

# **HIV/AIDS Information System Assessment Toolkit**

*Assessing Resources*

## **Introduction**

The success of The Emergency Plan will depend on the availability of good information. Therefore, health information systems in most countries will need to be strengthened. This will require an initial assessment, an evaluation, and a plan to strengthen information systems.

The objectives of the HIS assessment are as follows:

1. Review current practices in data collection, analysis and use in HIV prevention, care, and treatment programs.
2. Review existing systems and estimate costs to introduce and maintain data collection, analysis and utilization systems for HIV/AIDS prevention, care, and treatment programs.
3. Assess the status of the overall national health information system (NHIS) and the information and communication technology (ICT) infrastructure.
4. Recommend strategies for the design, consolidation, and/or restructuring of facility-based HIS for The Emergency Plan.

As discussed in the MIS Concept Paper: Developing Facility-based Management Information Systems, in order to integrate and strengthen HIS for HIV/AIDS interventions within the broader facility-based information system, careful assessments of current data gathering systems for PMTCT, ART, as well as the broader health information system, are necessary in each focus country. In other words, the assessments should strive to encompass the entire health information system of the country instead of being limited to a few program information systems.

## ***Health Systems Approach***

In order to build sustainable management systems for the delivery of quality HIV and supportive care over the long term, the Emergency Plan-supported MIS must take into account the broader health care delivery system in which it will be implemented. A management information system is “a system that provides specific information support to the decision-making process at each level of an organization.”

The facility-based MIS structure should permit generation of the necessary information for rational decision making at each level of the health system, from the facility to national and donor levels in concurrence with a national or regional HIS. Each user requires reliable and timely information to support its own set of management functions. These functions include (1) individual patient care management, (2) facility management, (3) health program management at district, national, and international levels, and (4) strategic planning at the district, national, and international levels.

Existing facility-based management information systems in most countries are unable to provide the information support needed to manage a broad range of health system interventions. Some of the main reasons for this are (1) inadequate financial and human resources; (2) perceived irrelevancy to staff's daily work, and consequentially poor data quality collected at the facility level; (3) centralization and/or fragmentation of information system management; and (4) poor health information system infrastructure. Experience in several countries in the last two decades has shown that decentralization of information management is an effective strategy to improve facility-based management information systems.

Important principles in the development of a decentralized Emergency Plan-supported MIS include:

- Adapting information needs to the specific management functions at each level;
- Redesigning each of the components of the information-generating process in such a way that high-quality information is produced in a timely fashion; and
- Ensuring sufficient health information system (HIS) resources and careful management of the new system

## **Assessment Process**

Undertake an extensive assessment study of existing MIS (both for the more general HIS as well as for MIS specific to the Emergency Plan)

- Extent of assessment depends upon the availability of previous assessments and perceived in-country need
- Make use of external technical assistance if required

Use a health system approach, addressing each of the MIS components described earlier

- Identify information and indicators currently used
- Consider the information generating process (data collection, data aggregation, data processing, data analysis, data presentation)
- Address how management structures impact information resources and procedures
- Identify all stakeholders and describe their roles/impact on information systems
- Use existing tools (e.g. political mapping tool)

Based on the assessment results, classify the country in terms of “MIS status”

	High (A)	Medium (B)	Low (C)
<b>1. Availability of prenatal care and institutional delivery services</b>	High coverage	Medium coverage or low coverage with outreach activities	Low coverage
<b>2. Availability of Emergency Plan interventions and other donor activities</b>	Available in most service delivery points	Expanding number of pilot sites	Only in few pilot sites
<b>3. Status of MIS for Emergency Plan interventions</b>	Nationwide standardized system reasonably well integrated with national HIS	Standardized but vertical system in pilot sites	Not standardized or non-existent
<b>4. General status of national HIS</b>	Well functioning HIS with complete, timely, and quality data collection and reporting up to national level	Data collection and reporting incomplete, or late, or low quality, or limited to district or intermediate levels	Poorly functioning HIS with incomplete, late, and/or poor quality data collection and reporting
<b>5. Ability to Use Data</b>	Trained staff available at all levels able to analyze and use data for quality of care assessments and for public health reporting	Staff at district level and below are poorly trained to analyze and use data for quality of care assessments or for public health reporting	Staff at all levels are poorly trained to analyze and use data for quality of care assessments or for public health reporting
<b>6. Status of computerization of data entry and processing</b>	From the national level down to the facility level	Down to district level but facility level is paper-based	National level only or totally paper-based system
<b>7. Status of communication technology</b>	High Internet speed and telephones in health facilities	Medium Internet speed and/or no telephones at facility level	Low Internet speed and poorly functioning telephone lines
<b>8. Availability of qualified human resources</b>	MIS staff available at all levels and well trained in data processing and analysis	Lack of MIS staff at district level and below and/or poorly trained in data processing and analysis	Lack of MIS staff at all levels and/or poorly trained in data processing and analysis
<b>9. Availability of standardized procedures</b>	Standardized procedures well established and instruction manuals available	Poorly established procedures or no instruction manuals available	No standard procedures or instruction manuals

## The Prism Framework

The Prism framework assumes that HIS performance is the result of the interaction of technical, behavioral and environmental/organizational determinants. These three categories are like three corners of a prism. Just as a prism transforms light according to the laws of physics, the PRISM framework transforms health information according to the three categories of performance. The Prism framework can help information system reformers and implementers to broaden their vision from a focus on technical factors to the behavioral and environmental/organizational aspects of the information system.

### Technical Determinants

- Standard indicators
- Data collection forms
- Appropriate IC technology
- Data analysis and presentation

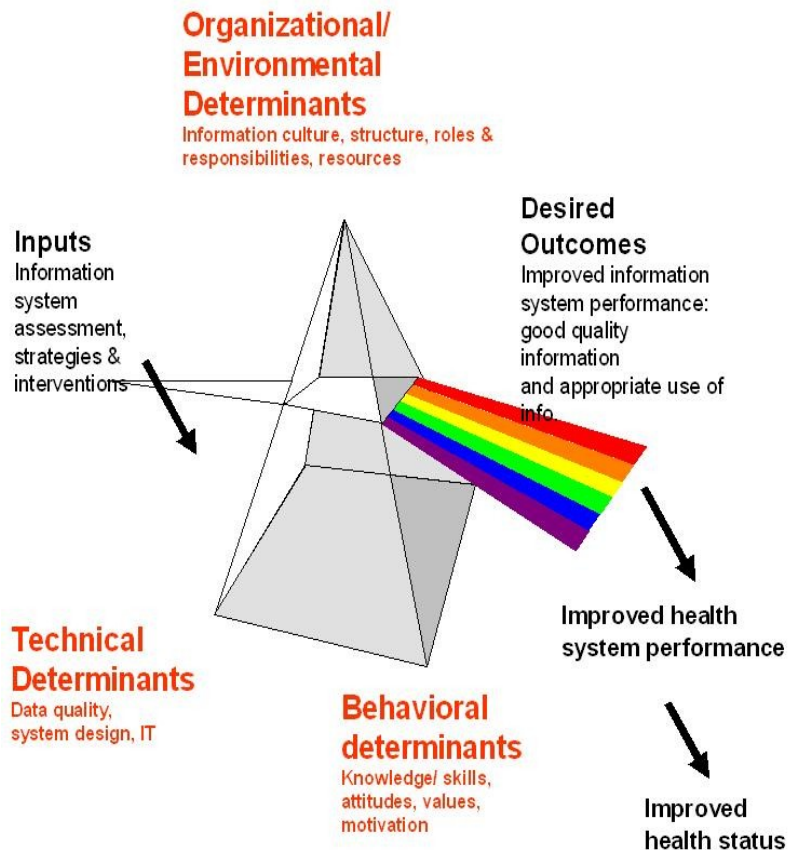
The technical determinants are what most people consider first when analyzing HIS performance. Good technical operation includes standard indicators, data collection forms, and appropriate information and communication technology. These are complemented by appropriate data analysis and design.

These factors are all necessary and important for a health information system but in order for that system to function well, it is necessary to have optimum functioning of the behavioral, environmental and organizational aspects of the health system.

### Environmental and Organizational Determinants

- Resources
- Structure of the health system
- Roles, and responsibilities
- Organizational culture (of information)

### Prism Framework for understanding Health Information System performance



Data collectors and users work within a specific environment/organization and thus are affected by it. For example, if senior health managers do not allocate resources based on evidence and/or information, then people start questioning the utility of collecting information. Or, if senior managers do neither emphasize the importance of routine information nor reward peripheral managers for good RHIS performance, then it is very unlikely that RHIS performance could be maintained at a high level. These examples show how important are the organizational issues for better RHIS performance.

Environmental/organizational determinants factors influence RHIS performance both positively and negatively. At the macro level, structural constraints, such as poor roads, lack of telecommunications capacity, and insufficient quantities of appropriate human resources, present very real obstacles to timely and complete reporting of information. The internal organization and culture of the health system also matters. A health system structured around vertical disease control programs, for instance, is often at odds with an integrated district-level health information system. At the micro level, field assessments have shown that organizational factors such as lack of clarity about roles and responsibilities for information management at district level; failure to disseminate information system policies, norms, and standards; and ambiguity surrounding the flow of information throughout the system have a direct influence on performance.<sup>1</sup> (see figure 2).

## **Behavioral Determinants**

- Motivation
- Attitudes and values
- Skills
- Confidence
- Sense of responsibility

There are multiple behavioral determinants influencing RHIS performance. Motivating the data collectors and users remains a challenge despite training on data collection registers and reporting forms. Attitudes such as “data collection is a useless activity” or “a waste of care provider time” are detrimental to data quality. Knowledge and skills for data processing, analysis and interpretation are usually not given due attention and affect the ability to use information.

## **Assessment Team**

The following Guiding Principles should be considered when performing the assessment:

- The Ministry of Health (MOH) and/or other relevant government agencies (such as the National AIDS Commissions) should be informed and involved in the assessment process.
- The success of the assessment depends on effective collaboration between the assessment team and in-country counterparts.
- The assessment team should identify and work with key stakeholders throughout the assessment and reform process.
- The assessment team should provide feedback on a timely and ongoing basis to all parties

involved in the assessment.

- The assessment team should look for opportunities that will produce early successes in order to build confidence in the reform process.

## ***Methodology***

The assessment should include the following steps:

- Assemble and review relevant background information
- Identify key areas of investigation for the assessment and data sources
- Customize assessment tools to specific country context
- Prepare for field data collection including selecting sites to be visited
- Conduct field data collection
- Analyze the results and prepare the assessment report
- De-brief principal stake-holders
- Prepare and conduct stakeholder workshop
- Prepare design, implementation, and capacity-building plan

## **Assemble and review relevant background information**

The assessment team will also review available documentation and the ongoing inventory of strategic information approaches.

- Inventory of current data collection, analysis, and reporting forms, instruments, and techniques used in HIV programs
- Overview documents on the national routine health information system: annual statistical reports; assessments of NHIS; reporting forms; HIS instruction manuals for data collection and reporting
- List of key stakeholders
- List of staff to assist with implementation of assessment activities
- List of key MOH contacts
- List of available local consultants

## **Identify key areas of investigation and data sources**

- Assess HIV Care and Treatment Programs
- National program descriptions, timing, and scope

- Other program descriptions, timing, and scope
- List of indicators for each of these programs to compare with The Emergency Plan core indicators
- Descriptions of related programs including TB, family planning, and sexually transmitted infections (STI)
- Assess the HIS for The Emergency Plan programs (including RHIS, surveys, special studies, and facility-based surveys) and ART, TB, STI, Opportunistic Infections (OI), and related programs.
- Assess the broader country HIS, with a focus on facility-based HIS

### ***Dimensions of Assessment:***

- Indicators reported and their relation to health system functions
- Data collection systems including the responsibility of key staff; data collection instruments used; and data consistency, quality, and completeness at all levels
- Data reporting and processing procedures
- Data analysis and presentation
- Status of computerization (purpose, level, hardware and software) in HIS
- Use of information generated through HIS for patient and program management
- Use of information generated through HIS for health planning
- Management structures for the HIS (human, physical and financial resources; management policies and procedures)
- The role of the private sector in data collection (where applicable)

### ***Assess Human Resource Capability***

HIS training: Data collection, reporting, analysis, and use of information

IT training: Hardware maintenance and repair, Software support, Data entry, High level IT functions (systems analysis and programming)

### ***Data sources***

Observational visits to selected field sites to study HIS for HIV/AIDS prevention, care, and treatment programs

Interviews of key program managers and staff to assess quality and needs related to M&E

Reports from surveys, evaluations, and special studies on HIV/AIDS prevention, care, and treatment and national HIS assessments

Existing databases for HIV/AIDS prevention, care, and treatment programs for each site visited and nationally



Visits to selected district and national health departments and facilities to observe data collection, analysis and use practices, and to check HIS equipment and supplies (including IT )

Interviews of key MOH staff involved in NHIS management

Interviews of Information Technology and communications people

Interviews of key staff of organizations providing assistance in HIS development

Interviews of private sector providers with a significant presence in the country

### ***Site selection criteria***

Since it is imperative to the implementation of The Emergency Plan that these assessments are completed promptly, it will not be possible to include a statistically significant sample of facilities or to have a truly “random” sample of facilities. However, when selecting sites to visit, efforts should be made to include a broad representative sample of facilities taking into account the following:

- geographic diversity
- program partner diversity (ensure that all major program partners are included)
- private sector (where applicable)
- level of service (primary, secondary, tertiary care)
- regional or ethnic diversity
- support by various donors

### **Prepare for field data collection**

- Finalize a timetable for assessment activities
- Set up meetings with focal contacts in USG and the government (MOH, NAC)
- Designate a sample of health facilities to be visited both for program and NHIS assessment
- Arrange transportation and accommodation for field visits
- Prepare materials and equipment for data collection and report writing (It is recommended that the collected information be entered directly into the electronic copy of the forms.)
- Train field teams in the use of assessment tools

### **Conduct field data collection**

Data collection should take place over 4 to 7 days, depending upon the size and number of existing prevention, care, and support programs and logistics of transport. If necessary, several different assessment teams can visit different provinces or regions simultaneously. An external consultant familiar with the assessment process and the forms should lead each team. Careful training should be

performed to ensure that the team fully understands the assessment process.

## **Analyze the results and prepare the assessment report**

Data collected from institutional visits and interviews should be transferred to summary assessment forms.

The assessment team will prepare the assessment report discussing the pros and cons of the current HIS, providing recommendations for developing/strengthening the HIS for The Emergency Plan, and identifying technical assistance needs.

A standard report outline should include:

- Analysis of current HIS including strengths and weaknesses
- Areas that need strengthening and potential solutions (including alternatives, where feasible)
- Identify resources available for implementation, training, installation, and capacity building including potential private sector resources that could be enlisted in the effort.

## **Prepare and conduct the stakeholder workshop**

Since the assessment evaluates the entire HIS at the facility, sub-national, and national levels, stakeholders from each of these levels should be present when discussing the findings. It is important that the people who collect, analyze, and use the information at all levels have the opportunity to give their insights into the strengths and weaknesses of the existing system, provide suggestions for improving the system, and express expectations for improvement. They are also an important part of the capacity assessment. They represent the HR capacity of the system and are most cognizant of the potential for improvement.

Recommended Attendees:

- National MOH IS managers
- National MOH representatives and other relevant government agencies (e.g. National AIDS Commission)
- Representatives from district managers (users of information)
- Representatives from district HIS staff (data entry/analysis)
- Representatives from facility managers (users of information)
- Representatives from facility HIS staff (data entry/analysis)
- USG representatives and representatives from The Emergency Plan partners program management and IS staff
- Donor representatives
- FBOs
- Any other significant parties in the health care system (including private sector, if applicable)

Agenda for the workshop:

- Present analysis of current HIS including strengths and weaknesses
- Present areas that need strengthening and potential solutions including alternative options
- Form workgroups to address areas that need strengthening
- Workgroups present recommendations
- Workgroups identify resources available for implementation, training, installation, and capacity-building including potential private sector resources that could be enlisted in the effort

## **Prepare a design, implementation, and capacity-building plan**

The workshop report will identify the specific HIS reform requirements, the timeline, and the resources required to strengthen HIS to support HIV prevention, care, and treatment activities.

Based on this report, a workplan, outlining design and implementation activities, will be developed to address the information needs of The Emergency Plan, as well as capacity building activities to strengthen the existing HIS. The work-plan should cover a period of five years with a detailed plan for the first year. It should also specify timelines and resources required for the planned activities.

In addition, since HIS design and institutional capacity-building are complex and difficult, the workplan should include an M&E plan to monitor the HIS restructuring process. This should include benchmarks and goals for progress.

## **Assessment Tools**

Generic formats for the following tools have been developed and are included as an annex to this document. These forms may need to be adapted once the team is on the ground and familiar with specific country needs.

Form A: HIV/AIDS Program Inventory and HIS Assessment

Form B: National HIS Overview

Form C: National and Sub-National Infrastructure Assessment

Form D: Facility Assessment

Form E: Facility Checklist