebook Compute**

**20900 - Computer Software for Midrange and Mainframe Compu**

**92045 - Software Maintenance/Support**

Thank you. Your credit card will be charged \$25 by AR Government Services.

### Free Vendor Class

You are invited to attend a 1/2 day class for vendors, titled "How to do Business with the State of Arkansas." The class is presented the first Wednesday of each month at the Arkansas Office of State Procurement, 1509 West 7th Street, Room 300, Little Rock, AR 72201. Follow the link below for vendor class registration.

[https://www.ark.org/dfa\\_ocr/app/pro\\_osp\\_calendar.html](https://www.ark.org/dfa_ocr/app/pro_osp_calendar.html)

If you have any problems with this registration or notice any errors in the payment information, please click [Technical Assistance](#). Please reference your Transaction ID (20171207164854909) in any communications regarding this transaction.

You can also report a problem on-line, if you prefer:

<http://www.accessarkansas.org/support/public.php?projectid=297>

**Thank you for your interest in Arkansas Vendor Services!**

[Accessibility](#) | [Privacy](#) | [Security](#) | [Acceptable Use](#)

Copyright © 2009 State of Arkansas. All Rights Reserved.