HEALTH METRICS NETWORK

Guidance for the Health Information Systems (HIS) Strategic Planning Process

Steps, Tools and Templates for
HIS Systems Design and Strategic Planning

Version 6 – March 2009

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EXECUTIVE SUMMARY

What is this document?

This document is an early version of procedures for use by national health and statistics constituencies in planning and carrying out the design of strategies and operational plans for strengthening their national health information systems.

What is it designed to do?

It is designed to help apply and implement the concepts and principles presented in the "Health Metrics Network Framework and Standards for Country Health Information Systems", Second Edition, issued by the HMN Secretariat in February 2008.

What are the guiding principles?

At the outset, it is important to reiterate the **five principles** defined in the HMN Framework document for guiding health information system design, planning and implementation:
Health information systems development and strengthening should be characterized by:

1. Country leadership and ownership.
2. Country needs and demands.
3. Existing initiatives and systems (national and international)
4. Broad-based consensus and stakeholder involvement.
5. Gradual and incremental progress towards the achievement of a long-term vision.

Who should use this document?

At the highest level, users of this document are countries who have completed the HMN HIS Assessment Tool. A full list of those involved is in the Assessment Tool document in section 2.3 'Who Should Assess'.

How should I print the document?

For best results, print in colour, double-sided on A4 Paper (8.27 inch by 11.69 inch). When assembling the document use cardboard tab separators between each module, step and appendix.

How should I view the document online?

The document was created to allow the online viewer to easily navigate. This has been achieved through two mechanisms:

- ✓ Document Map / Section Headings. Activate the *Document Map* in Microsoft Word to enable navigation from Module to Module and step to step with ease. (To turn this feature on go to the View menu and select Document Map.)
- ✓ Active Links. Most references within the document, such as to an Appendix are clickable. While the cursor is over the link, press the CTRL key and left-click.

What is the process for HIS strengthening?

The process of designing and implementing a strengthened health information system is defined in the Framework document as consisting of **three phases:**

Phase 1. Leadership, coordination and assessment – setting up the national working groups and guidance committees and carrying out an assessment of the current HIS

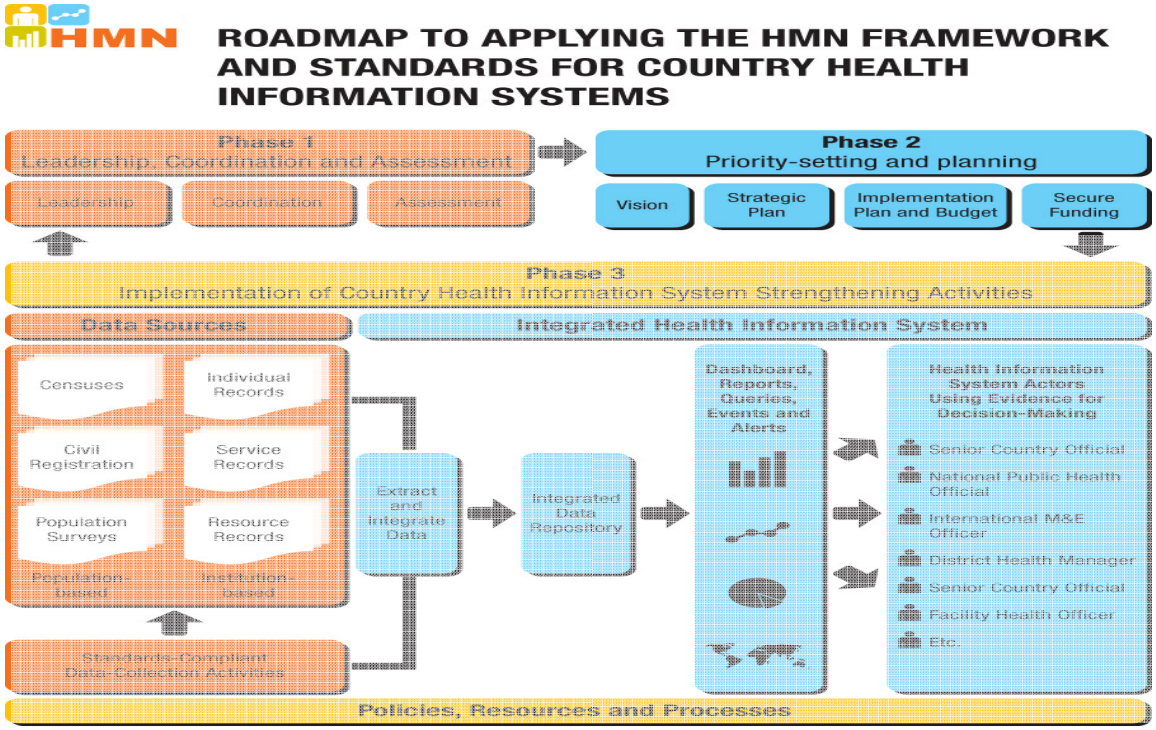
Phase 2. Priority-setting and planning – using the results of the assessment to focus the working groups' attention on the performance gaps and problems that appear to deserve priority attention and then to generate the strategic ideas needed to strengthen the priority HIS sub-systems. The implementation of these interventions is then planned across a medium-term time period, costed and described for review and approval by stakeholders

This document focuses on the steps and products of Phase 2.

Phase 3. Implementation of HIS strengthening activities – time-phased implementation of agreed strategies, with monitoring and re-planning taking place at regular intervals

Figure 1 illustrates the HIS Strategic Planning Roadmap which each national HIS development team should prepare at the beginning of Phase 1. It is important to insure that the process proceeds from Phase 1 to Phase 2 and then to Phase 3 without undue delay in order to maintain interest and momentum.

Figure 1 - What is the process for HIS strengthening?



How is this document organized?

This document is in four distinct sections: Introduction (this section), Module I, Module II and Module III. The twelve steps of Phase 2 are spread across Module I, II and III.

Each module begins with an overview of the steps and expected outcomes. Then, the steps and materials you'll need for that Module are described. Each step provides instructions that will require specific actions, sometimes completing a worksheet, other times involving other team members in discussion. For example, Step 1 is detailed in Module 1 and is comprised of four tasks, 1.1, 1.2, 1.3 and 1.4. Task 1.1 is a complete action and is a pre-requisite to beginning Task 1.2, and Task 1.2 is a pre-requisite to 1.3 and so on.

In some instances, the Step will require you to refer to an Appendix that is located at the end of that Module. The Appendices are the place to locate completed example worksheets and detailed explanatory text. Each step concludes with a products checklist and participant sign-off. Finally, a glossary is in Appendix Intro-A - Glossary of Terminology Used in the HMN HIS Strategy Design and Planning Process, on page 13.

While this guideline focuses on the steps and products of Phase 2, there are important linking activities and products with the other phases. This guidance document presents Phase 2 as consisting of three planning modules:

I. Preparing for HIS Strategy Design and Planning
II. HIS Priority-Setting and Strategy Design
III. Detailed Strategy Design, Implementation Planning and Costing

Module I: Preparing for HIS Strategy Design and Planning

The activities of Planning Module I include efforts by the Core Team to analyze the results of the assessment, identify the low scoring questions, identify HIS Components (assessment categories) which appear to require priority attention and define the HIS problems in each of the HIS components while taking into account priorities in health system domains. In addition, an effort is made to inventory HIS strengthening efforts already under implementation or planned, and to assemble relevant additional information needed during the strategy design process. The programme to be followed by the Stakeholder Working Group during Planning Module II is prepared at this time.

Module II: HIS Priority-setting and Strategy Design

During Planning Module II the Stakeholder Working Group reviews and approves or revises the proposed priority HIS problems as identified in Module I. A vision of the future HIS is formulated. The Group then sets performance improvement objectives for each HIS component and generates ideas for strategic interventions to reduce the problems and improve the performance of the priority HIS components while taking into consideration the HIS improvement activities already underway or planned. These interventions are then placed within a phased implementation plan, indicating which office is responsible for each strategy.

Module III: Detailed Strategy Design, Implementation Planning and Costing

Module III is intended to guide the remaining Phase II work of the Core Team (CT) and various technical working groups. It guides them in undertaking detailed strategy design, activity implementation planning, activity costing and preparation for monitoring and evaluating the progress and impact of the Strategic Plan. These tasks are better carried out in small working groups. The document describing the strategy is also finalized, reviewed and approved as a step within Module III.

INTRODUCTION

General Guidance for the HIS Planning Process

The HIS strategic planning process described in this document as devised by the HMN Secretariat and Technical Advisory Group, enables national working groups to generate specific health information system planning products utilizing suggested steps, tools and formats. The following paragraphs describe the organization and management recommended, as well as the nature of the process.

1. Organization and Management: Create a simple and flexible structure of leadership, management and working groups

It has been found that a simple and flexible structure of leadership, management and working groups helps to keep the process on track. Generally, the following bodies are required, either by using existing committees and groups (preferable), or by creating temporary ones for the duration of the HIS design and planning process and early implementation:

The HIS Development Steering Committee (SC) – Most governments have found it useful to establish a senior-level Steering Committee to sponsor and monitor the HIS strategy design and implementation process. Such committees can be comprised of three or four senior policy-makers, one from each of the Ministries that are contributing to the process and the subsequent implementation of system improvements. These normally include the Ministries of Health, Interior, Planning and Finance, along with the Census Bureau and National Institute of Statistics or similar bodies. The continual presence, oversight and direction of these national senior managers is a critical pre-requisite to the success of the process, which should not be initiated without such senior level interest.

The HIS Core Team (CT) - The technical management of the process is usually provided by a small core team consisting of operational managers and senior staff from the principle departments that will be implementing system improvements. In most cases this includes:

- The Health Information Department of the Ministry of Health
- The Census Planning and Analysis Unit
- The Department of Civil Registration in the Ministry of Interior
- Other departments and institutes heavily engaged in social and health measurement

The size of the core team is usually no more than six to eight staff that must devote considerable amounts of time prior to and during the periods of intense group work. This team is the primary source of management and facilitation of the group processes described in this guidance document. The steps of the process define which tasks should fall to the Core Team and which should be carried out by the larger group of stakeholders.

The HIS Stakeholder Working Group (SWG) – This group contains appropriately qualified staff from the offices and programs that are in a position to contribute to the design of the information system improvements, and then eventually take responsibility for implementing strategies and activities that fall in their functional areas of work. Commonly the SWG has 40 to 60 members, including the Core Team and advisors, drawn from offices such as the following:

- Ministry of Health: Planning, Budgeting, Finance, Human Resources, and priority programs such as disease prevention and control, MCH, hospital services and primary health care
- Ministry of Planning and Finance
- Ministry of Interior: Department of Civil Registration
- National Institute of Statistics: Departments of survey management, data analysis, storage and retrieval
- Non-governmental organizations supporting health and development planning, project implementation and monitoring
- External technical and donor organizations and agencies active in health program planning, funding, implementation, monitoring and evaluation
- During certain strategic planning and review activities, it may be useful to have appropriate representatives of service level managers and staff and representatives of service client groups join the SWG

2. Technical Support and Facilitation

Normally, several agencies and donors provide technical cooperation to various aspects of health information systems and data management in a country at one point of time. Several of them will likely have national experts and resident advisors, and consultants who could be interested and available to support this process, particularly WHO, UNICEF and UNDP, plus other major donors and bilateral projects. In addition, while the HMN is often in a position to provide qualified facilitators who are familiar with these procedures, they are not always able to do so. The source of qualified external facilitation needs to be confirmed well in advance, if the national authorities feel it is needed. Additionally, it is appropriate for experienced HMN facilitators to provide some orientation and training in the use of this guidance document and its formats to the national facilitation team, who are generally the members of the Core Team. This should take place during Phase I or Planning Module I of Phase II.

The HMN principles for HIS development cited in the EXECUTIVE SUMMARY (page 4) suggest that facilitators must maintain a low profile and defer all analysis and decision-making to national members of the working groups. The overall management of the process should be carried out by designated national officers. This is to insure that the priorities, strategies and implementation approaches are determined and owned by the national officers and groups. This should not prevent the facilitators from sharing ideas and helping the groups adhere to their own criteria and principles. The steps of the various phases of the HIS assessment and design process are designed to help insure that all analysis and idea generation is carried out by national officers while using procedures and formats that have proven useful elsewhere.

Facilitators must maintain a low profile and defer all analysis and decision-making to national members of the working groups.

3. Principal Products

Each step of the HIS strategic planning process is designed to generate specific products that when taken together enable the HIS strategy to address priority deficiencies and information needs in a cost-effective manner. The major organizational and planning products required for and expected from this process by phase are the following:

Phase I - Leadership, Organization and Assessment

- The HIS advisory, monitoring, management and working groups
- The roadmap and schedule of the HIS strategy design and planning process
- Analysis and interpretation of HIS assessment results.

Phase II - Priority-setting and Planning

Planning Module I

- Structured results of the HIS assessment (average scores by HIS component and information category)
- Inventory of information materials required in Planning Module II, review of the Health System priorities and definition the HIS problems
- Inventory of on-going and planned HIS improvement efforts

Planning Module II

- Confirmation of priority HIS problems by the SWG
- HIS Vision
- Reviewed and expanded on-going and planned HIS strengthening efforts \linked to the priority HIS components and problems
- HIS improvement objectives and strategic interventions
- HIS intervention implementation phasing and responsibilities
- Revised HIS Strategy Roadmap

Planning Module III

- HIS strategy design details and specifications
- HIS activity implementation plan
- HIS strategy costs
- HIS strategy monitoring and evaluation framework
- HIS strategic plan document
- Reviewed and approved Strategic Plan

Phase III - HIS Strategy Implementation

- Periodic monitoring reports
- Strategy and Plan Revisions

Note about the HIS Vision: One of the early products of the process is the "Vision" of the future health information system. It has proven helpful for the first attempt to define the HIS vision to actually take place before the HIS assessment is designed and conducted in Phase 1. There are several subsequent opportunities to enrich the vision description with additional elements resulting from problem definition, idea generation and system design expectations that arise during Planning Modules I and II. Thus the product entitled "HIS Vision" listed above under Planning Module II may gradually emerge over the preceding steps and will be the final vision at this stage of the planning process.

4. Time phasing and Scheduling

The assessment review, prioritizing and strategic planning process described in this guidance document comprises a sequence of 12 specific steps placed into three planning modules. Figure 2 below depicts these steps in their recommended sequence. Each step is to be completed before proceeding to the next.

Figure 3 displays proposed activity sequencing and scheduling for the assessment and planning phases, and suggests that a satisfactory achievement would be the initiation of HIS strategy implementation after about 6 months of preparation. This achievement would require that considerable priority be assigned by the participating ministries to the pursuit of the strategy design and planning, and that products would be continuously reviewed along the way by the Steering Committee, so that the necessary decision-making can be swiftly carried out.

5. Preparation for Group Processes

Most of the steps in the three modules are carried out by groups of staff which often break into sub-groups in order to enable maximum participation in the analysis, idea generation and decision-making. These types of group processes are most effective if the groups are accommodated in appropriate working spaces and provided necessary working materials.

Since the Core Team and small technical working groups require less space, they are usually accommodated within normal departmental offices and meeting rooms of one of the participating departments. However, the processes they carry out usually benefit from having materials such as flip charts and felt pens, computers and overhead projectors to facilitate displaying the products of their analysis and discussion at all times. Each step is not finished until the products of that step have been documented within the recommended formats, and responsibilities should be clear for doing so and distributing the products to all the members.

The steps carried out by the Stakeholder Working Group, principally the steps of Planning Module II pertaining to HIS strategy design, require more sizeable accommodations. These include a plenary room capable of accommodating 40 - 60 people and space or rooms for three to six sub-groups. Each room should be equipped with a computer and an LCD projector and/or flipchart easels, paper and pens. These larger working sessions benefit from the provision of coffee/tea and lunch. Participants should be encouraged to bring their own calculators, paper and/or laptop computers.

This guidance document is formatted to facilitate the briefings required at the beginning of each step, but supporting programs and local materials, such as required for Planning Module II, need to be prepared in advance. The recommended tables and formats can be prepared and made available in computer files in advance in order to save time.

Figure 2 - The HIS Strategy Design and Implementation Planning Process

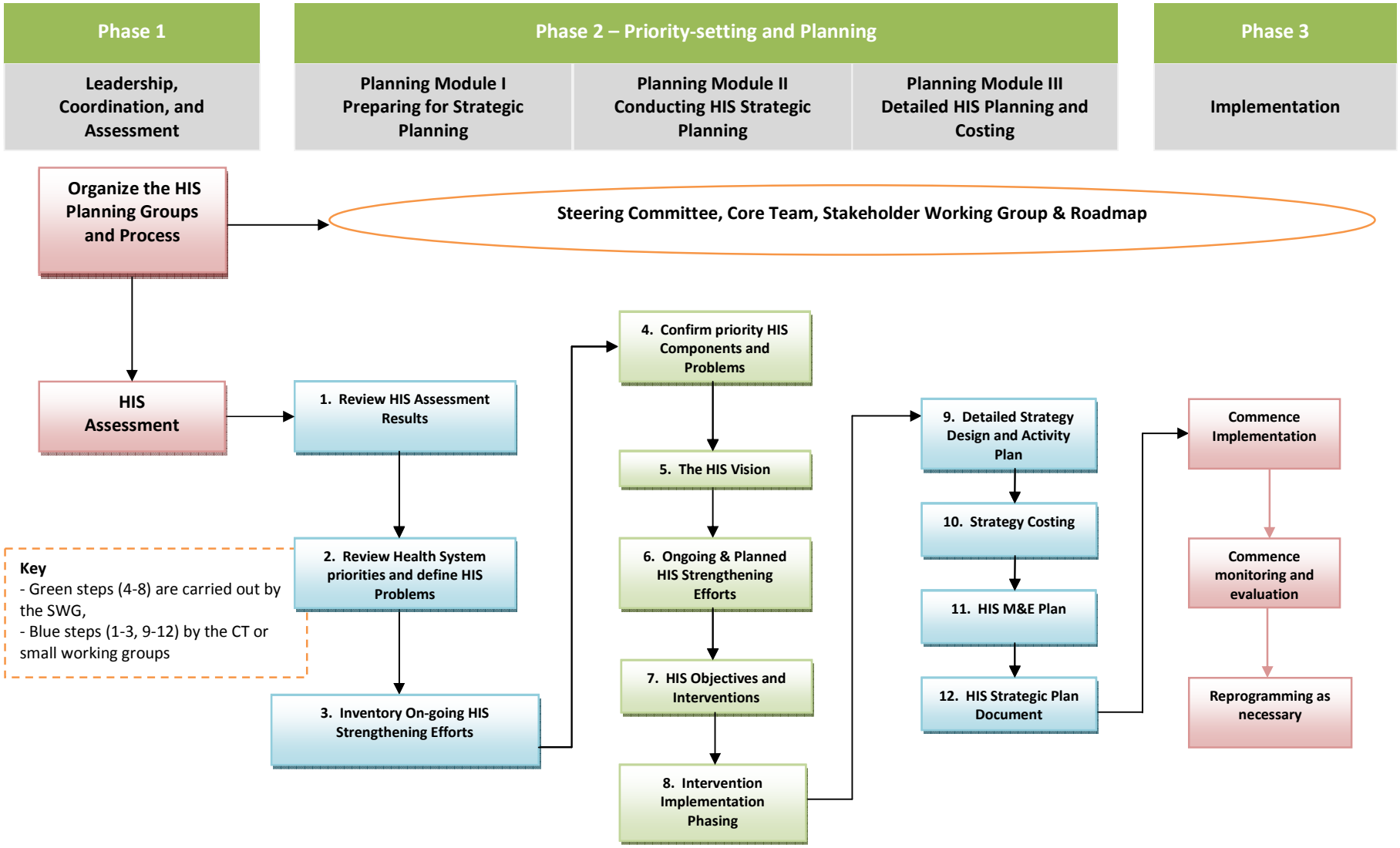


Figure 3 - HIS Strategy Development Process and Time-phasing (across 3 phases)

Phases, Modules and Steps	Optimum Implementation in Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Phase 1 - Leadership, Coordination and Assessment												
Organization – Participation, coordination and roadmap creation												
HIS Assessment – Planning, conducting and report preparation												
Phase 2 HIS Priority-setting and Planning												
Planning Module 1 Preparation for Strategic Planning												
Step 1-2 Review of assessment results, production of average scores for HIS components matched with priority health system domains and defined HIS problems												
Step 3 Inventory of on-going HIS improvement efforts, assembled other information and preparation for strategic planning												
Planning Module II Priority-setting and Strategic Planning												
Steps 4 – 8 Confirmation of priority HIS problems,visioning, objectives, strategic interventions, and implementation phasing												
Planning Module III Detailed Planning and Costing												
Steps 9 – 12 Detailed strategy design, detailed implementation planning, intervention and activity costing, strategic plan document preparation, review and approval												
Phase 3 Implementation of HIS Strengthening Activities							Continue activities →					

INTRODUCTION APPENDICES

Appendix Intro-A - Glossary of Terminology Used in the HMN HIS Strategy Design and Planning Process

(In the approximate sequence in which they first appear within the Planning Modules)

TERM	DEFINITION
Planning Module I – Preparation for Strategic Planning	
HMN Framework	A document produced by the Health Metrics Network Secretariat and Technical Advisory Group presenting the basic principles and steps of HIS Strategic Planning.
HIS	Health Information System, meaning a system providing information support to decision making at all levels of the health system. It incorporates information generated by both population-based and institution-based data sources
HMIS	Health Management Information System: term used to describe the institution-based data sources
RHIS	Routine Health Information System: term used to describe the institution-basede data sources
HIS Strategy Roadmap	A detailed plan of the steps and products to be undertaken and produced in formulating the HIS Strategy and Plan.
HIS Assessment (HMN)	A process involving the response of a "Key Informant Group" to a series of questions about the current functionality and performance of various categories of health information and its use. The assessment is supported with a spreadsheet tool that facilitates the entry and analysis of the responses of the Informant Group in order to determine the average degree of performance or difficulty currently being experienced across the categories and questions in the opinion of the Informant Group.
HIS Assessment Item or Question	An individual assessment question within an HIS Assessment Category pertaining to current HIS functionality and performance, generally provided with an array of "vignettes" reflecting degree of functionality and performance against recognized standards.
Key Assessment Items or Questions	A selection of HIS assessment items (questions) that are felt to be critical and representative of entire HIS categories of the assessment, such that they should be addressed within the HIS strategy whether or not their HIS component is given priority.
Validated HIS Assessment Result	A set of HIS assessment questions for which the total and average score has been checked, validated or corrected.
HIS Component	Component of health information and information used as addressed by the HMN HIS Assessment. There are six main HIS Components: *HIS Resources, Indicators, Data Sources, Data Management, Information Products, Dissemination and Use*.
HIS Information Category	Under each HIS component the HMN Framework and Assessment list a number of "sub-components" or Information Categories. For example, under the Data Sources, each data source is an "information category."
Health System Domains	A set of health system functions, principally types of services and resource management, defined by the HMN Secretariat and TAG. Ten Health System Domains are currently defined as relevant for assessing the impact of

TERM	DEFINITION
	inadequate HIS performance: *Stewardship and Management, Facility-based Services, Community-based Services, Diagnostic Services, Environmental Services, Commodities Supply Chain, Human Resources, Financial Resources, Knowledge and Information and Infrastructure resources.*
Priority HIS Component	An HIS Component which is given a priority for strategic improvement because of poor assessment results and other criteria.
HIS Problem	A defined problem statement derived from one or more low-scoring HIS Assessment questions. Some HIS problems have quantified indicators. HIS problems become the subject of intervention design for HIS performance improvement.
HIS Problem Indicator	A definitive measure, generally quantitative, of the extent of an HIS problem. Not all HIS Problems have indicators.
Indicators	A quantitative measure of the level and trend of a health problem, of health determinants, service or support system performance (coverage, quality, client satisfaction), health resource availability, allocation and use. In relation to the health information system and its components, indicators can be used to measure similar attributes including coverage (of reporting), quality (of data), timeliness, use, availability of required resources and the presence of constraints and underlying causes of poor performance and utilization of the HIS, including assessment scores.
Priority Health Problem	A health problem given a priority for reduction and control by a Government and its Ministry of Health.
Health Development Strategy	A national strategy for reducing one or more priority health problems and developing its health services and support systems.
Essential Public Health Service	A specific education, prevention, detection or case management service aimed at reducing one or more priority health problems.
Essential Health Indicator	One of a set of nationally defined indicators of priority health problems, essential public health services and essential resources. An important input to the HIS Strategic Planning process is the current list of national core health indicators monitored by the health sector and services.
Planning Module II – Priority-setting and Strategic Planning	
HIS Vision	A brief graphic and narrative description of the features and functionality desired from the national health information system, its components and information categories at the end of the HIS Strategy Implementation period, usually covering several plan periods (10 to 12 years).
On-going HIS Strengthening Efforts	Activities currently underway or planned which will have an impact on the performance and use of the HIS and its various components and categories of information. A listing of such HIS strengthening efforts is produced early in the HIS strategic planning process in order to recognize those efforts and include them and their resources within the HIS Strategy and Plan.
HIS Improvement Objectives	A statement that defines in a quantifiable and time-limited manner the amount of performance improvement or problem reduction desired for an entire HIS Component. Objectives are usually defined using the same indicators as used in the associated HIS Problem Statement.
HIS Interventions	Ideas for reducing HIS problems and improving HIS Component performance devised by the HIS SWG for each priority HIS Component to be addressed by the HIS Strategy.

TERM	DEFINITION
Causal Problem Analysis	A process of identifying the underlying problems and constraints affecting an HIS Component and contributing to the problems in that Component which helps the subgroups to generate ideas for HIS interventions.
Underlying Cause or Constraint	A factor or constraint that contributes to performance problems within an HIS Component.
HIS Strategic Plan	The overall set of strategic interventions defined for addressing the problems affecting all the priority HIS Components along with the implementation activities and necessary resources required.
HIS Implementation Phasing	The entire set of HIS strategic interventions placed onto a time line and into the sequence in which they will be implemented across the entire HIS Strategy implementation period.
Planning Module III - Detailed Planning and Costing	
Detailed HIS Strategy Design	A process carried out by technical working groups assigned to each priority HIS Component for devising the technical specifications and design of the various interventions being proposed for strengthening each Component.
Detailed HIS Intervention Implementation Plan	A time-phased set of activities, products and responsibilities that reflects the implementation work needed to implement the proposed strategic interventions.
HIS Implementation Product	A specific product of an implementation activity that signals the activity has been successfully completed.
HIS Implementation Milestone	An especially important implementation product that signals that a sequence of implementation activities have been successfully implemented.
HIS Implementation Responsible Office	The Office or Officer that has assumed responsibility for implementing one or a set of HIS implementation activities.
HIS Strategy Costing	A detailed costing of the array of implementation activities, including the implications of strategy implementation for both development costs and routine service operational costs.
HIS Development Costs	Costs of carrying out the development of strategic interventions, generally of a one-time nature and as such could be met from the Government's development budget or from donor support.
HIS Routine Costs	Costs incurred through routine operations of the HIS; i.e. tasks and services carried out on a routine basis. To the extent that the HIS strategy increases the routine costs (such as through additional HIS staff salaries), the increases are estimated in the costing step.
HIS Monitoring and Evaluation Framework	Two tables of indicators that together reflect the more important HIS functional problems, objectives for improvement, progress in implementation of the plan of activities, availability of critical resources and ultimately the level of priority HIS Component performance and together represent the levels and methods of HIS Strategy Monitoring and Evaluation including frequency and data sources.
HIS Strategic Plan Document	A document prepared through the HIS Strategic Planning Process presenting the proposed strategic interventions, implementation plan and resource requirements for review and approval by the Steering Committee and policy-makers of Ministries and Departments associated with HIS improvement and with potential donors and technical cooperation agencies.

Appendix Intro-B – List of Acronyms

ADB	Asian Development Bank
ANC	Antenatal Clinic
AOP	Annual Operational Plan
ART	Anti-Retroviral Therapy
CB FP	Community Based Family Planning
CDC	Centres for Disease Control and Prevention/Communicable Disease control
CDHS	Cambodia Demographic and Health Survey
CENAT	National Centre for Tuberculosis Control
DHS	Demographic Health Survey
DOTS	Directly Observed Therapy Short Course
DPHI	Department of Planning and Health Information
DPT	Diphtheria Pertusis Tetanus (vaccine)
DSS	Demographic Surveillance System/Site
EOC	Essential Obstetrics Care
EPI	Expanded Programme on Immunization
GAVI	Global Alliance for Vaccines and Immunization
HC	Health Centre
HHS	Household Surveys
HIS	Health Information System
HMIS	Health Management Information System
HMN	Health Metrics Network
HR	Human Resource
HSP	Health Strategic Plan
HISSP	Health Information Strategic Plan
ICD	International Classification of Diseases and Related Health Problems
ICD-10	International Classification of Diseases and Related Health Problems 10th Edition
ICT	Information and Communication Technology
IMCI	Integrated Management of Childhood Infections
ITN	Insecticide Treated Mosquito Net
JHU	Johns Hopkins University
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MoI	Ministry of Interior
MOPH	Ministry of Public Health
MSH	Management Sciences for Health
NIPH	National Institute of Public Health
NIS	National Institute of Public Health
NMC	National Centre for Malaria
NMLCP	National Malaria and Lymphatic Filariasis Control Programme
NTCP .	National Tuberculosis Control Programme
OD	Operational District
PHD	Provincial Health Department/Public Health Department
PMTCT	Prevention of Mother to Child Transmission
PNC	Post Natal Care
STTA	Short Term Technical Assistance
SRS	Sample Registration System
TT	Tetanos Toxoid
VCT	Voluntary Counselling and Testing

Planning Module I - Preparing for HIS Strategy Design and Planning

Introduction

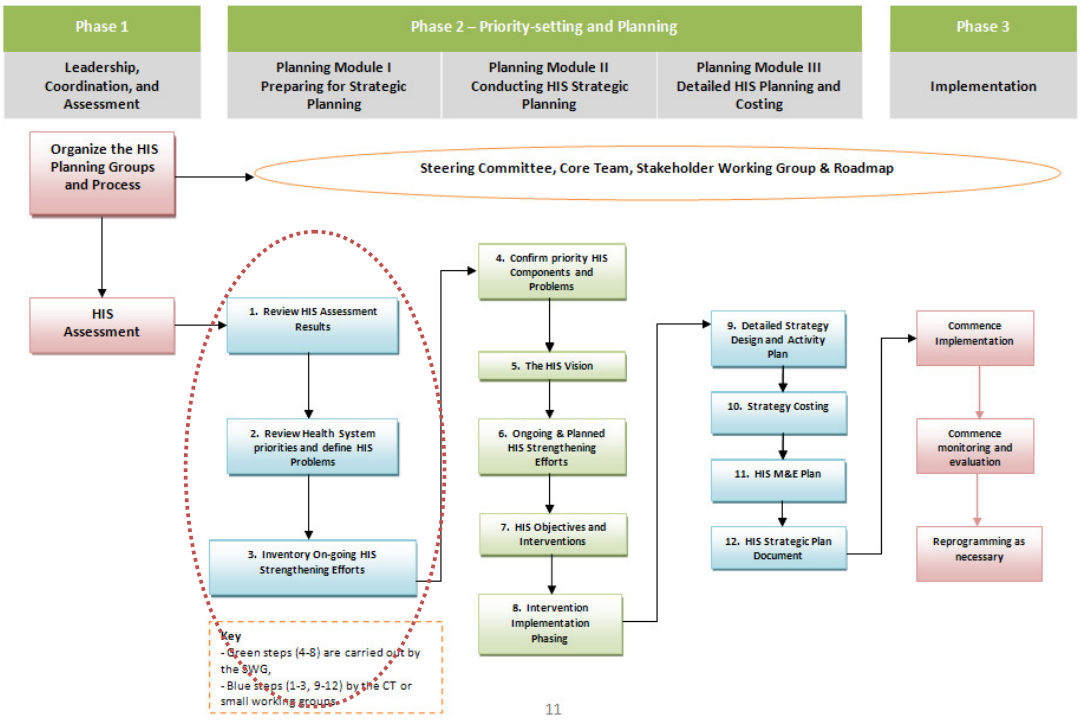
Now that you have completed the assessment of your country's HIS and you have enumerated the results using the HMN assessment spreadsheet tool, you enter Phase 2, Planning Module I.

Module Purpose

Begin to prepare for the HIS Strategy Design.

Module Participants and Responsible Groups

Steps 1, 2 and 3 comprise Planning Module 1. All are carried out by the staff of the Core Team, supplemented as necessary with staff support from various other offices and programs, particularly those from the HIS Assessment Key Informant Group. In the following paragraphs we will refer to this team as "the Preparation Team".



Step 1. Review HIS Assessment Results

This step is to prepare the Core Team for defining priority HIS problems by first:

- Determining the average assessment scores for each HIS component
- Noting the low-scoring (generally scores below 1.8 out of 3.0)
    - HIS components
    - Key questions

Tip: If a review and verification of the scores derived from the HIS assessment tool (to identify and resolve any anomalies, missing or miss-coded values in the scoring) was already carried out during the assessment analysis and report preparation, it does not need to be done here.

Step 2. Review the Health System Priorities and Define HIS Problems

This step is relevant to ensure that the Preparation Team is:

- Deeply familiar with the health policy framework and priority health problems
- Prepared to summarize priority health problems, services and indicators of their trends for reference by the Stakeholder Working Group in Module II of the Planning Phase.
- Prepare statements of priority HIS problems

The first part of this step requires the Preparation Team to assemble and review all relevant information for defining current national health development objectives, priorities, strategies and indicators.

This review of the health policy framework prepares the Preparation Team to formulate HIS problems in the context of the health system. Each low-scoring HIS Component and its array of low-scoring assessment questions, especially low-scoring key questions, provide the subject matter for HIS problem statements. It is expected that when assessment question responses are totalled and averaged for each HIS Component, two to four of the six HIS components will likely be defined as Priority Components for receiving attention during the strategy design. In addition, low-scoring "Key HIS Assessment Questions" located in non-priority HIS components will be identified for problem definition, in order that they will continue to receive attention. The low-scoring questions within each priority HIS Component and all low-scoring Key Questions are then translated into HIS problem statements.

Results from other relevant assessments of health services and data may also be considered to more fully define the HIS problems.

The result of this step is the identification of priority HIS Components and all defined HIS problems, both within the priority Components and for key HIS questions in other components of the system. This list becomes the set of problems for which strategic interventions are to be designed in Planning Module II. Since the Preparation Team will be formulating the HIS problems in the context of the health system "domains" it is useful for the team to highlight through colour coding those intersections of priority HIS Components and the health system domains most affected by HIS gaps or performance deficiencies on a table (see Table 1.1) designed for that purpose.

Step 3. Inventory on-going HIS Strengthening Efforts

A considerable amount of information is called for during the HIS Strategic Planning process in Planning Module II, the assembly of which begins in Phase 1 as part of the HIS assessment prioritizing of HIS gaps and formulation of HIS problems. Critical among this material is the current policy guidance for the national health sector and system development, as assembled in Step 2.

It is proving to be increasingly important to enumerate on-going and planned HIS strengthening efforts and their sources of financial and technical support. For this purpose, an inventory of all on-going HIS development projects and activities is created at this point. Other materials relevant to current HIS activity such as data bases currently maintained, reports currently developed and basic and in-service training, as listed in the guidance for Step 3, are important to assemble at this point, to the extent that they are available.

Creating an HIS Strategic Planning Programme

Finally, the HIS Strategy Design process, as carried out by the Stakeholder Working Group in Planning Module II, benefits from the preparation of detailed guidance, including supporting materials and recommended formats. This is referred to as the *HIS Strategy Planning Programme* for which a generic version is attached as Appendix II.K - Generic HIS Strategic Planning Programme (page 106) which must be tailored for the local schedule and participation and include the appropriate finalization and insertion of the above materials.

The assembly and preparation of this array of information takes time and therefore may begin early in Phase 1 and be completed at this point.

The following pages provide guidance for carrying out these three steps with recommended tasks and formats in the style of guidance that will be used in the HIS Strategy Planning Programme and across all planning steps.

Step 1 - Review HIS Assessment Results

Step 1 - Review HIS Assessment Results	
PARTICIPATION: Preparation Team	**EST. TIME:** 2 to 4 days

OVERVIEW:

After the HIS assessment has been completed and the results for the questionnaire have been tallied (in Phase I), it is necessary to review and verify the results and determine the average scores of each category of the assessment (HIS Component). Low-scoring questions are identified from which HIS Problems will be defined.

OBJECTIVE:

At the end of this step, the Preparation Team is expected to have produced a table that displays the average assessment scores for each HIS Component. These averages, along with all low scoring "Key Questions," will be listed for each HIS Component in the table provided.

MATERIALS:

- Note on "Health System Domains" See Appendix I.A: Health System Domains (page 40)
- Appendix I.B - HIS Components (page 42)
- Note and List of "Key Assessment Questions". See Appendix I.C - Key HIS Assessment Questions (page 43)
- Spreadsheet tool for calculating average assessment scores by HIS Component (Distributed separately)
- HIS Assessment spreadsheet tool (Version 4.0) with the resulting data and scores tabulated for each question and assessment category (Distributed separately)

TASKS:

1.1 **Discuss** the definition and content of HIS components.
1.2 **Discuss** the purpose and process of setting priorities across HIS Components.
1.3 **Validate** the assessment data.
1.4 **Complete** Table 1.1.

PRODUCTS

- Verified and adjusted HIS assessment question scores (to resolve anomalies found)
- Table 1.1 displaying average scores for HIS Component and low-scoring key questions for each HIS Component

Task 1.1

Discuss the definition and content of HIS components and information categories (as listed in the two left columns of Table 1.1) and the definition of the functions of the national health system, listed as "domains" across the column headings of Table 1.1. See Appendix I.B - HIS Components (page 42).

Adjust titles of Health System Domains in Table 1.1 column headings. This discussion offers an opportunity to the Preparation Team to adjust the titles to better reflect the structure of their national health system.

Suggested discussion questions:

- What criteria are used for effective Human Resource management in the health sector in your country? Which of these are fundamental and why?
- What criteria inform financial resource allocation and what mechanisms exist for their efficient and effective utilization and tracking?
- What is the primary data source for health service coverage design and implementation?
- How might procurement and supply chain management improvements impact on improved access to health services for the population?

Tip: Table1.1 is used extensively throughout Steps 1 and 2. Take a few minutes now to familiarize the team with table 1.1 and its uses; see pages 24, 29, and 32.

Task 1.2

Discuss the purpose and process of setting priorities across HIS Components for subsequent problem definition and intervention design for performance improvement. This discussion should include an explanation about the spreadsheet tool and how it averages the scores resulting from the assessment for each HIS component.

Suggested discussion questions:

- "A high scoring HIS components in the HIS Assessment does not require being considered as priority for intervention to strengthen the HIS because the component is already well performing/functioning." Discuss why this is a misleading statement.
- All low scoring HIS components or low scoring key questions in HIS Components must all be given the same priority attention on the basis of these having the same numeric values. True or false? Discuss your answer.
- Is there a need to undertake an analysis of HIS Component performance or score for the Assessment result before prioritizing them? Why?
- What is the value in analyzing the individual questions' scores (rating) in each HIS component?

Task 1.3

Validate the assessment data. The importance of valid question scores should be stressed. If assessment data validation was not carried out during the assessment analysis and report preparation in Phase 1, it should be done now. This requires the Preparation Team to review the individual scores and totals for all questions, look for and correct anomalies such as missing values, scoring by staff with no knowledge of the subject and obvious data errors.

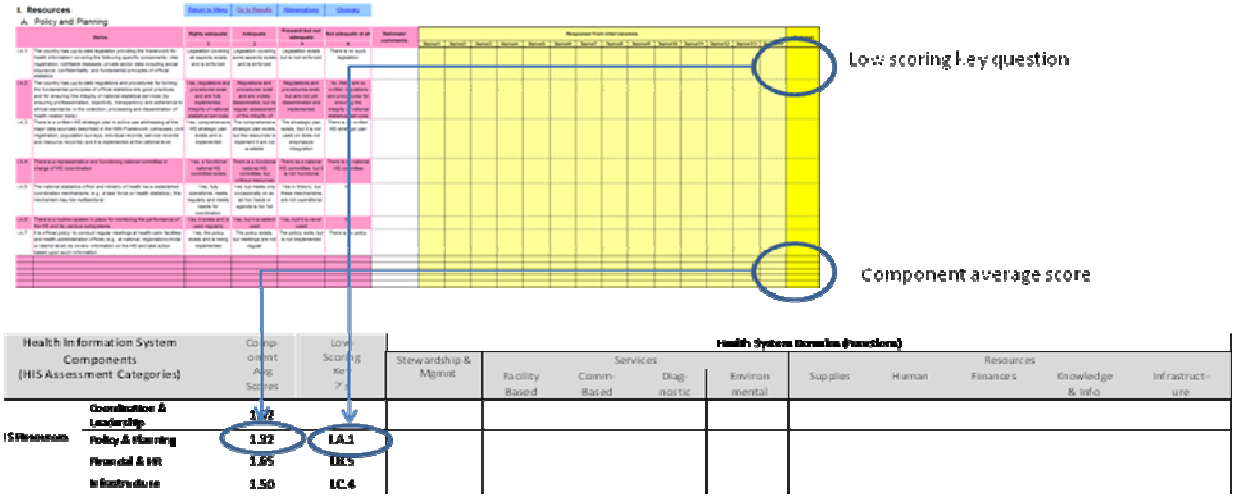
The spreadsheet scoring tool provided by HMN for calculating average scores may have to be adjusted at this point to correspond to the version of the HIS Assessment Questionnaire used in the country. After these adjustments are made the assessment data is loaded into to the tool and the assessment tabulation is run.

Task 1.4

Complete table 1.1 by copying the identifier of each low-scoring Key Question along with the HIS Component assessment average scores. For an example, see page 24.

Both HIS Component assessment average scores as well as low-scoring Key Questions are identified from the HIS assessment spreadsheet tool.

Figure 4 – Copying assessment scores into the Table 1.1



Task 1.4
Identify and enter into Table 1.1 the identifier of each low-scoring Key Question along with the HIS Component assessment average scores.

Table 1.1 – Low-scoring HIS Components and Key Questions Related to Health System Domains

Task 1.1
Adjust the column headings to reflect structure of your country's national health system.

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
					SERVICES				RESOURCES						
				STEWARSHIP and Management	Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
HIS Resources															
Coordination, planning and policies															
Financial & HR															
Infrastructure															
Indicators															
Data Sources															
Census															
Civil Registration															
Population Surveys															
Health & Disease Records (Individual)															
Service Records															
Resource (Admin) Records															
Data management															
Information Products															
Mortality															
Morbidity															
Health System															
Risk factors															
Dissemination & Use															
Analysis															
Planning & Priority setting															
Resource Allocation															
Implementation and Action															

Table 1.1 – Example of Low-scoring HIS Components and Key Questions

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
					SERVICES				RESOURCES						
				STEWARSHIP and Management	Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
HIS Resources															
Coordination, planning and policies	1.32	I.A.1													
Financial & HR	1.65	I.B.5													
Infrastructure	1.50	I.C.4													
Indicators	2.16	II.A.5													
Data Sources															
Census	0.90	III.A.1 III.A.2													
Civil Registration	0.15	III.B.1.2 III.B.2.1													
Population Surveys	2.27	III.C.2.1 III.C.4.1													
Health & Disease Records (Individual)	1.35	III.D.1.1 III.D.2.1 III.D.2.6													
Service Records	2.00	III.E.2.4 III.E.3.2													
Resource (Admin) Records	1.05	III.F.1.6/ 7													
Data management	1.92														
Information Products															
Mortality	0.87	V.A.1.1 V.A.2.1													
Morbidity	0.66	V.A.5.1													
Health System	0.96	V.B.10.1 V.B.13.1													
Risk factors	0.48														

Table 1.1 Example continued

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
				STEWARSHIP and Management	SERVICES				RESOURCES						
					Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
Dissemination and Use															
Analysis	1.86														
Planning & Priority setting	2.01	VI.C.2													
Resource Allocation	1.68	VI.D.2/3													
Implementation and Action	1.83	VI.E.1-3													

Step 1 - Exit

Products Checklist

Before beginning step 2, confirm you have completed the following:

- ✓ Verified and adjusted HIS assessment question scores (to resolve anomalies found).
- ✓ Ensured Table 1.1 displays average scores for:
  - HIS Component low-scores
  - Key questions for each HIS Component
- ✓ Ensured country participants have signed-off on the step.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 2 - Review Health System Development Priorities and Define HIS Problems

Step 2 - Review Health System Development Priorities and Define HIS Problems	
PARTICIPATION:	**EST. TIME:**
Preparation Team	2 days

OVERVIEW:

Step 2 provides the national HIS development team (SC, CT and SWG) with an approach to derive the relative priority of the various HIS Components. This is done for those components receiving HIS development attention over the HIS Strategic Plan period, and is based on the scores received from the HIS assessment. Moreover, the step is designed to enable such prioritization to be conducted in relation to the National Health System and its development objectives and priorities. The desired result is a list of priority HIS problems that are felt to most require attention within the HIS strategy design and planning process in order to improve HIS performance and information use.

OBJECTIVE:

At the end of this step the Preparation Team will have assembled and structured a set of information depicting the health policy framework of the country and displayed specific objectives and priorities of the current health development plan. In addition, a set of HIS problem statements will have been formulated in response to the low-scoring HIS Components and Key low-scoring Questions, defined in relation to the Health System domains to which they most strongly relate.

MATERIALS:

- Example tables for presenting current health priorities (health problems and related services) and related indicators, (pages 48, 49)
- Table 1.1 with average scores for each HIS Component and list of low-scoring key questions.
- Checklist of documents for use during Module II and III. See Appendix I.D - Checklist of documents for use during Modules II and III (page 47)

TASKS:

2.1 **Assemble** all current health system and development policy documents.
2.2 **Review** the policy information and prepare additional documents.
2.3 **Colour-code** Table 1.1 from Step 1 to highlight low-scoring components and the health system domains most affected by poor performance HIS components.
2.4 **Define** HIS problems from each low-scoring HIS Component and low scoring key questions.

PRODUCTS

- Tables presenting the results of the health policy review
- Table 1.1 from Step 1, with colour coding added and the HIS problems formulated

Task 2.1

Assemble all current health system and development policy documents related to the following aspects of health policy (some may already be available from activities in Phase 1.):

- National Health Vision, Mission, goals, objectives, development strategies and priority population groups.
- Priority Health Problems (risk factors, diseases, conditions and outcomes)
- Essential health services for preventing and managing priority health problems
- List of current indicators of priority health problems, essential services and resources

See Appendix I.D - Checklist of documents for use during Modules II and III (page 47)

Task 2.2

Review the policy information and prepare as a minimum the following:

- Extracted health Vision, Mission and goal statements
- A table of priority health problems and related essential services, see example on page 48
- A table of current indicators for monitoring priority problems and services, see example in Appendix I.F - National Health Indicators (Illustrative), (page 49)

Task 2.3

Colour-code Table 1.1 from Step 1 to highlight low-scoring components and the health system domains most affected by poor performance HIS components. Use yellow for domains moderately affected and red for domains severely affected. For an example see Table 1.1 – Example of Low-scoring HIS Components and Key Questions Related to Health System Domains (page 29).

Table 1.1 – Example of Low-scoring HIS Components and Key Questions Related to Health System Domains

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
					SERVICES				RESOURCES						
				STEWARSHIP and Management	Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
HIS Resources															
Coordination, planning and policies	1.32	I.A.5													
Financial & HR	1.65														
Infrastructure	1.50														
Indicators	2.16														
Data Sources															
Census	0.90														
Civil Registration	0.15	III.B.1.2 III.B.2.4													
Population Surveys	2.27	III.C.4.1													
Health & Disease Records (Individual)	1.35														
Service Records	2.00	III.E.1.1													
Resource (Admin) Records	1.05	III.F.2.2													
Data management	1.92	IV.4													
Information Products															
Mortality	0.87														
Morbidity	0.66														
Health System	0.96														
Risk factors	0.48														

Note: Red cells are severe problem areas, yellow are moderate problem areas

Table 1.1 Example continued

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
					SERVICES				RESOURCES						
				STEWARSHIP and Management	Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
Dissemination and Use															
Analysis	1.86														
Planning & Priority setting	2.01														
Resource Allocation	1.68														
Implementation and Action	1.83	VI.E.1-3													

Task 2.4

Define HIS problems from each low-scoring HIS Component and low scoring key questions in the Problem Statement column of table 1.1.

Priority HIS problems are identified based on low scores (1.80 and less). In addition, the team needs to consider the health system priorities and the health system domains most affected by the HIS deficiency when identifying priority HIS problems.

For each HIS problem a statement needs to be developed. The Preparation Team may formulate problem statements which cover several similar or related low-scoring questions. Because of the way some multi-part questions are formulated, the team may also wish to break a single question into more than one problem statement. Results from other relevant assessments of health services and data may also be considered to more fully define the HIS problems.

For key low-scoring questions, the predominant performance vignettes (rationale) chosen may offer clues as to how the problem might be formulated.

A complete example is on page 32. In this example, certain HIS component and/or information category rows have been deleted because neither the Component nor the key questions yielded a low score, and thus did not require formulation of a problem statement. Your team may decide to retain all rows of table 1.1, either approach will serve the following steps just fine.

Table 1.1 – Example Formulating HIS problem statements from low-scoring HIS Assessment questions and other assessment results

Health Information System Components (HIS Information Categories)	Component Average Scores	Low Scoring Key ?s	Key Question Text	Health System Domains (Functions)										Rationale (Vignette)	Problem Statements (Component and Key question)
					SERVICES				RESOURCES						
				STEWARSHIP and Management	Facility Based	Comm-Based	Diagnostic	Environmental	Supplies	Human	Finances	Knowledge & Info	Infrastructure		
HIS Resources															
Coordination, planning and policies	1.32														There is no policy framework (vision, strategy or plan) for HIS Development.
Coordination, planning and policies	1.32														There is little relevant legislation governing performance monitoring and reporting.
Coordination, planning and policies	1.32	I.A.5	Country Statistical Offices and the Ministry of Health have established coordination mechanisms (e.g. task force on health statistics; this mechanism may be multi-sectoral).											Yes, in theory, but these mechanisms are not operational.	Coordination among ministries and departments handling social statistics is rare.
Financial & HR	1.65														There is limited staff capacity to perform core HIS tasks and functions.
Infrastructure	1.50														There is inadequate support for ICT equipment maintenance at regional and district levels.
Data Sources															
Census	0.90														There has been no census in the last ten years.
Civil Registration	0.15														Civil registration data is totally inadequate in terms of completeness and validity as managed by the Ministry of Interior.
Civil Registration	0.15	III.B.1.2	Coverage of vital registration of deaths (in percent).											50-69%	Coverage of vital registration of deaths is approximately 60%.
Civil Registration	0.15	III.B.2.4	Proportion of all deaths coded to ill defined causes - in percent.											20% or more of death registrations indicate no cause of death.	Approximately 40% of all deaths are coded to ill-defined causes, or have no cause shown.
Population Surveys	2.27	III.C.4.1	There are meetings and a multi-year plan to coordinate the timing, key variables measured and funding of nationally representative population-based surveys which measure health indicators.											Plan exists but is incomplete and/or coordination group is unable to effectively coordinate surveys.	Despite our best intentions, we have been unable to plan, fund and implement population-based surveys in a continuously coordinated manner.

Table 1.1 Example, Data Sources continued

| | | |

Step 2 - Exit

Product Checklist

Before beginning step 3, confirm you have completed the following:

- ✓ Completed tables presenting the results of the health policy review.
- ✓ Filled in Table 1.1:
  - HIS Component low-scores
  - Key questions for each HIS Component
  - Colour coding added to Component Average Scores, Low Scoring Key Questions and across Health System Domains
  - Problem Statements

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 3 - Inventory of On-going HIS Strengthening Efforts

Step 3 - Inventory of On-going HIS Strengthening Efforts	
PARTICIPATION:	**EST. TIME:**
Preparation Team	One week, part time

OVERVIEW:

Step 3 of Planning Module 1 supports the assembly and presentation of an inventory of on-going and planned HIS strengthening projects and activities. A table giving the local titles and data sources related to the HIS Components is constructed.

OBJECTIVE:

At the end of this step the Preparation Team will have assembled a list of on-going and planned HIS strengthening efforts.

MATERIALS:

- A Note on HIS Strengthening Efforts. See Appendix I.G – What are HIS Strengthening Activities? (page 51)
- Table 3.1 - listing of current HIS Strengthening Efforts (page 36)
- Example of a listing of current HIS Strengthening Efforts (page 37)
- Examples of other HIS related information

TASKS:

3.1 **Develop** inventory of on-going and planned HIS strengthening efforts
3.2 **Gather** additional information pertaining to the HIS.

PRODUCTS

- Table 3.1 – Ongoing and planned HIS strengthening efforts and support (page 36)
- Additional information from the recommended list that is felt relevant

Task 3.1

Develop inventory of on-going and planned HIS strengthening efforts.

- Read Appendix I.G – What are HIS Strengthening Activities? (page 51)
- Study the difference between the HIS strengthening (or development) activities, as compared to routine data management and use.
- Now prepare for completing the inventory of on-going and planned HIS strengthening efforts and fill in table 3.1 (page 36). An example is on page 37.

Note: You will present and discuss this table in Step 6. You will carry over most of the on-going HIS strengthening efforts into the HIS Strategic Plan.

Table 3.1 - Inventory of On-going and Planned HIS Strengthening Efforts

No	Title and Subject of the Strengthening Activity	Responsible Office	Important Products	Implementation Time Period	Financial and Technical Support	Sources of external support
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Table 3.1 – Example Inventory of On-going and Planned HIS Strengthening Efforts

Listed below are Health Information System strengthening and development efforts and activities that are known to be underway or planned for implementation in the immediate future. We will continue to add to and update this list as additional efforts are identified.

No	Title and Subject of the Strengthening Activity	Responsible Office	Important Products	Implementation Time Period	Financial and Technical Support	Sources of external support
1	Develop HIS Strategic Plan	GDPP & APHI	HIS Strategic Plan	2009 - 2013	Short-Term Technical Assistance (STTA)	HMN/TS
2	Improve Human Resources Database	HR & HMIS	Manual and database	2009 – 2010	TA	MSH
3	Revise Community Based HMIS	CBHC & HMIS	Forms, manual and database	2009 – 2011	Funds and TA	GAVI, MSH
4	Revise Hospital HMIS	CCD & HMIS	Forms, manual and database	2009 – 2011	Funds and TA	MSH, GAVI
5	Standardize patient record system at hospitals	CCD & HMIS	Policy, required information products and database	2009 – 2011		
6	Revise Balanced Scorecard	3rd party	Manual and database	2009 – 2013	Funds and TA	WB, JHU
7	Develop Drug Management Information System	DG pharmacy	Manual and database	2009 – 2011	Funds and TA	MSH
8	Design and implement measurement system for Results Based Financing Initiative	GDPP	Project design and evaluation document	2009 - 2013	12 million	WB/NG
9	Support development of Program Budgeting Initiative	MoF & HCF	Program objectives, indictors and budgeting document	2008 – 2009	Funds and TA	MoF, EC
10	Support development of Provincial Planning Initiative	GDPP	Guidelines, training manual and pilot experience document	2008 – 2009	Funds and TA	EPOS/EC
11	Support development of District Health Officers	GDPP	DHOs at the district level	2008 – 2012	Funds	GAVI
12	Revise National Monitoring Checklist and database	GDPP / M&E	Guidelines and implementation plan	2009 – 2012	$27,200	GAVI
13	Design and implement Integrated	3rd party	Guidelines, manual and	2008 - 2012	Funds and TA	WB

No	Title and Subject of the Strengthening Activity	Responsible Office	Important Products	Implementation Time Period	Financial and Technical Support	Sources of external support
	Behavioural and Biological Surveillance for HIV		database			
14	Design and implement Community Demographic Surveillance System	3rd party	Guidelines, manual and database	2009 – 2011	Funds	GAVI
15	Support further expansion of pilot VR system	MoI	Guidelines, manual and database	2008 – 2010	Funds	UNICEF
16	Updating DEWS database	DEWS	Database	2008 – 2009	Funds	WHO
17	Afghan Financial Management System(AFMIS)	Finance Dept	Database	2008 – 2010	Funds and TA	USAID
18	GF Round 8 HIS proposal submitted as part of the Malaria proposal; includes: 1. Strengthen routine data and trend analysis 2. Add HIV, TB, Malaria indicators to HMIS 3. Establish comprehensive PH Survey and OR program 4. Confirm central and provincial responsibilities, procedures for surveillance and outbreak response 5. Provincial data use processes for annual planning and service performance improvement	GCMU, HMIS, DEWS	1. Procedures, formats & training 2. Formats, procedures and g/l 3. Program plan &donor support 4. Procedures, g/l,FETP training 5. Procedures, g/l	Mid 2009 – Mid 2013	All, some or none of this could be approved by the GF. Results to be known by the end of October, 2008.	GF and sources of TA to be determined

Task 3.2

Gather additional information pertaining to the HIS (See Sub-tasks below). This information becomes useful and relevant in Module III when details of interventions are being planned.

Sub-Task 3.2.1

Compile list of active data bases. See Appendix I.H - Inventory of Databases (Illustrative) (page 52).

Sub-Task 3.2.2

Compile list of routine and ad-hoc reports. See Appendix I.I - Inventory of Routine Reports (Illustrative) (page 54).

Sub-Task 3.2.3

Compile list of existing basic and in-service training related to various aspects of recording, reporting and data use. See Appendix I.J - Inventory of Existing and Planned HIS-Related Training (Illustrative) (page 55).

Step 3 Exit

Product Checklist

Before beginning Module II, step 4, confirm you have completed the following:

- ✓ Completed Table 3.1 – Ongoing and planned HIS strengthening efforts and support.
- ✓ Added additional information from the recommended list that is felt relevant.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

MODULE I APPENDICES

Appendix I.A: Health System Domains

It is intended that the HIS Strategy focus on enhancing the generation and use of information in support of Health System functioning across defined domains of Health System Services and Resources. The HMN Secretariat has defined ten Health System Domains which are intended to cover common functions (processes) carried out by health systems which generate and require various types of data and information. The following table defines these domains:

Health System Domains

(As defined in the HMN paper *The Case for a National Health Information System Architecture,* Stansfield et al., 2008)

Health System Domain	Processes	Archetypical Users
Facility Based Services	Patient registry Individual health record Registration of death Registration of birth Classification of disease Classification of symptoms Classification of procedures Notification of reportable diseases Disease outbreak detection and reporting	Patient/guardian/parent Chief health officer Physician Nursing Officer Community health worker Trained birth attendant MCH worker District health manager Director of primary health care
Community Based Services	Registration of death Registration of birth Migration (In and Out) Demographic Surveillance System Disease outbreak detection and reporting	Community health worker Community leader District medical officer National Health Manager
Diagnostic Services	Collect and register specimen Determination of results Associate result to patient Notification of reportable diseases Classification of disease Patient Registry	Chief health officer Physician Nursing Officer Surveillance officer Laboratory technician
Commodities Supply Chain	Central stock monitoring Facility stock monitoring National demand forecasting District demand Forecasting Stock threshold alerting & notification Distribution and logistics management Service delivery monitoring Service delivery forecasting	Chief health officer Facility health manager District health manager District store manager Provincial health manager Pharmacist Central store manager District store manager
Human Resources in Health	Taxonomy of health workforce Recruitment, credentialing, hiring of health workers Monitoring deployed workforce Reporting priorities for recruitment & training	National health manager National finance manager Provincial health manager District health manager Facility health manager
Environmental Services	Water quality and access mapping Sanitation resources and access Environmental conditions & history of natural disasters & events Classification of monitoring procedures Routine environmental monitoring	Chief health officer Physician District health manager Provincial health manager National surveillance officer
Stewardship & Management	Family of International Classifications Access to health protocols & research Aggregation of routine data Linking of routine and population data	Chief health officer Physician District medical officer Provincial medical officer

Health System Domain	Processes	Archetypical Users
	Budget & expenditure reporting Analysis and representation of data Monitoring of urgent health events Disease outbreak detection and reporting MDG and M&E reporting	Global M&E officer Community health worker
Finance Resources for Health	Patient services fee for service collection Health insurance enrolment Health services insurance settlement National and sub-national budgeting National and sub-national expenditure tracking National and sub-national revenue tracking	Chief health officer District health manager Provincial health manager National health finance officer National treasury finance officer
Knowledge and Information Resources	Presentation of protocols for care delivery Access to research and authoritative source materials Delivery of skills development courseware	Chief health officer Community health worker Physician National director of nursing National health manager Facility manager
Infrastructure Resources	Physical assets inventory Existing asset replacement forecasting New asset investment forecasting Physical asset maintenance management	National health director Provincial health manager District health manager Facility manager

Appendix I.B - HIS Components

It should be noted that the six main categories of questions presented in the HMN HIS Assessment Tool derive directly from the six main HIS Components defined in the HMN Framework document, represented here in the left part of the conceptual HMN Framework (Figure 1 of the Second Edition of the HMN Framework and Standards document, 2008).

These six HIS Components therefore become the initial categories for summarizing the results of the assessment through the use of the average scores achieved by each component.

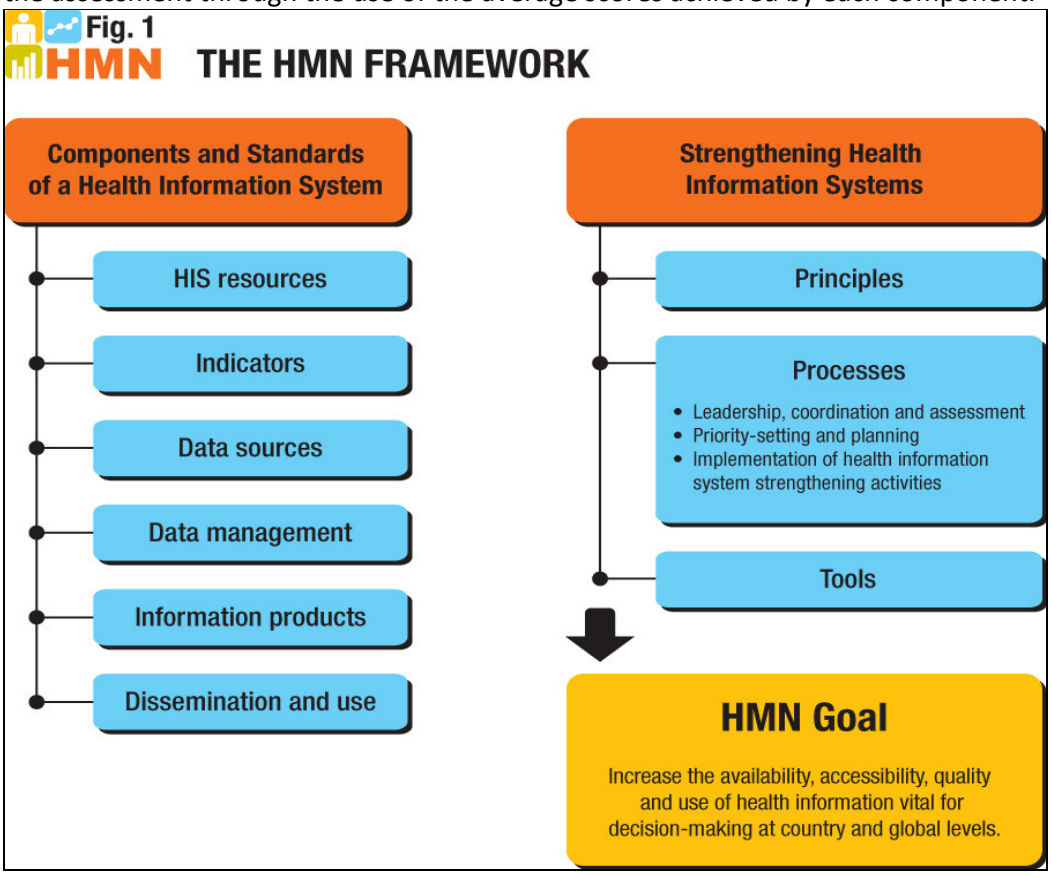


Table 1.1 (page 23) provides a table for entering the results of the HIS assessment across the six HIS Components (Categories of assessment, the left most column). In addition, HMN desires that low scores of certain "Key Questions" also be noted individually for each HIS Component. These are listed in the second column of the table. The Health System Domains are listed as column headings across the remainder of the table (the topmost row).

The example shown as Table 1.1 (page 24) illustrates how the attention of the working groups (SWG and SC) may be drawn to those HIS components with the lowest average scores and therefore, in most need of attention. By looking down the rows, it is possible to identify the HIS Components (assessment categories) with the lowest average scores and colour them in red. In addition, it is possible to note those HIS components with low-scoring key questions. Each low-scoring Component and Key question can be the basis for defining Priority HIS Problems in Step 2. Further, through colour coding, it is possible to depict for each HIS component, which Domains of the Health System are most affected by low performance of the HIS. This reflection of the domains affected can be helpful when defining each HIS problem (i.e., the context of the problem can be spelled out), and the colour-coded table can be useful when presenting the array of priority problems to the Stakeholder Working Group and Steering Committee.

Appendix I.C - Key HIS Assessment Questions

The Health Metrics Network Secretariat recognizes that the HIS Assessment Tool contains a large number of questions across the six categories of inquiry. It has therefore reviewed the entire set of questions and identified those questions which are felt to address the most important HIS capacities in all countries. It is proposed that when such key questions receive scores below the agreed cut-off value they should be identified in relation to their HIS Component and become the subject of a problem statement, whether or not they fall within an HIS Component whose average score is below the cut-off. This is to avoid missing crucial "hidden" aspects of low HIS functionality within an HIS component that is otherwise satisfactory. The current list of Key HIS Assessment Questions is shown below:

I. HIS resources

I.A.1 The country has up-to-date legislation providing the framework for health information covering the following specific components: vital registration, notifiable diseases, and private sector data including social insurance, confidentiality and fundamental principles of official statistics.

I.A.5 The national statistics office and Ministry of Health have established coordination mechanisms (e.g. task force on health statistics); this mechanism may be multi-sectoral.

I.B.5 At sub-national levels (e.g. regions / provinces, districts) there are designated full-time health information officer positions and they are filled.

I.B.6 HIS capacity building activities have taken place over the past year for HIS staff of the ministry of health (statistics, software and database maintenance and/or epidemiology) at national and sub-national levels.

I.C.3 Computers are available at the relevant offices at national, regional and district levels to permit rapid compilation of sub-national data.

I.C.4 A basic information and communication technology (ICT) infrastructure (telephones, internet access, e-mail) is in place at national, regional and district levels.

II. Indicators

II.1 National minimum core indicators have been identified for national and sub-national levels covering all categories of health indicators (determinants of health; health system inputs, outputs, outcomes; health status).

II.5 Reporting on the minimum set of core indicators occurs on a regular basis.

III. Data sources

III.A.1.1 Mortality questions were included in the last census:

- Questions to estimate child mortality – children ever born and children still alive;
- Questions to estimate adult mortality – household deaths in the past 12 (or 24) months including sex of deceased and age-at-death.

III.A.2.1 The country has adequate capacity to (1) implement data collection, (2) process the data and (3) analyze the data.

III.B.1.2 Coverage of deaths registered through civil registration (in percent)

III.B.2.1 The country has adequate capacity to (1) implement data collection, (2) process the data and (3) analyze the data from civil registration or SRS or DSS.

III.C.1.1 In the past 5 years, a nationally-representative survey has measured the percentage of the relevant population receiving key maternal and child health services (family planning, antenatal care, professionally attended deliveries, immunization).

III.C.1.2 In the last five years, a nationally representative survey has provided sufficiently precise and accurate estimates of infant and under-five mortality.

III.C.2.1 The country has adequate capacity to (1) conduct household surveys (including sample design and field work), (2) process the data; and (3) analyse the data.

III.C.4.1 There are meetings and a multiyear plan to coordinate the timing, key variables measured and funding of nationally representative population-based surveys which measure health indicators.

III.D.1.1 For each of the key epidemic-prone diseases (e.g. cholera, diarrhoea with blood, measles, meningitis, plague, viral haemorrhagic fevers, yellow fever, SARS, bird flu) and diseases targeted for eradication/elimination (e.g. poliomyelitis, neonatal tetanus, leprosy) appropriate case definitions have been established and cases can be reported on the current reporting format.

III.D.1.2 For health conditions of substantial public health importance other than in 1.1 above (i.e. leading causes of morbidity, mortality and disability such as pneumonia and diarrhoea with dehydration in children less than 5 years of age, malaria, tuberculosis, HIV/AIDS, sexually transmitted diseases, and non-communicable diseases), a surveillance strategy exists.

III.D.2.1 The country has adequate capacity to (1) diagnose and record cases of notifiable diseases, (2) report and transmit timely and complete data on these disease (3) analyze and act upon the data for outbreak response and planning of public health interventions.

III.D.2.3 Percentage of health facilities submitting weekly or monthly surveillance reports on time to the district level.

III.D.2.6 Use of facility-retained patient medical records to support quality and continuity of care.

III.E.1.2 There is a systematic approach to evaluating the quality of services provided by health facilities. This includes both (a) systematic standardized supervision with reporting of findings to district and national levels and (b) a health facility survey of all facilities or of a nationally-representative sample at least once every 5 years.

III.E.2.3 There are mechanisms in place at national and sub-national levels for supervising and receiving feedback on information practices in the public sector.

III.E.3.2 Degree to which districts or similar administrative units compile their own monthly, and annual summary reports, disaggregated by health facility.

III.E.4.1 Degree to which vertical reporting systems (e.g., for tuberculosis or vaccination) communicate well with the general health service reporting system.

III.F.1.1 There is a national database/roster of public and private sector health facilities. Each health facility has been assigned a unique identifier code that permits data on facilities to be merged.

III.F.5.1 There is a national human resources (HR) database that tracks the number of health professionals by major professional category working in either the public or the private sector.

III.F.7.1 Financial records are available on general government expenditure on health and its components (e.g. by ministry of health, other ministries, social security, regional and local governments, and extra budgetary entities) and on private expenditure on health and its components (e.g., household out-of-pocket expenditure, private health insurance, NGOs, firms, and corporations).

III.F.7.2 There is a system for tracking budgets and expenditure by all the financial agents listed above in F.7.1 disaggregated by sub-national or district level.

III.F.11.1 Each facility is required to report at least annually on the inventory and status of equipment and physical infrastructure (e.g. construction, maintenance, water supply, electricity and sewage system) in the public sector.
III.F.11.2 Each facility is required to report at least quarterly on its level of supplies and commodities (e.g., drugs, vaccines, contraceptives, other supplies) in the public sector.

IV. Data management

IV.1 There is a written set of procedures for data management including data collection, storage, cleaning, quality control, analysis and presentation for target audiences and these are implemented throughout the country.
IV.2 The HIS unit at national level is running an integrated "data warehouse" containing data from all data sources (both population-based and facility-based sources including all key health programmes) and has a user-friendly reporting utility accessible to various user audiences.

V. Data Quality

V.A.1. Under-5 mortality (all causes) data collection method used for estimate published most recently or to be published.
V.B.1 Maternal mortality: data collection method used for estimate published most recently or to be published.
V.C.1 HIV prevalence data collection method used for estimate published recently or to be published

- 1.1. if generalized epidemic
- 1.2. if concentrated epidemic

V.D.1 Measles vaccination coverage by 12 months of age can be estimated from routine administrative statistics submitted by at least 90% of immunizing health facilities. These statistics are systematically reviewed at each level for completeness and consistency and inconsistencies are investigated and corrected. To calculate coverage, reliable estimates of population are available.
V.F.1 TB treatment success rate under DOTS: Source of data and method used for most recent data
V.H.1 Private expenditure on health per capita (households' out-of-pocket, private health insurance, NGOs, corporations): data collection methods used for most recent data
V.I.1 Density of health workforce (total and by professional category) by 1,000 population: Routine administrative records are validated with findings from a regularly conducted health facility survey/census, labour force survey or the national population census.
V.J.1 Smoking prevalence (15 years and older): data collection methods used for most recent data.

Dissemination and use

VI.B.1. Integrated HIS summary reports including information on a minimum set of core indicators (including those used to measure progress towards achieving MDGs and those used by Global Health Partnerships (GHPs), if applicable) are distributed regularly to all relevant parties.
VI.C.1 Health information (population health status, health system, risk factors) is demonstrably used in the planning process, e.g. for annual integrated development plans, medium-term expenditure frameworks, long-term strategic plans and annual health sector reviews.

VI.D.1 HIS information is widely used by district and sub-national management teams to set resource allocation in the annual budget processes.
VI.D.2 HIS information is used to advocate for equity and increased resources to disadvantaged groups and communities (e.g. by documenting their disease burden and poor access to services).
VI.E.1 Managers at health administrative offices at all levels use health information for local health service delivery management, continuous monitoring and periodic evaluation.
VI.E.2 Care-providers at all levels (national, regional/provincial, district, hospitals and health centres) use health information for health service delivery management, continuous monitoring and periodic evaluation.
VI.E.3 Information on health risk factors is systematically used to advocate for the adoption of lower-risk behaviours by the general public as well as in targeted vulnerable groups.

Appendix I.D - Checklist of documents for use during Modules II and III

The Preparation Team will gather and review:

Module II	Module III
✓ Current National Health Development Policies, goals, strategies, objectives, targets and political/societal values (usually available from the current medium-term national health development plan or strategy) ✓ Priority health problems (for which national reduction objectives have been set) ✓ Essential Health Services (for which national targets have be set) ✓ Current key health indicators ✓ Current HIS development efforts and external support ✓ Recent HIS development strategies and plans	✓ Current basic and in-service training of relevance to HIS ✓ A list of existing health and population data bases, data warehouses, meta-data dictionaries, their content and the responsible organizations ✓ A list of routine and periodic health publications and information promulgated in various media ✓ A list of current basic and in-service training of relevance to various aspects of data recording, analysis, reporting and use ✓ Unit, staffing and activity costs relevant to HIS development and operations

Checklist for *additional* information of use during both planning modules:

- ✓ An inventory of current technical cooperation in health
- ✓ Existing health and population data processing centres
- ✓ Number and location of full-time HIS management and support staff by type
- ✓ Results of in-depth sub-system and data assessments such as:
    - Disease Surveillance and Outbreak Response System
    - Drug Management System
    - Human Resource Management System
    - PHC facility routine recording & reporting
    - Service and program data quality audits
    - Results of health indicator data analysis and validity checks
    - Essential service coverage surveys (e.g. immunization, maternal care) and comparison with routine data
    - Health Sector Joint Program Reviews
    - Special Program Reviews (e.g. TB, Malaria, HIV/AIDS, Leprosy, Goitre)
    - Results of health and social surveys
    - Facility and staffing surveys
    - Results of geo-coding of facilities and service availability mapping
    - Assessment of health service communications and internet access
    - Inventory of IT access
    - Lab system service and quality assessments
    - Quality of care assessments at various levels
    - Vehicle and equipment surveys

Appendix I.E - National Priority Health Problems and Related Essential Services[1] (Illustrative)

Priority Health Problems	Related Essential Health Services	
Infant Deaths	ANC, TT, delivery attendance, PP care coverage	Maternal and Child
Newborn complications	Qualified delivery attendance, TT immunization coverage	
Under-five Children Deaths	IMCI services and coverage	
Childhood Diseases – ARI, Diarrhoea, Dengue, Malaria, Malnutrition, Measles	IMCI – diarrhoea Treatment (ORT + Zinc), continuous feeding, Malaria Treat't, Pneumonia Treat't (antibiotics),	
Childhood Immunizable Diseases	Childhood Immunization coverage by antigen and district	
Malnutrition	Breastfeeding Promotion (early intro., exclusive for 6 m), Complementary Feeding, Growth monitoring, Iodized Salt, 6 m Vitamin A Supplementation, de-worming	
Maternal Deaths	Maternal Health Education, Qualified Delivery Attendance, ANC, EOC, maternal death audits, Maternity Preparedness Planning, Maternity Waiting Homes	
Maternal Complications	ANC, EOC, PNC	
Total Fertility Rate, Birth interval	BCC/IEC, provision of birth spacing services, CB FP	
Maternal nutritional deficiency	Iron/Folate supplementation, Post-partum Vit A supplem'n	
Reproductive Tract Infections	Treatment, Health Education	
Abortion	Safe abortion practice, post-abortion care and counselling	
STI	Education on STI prevention, Case detection, treatment, contacts	Communicable Diseases
HIV/AIDS	Education on condom use, VCT, PMTCT, ART, Blood donation screening	
TB	Case detection, DOTS, Health Education	
Leprosy	Case detection and referral, Health Education, Treatment	
DHF	Health Education, Case Detection, Treatment, Vector control activities (breeding site control), epidemic surveillance and early warning of outbreaks	
Malaria	Case detection, treatment, health education, promotion and use of ITNs, vector control and provision of insecticide	
Filariasis	Case detection, mass drug administration	
Schistosomiasis, Helminthiasis	Case detection and case management	
Blindness	Vitamin A supplementation, screening, Cataract removal	Non-Communicable Diseases
Dental Problems	Dental screening and treatment	
Mental Health Problems	School and community case detection, counselling	
Health Problems of the Elderly	Community care	
Injuries and Accidents	Emergency transport, trauma management	
Cancers	Anti-smoking legislation and promotion, screening	
Diabetes	Education, screening, case management	
CVD	Health education (diet), hypertension monitoring and control; Anti-smoking education	
Disaster Response	Disaster preparedness	Other
Environmental health risks	Sanitation improvement and access to safe water	

[1] *Extracted from the National Health Development Plan and national health programme documents.*

Appendix I.F - National Health Indicators (Illustrative)

Health Problems			Essential Services		
Problem	**Indicator**	**Source**	**Service**	**Indicator**	**Source**
Infant mortality	**IMR**	DHS	TT immunization	% of pregnant women with 2 TT	
<5 mortality	**U5MR**	DHS	IMCI	No. health centres implementing IMCI	
			Immunization	**% <1 y receiving DPT 3 immunization**	HIS/MoH
				% <1 y receiving measles antigen	HIS/MoH
<5 Diarrhoea	Cases Deaths		Diarrhoea case mgt	% <5 y diarrheal cases treated with ORS	
<5 ARI/Pneum	Cases Deaths		Pneumonia Treatment	% Pneumonia cases receiving antibiotics	
Child Malnutrition (6 mos to 5 yrs)	Cases Severe mal		BF Promotion	**% Mothers who start breastfeeding within 1 hour of birth**	
				% aged 0-6 months exclusively breastfed	
			Vit A Supplementation	**% 6-59 m receiving vit A every 6 months**	
			De-worming	% 2-59 m receiving mebendazole every 6 months	
Iodine deficiency	Cases		Iodized Salt	% Households consuming Iodized Salt	
Maternal mortality	**MMR**	DHS	Delivery	**% births attended by skilled personnel**	HIS/CDHS
			ANC	**% pregnant women receiving 2 ANCs**	
Maternal Nutritional Deficiency	**% Pregnant; Women 15-49 with iron deficiency anaemia**		Iron Supplementation	% pregnant women rec'g 60 Iron/folate tabs during 1st and 30 during 2nd consultation % postpartum mothers rec'g 42 Iron/folate	
			Vitamin A Supplementation	% postpartum women who received 1 Vit A capsule within 8 weeks of delivery	
Fertility	**TFR**	DHS	Birth spacing	**% married women using modern contraceptive methods**	HHS/HIS
HIV/AIDS	**Prevalence in adults 15-49 and among pregnant women at ANC**		Voluntary counselling/testing	# Operational Districts with VCCT	
			Blood Testing	% blood donor samples from Provincial level sent to NIPH for testing	

			HIV treatment	**% advanced HIV cases receiving ART combination therapy** **% HIV-infected pregnant women attending ANC and receiving complete course of ARP**	
			Condom Use	**% sex workers who used condoms during last intercourse** **% 15-24s who used condoms during last intercourse with Non Risk Sex Partner** **% condom use - high risk married women**	
Pulmonary TB	**Smear positive cases per 100,000** **Death rate per 100,000**	TB Survey /CENAT	Case detection	**Detection rate of smear positive pulmonary TB**	
			DOTS	No. health centres implementing DOTS	
				TB case cure rate (%)	
Malaria	Cases Deaths Incidence /1000 pop		Insecticide Treated Bednets	**%** <5 y children and **total population who slept under an ITN last night**	
				% of endemic villages that have re-treatment and replacement of bed nets annually	
			Malaria diagnosis	**% PH facilities able to confirm diagnosis re. national guidelines with 95% accuracy**	
			Malaria Treatment	**Cases treated in PH sector per 1,000 pop** **Malaria severe case fatality rate (%)**	HIS/MoH
Dengue Fever	Cases		Dengue Treatment	**No. cases treated in PH sector /1,000 pop**	
				Dengue case fatality rate (%) in PH facilities	
Environment			Water supply	% pop with access to safe water (U&R)	
			Sanitation	% pop with access to improved sanitation	

Note: Indicators in **bold** are listed in the National Millennium Development Goals Report

Appendix I.G – What are HIS Strengthening Activities?

When compiling on-going and planned HIS Strengthening Activities, it is suggested that any activity whose purpose is to develop new formats, data capture and flow procedures, databases, data analysis and reporting capability should be listed. HIS strengthening can be related to HIS Information Categories or HIS Components in support of Health System Domains. Examples of such HIS strengthening activities and products include:

- The development of new or improved records, registers, reports and data flow procedures
- The development of new computer applications for data entry, data base management, data analysis and report generation
- The design and conduct of new or strengthened training (basic and in-service) curricula and materials aimed at introducing new or improving the performance of existing data management and use functions at various levels of the health system
- The development and implementation of new procedures for facilitating the use of existing data in support of planning, monitoring and evaluation of health programmes and services
- The design and conduct of new surveys or survey modules, monitoring and evaluation processes and investigative procedures which are intended to be routinely or periodically applied in the future
- Any special data analysis effort and generation of information products using procedures that can be repeated in the future
- Revision and/or formulation of new legislation and regulations on health event notification and service reporting requirements
- Establishment of Statistical and Information Coordinating Committees

HIS-related activities which are NOT considered "strengthening" in nature and should NOT be reported in this table include:

- Routine maintenance and updating of existing computer applications
- Routine data entry, cleansing and analysis
- The conduct of routine in-service training in existing procedures and functions
- The conduct of existing, periodic census and surveys for monitoring trends in population growth and distribution, community health and service performance trends.
- The production of routine reports resulting from the analysis of routine service and survey data

Appendix I.H - Inventory of Databases (Illustrative)

SR	Name	Department or Organization	Support agency	Maintained by	Database	Periodicity	Summary
1.	HMIS	HMIS	Tech-serve	HMIS	Access	Quarterly	Routine reporting from health facility
2.	NHSPA	M&E	JHU / IIHMR	JHU / IIHMR	Stata	Annual	Sample survey of health facilities
3.	HR database	HR	Tech-serve	HMIS	Not computerized	Quarterly	Details of all personnel working in the health system
4.	Training database	All related departments	Tech-serve	HMIS	Access	Quarterly	All training of health personnel
5.	Grant database	GCMU	Tech-serve	HMIS	Access	Quarterly	
6.	NMC database	M&E	Tech-serve	Tech-serve	Access	Quarterly	
7.	Private pharmacy	Legislation Department			Not computerized		List of private pharmacies
8.	Private clinics	Private facility unit		Private facility unit	Not computerized		List of private clinics
9.	Private hospital	Central hospital directorate			Not computerized		List of private hospitals in Afghanistan
10.	Construction	Construction department		Construction department	Not computerized		List of newly constructed health facilities
11.	Financial management	Finance department		Finance department	Excel	Quarterly	Details of budget and expenditure from the core budget
12.	TB	NTCP	WHO	WHO	Excel/access	Quarterly	TB diagnosis and treatment

13.	Malaria	NMLCP			Excel	Quarterly	Malaria diagnosis and treatment
14.	Immunization	EPI	WHO	WHO	Excel	Quarterly	Number of children immunized
15.	Disease surveillance	DEWS	WHO		Excel	Weekly	No. of reported and confirmed cases
16.	Special studies	Research department			Access		Details of new research conducted
17.	LQAS		Tech-serve			Every two years	Sample based household survey database
18.	NRVA	CSO & MRRD	Various	CSO	Access	Every three years	Sample based household survey database
19.	Population estimates	CSO	EU	CSO	Excel		Population estimates

Appendix I.I - Inventory of Routine Reports (Illustrative)

SR	Name	Department or Organization	Support agency	Media	Periodicity	Summary
1	HMIS feedback	HMIS		Print	Quarterly	Feedback to provinces based on HMIS report
2	Health Sector BSC	M&E	3rd party	Print and online	Annual	Findings of sample survey of health facilities
3	Hospital sector BSC	M&E	3rd party	Print and online	Annual	Findings of survey of hospitals
4	Health Factsheet	M&E		Online	Annual	Priority health indicators
5	PHD report	GD PPH			Quarterly	Performance reports by PPHDs to central ministry
6	NRVA		CSO & MRRD		Every three years	Sample based household survey report. Provides estimates at provincial and central
7	CSO yearbook	CSO	CSO	Print	Annual	Multi-sector priority indicators
8	World Health Statistics	WHO	WHO	Print and online		
9	WHO indicators report	WHO	WHO	Print and online	Annual	Report on global health indicator
10	MoPH report	MoPH		Print	Annual	MoPH report to the parliament
11	MDG report			Print and online	Every three years	Multi-sector priority indicators
12	National Human development report		UNDP	Print and online		Multi-sector indicators
13	Household survey reports (MICS, AHS)	3rd party	UNICEF	Print and online	Every 2-3 years	Sample based household survey report.
14	State of the World's Children Report	UNICEF	UNICEF	Print and online	Annual	Multi-sector indicators
16	PRB datasheet	PRB	PRB	Print and online	Annual	Multi-sector indicators
17	Countdown report	UNICEF	UNICEF	Print and database	Monthly	Tracking progress in maternal, newborn and child survival

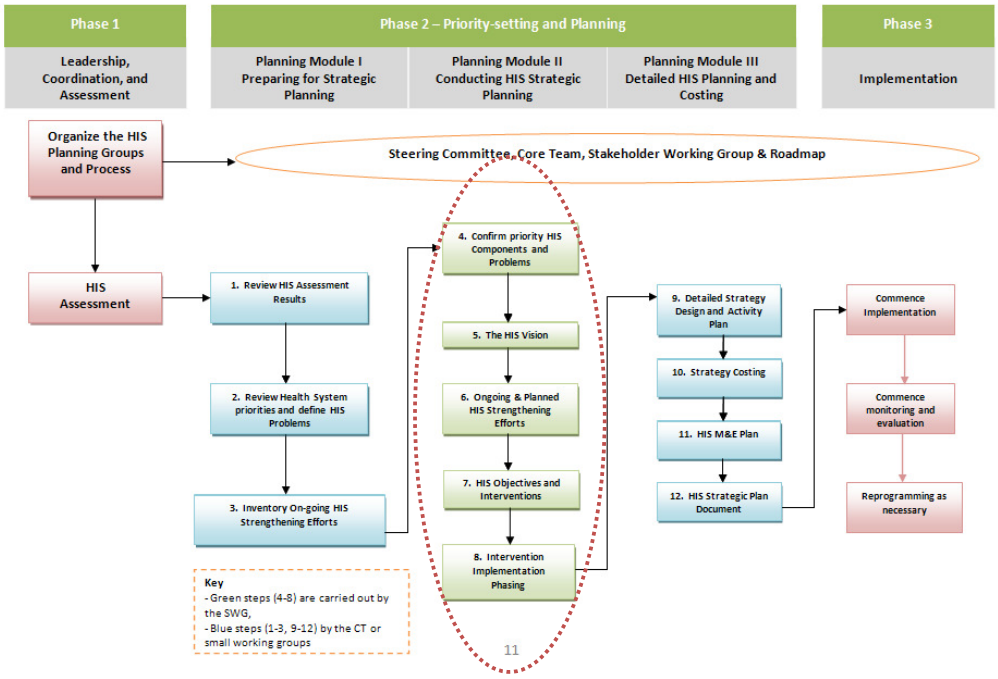
Appendix I.J - Inventory of Existing and Planned HIS-Related Training (Illustrative)

Title of Training	Brief Description	Lead MOPH Dept or Partner
1. HMIS training - initial	A one-week course to introduce HMIS forms and case definitions	MOPH HMIS
2. HMIS training - refresher	A three-day course to trouble shoot the HMIS forms and some introduction to data use	MOPH HMIS
3. HMIS database training	A three-day course	MOPH HMIS
4. HMIS networking workshop	A three-day workshop for PPHO HMIS officers to share and learn best practices in HMIS data collection and use and develop HMIS action plans in the provinces	MOPH HMIS
5. HMIS Data use training	A three-day course to use HMIS database data extraction features for calculating commonly used indicators	MOPH HMIS
6. Basic statistics and epidemiology (?)	A two-week course (?) for mid-level MOPH officers on basics of descriptive and inferential biostatistics	MOPH M&E/JHU
7. NHSPA, BSC training of surveyors	XX-day training for using the NHSPA data collection tools	MOPH M&E/JHU
8. BSC course for PPHOs	XX-day training for PPHOs on use of BSC	MOPH M&E/JHU
9. Use of available sources of health information in Afghanistan	A two-day course for PPHOs on use of HMIS, BSC, household survey, NMC	Tech-Serve
10. National Monitoring Checklist (NMC) training	A two-day course for PPHOs, NGOs and MOPH to use NMC, its database and the data	MOPH M&E
11. Supervision, monitoring and evaluation	A two-day course for NGO supervisors to enhance supervision skills with an introduction to monitoring and evaluation	HSSP
12. Supervision, Monitoring and Evaluation	??	PHI training
13. Target setting workshop	A one-day training for NGOs and the PPHOs to assess the previous performance and set program targets	PPG and Tech-Serve
14. Geographic Information System training - basic	A general GIS course, of two-weeks duration, provided to basic and advanced GIS users by AIMS	AIMS
15. GIS training	A one-day course for PPHOs to enable them to use Arc View 3 for putting simple indicators on the maps	MOPH HMIS
16. Lot Quality Assurance Sampling (LQAS) – sampling and data collection	A two-day course on LQAS introduction, sampling, questionnaires, interview skills and data collection	Tech-Serve
17. Lot Quality Assurance Sampling (LQAS) – data analysis	A two-day course on LQAS data analysis, reporting and target setting	Tech-Serve
18. Epidemiology and biostatistics course	A one-week training course for a variety of health professionals providing	Ibn Sina
19. Public health surveillance and new malaria form training course	Under preparation	APHI? Or NMLCP
20. Malaria M&E	Under preparation	NMLCP?
21. Malaria data management	Under preparation	NMLCP?
22. Malaria Global Data Base training course	Under preparation	NMLCP?
23. Malaria quality assurance of microscopic diagnosis course	Under preparation	NMLCP?
24. Report Writing	Under preparation	APHI
25. Computer training course	Under preparation	APHI
26. Research methodology	Under preparation	MOPH M&E
27. Epidemic Preparedness and Response course	Under preparation	MOPH DEWS (APHI)
28. Quality Assurance Standards	Under preparation	HSSP
29. DEWS data collection and reporting	Under preparation	DEWS

Planning Module II - HIS Strategic Planning

Introduction

Now that Module I is complete (as conducted by the Preparation Team) you have the foundation for the development of the HIS Strategic Plan. You now start the Planning Module II of the HIS Strategy Design and Planning process which consists of steps 4 through 8.



Module Purpose

The purpose of Module II is to allow the Country HIS Stakeholder Working Group to build consensus on the priorities for HIS strengthening in the years to come. At the core of this module you will formulate strategic interventions to improve the performance of priority HIS components.

Module Participants and Responsible Groups

The work in this module sees a transition from the Core Team (CT) or the "Preparation Team" to the Stakeholders Working Group (SWG), as noted in the Module II step description table. In the Module II section of this document, when the text refers to "you" it is addressing the SWG, unless otherwise noted.

Step	Title	Responsible Group
Module II	HIS Strategic Planning	CT with SWG
	Opening sessions of the HISSP process as suggested in the model Programme	CT
4	Priority HIS Components and Problems	SWG
5	The HIS Vision	SWG
6	Current and Planned HIS Strengthening Efforts	SWG
7	HIS Objectives and Strategies	SWG

8	Intervention Implementation Phasing	SWG
	Discussion of next steps (update the roadmap)	CT with SWG

Module II is carried out within a structured group process managed by the Core Team in which the Stakeholder Working Group reviews the results of the assessment, prioritizes, and carries out visioning, objective-setting and intervention design and phasing.

Steps 4-8 Guidance

The process is carried out through the efforts of the large Stakeholder Working Group with active but low-profile facilitation of the Core Team, possibly supported with external facilitators. Because of the size of the SWG there is a limit to the detail of the design and planning work they are expected to carry out. Therefore, Planning Module II is followed by Planning Module III in which the detailed strategy design, activity planning and costing takes place through the efforts of the Core Team and of specially-staffed technical working groups.

Step 4. Priority HIS Components and Problems

The purpose of the first step of Module II, step 4, is to ensure a smooth transition from Module I to Module II and develop a prioritized list of HIS problems and through discussion ensure that widespread agreement is reached.

Step 5. The HIS Vision

The purpose of step 5 is to create a vision that conveys the necessary functionality and characteristics of the future HIS.

Step 6. Current and Planned HIS Strengthening Efforts

The purpose of step 6 is to review any on-going and planned efforts (to strengthen various aspects of the health information system) so that their likely affect on the priority HIS Components and constituent problems can be anticipated and planned for.

Step 7. HIS Objectives and Interventions

The purpose of step 7 is to formulate ways of overcoming the HIS problems identified earlier. Key activities include generating performance improvement objectives and interventions.

Step 8. Intervention Implementation Phasing

The purpose of step 8, the final step of Module II, is to develop a long to medium-term time frame plan, confirming which interventions should be implemented first and which offices are responsible for their implementation.

Scheduling and Duration

The programme designed to achieve steps 4 through 8 is currently structured for three days but may be altered to suit the requirements and scheduling possibilities of the national teams. For example, it could be carried out in five half days. A tentative agenda for the SWG workshop and a list of background materials is provided in Appendix II.K - Generic HIS Strategic Planning Programme (page 106). The important step 7, dealing with HIS Strategy Design, may be found to require one day or more of sub-group work. An optional problem analysis and intervention idea generation procedure is attached to this guidance document as Appendix II.E - Guidance and example of Causal Problem Analysis (page 94) for possible use by the sub-groups of the SWG within step 7.

The facilitation provided by the Core Team and external advisors to Planning Module II needs to be well-prepared and managed closely to adhere to the pre-determined schedule. The facilitators may have to spend extra time during this process to prepare the products of each step for use in succeeding steps and for placement within the HIS Strategic Plan document.

Group Venues

Because the SWG is a sizeable group it must frequently be broken into sub-groups. This requires that the venue for this process provides both a sizeable room for briefings and plenary discussions as well as several sub-group rooms. All rooms should be provided with computers and projectors if possible, and with flipchart pads, easels and pens.

Step 4 - Priority HIS Components and Problems

Step 4 - Priority HIS Components and Problems	
PARTICIPATION:	**EST. TIME:**
The SWG with the support of the Core Team	Four (4) hours

OVERVIEW:

The HIS Strategy is being designed to address needs and gaps identified through the preceding HIS assessment and its analysis. On the basis of the assessment results and other criteria and data, the HIS Core Team has identified priority "HIS Components" that appear to most deserve attention for improvement. The constituent problems within each HIS Component have been defined (from low-scoring assessment questions). The HIS Stakeholder Working Group (SWG) is asked to review these findings, confirm or revise the priority HIS Components and contribute to the further definition of problems to be addressed through the HIS Strategy. Important issues and indicators of performance that are felt missing may be added at this time.

OBJECTIVE:

At the end of this step the HIS SWG will have confirmed or revised the selection of Priority HIS Components and their constituent problems as produced in Step 2.

MATERIALS:

- The Report of the HIS Assessment produced in Phase 1
- Table 1.1 - The tabulation of results of the HIS Assessment (average scores of each HIS component) in relation to HIS domains produced in step 1

TASKS:

4.1 Core Team **debriefs** the SWG about the HIS assessment that took place in Phase 1.
4.2 **Develop** a prioritized list of HIS problems, their indicators and underlying constraints.
4.3 **Present** and discuss the finalized problem statements in plenary.

PRODUCTS

- Endorsement of Table 1.1 List of HIS Components, HIS problems and Affected HS Domains
- Complete Table 4.1. for each HIS Component/Information category

Task 4.1

Core Team **debriefs** the SWG about the HIS assessment that took place in Phase 1.

More detailed information should then be provided by the Core Team about:

- How "HIS Components " are defined and function in support of the "domains" of the national health system
- The HIS assessment results, and how "Priority HIS Components" and "Categories of Information" were identified along with additional low-scoring "Key Assessment Questions"
- The definition of HIS problems and which Health System domains they affect

Task 4.2

Develop a prioritized list of HIS problems, their indicators and underlying constraints.

Tip: To conduct this task effectively, divide the SWG into sub-working groups. (These same groups will also be used during Step 7.)

Sub-Task 4.2.1

Collect and distribute your completed table 1.1 provided from Step 2, Planning Module I.

Sub-Task 4.2.2

Review your stated HIS problems as defined in step 2.

Sub-Task 4.2.3

Confirm which HIS components and problems are felt to most deserve improvement attention and record them in the worksheet based on Table 4.1 as follows:

- **(i) Fill in the top portion** the problem HIS component and/or information category
- **(ii) Identify** which problems have measurable indicators and place them in the appropriate rows of Table 4.1 along with the baseline value of the indicator
- **(iii) List** these problems and underlying causes as well as other important problems (without indicators) in the lower portion of the table
- **(iv) Repeat this operation** for each of the problem HIS components and/or information category

Table 4.1 – HIS Component Problems and Interventions

Task 4.2.3
Confirm which HIS components and problems are felt to most deserve improvement attention and record them in the worksheet.

Task 4.2.3 (i) **Fill in the top portion** of the table the problem HIS component and/or information category
Task 4.2.3 (ii) **Identify** which problems have measurable indicators and place these indicators in the appropriate rows of Table 4.1. along with the baseline value of the indicator

HIS Component or Information Category:			
HIS Component Problem Indicators (Table 4.1)		**Performance Improvement Objectives (Table 7.1)**	
Indicator	Baseline Value	Target	Year of Achievement
Priority Problems and Constraints Affecting the Component		Proposed Interventions	

Task 4.2.3 (iii)
List all the problems (those with or without indicators) and underlying constraints in the lower portion of the table

Table 4.1 – Example of HIS Component Problems and Interventions

HIS Component or Information Category: DATA SOURCES/ Service Records			
HIS Component Problem Indicators (Table 4.1)		**Performance Improvement Objectives (Table 7.1)**	
Indicator	Baseline Value	Target	Year of Achievement
Use of Service Records and Reports by public and private facilities	Only public sector service records and reports		
% of health facilities (sample) producing data of acceptable quality	40%		
% of health facilities (sample) with documented use of information for management of the health services	25%		
Priority Problems and Constraints Affecting the Component		Proposed Interventions	
1. Limited quality of Service Records data produced by health facilities due to • No standard definitions and procedures for data collection • Staff not trained in using forms • No data quality assurance system			
2. Limited use of data from Service Records • No incentives for managers and care providers to use information • Senior management does not promote use of information • Limited problem solving skills with care providers			
3. Private sector facilities do not report services provided • Dis-incentives to report data (linking with tax records) • No standardized data collection forms exist • Private providers lack skills in data collection, analysis, and use of information			

Task 4.3

Present and discuss the finalized problem statements in plenary. Review any recommendations to revise, add or delete any HIS Component or Information Category, or problem statement from the priority list.

Step 4 - Exit

Product Checklist

Before beginning step 5, confirm you have completed the following:

- ✓ Received endorsement of table 1.1 and problem statements
- ✓ Completed Table 4.1. for each HIS Component/Information category

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 5 – The HIS Vision

Step 5 - The HIS Vision	
PARTICIPATION:	**EST. TIME:**
The SWG with the support of the CT	Three (3) hours

OVERVIEW:

The HIS Assessment and Strategy Development process may have begun by creating an initial vision before the assessment was conducted in Phase 1. Now the SWG must combine their views about the desired functionality and use of the Health Information System. This effort will further improve and describe a vision for the health information system as it is expected to be functioning at the end of the HIS strategic plan period (10-15 years). This vision will be part of the HIS Strategy document.

OBJECTIVE:

At the end of this step, the SWG will have produced a description of the "vision" of the future HIS which conveys the improved functionality and desirable characteristics of the future HIS and its various Components. It also conveys its support to the national health development strategy and plan in response to the priority HIS Component problems just defined.

MATERIALS:

- The Values and Principles of the Ministry of Health (presented in the opening of the HIS Strategy Design Programme)
- Appendix II.A1 – Note on Constructing a Vision of the Future Health Information System (page 89)
- Example of vision graphics and set of elements, see Appendix II.A2 - Graphic Depiction of the HIS Vision (page 90)

TASKS:

5.1 **Create,** through group discussion, an initial set of vision topics.
5.2 **Review** your MoH health system vision and principles and any earlier HIS vision statement.
5.3 **Review** the Appendix II.A1 – Note on Constructing a Vision of the Future Health Information System (page 89).
5.4 Sub-groups **review** the HIS problems related to the HIS Components.
5.5 **List** the key elements of the vision next to the diagram.
5.6 **Finalize** the sub-group vision diagram and key elements.
5.7 The Core Team then **compiles** a consolidated graphic and narrative description of the Vision for use within the Strategic Plan document.

PRODUCTS

A Vision of the future health information system and its functionality presented in the form of a graphic diagram and a consolidated description of the elements of the vision to be included in the Strategic Plan document.

Task 5.1

Create, through group discussion, an initial set of vision topics.

Tip: Begin this discussion in plenary, and once an initial set of vision topics is agreed upon, break into several sub-working groups to draw alternative vision graphics. Alternatively, you could form a vision subgroup for each priority HIS Component.

Suggested discussion questions:

1. How do you envision the practice of information use in your country evolving between now and 10-15 years? In answering this question:
    a. Describe the extent of optimal use of information in the health sector at all levels and within the wider national development agenda.
    b. Consider your answer in terms of how information use will meet the needs of the population, and lines of accountability and stewardship roles.
2. What major national HIS resource investments (including infrastructure) will be needed and in place within 10-15 years to effectively support the desired optimal HIS performance as expressed in question 1?
3. What results (efficiency gains in the health sector performance and in improved health outcomes as well as attributable health impact) do you expect in 10-15 years from this improved HIS performance?

Task 5.2

Review your MoH health system vision and principles and any earlier HIS vision statement.

Task 5.3

Review the Appendix II.A1 – Note on Constructing a Vision of the Future Health Information System (page 89).

Task 5.4

Sub-groups **review** the HIS problems related to the HIS Components and choose those problems that suggest types of information system characteristics and data uses felt to be most important to achieve full functionality in the future.

Tip: This idea generation is made more enjoyable when depicted in the form of a graphic or map of the future HIS situation to which all participants in each subgroup contribute. For an example see page 90.

Task 5.5

List the key elements of the vision next to the diagram.
For example, your subgroups may wish to include vision elements pertaining to critical types of resources that will need to be mobilized and developed in order to achieve the vision.

Task 5.6

Finalize the sub-group vision diagram and key elements.

- Present and discuss in plenary
- Adjust to avoid overlaps
- Deliver to the Core Team

Task 5.7

The Core Team then **compiles** a consolidated graphic and narrative description of the Vision for use within the Strategic Plan document.

Step 5 – Exit

Product Checklist

Before beginning step 6, confirm you have completed the following:

- ✓ Defined a Vision of the future health information system and its functionality presented in the form of a graphic diagram and a consolidated description of the elements of the vision to be included in the Strategic Plan document.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 6 - Current and Planned HIS Strengthening Efforts

Step 6 - Current and Planned HIS Strengthening Efforts	
PARTICIPATION:	**EST. TIME:**
SWG with the support of the CT	Three (3) hours

OVERVIEW:

The SWG should be made aware of on-going and planned efforts to strengthen various aspects of the health information system in order to anticipate their likely effect on the priority HIS Components and constituent problems. Relevant HIS efforts can then be earmarked and placed within the new HIS strategy as it is formulated. This review of on-going efforts can also be used to identify "opportunities for and threats to" HIS strengthening in terms of known political and current & potential donor interest/support.

OBJECTIVE:

At the end of this session, the SWG will have reviewed the inventory of ongoing and planned HIS strengthening activities (based on table 3.1, page 36) produced by the Core Team during Step 3 of Planning Module 1 and identified additional activities that should be added to the list. In addition, the SWG will undertake an analysis of strengths, weaknesses, opportunities and threats (SWOT) to better understand the political and donor interests in strengthening HIS when identifying potential sources of support. The SWG will use this step to identify which of the on-going activities appear to address Priority HIS Components and Problems, and will earmark them as such for inclusion in the HIS Strategic Plan. Finally, agreement will have been reached on a mechanism for continually updating this list of ongoing HIS strengthening efforts as the HIS strategy proceeds into implementation.

MATERIALS:

- Inventory of On-going and Planned HIS Strengthening Activities from Step 3, Planning Module I
- Appendix II.B - What are HIS Strengthening Activities? (page 91)
- Worksheet based on table 3.1 (page 36) of on-going and planned HIS Strengthening Efforts
- Table 6.4 Example List of Strengths, Weaknesses, Opportunities and Threats) (page 69)

TASKS:

6.1 The Core Team **briefs** the SWG about the need for and sources of information about ongoing HIS strengthening efforts.
6.2 The SWG **updates** the Inventory of on-going and planned HIS Strengthening Efforts. (Refer to the filled-in worksheet based on Table 3.1, page 36)
6.3 The SWG **identifies** and lists any additional strengthening efforts known to them.
6.4 The SWG **conducts** a modest SWOT analysis.
6.5 SWG **discusses** and agrees on a procedure for continually updating the HIS Strengthening Inventory.

PRODUCTS

- Expanded list of HIS strengthening activities, with an indication of which activities address Priority HIS Components and Problems.
- A list of Strengths, Weaknesses, Opportunities and Threats known to exist with respect to the HIS Components being given priority for improvement.
- Procedures and agreement for continuously updating the list of HIS strengthening efforts.

Task 6.1

The Core Team **briefs** the SWG about the need for and sources of information about ongoing HIS strengthening efforts. The Core Team must emphasize the distinction between "routine" and "strengthening" HIS activities.

For background and advice, see Appendix II.B - What are HIS Strengthening Activities? (page 91)

Task 6.2

The SWG **updates** the Inventory of on-going and planned HIS Strengthening Efforts. (Refer to the Filled-in Worksheet based on Table 3.1, page 36). For a completed example see page 37.

To complete the task, the SWG and Core Team must ask the responsible national programme managers and associated donor representatives to describe major on-going HIS strengthening projects and activities. During this part of the briefing, the SWG will identify any activities that appear to directly support the Priority HIS Components and the problems as confirmed in Step 4 and note them on the inventory under the column PHISC Support.

For a finished example, see Appendix II.C - Example Table 6.1 - Inventory of on-going and planned HIS Strengthening Efforts (page 92).

Task 6.3

The SWG **identifies** and lists any additional strengthening efforts known to them that were not listed on the worksheet based on Table 3.1 (page 36). It is important that the types and amounts of donor support currently available or planned for each activity be shown.
For example, the development of new/improved:

- Records, registers, reports and data flow procedures
- Computer applications for data entry, data base management and report generation

Do NOT include such things as routine maintenance and updating of existing computer applications.

For additional examples and non-examples, see Appendix II.B - What are HIS Strengthening Activities? (page 91)

Task 6.4

The SWG **conducts** a modest SWOT analysis to note and record known sources of interest and support for HIS strengthening, such as government departments and national programmes, politicians and policy-makers and collaborating agencies and organizations supporting the health and related sectors.

In addition, risks and threats to HIS Component strengthening should also be noted. For an example, see Table 6.4 Example List of Strengths, Weaknesses, Opportunities and Threats (page 69).

Table 6.4 – SWOT Analysis

Strengths	Opportunities
Weaknesses	**Threats**

Tip: SWOT analysis may have already been conducted as part of the HIS Assessment, and if so, the results simply need to be reviewed.

Table 6.4 Example List of Strengths, Weaknesses, Opportunities and Threats

Strengths	Opportunities
▪ There is a functional M&E Unit that coordinates HIS activities. ▪ There is growing demand for health-related information from senior programme managers, policy makers, donors, NGOs and other key players in the health sector, and the public at large. ▪ There is basic ICT infrastructure in most districts that facilitates the transmission and feed-back of data from one level to the other. ▪ Reporting of information is done frequently and on time from most units. ▪ There is a well-defined system of data collection and reporting from the facility up to the national level. ▪ A well-defined national core indicator set exists and is used by almost all data sources. ▪ Information from the surveys conducted by CSO is regularly used by those offices receiving it. ▪ There is regular dissemination of routine information through reports to some stakeholders. ▪ There is an IDSR system that compliments the HMIS on routine data.	▪ There is growing political and policy support for strengthening legislation enforcing the notification of infectious disease cases and outbreaks in both the public and private sectors. ▪ Efforts are currently underway to improve integration of vertical programme, administrative and management data. ▪ There is potential donor support for capacity-building of health information officers, epidemiologists and statisticians through short and long term national and international courses. ▪ There is continuing donor support for improved ICT infrastructure and maintenance at district level. ▪ Development of a national and sub-national web-based data warehouse and Repository is under consideration by policy-makers and potential donors. ▪ Improved advocacy of vital registration is now on the political agenda.
Weaknesses	**Threats**
▪ Private health practitioner and facility reporting to the HIS is poor. ▪ There is a lack of a training policy for health information officers at all levels. ▪ There is no long term training in health information management available in the country. ▪ There is no central repository or data warehouse for integrating HIS data sources. ▪ There is insufficient maintenance of ICT equipment. ▪ Level 2 and 3 hospital reporting is poor and not integrated into the main HMIS. ▪ Inadequate disaggregation of data by gender, socio-economic status and geographical areas. ▪ There is poor coverage, analysis, dissemination and use of information from vital registration. ▪ There are frequent shortages of paper and forms for the recording and reporting systems at facility level.	▪ There is high staff turnover among critical HIS staff such as DHIOs, DMS, Statistical Officers, Demographers, Epidemiologists and ICT specialists. ▪ Powerful donor-driven vertical programmes have their own reporting requirements and systems which retard integration of data through the routine district health information system. ▪ Some donors and lenders tend to avoid collaborating with the government-managed HIS Strategy Development effort.

Task 6.5

SWG **discusses** and agrees on a procedure for continually updating the HIS Strengthening Inventory.

It is suggested that this procedure be managed by the Core Team under the supervision of the Steering Committee. Managers of HIS improvement interventions could be requested to send in regular reports on progress made so that the HIS Strengthening Inventory can be updated by the Core Team.

Step 6 - Exit

Product Checklist

Before beginning step 7, confirm you have completed the following:

- ✓ Expanded the list of HIS strengthening activities with an indication of which activities address Priority HIS Components and Problems.
- ✓ Mapped a list of Strengths, Weaknesses, Opportunities and Threats (SWOT) known to exist with respect to the HIS Components being given priority for improvement.
- ✓ Established procedures and agreement for continuously updating the list of HIS strengthening efforts.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 7 - HIS Objectives and Interventions

Step 7 - HIS Objectives and Interventions	
PARTICIPATION:	**EST. TIME:**
SWG with support from the CT	Eight (8) hours

OVERVIEW:

At this point in the strategic planning process, the SWG will begin to study and respond to the list of each set of HIS problems and their underlying causes. All the problems listed from Steps 2 and 4 will be discussed again for the purpose of formulating performance improvement objectives and then to identify possible strategic interventions for problem reduction. A type of causal problem analysis can be used to more fully analyze the problem situation and generate ideas for interventions. The interventions for the HIS Components will also be guided by the HIS Vision.

OBJECTIVE:

At the end of this step, the SWG and its sub-groups will have formulated one or two measurable HIS performance improvement objectives and produced a list of strategic interventions which address many of the problems related to each Priority HIS Component or Information Category. The SWG will have placed these objectives and interventions within tables for subsequent reference and presentation in the ultimate HIS Strategic Plan document.

MATERIALS:

- The result of the problem definition for each HIS Component and information category as presented in tables 2.3 and 4.1
- Tables 7.1, 7.2, 7.3
- Strategy Design Principles and Criteria, derived from the HMN Framework and Principles and adjusted by the Core Team (page 93)
- Guidance and examples of Causal Problem Analysis. See Appendix II.E - Guidance and example of Causal Problem Analysis (page 94)
- Appendix II.J – Consolidated HIS Standard and Possible Strategic Interventions.
- Examples of tables 7.2 and 7.3, (pages 77 and 79)

TASKS:

7.1 **Discuss** the nature and array of ideas for possible interventions for addressing the HIS problems you defined earlier.
7.2 **Formulate** one or two performance improvement objectives.
7.3 Problem Causal Analysis [optional].
7.4 SWG Sub-groups **discuss** each HIS problem.
7.5 SWG sub-groups **identify** the most feasible and effective ideas for interventions.
7.6 **Complete** the list of objectives and interventions.

PRODUCTS

- A completed Worksheet 7.1 for each Priority HIS Component providing overall improvement objectives and a list of strategic interventions addressed to many of the problem statements
- Completed Worksheets 7.2 and 7.3 that summarize HIS Objectives and Interventions across all priority HIS Components

Task 7.1

Discuss the nature and array of ideas for possible interventions for addressing the HIS problems you defined earlier.

- Discuss the Strategy Design Principles and Criteria based on the HMN Framework Part 3.

Tip: An example is provided on page 93 but can be further contextualized by the Core Team before handing it out to the SWG.)

- Discuss potential HIS Strategic Interventions provided by the HMN.

Tip: An example of possible interventions is provided in Appendix II.J – Consolidated HIS Standard and Possible Strategic Interventions.

Sub-Task 7.1.2

- Consult and discuss Appendix II.D - Examples of HIS Design Principles and Criteria (page 93) and Appendix II.J – Consolidated HIS Standard and Possible Strategic Interventions.

- SWG generates a list of general types of strategic interventions which adhere to the design principles and criteria.

Task 7.2

Formulate one or two performance improvement objectives stating the desired level of the problem indicators at a point of time during or at the end of the implementation period. Insert the indicator and year of achievement in the appropriate row of Table 7.1 (the right half of the table). See Table 7.1 – Example of HIS Component Problems and Interventions (page 74).

Tip: Organize the SWG into the same sub-groups as were used for the confirmation of the problems affecting each priority HIS Component in Step 4.

Table 4.1 and 7.1 – HIS Component Problems and Interventions

Task 7.2
Insert the indicator and year of achievement here.

Task 7.5
Insert the most feasible and effective ideas for interventions here.

HIS Component or Information Category:			
HIS Component Problem Indicators (Table 4.1)		**Performance Improvement Objectives (Table 7.1)**	
Indicator	Baseline Value	Target	Year of Achievement
Priority Problems and Constraints Affecting the Component		Proposed Interventions	

Table 7.1 – Example of HIS Component Problems and Interventions

HIS Component: Data Sources **Information Categories: Service Records**			
HIS Component Problem Indicators (Table 4.1)		**Performance Improvement Objectives (Table 7.1)**	
Indicator	Baseline Value	Target	Year of Achievement
Use of Service Records and Reports by public and private facilities	Only public sector service records and reports	Service Records and Reports are available from both public and private facilities	2011
% of health facilities (sample) producing data of acceptable quality	40%	80%	2010
% of health facilities (sample) with documented use of information for management of the health services	25%	60%	2011
Priority Problems and Constraints Affecting the Information Category		Proposed Interventions	
1. Limited quality of Service Records data produced by health facilities due to • No standard definitions and procedures for data collection • Staff not trained in using forms • No data quality assurance system		*Objective: Improve the quality of service records from health facilities* * Develop standard definitions and procedures for service records and design user-friendly forms * Provide a in-service training in using the forms and ensure a supportive supervision system * Develop a data quality assessment mechanism based on a combination of self-assessment and supervision	
2. Limited use of data from Service Records • No incentives for managers and care providers to use information • Senior management does not promote use of information • Limited problem solving skills with care providers		*Objective: Improve the use of information produced by service records* * Provide training to senior managers in creating an information culture * Make use of information for decision making one of the performance criteria of health care providers and managers * Provide pre-service training to all health professionals in problem solving skills	
3. Private sector facilities do not report services provided • Dis-incentives to report data (linking with tax records) • No standardized data collection forms exist • Private providers lack skills in data collection, analysis, and use of information		*Objective: Improve the use of information produced by service records for management of the health services* * Link reporting of data with incentives such as provision of subsidized or free prevention products (vaccines, contraceptives, etc.) * Create use-friendly data collection forms, if possible similar to the sector forms, but keep reporting requirements to a minimum * Provide pre-service training to all health professionals in HIS and use of information	

Task 7.3 - Optional

An optional procedure (**Problem Causal Analysis**) is offered at this point to assist the subgroups in more fully analyzing the problems affecting their assigned HIS Component and generating ideas for interventions. This procedure is described in Appendix II.E - Guidance and example of Causal Problem Analysis (page 94).

Task 7.4

SWG Sub-groups **discuss** each HIS problem in turn and note down on flipcharts all ideas proposed for addressing and reducing the problem and its underlying causes.

Task 7.5

SWG sub-groups **identify** the most feasible and effective ideas for interventions.

Enter them into the right column (interventions) of Table 7.1 next to the problem they are proposing to reduce.

See Table 7.1 – Example of HIS Component Problems and Interventions (page 74).

Task 7.6

Complete the list of objectives and interventions.

Sub-Task 7.6.1

Sub-groups present their Table 7.1 in plenary.

Sub-Task 7.6.2

Core Team consolidates the objectives and interventions into tables 7.2 and 7.3. See completed examples in Table 7.2 – Example HIS Objectives and Indicators (page 77), and 7.3 on page 79.

Table 7.2 - HIS Objectives and Indicators

No.	Performance Improvement Objective	Indicator	Baseline Value 2007	Target	Date of Achieve-ment
HIS Component / Information Category					
1					
2					
3					
HIS Component / Information Category					
4					
HIS Component / Information Category					
5					
6					

Table 7.2 – Example HIS Objectives and Indicators

	Performance Improvement Objective	Indicator	Baseline Value 2007	Target	Date of Achieve-ment
HIS Component: HIS Resources / Information Category: Leadership and Governance					
1	To increase the availability of accurate and complete health data from public & private sources (facilities)	No. of notifiable diseases mandated by legislation	0	8	2009
		Notification of work and traffic related injuries and deaths mandated by legislation	No	Yes	2009
		% of licensed private facilities submitting HIS reports to the MoH	0	40%	2010
2	To improve the quality of health information	No. and % of PHDs, ODs and licensed private facilities correctly preparing and submitting HIS forms	60%	90%	2010
3	To enhance HIS commitment, coordination and resources	% of facilities that include budget for HIS operations	50%	90%	2010
HIS Components: Data Management, dissemination and use					
4	To increase data sharing, management, analysis, dissemination & use	Minimum set of core health indicators updated regularly	No	Yes	2008
		% of AOPs and M&E frameworks and reports that reflect the use of multiple sources of data	NA	80%	2012
HIS Component: Data Sources / Information Category: Census, Civil Registration					
5	To increase the availability & use of population & socio-demographic data down to local administrative levels	% of communes with updated census and survey data.	0	100%	2008
		% of districts using population projection for monitoring health service coverage derived from the census	50%	90%	2008
6	To improve coverage and use of VR including causes of death at health facilities and community level	% of deaths occurring outside of health facilities with identified cause (by verbal autopsy)	0%	50%	2010
		Coverage with certification of death	69%	90%	2010
HIS Component: Data Sources / Information Category: Service Records					
7	To ensure the availability of service records from private health facilities	Availability of service records from health facilities	Only public sector service records are available	Service records from public & private facilities	2011
8	To improve the quality of service records from health facilities	% of health facilities (sample) producing data of acceptable quality	40%	80%	2010
9	To improve the use of information produced by service records for management of the health services	% of health facilities (sample) using information for management of health services	20%	60%	2010

Table 7.3 - Summary of HIS Objectives and Interventions

Performance Improvement Objective	Interventions
HIS Component: Leadership and Governance	
Information Category: Data Management, Dissemination and Use	
Information Category: Census, Civil Registration, Population-based Surveys	
HIS Component: Public Health and the Disease Surveillance System	

Table 7.3 - Example Summary of HIS Development Objectives and Interventions

Performance Improvement Objective	Interventions
HIS Component: HIS Resources / Information Category: Governance and Leadership	
1. To increase the availability of accurate and complete health data	1.1 Review and strengthen existing **legislation, regulations** and administrative procedures related to health data
	1.2 Strengthen and develop **coordinated mechanisms for enforcement** of HIS legislation and regulations
2. To improve the quality of health information	2.1 Strengthen HIS **supervision and feedback** focused on data quality and performance standards adherence
	2.2 Conduct **special assessments** of HIS facilities and equipment at all levels
3. To enhance HIS commitment, coordination and resources	3.1 Strengthen the capacity of staff involved in the HIS through **in-service training and degree programmes**
	3.2 Strengthen and maintain the continuing authority and responsibility of the **HIS Stakeholders Working Group**
	3.3 Integrate the HIS strategy and implementation plan into the future Health Strategic Plan
HIS Components: Data Management, Dissemination and Use	
4. To increase data sharing, management, analysis, dissemination and use	4.1 Establish resources and the responsibility for the **development and maintenance of ICT systems** for health data management and communications
	4.2 Provide **training** on epidemiology/biostatistics, computer applications development, ICT use and maintenance.
	4.3 Strengthen the joint services monitoring and review process
	4.4 Develop and apply a process of **service performance assessment and improvement** for district teams
HIS Component: Data Sources / Information Category: Census, Civil Registration, Population-based Surveys	
5. To increase the availability and use of population and socio-demographic data	5.1 Develop and implement **procedures** for generating and providing district census data and population projections
	5.2 **Provide training** for service managers on the use of census data for planning and monitoring;
	5.3 Add adult mortality questions to the **census questionnaire**, and conduct **post-census surveys** on cause of death
6. To improve coverage and use of CR including causes of death	6.1 Expand **Civil Registration system** at health facilities and within communities
	6.2 Introduce and train in **ICD-10** coding and **verbal autopsy**.
7. To increase availability of survey data	7.1 Undertaken Long and Medium-term coordinated planning and design of population-based surveys
	7.2 Conduct **training on household survey** design, processing and analysis
HIS Component: Data Sources / Information category: Service Records	
8. To ensure the availability of service records from private health facilities	8.1. Link reporting of data with incentives such as provision of subsidized or free prevention products (vaccines, contraceptives, etc.)
	8.2.Create user-friendly data collection forms, if possible similar to the sector forms, but keep reporting requirements to a minimum
	8.3. Provide pre-service training to all health professionals in HIS and use of information
9. To improve the quality of service records from health facilities	9.1 Develop standard definitions and procedures for service records and design user-friendly forms

Performance Improvement Objective	Interventions
	9.2 Provide a in-service training in using the forms and ensure a supportive supervision system
	9.3 Develop a data quality assessment mechanism based on a combination of self-assessment and supervision
10. To improve the use of information produced by service records for management of the health services	10.1 Provide training to senior managers in creating an information culture
	10.2 Make use of information for decision making one of the performance criteria of health care providers and managers
	10.3 Provide pre-service training to all health professionals in problem solving skills

Task 7.6 continued

Sub-Task 7.6.3

SWG revisits the HIS Vision to determine whether all of its elements are being pursued and if not to suggest additional interventions.

Step 7 – Exit

Product Checklist

Before beginning step 8, confirm you have completed the following:

- ✓ Filled in Table 7.1 for each Priority HIS Component providing overall improvement objectives and a list of strategic interventions addressed to many of the problem statements.
- ✓ Completed Tables 7.2 and 7.3 that summarize HIS Objectives and Interventions across all priority HIS Components.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 8 - Intervention Implementation Phasing

Step 8 - Intervention Implementation Phasing	
PARTICIPATION:	**EST. TIME:**
SWG (possibly expanded at this point to include all implementing offices) with the support of the Core Team	Three (3) hours

OVERVIEW:

At this point it becomes possible to place the interventions onto a long to medium-term time frame, thereby confirming which interventions should be implemented first and which offices are responsible for their implementation.

OBJECTIVE:

At the end of the session the SWG and its various sub-groups will have devised the preferred sequence and time-frame for implementing the HIS interventions and confirmed the most appropriate responsible offices for managing the implementation of each.

MATERIALS:

- Table 4.1 - 7.1 - The list of Priority HIS Component interventions from step 7
- Table 8.1 (page 84)
- Example 8.1 for presenting the HIS Intervention Implementation Phasing (pages 85 and 86)

TASKS:

8.1 SWG sub-groups from step 7 continue to work with the intervention implementation phasing for their assigned HIS Components and/or Information Categories.
8.2 SWG sub-groups **discuss** and identify the relationships between strategic interventions for their various priority HIS Components.
8.3 SWG sub-groups **enter** sequence and duration of the intervention implementation into a Gantt chart.
8.4 SWG sub-groups **list** and indicate important achievements within the various Component strategies.
8.5 SWG sub-groups **assign** responsibility to offices.
8.6 **Discuss** the intervention phasing in plenary.

PRODUCTS

- Completed HIS intervention implementation phasing shown in Gantt chart table 8.1

Task 8.1

SWG sub-groups from Step 7 continue to **work** with the intervention implementation phasing for their assigned HIS Components or Information Categories.

Tip: The timeline for this phasing should be long enough to enable the entire array of strategies to be implemented, and therefore may encompass more than one development plan period (8 to 10 years).

Task 8.2

SWG sub-groups **discuss** and identify the relationships between strategic interventions for their various priority HIS Components. Some interventions and their products must be completed before others can begin. In addition, there may be some overarching strategies and products that appear in other Component's interventions that must precede all activities and should be identified and announced as such.

Suggested discussion questions:

- What interventions must be executed as prelude to establishing a functional national data warehouse for the benefit of Health Ministry, Civil Registration Authority/Ministry of Interior and the Ministry of National Planning or Ministry of Finance and Economic Planning?
- At what level(s) should skilled and adequate human resource requirements be planned for and met for a well functioning HIS in a country?

Task 8.3

SWG sub-groups enter sequence and duration of the intervention implementation into a Gantt chart. See Table 8.1 HIS Intervention Implementation Phasing (page 84).

Tip 1: Note where interventions cannot begin until another one is completed.

Tip 2: Group the first listing of interventions by Priority Information Category and Component in the sequence developed in Step 7. The interventions should be numbered according to the HIS Component they support, and may all be given the same colour in the time line.

Task 8.4

SWG sub-groups **list** and indicate important achievements within the various Component strategies that are felt to deserve special attention and monitoring as "Milestones" within the strategy.

Tip: Indicate milestones with a symbol ▲ on the Gantt chart.

Task 8.5

SWG sub-groups **assign** responsibility to offices.

The designation of the responsible office is important and should be entered to the extent that the sub-groups are aware of the most logical assignment of responsibility. All offices responsible for intervention implementation should be represented in the SWG at this point.

Task 8.3
Enter sequence and duration of the intervention implementation.

Task 8.4
Indicate milestones ▲.

Table 8.1 HIS Intervention Implementation Phasing

Task 8.5
Assign responsible office.

Interv No.	Seq. No.	Intervention Title	Resp Office	2008		2009		2010		2011		2012		2013		2014		2015	

Table 8.1- Example (1) HIS Intervention Scheduling

Interv No.	Seq. No.	Intervention Title	Resp Office	2008	2009	2010	2011	2012	2013	2014	2015
1.1	11	Strengthen Legislation/regs	CDC								
1.2	23	Coordinate Legisl'n Enforcement	HospDep								
2.1	12	Assess HIS facilities staffing	DPHI								
2.2	13	Provide incentives/benefits	PersDept								
3.1	14	Train In-service & degree	DPHI								
3.2	1	Maintain SWG coordination	DPHI								
3.3	2	Integrate HIS in HSP/AOP	DPHI								
3.4	3	Update Core Indicators from HSP	DPHI								
3.5	24	Enable routine HIS budgeting	BFD								
4.1	15	Develop ICT systems	DPHI								
4.2	16	Train on Epid analysis & ICT	DPHI								
4.3	4	Strengthen JAPR monitoring	DPHI								
4.4	20	Integrate vertical programme indicators	DPHI								
4.5	27	Service performance assess & improvement	NIPH								
5.1	17	Project and disseminate Census	NIS								
5.2	25	Train on census processing & use	NIS								
5.3	18	Add adult mortality to census	NIS								
6.1	19	Expand CR system	MoI								
7.1	5	Coordinate survey planning	NIS								
7.2	21	Train on HH survey	NIS								
8.1	26	Link reporting of data with incentives	PersDept								
8.2	6	Create user friendly data collection forms	DPHI								
8.3	28	Provide pre-service training to all health professional in HIS and use of information	DPHI								
9.1	7	Develop standard definitions and procedures for service records & design user-friendly forms	DPHI								
9.2	22	Provide a in-service training in using the forms and ensure a supportive supervision system	DPHI								
9.3	8	Develop a data quality assessment mechanism	DPHI								
10.1	9	Provide training to senior managers in creating an information culture	DPHI								
10.2	10	Make use of information for decision making one of the performance criteria	DPHI								
10.3	29	Provide pre-service training to all health professionals in problem solving skills	DPHI								

Table 8.1 – Example (2) HIS Intervention Implementation Phasing

Interv No.	Seq. No.	Intervention Title	Resp Office	2008		2009		2010		2011		2012		2013		2014		2015	
3.2	1	Maintain SWG coordination	DPHI																
3.3	2	Integrate HIS in HSP/AOP	DPHI																
3.4	3	Update Core Indicators from HSP	DPHI																
4.3	4	Strengthen JAPR monitoring	DPHI																
7.1	5	Coordinate survey planning	NIS																
8.2	6	Create user friendly data collection forms (2)	DPHI																
9.1	7	Develop standard definitions and procedures for service records & design user-friendly forms (1)	DPHI																
9.3	8	Develop a data quality assessment mechanism (3)	DPHI																
10.1	9	Provide training to senior managers in creating an information culture (5)	DPHI																
10.2	10	Make use of information for decision making one of the performance criteria (7)	DPHI																
1.1	11	Strengthen Legislation/regs	CDC																
2.1	12	Assess HIS facilities staffing	DPHI																
2.2	13	Provide incentives/benefits	PersDept																
3.1	14	Train In-service & degree	DPHI																
4.1	15	Develop ICT systems	DPHI																
4.2	16	Train on Epid analysis & ICT	DPHI																
5.1	17	Project and disseminate Census	NIS																
5.3	18	Add adult mortality to census	NIS																
6.1	19	Expand CR system	MoI																
4.4	20	Integrate vertical programme indicators	DPHI																
7.2	21	Train on HH survey	NIS																
9.2	22	Provide a in-service training in using the forms and ensure a supportive supervision system (4)	DPHI																
1.2	23	Coordinate Legisl'n Enforcement	HospDep																
3.5	24	Enable routine HIS budgeting	BFD																
5.2	25	Train on census processing & use	NIS																
8.1	26	Link reporting of data with incentives (6)	PersDept																
4.5	27	Service performance assess & improvement	NIPH																
8.3	28	Provide pre-service training to all health professional in HIS and use of information (8)	DPHI																
10.3	29	Provide pre-service training to all health professionals in problem solving skills (9)	DPHI																

Task 8.6

Discuss the intervention phasing in plenary.

Suggested discussion questions:

- Is the phasing conservative or aggressive or somewhere in between? Be sure to understand the reasoning behind this.
- Does the sequencing establish constant progress (little or no back tracking)?
- Are responsibilities clearly defined?

Sub-Task 8.6.1

Identify and position in the plan overarching interventions, such as setting up coordination bodies.

Sub-Task 8.6.2

Enter the interventions from all HIS Components into one spreadsheet.

Sub-Task 8.6.3

Sort and sequence the interventions by sequence number and the year of initiation, as is displayed in Table 8.1 – Example (2) HIS Intervention Implementation Phasing (page 86)

Step 8 – Exit

Product Checklist

Before beginning Module II Completion - Last Session of the Strategic Planning Process - Next Steps (page 88), confirm you have completed the following:

- ✓ Completed the HIS intervention implementation phasing shown in Gantt chart table 8.1.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Module II Completion - Last Session of the Strategic Planning Process - Next Steps

Participation
SWG with the support of the Core Team

Estimated Time
Two (2) hours

Overview

At this final stage of the SWG planning process, it becomes possible to review the existing roadmap for developing the HIS Strategic plan and revise it in order to confirm the activities and schedule needed to complete the HIS Strategy document and the subsequent review and decision-making needed to obtain policy, funding and technical support. It is important that the schedule of next steps be aligned with any on-going development of the national health strategy and development plan and benefit from any new requirements of the National Health Strategy for information support.

Objective

At the end of this session the HIS Strategy Development Roadmap (activity plan) will have been reviewed and revised to clarify the schedule and responsibility for the remaining planning activities (steps of Planning Module III, including plan finalization, review and approval).

Materials

- The existing HIS Strategic Planning Schedule (Roadmap) as produced in Phase 1 and presented at the opening of the Planning Module II programme
- The outline of the HIS Strategic Plan document as devised in Phase I
- The Intervention implementation phasing produced as table 8.1 in Step 8

Tasks

1. In plenary, the SWG should review and discuss the existing roadmap as presented in the opening session of this programme and note any obvious needs for adjusting the activities and their scheduling.
2. The Core Team will then quickly review with the SWG the sections of the draft strategy document outline, noting which sections have been supported by the work of this strategic planning process and which need further work.
3. Important pieces of the document to be drafted will be highlighted and their formulation scheduled with assignment of those responsible for each, generally individuals or small working groups.
4. In particular, it is important to schedule and plan for the detailed design of each strategy and its interventions, the detailed, near-term implementation activity plan (Step 9), costing of the interventions and activities (Step 10) and the preparation of the strategy monitoring and evaluation plan (Step 11).
5. Once the HIS Strategy document is completed, a period of review by stakeholders, vested interest groups at the Provincial and District level, and potential international donors needs to be scheduled and carried out. These reviews should be added to the roadmap within Step 12.
6. Coordination with the drafters of the National Health Strategy (if it is also under development) needs to be arranged so that new priorities, strategies and initiatives within the National Health System Development Plan can be assessed for determining new information support requirements. In particular, new service programme content, standards and indicators need to be confirmed.
7. Finally, a date and milestone should be set for the anticipated approval of the HIS Strategy by the HIS Steering Committee and other authorities, leading to the confirmation of national and donor funding support and thence to strategy implementation. Some early strategic interventions may be initiated even before the entire strategy is approved.

Products

- An updated HIS Strategy Development Roadmap including dates and responsibilities.

Module II APPENDICES

Appendix II.A1 – Note on Constructing a Vision of the Future Health Information System

The following are examples of *themes* that could be addressed within an HIS Vision statement to express the desired benefits and impact of the improved health information system to be achieved by the end of the development plan period.

Example Themes of an HIS Vision:

- The improved generation and use of health and population information needed in the pursuit of the Health Development Plan, and in support of the priority national health programmes and service objectives and targets including monitoring adherence to the values, principles, and policies guiding the design and implementation of the national health development strategy will be present.
- Target user groups and policy-makers will be continually receiving up-to-date information presented appropriately for their understanding and use.
- Enhanced tracking of levels and trends of priority health problems will occur.
- Improved monitoring of the coverage and quality of essential health services will be taking place.
- The priority HIS Components will achieve improved functionality with greater use being made of the specific information required.
- Enhanced, appropriate use of computer and communications technology will be achieved in support of executive decision-making.
- HIS Institutional and organizational constraints will be addressed and resolved (including human and financial resources).
- International support, both financial and technical, for improving the health information system and its use will be mobilized.
- The HIS strengthening strategy will be periodically adjusted in response to changing HIS needs in the health system and services.
- All communities, families and individuals will benefit from better information for their own health and well-being as well as better information from the services about their health and the care they are receiving.

It may be helpful to add a number of "characteristics" of the future health information system to the Vision Statement in order to provide specificity. For example, the future health information system will be characterized by:

- Strong political and policy support through strengthened legislation and regulations for important health information functions
- A means and mechanism for integrating, storing and retrieving health-relevant data from a variety of sources
- Enhanced staff competence and capability in various skills needed for developing and maintaining the improved Components
- The HIS achieving performance which complies with international standards, and as such will receive recognition and support among the public, policy-makers and the international health community

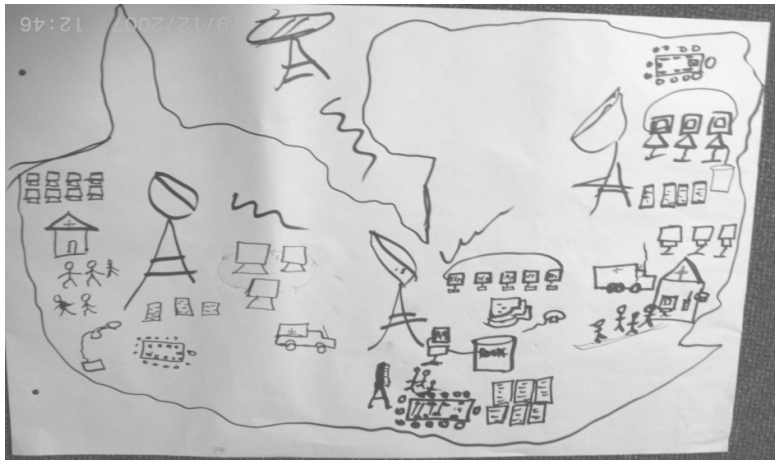
Evidence-based decision-making made possible through the availability of high quality socio-demographic, economic, morbidity, mortality and risk factor information and improved coordination of survey planning and implementation.

Appendix II.A2 - Graphic Depiction of the HIS Vision

An effective and enjoyable method of generating ideas for the vision employs the use by sub-groups of a graphic or mapping approach. Subgroups are assigned one or two Priority HIS Components for depicting elements of the overall HIS Vision. After their review of the array of problems for their assigned Component, they are facilitated in graphically displaying or mapping the characteristics they desire for their assigned Component by the end of the development period.

Once having produced their display, each sub-group will list the key elements it contains and present both the graphic and the elements in plenary for comparison with the vision elements produced by other subgroups. Ultimately, a composite graphic is created on a computer with a list of the elements of each graphic chart. This product is then given to the Core Team to develop into a brief narrative description of the overall Vision.

Example Subgroup Graphic



Key Vision Elements:

- HIS services for the country and beyond its borders
- District level computerized LAN
- Health facility level computerized
- Community level has an active health committee using HIS data to perform M&E function
- Meetings for M&E information sharing at all levels
- Communications network enables both voice and data transmission
- HIS includes a combination of paper based forms and remote data entry
- Close coordination and collaboration with other ministries at the national level

Appendix II.B - What are HIS Strengthening Activities?

For the purpose of compiling on-going and planned HIS Strengthening Activities, it is suggested that any activity whose purpose is to develop new formats, data capture and flow procedures, database maintenance, analysis and reporting capability should be listed. HIS strengthening can be related to HIS Components in support of Health System domains. Examples of such HIS strengthening activities and products include:

- The development of:
  - New or improved records, registers, reports and data flow procedures
  - New computer applications for data entry, data base management and report generation
- The development and implementation of new procedures for facilitating the use of existing data in support of planning, monitoring and evaluation of health programmes and services
- The design and conduct of:
  - New or strengthened training (basic and in-service) curricula and materials aimed at introducing new, or improving the performance of existing data management functions at various levels of the health system
  - New surveys or survey modules, monitoring and evaluation processes and investigative procedures which are intended to be routinely or periodically applied in the future
- Any special data analysis effort and generation of information products using procedures that can be repeated in the future
- Revision and/or formulation of new legislation and regulations on health event notification and service reporting requirements
- Establishment of Statistical and Information Coordinating Committees

HIS-related activities which are NOT considered "strengthening" in nature and should NOT be reported in this table include:

- Routine maintenance and updating of existing computer applications
- Routine data entry, cleansing and analysis
- The conduct of routine in-service training in existing procedures and functions
- The conduct of existing, periodic census and surveys for monitoring trends in population growth and distribution, community health and service performance trends
- The production of routine reports resulting from the analysis of routine service and survey data

Appendix II.C - Example Table 6.1 - Inventory of on-going and planned HIS Strengthening Efforts

No.	PHISC* Support	Title and Subject of the Strengthening Activity	Important Products	Time Period of Implementation	Amounts of Support	Sources of Support
Ministry of Health						
1		Develop HIS Strategic Plan 2008-2015	HIS Strategic Plan	Apr - Oct, 2007	3 p/m STCs	HMN
2	Data Management	Introduction of new GIS software version and functions and HIS Database. Training for its use.	Province, OD HIS Staff trained	Jun 07-Dec 07	Software and 2 p/m of STC	HSSP
3		First training course on basic epidemiology and statistics	30 HIS Managers at central and provincial levels trained	1 – 30 Aug 2007	$5,000 and 2p/m of STC	HMN
4	Data Sources Vital Registration	Pilot study in 5 districts on vital statistic data collection (death & birth) from health facilities	Report of B/D registration at facility level in 5 study districts	Jan – Dec 07	3 p/m of STC	HMN
5	Dissemination and use	New training course on Data Use for Local Planning	Course assessed and improved; 25 Province, OD, HC HIS Staff trained	Started March 07, next March-June, 2008	Guidelines and materials	HSSP
6		Introduce ICD 10 coding in the medical records through a phased plan	15 Hospitals having implemented ICD 10	Sep 08 – Dec 08	1 p/m STC	HMN
7		Develop framework for monitoring and evaluation of HSSP 2008-20015	Monitoring & Evaluation framework document	Jan 08 – Aug 08	Materials and Guidelines	HSSP
Ministry of Interior						
8	Data sources Vital Registration	Research on policy, procedures and legislation related to Civil Registration	Report of best practices from around the world	First quarter, 2007	Materials, 1 STC	Gov't of _____
9	HIS Resources Leader'p and Gov	Update existing and formulate new regulations and laws related to civil registration	Improved draft Legislation on civil registration	First quarter, 2007	2 p/m STC	Gov't of _____
10	HIS Resources Leader'p and Gov	Strengthening of civil registration policy and procedures	Improved CR policy and procedures	Second quarter, 2007	2 p/m STC	ADB
11	Data sources Vital Registration	Improved VR computer data entry	Improved Data Entry screens and editing programme	Second quarter, 2007	$5,000 and 1 p/m STC	ADB

* PHISC - Priority HIS Component/Information Category Supported by the activity

Appendix II.D - Examples of HIS Design Principles and Criteria

(Derived from the HMN Framework and Principles – should be reviewed and adapted by the HIS Core Team and Steering Committee)

1. All efforts to strengthen the management of health services should focus on improving the pursuit and monitoring of the extent of coverage with essential health services to the entire population with emphasis on reaching the currently underserved population groups.

2. Improvement to the assembly and maintenance of health data should focus on maximizing the monitoring and reflection of service performance, both to individual clients about the services they are receiving, as well as to the public at large about the preventive services they should be receiving and the extent to which this is being achieved.

3. To increase confidence in the completeness and reliability of the data at higher levels in the health system the HIS strategy must pursue the purpose of enhancing data quality and use at the level at which the data is first generated in the service.

4. The HIS strategy must aim at increasing the access to health data and information by policy and decision-makers through improvement in data storage, retrieval, analysis and presentation.

5. In support of decentralization of services management and action-taking at the district level, changes to data capture and flow procedures must insure that the district health office has all service data assembled and available in one location including that from basic health services and primary health care as well as from special disease and target group programmes.

6. The data resulting from population census and social-demographic surveys must be disaggregated and disseminated to the district level for their use in monitoring service coverage and performance.

7. International standards of data and statistics quality must be understood and pursued as a part of this strategy.

8. Improved monitoring of Millennium Development Goals and indicators is a priority for this HIS strategy.

9. While training and capacity-building are often popular interventions for strengthening HIS Components and information, care must be taken to insure that the need, basis and material for such capacity-building exists before these activities are planned and carried out. This normally requires that revised and new systems, procedures and formats be developed and tested before staff training and capacity-building is designed and conducted.

10. All staff capacity-building need not be carried out through traditional basic and in-service training. Processes of learning-by-doing are often more effective and efficient and less disruptive to the services.

Appendix II.E - Guidance and example of Causal Problem Analysis

Optional Task 3, Step 7 of Planning Module 2 - Conducting HIS Problem Analysis	
Participation: Subgroups of the SWG	Estimated Time: Three (3) hours

Overview: This optional task has been placed in Module 2, Step 7 in order to enable the exploration and identification of underlying causes of poor Component performance in order to generate appropriate ideas for strategic interventions. This problem analysis procedure has been widely used in health planning situations to help determine underlying causes and constraints leading to inadequate performance and types and points of intervention for improving performance.

Objective: At the end of this task, the sub-working groups who choose to do so will have identified additional causes of the inadequate performance of the subject HIS Component. In addition, they will have generated a number of important ideas for strategic interventions.

Materials:

- The list of low assessment question scores for the subject HIS Component
- Examples of causal problem Analysis applied to the Component of Disease Surveillance and Response. (Diagrams 7.4a,7.4b, and 7.4c on pages 95, 96, 97)
- Example problem statements and ideas for interventions resulting from problem analysis

Tasks:

1. Some subgroups may determine that the problems within or more Priority HIS Components are inadequately defined, possibly due to having only a few low-scoring questions. They decide to apply this Causal Problem Analysis in order to expand their understanding of the causes of poor Component performance and to help generate ideas for interventions. The sub-group should then review this note on conducting Causal Problem Analysis and the example attached.
2. Each subgroup undertaking this analysis should be seated around a white board, flipchart or have access to a computer that can easily be used for creating a problem diagram.
3. Based upon the subject of the Component, and the low-scoring questions, the group should define a single overarching problem statement that reflects the poor performance of the Component such as:

   Low proportion of disease outbreaks detected and responded to

   This overarching problem statement is then placed in the centre of the chart.
4. The working group should then begin discussing underlying causes and constraints felt to most contribute to the central problem and place them on the chart in appropriate locations (this can be done on paper charts using sticky notes or taped index cards). All low scoring questions within this Component and any low-scoring key HIS assessment questions that relate to the problem under discussion should be included in the problem diagram. Two alternative formats for the diagram are shown below.
5. The first set of underlying causes placed on the diagram should then be discussed to determine additional factors contributing to each of them and enter them in appropriate locations on the chart. A line indicating the direction of the causal influence should be drawn between underlying causes on the chart after each cause has been appropriately positioned.
6. The causal analysis should continue until the sub-group has contributed their main ideas and feel they have a relatively complete list of problems, under-lying causes and constraints.
7. The sub-group then turns its attention to types of interventions that might be taken to reduce the effects of the problems and their underlying causes. The more promising ideas can be entered on the diagram at the appropriate point of intervention.
8. The selected causes of the central problem and interventions for their reduction can then be listed in Tables 7.5 and 4.1 – 7.1 to define the problems and interventions of priority HIS Components.

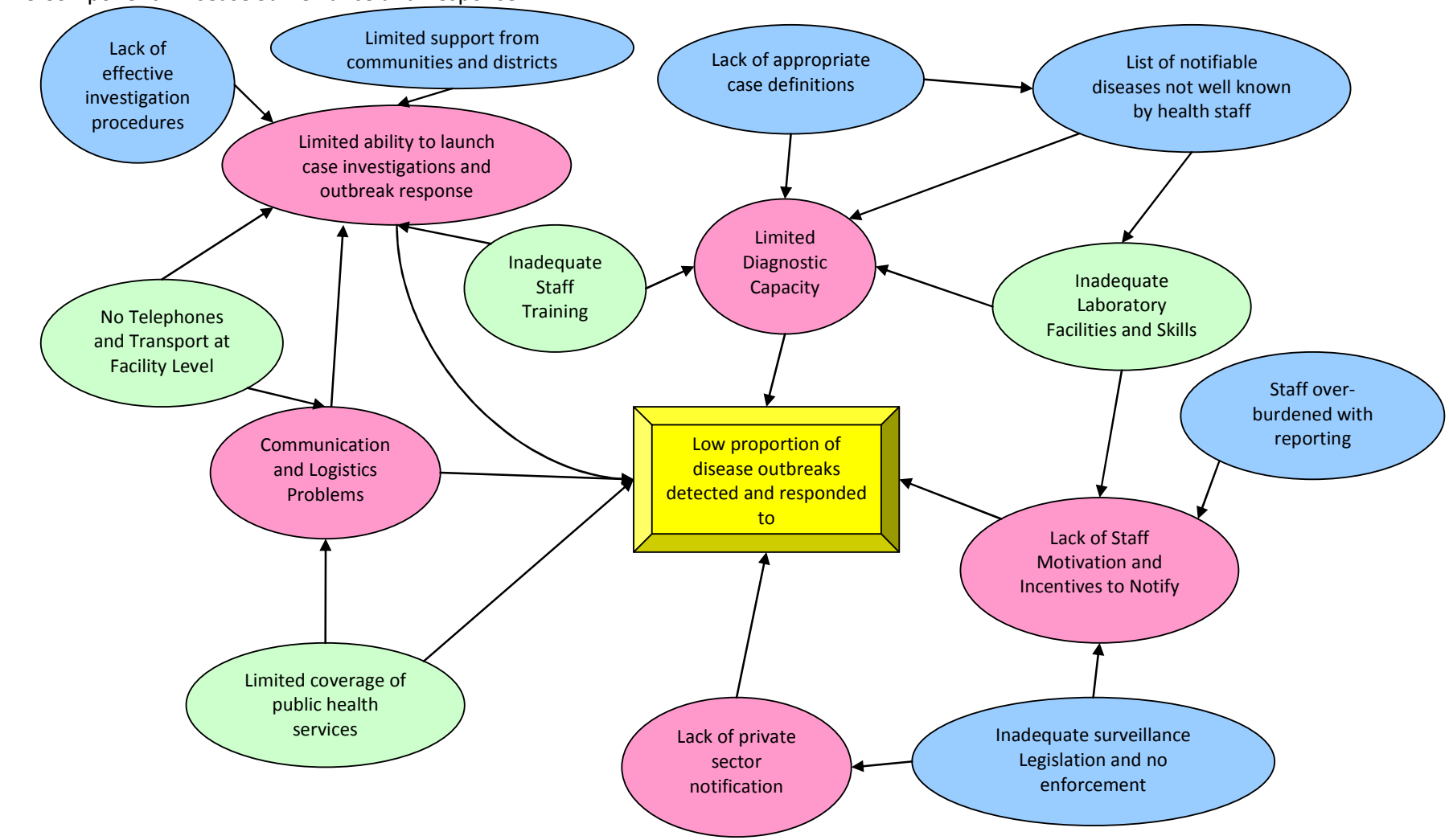
Products:

7.4 Causal (root cause) problem and intervention diagrams for some priority HIS Components

7.5 List of problems and related interventions placed within Table 4.1 – 7.1

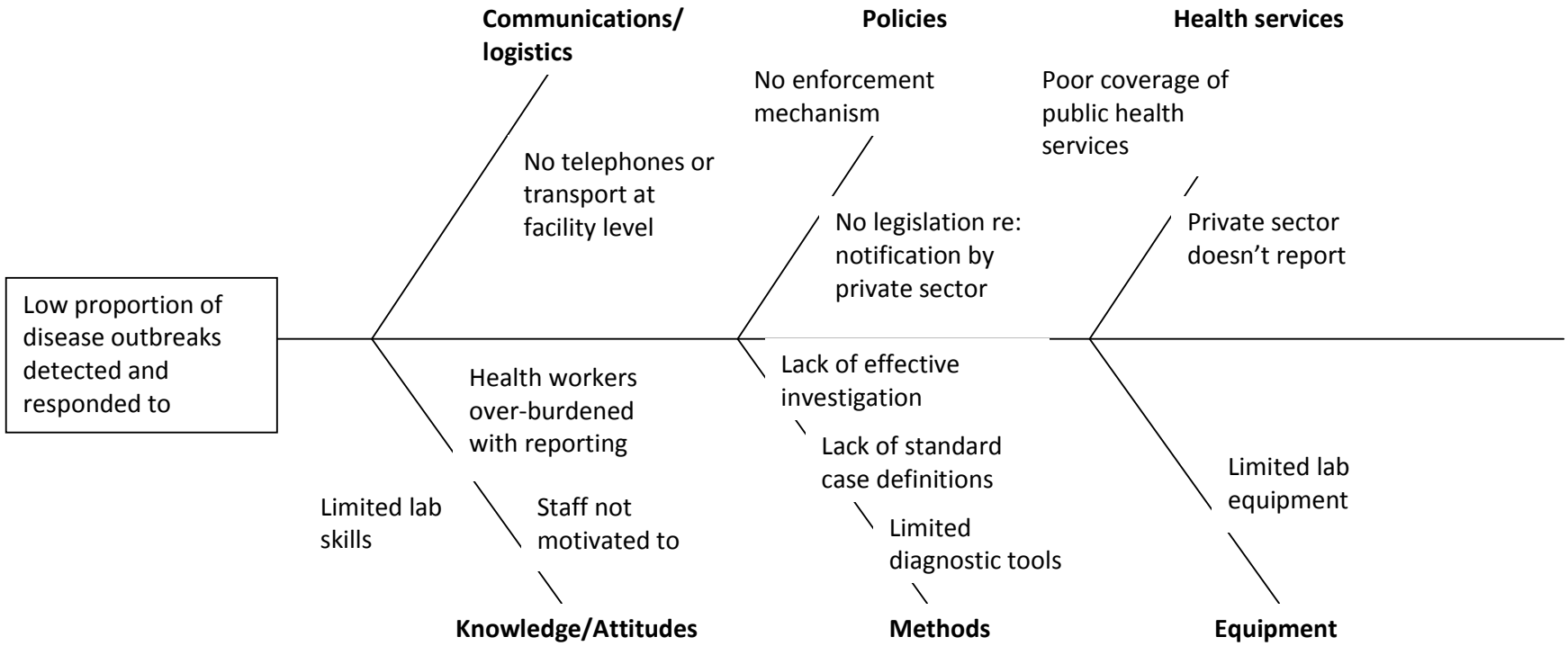
Appendix II.F - Diagram 7.4a Example HIS Causal Problem Analysis

HIS Component: Disease Surveillance and Response



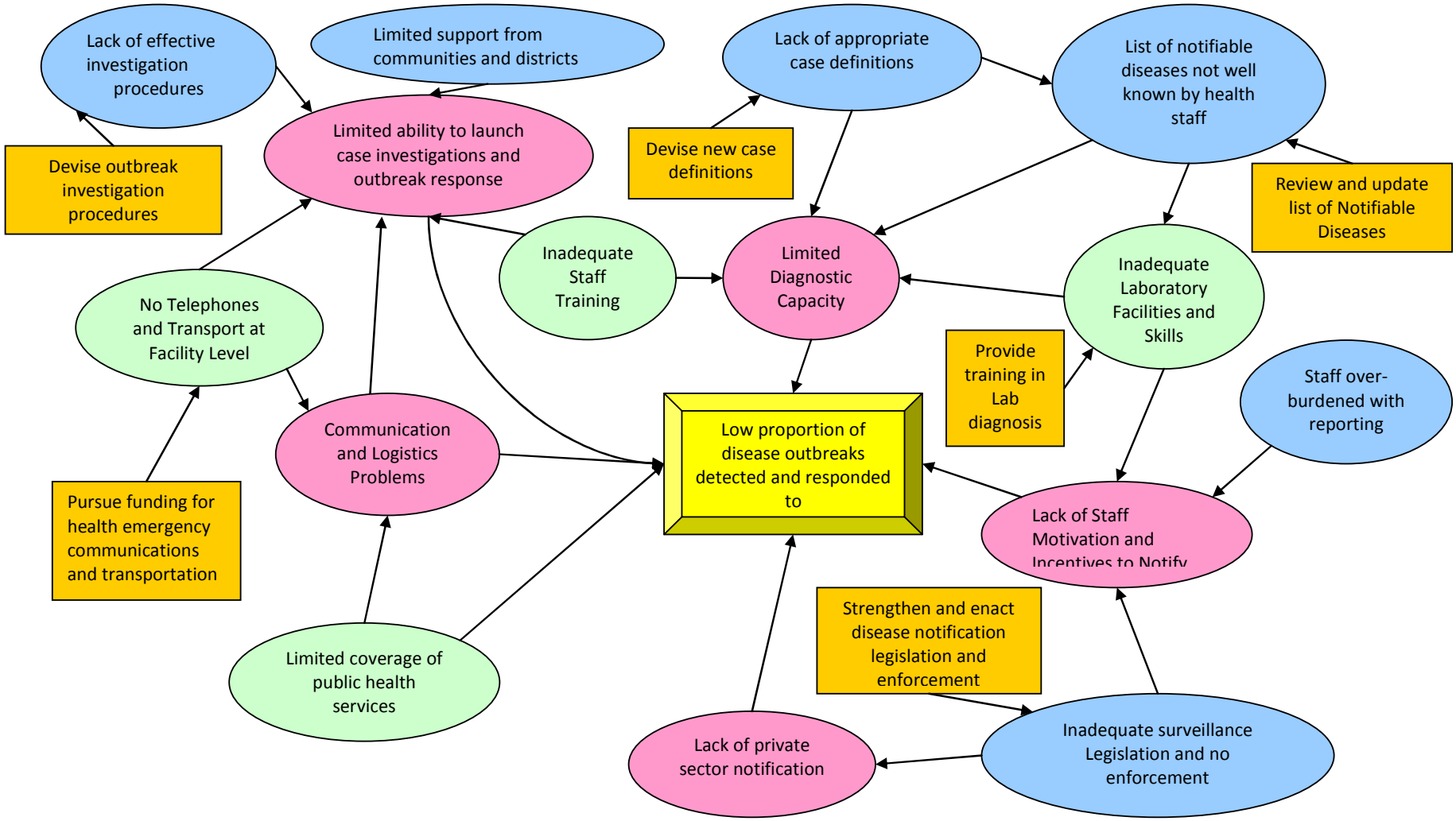
Appendix II.G - Diagram 7.4b Example HIS Component Causal Problem Analysis using Fishbone analysis technique

HIS Component: Disease Surveillance System



Appendix II.H - 7.4c Example HIS Causal Problem Intervention Design

HIS Component: Disease Surveillance and Response



Appendix II.I - Table 7.5 Example list of problems affecting the performance of a Priority HIS Component and Proposed Interventions Determined through Causal Problem Analysis

HIS Component: Disease Surveillance System

Central Problem: A low proportion of disease outbreak are detected and responded to.	
Results of the problem analysis	Proposed Interventions
Limited Diagnostic capacity Inadequate staff training Lack of appropriate case definitions inadequate laboratory facilities and skills List of notifiable diseases not well known by health staff	1.1.3 Provide training in lab diagnosis Review and revise case definitions 1.1.4 Review and revise list of notifiable diseases
Communications and Logistics problems No telephone at health facility level No transport for emergency medicines Limited coverage of public health services	2.1.1 Mobilize resources for emergency health communications and transportation
Lack of motivation/incentives for staff to notify Inadequate laboratory facilities and skills Staff overburdened with reporting Inadequate legislation and no enforcement	3.3.3 Revise and strengthen disease notification legislation and enforcement
Limited Coverage of health services	Addressed by the national health development strategy and plan
Lack of private sector notification	Same as 3.3.3, above
Limited ability to launch case investigations and outbreak response Inadequate staff training No telephones and transport at facility level Lack of effective investigation procedures Limited support from communities and districts	6.3.1 Develop procedures for outbreak investigation and response

Appendix II.J – Consolidated HIS Standard and Possible Strategic Interventions.

(Assembled from the HMN Framework)

This is a consolidation of the main ideas presented for each of the Categories of Information and Components from the Health Metrics Framework. For more information on these topics, refer to the HMN Framework document.

1. **Ideas for Strengthening the National Population Census**
   - **1.1. Standards –** Decennial census that provides information on population, socio-economic characteristics by small geographic area, conducted in line with UNDESA standards. Such a system should produce:
     - Population data by small areas with population projections
     - Mortality data if no VR – child and adult mortality estimates
     - Data on specific priority areas for the country – e.g. disability, access to improved water supply and sanitation
   - **1.2 Possible strategic actions:**
     - Preparation for 2010 round of censuses and determine health related contents as appropriate
     - Appropriate analysis dissemination and use of most recent census
     - Provision of health sector with annual projections of population size and distribution
     - Public access to data, including geographical information
   - **1.3 Additional questions to consider**
     - Were there major planning decisions that were poorly informed because of limitations in the last national census?
     - Is increased capacity needed over the next 10 years in:
       - ♦ Data collection?
       - ♦ Data processing?
       - ♦ Data analysis?
     - Is there a need to add questions on recent deaths to the questionnaire, including maternal deaths?
     - Is quality assurance through re-interviewing needed?

2. **Ideas related to Vital Registration**
   - **2.1. Standards –** A properly functioning system with high coverage that does not systematically under- or over-represent particular population sub-groups. Such a system should produce:
     - Numbers of births and perinatal events, population sizes
     - Numbers of deaths by age and sex
     - Causes of deaths, classified according to standard set of medical criteria
   - **2.2. Possible strategic actions:**
     - Study of current practices (civil registration, vital statistics systems, medical certification processes)
     - Create an enabling environment (policies, regulations, procedures and formats) to register births and deaths.
     - Improve analytical methods for evaluating and adjusting data from VR.
     - Actively promote and support sample VR or build on existing civil registration, expand coverage and support vital statistics system.
   - **2.3. Additional questions to consider**

- Were there major planning or other decisions that were poorly informed because of current limitations in the vital statistics system?
- Is there need or plans for an in-depth assessment of civil registration and medical certification of cause of death?
- Is increased capacity needed to:
  - ♦ Register vital events?
  - ♦ Process the data?
  - ♦ Analyze the data?
- Is there need to establish demographic surveillance sites or a sample registration system?

3. Ideas related to population-based surveys

3.1. Standard – A regular well-integrated country demand-driven survey programme which is part of a national health information system that generates high quality information on population, health, risk factors, health service coverage, which is internationally comparable.

3.2. Possible strategic actions:

- Develop an integrated master plan of surveys to be conducted between now and 2015.
- Strive to generate high quality health and socio-economic information on a regular basis.
- Strive to integrate and co-analyze survey results with other reliable data sources.
- Apply internationally accepted standards for conducting surveys in regard to ethical issues, design and implementation, quality assessment, analysis and dissemination.
- Foster and employ the use of local surveys (by communities, civil administration and local health staff) as needed and appropriate.

3.3. Additional questions to consider:

- Have there been major decisions and planning that were poorly performed because of limitations of household and other population surveys?
- What routine and new data is expected from large-scale surveys already planned for the coming years?
- Are coordination mechanisms for planning, overseeing and utilizing the data from surveys available and functioning adequately to insure maximum benefit is derived from the surveys?
- Is additional funding and technical expertise needed for future surveys?
- Is additional capacity needed for improving the overall survey programme in terms of planning, implementing, processing, analyzing, disseminating and using the results of the planned surveys?
- Are special purpose surveys or survey modules needed now for establishing important baseline data?

4. Ideas related to disease and health surveillance systems

4.1. Standards – Disease and health surveillance systems include the functions of identification and notification of suspected cases of notifiable diseases and health risks according to standard case definitions which are applicable with the diagnostic capabilities available in the local area (with support from patient and specimen referral sites), analysis of threshold levels being exceeded, case and outbreak investigation according to standard protocols, confirmation of cases and outbreaks

and initiation of required control action, followed by the preparation of required reports. Specific functionality includes:

- Disease surveillance that rapidly detects health events and trends, identifies outbreaks, enables rapid investigation and control response, and documents the outcomes
- Chronic disease surveillance (such as HIV and TB) that provides information on prevalence trends either through special surveillance methods (sentinel sites), special prevalence surveys and other efforts to collect high quality data
- Systems to compile cause of death and morbidity information, including cancer registries that are an integral part of the HIS

4.2. Possible strategic actions:

- Assess the performance of the current disease surveillance system and practices, and develop a plan for improvement of the system and its procedures.
- Update case definitions for appropriate application within the diagnostic abilities of the service and referral facilities.
- Develop national communications infrastructure for rapid surveillance notifications and response.
- Strengthen human (public and private) capacity for properly supporting the surveillance system.
- Enhance the linkages and partnerships between the public and private providers for notification, investigation and outbreak control activities.
- Development district level surveillance procedures and data management for efficient notification data entry, trend monitoring, threshold detection and outbreak investigation.
- Devise efficient outbreak investigation report formats and insure report completion and submission.

4.3 Additional questions to consider:

- Are their examples of major decisions and planning that were poorly performed for lack of complete disease surveillance data?
- Does service staff need training in order to properly apply standard case definitions?
- Do local surveillance procedures and specially trained sentinel sites need to be developed?

5. Ideas related to service data recording and reporting systems

5.1. Standards – Health service data systems should comprise ongoing systematic collection (recording), review, extraction, analysis, interpretation and immediate use (at the recording level) of relevant health and service data focused on local response (decisions and performance improvement), followed by tabulation and compilation of selected data for required reports. Specific capabilities include:

- Facility-based health records produce sound, locally relevant data that is used first for the monitoring and management of local health services.
- For a selected number of indicators, service facilities produce data for national statistics on health trends, and service utilization and coverage.
- Such data are collected in a standardized and systematic manner that enables comparison between facilities, regions and over time.
- Routinely recorded and reported data need periodic audits and quality control.

5.2 Possible strategic actions:

- Strengthen linkages among health and disease records (routine service registers and reports, death registration, surveillance systems).
- Develop or facilitate districts in developing a minimum set of health indicators for sub-national monitoring (district and facility level indicators and trends for health problems, service performance and operational constraints of local relevance and for reporting to higher levels).
- Develop and apply learning-by-doing processes that engage facility and district managers and staff in carrying out routine service management functions such as performance assessments, annual planning and periodic focused problem-solving using routine and survey data.
- Develop and implement clear data collection (recording), reporting and data transfer formats and procedures, and quality control mechanisms.
- Scaling up of HIV-AIDS treatment and follow-up assisted by an individual patient procedure-oriented record (electronic application (one disease EMR) where appropriate
- Improvement of quality and outcomes of hospital patient management and treatment through the electronic medical records (EMR) applications, where applicable

5.3 Additional questions to consider:

- Have there been decisions or planning that was poorly performed as a result of deficiencies in health services data and statistics?
- Do guiding procedures and formats for recording and reporting need development or improvement?
- Does service staff need capacity building in order to apply case definitions, maintain patient records and facility registers and prepare reports?
- Do service managers and staff need capacity building in order to better use existing routine data for monitoring their unit's performance, recognizing performance problems and devising local solutions?
- Is there a need to strengthen meetings and groups processes for the routine review of service data, indicators and trends?
- Are assessments and methods needed to monitor and strengthen the quality (completeness and validity) of routine data?

6. Administrative Systems and Records

6.1. Standards – Health accounts should provide information on the amount of financial resources being allocated and used for health. Such accounts should be structured by: sources of finance that include the public and private sectors (e.g. government tax revenue, insurance schemes, international support, the private for profit sector, household expenditure, etc.), by health functions or programme areas, major health problems, and by type of health providers. Additional functionality includes:

- Up-to-date databases of all facilities (with geo-coordinates), human resources and key services are maintained
- A database managing the procurement, storage, distribution and consumption of the medicines and commodities supply
- Up-to-date database of equipment, assets and infrastructures, and transports (also called logistics system)

6.2 Possible Strategic Actions:

- Assess current availability of financial data and its usability to determine programme and unit of service costs.

- Develop a database of financial disbursements from the national level to districts and programmes.
- Conduct a public health expenditure review.
- Carry out a national health accounts study.
- Improve or develop a geographic information database containing facilities, human resources and key services at district level.

6.3 Additional Questions to Consider:

6.3.1 Financial Management

- Are there examples of decisions and planning that were poorly informed because of weak monitoring of health budgets and financial allocations and expenditure?
- Is there a National Health Accounts framework analysis or is one under consideration?
- Is there an organizational home for maintaining National Health Accounts? Are staff and technical support available or planned for?

6.3.2 Health Workforce

- Is it possible that occupational data from the next national census be coded and analyzed so as to account and determine the geographic distribution of private sector as well as public sector practitioners and health workers of various types?
- Would it be useful to undertake a health facility census or service availability mapping, including both public and private facilities?
- Should a computerized data base be established to track over time the numbers of various types of health professionals as they graduate each year from all training institutions in the country?

6.3.3 Drugs and Commodities

- Has there recently been an assessment of the drug management system and the drug management information system?
- Is there linkage and comparison between drug utilization records and service consultation registers and reports?
- Do facility and district level drug inventories successfully integrate the inventory records of drugs received from different sources?

7. Information and Communications Technology (ICT)

7.1. Questions to consider:

- Are their examples in which major planning and decision-making was poorly informed because of weak data management, fragmentation and old data coming from health service and surveillance sources?
- Is there need to better store data from a variety of sources within and outside of the Ministry of Health in an integrated manner, such as an integrated “Data Warehouse”, or to strengthen existing “Data Warehouses” through better architecture, coding and by adding additional sources and types of data?
- If a new “Data Warehouse” is needed, what sources of data are envisioned, who should have access to the data, who should be responsible for maintaining the warehouse, and are there sources of the technical and financial support needed to design and set up the warehouse?
- Are there other requirements for integrating or compiling data from diverse sources, such as from different special programmes that maintain their own reporting systems?
- Is there need for creating or improving common user interfaces and decision support systems such as “Executive Dashboards” that facilitate the access and use of

synthesized data for monitoring and use for routine and periodic decision-making and planning?

- Is there a need to standardize data elements and their definitions through a "metadata dictionary"?
- Is it possible to prioritize needs for improved information and communications technology in support of the priority needs being addressed by this HIS Strategy?

Health Information Flow and Management with the support of Technology

8. Analysis, Dissemination and Use of Health Information

8.1. Questions to consider:

- Have recent major decisions been poorly performed as a result of inadequate analysis, dissemination, interpretation and use of health statistics and information?
- Are strategies under consideration for enhancing the dissemination to and capacity of the following types of staff in order for them to better understand and use data and information at their level for monitoring, planning, performance assessment, problem solving and planning?
  - ♦ Managers and staff in health care facilities
  - ♦ District health management teams
  - ♦ Municipality and District civil administration
  - ♦ Programme managers and policy-makers in the Ministry of Health and the Central Statistics Office
- Is it appropriate to consider new forms of analysis and dissemination in various formats? Such as:
  - ♦ Annual health or statistical reports
  - ♦ Periodic epidemiological newsletters
  - ♦ News releases and articles for the media
  - ♦ Websites and listserves (a membership of a number of people who simultaneously send messages to all members of the group, discuss topics and share information)
  - ♦ E-mail dispatches
  - ♦ Executive decision support mechanisms such as "Health Watch Frameworks" and "Executive Dashboards"

9. Coordination in the development of the HIS

9.1. Questions to consider:

- Have recent major decisions been poorly informed as a result of poor coordination of various Components or different sources of data?
- Are there coordination bodies that can help insure necessary linkage and integration of data from different sources, or do they need to be created or improved?
- Is there sufficient coordination between the Ministry of Health and the Central Statistics Office?
- Is there effective coordination in the design, conduct and funding of household questionnaires, service evaluations and investigative research?
- Is there sufficient stakeholder involvement and oversight in the following types of activities?
  - ♦ Design of enabling policy, regulations and procedures.
  - ♦ Selection and definition of key health indicators
  - ♦ Review and redesign of service records, registers and reports

- Design of the integrated data warehouse
- Design and funding of surveys
- Design of the questionnaire and plan of analysis for the national census
- Design and generation of national and international reports compiled from data of different sources and programmes

- Who will be involved in the development of the legal and policy framework for the development of the HIS?
- How will the review and further development of the set of key health indicators be managed and supported?
- How will problems of fragmentation and absent linkage across data and reporting systems be addressed, including the integration of data from special disease control programmes?
- How will the varying needs of the wide spectrum of information users be defined including internal technical and administrative programme managers, politicians, health professionals, training and research institutions, the media, the public at large and the donor community?
- Where is the proper location and level for the leadership of these various types of coordination?

Ministry of Health
Government of _____

Health Information System Stakeholder Working Group

HIS Strategic Planning Process

(Generic Programme for modification by each Core Team)

Venue _____
Dates _____

Department of Planning and Information
Ministry of Health

Supported by the Health Metrics Network

Programme of the HIS Stakeholder Working Group for the HIS Strategic Planning Process

Venue _____ Dates _____

Day and Timing	Session Topics	Responsible
Day 1		
(45 minutes)	**1. Opening** **Plenary Briefings on:** ▪ Background to the HIS Strategic Planning Process ▪ Objective of the HIS Strategy Planning Process ▪ Expected products ▪ Roadmap for the HIS Strategy Design and Planning ▪ Table of Generic HIS Components and Local Titles ▪ Explanation of important terms	
(30 minutes)	**2. Health Sector Development Policy and Plan Framework** **Plenary Briefings on:** ▪ National Health Development Strategy and Plan ▪ National Health Development Objectives, Strategies, Values and Working Principles ▪ Priority Health Problems, Essential Health Services and Core Indicators	
(60 minutes) (120 minutes) (30 minutes)	**3. Step 4 - Priority HIS Components and Problems** **Product:** Consensus on Priority HIS Components requiring strategic improvement and their constituent problems **Presentation** ▪ **Results of the HIS Assessment and Prioritizing** – HIS Components and Problems most needing attention. **Sub-group Discussion –** Priority HIS Component and Problems **Plenary Conclusions –** Adjustments to and endorsement of the selection of Priority HIS Components and their constituent problems	
(20 minutes) (60 minutes) (30 minutes) (30 minutes)	**4. Step 5 - HIS Vision** **Product:** HIS Vision Description **Briefing** **Sub-group Work** **Plenary Sub-group Presentations** **Plenary Vision Discussion**	
Day 2		
(45 minutes) (60 minutes)	**5. Step 6 - Current and Planned HIS Strengthening Efforts** **Products:** Expanded inventory of ongoing HIS Strengthening Activities and support, Results of HIS SWOT Analysis, agreement on how to update the inventory **Presentation:** Current inventory of HIS Strengthening Activities and support, including briefings on the major efforts currently under implementation **Plenary Discussion:** Identification of additional on-going efforts to strengthen the HIS, earmarking of ongoing activities felt to	

	support the strengthening of priority Components for inclusion in the HIS Strategy, Discussion of HIS Strengths, Weaknesses, Opportunities and Threats and agreement on means for updating the inventory	
(15 minutes) (240 minutes)	**6. Step 7 - Proposed HIS Objectives and Strategies** **Products:** Improvement Objectives and Interventions for each priority HIS Information Category and Component. **Briefing** **Commence Sub-group work**	
Day 3		
(60 minutes) (60 minutes)	**1. Continuation of Step 7** **Continuation of Sub-group work** **Plenary Presentations and Discussion**	
(15 minutes) (60 minutes) (60 minutes)	**8. Step 8 - Strategy Implementation Phasing** **Product:** Confirmation of strategic interventions in support of the priority HIS Components, their placement into the recommended implementation sequence and identification of responsible offices for each **Briefing** **Sub-group Work** **Plenary Discussion and Adjustment**	
(60 minutes)	**Next Steps and Closing** **Product:** Updated HIS Strategic Roadmap and confirmation of immediate next steps to finalize, review and approve the plan and staff/subgroup responsibility. **Plenary Discussion and Closure**	

Participants and Facilitators

	Name	Title	Organization	Contact Info (Mobile Phone, E-mail)

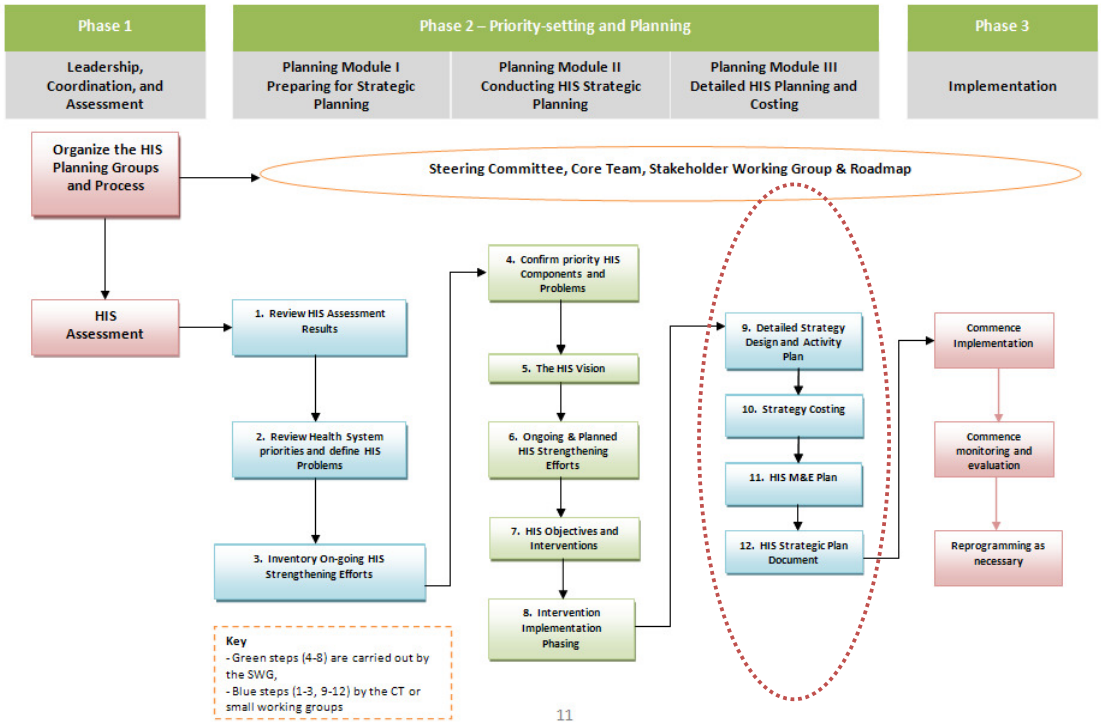
Background Material

1. HIS Strategy Roadmap – Work Plan
2. Statement of the Objectives of the HIS Strategic Planning Process
3. Glossary of Terms Used in the HIS Strategic Planning Process
4. Ministry of Health Values and Working Principles
5. Table of Priority Health Problems and Essential Services
6. Table of Key Health Indicators
7. Report of the HIS Assessment
8. Inventory of On-going and Planned HIS Strengthening Activities
9. Table of priority HIS Components and Problems
10. Guidance, tables and notes for Steps 4 through 8
11. Strategy Design Principles and Criteria
12. Draft Outline of the HIS Strategy Document

Planning Module III - Detailed HIS Planning and Costing

Introduction

Now that Module II - HIS strategic planning process is complete and the various products of Module II have been finalized by the Core team, Module III – Detailed HIS Planning and Costing begins.



The Core Team, along with various specialized working groups will have been designated to prepare a series of detailed products, including the activity implementation plan and strategy resource requirements. These small working groups will typically be comprised of individuals with detailed knowledge and experience with the HIS components or information categories that are being enhanced and will ideally be closely involved with the implementation process afterwards. This approach applies the principle that more detailed design and planning work is best carried out by small, qualified working groups after the main strategic interventions have been suggested and listed by the larger Stakeholder Working Group (SWG).

Module Purpose

Module III is intended to guide the remaining Phase II work of the Core Team (CT) and various technical working groups. It guides them in undertaking detailed strategy design, activity implementation planning, activity costing and preparing for monitoring and evaluating the progress and impact of the Strategic Plan.

Module Participants and Responsible Groups

As shown in Figure 1, Module III has the following steps:

Step	Title	Responsible Group
Module III	Carried out by the Core team and small technical working groups	Core Team (CT)
9	Detailed Strategy Design and Activity Implementation Planning	CT and working groups
10	Strategy Costing	CT and working groups
11	HIS Strategy Monitoring and Evaluation Plan	CT and working groups
12	HIS Strategy and Plan Document, its Review and Approval	CT with SWG and SC

Steps 9-12 Guidance

Step 9. Detailed Strategy Design and Activity Plan

The purpose of step 9, the first in Module III, is to develop a one to two year activity plan sufficient enough in detail to enable early implementation to begin. The plan will include the activities, the products of each activity and any critical types of additional resources needed along with the responsible offices and time frame.

Step 10. Strategy Costing

The purpose of step 10 is to develop an activity-driven budget for the HIS Strategy that will enable the Core Team (CT), Stakeholder Working Group (SWG) and Steering Committee (SC) to identify the financial resources required to implement the Strategy.

Step 11. HIS M&E Plan

The purpose of step 11 is to develop a means for measuring the effectiveness of the HIS strategy implementation. This is established through a framework with indicators appropriate for routine monitoring and periodic evaluation.

Step 12. HIS Strategic Plan Document

The purpose of step 12, the last in Module III, is to assemble the Strategic Plan document ready for presentation to the Stakeholder Working Group and Steering Committee. During this step it is important for the document to undergo a thorough review.

Maintaining Momentum

One risk to be avoided at this point is the loss of momentum following the intensive work of Planning Module II. The Core Team must take care to immediately confirm and convene the

various small technical working groups to insure that the further formulation of the strategy and plan proceeds as scheduled. The delivery of each working group's products must be scheduled for review by the Core Team and discussed by the Steering Committee.

Writing the HIS Strategic Plan Document

At the same time, work can proceed on assembling the various sections of the HIS Strategic Plan document from the products of Planning Module 2. Step 12 provides one possible outline for the document, but the Core Team and Steering Committee must determine the style and content of the document in accordance with requirements and practice within their administration.

It is best that a small group of writers takes on the task of drafting and editing the Strategic Plan document for maximum efficiency and consistency of style.

Reviewing the HIS Strategic Plan Document

A small group of informed reviewers can also be helpful in improving the clarity of the document.

Finally, it is important that the Steering Committee and the Core Team devise an efficient process and schedule for having the HIS Strategic Plan reviewed by key decision-makers and programme managers within the concerned Ministries and possibly with certain levels of the service system to insure its "understand-ability" and acceptability. Similar briefings and discussions should be scheduled with important potential donors and technical agencies that will be approached to support the Strategy and its implementation.

Inclusion of the HIS Strategic Plan in the National Health Development Plan

Additional steps to be taken with the strategy are to insure that it is included in the National Health Development Plan, that development and operating budget submissions are prepared under relevant budget heads and that it is reflected within the national research strategy.

Step 9 - Detailed Strategy Design and Activity Implementation Planning

Step 9 - Detailed Strategy Design and Activity Implementation Planning	
PARTICIPATION:	**EST. TIME:**
Small technical working groups supported by the CT	Two (2) to three (3) weeks

OVERVIEW:

It is anticipated that the HIS Component strategies and their interventions will need to be further designed and planned, well beyond what was possible during steps 7 and 8 of Planning Module II. Each office responsible for one or more strategies will convene small technical strategy design groups to provide further specifications for each strategy and intervention. With further clarity about each strategy it then becomes possible for the same technical working groups to devise the detailed activity implementation plan for the first one or two years of implementation.

OBJECTIVE:

At the end of this step each priority HIS Component will be supported by detailed design specifications sufficient enough to enable early intervention implementation to begin and a detailed operational activity plan covering the first one or two years of implementation. The Core Team will consolidate the individual activity plans into one overall implementation plan for attachment to the Strategy and Plan document. For each strategy beginning implementation during this initial period the plan will display the activities, the products of each activity and any critical types of additional resources needed along with the responsible offices and time frame.

MATERIALS:

- The HIS Vision description produced in Step 5
- The HIS Component strategies and interventions defined in Step 7 (Table 7.3, page 79)
- The Table of Intervention Implementation Phasing from Step 8 (Table 8.1, page 85)
- Table 9.1 - HIS Activity Implementation Plan (page 115)
- Example of Table 9.1 (page 116)

TASKS:

9.1 The Core Team in collaboration with the Offices in charge of the HIS interventions **sets up** the Technical Workgroups required to work out the detailed action plans for each intervention.
9.2 Technical working group **identifies** the major activities that are required to implement each strategy and its various interventions.
9.3 Technical working group **enters** the primary product of each activity into table 9.1 (page 115).
9.4 Technical working group **enters** the start and completion dates for each activity into table.
9.5 Technical working group **enters** the responsible office and officer into table 9.1.
9.6 Technical working group **enters** the *types* of additional resources required for the activity into table 9.1.
9.7 **Discuss** the draft activity plans with the other sub-groups and the CT.
9.8 **Check** the detailed implementation plan for completeness.
9.9 **Embed** the detailed implementation plan within the national medium-term health

development plan and annual development and operating budgets.

PRODUCTS

- Each proposed Component strategy and set of interventions described in detail including functional and technical specifications of the intended result and products
- Completed detailed activity implementation plans (Table 9.1) for the strategies of each HIS Component and for the entire HIS Strategy

Task 9.1

The SWG will have identified the Offices having primary responsibility for HIS strengthening within each priority HIS Component or Information Category. These Offices, in coordination with the Core Team, will need to organize one or more technical working groups to conduct further design and determine technical specifications for each of the strategic interventions proposed for each priority HIS Information Category and Component.

This task will require the participation of the necessary expertise from within the responsible offices and possibly by national and external consultants. The time allowed for this step should be limited to two weeks which implies that detailed feasibility studies and design work will often have to be placed into the activity plan as an early operational activity.

Task 9.2

Technical working group **identifies** the major activities that are required to implement the various interventions.

Sub-Task 9.2.1

Based on Worksheet 7.3 enter The Objectives for each HIS Component and/or Information Category as well as the numbers and titles of the Interventions into table 9.1 (page 115).

Sub-Task 9.2.2

Enter the activities to implement each Strategy into table 9.1.

Tip 1: Expand this list of implementation activities in more detail than what appeared in the strategy intervention phasing that was produced in Step 7.3 and 8.

Tip 2: List the activities in their logical implementation sequence.
For an example, see Table 9.1 – Partial Example HIS Activity Implementation Plan for Initial Implementation Period (page 116).

Note: In the example, the hierarchical numbering system links Objectives (1st digit), Interventions (2nd digit) and Activities (3rd digit).

Table 9.1 - HIS Activity Implementation Plan for Initial Implementation Period

Sub-Task 9.2.1 Enter The Objectives for each HIS Component and Strategy numbers and titles.

Task 9.4 Enter Start and Complete dates.

Task 9.5 Enter Responsible Office and Officer.

Task 9.6 Enter Additional Resources

Sub-Task 9.2.2 Enter the activities to implement each Strategy.

Task 9.3 Enter Primary product.

Activities	Primary Product	Time Frame		Responsible		Types of Additional Resources
		Start (M-Y)	Complete (M-Y)	Office	Officer	
Objective 1						
Intervention 1.1						
1.1.1						
1.1.2						
Intervention 1.2						
1.2.1						
Objective 2						
Intervention 2.1						
2.1.1						
2.1.2						
Etc.						

Table 9.1 – Partial Example HIS Activity Implementation Plan for Initial Implementation Period

Note1: Hierarchical numbering system links Objectives (1st digit), Interventions (2nd digit) and Activities (3rd digit)

Activities	Primary Product	Time Frame		Responsible		Types of Addit'l Resources
		Start (M-Y)	Complete (M-Y)	Office	Officer	
Objective 1. Increase the availability of accurate and complete health data from public and private sources.						
Intervention 1.1: Review and strengthen existing **legislation, regulations and administrative procedures** related to health data recording, reporting, storage, retrieval, analysis and dissemination governing both public and private sector.						
1.1.1 Review existing legislation related to HIS covering diseases, accidents, injuries notification from both public and private sector.	Inventory of existing legislation and Gaps	Jan-08	Apr-08	DPHI, PMD, CDC		
1.1.2 Revise and enact legislation related to HIS covering diseases, accidents and injuries including work related accidents (occupational health) and notification from both public and private sector.	Newly enacted Legislation ▲	May-08	May-10	Leg'n Off		
1.1.3 Develop legislation regarding data and reporting of health insurance from both public and private sector.	Legislation on health insurance	Jan-08	Jan-10	SHIC		
Intervention 1.2: Strengthen and develop **coordinated mechanisms for enforcement** of legislation, regulations and administrative procedures that are related to health data.						
1.2.1 Develop procedures, responsibilities and standard reports for monitoring adherence to the various HIS and civil registration laws and regulations and for taking corrective action (e.g. failure to report infectious disease, suspend license for non-reporting).	Procedure, responsibility and regular reports of the monitoring group ▲	Jan-10	Onward	Legislation office		
Objective 2. Improve the quality of health information.						
Intervention 2.1: Strengthen HIS **supervision and feedback** focused on **data quality** and performance standards adherence.						
2.1.1 Review and revise HIS data quality control guidelines, supervision and feedback system (develop checklist, guideline, resources) for both public and licensed private facilities.	Revised guideline, checklist, supervision and feedback plan	Jan-08	Aug-08	DPHI		

Activities	Primary Product	Time Frame		Responsible		Types of Addit'l Resources
		Start (M-Y)	Complete (M-Y)	Office	Officer	
2.1.2 Conduct regular quarterly supervision and feedback on health data to verify completeness, consistency and accuracy by: -Central HIS staff to Provincial Health Office -HIS staff at PHD to District level	- 4 super visits/year to PHOs - 4 super visits per year to District level	2008	Ongoing	DPHI PHD		Financial Financial
2.1.3 Use findings from HIS supervision for feedback to PHD and OD monthly meeting, Pro-TWGH, and PHTAT meeting.	HIS topics were raised	Sep-2008	Continu'g	DPHI, PHD & OD		
2.1.4 Prepare procedure and evaluation tool for conducting evaluation to validate quality of indicator data from both public and licensed private health facilities.	Procedure and evaluation tool	July-2009	Aug-2009	DPHI		
2.1.5 Conduct annual evaluation of the indicator data quality from both public and licensed private health facilities.	Evaluation report	2009	Annually	DPHI		Two evaluators
Intervention 2.2: Conduct **special assessments** of HIS facilities (tools, materials, furniture, ICT means, location and staffing) at all levels.						
2.2.1 Prepare procedure/checklist and assessment tool for special assessment of HIS facilities.	Assessment tool/checklist Assessment report format	July-2008	End 2008	DPHI		
2.2.2 Conduct special assessment of HIS facilities every third year, hold findings dissemination workshop (and support budget provision as necessary).	Assessment findings Awareness of the status of the HIS facilities	End 2008	Tri-annually	DPHI		Assess staff & Travel costs WS cost
Intervention 2.3: Provide **incentives and benefits** linked to MBPI for staff involved in the HIS at all level						
2.3.1 Define HIS performance standards and the incentives and benefits to be provided.	Procedures for awarding incentives					
2.3.2 Provide incentive link to Merit –based performance incentive (MBPI) to HIS staff at all levels.	Incentive provided according to MBPI	Tbd		DPHI		Funds and training
Objective 3. Enhance HIS commitment						
Intervention 3.1: Strengthen the capacity of staff involved in the HIS through **in-service training and degree programs.**						
3.1.1 Develop HIS training curriculum for PHD, OD and RH managers, HIS Officer, including HMIS recording and reporting	Training curriculum	Aug-2008	Jan-2009	DPHI, NIPH		

Activities	Primary Product	Time Frame		Responsible		Types of Addit'l Resources
		Start (M-Y)	Complete (M-Y)	Office	Officer	
and data quality control.						
3.1.2 Conduct HMIS training.	50 staff trained per year	Cont'g				Training costs
3.1.3 Review and revise existing curriculum for short course training.	Training curriculum	Jan 2009	Feb 2009	DPHI		
3.1.4 Conduct short course training of National Hosp, PHD, OD, RH and HC managers on data analysis and use for decision making.	50 HIS officers, Epidem, stat at Nat Hosp, PHD, OD, RH	May-2009	Jan-2011	DPHI, NIPH		Per diem cost
3.1.5 Send health staff for formal training [6month-2 years] in epidemiology and bio-statistics.	25 short course fellows 2 degree program fellows	2008	Cont'ing	DPHI		Tuition, and travel costs
Intervention 3.2: Strengthen and maintain the continuing authority and responsibility of the **HIS Stakeholders Working Group (SWG**) as a technical **instrument of inter-sectoral coordination** for health related data and link to TWGH and the Statistical Advisory Council (SAC)						
3.2.1 Conduct regular and ad hoc meetings of the HIS-SWG.	6 meetings per year, reports	Cont'ing		DPHI		Venue - lunch
Intervention 3.3: Integrate the HIS strategy and implementation plan into the future health strategic plan (HSP) 2008-2015 and health sector AOPs.						
3.3.1 Integrate HIS strategy into health strategic plan (HSP) 2008-2015.	HIS development included in HSP 2008-15 ▲	Jan-2008		DPHI		
3.3.2 Include HIS activities into AOP as one sub-program.	HIS activities have separate budget line in facility budget	Jan-2009		DPHI		

Task 9.3

Technical working group **enters** the primary product of each activity into table 9.1 (page 115). This activity will help you determine the appropriate sequence of activity implementation.

Tip: The completion of these products signals the completion of the activity and should be defined with that purpose in mind. Especially important products, which enable the initiation of other interventions, may be labelled as milestones, ▲.

Task 9.4

Technical working group **enters** the start and completion dates for each activity into table 9.1.

Task 9.5

Technical working group **enters** the responsible office and officer into table 9.1.

The designation of the responsible office and officer is important and should be entered to the extent that each working group is aware of the most logical assignment of responsibility.

Task 9.6

Technical working group **enters** the *types* of additional resources required for the activity into table 9.1.

Tip: Enter the types of resources but not the amounts. The subsequent sub-group costing effort will determine the amounts. Possible types of resources include:

- *Funds for development work*
- *Technical support*
- *Equipment*
- *Materials or documentation*
- *Training and fellowships*
- *Working group support*

Note: While most of the activities will be one-time development work, some activities may be repetitive in nature and eventually become additional routine activities and expenses. Such routine activities should be indicated in the table so that their resource requirements can be indicated as routine in the costing and budget to be produced by the Core Team in the next step.

Examples of additional routine or operating costs include:

- Salaries of new staff
- Expanding Internet access costs

Task 9.7

Discuss the draft activity plans with the other sub-groups and the Core Team.

Sub-Task 9.7.1

Identify overarching interventions in the plan, e.g. setting up coordination bodies.

Sub-Task 9.7.2

Consolidate the detailed activity plan into one spreadsheet.

Task 9.8

Check to see that the detailed implementation plan contains:

- ✓ Regular progress reviews
- ✓ Special evaluations efforts
- ✓ Appropriate revision efforts, particularly those designed to respond to new health system development initiatives growing out of medium-term health development planning and programme design.
- ✓ Linkage with regular service and programme review processes and other special assessments of relevance to the priority HIS Components

Finally, the HIS Strategy and its evaluation should be placed within the research community's agenda.

Task 9.9

Embed the detailed implementation plan within the national medium-term health development plan and annual development and operating budgets. Do this by listing appropriate activities within the plan.

Step 9 - Exit

Product Checklist

Before beginning step 10, confirm you have completed the following:

- ✓ Describe each proposed Component strategy and set of interventions in detail. Including functional and technical specifications of the intended result and products.
- ✓ Document completed, detailed activity implementation plans (Table 9.1) for the strategies of each HIS Component and for the entire HIS Strategy.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 10 - HIS Strategy Costing

Step 10 - HIS Strategy Costing	
PARTICIPATION:	**EST. TIME:**
Core Team and working groups.	7 days

OVERVIEW:

Once the detailed implementation plan is created it becomes possible to develop an activity-driven budget for the HIS Strategy that will enable the Core Team, Stakeholder Working Group and Steering Committee to identify the financial resources required to implement the Strategy. As such, the costing will cover "additional" development and recurrent expenditure, that is, *additional* to what is already budgeted and available. It will then be possible to approach government departments and donors to identify sources for funding specific HIS Strategies.

OBJECTIVE:

At the end of Step 10, through the combined efforts of the Core Team and the technical working groups, a cost summary for the HIS Strategy will have been created. This will include detail for the initial implementation period years 1 to 2, and with projections but less detail for years 3 to 5 and 5 to 10. The cost summary will enable the HIS Strategy Team (SC, SWG and CT) to pursue and secure funding for the HIS strategies, both HIS development costs as well as new recurrent costs, from the government and from donors or lenders.

MATERIALS:

- Intervention Implementation Phasing, (Table 8.1)
- Detailed implementation plan from step 9 (Table 9.1)
- HMN Strategy Costing spreadsheet tool and Users Manual (distributed separately)
- Table 10.1 – Example HIS Strategy Resource Requirements (page 124)
- Table 10.2 – Example Common Cost Elements and Factors (page 126)
- Appendix III.A - Note on Tasks Pertaining to the Use of the Spreadsheet Costing Tool (page 139)
- Appendix III.B - Examples of Costing Summaries (page 140)

TASKS:

10.1 Core Team **costs** the strategies and activities in detail.
10.2. **Identify** activities that have a resource requirement in table 9.1 (page 115) and then list them in table 10.1 (page 123)
10.3 **Assemble** the current cost factors.
10.4 **Enter** the cost elements and factors in table 10.1.
10.5 **Enter** the first four columns of table 10.1 into the costing spreadsheet tool distributed separately by the HMN.
10.6 **Project** the remaining development costs.
10.7 **Develop** costing summaries.

PRODUCTS

- Completed Worksheet 10.1 – Strategy Resource Requirements for each HIS Component and intervention and for the total HIS Strategy
- Summary information of costs by HIS Component, type of activity and year

Task 10.1

Core Team **costs** the strategies and activities in detail.

Tip: Support must come from representatives within each of the HIS Component technical working groups. The primary input to this process is the table 9.1, page 115 (intervention activity plan).

Task 10.2

Identify activities that have a resource requirement in worksheet 9.1 then list them in table 10.1

Enter the:

- ✓ Activity number and title in columns 1 and 2
- ✓ Type of expenditure in column 3
- ✓ Nature of the expenditure (developmental or recurrent) in column 5

Task 10.2
Enter activities with resource requirements.

Task 10.4
Enter Cost elements and factors.

Table 10.1 - HIS Strategy Resource Requirements

Activity No.	Title	Types of Expenditure	Cost Coefficients	Recurrent or Development	Activity Type	Participants	Total Cost	Develop-ment	Recurrent

Table 10.1 – Example HIS Strategy Resource Requirements

Activity No.	Title	Types of Expenditure	Cost Coefficients	Recurrent or Development	Activity Type	Participants	Total Cost	Develop-ment	Recurrent
2.1.2	Quarterly HIS Supervision visits PHD	Travel costs	4 visits per year * 8 years * 24 PHDs * cost/trip	Recurrent	Supervision	1	115,200	-	115,200
2.1.2	Quarterly HIS Supervision visits OD		4 visits/year*8 years* 77 ODs * cost per visit	Recurrent	Supervision	1	369,600	-	369,600
2.1.5	Annual Evaluation of Quality of Indicator Data	Nat'l Consultants	1 month x 2 conslts x $400/mo.	Recurrent	STTA	2	8,000	-	8,000
2.1.5	Annual Evaluation of Quality of Indicator Data field assessment	Travel costs	50 site visits x 10 travel days *$80	Recurrent	Supervision	1	70,000	-	70,000
2.2.2	HIS Facility Assessments (Equip & supplies by self-administered checklist)	Distribution cost	$1.20/PHD*24*3	Recurrent	Dissemination		2,074	-	2,074
2.2.2	Workshop on special HIS Facility Assessments	Workshop cost	4 w/s* 1day *20 part. x $20 p/d + 4*$100	Recurrent	Workshop/ Training	20	6,800	-	6,800
2.3.2	Incentives for HIS staff at all levels	Financial supplements	## staff receiving incentives by type	Recurrent	Other HR	25	84,000	-	84,000
3.1.2	HMIS Training	Short course training	40 staff per course x 2 courses* $20/day x5 days + $100/day *5 days course cost	Development	Workshop/ Training	40	13,800	13,800	-
3.1.4	Short course on data analysis and decision-making	Short course training	1 course/year x 40 part x $20/part x 5 days + 5*$100	Development	Workshop/ Training	40	55,200	55,200	-
3.1.5	Formal Training - external short courses	External training costs	25 6-month fellowships x tuition, stipends and travel costs	Development	Workshop/ Training	25	450,000	450,000	-
3.1.5	Formal Training – external degree programmes	External education costs	2 2-year degree programs x tuition, stipends and travel cost	Development	Workshop/ Training	2	112,000	112,000	-

Task 10.3

Assemble the current cost factors. It may require some effort to record current cost factors based on past experience. Place them in the right column of the table.

Table 10.2 - Common Cost Elements and Factors

	Type of Resource Requirement	Costs by factor
1.		
2.		
3.		

Tip: The costing tool uses cost coefficients and factors to provide the basis for cost estimations. See Table 10.2 – Example Common Cost Elements and Factors (page 126).

Table 10.2 – Example Common Cost Elements and Factors

	Type of Resource Requirement	Costs by factor
1.	Average in-country travel cost per person or vehicle per day	Central Driver go outside Capital : $__ per day Provincial Driver to come to the Capitol : $__ per day Gasoline: 1Km = 0.20L = $0.__ (The most distant province = ___Km , The nearest province = __km)
2.	Average daily national consultant salary by type: Software consultant Support system expert (HR, drug management, facility maintenance, etc.) Other, e.g. evaluation	Daily consultant cost by type
3.	National per diems In own city Elsewhere	In own city : $ __ per day Elsewhere : $ __ per day
4.	Training and meeting participant per diem or stipend / day	Per diem to province = $__ Per diem in own city = $__
5.	Average training course or meeting cost (venue, support, materials, tea and lunch)/day	$__ per on person / 1day (include : Venue rental, lunch and coffee break Training materials : $_ per one person LCD Projector rental : $___ per day Backdrop with two logos of Banner : $__
6.	Average international short course cost (1-6 months) Tuition Stipend Travel	Tuition Fee = $___ per participant Stipend = $__ pr day Accommodation = $__ per night Air Travel (including airport tax)
7.	Average degree fellowship cost per year	Tuition Stipend Travel
8.	International consultant	Average daily salary Average travel cost per visit
9.	Metadata dictionary – Software cost	Range of development costs can be provided by the HMN Secretariat
10.	Data warehouse – hardware and software cost, by size category, no. data sources, and no. users	Range of development costs can be provided by the HMN Secretariat
11.	Document and publication production cost – by size category per copy	1 - $ 0.__ per page 2 - $__ per document
12.	Cost of working group and design team processes – by size and duration	Any group process costs per participant
13.	Common survey costs	Historical survey costs factored by no. of sampling units, no. field teams, participants/ team, per diem and travel costs per day
14.	Communications cost Telephone Internet – E-mail Mail	Telephone: 1 – Connection and Installation fee : 2 – Monthly fee and avg. per minute 3 – International Calls avg. cost Internet – E-mail – cost per unit of service per month Mail – average cost per piece

Task 10.4

Enter the cost elements and factors in Table 10.1.

Tip: Create so that the entry becomes the algorithm or equation for calculating the cost. For example, if the activity is a workshop its cost could be determined by the following:

(# Workshop days) X (# participants + facilitators) X
(per-diem or honorarium per day) + (cost of the venue and lunch & Tea).

See example in Table 10.1 – Example HIS Strategy Resource Requirements (page 124).

Task 10.5

Enter the first four columns of table 10.1 (page 122) into the costing spreadsheet tool distributed separately by the HMN. Once the detailed costing for the initial 1-2 year implementation period is completed begin the next task.

Task 10.6

Project the remaining development costs and implications for additional recurrent costs *across* the remaining years of the full HIS Strategy implementation *to* the continuing activities.

Tip: Apply an inflation factor using the spreadsheet tool.

Task 10.7

Develop costing summaries.

Tip: A variety of costing summaries may be developed with the tool and used within the Strategy document. See instruction for use in Appendix III.A - Note on Tasks Pertaining to the Use of the Spreadsheet Costing Tool (page 139).

For examples see Appendix III.B - Examples of Costing Summaries (page 140).

Step 10 - Exit

Product Checklist

Before beginning step 11, confirm you have completed the following:

- ✓ Completed Table 10.1 – Strategy Resource Requirements for each HIS Component and intervention, and for the total HIS Strategy.
- ✓ Summarized information of costs by HIS Component, type of activity and year.

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 11 - HIS Strategy Monitoring and Evaluation (M&E)

Step 11 - HIS Strategy Monitoring and Evaluation (M&E)	
PARTICIPATION:	**EST. TIME:**
Core Team with the support of representatives of each HIS Component Technical Working group	One (1) day conducted over two half days

OVERVIEW:

The approach and indicator framework is an important final planning product to be developed by the Core Team for use as a management tool. It should also be included as an annex to the HIS Strategy document to be used to monitor and evaluate the HIS strategy implementation and impact on the performance of priority HIS Components and categories of information.

OBJECTIVE:

At the end of this step the Core Team will have produced Monitoring and Evaluation (M&E) Indicator Tables and a description of the monitoring and evaluation framework and process.

MATERIALS:

- The HIS Vision described in Step 5
- Worksheets 4.1 and 7.1 produced for each HIS Component strategy
- Worksheets 7.2 and 7.3 depicting the HIS Component Objectives and strategies
- Technical specifications for each HIS Component as produced in Step 9
- Worksheet 9.1 Activity Implementation Plan
- Worksheet 10.2 Intervention Costing Spreadsheet
- Appendix III.C - Note on HIS Strategy Monitoring and Evaluation (page 141)
- Tables 11.1 (page 131) and 11.2 (page 132) for presenting the M&E framework

TASKS:

11.1 Technical working groups **review** all the planning products pertaining to their sub-system.
11.2 Working group **confirms** which of these monitoring and evaluation M&E indicators are now felt to be most appropriate for routine monitoring and periodic evaluation.
11.3 **Choose** those indicators deemed to be the most important for inclusion with a consolidated M&E Framework.
11.4 Core Team and Working Group representatives **agree** on the schedule and method of reporting their results of monitoring and evaluation.

PRODUCTS

- Worksheet 11.1 - HIS Strategy Evaluation Framework
- Worksheet 11.2 - HIS Strategy Monitoring Framework

Introduction

The steps of the HIS strategy design and implementation planning generate the basis for measuring, monitoring and evaluating the various levels of the HIS Strategic Plan results framework. Therefore, at this point in the preparation of the plan, it is only necessary to assemble the indicators for each level (described in the attached note) within monitoring and evaluation tables, indicating the frequency and method of measurement of the various indicators.

Task 11.1

Technical working groups **review** all the planning products pertaining to their sub-system:

- Problem definitions with indicators
- Objectives and their indicators
- Interventions and their phasing
- Activities, Products, Milestones and targeted dates
- Additional Resource Requirements

Task 11.2

Working group **confirms** which of these monitoring and evaluation M&E indicators are now felt to be most appropriate for routine monitoring and periodic evaluation. Enter them into M&E Indicators Tables such as those displayed as tables 11.1 (page 131) and 11.2 (page 132).

For examples see:
Table 11.1 – Example (page 132)
Table 11.2 – Example HIS Component Intervention Implementation Monitoring (page 134)

Table 11.1 HIS Strategy Objective and Target Achievement Evaluation Framework

Priority HIS Component or Information Category _____
Reporting Responsibility: _____

Component Improvement Indicators (Objectives in **Bold)**	Baseline Value	Objective	Objective Year	Data Source	Frequency of Measurement

Table 11.1 – Example HIS Strategy Objective and Target Achievement Evaluation Framework

Priority HIS Component: Data Sources / Information Category: Service Records
Reporting Responsibility: Director of the Health Services

Component Improvement Indicators (Objectives in **Bold)**	Baseline Value	Objective	Objective Year	Data Source	Frequency of Measurement
Use of Service Records and Reports by Public and Private Health Facilities	Only public Facilities	Both public and private	2011	Service records	annually
% of health facilities (sample) producing service records of acceptable quality	40 %	80%	2010	LQAS survey	Annually
% of health facilities (sample) with documented use of information for management of health services	20%	60%	2010	LQAS survey	Annually

Table 11.2 - HIS Component Strategy Implementation Monitoring

Priority HIS Component or Information Category: _____
Reporting Responsibility: _____

Activity		Schedule				Expected	Actual	Resources	
No.	Short Title	Sched Start	Actual Start	Sched Compl	Actual Compl	Product or Milestone (▲)	Product	Required	Avail'l
Intervention No. and Title									
Intervention No. and Title									

Table 11.2 – Example HIS Component Intervention Implementation Monitoring

Activity		Schedule				Expected Product or Milestone (▲)	Actual Product	Resources	
No.	Short Title	Sched Start	Actual Start	Sched Compl	Actual Compl			Required	Avail'l
Intervention 8.1 - Link reporting of data with incentives such as provision of subsidized or free prevention products (vaccines, contraceptives, etc.).									
8.1.1	Meetings with Private Sector (PrS) Providers at national levels	01/09		03/09		Consensus on data to be reported and on products		Workshop costs	
8.1.2	Meetings with district managers	04/09		06/09		Set up mechanism for reporting and distribution products		Meeting costs	
Intervention 8.2 - Create use-friendly data collection forms, if possible similar to the sector forms, but keep reporting requirements to a minimum.									
8.2.1	Design of PrS forms	03/09		04/09		PrS Forms designed			
8.2.2	Printing of PrS forms	05/09		06/09		PrS Forms printed		Printing costs	
8.2.3	Distribution of PrS forms	07/09		10/09		PrS Forms distributed		Mailing/Transport costs	

Task 11.3

Choose those indicators deemed to be the most important for inclusion with a consolidated M&E Framework.

Sub-Task 11.3.1

Gather all Component working group M&E tables.

Sub-Task 11.3.2

Core Team meet with representatives of each team to review the entire set of tables.

Sub-Task 11.3.3

Choose which indicators of each level are felt to be the most important to place within a consolidated M&E Framework.

The M&E tables from this step will be part of the HIS Strategic Plan document (see step 12).

Task 11.4

Core Team and Working Group representatives **agree** on the schedule and method of reporting their results of monitoring and evaluation to the Core Team, Steering Committee, Stakeholder Working Group and donor organizations.

Step 11 - Exit

Product Checklist

Before beginning step 12, confirm you have completed the following:

- ✓ Table 11.1 - HIS Strategy Evaluation Framework (page 131).
- ✓ Table 11.2 - HIS Strategy Monitoring Framework (page 132).

Participant Signoff

Before beginning the next step, ensure you have involved all the appropriate team members for this step:

Team Member	Role	Organization	Approved (Yes / No)

Step 12 - The HIS Strategic Plan Document

Step 12 - The HIS Strategic Plan Document	
PARTICIPATION:	**EST. TIME:**
The members of the Core Team, possibly supplemented with technical writers who are familiar with the content of the plan	Two (2) weeks, although many pieces will have been drafted earlier in the planning process

OVERVIEW:

This last step of Planning Module III prepares the major products of the HIS strategic planning process as a Strategic Plan document for presentation to the Stakeholder Working Group and Steering Committee, along with other levels of the health sector and system and cooperating sectors, and to existing and potential funders and donors. The step also includes the process of reviewing the document, revising it for formal distribution and review, managing the review of the plan and moving it toward approval and funding

OBJECTIVE:

The initial product of this step is a completed HIS Strategic Plan document which provides a full description and rationale for approving and funding the Strategy. It also includes a number of annexes which provide the details needed for decision-making and funding. This step also includes the tasks needed to obtain necessary policy and management support from the involved Ministries and Departments as well as government and donor funding.

MATERIALS:

- The products from all the steps of the HIS Strategic Planning Process some of which are used in their entirety, often as annexes
- Appendix III.D - A Note of Guidance on Preparing the HIS Strategy and Planning Document (page 142)
- Appendix III.E: Annotated Outline of a Model Health Information System Development Strategy and Plan (page 144)

TASKS:

12.1 **Confirm** the primary authors.
12.2 Primary authors **write** the document.
12.3 **Review** the document.

PRODUCTS

- A completed draft HIS Strategy and Plan document, including all annexes
- A final document prepared for distribution, discussion and review
- Process and responsibilities for managing the process of plan review, approval and funding

Task 12.1

Confirm the primary authors.
Early in the strategic planning process, the primary authors of the plan document will have already been determined. So this task really is to re-confirm. These staff should be present in the Core Team and/or Stakeholder Working Group and should fully participate in the steps of the planning process.

Task 12.2

Primary authors **write** the document.
The intensive writing period should be set up and managed closely as was done with all preceding steps. It should be completed within 10 working days and should be done through the efforts of a small group of writers, supported by other members of the Core Team who will assist with the formulation and finalizing of each product of the planning process.

Tip: The complete draft should be finished before the writing team is disbanded. The Core Team may then finalize the editing, formatting and document production.

For an example Strategy Plan outline see Appendix III.E: Annotated Outline of a Model Health Information System Development Strategy and Plan (page 144).

Task 12.3

Review the document.

Sub-Task 12.3.1

Select members of the SWG **review and comment** on complete draft.

Tip: Use members who did not participate in its drafting but who are fully familiar with the content of the strategy and plan and can offer suggestions for improving its accuracy and readability.

Sub-Task 12.3.2

Senior policy-maker and Ministry **review**.
The Steering Committee and Core Team **devise** and **implement** a modest plan review process. Goal is to simultaneously inform and obtain feed-back and support from senior policy-makers in the Ministries supporting strategy implementation.

Tip: Schedule the process for completion within two weeks of the final draft becoming available.

Sub-Task 12.3.3

Donor agency **reviews**.
Similar to Sub-Task 12.3.2, inform and obtain feedback from serious potential donor agencies known to have an interest in this subject, particularly those who are already supporting HIS development.

Tip: These meetings should be one-on-one rather than in groups and may need special presentations to be prepared.

Step 12 - Exit

Product Checklist

Before Phase 3, confirm you have completed the following:

- ✓ Complete draft HIS Strategy and Plan document, including all annexes.
- ✓ Prepare a final document for distribution, discussion and review.
- ✓ Determine process and responsibilities for managing the process of plan review, approval and funding.

Participant Signoff

Before beginning the next phase, ensure you have involved all the appropriate team members for this final step of phase 2:

Team Member	Role	Organization	Approved (Yes / No)

Module III Appendices

Appendix III.A - Note on Tasks Pertaining to the Use of the Spreadsheet Costing Tool

1. Copy the sample budget and blank Excel budget template into a Core Team computer.
2. Review the sample budget so that you can see the way it is set up. Note that each activity is on a separate row and that you can unhide rows to show the detailed budget information that is summarized on the activity row above it. Look at each of the tabs containing the templates and summary information.
3. Complete the following steps that are described in detail in the user manual for the costing tool:
    a. Open the blank budget template and copy in the columns of data describing the activities that were prepared as part of Step 9. Make sure that you copy the HIS Objective and intervention numbers down the first column next to each activity so that data can later be summarized by intervention. Copy the formulas to the right of the activity descriptions down the entire length of the table.
    b. Edit the standard templates so that they reflect the way that budgets are actually established in the country for workshops/training sessions, consulting assignments, supervision and surveys.
    c. Insert budget details underneath each activity row and make sure that the total amount is reflected in the Amount column on the activity row.
    d. Distribute the costs over the planning period by allocating percentages across the year columns (making sure that it adds up to 100%).
    e. Extend the range called “Database” to include all of your activities and then refresh the summary pivot tables.
4. Several reviews and adjustments are normally needed in order to develop a relatively complete strategy costing that includes total for the plan period and year. In addition to the detailed spreadsheet, which may be printed in its entirety and distributed separately, there are several forms of summary cost tables that may be produced and included within the Strategy Document such as:
    - Totals for each HIS Component
    - Totals by Year (Development and Recurrent)
    - Totals by Type of Expenditure
    - Summary of Development Costs Needing Donor Support
    - Summary of Training and Fellowships Costs by Type
    - Summary of Equipment and Software Costs
    - Summary of Consultant and Technical Advisor Costs (national and international)
    - Summary of Additional Staff and Salary Requirements
5. Print copies of the detailed costing table summaries as deemed necessary.

Appendix III.B - Examples of Costing Summaries

Summary of Development and Recurrent Costs by Priority HIS Component

	Type of costs	
HIS Function	Development	Recurrent
Leadership and Governance	637,000	705,974
Public Health and Surveillance	455,620	84,400
Civil Registration	357,716	68,750
Census and Population Surveys	31,680	74,200
Health Workforce	409,359	-
Total	**1,891,375**	**933,324**

Costs by Activity Type

Activity Type	Total
Dissemination	26,324
Other HR	165,695
Short Term Technical Assistance (STTA)	258,675
Supervision	668,942
Survey	50,871
Workshop/Training	1,712,942
Grand Total	**2,883,449**

Appendix III.C - Note on HIS Strategy Monitoring and Evaluation

The following levels of monitoring and evaluation are proposed for consideration by the technical working groups, Core Team and Stakeholder Working Group, beginning with the levels closest at hand:

- Availability of the **resources** required for implementing and sustaining the HIS strategies
- Progress and problems in implementing the **planned activities** and achieving the stated **milestones**
- Completion, quality and timeliness of the **products of the activities**
- Success in achieving the **objectives** of each Priority HIS Function as measured with the defined indicators
- Progress in improving all **HIS problem and Component performance indicators**
- Progress toward achieving the **Vision** of the HIS Development Strategy

The Core Team should be assigned the responsibility for carrying out the monitoring and reporting required for the proposed monitoring and evaluation indicators, with a regular schedule of reporting back to the Stakeholder Working Group and Steering Committee. A possible schedule of such reporting:

- Resource, Activity, and Product Monitoring - Quarterly
- HIS Component Performance Monitoring, plan reviews and updates and revised mobilization of resources based on progress and plan revision - Annual or bi-annual
- Vision Achievement - Mid- and end-plan periods

Appendix III.D - A Note of Guidance on Preparing the HIS Strategy and Planning Document

Obviously, the style and content of such a plan will have to follow the planning practice in the country, addressing the information requirements of both government and donor endorsement and funding. But HMN recommends the following principles when drafting, finalizing and reviewing the document:

1. The process of preparing the HIS Strategy and Planning document should be organized as a small group writing process and managed so as to complete the document over a short period of time as has been done for the other steps of the HIS Strategy process. The time and progress being taken by the writing should be monitored closely to prevent delays in its preparation.
2. Qualified, experienced technical writers should be drawn on to prepare the document, preferably from among the staff assigned to the Core Team and Stakeholder Working Group, to insure that they are already very familiar with the content of the strategy.
3. Efforts should be made to keep the narrative portion of the document brief and clear. Twelve to fifteen pages, supplemented by a number of annexes which are mostly products of the Planning Modules and Steps is deemed sufficient for describing the strategy and plan.
4. Within the recommended sections of the proposal, efforts should be made to highlight the following in the narrative text:

    - The nature of performance problems and their underlying causes within the priority HIS Components
    - The focus that the strategy and its intervention plan is applying through interventions designed to have important benefits within the priority HIS Components, with beneficial results expected to be seen within the health system in a relatively short period of time, largely measured in the extent to which data and information are used
    - The gradual and progressive nature of the implementation effort which is planned, keeping in mind the finite amount of technical and financial capacity available for the strategy
    - The opportunities and strengths which the strategy is utilizing
    - The assumptions that are being made with regard to the achievement of the HIS improvement objectives and Vision

5. Successive drafts of the document should be reviewed and commented on by selected members of the Stakeholder Working Group before the draft is finalized and shared more formally with the Steering Committee and SWG
6. A series of meetings both in groups as well as with specific offices needs to be scheduled and carried out in order to obtain the reaction to the HIS Strategy and suggestions for its improvement from the formal Stakeholder Working Group as well as other offices and levels of the service not directly participating in the SWG. Important current and potential donors and providers of technical cooperation to the HIS should also be included. Such meetings will require that the Core Team

prepare brief presentations that summarize the Strategy and its features along with the assumptions of opportunities, strengths and risks and the costs of the effort.

7. The last formal step of the strategy development process is for the HIS Steering Committee to review the document in discussion with Core Team and Stakeholder Working Group and render its opinion and support to the strategy, or not. It may be possible for some strategies to begin early implementation while others should be further reviewed and possibly revised.
8. A strategy for mobilizing needed resources is required at this point. Donor-specific discussions and negotiations may be required in order to fit their policies and priorities within the strategy while avoiding distortion of national intentions.
9. Early strategy implementation may proceed before all required resources are mobilized and may include the conduct of certain additional in-depth assessments (such as the disease surveillance system or the drug management information system).

Appendix III.E: Annotated Outline of a Model Health Information System Development Strategy and Plan

	Pages
Executive Summary	
For the main problems and features addressed by the HIS Strategy and Plan and their relevance to the national health system performance, refer to Annexes B, C and D. Acknowledgement of the direction and membership of the HIS team and the process they followed is referenced in Annexes M and N.	.5
1. The Current HIS Situation	
Assessment Results - A brief summary of the current performance of the health information system, its Components and categories of information based on the findings of the HIS assessment and other recent assessments	1
Strengths and Opportunities - A succinct summary of the results of the HIS SWOT analysis	1
Priority HIS Components - A brief explanation of the derivation of priority components or information categories, including low-scoring Key Questions.	1
2. Vision, and Objectives	
Vision - The Vision Statement with brief explanation, if necessary	.5
Objectives - A summary of the HIS performance objectives as defined for each HIS Component or Information Category	1
Critical Assumptions and Risks – A summary of the basis by which the HIS planning team (SC, CT and SWG) came to the proposed strategy design and the assumptions being made about critical policy and organization support and technical and financial resources to be mobilized	1
3. Strategies for Strengthening Priority HIS Components	
A general but descriptive discussion of the sets of interventions proposed to address the problems and objectives of each priority HIS Component and category of information	3
4. Summary of HIS Resource Requirements	
Categories of Resources - A brief discussion of "additional" development and recurrent (operating) resource requirements generated by the HIS Strategy and the basic types of resource needs that will arise	.5
Summary of Cost Requirements – A brief discussion and tabular summaries of additional development and operating cost requirements by type, year and plan period	1
5. Expected Products, Milestones and Benefits	
Discussion of the principle products of the strategic interventions and the activities supporting each priority HIS Component while reflecting the performance benefits being derived and how they will be managed and monitored	1
6. Conclusion	
A brief concluding statement that reminds the reader about the important linkages between the HIS Components and the performance of the health system while imparting a sense of priority toward those Components and categories of information proposed for attention	.5