

VERSION 1

# Health System Rapid Diagnostic Tool

FRAMEWORK, OPERATIONAL GUIDE, AND METRICS

TO MEASURE THE STRENGTH OF PRIORITY HEALTH SYSTEM FUNCTIONS

*By David Wendt*

*With contributions from Bruno  
Bouchet, Ya-Shin Lin, Lipika  
Nanda, Shanthi Noriega, Nilufar  
Rakhmanova, and Sarah Searle*

**fhi360**  
THE SCIENCE OF IMPROVING LIVES

## TABLE OF CONTENTS

Foreword.....	2	Annex 1: Selected References .....	39
Abbreviations .....	3	Annex 2: FHI 360 Health System Framework.....	41
1. Introduction .....	4	Annex 3: Rapid Diagnostic Project Participants .	42
2. Detailed Guidance on the Steps.....	8	Annex 4: Self-Assessment Form .....	43
<b>PHASE I: PREPARING FOR THE RAPID DIAGNOSTIC .....</b>	<b>9</b>	Annex 5: Common Sources for Data .....	44
Step 1) Draft the purpose and scope of the diagnostic .....	9	Annex 6: Performance Metrics Table Template ..	48
Step 2) Gain buy-in and recruit partners.....	10	Annex 7: Kenya's Indicator Dashboard .....	49
Step 3) Recruit a core team.....	10	Annex 8: Methods for Prioritizing Ideas .....	51
Step 4) Locate and review background information on the health system and health system strengthening priorities.....	13	Annex 9: Illustrative Collection of Health System Functions.....	52
Step 5) Orient the core country team on the RDT .....	14	Annex 10: Instructions for the Health System Generic Indicator Tables.....	56
<b>PHASE II: DESIGN AND PLAN THE RAPID DIAGNOSTIC .....</b>	<b>15</b>	Annex 11: Blank Indicator Construction Worksheet.....	57
Step 6) Identify which health system functions to assess.....	15	Annex 12: Example Indicator Construction Worksheet for an HSIS Function.....	58
Step 7) Design the performance metrics .....	18	Annex 13: Generic Performance Indicators for Leadership and Governance .....	59
Step 8) Develop a project work plan, specifying responsibilities and deadlines.....	23	Annex 14: Generic Performance Indicators for Health System Financing .....	67
<b>PHASE III: GATHER DATA AND ANALYZE HEALTH SYSTEM     STRENGTHS AND WEAKNESSES .....</b>	<b>25</b>	Annex 15: Generic Performance Indicators for Health System Information Systems .....	73
Step 9) Develop a data management system and data gathering tools.....	25	Annex 16: Generic Performance Indicators for the Health Workforce .....	91
Step 10) Gather the Data.....	25	Annex 17: Generic Performance Indicators for Health Infrastructure, Equipment, and Products.....	101
Step 11) Analyze health system strengths and weaknesses.....	27	Annex 18: Generic Performance Indicators for the Community Component .....	110
<b>PHASE IV: INVESTIGATE THE ROOT CAUSES OF     HEALTH SYSTEM WEAKNESSES .....</b>	<b>29</b>	Annex 19: Generic Performance Indicators for Service Delivery .....	115
Step 12) Validate the findings from Phase III and identify priority weaknesses.....	30		
Step 13) Select topics for root cause analysis and generate hypotheses of causes.....	30		
Step 14) Collect and analyze evidence on root causes...	30		
<b>PHASE V: COMMUNICATE THE FINDINGS .....</b>	<b>34</b>		
Step 15) Devise a communication strategy.....	34		
Step 16) Write the report .....	37		
Step 17) Communicate the findings.....	38		

# Health System Rapid Diagnostic Tool

FRAMEWORK, OPERATIONAL GUIDE, AND METRICS TO MEASURE  
THE STRENGTH OF PRIORITY HEALTH SYSTEM FUNCTIONS



*By David Wendt*

*With contributions from Bruno Bouchet,  
Ya-Shin Lin, Lipika Nanda, Shanthi Noriega,  
Nilufar Rakhmanova, and Sarah Searle*

**2012**



## **ACKNOWLEDGEMENTS**

This tool was developed with funding from the FHI 360 strategic initiative. In addition to the contributors listed on the cover, we would like to thank: Tim Mastro, Gary West, Megan Averill, Johannes van Dam, Inoussa Kabore, Suzanne Essama-Bibi, Gina Etheridge, and Katherine Lew for their support and input on the many drafts; Peter Cowley, Ngak Song, Gautam Barat, Steve Penfold, Nim Nirada, Mena Ly, and Ngor Somany and the rest of their team for their hard work pilot testing the tool in Cambodia; Ruth Odhiambo, Linda Muyumbu, Brenda Opanga, Charity Muturi, Francis Waudo Siganga, Stephen Gichuki, Maurice Aluda, Joel Kuria, and the rest of their team for their hard work pilot testing the tool in Kenya; Genevieve d'Entremont for copy editing; and the FHI 360 Design Lab team for the layout.

Copyright 2012 Family Health International.  
FHI 360 is a service mark of Family Health International.

# FOREWORD

Strong health systems are critical for achieving lasting results in health. In most low- and middle-income countries, issues such as limited numbers of health workers, unreliable supply chains, inefficient use of resources, and other systemic weaknesses create bottlenecks that make it difficult to achieve results across disease control programs and health priorities.

To design effective HSS strategies, governments and development partners (such as FHI 360) must have solid evidence on health system strengths and weaknesses. Health system performance is difficult to define, let alone to measure through a single indicator. Health systems have innumerable moving parts, all interrelated and working together to bring about improvements in the population's health. Understanding how well these large and complex systems are performing their functions remains a priority for researchers and implementers of public health programs.

Although many health system assessment tools exist—focused on particular health system building blocks or across the building blocks—the challenge for users (who may be working at different levels of the health system or may be focused on different health objectives) is how to draw on these existing tools to assess the performance of those functions most related to their context-specific priorities.

FHI 360 developed the health system rapid diagnostic tool (RDT) to build the capacity of its partners in designing their own customized diagnostic of health system performance and informing local or national health systems strengthening (HSS) strategies. Together, FHI 360 and its partners will identify priority health system functions; define performance of those functions; design performance metrics; and carry out their diagnostic.

This assessment will result in a better understanding of strengths and weaknesses that stakeholders at national and subnational levels can address through HSS interventions.

For any questions or comments about the RDT, please contact the FHI 360 Health System Strengthening Department at [HSSD@FHI360.org](mailto:HSSD@FHI360.org).

# ABBREVIATIONS

ABC	Activity-Based Costing	ICT	Information and communication technology
CCT	Core country team	IMF	International Monetary Fund
CDC	United States Centers for Disease Control and Prevention	KII	Key informant interview
CHeSS	Country health systems surveillance platform	L&G	Leadership and governance
CPIA	Country Policy and Institutional Assessment	LMIS	Logistics management information system
CSO	Civil society organization	LSMS	Living Standards Measurement Study
DDQT	District data quality team	M&E	Monitoring and evaluation
DfID	United Kingdom Department for International Development	MDG	Millennium Development Goals
DHMT	District health management team	MOH	Ministry of health
DHS	Demographic and Health Surveys	MSH	Management Sciences for Health
DQA	Data quality audits	NHA	National Health Accounts
DSS	Demographic Surveillance System	NSO	National statistics office
FBO	Faith based organization	OOP	Out-of-pocket spending
GAVI	Global Alliance on Vaccines Initiative	PAHO	Pan American Health Organization
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria	PEPFAR	United States President's Emergency Plan for AIDS Relief
GGHE	General government expenditure on health	PHD	Provincial health department
GHI	United States Global Health Initiative	PPP	Private sector partner
HIEP	Health infrastructure, equipment, and products	QI	Quality improvement
HIS	Health information system	RCA	Root cause analysis
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome	RDT	The FHI 360 Health System Rapid Diagnostic Tool
HMIS	Health management information system	SAM	Service Availability Mapping
HMN	Health Metrics Network	SC	Steering committee
HQ	Headquarters	SD	Service delivery
HRH	Human resources for health	SPA	Service Provision Assessment
HRIS	Human resources information system	SRS	Sample Registration System
HSIS	Health system information system	TB	Tuberculosis
HSS	Health systems strengthening	USAID	United States Agency for International Development
HSSD TO	FHI 360 Health Systems Strengthening Technical Officer	WHO	World Health Organization
HSSD	FHI 360 Health Systems Strengthening Unit	WHO/EMRO	World Health Organization Regional Office for the Eastern Mediterranean
ICPD	International Conference on Population and Development	WHO/SEARO	World Health Organization Regional Office for South and East Asia
		WHO/WPRO	World Health Organization Regional Office for the Western Pacific

# 1

# Introduction

The FHI 360 Health Systems Strengthening (HSS) department developed this document as a “how-to guide” for designing and implementing a customized health system performance diagnostic. To accomplish this customization, this guide puts a heavy emphasis on a country-led design and planning process rather than a blueprint design of a performance diagnostic with a prescriptive (and usually very long) list of indicators.

Users of this guide can focus their diagnostic on the parts most relevant to their context. For instance, district health teams and their partners may find that a comprehensive, national-level performance assessment does not produce findings with sufficient details that are directly relevant to the specific issues of a particular district. National assessments may help to set broad system strengthening strategies on a national level, but they may not provide the sub-national levels of the health system with a foundation of evidence upon which to act. This guide will help users rapidly diagnose the performance of those health system functions that are within their scope of action, i.e., the potential issues they could address with systems strengthening interventions.

There are two core concepts we refer to throughout this guide: health system building blocks and health system functions. We use a slightly adapted version of the WHO’s health system building blocks framework (WHO 2007) as an overall taxonomy for the major parts of the health system. The FHI 360 health system framework (Annex 2) recognizes the community component as a distinct building block and makes explicit the relationships between building blocks.

The concept of “health system functions” refers to the specific processes performed within each health system building block. For instance, the human resources for health building block can be broken down into a number of processes, such as: pre-service training,

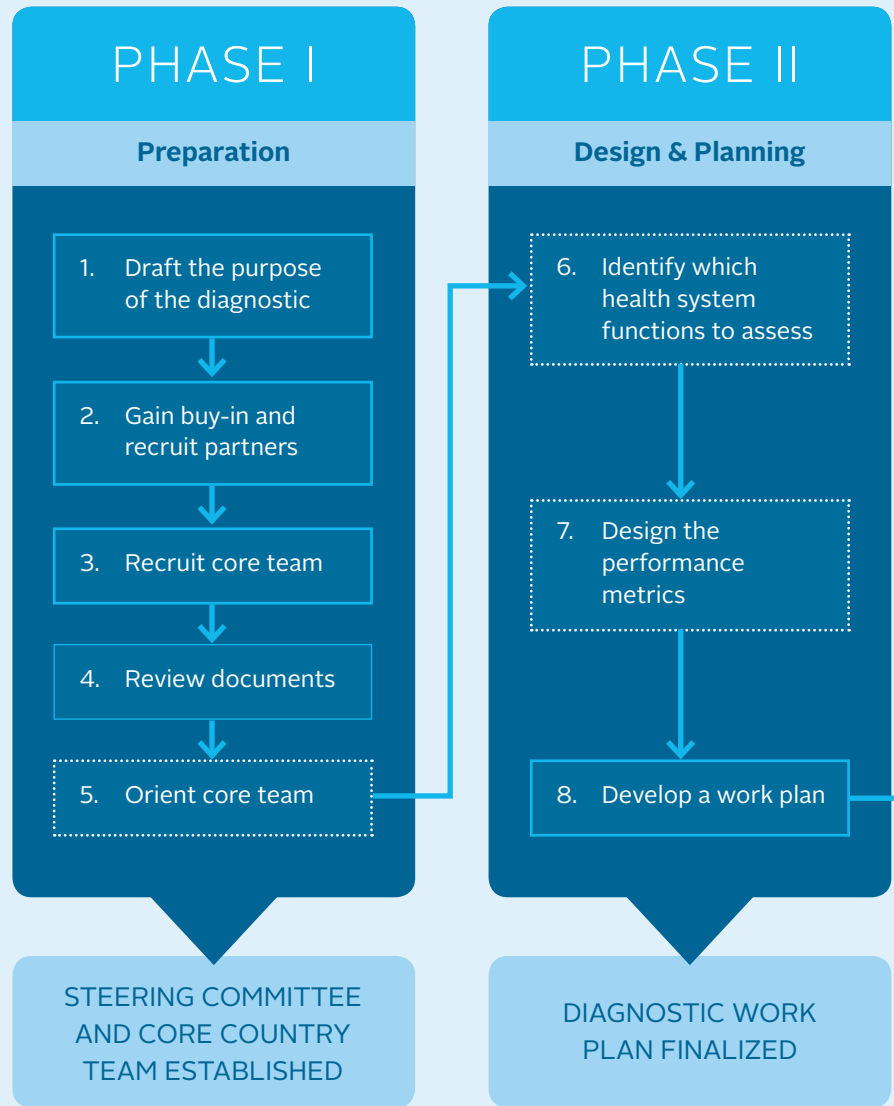
in-service training, establishing staffing norms, setting remuneration levels and conditions (i.e., salaries and other financial and non-financial payments/incentives), hiring, making salary and/or incentive payments, supervising staff, and more. There is not a universal typology of functions for a health system, and therefore we used the results of an extensive literature search and selected key reference documents to develop our own list (Annex 9) as a starting point for users of the guide to think about the critical functions performed in their health systems.

Improving health system results is the overall aim of health systems strengthening activities, but it is through strengthening particular functions that these improvements are achieved. Thus, our performance diagnostic approach seeks to uncover which functions are and are not performing well, which in turn can inform decisions about which functions need to be strengthened and how to strengthen them.

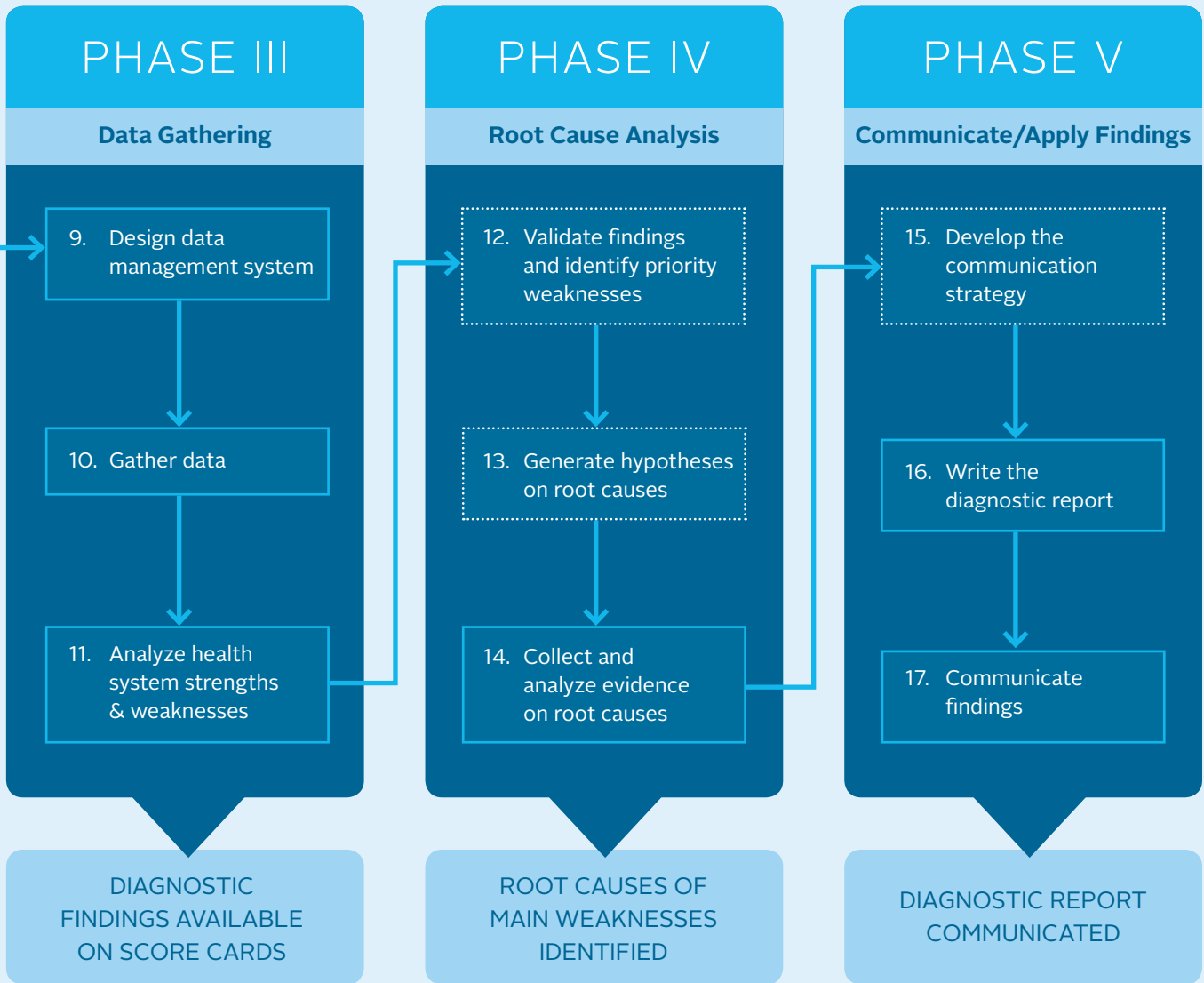
The diagnostic process is organized into five phases, with each phase consisting of a few steps that lead to the completion of a key output. The final result is a diagnostic that should be the starting point that health system stakeholders and their partners use to design their HSS strategy. The steps to this process are outlined in Figure 1, and the details of each step represent the content of this guide. Materials and tools for country teams to use in this process are provided as annexes.

**FIGURE 1:  
THE FHI 360 PROCESS  
FOR A DIAGNOSTIC  
OF PRIORITY HEALTH  
SYSTEM FUNCTIONS'  
PERFORMANCE\***

\* The steps with dotted lines involve workshops.







# 2

## Detailed Guidance on the Steps



## PREPARING FOR THE RAPID DIAGNOSTIC

In this phase, the initiators of the rapid health systems diagnostic (referred to as the “project initiators” throughout this document) will recruit key project personnel and stakeholders and prepare them for designing and implementing the diagnostic. By the end of this phase, a core country team and a steering committee will be established and a draft purpose statement will be written.

The process of planning and designing the performance diagnostic involves five steps:

**STEP 1)** Draft the purpose and scope of the diagnostic.

**STEP 2)** Gain buy-in from key stakeholders, and recruit partners to form a steering committee.

**STEP 3)** Recruit personnel to establish a core country team (CCT).

**STEP 4)** Locate and review background information on the health system and health system strengthening priorities.

**STEP 5)** Orient the core country team to the rapid diagnostic tool (RDT).

by the steering committee and CCT members, the project initiators need to articulate their vision in order to: a) explain the project to stakeholders and potential partners; and b) determine who needs to be involved.

Project initiators may want the RDT to focus on particular levels of the health system, particular priority health outcomes, and different geographic areas. They also may have different needs for using the RDT. For example, the APHIAPlus program in Kenya used the RDT to set a baseline for an existing HIV/AIDS program with HSS objectives, whereas the FHI 360 office in Cambodia and their provincial government partners used it to explore opportunities for future HSS programs not related to a specific disease or public health program.

Defining the unique purpose and scope for the diagnostic is the cornerstone for designing and implementing one suited to the stakeholders’ needs. The purpose and scope will be the foundation for deciding which stakeholders to involve, which health system functions to focus on, and which indicators to measure.

---

### Step 1) Draft the purpose and scope of the diagnostic

The first step of the RDT is for the project initiators to draft the purpose and scope they envision for the diagnostic. Although this will be reviewed and revised

The purpose and scope need to be established at the very beginning of the project and must be clear to

<sup>1</sup> The project stakeholders are all those who have an interest in the findings of the diagnostic. It is up to the project initiators, steering committee, and CCT to determine who among this broad group to involve at various stages of the diagnostic.

all participants throughout. This is why the process begins with the project initiator(s) drafting a purpose statement that reflects the context-specific needs for conducting the diagnostic, as well the appropriate scope (the geographic and topic focus) for the diagnostic given those needs.

To draft the purpose statement, project initiators should consider whether future system strengthening initiatives will focus on:

1. Pre-defined system strengthening objectives
  - A. *If so, the RDT can be used **to do a baseline** assessment and gap analysis of the health system functions related to these objectives.*
  - B. *If not, the RDT can be used **to explore** health system strengths, weaknesses, and opportunities.*
2. Specific disease-focused priorities/objectives
  - A. *If so, the project initiators should state that focus in the purpose statement so that the steering committee and CCT design a diagnostic focused on health system issues linked to those disease priorities (in Step 7).*
3. A particular level of the health system (national, state, provincial, district, facility), target geographic areas, or target populations
  - A. *If so, the project initiators should state this focus in the purpose statement because it will shape the scope of the diagnostic and help determine who the key stakeholders are.*
4. Particular health system building blocks
  - A. *If so, the project initiators can state that in the purpose statement to guide the design process.*

A final consideration for the purpose is how the findings will be used. In almost all cases FHI 360 and its partners will use the findings to design HSS strategies/activities that address underlying root causes of health system weaknesses and have broad and long-lasting effects on health system outcomes.

Table 1 provides an example of a purpose statement developed in Kenya and based on the above considerations.

---

### Step 2) Gain buy-in and recruit partners

Government, civil society partners, donor agencies, and health system technical experts will all provide invaluable inputs to the design and implementation of the rapid diagnostic. At the very beginning of the process, the project initiators should meet with these key stakeholders to discuss the needs for an assessment and get their buy-in.

Although these stakeholders and partners may not have enough time to be involved in all the phases of the diagnostic, their input throughout the process will be critical to its success. To facilitate their continual involvement, the initiators should create a formal mechanism/forum, such as a steering committee. This committee would provide direction and support to the assessment, but would not be responsible for implementation. In Table 2 we outline the potential timing and content of steering committee meetings.

Stakeholder engagement does not end at the steering committee. Those who have more time to commit to the project and who have the technical capacity can be members of the core country team, which is responsible for implementing the RDT.

---

### Step 3) Recruit a core team<sup>3</sup>

#### THE CORE COUNTRY TEAM

Implementing the RDT will require a core team of people who can devote significant time and expertise to the project. Although specific tasks and deadlines will not be decided until Step 9 (when the CCT develops the

<sup>2</sup> We call this group a “steering committee,” but the project initiators can use another name. The main point is to have a group of people formally involved in giving direction and oversight to the diagnostic.

<sup>3</sup> See Annex 3 for a diagram that illustrates the relationship between the project initiators, the CCT, the steering committee, and stakeholders.

TABLE 1: PURPOSE AND SCOPE OF THE HEALTH SYSTEM DIAGNOSTIC IN KENYA

DESIGN CONSIDERATIONS	APHIAPLUS PROJECT <sup>4</sup>	IMPLICATIONS FOR THE PURPOSE AND SCOPE
<b>Are there existing system strengthening objectives?</b>	APHIAPlus has 18 existing HSS objectives	APHIAPlus will use the RDT for a baseline assessment of health system performance related to these objectives and to analyze gaps that need to be addressed in future years of the program.
<b>Will users of the findings aim to strengthen the health system as a means to achieve particular health objectives or outcomes?</b>	APHIAPlus aims to strengthen the health system to improve delivery across many service areas: HTC, HIV Care and Treatment, Maternal Health/ PMTCT, Newborn/Child Health, RH/FP, Tuberculosis, Malaria, VMMC.	APHIAPlus is interested in HSS that will strengthen service delivery and outcomes across priority health areas.
<b>Will the diagnostic focus on a particular level of the health system, geographic area, or population?</b>	APHIAPlus is focused on Kenya's Rift Valley province.	APHIAPlus will be diagnosing health system performance in Rift Valley, engaging provincial-level stakeholders in the design of the diagnostic, and using districts, facilities, and communities in Rift Valley as their units of analysis.
<b>Will the diagnostic focus on or leave out particular building blocks?</b>	APHIAPlus's strategic health system focus is reflected in its HSS objectives.	The existing HSS objectives will be the basis for deciding which health system functions are and are not priorities.
<b>How will findings be used?</b>	APHIAPlus will use the findings to monitor and evaluate improvements in system performance and to inform the design of HSS activities in future annual work plans.	The findings need to inform annual decision-making and provide a foundation for evaluating results.
<b>Purpose statement and scope:</b>	"To establish a baseline on performance of the health system functions related to the APHIAPlus HSS objectives in the Rift Valley province to: assess constraints to achieving those objectives; inform the design of HSS activities that address underlying root causes of health system weaknesses and have broad and long-lasting effects on health system outcomes; and monitor and evaluate improvements in system performance."	

<sup>4</sup> The APHIAPlus Nuru Ya Bonde (NyaB) program is a five-year (January 2011–December 2015) cooperative agreement between FHI 360 and the United States Agency for International Development (USAID). The APHIAPlus NyaB program goal is to improve health outcomes and impacts in the Rift Valley Province of Kenya through sustainable country-led programs and partnerships. The APHIAPlus NyaB program focuses on four areas, namely: 1) health systems strengthening, 2) integrated service provision, 3) demand creation, and 4) social determinants of health.

TABLE 2: PROPOSED CONTENT FOR MEETINGS THE STEERING COMMITTEE WILL ATTEND

MEETING	WHEN	CONTENT OF MEETINGS
<b>Design Workshop #1</b>	Phase II – Step 6	Initiators present and get input on the diagnostic purpose and scope, and facilitate a discussion to identify priority health system functions.
<b>Steering Committee Meeting #1</b>	Phase II – Step 8	CCT presents and gets feedback on the work plan (which includes the performance metrics, roles and responsibilities, and project timeline).
<b>Data Validation Workshop</b>	Phase III – Step 12	The CCT presents the assessment findings (i.e., the score card analysis of the performance of the priority functions) and gets feedback on and validation of the results. The CCT also facilitates a session to identify which health system weaknesses to focus on for the root cause analysis.
<b>Steering Committee Meeting #2</b>	Phase IV – Step 14	The CCT can present and get feedback on the findings from the root cause analysis.
<b>Draft Report Feedback Meeting</b>	Phase V – Step 17	The CCT can present and get feedback on the final report and facilitate a discussion on the implications of the findings (i.e., the next steps).

TABLE 3: ROLES AND RESPONSIBILITIES SHARED AMONG CCT MEMBERS

ROLE	RESPONSIBLE FOR
<b>Leading the project</b>	Managing the team, overseeing the work plan, managing relationships with external partners/ stakeholders, and keeping the project on track and on schedule.
<b>Organizing meetings and workshop</b>	Organizing the invitations, location, materials, and other logistics for meetings and workshops.
<b>Facilitating meetings and workshops</b>	Leading agenda design, training and coordinating other facilitators/presenters, facilitating workshop sessions, and keeping the workshops and meetings on track and on time.
<b>Designing performance metrics</b>	Participating in identification of: health system functions to assess, critical determinants and effects of health system performance, performance assessment questions, performance indicators, and targets for those indicators.
<b>Managing data</b>	Developing a data management (dashboard) system for the project; entering data into the system; generating summary reports/graphs from the data.
<b>Collecting data</b>	Searching for data sources, meeting with key stakeholders to get access to data, gathering together key documents and data sets, making site visits to relevant administrative units and facilities, conducting key informant interviews as required, providing data for entry, identifying and documenting gaps in data availability, and participating in data validation exercises.
<b>Data analysis</b>	Preparing the performance scorecards; presenting, discussing, and validating the findings; facilitating root cause analysis; and validating root causes hypotheses.
<b>Report writing and disseminating findings</b>	Writing the report and disseminating findings to key stakeholders.

work plan), the project initiators will need to outline the general roles and responsibilities in order to recruit and orient the team. We have outlined the general roles and responsibilities in Table 3. CCT members will likely play multiple and overlapping roles.

The project initiators should recruit the core country team (CCT) from FHI 360 country staff and from close government and civil society partners (depending on their availability, capacity, and commitment). Working with government partners on the CCT will help create greater ownership and transfer capacity for assessing health system performance to the participating partner. Such a collaborative partnership requires a close working relationship, closely aligned objectives for the diagnostic (i.e., both parties have similar needs for learning about health system performance), and a significant time commitment from the partner, since they need to be involved in all phases of the diagnostic.

The CCT should include a mix of three to five members who bring different skills covering monitoring and evaluation, knowledge about the country's health system, familiarity with key information sources on the health system, and strong relationships with key government offices. Annex 4 provides a template to help identify members of the CCT based on explicit criteria.

When there is limited existing expertise on health systems, the FHI 360 country office, should contact the FHI 360 HSS department in the US (HSSD@FHI360.org) to discuss resources and opportunities for increasing the knowledge and skills of potential team members. For example, the HSS Department developed a series of short (45 minute) eLearning courses on health systems that can provide the necessary background.

Table 3 summarizes the roles and responsibilities of the CCT.

#### **TECHNICAL ASSISTANCE FROM THE FHI 360 HEADQUARTERS, FHI 360 REGIONAL OFFICES, AND/OR OTHER FHI 360 COUNTRY OFFICES**

FHI 360 has significant technical expertise disbursed across the organization, including prior experience implementing health system performance diagnostics. To complement the capacity of the country team, HSS experts from the FHI 360 HSS Department in the US and

regional or country offices can be called on to provide support throughout the process. It is particularly important that external support start early during the design phase of the diagnostic.

For FHI 360 country offices that have not done this sort of assessment before, we recommend a minimum of one field mission for training the CCT and facilitating the design and planning process, followed by distance mentoring and, if resources allow, a second mission to facilitate and support root cause analysis.

---

#### **Step 4) Locate and review background information on the health system and health system strengthening priorities**

Before beginning the design and planning of the diagnostic, the project initiators and/or CCT should search out important background information, such as existing HSS strategies, past health system assessments, and major health system data sources. Many past assessments may not have been widely disseminated, so the initiators should meet with key stakeholders and ask them whether there are existing assessments or other documents/resources that the project should be aware of.

Important background information:

- Locate existing national and international health system data sets and recent health system performance assessments
- Review national and/or local health strategies to document stated HSS priorities and specific objectives
- Discuss FHI 360's HSS priorities with key country office staff and identify any existing HSS objectives

Through this review, the project initiators and/or CCT should create a reference list/library, identify key readings for the steering committee and CCT, and send those readings prior to the first design and planning workshop.

---

### Step 5) Orient the core country team on the RDT

Before beginning the diagnostic's design, the CCT should be familiar with the RDT and with the concepts of health system performance diagnostics and HSS. Prior to the design and planning workshop, we recommend that all CCT members read this document carefully and discuss it with the other CCT members and the authors from the FHI 360 HSS department in Arlington.

We also recommend holding a half-day or full-day orientation session at the first design workshop (Phase II, Step 6) to review the content of the guide and basic concepts of a health system performance diagnostic.<sup>5</sup>

<sup>5</sup> The FHI 360 HSS Department based in Arlington has developed and delivered orientation sessions for other countries and can provide materials for it or deliver it upon request.





## DESIGN AND PLAN THE RAPID DIAGNOSTIC

Designing and planning the performance diagnostic involves three major steps:

**STEP 6)** Identify which health system functions to assess and determine what about them to assess

**STEP 7)** Design the performance metrics, which includes questions, indicators, targets, and data sources

**STEP 8)** Develop a work plan and specify tasks, responsibilities, and deadlines for the remaining phases (III, IV, and V):

By the end of Phase II, the CCT will have a final work plan for the diagnostic approved by the steering committee.

### IDENTIFY THE HEALTH SYSTEM FUNCTIONS THAT THE DIAGNOSTIC WILL ASSESS

Hundreds of different functions are performed across the building blocks of a health system (see Annex 9 for an illustrative collection of generic health system functions). However, not all of these will be relevant to the users of the RDT. The workshop participants will have to be selective about which functions they will select as the focus of their diagnostic.

Selecting the health system functions to assess can be based on one, some, or all of the following:

#### A. PRIORITIES DEFINED IN EXISTING NATIONAL

**STRATEGIES:** Before the workshop, project initiators and/or the CCT should identify which health system functions are stated as priorities in national health strategies. They can then design a session to present and discuss these priorities with the workshop participants.

#### B. EXISTING HSS OBJECTIVES OF A FHI 360

**COUNTRY PROGRAM:** Project initiators and/or the CCT should identify the health-system-related objectives stated in program documents (proposals, work plans, etc.). They can then design a workshop session to present these objectives and identify and discuss the particular health system functions that the objectives are aimed at strengthening.

### Step 6) Identify which health system functions to assess

The CCT and steering committee will determine the focus of the performance diagnostic through a two-day design workshop (Box 1) that will also involve the initiators of the diagnostic (if they are not members of the CCT) and other relevant technical experts. We refer to this as “Design Workshop #1.”

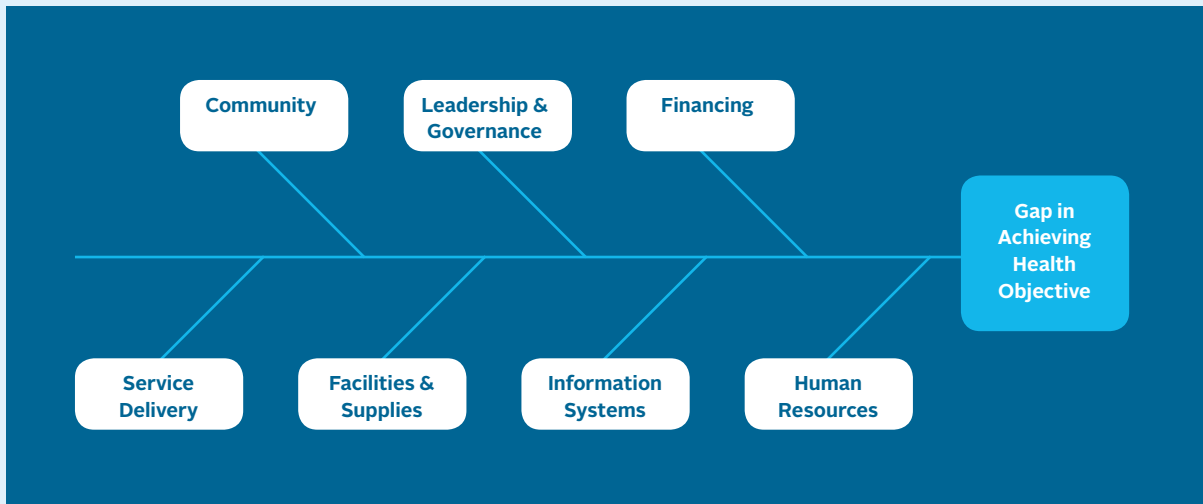
During the workshop, the participants will:

- Identify which health system functions to assess
- Define the “performance dimension” to assess for these functions

**BOX 1: SAMPLE AGENDA FOR DESIGN WORKSHOP #1**

DAY 1	DAY 2
<p><b>Identify which health system functions to assess</b></p> <ul style="list-style-type: none"> <li>• Review and revise the purpose statement for the diagnostic</li> <li>• Orient participants on the health systems framework and functions and how to assess health system performance</li> <li>• List or brainstorm the health system functions relevant in the local context</li> <li>• Prioritize these, identifying which should be covered by the performance diagnostic</li> </ul>	<p><b>Specify what aspects of their performance to assess</b></p> <ul style="list-style-type: none"> <li>• Brainstorm ways to define strong or weak performance of each function</li> <li>• Identify the dimensions of systems performance, organized under: determinants, process, and results</li> <li>• Select the critical dimensions of each function for measuring their performance</li> </ul>

**FIGURE 2: FISHBONE CATEGORIES FOR BRAINSTORMING HEALTH SYSTEM FUNCTIONS RELATED TO GAPS IN ACHIEVING A HEALTH OBJECTIVE**



### C. HEALTH SYSTEMS ISSUES THAT AFFECT THE ACHIEVEMENT OF DISEASE-FOCUSED PROGRAMS' OBJECTIVES OR OUTCOMES:

Project initiators and/or the CCT could design a workshop session to identify the health system issues that constrain or support achieving particular target health objectives. This can be done using fishbone diagrams (Figure 2) to brainstorm health system issues related to gaps in achieving particular priority objectives, and then discussing and prioritizing which of these issues to focus on.<sup>6</sup>

All of these approaches involve group discussion and prioritization of possible priority health system functions. See Annex 8 for guidance on methods for group discussion and prioritization.

#### DEFINE KEY DIMENSIONS OF “PERFORMANCE” FOR THOSE FUNCTIONS

Performance for each function can be defined and measured in terms of:

- **DETERMINANTS:** The factors (inputs, conditions, performance of other functions, etc.) that affect performance of that particular function
- **PROCESS:** The process of performing the function itself
- **RESULTS:** Areas of service delivery, health objectives, or other health system functions that are affected by the performance of that function (i.e., consequences, positive or negative, of performing the function)

For example, Figure 3 shows a “performance map” created in Cambodia for the function of conducting data quality audits (DQA). In the discussions about this function, different participants had different perspectives on how to define performance. For example, some defined performance in terms of whether provincial health department (PHD) staff have been trained in DQA (a determinant); others defined it in terms of whether PHD staff are conducting audits

(the process of performing the function); and still others defined it in terms of whether data is of acceptable quality (a result of performing the function). Through the process of creating this map, participants were able to clearly articulate these different perspectives and combine them together into a holistic and unified vision of performance. Participants could then use this performance map as a common foundation for discussing and defining performance metrics.

To create these performance maps, participants (either split into groups or together) should do the following for each priority health system function:

1. Discuss what specific process is involved in performing the function, and write a clear statement of the function in the middle column of Figure 4.
2. Brainstorm the various conditions, inputs, other functions, or other factors that are necessary to perform this function (those that support and/or constrain the process of performing the function), and write these in the left-hand column of Figure 4.
3. Brainstorm the outputs, conditions, or other functions affected by strong or weak performance of the function, and write these in the right-hand column of Figure 4.

If the diagrams are developed in small groups, then the performance maps should be shared, discussed, and revised in plenary. By the end of Design Workshop #1, participants should complete performance maps for each of the priority functions that they identified. The CCT will then use these maps as the basis for the next step: developing metrics to assess the performance of these functions.

If participants identify dozens of priority health system functions, then making a map for each one may take more than two days. The CCT and participants need to decide what level of effort is appropriate and whether they want to be more selective in their choice of

<sup>6</sup> The process of constructing a fishbone is explained more in Step 13 and can also be found here: [http://nciph.sph.unc.edu/mlc/presentations/perf\\_imp/CauseandEffect1.pdf](http://nciph.sph.unc.edu/mlc/presentations/perf_imp/CauseandEffect1.pdf).

priority health system functions, whether they want to spend more days together defining performance of those functions, or whether there is a way to break up the work (e.g., by splitting up into smaller groups or working individually) to get the work done in the allotted time.

---

### Step 7) Design the performance metrics

Diagnosing health system performance will rely on a list of performance metrics. Designing a performance metric involves:

- A. Selecting performance questions
- B. Developing performance indicators
- C. Deciding on performance targets
- D. Identifying the data sources and collection methods

This process will be led by the CCT, with support from technical experts as needed. Before going into the details of this process, we will cover some key definitions.

#### WHAT IS A PERFORMANCE METRIC?

A performance metric has three elements:

1. A performance question
2. A performance indicator
3. A performance target

The **PERFORMANCE QUESTIONS** express the dimensions of performance that the CCT will assess for each health system function, i.e., the questions the CCT will seek to answer to diagnose whether performance of the function is either strong (well-performing) or weak (poorly performing). For example, an important function of the logistics system is monitoring the quality of medical products (Table 4). To create a metric for diagnosing performance in this area, participants would start by articulating a *performance question* such as: “Are procedures in place to monitor medical

product quality?”

The **PERFORMANCE INDICATORS** are simple measures that will be used to answer those questions; i.e., they are measures of performance related to a function. For our example of monitoring medical product quality, the Global Fund (2009) lists three potential *performance indicators* that could be used: a) Percentage of health facilities that have a procedure in place to report product quality issues; b) Existence of standard procedures for the quality control of health products at initial receipt at the central level; and c) Percentage of product batches of pharmaceuticals that have undergone a quality control process at the initial receipt according to standard procedures.

The **PERFORMANCE TARGETS** are the norms (national or international), trends (improving or worsening), benchmarks (comparing the results to peers), or ideal descriptive qualities that will be used to analyze or judge whether an indicator reflects strong or weak performance. As an example, for the first indicator listed above—the percentage of facilities that have a procedure in place to report product quality issues—we could analyze it by comparing it to a national target (in Table 4, we imagine a target of 80%), or we could analyze whether there is an improving or worsening trend. The second indicator (b) in the above list is qualitative and will be analyzed using qualitative targets, such as whether the standard procedures exist or whether the procedures exhibit characteristics of best practice for quality control procedures.

*Performance targets* are very context and time specific, and for many indicators they may not yet be defined. Details on the process of defining performance metrics—including the challenges of establishing targets—are described in Steps 7a to 7b.

Because one can theoretically generate hundreds of performance metrics, the level of effort to collect data might be unrealistic. If the CCT used all three indicators and all six targets in Table 4, they would have six performance metrics related to processes of quality monitoring, which is just one of many functions in the health system. The CCT will have to be selective about which performance questions, indicators, and targets to include in their diagnostic.

FIGURE 3: A DIAGRAM CREATED IN CAMBODIA MAPPING THE ELEMENTS THEY USED TO DEFINE PERFORMANCE FOR THE FUNCTION “CONDUCTING DATA QUALITY AUDITS” IN KAMPONG CHAM PROVINCE

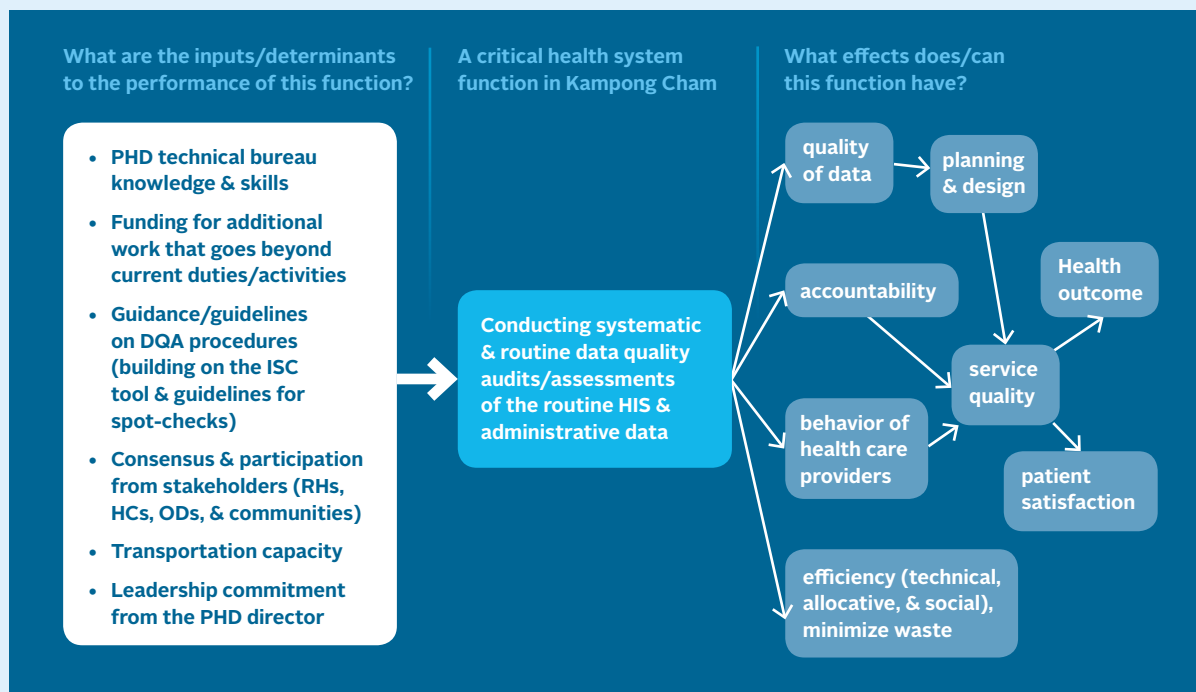


TABLE 4: ILLUSTRATIVE EXAMPLES OF PERFORMANCE METRICS FOR MONITORING MEDICAL PRODUCT QUALITY

PERFORMANCE QUESTION	PERFORMANCE INDICATORS	PERFORMANCE TARGETS <sup>7</sup>
<b>Are procedures in place to monitor medical product quality?</b>	Percentage of health facilities that have a procedure in place to report product quality issues	According to the national health strategy, 80% of health facilities should have procedures in place to report product quality issues  Improving trend
	Existence of standard procedures for the quality control of health products at initial receipt at the central level	Standard procedures have been written and are used at the central level for all medical products
		Standard procedures check: that correct products were received at the correct time and in the correct packaging; that products arrived undamaged with adequate shelf life remaining; and that quantity shipped equals quantity received
	Percentage of product batches of pharmaceuticals that have undergone a quality control process at the initial receipt according to standard procedures	According to national guidelines, 100% of pharmaceuticals that do not undergo rigorous (independent) pre-shipment testing should undergo post-shipment batch testing  Improving trend

<sup>7</sup> These are only examples. Actual targets are very context specific and need to be defined by the CCT.

**FIGURE 4: ARTICULATING PERFORMANCE ASSESSMENT QUESTIONS ACROSS THE THREE DIMENSIONS OF PERFORMANCE**

	DETERMINANTS	FUNCTION	RESULTS
<b>HS performance framework</b>	The inputs or conditions that support or constrain performance	The process of performing the function	The results of performing the function; i.e. the outputs produced and/or processes affected by strong or weak performance
	↓	↓	↓
<b>Performance questions</b>	Is [X condition/input] in place/sufficient to support the function?	Is [X process] being performed well?	Are there improvements in [X health outcomes, services, and/or other health functions]?

**BOX 2: CRITERIA FOR SCORING THE INDICATORS (DONE BY THE ENTIRE GROUP FOR THE ENTIRE SET OF SELECTED AND REVISED INDICATORS)**

- Is this indicator needed and useful for answering the performance assessment question?
- Does the indicator provide a clear and focused measure of health system performance in a specific area?
- Is there a clear understanding of how to interpret whether the indicator indicates a strength or weakness in health system performance?
- Is data for this indicator easily available?
- Is data for this indicator reliable and valid?

**BOX 3: IDENTIFYING PERFORMANCE TARGETS FOR HEALTH WORKER DENSITY**

Imagine that one of the performance questions was “Does the health system have enough health workers to deliver essential services?”, and participants decide to use the number of doctors, nurses, and midwives per 10,000 people as the performance indicator for this question. And imagine the CCT finds that there are 30 doctors, nurses, and midwives per 10,000 people. Does this indicate that there are enough health workers, or is the health system facing a severe shortage, and by how much? The answer depends on what performance target is used. For instance, the CCT could:

- Compare the number to an international norm (e.g., the WHO sets a threshold of 23 doctors, nurses, and midwives per 10,000)
- Compare the number to a national target or norm
- Compare the number to other countries with a similar economic development (peer benchmarking)
- Compare the number to the same indicator for prior years to see whether there is an increasing, decreasing, or stable trend

### 7A) SELECTING PERFORMANCE QUESTIONS

The CCT can develop their performance assessment questions by reviewing the performance maps they created, identifying which elements of the maps best represent performance of the function, and then articulating questions about those elements (Figure 4).

The CCT will have to be selective about how many assessment questions they try to answer for each priority health system function. At the very least, we suggest developing questions related directly to the process of performing the function (the center column of the performance map). For a more holistic diagnostic of performance, the CCT could also define one or two questions related to the results and determinants of the performance maps, although issues with the determinants can always be identified in the root-cause analysis (Phase IV) of the diagnostic. Annex 8 provides guidance on methods for prioritization if the CCT wants to first brainstorm a long list of questions and then prioritize a few for each priority health system function.

Depending on steering committee members' availability and CCT preference, these performance questions could be developed with steering committee members during an extra day added to Design Workshop #1, or the CCT members could develop them on their own after the workshop. Once questions are selected, they can be entered into a performance metrics table (Annex 6) and used to select performance indicators.

### 7B) SELECTING PERFORMANCE INDICATORS

Indicators specify what the CCT will measure to answer the performance questions. Often, indicators provide only imperfect measures of a time-specific reality.

There are a few approaches that the CCT can take to develop the performance indicators for their diagnostic:

1. Find health system indicators that are already being used (or have been used) at a national or local level.
2. Select from among generic health system indicators developed by international agencies, and adapt them to suit the context.

3. Generate new indicators that directly answer the performance questions.

These three approaches are detailed below.

For all three approaches, we suggest the CCT discuss, select, and revise performance indicators through a second design workshop (Design Workshop #2). Design Workshop #2 should start at least a few days after Design Workshop #1 so the CCT can prepare for the indicators workshop based on the results of the first workshop. Design Workshop #2 should last three days and involve the CCT and relevant technical experts. For the first and second approaches to indicator selection, the CCT will have to prepare for the workshop by searching for and listing existing and/or generic indicators that could be used.

#### SELECTING INDICATORS THAT ARE USED FOR NATIONAL OR LOCAL HEALTH STRATEGIES OR THAT HAVE BEEN USED FOR PAST HEALTH SYSTEM ASSESSMENTS

is the ideal approach because they have been tested in the local context and data should be readily available. *Prior to Design Workshop #2*, the CCT should locate the relevant documents, review them, and identify and list out the health system indicators that may be relevant. *During Design Workshop #2*, participants can then review this list to see whether any indicators could be used to answer the assessment questions. *The drawback of this approach* is that there may not be many relevant indicators already in use. In Cambodia and Kenya, we found that there were very few indicators being used to assess the performance of health system functions in the priority areas identified. Most health system indicators were focused on service delivery outputs and health outcomes, not the processes of performing the health system functions.

#### SELECTING FROM AMONG GENERIC HEALTH SYSTEM INDICATORS

will provide a wider universe of possible indicators to choose from, but most likely these indicators will have to be rewritten to suit the local context, and data may not be readily available. Attached to this guide we provide a collection of reference tables—one for each health system building block—that list generic performance metrics related to generic

<sup>8</sup> These are consolidated from the latest health system assessment science, aggregated in recent indicator reviews by the WHO (HMN 2008b; de Savigny and Adam 2009; WHO 2010a; WHO 2011), USAID (USAID 2009), Abt Associates (Islam 2007), the Global Fund (GFATM 2009), and Management Sciences for Health (MSH 2006, 2010) among others.

functions of the health system (Annexes 10–19).<sup>8</sup> *Prior to Design Workshop #2*, the CCT could go through these tables, locate the system functions they identified as priorities with the steering committee (i.e., in the first workshop), and pull out the related generic indicators. (See Annex 10 for detailed instructions about how to use these tables and for a worksheet to use.) *During Design Workshop #2*, participants can then review these potential indicators, select those they think will work, and rewrite them to suit the context and answer the performance questions.

**GENERATING NEW INDICATORS** can sometimes be the easiest way to develop fit-to-purpose indicators. For instance, in Kenya the RDT team wants to know whether data quality audits are being performed regularly. They know the district health management teams are supposed to carry them out every six months, and so they created the performance indicator “Percentage of districts that have conducted a DQA in the past six months.” *During the workshop*, participants should review the health system function maps and discuss what measurable attributes they would use to judge whether performance is strong or weak. From this discussion, participants should develop specific and measurable indicators.

In most cases, participants will need to use a combination of these three approaches. We suggest using them in the order presented above, starting with selecting existing indicators, trying to fill gaps with established generic indicators, and then developing new indicators to fill any remaining gaps.

In our experience pilot testing this tool, there was a tendency to develop far more indicators than could feasibly be covered through the diagnostic. Once an initial set of indicators has been selected, it may be necessary to trim down the list through a selection or scoring process. This process should be as systematic as possible, which means that the participants should all agree on and use a common set of criteria to judge and/or score each of the indicators to decide which ones to cut. In Annex 8 we provide some general guidance on prioritization methods that might be helpful. In Box 2 we provide a list of generic criteria (in the form of

questions) that participants could use to systematically discuss and score the indicators.

### 7C) DEFINING PERFORMANCE TARGETS

As we mentioned earlier, performance targets should provide a simple way to analyze the indicators, that is, to interpret whether there is strong or weak performance related to a particular health system function (see Box 3). This basis for deciding strength or weakness often will be very context specific, and there are different types of targets that can be used for different types of indicators. Here are potential types of simple performance targets to consider for each indicator:

#### For quantitative indicators:

- National norms
- International norms
- Trends
- Peer benchmarking

#### For qualitative indicators:

- Existence (i.e., does a policy or practice exist?)
- Ideal qualities (i.e., norms about the descriptive qualities of something)

Some potential challenges for targets:

- National and international norms may not exist.
- Multi-year data may not be available to analyze trends.
- Comparable data may not be available for peer benchmarking.
- Participants in the design workshop may not feel comfortable setting a target; for example, others not present may not agree that the target is appropriate.

Participants should try to establish targets for every



indicator, but this may not be possible. Involving technical experts may help facilitate this considerably. If targets for an indicator cannot be set, however, the CCT should still collect the data and analyze the findings with key stakeholders during the data validation process at the end of Phase III/beginning of Phase IV.

#### 7D) IDENTIFYING POTENTIAL DATA SOURCES AND METHODS OF DATA GATHERING

To complete the performance metrics, workshop participants will need to determine where and how the CCT will get the data. To keep the diagnostic rapid, the CCT will rely mostly on key informant interviews and gathering secondary data from existing sources, such as:<sup>9</sup>

- Official government reports and datasets
- International and regional datasets
- International non-governmental agency grey literature (e.g., reports, etc.)
- Independent assessments and research studies

Workshop participants should specify the data sources, including the physical location or official representative that will be visited to get the data.<sup>10</sup> These details will make it easier to develop a data collection plan and tools in Step 8.

When all the data sources are identified for each indicator, the workshop participants will have completed their performance metrics. Table 5 provides an illustrative example of performance metrics for one health system function: auditing the quality of health information system (HIS) data. Workshop participants will develop a table like this for each of their priority health system functions. There is a blank template of this table in Annex 6.

### Step 8) Develop a project work plan, specifying responsibilities and deadlines

After completing the performance metrics, the CCT can then develop a detailed work plan for implementing phases III (data gathering and analysis), IV (root cause analysis), and V (report writing and dissemination) of the diagnostic. This work plan should include:

- The purpose statement
- The performance metrics
- Key milestones (with deadlines) and activities (with estimated level of effort) for phases III, IV, and V,<sup>11</sup> including how often the CCT will meet
- Responsibilities (primarily, who among the CCT members will be responsible for each activity)

Once the work plan is complete, a steering committee meeting should be held for the CCT to present and get feedback on the project work plan.

<sup>9</sup> In Annex 5 we describe these different types of sources and discuss some of their limitations. We also list many specific sources for secondary evidence, with links to online sources where available.

<sup>10</sup> This requires very strong context specific knowledge of existing health system data, structures, and key people. It is very important that this knowledge be available among team members.

<sup>11</sup> The steps outlined for these phases in the following sections is essentially the outline for the work plan.

TABLE 5: AN EXAMPLE OF PERFORMANCE METRICS FOR ONE HEALTH SYSTEM FUNCTION

PRIORITY HEALTH SYSTEM FUNCTION: AUDITING THE QUALITY OF HIS DATA				
	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	PERFORMANCE TARGETS	DATA SOURCES & METHODS
<b>Determinants of performance for priority function</b>	Have district data quality teams (DDQTs) been formed?	% of districts that have formed DDQTs	[none established]	Minutes of DHMT meetings
	Have DDQTs been oriented on the National Data Quality Audit strategy?	% of districts where the DDQTs have been oriented on NDQA strategy	[none established]	Report on the orientation of DDQT teams on NDQA strategy
<b>Process of performing the function</b>	Are DQAs being implemented by district health management teams (DHMTs)?	% of DHMTs that have done a DQA in the past three months	22 of 32 districts (69%) for year 1	DQA Reports from Health Records Information Officer
		% of DHMTs using standardized tools for their DQAs	22 of 32 districts (69%) for year 1	DQA Reports from Health Records Information Officer
		% of DHMTs using data reviews to inform DQA planning	22 of 32 districts (69%) for year 1	DQA Reports from Health Records Information Officer
<b>Effects of performing the function</b>	[none selected for this function]			



## GATHER DATA AND ANALYZE HEALTH SYSTEM STRENGTHS AND WEAKNESSES

We split the process of gathering and analyzing data into three steps:

**STEP 9)** Develop a data management system

**STEP 10)** Gather the data for the indicators

**STEP 11)** Analyze data to identify strengths and weaknesses in the health system

By the end of this phase, performance findings will be available and presented with scorecards.

---

### Step 9) Develop a data management system and data-gathering tools

The CCT needs to develop tools for gathering the data and establish a data management system.

#### DATA-GATHERING TOOLS

Data gathering tools will facilitate the process of gathering the data needed for the indicators. They can simply be checklists that CCT members take with them to the administrative offices or meetings where they will get the needed data. For example, in Kenya, the RDT team has a form listing the data they need to collect from visits to 32 district management offices, a form listing the data they need to collect from a sample of health facilities, etc. (see Figure 8 in Annex 7). For key informant interviews or consensus discussions (i.e., focus groups), the CCT would need to define a list of interview or discussion questions.

#### A DATA MANAGEMENT SYSTEM

Once the data is collected, it needs to be entered/stored/aggregated in some centralized place. The simplest data management system would be to build

Microsoft Excel® tables for documenting the data, maintain paper files for storing original hard copies (e.g., forms and notes), and assign one person the responsibility of entering the data and managing the tables and files.

In Kenya, we organized these tables into a dashboard system, where they have tables for the raw data from each administrative level (district, hospitals, facilities, and communities), a dashboard table with summary results for all the indicators, and a report sheet template that they will use to present the results for the set of indicators on each individual health system function (using spider diagrams and graphs). We included screenshots from Kenya's data management system in Annex 7.

The CCT can develop a system that works for them, but they should think through each of these elements (i.e., how the data will be gathered, stored, and reported/accessed) before they start gathering data.

---

### Step 10) Gather the data

Once the plans are in place and tools are developed, implementing the data gathering should be quite simple. The CCT should hold weekly meetings to track progress and address issues as they arise. They should also request support as needed from FHI 360 technical experts, other partners, and steering committee members. If delays are encountered, adjustments should be made to the timeline (and communicated to project stakeholders); however, the CCT should be frugal with these extensions and put time limits on the

data-gathering phase. There may be many gaps in data availability and logistical challenges, but it is better to note these gaps and move on to the next phase of the study than to get bogged down in this phase (e.g., by starting primary data collection instead of gathering existing data).

Below we offer some general guidance on data sources and methods.

### GATHERING DATA FROM EXISTING DOCUMENTS AND DATA SETS

The activities involved in collecting evidence from secondary sources are fairly straightforward:

1. Identify the documents/datasets where the indicator is reported or the people who might know where to find the information needed to compute the indicator.
2. Assess the quality of the data (completeness, reliability, validity/accuracy,<sup>12</sup> and timeliness) and the accompanying analysis.<sup>13</sup>
3. Record the necessary data and any notes on the data collection form (see the example from Kenya in Annex 7).
4. If the data is unavailable or unusable, note the inadequacy and discuss alternative sources of evidence or alternative indicators during the team meetings.

### OBTAINING INFORMATION THROUGH KEY INFORMANT INTERVIEWS AND CONSENSUS (FOCUS GROUP) MEETINGS WITH GOVERNMENT OFFICIALS AND EXPERTS

Key informant interviews (KII) and focus group meetings<sup>14</sup> with officials and experts can be valuable

methods for: 1) collecting additional or missing evidence for the performance metrics, and 2) validating and getting perspectives on initial findings.

For some indicators, the CCT may need to know whether a certain policy, practice, or budget line exists or about the qualities of policies or practices. Often these can be assessed through document reviews, but sometimes the needed documents are unavailable, unclear, or out of date. This does not only apply to qualitative metrics. Occasionally secondary data sources for quantitative metrics may be incomplete or unclear, or two sources may be in conflict with each other. In these circumstances, KIIs and focus groups can be a direct path to the answers the CCT needs.

In addition to providing the CCT with new evidence, KII and focus groups can help the CCT further understand whether the initial results they have found are accurate and whether the results really indicate a strength or weakness in the country's health system.<sup>15</sup> For example, the CCT may find a worsening trend in the time it takes for essential medicines to get from port to point-of-service. However, the CCT may find in a key informant interview that this is only temporary and due to a major infrastructure investment project currently underway to improve storage and transportation capacity. The CCT should use KII to contextualize and validate the findings that are most striking and/or most likely to become the focus of HSS efforts.

When using evidence from KIIs and focus groups, the CCT must be careful to:

5. Accurately document and represent key informant perspectives
6. Explain what experience or evidence they base their perspectives on

<sup>12</sup> Accuracy or validity is the correctness of a quantitative measurement. Reliability is the precision or exactness of collected data. A highly reliable system is one that yields the same or very similar results if used to measure the same thing more than once.

<sup>13</sup> We assume the CCT members with M&E expertise will know how to assess data quality; however, the FHI360 HSSD or FHI 360 Strategic Information department can provide support.

<sup>14</sup> Targeted focus group meetings can be an efficient way of collecting stakeholder perspectives on issues. The consensus process of focus groups provides a built-in vetting system among different opinions, can increase the range/number of people the CCT can involve, and can bring out additional information and nuances that may not come out of individual KIIs. The CCT can always follow these up with a few more targeted KIIs.

<sup>15</sup> A four-page document from the USAID Center for Information and Evaluation ([http://pdf.usaid.gov/pdf\\_docs/PNAB5541.pdf](http://pdf.usaid.gov/pdf_docs/PNAB5541.pdf)) provides useful guidance on planning, conducting, and applying evidence from key informant interviews.

7. Consider the potential biases that might affect individual or group perspectives
8. Triangulate their perspectives with existing data, documented facts, or perspectives from other key informants or groups not subject to the same biases

---

### Step 11) Analyze health system strengths and weaknesses

The performance metrics are ultimately intended to help the CCT (and users of the diagnostic findings) identify where there are opportunities to strengthen the health system. To identify these opportunities, the CCT needs to analyze the data gathered against the performance targets—or where targets do not exist, through structured discussions with key stakeholders—to determine whether the data indicates strengths or weaknesses related to the priority health system functions.

The CCT should find a way to present the findings from this analysis, such as in the scorecard presented below (Table 6) for the report from Kenya in Annex 7. Table 6 includes a column for color-coded scoring of each performance metric and a row at the bottom of the table to present the overall findings on performance of the function.

Whatever format the CCT uses should help them consolidate the findings for all the different metrics related to each priority health system function, and should help them quickly and easily communicate where there are strengths and weaknesses. Table 7 provides an example of the table filled in completely, illustrating the use of the scorecard on the right and the overall findings at the bottom of the table.

At the end of Phase III the CCT will have a complete scorecard for each function selected.

TABLE 6: A SCORECARD FOR ANALYZING AND PRESENTING DATA

PRIORITY HEALTH SYSTEM FUNCTION					
PERFORMANCE QUESTIONS	PERFORMANCE MEASURES	PERFORMANCE RESULTS	SCORECARD ANALYSIS		
Performance question 1	Performance indicator and target 1.A	E.g., trend data, qualitative data, comparison to a national norm, international norm, or benchmark	Weak	Mixed	Strong
	Performance indicator and target 1.B	E.g., trend data, qualitative data, the value compared to a national norm, international norm, or benchmark	Weak	Mixed	Strong
Performance question 2	Performance indicator and target 2.A	E.g., trend data, qualitative data, the value compared to a national norm, international norm, or benchmark	Weak	Mixed	Strong
<b>Additional data and findings:</b>					
<b>Missing data:</b>					
<b>Discussion of results and overall rating:</b>			Overall weakness	Overall mixed	Overall strength

TABLE 7: AN ILLUSTRATIVE EXAMPLE OF THE ANALYSIS AND FINDINGS OF PERFORMANCE METRICS FOR QUALITY MONITORING<sup>16</sup>

MONITORING THE QUALITY OF MEDICAL PRODUCTS			
PERFORMANCE QUESTIONS	PERFORMANCE MEASURES	PERFORMANCE RESULTS	SCORECARD ANALYSIS
Are medical products monitored for quality?	Do 80 percent of health facilities have a procedure in place to report product quality issues, in accordance with the national health strategy?	According to the 2008/09 facility survey, 60 percent of public and private health facilities currently have a procedure in place to report product quality issues.	Weak— The country has not achieved its national target.
	Are standard procedures for the quality control of health products at initial receipt at the central level written down and used?	According to administrative records from the central medical stores, there are written standard procedures and they are used for all essential medicines at the central level. However, they are not consistently used for all medical products.	Mixed — Standard procedures exist, and they are applied consistently for essential medicines but inconsistently for other medical products.
<b>Additional data and findings:</b> A higher percentage of public sector facilities (72%) have reporting procedures in place than private sector facilities (55%). Also, all the facilities without reporting procedures in place are primary care facilities located in rural areas.			
<b>Missing data:</b> Only one national facility survey has been completed (2008/09), so it is not possible to analyze trends.			
<b>Discussion of results and overall rating:</b> Given that facilities in rural areas do not have procedures in place to report quality issues, it is possible that supplies of insufficient could go unreported. Inconsistent monitoring of product quality at the central level also means that supplies of unacceptable quality could be entering the country. Data is not available to assess whether there is significant positive trend to improve this situation.			Medical products are not sufficiently monitored for quality.

| <sup>16</sup> This is a completely fictional example.



## INVESTIGATE THE ROOT CAUSES OF HEALTH SYSTEM WEAKNESSES

After the CCT has identified the strengths and weaknesses across the health system, they can delve deeper into the root causes<sup>17</sup> of some of those weaknesses. Understanding root causes of health system weaknesses is a necessary first step to designing effective HSS interventions to address those weaknesses. Most performance issues results from several causes.

The root cause investigation will consist of three steps:

**STEP 12)** The CCT will present their findings to key stakeholders (the steering committee and others) to validate them and identify priority weaknesses to explore through a RCA.

**STEP 13)** The CCT, steering committee, and other key stakeholders will generate hypotheses of the root causes of selected weaknesses.

**STEP 14)** The CCT will gather and analyze evidence on root causes.<sup>18</sup>

### WHAT IS ROOT CAUSE ANALYSIS?

In a health system, cause and effect relationships often are not linear. Problems in the system are the result of various system dynamics and conditions. Through a root cause analysis (RCA) we can systematically identify the various and interconnected underlying causes of a problem.

Because health systems are very complex, it is impractical to conduct a comprehensive root cause analysis of every weakness identified in Phase III. We recommend that the CCT perform an RCA for up to three priority health system weaknesses, which will

allow the CCT to become familiar with the process so they can do it in the future as part of designing HSS interventions. The CCT can decide to do more or fewer RCAs depending on time.

### PLANNING THE DATA VALIDATION AND RCA PLANNING WORKSHOP

We suggest that the CCT start Phase IV with a short, two-day workshop to:

1. Validate the findings from Phase III
2. Identify priority weaknesses as potential candidates for HSS interventions, and select up to three health system weaknesses for RCA

3. Plan the activities involved in the RCA

To prepare for the workshop, the CCT will have to:

- Plan and organize the workshop logistics
- Identify external stakeholders to participate in the first day of the workshop
- Invite participants to the workshop

<sup>18</sup> For these investigations, the CCT will rely on existing research, expert and insider perspectives, and the expertise of FHI 360 staff.

<sup>19</sup> These are the people who can validate/challenge the findings and identify priority health system weaknesses.

- Prepare the findings sheet to be shared with the participants
- Prepare a presentation of the findings

---

### Step 12) Validate the findings from Phase III, and identify priority weaknesses

Day one of this workshop should involve a broad range of health stakeholders, including some of the key informants the CCT used to gather data. The first half of day one will involve presenting and discussing the findings with this broad group, allowing them to challenge and add to what the CCT has found.

The second half of day one can then be used to engage this same group in a ranking activity to identify priority health system weaknesses that could be considered for HSS interventions. In Annex 8 we provide guidance on prioritization methods that may be useful for this process.

---

### Step 13) Select topics for root cause analysis, and generate hypotheses of causes

The second day of the workshop would then involve just the CCT, technical experts from FHI 360, and key partners to select up to three issues for RCA, who would begin hypothesizing potential root causes to investigate. If the CCT prefers, the steering committee could also be involved to get a wider perspective.

#### SELECTING TOPICS FOR RCA

The selection of topics for the RCA will be based primarily on the discussion and ranking of priority weaknesses from the previous day (which involved a broader group of stakeholders). However, it may not be as simple as taking the three top-ranked priorities. The CCT may want to select topics using some technical criteria in addition to the priority ranking. For instance, the CCT may want to consider which priority weaknesses are good candidates for future HSS projects based on consideration of technical and political feasibility. Thus, the three topics selected for RCA may come from among the top 5 or 10 ranked priority weaknesses.

#### GENERATING HYPOTHESES OF ROOT CAUSES

After selecting the topics for RCA, the workshop participants can spend the rest of the day hypothesizing potential root causes of those topics. This step is crucial, so it should not be rushed. These hypotheses will become the areas that the CCT will investigate, so it is important that the initial list developed is well considered and informed by some knowledge of the health system, which will come from the determinants section of the performance maps developed in Phase II, the findings of Phase III, and the knowledge and experience of the workshop participants.

Although there are many different tools that one could use to develop these hypotheses, we suggest using a “fishbone diagram” to systematically identify causes related to each health system building block (Figure 5).

Using this fishbone diagram and referring to the findings from Phase III, the workshop participants can systematically brainstorm root causes related to each health system component. This process begins by writing a particular health system weakness in the head of the fish (far right of Figure 5), and then asking why this issue exists, considering potential causes related to each health system component, and writing these in the skeleton of the fish. Yet it doesn’t stop there. Participants in the root cause analysis then ask “why?” about each of those potential causes and continue to ask this until they exhaust their answers. This technique is known as the “five whys,” but there is no definite number of whys to be asked.

Through this activity, participants construct a set of hypotheses about the conditions that are causing the priority health system weaknesses. In Step 14, the CCT will gather evidence and test these hypotheses, thereby creating an evidence base to inform the design of HSS interventions to address the causes of the weakness.

---

### Step 14) Collect and analyze evidence on root causes

#### GATHERING DATA TO INVESTIGATE HYPOTHESIZED ROOT CAUSES

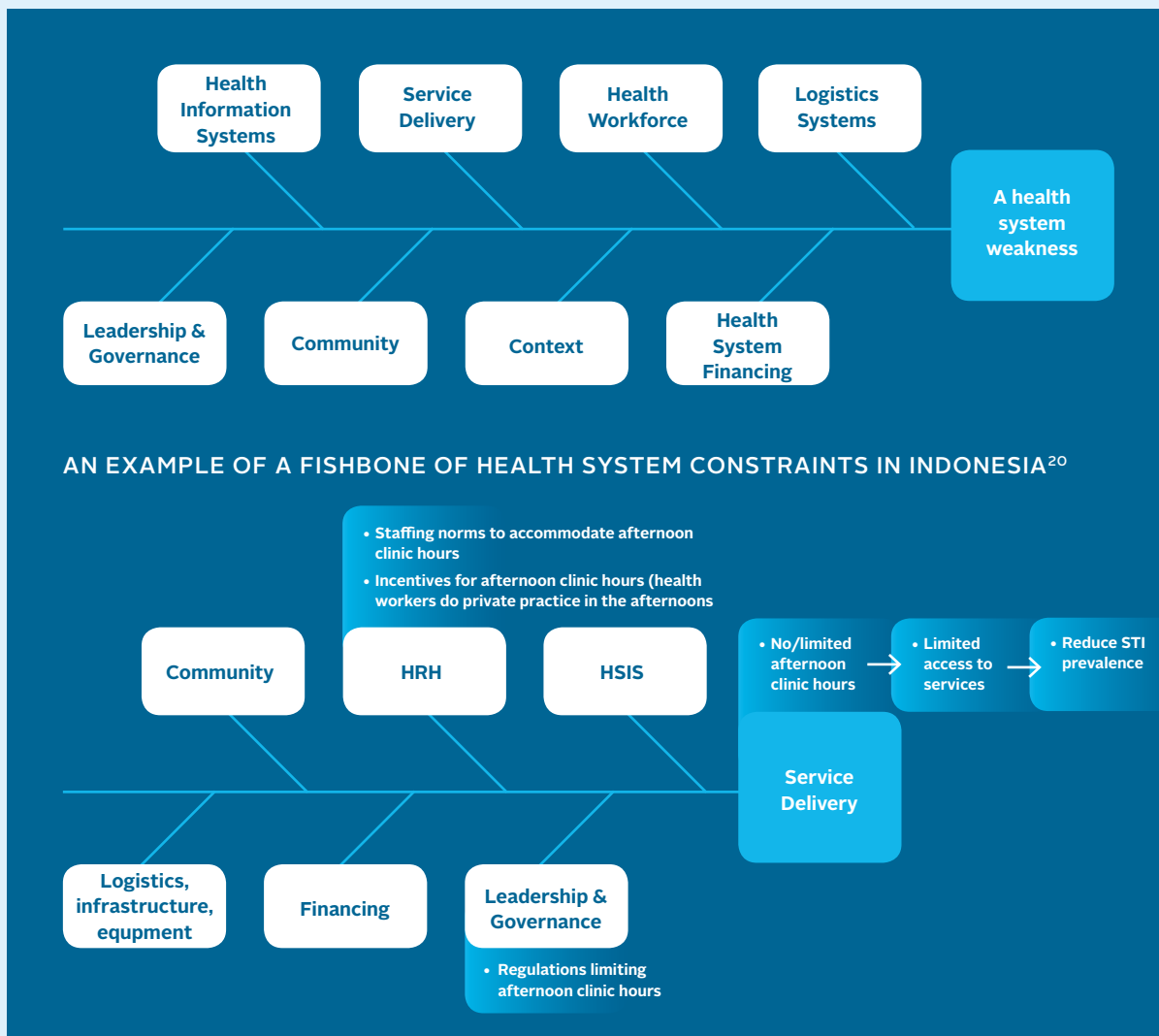
Investigating root causes within a complex system can be a monumental task. However, we will contain



BOX 4: SAMPLE AGENDA FOR THE DATA VALIDATION AND RCA WORKSHOP

DAY 1	DAY 2
<p><b>Participants: CCT, steering committee, key informants, and the HSSD department TO</b></p> <ul style="list-style-type: none"> <li>Welcome and introductions</li> <li>Review the purpose and focus of the RDT</li> <li>Present summary of findings from Phase III</li> <li>Discuss findings</li> <li>Identify and discuss priority health system weaknesses for the country, province/district, and/or program</li> </ul>	<p><b>Participants: CCT and the HSS department TO</b></p> <ul style="list-style-type: none"> <li>Review the priority weaknesses, and select up to three for RCA</li> <li>Using fishbone diagrams, and drawing on evidence from Phase III of the diagnostic, brainstorm the factors that contribute to each weakness</li> <li>Identify (hypothesize) the critical factors contributing to the weakness (those that can be changed and, if changed, would lead to strong performance)</li> <li>Determine what information is needed to validate or invalidate these hypotheses</li> </ul>

FIGURE 5: A FISHBONE DIAGRAM TEMPLATE FOR HYPOTHESIZING THE ROOT CAUSE OF HEALTH SYSTEM WEAKNESSES



<sup>20</sup> On the far right (the fishbone "head") is a critical objective and a critical problem. Moving left through the fish's "skeleton" are critical factors suspected to cause the problem.

FIGURE 6: PRESENTING ROOT CAUSE ANALYSIS FINDINGS GRAPHICALLY

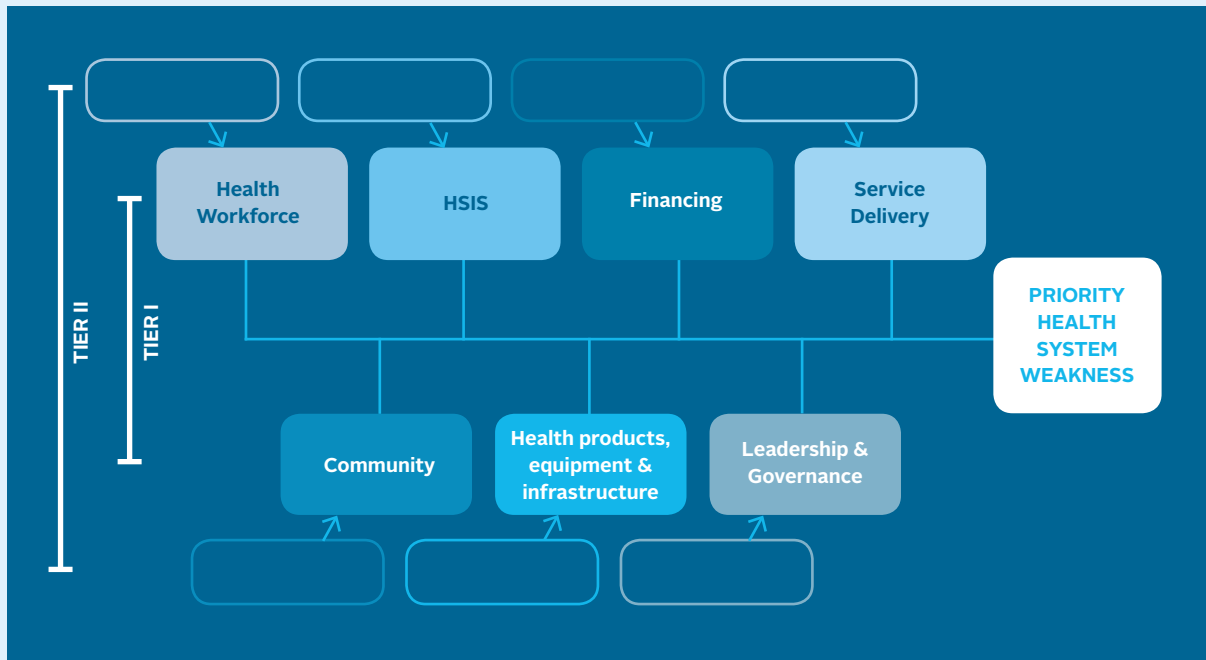


TABLE 8: PRESENTING ROOT CAUSE ANALYSIS FINDINGS IN TABULAR FORM

TIER	EFFECT	CAUSE	HYPOTHESIZED RELATIONSHIP	EVIDENCE (VALIDATING OR INVALIDATING)	IMPORTANCE
I	<b>Priority HS weakness</b>	HRH issue 1			
		HRH issue 2			
		Financing issue 1			
		Governance issue 1			
		Governance issue 2			
II	<b>HRH issue 1</b>	HRH issue 1.1			
	<b>HRH issue 2</b>	HRH issue 2.1			
		HRH issue 2.2			
	<b>Financing issue 1</b>	Financing issue 1.1			
	Governance issue 1	Governance issue 1.1			
III	<b>HRH issue 2.1</b>	HRH issue 2.1.1			

the level of effort by relying on evidence that can be attained rapidly with little effort, including:

- Existing research on the health system weakness
- The knowledge of officials and other insiders

Essentially, the CCT needs to test the hypothesis about cause and effect that workshop participants developed around the fishbone diagram. To do this, the CCT will collect evidence from existing research studies and from key informants that either confirm or invalidate these hypotheses, and/or that provide alternative explanations of root causes.

The CCT should start by locating existing research or official documents that provide evidence (or an evidence-based analysis) of the critical weakness and of the hypothesized causes. For instance, if workshop participants hypothesized that low worker pay is a cause of high early attrition, then the CCT could use studies on worker pay and data on reasons for worker attrition.

Beyond published studies and data, the CCT may also need to rely on key experts or insiders (government officials, donor representatives, researchers, FHI 360 staff, etc.) who have an informed perspective on these issues. In deciding whom to interview, the CCT will have to balance their limited time with the need to triangulate what they learn from informants. That is, each interview will require time to prepare, conduct the interview, document the responses, and analyze the findings. On the other hand, informants all have biases that affect their perspectives, requiring the CCT to get multiple perspectives to triangulate and validate, or call into question, informant responses. This can sometimes be accomplished more efficiently through focus groups, where discussion provides a built-in vetting and analysis of divergent perspectives. Whether focus groups or KIIs are used, the aim is to get a diversity of perspectives to help overcome any institutional or individual biases with a reasonable level of effort.

#### VALIDATING HYPOTHESIZED ROOT CAUSES

For each potential root cause, the CCT should use their evidence to answer, as best as possible, these simple questions:

- Is there a logical cause and effect relationship?
- How important is this relationship as a root cause of the priority health system weakness (i.e., what effect would addressing it have on the priority health system weakness)?
- What is the evidence that these findings are based on, and how strong is this evidence?

These simple questions should help guide a very direct, short, and informative analysis of which root causes could be potential targets for an HSS intervention. To present RCA findings, the CCT could use a combination of a fishbone diagram (Figure 6), a summary table (Table 8), and/or narrative text. In complex systems, cause and effect relationships often are not linear, so the narrative will be important to qualify and explain the complexities that might not be represented in simple diagrams and tables.

After completing RCA for up to three priority health system weaknesses, the CCT should call another meeting with the steering committee to present and discuss the RCA findings.

## PHASE V

## COMMUNICATE THE FINDINGS

Communication activities—whether writing reports or meeting with officials—are not ends in themselves. Instead, they should serve to ensure that the findings of the rapid diagnostic process are used to inform the design, implementation, and evaluation of HSS interventions.

Next we outline general instructions for forming a communication strategy (Step 15), writing the report (Step 16), and communicating findings (Step 17).

### Step 15) Devise a communication strategy

A simple communications strategy should at a minimum establish the following:

- Who are the priority audiences for the findings?
- What are the key messages/information for these audiences?
- What products and activities will the CCT use to communicate the key messages?
- Who will be responsible for implementing these activities?
- How will the CCT know whether communication is successful?

We suggest that the CCT answer these questions through a one-day workshop/meeting (Box 5), culminating in a completed, simple communication strategy (Table 9).

#### WHO ARE THE PRIORITY AUDIENCES FOR THE FINDINGS?

Knowing the audience will help the CCT determine what to communicate and how to communicate it. Because the purpose of these rapid diagnostic processes is to inform the design and evaluation of HSS initiatives, primary audiences will likely be staff within the FHI 360 country office, government officials in positions of authority over the health system, and other in-country and international partners that could support (e.g., donors) or be involved in health system strengthening efforts.

In addition, the CCT can identify “secondary audiences” in their communication plan and include activities for broader dissemination activities, such as journal publications, public meetings, presentations at conferences, or posting documents online.

#### WHAT ARE THE KEY MESSAGES/INFORMATION FOR THESE AUDIENCES?

The key messages will simply be the findings that the CCT believes are most relevant for that audience. For most key audiences, the CCT may decide that the entire report, as a reference document, is the key message. However, for audiences who are not expected to read the whole report, the CCT will need to be more focused. For instance, for government officials in the Ministry of Finance, the key messages may focus on weaknesses found around health system financing.

**BOX 5: SAMPLE AGENDA FOR THE COMMUNICATION STRATEGY WORKSHOP**

**Participants: CCT**

- Review the purpose and results of the RDT.
- Develop key messages and identify audiences.
- Devise communication products and activities.
- Allocate responsibility among CCT members.

**FIGURE 4: ARTICULATING PERFORMANCE ASSESSMENT QUESTIONS ACROSS THE THREE DIMENSIONS OF PERFORMANCE**

PRIORITY AUDIENCES	KEY MESSAGES	PRODUCTS & ACTIVITIES	WHO WILL IMPLEMENT	LEVEL OF EFFORT	CRITERIA FOR SUCCESS
Who within FHI 360?					
Who in the government?					
What other agencies/ organizations?					
Secondary audiences					

**BOX 6: SAMPLE REPORT OUTLINE**

- 1) Executive summary** (1–2 pages)
  - a) Purpose and summary of the rapid diagnostic exercise
  - b) Summary of the critical strengths and weaknesses in the health system
  - c) Summary of the root causes of priority weaknesses
  - d) Summary of critical data gaps
- 2) Performance diagnostic findings** (1–2 pages for each function)
- 3) Root causes analysis findings** (2–3 pages per weakness analyzed; 2–9 total)
- 4) Data gaps and suggestions for future health system diagnostic and/or monitoring exercises** (2–3 pages)
- 5) Appendix 1: Diagnostic methodology**
  - a) Diagnostic purpose
  - b) Diagnostic design (performance metrics)
  - c) Data gathering and analysis process
  - d) RCA design
  - e) RCA data gathering and analysis process
- 6) Appendix 2: Communication strategy**
- 7) Appendix 3: Next steps**
  - a) Suggested areas for HSS intervention
  - b) Objectives for HSS interventions
  - c) Performance metrics that could be used to monitor and evaluate interventions

**TABLE 10: INFORMATION GAPS UNCOVERED DURING THE DIAGNOSTIC**

ASSESSMENT QUESTION & INDICATOR GAPS	INFORMATION GAPS & MISSING DATA

### WHAT PRODUCTS AND ACTIVITIES WILL THE CCT USE TO COMMUNICATE THE KEY MESSAGES?

The most important communication product will be a single report that includes all of the findings. However, writing a long report does not ensure that the findings will be used. The CCT should come up with additional activities to communicate the findings. This will probably include activities such as meetings with key actors, writing shorter summaries of key findings, and having internal meetings or seminars—for example, among staff at the FHI 360 country office—to answer questions and discuss the implications of the findings for FHI 360’s work.

### WHO WILL BE RESPONSIBLE FOR IMPLEMENTING THESE ACTIVITIES?

After deciding what products and activities need to be completed, the CCT will need to agree who will be responsible, within the given time constraints. The most important products and activities are probably the report and direct engagement/discussion about the findings with FHI 360 staff and key partners. Priority should be given to these over other activities.

### HOW WILL THE CCT KNOW WHETHER THEIR COMMUNICATION ACTIVITIES ARE SUCCESSFUL?

Finally, the CCT should give some thought to how they will know whether their communication efforts have been successful. For example: have key officials read and provided feedback on the report, or is it actively used by FHI 360 staff for designing and evaluating HSS projects? These metrics do not have to be very complicated. They just need to help the CCT decide whether additional communication efforts are required to ensure key audiences are aware of and using the findings.<sup>21</sup>

---

## Step 16) Write the report

The report should present findings on:

1. What are the strengths and weaknesses in the health system?

2. For the one to three weaknesses selected, what are the root causes that should be targeted by a system strengthening initiative?
3. What information gaps exist that inhibit a better understanding of the health system?

### PRESENTING THE FINDINGS ON HEALTH SYSTEM STRENGTHS AND WEAKNESSES

In Step 11, we suggested a simple table to summarize the findings for each priority health system function (Table 6). The content in these tables will be the bulk of what the CCT presents in the report. In addition to this table, the CCT may have additional evidence gathered from secondary sources interviews. These tables, figures, quotes, examples, and other analysis can provide additional depth to the findings. We suggest that for each priority health system function, the CCT should present their scorecard, followed by any additional charts and graphs that help explain the findings, plus a few paragraphs of additional discussion if it helps highlight opportunities for strengthening the health system. To keep the report a reasonable length, the CCT may want to devote no more than one or two pages to each priority health system function.

### PRESENTING ROOT CAUSE ANALYSIS FINDINGS IN THE REPORT

For RCA findings (Phase IV), the CCT should be sure to include: the original hypotheses explored as root causes, whether or not those hypotheses were found to be valid or invalid, the evidence used to validate or invalidate the hypotheses, how important the causes were found to be, and how strong the evidence base is for the findings. See Figure 6 and Table 8 in Step 14, which can be used as templates for presenting RCA information.

### PRESENTING THE FINDINGS ON CRITICAL INFORMATION GAPS

In the process of gathering data for the indicators (Step 10), the CCT will probably identify many critical information gaps. Documenting these gaps is an important output of the rapid diagnostic process, as strong information on health systems is a critical

<sup>21</sup> For more guidance on developing a communications strategy, see: Hovland, Ingie. 2005. *Successful Communication: A Toolkit for Researchers and Civil Society Organizations*. London: ODI Research and Policy in Development Programme.

foundation for efforts to strengthen health systems. And so filling these gaps will be a top priority for FHI 360 initiatives to strengthen health systems.

#### REVIEWING THE REPORT

After the CCT completes the report, they should submit it for review to the steering committee, other key stakeholders, and the FHI 360 HSS department. After making any necessary changes, the report should be copyedited and then shared with those who participated in the diagnostic, FHI 360 country and HQ staff, and other key partners and audiences. The report will then be the foundation for other communication activities.

---

### Step 17) Communicate the findings

In the communication strategy, the CCT will have outlined a number of key audiences, key messages, and products and activities to pursue to ensure successful communication and use of the RDT findings. These might include:

- Presenting findings to national and/or local government officials
- Creating short briefs that focus on priority issues and program or policy recommendations
- Meeting with other FHI 360 staff, government officials, or partners to discuss the findings and program and policy recommendations
- Writing journal articles
- Disseminating the report online

Ultimately, the purpose of using the RDT is to inform the design of HSS interventions and future health system assessments. With that in mind, the CCT should engage in targeted communication and follow-up activities to ensure that the findings are used. The immediate next steps can be discussed and planned during the communication events.



## Selected References

- Aronovich, Dana, Marie Tien, Ethan Collins, Adriano Sommerlatte, and Linda Allian. 2010. *Measuring Supply Chain Performance: Guide to Key Performance Indicators for Public Health Managers*. Arlington, VA: USAID | DELIVER PROJECT, Task Order 1.
- Brinkerhoff, D. W., and T. J. Bossert. 2008. *Health Governance: Concepts, Experience, and Programming Options*. Bethesda, MD: Abt Associates, Inc.
- Butterfoss F. D. 2006. "Process evaluation for community participation." *Annu Rev Public Health* 27:323–340.
- de Savigny, D., and T. Adam (eds). 2009. *Systems thinking for health systems strengthening*. Geneva: Alliance for Health Policy and Systems Research, WHO.
- de Vries, W. 1998. *How Are We Doing? Performance Indicators for National Statistical Systems*. Netherlands Official Statistics 13:5–13.
- DELIVER. 2009a. *Logistics System Assessment Tool (LSAT)*. Arlington, VA: USAID | DELIVER PROJECT, Task Order 1.
- --. 2009b. *The Logistics Handbook: A Practical Guide for Supply Chain Managers in Family Planning and Health Programs*. Arlington, VA: USAID | DELIVER PROJECT, Task Order 1.
- Gottret, P., and G. Schieber. 2006. *Health Financing Revisited: A Practitioner's Guide*. Washington, DC: World Bank.
- Health Metrics Network (HMN). 2008a. *Framework and Standards for Country Health Information Systems (second edition)*. Geneva: WHO.
- --. 2008b. *Assessing the National Health Information System: An Assessment Tool (Version 4.00)*. Geneva: WHO.
- HLQAT Team. 2009. *Hospital Leadership and Quality Assessment Tool (HLQAT)*. Available online at: <http://www.hlqat.org/web/hlqat/home>
- Islam, M. (ed.). 2007. *Health Systems Assessment Approach: A How-To Manual*. Submitted to the United States Agency for International Development in collaboration with Health Systems 20/20, Partners for Health Reform Plus, Quality Assurance Project, and Rational Pharmaceutical Management Plus. Arlington, VA: Management Sciences for Health.
- Kruk, M. E., and L. P. Freedman. 2008. "Assessing health system performance in developing countries: A review of the literature." *Health Policy* 85:263–276.
- Luoma, M., J. Doherty, S. Muchiri, T. Barasa, K. Hofler, L. Maniscalco, C. Ouma, R. Kirika and J. Maundu. 2010. *Kenya Health System Assessment 2010*. Bethesda, MD: Health Systems 20/20 project, Abt Associates Inc.
- Management Sciences for Health (MSH). 2006. *Menu of Indicators on Management and Leadership Capacity Development*. Leadership, Management, and Sustainability Program, Monitoring, Evaluation, and Communication Team. Available online at: [http://www.k4health.org/system/files/LM\\_Indicator\\_Menu\\_Not\\_Prgm\\_Specific\\_20072.pdf](http://www.k4health.org/system/files/LM_Indicator_Menu_Not_Prgm_Specific_20072.pdf)
- --. 2010. *Health Systems in Action: An eHandbook for Leaders and Managers*. Cambridge, MA: MSH. Available online at <http://www.msh.org/resource-center/health-systems-in-action.cfm>.
- MEASURE DHS. 2006. *Key Indicators Survey (KIS): A Manual for Implementing Small-Scale Surveys on Reproductive and Child Health, HIV/AIDS and Malaria*. Calverton, MD: ORC Macro. Available online at: <http://www.measuredhs.com/What-We-Do/Survey-Types/KIS.cfm>.
- Murray, C. J. L., and D. Evans (eds.). 2003. "Monitoring the health financing function." In *Health Systems Performance Assessment: Debates, Methods and Empiricism*. Geneva: World Health Organization. Available online at: [http://www.who.int/health\\_financing/documents/cov-hspa](http://www.who.int/health_financing/documents/cov-hspa).

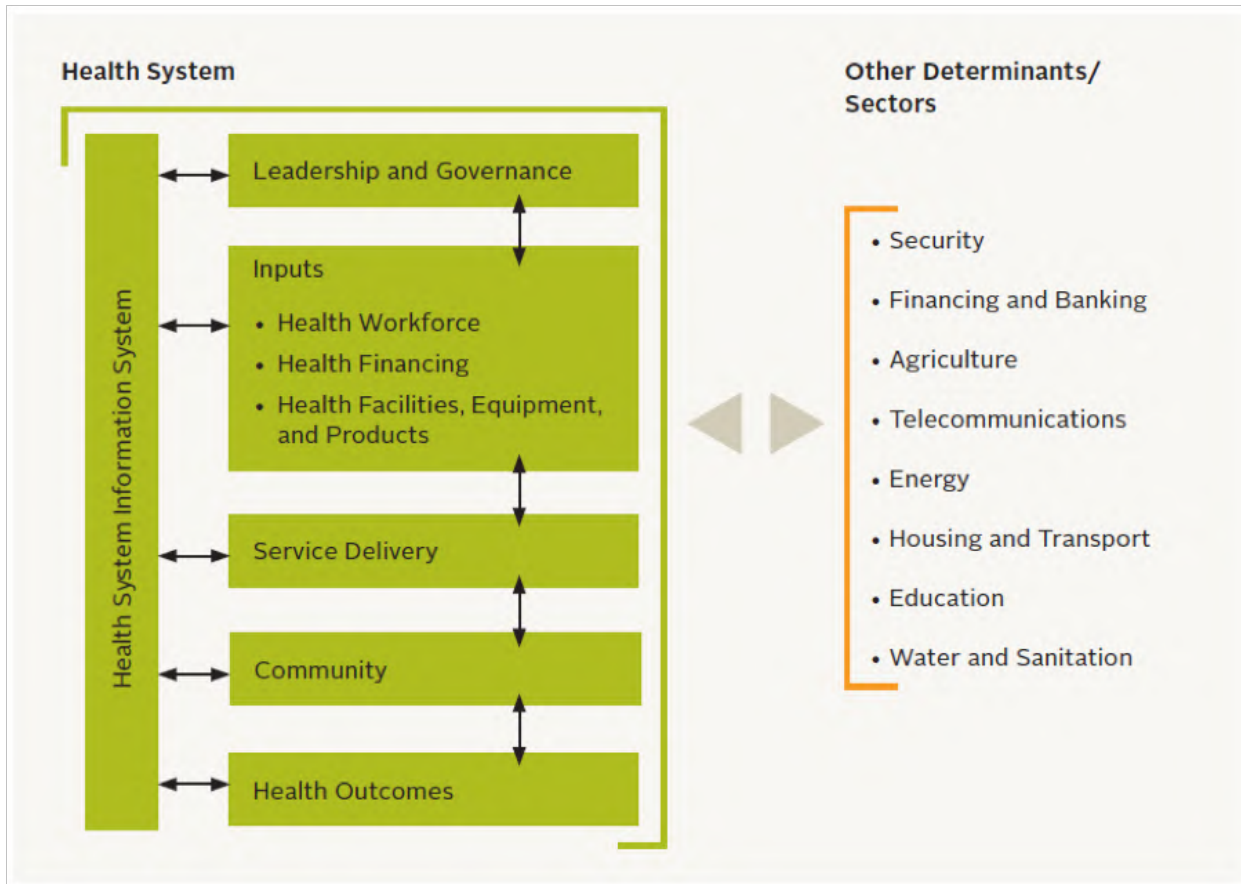
# ANNEX 1

## Selected References

- Pacqué-Margolis, Sara, Crystal Ng, and Sylvia Kauffman. 2011. *Human Resources for Health (HRH) Indicator Compendium*. CapacityPlus project. Available online at: [http://www.capacityplus.org/files/resources/HRH\\_Indicator\\_Compendium.pdf](http://www.capacityplus.org/files/resources/HRH_Indicator_Compendium.pdf). Available online at: [http://www.who.int/healthinfo/statistics/toolkit\\_hss/en/index.html](http://www.who.int/healthinfo/statistics/toolkit_hss/en/index.html).
- Peters, D. H., S. El-Saharty, B. Siadat, K. Janovsky, and M. Vujicic (eds). 2009. *Improving Health Service Delivery in Developing Countries: From Evidence to Action*. Washington, DC: World Bank.
- Rifkin, S. B., F. Muller, and W. Bichmann. 1988. "Primary Health Care: On Measuring Participation." *Social Science and Medicine* 26:931–940.
- Sapirie, S. 2000. *Assessing Health Information Systems: Design and Implementation of Health Information Systems*. Geneva: World Health Organization.
- Siddiqi, S., et al. 2008. "Framework for assessing governance of the health system in developing countries: Gateway to good governance." *Health Policy* 90(1): 13–25. doi:10.1016/j.healthpol.2008.08.005
- The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). 2009. *Monitoring and Evaluation Toolkit: HIV/AIDS, Tuberculosis and Malaria*, 3rd edition. Geneva: The Global Fund to Fight AIDS, Tuberculosis and Malaria.
- . 2010. *Community Systems Strengthening Framework*. Geneva: The Global Fund to Fight AIDS, Tuberculosis and Malaria.
- USAID. 2009. *Measuring the Impact of Health Systems Strengthening: A Review of the Literature*. Washington, DC: USAID.
- WHO. 2007. *Everybody's business: strengthening health systems to improve health outcomes*. Geneva: World Health Organization.
- . 2010a. *Monitoring the Building Blocks of Health Systems: A Handbook of Indicators and Their Measurement Strategies*. Geneva: World Health Organization.

# ANNEX 2

## FHI 360 Health System Framework





# ANNEX 4

## Self-Assessment Form

	PICK A LEVEL FOR EACH ROW AND EXPLAIN			
	NONE	SOME	EXTENSIVE	VERY EXTENSIVE
Conceptual understanding of health systems				
Context knowledge of the health system being assessed				
Expertise in M&E and the development of assessment questions and indicators				
Availability (time available to devote to this project over the next three to five months)				
Familiarity with key information sources on the health system				
Strong relationships with key government offices				

# ANNEX 5

## Common Sources for Data

### OFFICIAL GOVERNMENT REPORTS AND DATASETS

Official (national and sub-national) government reports will be a valuable source of evidence for the diagnostic. Ideally, as the steward of the health system, the government will be tracking many of the selected indicators and presenting this data with some analysis of implications for the health system as a whole (e.g., Is the country achieving its targets? What are the causes and consequences of issues? Etc.). However, government data can sometimes be problematic. In many countries, government data may cover only the public sector, and where health system information systems are weak, government data may be inaccurate, unreliable, out of date, incomplete, and/or not collected on a regular basis. When relying on government data sources, the CCT should investigate and account for these limitations in the analysis and validate the data (i.e., check its accuracy) using other data sources and key informant interviews.

### INTERNATIONAL AND REGIONAL DATASETS

There are many international efforts to track and disseminate health system indicators, such as the WHO Global Health Observatory,<sup>22</sup> the World Bank Governance Indicators,<sup>23</sup> and Pharmaceutical Country Profiles,<sup>24</sup> among many others.<sup>25</sup> These datasets often draw on, and validate, data from national sources. The creators of these datasets put significant effort into standardizing the data and ensuring its accuracy. The Health Systems 20/20 project has pulled together many different sources of data on health systems indicators into a single platform,<sup>26</sup> making it a useful place to start the search. Although international databases often provide useful global-level data, their validity must be checked because they are often reported by ministries of health and may have not been validated, or they may be based on rough estimations. Another limitation of these datasets is that they provide a general overview of national indicators, but they rarely disaggregate data at sub-national levels (regions, districts), which limits understanding of variations in performance across sub-national units of analysis.

### INTERNATIONAL NON-GOVERNMENTAL AGENCY GREY LITERATURE

Many international health agencies—such as the Global Fund, USAID, and PEPFAR, among others—track and report on country health systems as part of their program planning and monitoring. This grey literature often includes data and analysis that may complement other datasets. For instance, USAID may fund research and analysis on a national health worker training program, or the World Bank may have conducted an assessment of financial management capacity in the health sector as part of a situation analysis for a loan program. This data might not be entered into international datasets, but it can provide useful country-focused evidence. The downside, however, is that sometimes this data has a limited scope, either focused on the data needs of the agency (e.g., covering only their programs, program areas, or service delivery sites) and/or conducted as one-time exercises.

### ASSESSMENTS OR RESEARCH STUDIES

Many of the assessment indicators selected may have been covered in independent assessments or research studies that look at particular functions of the health system. For example, PEPFAR and DfID jointly funded a detailed assessment of human resources for health in Mozambique, Ethiopia, and Zambia that provided in-depth analysis of many aspects of the health worker “life cycle” and governance over health sector human resources.<sup>27</sup> These types of exercises often offer detailed evidence and analysis on their topic of focus. They can also fill important gaps in national data if they engage in rigorous primary data collection. The downside, however, is that these are often one-time exercises (limiting trend analysis), and they may not be nationally representative.

<sup>22</sup> [www.who.int/gho/en/](http://www.who.int/gho/en/)

<sup>23</sup> <http://info.worldbank.org/governance/wgi/index.asp>

<sup>24</sup> Profiles have been completed for a limited number of countries, with profiles for all member states planned by the end of 2011: [www.who.int/medicines/areas/coordination/coordination\\_assessment/en/index.html](http://www.who.int/medicines/areas/coordination/coordination_assessment/en/index.html).

<sup>25</sup> Hyperlinks to the datasets are provided as footnotes in the indicator tables.

<sup>26</sup> <http://healthsystems2020.healthsystemsdatabase.org/>

<sup>27</sup> The report on Mozambique is available at: [www.hrhresourcecenter.org/node/2307](http://www.hrhresourcecenter.org/node/2307).

# ANNEX 5

## Common Sources for Data

	OFFICIAL GOVERNMENT REPORTS AND DATASETS	INTERNATIONAL AND NON-GOVERNMENT AGENCIES' REPORTS	ASSESSMENTS OR RESEARCH STUDIES	REGIONAL AND INTERNATIONAL DATASETS
<b>Cross-cutting</b>	Annual health sector reports; health sector strategies and plans; joint annual reviews; Repository of Country Health Reports	Plans and reports by/for major health sector donors investing in HSS (USAID; PEPFAR; GHI; CDC; DfID; GAVI Alliance; GFATM; World Bank; or any others)	Health Systems 20/20 Health System Assessments	WHO Global Health Observatory; the World Bank World Development Indicators; HS 20/20 database; PAHO data; EMRO data; EURO data; SEARO data; WPRO data
<b>Service Delivery</b>	Routine health facility reporting system (i.e., the HMIS); MOH facility survey; Service Availability Mapping (SAM); Service Provision Assessment (SPA); household surveys; Living Standards Measurement Study (LSMS); household health expenditure survey		Studies on access and referral systems; RAND Health's Quality of Care Assessment Tools;	World Health Survey; Service Provision Assessments; DHS
<b>Leadership &amp; governance</b>	MOH governing documents; documents and reports from legislative body	Professional associations' publications and websites		The World Bank Governance Indicators, 1996–2009; World Bank CPIA

<sup>28</sup> <http://rochr.qrc.com/>

<sup>29</sup> [www.healthsystems2020.org/content/resource/detail/528/](http://www.healthsystems2020.org/content/resource/detail/528/)

<sup>30</sup> [www.who.int/gho/en/](http://www.who.int/gho/en/)

<sup>31</sup> <http://data.worldbank.org/country>

<sup>32</sup> <http://healthsystems2020.healthsystemsdatabase.org/>

<sup>33</sup> [http://new.paho.org/hq/index.php?option=com\\_content&task=view&id=2470&Itemid=2003](http://new.paho.org/hq/index.php?option=com_content&task=view&id=2470&Itemid=2003)

<sup>34</sup> <http://gis.emro.who.int/HealthSystemObservatory/Database/Forms/Database.aspx>

<sup>35</sup> [www.euro.who.int/en/what-we-do/data-and-evidence](http://www.euro.who.int/en/what-we-do/data-and-evidence)

<sup>36</sup> <http://searo.who.int/EN/Section313.htm>

<sup>37</sup> [www.wpro.who.int/information\\_sources/databases/](http://www.wpro.who.int/information_sources/databases/)

<sup>38</sup> Reports are available for six countries on the WHO website: [www.who.int/healthinfo/systems/samdocs/en/index.html](http://www.who.int/healthinfo/systems/samdocs/en/index.html)

<sup>39</sup> <http://www.measuredhs.com/What-We-Do/survey-search.cfm?pgType=main&SrvyTp=type>

<sup>40</sup> <http://iresearch.worldbank.org/lsm/lsmssurveyFinder.htm>

<sup>41</sup> Covers 70 countries and includes information about health behavior, service coverage, and patient assessments of service quality: [www.who.int/healthinfo/survey/whsresults/en/index.html](http://www.who.int/healthinfo/survey/whsresults/en/index.html)

<sup>42</sup> The SPA focuses on five priority service areas: [www.measuredhs.com/aboutsurveys/spa/start.cfm](http://www.measuredhs.com/aboutsurveys/spa/start.cfm)

<sup>43</sup> [www.measuredhs.com/aboutsurveys/dhs/start.cfm](http://www.measuredhs.com/aboutsurveys/dhs/start.cfm)

<sup>44</sup> <http://info.worldbank.org/governance/wgi/index.asp>

<sup>45</sup> <http://go.worldbank.org/S2THW11X60>

# ANNEX 5

## Common Sources for Data

	OFFICIAL GOVERNMENT REPORTS AND DATASETS	INTERNATIONAL AND NON-GOVERNMENT AGENCIES' REPORTS	ASSESSMENTS OR RESEARCH STUDIES	REGIONAL AND INTERNATIONAL DATASETS
<b>Health system financing</b>	NHAs (and sub-accounts); regional, departmental, provincial, and local health documents and reports; MOH budget and expenditure documents; central and local government budget and expenditure data; recurrent cost budgets; household health expenditure survey			Costs and Prices used in WHO-CHOICE Analysis
<b>The health workforce</b>	National/district HRH strategies or plans; Human Resource Information System; population-based labor surveys; health provider surveys; civil service payrolls; Ministry of Labor policies and plans; Ministry of Finance policies and plans; HR policy manuals or documentation	Professional associations' publications and websites	HRH Global Resource Center	Global Atlas of the Health Workforce
<b>Health system information systems</b>	Central-level technical guidelines, specific program guidelines, and directives on data collection, reporting, and analysis; routine health facility reporting system (an HMIS or other); HIS reports; newsletters, supervision reports, central-level reports to regions and districts, minutes of review meetings  Country Profiles of Statistical Systems (UNStats)	CHeSS country situation analyses		UNStats Database on country practices on national official statistics (to assess whether they live up to the fundamental principles of official statistics)

<sup>46</sup> [www.who.int/nha/country/en/](http://www.who.int/nha/country/en/)

<sup>47</sup> [www.who.int/choice/costs/en/](http://www.who.int/choice/costs/en/)

<sup>48</sup> Use the "advanced search" function to locate country-specific documents and for relevant topics: [www.hrhresourcecenter.org](http://www.hrhresourcecenter.org).

<sup>49</sup> <http://apps.who.int/globalatlas/default.asp>

<sup>50</sup> [www.who.int/healthinfo/country\\_monitoring\\_evaluation/situation/en/index.html](http://www.who.int/healthinfo/country_monitoring_evaluation/situation/en/index.html)

<sup>51</sup> <http://unstats.un.org/unsd/dnss/gp/searchgp.aspx>

<sup>52</sup> <http://unstats.un.org/unsd/dnss/cp/searchcp.aspx>



# ANNEX 5

## Common Sources for Data

	OFFICIAL GOVERNMENT REPORTS AND DATASETS	INTERNATIONAL AND NON-GOVERNMENT AGENCIES' REPORTS	ASSESSMENTS OR RESEARCH STUDIES	REGIONAL AND INTERNATIONAL DATASETS
<b>Logistics system</b>	National/district medicines policies/strategies/plans; National Drug Regulatory Authority reports; logistics management information system; MOH studies on essential medicines; national essential medicines list, documents, and policy; national procurement guidelines; procurement office reports; reports from quality control laboratory; stock out reports (HMIS); health facility surveys		Independent audit of product procurement practices; assessments of essential medicines supply chains (public and private sector); studies on medical supply chains, essential medicines, etc.	Pharmaceutical Country Profiles
<b>Community</b>	Public documents, declarations, and press releases; MOH documents, circulated minutes from MOH meetings, reports on public health forums, reports or minutes from multi-sector meetings; published, disseminated minutes from meetings dealing with health policy agenda	Citizen advisory group reports at national or subnational level, reports of government watchdog organizations		The World Bank Governance Indicators, 1996–2009
<b>Health determinants &amp; outcomes</b>	Household surveys	GAVI immunization coverage survey		WHO country DALY, HALE, and life expectancy; DHS; The WHO Global InfoBase; WHO Mortality data; The WHO Global Health Atlas

<sup>53</sup> Profiles have been completed for a limited number of countries, with profiles for all member states planned by the end of 2011: [www.who.int/medicines/areas/coordination/coordination\\_assessment/en/index.html](http://www.who.int/medicines/areas/coordination/coordination_assessment/en/index.html).

<sup>54</sup> <http://info.worldbank.org/governance/wgi/index.asp>

<sup>55</sup> [www.who.int/healthinfo/global\\_burden\\_disease/estimates\\_country/en/index.html](http://www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html)

<sup>56</sup> [www.measuredhs.com/aboutsurveys/dhs/start.cfm](http://www.measuredhs.com/aboutsurveys/dhs/start.cfm)

<sup>57</sup> <http://apps.who.int/infobase/>

<sup>58</sup> [www.who.int/healthinfo/statistics/mortality/en/index.html](http://www.who.int/healthinfo/statistics/mortality/en/index.html)

<sup>59</sup> <http://apps.who.int/globalatlas/>

# ANNEX 6

## Performance Metrics Table Template

PRIORITY HEALTH SYSTEM FUNCTION:

	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	PERFORMANCE TARGETS	DATA SOURCES AND METHODS
Determinants of performance for priority function				
Process of performing the function				
Effects of performing the function				

# ANNEX 7

## Kenya's Indicator Dashboard

FIGURE 8: SCREENSHOT OF KENYA'S DATA COLLECTION FORM FOR DISTRICT-LEVEL DATA

	A	B	C	D	E
2	District_Name				
3	Date of visit				
4		<b>Assessment Question</b>	<b>Yes/no</b>	<b>Notes</b>	<b>Suggested data sources</b>
5	Ind_101	Have any members of the DHMT been trained in health syervice management?			Training report, Interview with DHMT members
6	Ind_102	Did the districty complete its AOP this past year?			AOP
7	Ind_103	Has the DHMT reviewed the AOP in the past 6 months?			Minutes of DHSF meetings from DMOH's office
8	Ind_104	Does the district formally assess the implementation of the AOP?			Minutes of DHMT meetings
	Ind_201	Has the DHMT been oriented in both the DHSF guidelines and community strateev?			Report of dissemination of DHSF guidelines

FIGURE 9: SCREENSHOT OF A TABLE KENYA USED TO STORE THEIR RAW DISTRICT-LEVEL DATA

	A	B	C	D	E	
1	<b>Sample: 32 Districts</b>		<b>Results:</b>	<b>6</b>	<b>14</b>	
2	<b>ID</b>	<b>District_Name</b>	<b>Date of visit</b>	<b>Ind_101</b>	<b>Ind_102</b>	<b>Ind_10</b>
3				Have any members of the DHMT been trained in health syervice management?	Did the district complete its AOP this past year?	Has the review the pas
4				Source: Training report,	Source: AOP	Source:
5		Baringo North		[yes=1, no=0]	[yes=1, no=0]	[yes=1,
6		Gilgil		1	1	
7		Kaijado Central		1	1	
8		Kaijado North		1	1	
9		Kaijado South		0	1	
10		Koibatek		0	1	
11		Kuresoi		1	1	
12		Kwanza		0	1	
13		Laikipia Central		0	1	

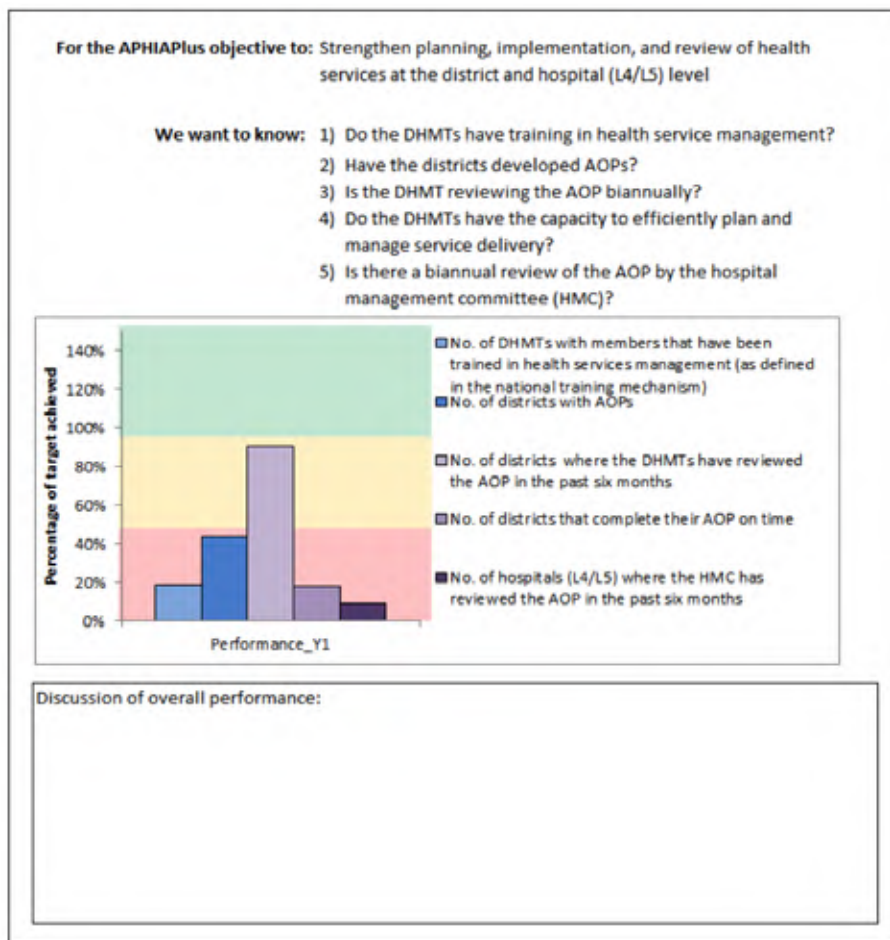
# ANNEX 7

## Kenya's Indicator Dashboard

FIGURE 10: SCREENSHOT OF KENYA'S INDICATOR DASHBOARD

	A	B	C	D	E	F	G	H	I
1	Ind ID	HSS Objective	Assessment question	Indicator	Units	Target_Y1	Value_Y1	Performance_Y1	
2	101	Strengthen planning, implementation, and review of health services at the district and hospital (L4/L5) level	Do the DHMTs have training in health service management?	No. of DHMTs with members that have been trained in health services management (as defined in the national training mechanism)	32	32	0	✗	0%
3	102		Have the districts developed AOPs?	No. of districts with AOPs	32	32	0	✗	0%
4	103		Is the DHMT reviewing the AOP biannually?	No. of districts where the DHMTs have reviewed the AOP in the past six months	32	10	0	✗	0%
5	104		Do the DHMTs have the capacity to efficiently plan and manage service delivery?	No. of districts that complete their AOP on time	32	22	0	✗	0%
6	105		Is there a biannual review of the AOP by the hospital management committee (HMC)?	No. of hospitals (L4/L5) where the HMC has reviewed the AOP in the past six months	?	22	2	✓	9%

FIGURE 11: SCREENSHOT OF AN EXAMPLE REPORT FOR ONE OF THE KENYA TEAM'S PRIORITY HEALTH SYSTEM FUNCTIONS



## Methods for Prioritizing Ideas

Group prioritization needs to happen at a few points in the RDT process:

- In Step 6, the CCT and steering committee need to decide which health system functions to focus the diagnostic on.
- In Step 7a, the CCT and steering committee need to select which performance assessment questions they will try to answer with the diagnostic.
- In Step 7b, the CCT will have to select which indicators to use.
- In Step 13, the CCT (with possible support from the steering committee) will have to select which weaknesses to focus their RCA on.

Health system functions, questions, indicators, and weaknesses can be complex topics. Each prioritization/selection process requires some group discussion of the items being prioritized, followed by a ranking process to determine the top priorities. These two steps (discussion and then ranking) can be as structured or unstructured as is appropriate for the group. However, we encourage being as systematic as possible, which involves solicited input from all participants, establishing standard criteria for participants to base their judgments on, and applying those criteria equally to all ideas. Nominal Group Technique is one process for a group to systematically discuss and rank a collection of ideas. Other methods for prioritizing ideas can be found in the Creative Trainer module on idea evaluation (Rebernik and Bradač 2008).<sup>60</sup>

#### NOMINAL GROUP TECHNIQUE<sup>61</sup>

This technique provides a structured method of collecting and organizing the thoughts of a group. The method gathers information by asking participants to respond to questions, and then asking participants to prioritize the ideas or suggestions of all group members. The process prevents a single person from dominating the discussion, encourages all group members to

participate, and results in a set of prioritized solutions or recommendations that represent the group's preferences. Follow these steps to prioritize the ideas at each relevant decision step of the diagnostic:

1. Anonymous generation of ideas in writing begins with the leader stating the problem and giving the participants up to 10 minutes to jot down any initial ideas privately. The leader also writes down his or her own ideas.
2. Afterward, each participant reads out one idea, which the leader writes up on a flip chart for all to view and numbers sequentially. This is repeated, going around the group until all ideas are exhausted and any duplicates are eliminated.
3. Discuss each idea to clarify ideas and check communication is encouraged by the leader. Work through each idea systematically, asking for questions or comments with a view to developing a shared understanding of an idea. Discussions are controlled to aid clarification; they are not heated debates.
4. Criteria for ranking or scoring the items are then proposed, discussed, and agreed upon.
5. Preliminary scoring, ranking, or voting on item of importance is then carried out. Possible methods include anonymous voting, an evaluation matrix, or other prioritization methods (Rebernik and Bradač 2008, pp. 21, 33–34, and 50–51, respectively).
6. Further discussion and voting takes place if the voting is not consistent. Steps 3–4 can be repeated, and any ideas that received votes will be re-discussed for clarification.

<sup>60</sup> Rebernik, M., and B. Bradač. 2008. "Module 4: Idea evaluation methods and techniques." *The Creative Trainer project*. Available online at: <http://bit.ly/b2jphC>.

<sup>61</sup> These instructions were adapted from Rebernik and Bradač (2008, pg. 45).

# ANNEX 9

## Illustrative Collection of Health System Functions

Below is an illustrative collection of generic health system functions, which are based on the process indicators presented across the health system assessment guides and indicator reference guides that we used to develop the indicator tables (Annexes 13–19).

### LEADERSHIP AND GOVERNANCE

- 1. Formulating policy/strategy**
  - 1.1 Accessing, analyzing, and using data to inform policy development
  - 1.2 Fairly representing the interests of different constituencies in policy development
- 2. Aligning and coordinating action**
  - 2.1 Coordinating key actors to develop aligned/harmonized health sector strategies and plans
  - 2.2 Engaging non-health sectors in the development and implementation of the health policy
- 3. Regulating the health system**
  - 3.1 Encouraging the role of the private sector
  - 3.2 Protecting consumers
  - 3.3 Systematically accrediting service delivery institutions and licensing health care professionals
- 4. Facilitating social participation in management processes**
  - 4.1 Representing the interests of different constituencies in management decision-making processes at all levels of the health system
- 5. Holding health system actors accountable**
  - 5.1 Informing the public about major decisions and actions in the health system

- 5.2 Justifying major health system decisions and actions to the public or to an agent of the public
- 5.3 Sanctioning health sector actors for unacceptable decisions and actions

### HEALTH SYSTEM FINANCING

- 1. Collecting revenues**
  - 1.1 Coordinating responsibilities and authority for financing among actors (different levels of government, development partners, and citizens)
  - 1.2 Collecting/dispersing funds
  - 1.3 Are direct payments for health products and services well managed?
- 2. Pooling risks**
  - 2.1 Establishing and managing risk pooling mechanisms (particularly targeting the poor, marginalized, and other vulnerable populations)
- 3. Allocating resources**
  - 3.1 Budgeting (as a tool for annual planning and management)
  - 3.2 Using evidence on population health needs to inform resource allocation decisions
  - 3.3 Using cost-effectiveness analysis to inform resource allocation decisions
- 4. Making payments for health services and health system costs**
  - 4.1 Procuring /contracting for health service delivery and other health system functions
  - 4.2 Managing financing flows from source to intended end user

## Illustrative Collection of Health System Functions

### 5. Accounting and financial management

- 5.1 Tracking revenue and expenditure
- 5.2 Proving oversight for public finances at all levels
- 5.3 Verifying accuracy of financial records

### HEALTH SYSTEM INFORMATION SYSTEMS

#### 1. Defining information needs and objectives

- 1.1 Defining core indicators and data requirements
- 1.2 Developing coordinated HSIS policies, plans, and strategies

#### 2. Collecting data

- 2.1 Collecting (timely, complete, and accurate) census data
- 2.2 Collecting (timely, complete, and accurate) civil registration data
- 2.3 Collecting (timely, complete, and accurate) population-based survey data
- 2.4 Collecting (timely, complete, and accurate) data to monitor notifiable diseases (“individual records”)
- 2.5 Collecting (timely, complete, and accurate) service record data
- 2.6 Collecting (timely, complete, and accurate) health facility infrastructure, equipment, and supplies data
- 2.7 Collecting (timely, complete, and accurate) human resource data
- 2.8 Collecting (timely, complete, and accurate) financial data

### 3. Managing data

- 3.1 Coordinating and integrating data from across different information sub-systems

### 4. Data quality assurance

- 4.1 Conducting systematic data quality audits

### 5. System quality improvement

- 5.1 Continuously improving information systems (e.g., identifying and reducing unnecessary reporting burdens, simplifying processes, and/or utilizing ICT to strengthen processes)

### 6. Analysis: Transforming data into information

- 6.1 Analyzing and synthesizing data to produce useful information about population health status and needs and health system performance

### 7. Disseminating information

- 7.1 Disseminating HSIS information to policy makers, managers, providers, and other stakeholders at all levels and across agencies/departments

### THE HEALTH WORKFORCE

#### 1. Health workforce planning and policy

- 1.1 Coordinating health workforce development efforts
- 1.2 Planning health workforce development (realistic and needs-based)
- 1.3 Allocating authority and responsibilities for health workforce development

#### 2. Financing HRH

- 2.1 Allocating financing to develop and sustain an effective health workforce

#### 3. Managing workforce entry: pre-service education

# ANNEX 9

## Illustrative Collection of Health System Functions

- 3.1 Producing graduates with the requisite clinical, technical, and management skills
  - 3.2 Training clinical health workers through curriculum with an orientation toward primary health care, community health needs, and inter-professional training
  - 3.3 Managing the quality of pre-service training programs
  - 4. Managing workforce entry: hiring**
    - 4.1 Hiring clinical, management, and support staff
  - 5. Managing workforce performance: supervision, support, accreditation**
    - 5.1 Supporting, supervising, and monitoring performance of the health workforce
  - 6. Managing workforce performance: compensation**
    - 6.1 Paying the health workforce
  - 7. Managing workforce performance: lifelong learning (and professional development)**
    - 7.1 Providing ongoing professional development/continuing education to the health workforce
  - 8. Managing workforce retention and attrition**
    - 8.1 Mitigating premature attrition
    - 8.2 Mitigating absenteeism
    - 8.3 Providing social protection to the health workforce
    - 8.4 Encouraging health workers to work within “their communities”
    - 8.5 Ensuring workforce satisfaction and motivation
- HEALTH INFRASTRUCTURE, EQUIPMENT, AND PRODUCTS**
- 1. Product selection**
    - 1.1 Developing and updating a formal list of essential medicine consistent with population health priorities
    - 1.2 Selecting products in line with national essential medicine list
  - 2. Forecasting and procurement**
    - 2.1 Planning coordinated product procurement (pooled procurement, coordinated shipping cycles, etc.)
    - 2.2 Accurately forecasting drug needs/consumption
    - 2.3 Procuring products efficiently and effectively (i.e., getting the best drugs for the best price)
  - 3. Inventory storage and distribution**
    - 3.1 Storing and distributing stocks
    - 3.2 Eliminating waste of essential medical products (either due to expiration, damage, or corruption)
  - 4. Serving customers**
    - 4.1 Establishing and maintaining service delivery points to dispense essential medicines and commodities
    - 4.2 Following clinical guidelines for dispensing essential medicines
  - 5. Quality and safety monitoring**
    - 5.1 Regulating procured products to ensure efficacy and safety
    - 5.2 Monitoring the quality of medical products (potency, proper labeling, expiration, damage, or tampering)



## Illustrative Collection of Health System Functions

5.3 Ensuring rational use practices are followed

### 6. The logistics management information system

6.1 Providing logistics managers with accurate and timely essential data on, at a minimum, stock on hand, rate of consumption, and losses and adjustments

### THE COMMUNITY COMPONENT

#### 1. Designing health systems and health services

- 1.1. Facilitating community participation in decision making at all levels of the health system
- 1.2. Facilitating community participation in improving service quality
- 1.3. Involving community-based organizations/ networks in policy-making processes at national and/or sub-national levels

#### 2. Delivering health services (prevention, treatment, care, and support)

- 2.1. Establishing institutional structures for community-based service delivery
- 2.2. Establishing management and accountability systems for community based organizations
- 2.3. Monitoring and evaluating service delivery by community based organizations
- 2.4. Integrating community based services into the HSIS

#### 3. Overseeing health system performance

- 3.1. Monitoring quality of care by communities

### SERVICE DELIVERY

#### 1. Planning the delivery of services

- 1.1 Annually reviewing and planning service delivery

1.2 Using evidence (information on population health needs, past performance, and costs) for routine service planning and decision making

1.3 Engaging patients and target populations in routine planning and decisions-making processes

1.4 Setting clear and realistic service delivery targets

#### 2. Managing a continuum of care (integrated services, referrals, patient-centered services)

- 2.1 Providing essential services
- 2.2 Making service “patient centered”
- 2.3 Establishing and maintaining a referral system
- 2.4 Engaging communities and civil society in providing services

#### 3. Managing service quality

- 3.1 Monitoring and assuring clinical quality and patient satisfaction
- 3.2 Making quality improvements

#### 4. Managing outreach services and access issues

- 4.1 Making communities aware of services and encouraging use
- 4.2 Identifying barriers to access, especially for poor and marginalized populations

#### 5. Establishing collaboration between public and private sectors in service delivery

- 5.1 Engaging civil society organizations to deliver health services
- 5.2 Employing public-private partnerships to support and deliver services

# ANNEX 10

## Instructions for the Health System Generic Indicator Tables

These instructions and the tables that follow are a tool to help core country teams (CCTs) identify indicators that they can use to answer their selected health system performance assessment questions. These tables are meant to be used during Step 7b (pg. 21) of the diagnostic process to develop a set of indicators for a custom diagnostic of the health system. Before using these tables, the CCT should have already identified priority health system functions and defined key questions about the performance of those functions (see Step 7a of the RDT, pg. 21). From this starting point, the CCTs will use these tables to find generic health system indicators to either discuss and refine or discard. If discarded, the CCT will then develop its own indicators.

### The following steps can help locate potential generic indicators for each priority health system function:

1. Select one of your functions to start with and, if you have not done so already, write the function in the top row of the “indicator construction worksheet” (an example and blank template of the worksheet are provided at the end of these instructions in Annexes 11 and 12).
2. Copy and paste the questions related to the “**process of performing the priority function**” onto the worksheet.
3. Use the FHI 360 health systems framework (Annex 2) to identify the related health systems building block, and go to the generic indicator table for that building block (Annexes 13–19).
4. Looking at the Table of Contents (TOC) for that building block, find the generic question(s) that most resemble yours. These will most likely be in the “process indicators” sections of the tables.
5. If/when you locate a generic question that resembles yours, write the reference number (on the right of the TOC) onto your worksheet.
6. Click or flip to that section of the table, copy the generic indicators listed next to the identified questions(s), and paste them into the worksheet.
7. Next, go through the process of identifying generic indicators again (steps 2 through 6 above), but this time for the performance assessment questions related to the “effects of performing the function.” Again, copy and paste those questions into the worksheet. Then open the table(s) for the related building block(s), identify the generic question(s) that resemble your own (these may be found in the process indicator or output indicator sections of the tables), write down the reference number, click or flip to that section of the table, and copy and paste the corresponding generic indicators into your worksheet.
8. Once you have done this for each “effects” question, move onto the questions related to the “**determinants of performance for the priority function,**” if you decided to include any, and repeat the steps above.
9. After you have identified generic indicators related to each of your performance questions, you will then need to share, discuss, and adapt the indicators with the rest of your team and other relevant stakeholders in the Design Workshop #2 (see Step 7 of the RDT, pg. 18).

# ANNEX 11

## Instructions for the Health System Generic Indicator Tables

	DETERMINANTS OF PERFORMANCE FOR PRIORITY FUNCTION	PROCESS OF PERFORMING THE FUNCTION	EFFECTS OF PERFORMING THE FUNCTION
Performance assessment question			
Question reference number			
Candidate indicators (from existing strategies, the generic indicator table, or proposed by CCT)			
Selected/ refined indicators to be used for the diagnostic			

# ANNEX 12

## Example Indicator Construction Worksheet for an HSIS Function

Function Number	HS FUNCTION: USE OF DATA FOR DISTRICT AND FACILITY LEVEL DECISION MAKING		
1	DETERMINANTS OF PERFORMANCE FOR PRIORITY FUNCTION	PROCESS OF PERFORMING THE FUNCTION	EFFECTS OF PERFORMING THE FUNCTION
<b>Performance assessment question</b>	Is complete, accurate, and timely data available in the district HIS?	Is discussion of data an agenda item at monthly DHMT meetings?	Is there evidence of decisions made based on district-level HIS data?
<b>Question reference number</b>	HIS-O-5.1 Is there an accurate and reliable HMIS in place to monitor and support service delivery performance?	LG-P-5.4 Is information collected, analyzed, and used at the point of generation (e.g., facility, district, etc. levels) or merely reported up to a higher level?	HSIS-O-5.3 Are budgeting decisions across health program areas (priority afflictions, prevention/treatment), geographic areas, and spending categories (wages, equipment, products, etc.) informed by information on need and effectiveness?  HSIS-O-5.4 Are decisions about service delivery models and techniques (e.g., clinical guidelines, task allocations, service integration) informed by information on needs and effectiveness?
<b>Candidate indicators (from existing strategies, the generic indicator table, or proposed by CCT)</b>	[Indicator not yet available]	[Indicator not yet available]	Managers at health administrative offices at all levels use health information for health service delivery management, continuous monitoring, and periodic evaluation  Information on health risk factors is systematically used to advocate for the adoption of lower-risk behaviors by the general public and by targeted vulnerable groups
<b>Selected/refined indicators to be used for the diagnostic</b>		% of districts with data as a monthly meeting agenda item	% of districts with action items/decisions points in the past three months that address an issue identified from district HIS data

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

### LEADERSHIP/GOVERNANCE PROCESSES ..... 61-63

#### 1. Formulating policy/strategy

- 1.1 Are institutional arrangements and mechanisms in place for policy makers to access, analyze, and use data to inform policy development? .....L&G\_P\_1.1
- 1.2 Are the interests of different constituencies effectively represented in the policy development processes? .....L&G\_P\_1.2

#### 2. Aligning and coordinating action

- 2.1 Are health sector strategies and plan aligned/harmonized/coordinated among key actors? .....L&G\_P\_2.1
- 2.2 Is the health sector engaging the other sectors in the development and implementation of the health policy? .....L&G\_P\_2.2
- 2.1 Are health sector strategies and plan aligned/harmonized/coordinated among key actors? .....L&G\_P\_2.1

#### 3. Regulating the health system

- 3.1 Is the role of the private sector encouraged? .....L&G\_P\_3.1
- 3.2 Are consumers protected? .....L&G\_P\_3.2
- 3.3 Is there systematic accreditation of service delivery institutions and licensing of health care professionals? .....L&G\_P\_3.3

#### 4. Facilitating social participation in management processes

- 4.1 Are the interests of different constituencies effectively represented in management decision-making processes at all levels of the health system? .....L&G\_P\_4.1

#### 5. Holding health system actors accountable (inform, justify, sanction)

- 5.1 Are there formal processes in place to inform the public about major decisions and actions in the health system? .....L&G\_P\_5.1
- 5.2 Are there formal processes in place where the major health system decision makers have to justify their decisions and actions to the public or to an agent of the public? .....L&G\_P\_5.2
- 5.3 Are there mechanisms for the public, or an agent of the public, to effectively sanction major health sector decisions makers for unacceptable decisions and actions? .....L&G\_P\_5.3

### LEADERSHIP/GOVERNANCE OUTPUTS .....64-66

#### 1. Vision/ direction for the health sector

- 1.2 Is there a clear national vision and direction for the health system, defined and explained in overarching policy documents/frameworks? .....L&G\_O\_1.2

#### 2. Technical leadership

- 2.1 Are services being delivered in-line with national and/or international standards and best practice? .....L&G\_O\_2.1

#### 3. Voice

- 3.1 Do communities have an effective voice in key health system decisions? .....L&G\_O\_3.1

<sup>62</sup> The framework and indicators for this building block are drawn from: Brinkerhoff and Bossert 2008; Islam 2007, Chapter 6; WHO 2010a; Murray and Evans 2003; HMN 2008; Luoma et al 2010; Rifkin et al 1988; and Siddiqi et al 2008.

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

- 4. Accountability**
  - 4.1 Is corruption in the health sector effectively identified and addressed? ..... L&G\_O\_4.1
- 5. Equity/fairness**
  - 5.1 public sector resources allocated equitably, according to need? ..... L&G\_O\_5.1
- 6. Alignment/Harmonization**
  - 6.1 Are public sector funding and donor funding aligned/harmonized? ..... L&G\_O\_6.1
  - 6.2 Are budgets and work plans developed as part of a coordinated planning process? ..... L&G\_O\_6.2
  - 6.3 Are M&E or HIS systems aligned/harmonized? ..... L&G\_O\_6.3
  - 6.4 Are HRH development strategies/plans aligned/harmonized?..... L&G\_O\_6.4
- 7. Strong private sector partnerships**
  - 7.1 Is there robust involvement of the private sector in the health system? ..... L&G\_O\_7.1
- 8. Commitment**
  - 8.1 Is the government spending enough on health?..... L&G\_O\_8.1

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>LEADERSHIP/GOVERNANCE PROCESSES</b>			
<b>1. Formulating policy/strategy</b>	1.1 Are institutional arrangements and mechanisms in place for policy makers to access, analyze, and use data to inform policy development?	Senior managers and policy makers demand complete, timely, accurate, relevant, and validated HIS information	HMN 2008b, pg. 66
		Health information (population health status, health system, risk factors) is demonstrably used in the planning and in the resource-allocation processes (e.g., for annual integrated development plans, medium-term expenditure frameworks, long-term strategic plans, and annual reviews)	HMN 2008b, pg. 67; Islam 2007, pg. 6.3
		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)	HMN 2008b, pg. 67
		Regular use of needs assessments as part of the policy process	Siddiqi et al 2008, pg. 9
	1.2 Are the interests of different constituencies effectively represented in the policy development processes?	Existence of mechanisms (such as surveys) for obtaining opportune client input on appropriate, timely, and effective access to health services	Islam 2007, pg. 6.3; WHO 2010a, pg. 87
		Existence of mechanisms to consult the private sector, civil society, line departments, and other stakeholders in decision-making	Siddiqi et al 2008, pg. 8
<b>2. Aligning and coordinating action</b>	2.1 Are health sector strategies and plans aligned/harmonized/coordinated among key actors?	Existence of joint annual review and planning processes	
		In the past three months, the workgroup/department has conducted coordination meetings with internal or external partners with the objective of aligning expectations, interests, and/or action plans	MSH 2006, pg. 80
	% of districts and facilities that had access to budget forecasts and expenditure frameworks to inform their annual planning	Luoma et al 2010, pg. 40	

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	2.2 Is the health sector engaging the other sectors in the development and implementation of the health policy?	Existence of processes through which the ministry of financing, ministry of gender, ministry of agriculture, and/or other key ministries formally participate in annual review and planning processes	
<b>3. Regulating the health system</b>	3.1 Is the role of the private sector encouraged?	Existence of policies/rules to foster private sector contributions to achieving health system objectives	Islam 2007, pg. 6.4
	3.2 Are consumers protected?	Existence of laws/regulations for consumer safety related to health services, infrastructure, technology, and/or pharmaceuticals	Siddiqi et al 2008, pg. 8
		Existence of mechanisms (with the necessary budgets, staff, and equipment) to enforce consumer protection/safety laws/regulations	
	3.3 Is there systematic accreditation of service delivery institutions and licensing of health care professionals?	Existence of tools/instruments for accrediting and licensing health service providers	Siddiqi et al 2008, pg. 9
		% of health service delivery points (hospitals, facilities, dispensaries, etc.) that are officially accredited	
		% of clinical health workers who are officially licensed	
<b>4. Facilitating social participation in management processes</b>	4.1 Are the interests of different constituencies effectively represented in management decision-making processes at all levels of the health system?	Existence of health facility committees or other forum	
		Participation of marginalized populations in health facility committees or other forums	
		Regular meetings of health facility committees or other forums	
		Participation of civil society organizations in joint annual review and planning processes	



# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>5. Holding health system actors accountable (inform, justify, sanction)</b>	5.1 Are there formal processes in place to inform the public about major decisions and actions in the health system?	Existence of monitoring mechanisms to ensure transparency of decisions (e.g., product selection, procurement, hiring, etc.)	Siddiqi 2008, pg. 9; Islam 2007, pg. 6.4
		Availability of information about financial and administrative procedures	Siddiqi et al 2008, pg. 9
		Existence of rules on publishing information about the health sector (e.g., plans; health data, including health statistics; fee schedules)	Islam 2007, pg. 6.3
		Existence of mechanisms for disseminating information about health services and major policy decisions to the public (e.g., radio broadcasts in local languages)	Luoma et al 2010, pg. 40
	5.2 Are there formal processes in place where the major health system decision makers have to justify their decisions and actions to the public or to an agent of the public?	Time lag between disbursement of funds and availability of financial audit information	Siddiqi et al 2008, pg. 9
	5.3 Are there mechanisms for the public, or an agent of the public, to effectively sanction major health sector decision makers for unacceptable decisions and actions?	Existence of procedures for redressing grievances of (a) consumers and (b) contractors	Siddiqi et al 2008, pg. 9
		Existence of policies to link pay/professional advancement to patient satisfaction surveys	
		Community/patient perception of their own power to uncover corruption and have it addressed	

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>LEADERSHIP/GOVERNANCE OUTPUTS</b>			
<b>1. Vision/ direction for the health sector</b>	1.2 Is there a clear national vision and direction for the health system, defined and explained in overarching policy documents/ frameworks?	Existence of an up-to-date national health strategy linked to national needs and priorities and stating objectives to be achieved, with timeframe and resources	Islam 2007, pg. 6.3; WHO 2010a, pg. 87; Siddiqi et al 2008, pg. 8
		A basic package of health services defined in policy or law	
		Tuberculosis—Existence of a national strategic plan for tuberculosis that reflects the six principal components of the Stop-TB strategy, as outlined in the Global Plan to Stop TB 2006–2015	WHO 2010a, pg. 88
		Malaria—Existence of a national malaria strategy or policy that includes drug efficacy monitoring, vector control, and insecticide resistance monitoring	WHO 2010a, pg. 88
		HIV/AIDS—Completion of the UNGASS National Composite Policy Index questionnaire for HIV/AIDS	WHO 2010a, pg. 89
		Maternal health—Existence of a comprehensive reproductive health policy consistent with the ICPD action plan	WHO 2010a, pg. 87
		Child health—Existence of an updated comprehensive, multiyear plan for childhood immunization	WHO 2010a, pg. 87
<b>2. Technical leadership</b>	2.1 Are services being delivered in-line with national and/or international standards and best practice?	Availability of updated clinical standards for MOH priority areas, high burden diseases areas, and/or areas responsible for high morbidity and mortality	Islam 2007 pg. 8.14
		% of service delivery sites that are implementing the latest versions of clinical guidelines and standard operating procedures at the time of visit	

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>3. Voice</b>	3.1 Do communities have an effective voice in key health system decisions?	Existence of stakeholder forums/management committees for discussing policy issues and/or planning decisions	Luoma et al 2010, pp. 40-41
		Participation levels and representativeness of stakeholder forums or other fora for public discourse	Rifkin et al 1988
		Formal membership of civil society organizations (CSOs, FBOs, private sector provider associations, etc.) on health sector planning bodies	Luoma et al 2010, pg. 40
<b>4. Accountability</b>	4.1 Is corruption in the health sector effectively identified and addressed?	Independent assessment of corruption in health sector institutions (such as Transparency International's East African Bribery Index)	Luoma et al 2010, pg. 39
		Public/patient perceptions of corruption in the health sector	
<b>5. Equity/ fairness</b>	5.1 Are public sector resources allocated equitably, according to need?	Proportion of health financing that reaches the poorest income quintile	Kruk and Freedman 2008, pg. 267
<b>6. Alignment/ Harmonization</b>	6.1 Are public sector funding and donor funding aligned/ harmonized?	Proportion of donor funding that is "on-budget" and/ or "on-plan" (with transparent reporting of amounts and activities) at national/provincial/state/district/ facility level	Luoma et al 2010, pg. 38
	6.2 Are budgets and work plans developed as part of a coordinated planning process?	Work plans at all levels of the health system are linked to budgets	Luoma et al 2010, pg. 38
		Percentage or number of work plans that do not have a detailed budget or that are unfunded	Luoma et al 2010, pg. 38

# ANNEX 13

## Generic Performance Indicators for Leadership and Governance<sup>62</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	6.3 Are M&E or HIS systems aligned/harmonized?	Existence and implementation of nationally coordinated multiyear, disease-specific M&E plans with a schedule for survey implementation and data analysis	GFATM 2009, pg. 288
		Existence and implementation of an integrated national routine health information system, across service delivery areas and inclusive of public and private sector service providers	
	6.4 Are HRH development strategies/plans aligned/harmonized?	Formal involvement of civil society organizations, donor agencies, and representatives from across ministries in development of health sector plans and strategies	Luoma et al 2010, pg. 39
		Existence of parallel, donor-specific governance structures	Luoma et al 2010, pg. 39
		Existence and implementation of a jointly (government, donors, and private sector representative) planned and funded HRH development strategy	WHO 2010a, pg. 33; Islam 2007, pg. 9.10
<b>7. Strong private sector partnerships</b>	7.1 Is there robust involvement of the private sector in the health system?	Percentage of private sector facilities that have referred patients to or received referred patients from public sector facilities	
		Percentage of private sector hospitals/facilities/dispensaries that are formally accredited	
		Percentage of private sector hospitals/facilities/dispensaries that have been inspected/audited	
		Percentage of private sector hospitals/facilities/dispensaries that are integrated into the public referral system	
		Number of contracts made by the public sector (facilities, districts, provinces, and/or national agencies) to private sector partners (PPPs)	
<b>8. Commitment</b>	8.1 Is the government spending enough on health?	General government expenditure on health as a proportion of general government expenditure	WHO 2010a, pg. 76

## Generic Performance Indicators for Health System Financing <sup>63</sup>

### FINANCING PROCESSES ..... PAGES 68-70

#### 1. Collecting revenues

- 1.1 Are responsibilities for financing clearly defined and agreed among all actors (different levels of government, development partners, and citizens)? ..... HSF\_P\_1.1
- 1.2 Are committed funds collected/dispensed in a timely and predictable fashion? ..... HSF\_P\_1.2
- 1.3 Are direct payments for health products and services well managed? ..... HSF\_P\_1.3

#### 2. Pooling risks

- 2.1 Are risk pooling mechanisms in place, especially those targeting the most vulnerable (i.e. poor and marginalized populations)? ..... HSF\_P\_2.1

#### 3. Allocating resources

- 3.1 Are budgets being used effectively for planning and implementation? ..... HSF\_P\_3.1
- 3.2 Is information on population health needs used to inform resource allocation decisions? ..... HSF\_P\_3.2
- 3.3 Is analysis of cost-effectiveness used to inform resource allocation decisions? ..... HSF\_P\_3.3

#### 4. Making payments for health services and health system costs

- 4.1 Is the country achieving cost savings through reform/innovation in procurements and contracting practices? ..... HSF\_P\_4.1
- 4.2 Does financing flow easily from source to intended end-user? ..... HSF\_P\_4.2

#### 5. Accounting and financial management

- 5.1 Is there a functional system for revenue and expenditure tracking? ..... HSF\_P\_5.1
- 5.2 Are there mechanisms for public oversight over finances at all levels? ..... HSF\_P\_5.2
- 5.3 Is accuracy of financial records verified? ..... HSF\_P\_5.3

### FINANCING OUTPUT ..... PAGES 71-72

#### 1. Service Delivery

- 1.1 Is the total expenditure on health enough to afford universal coverage of essential health interventions? ..... HSF\_O\_1.1
- 1.2 Is the government spending enough on health? ..... HSF\_O\_1.2
- 1.3 Are the poor able to afford essential health services? ..... HSF\_O\_1.3

#### 2. Health workforce financing

- 2.1 Is sufficient financing available to pay for the needed health workforce? ..... HSF\_O\_2.1

#### 3. HSIS financing

- 3.1 Is sufficient financing available for the HSIS? ..... HSF\_O\_3.1

#### 4. Financing community based organizations

- 4.1 Do community based organizations have secure sources for financing? ..... HSF\_O\_4.1

#### 5. Financial fairness/equity

- 5.1 Are household contributions to the cost of health care in proportion to their different abilities to pay? ..... HSF\_O\_5.1

#### 6. Financial risk protection

- 6.1 Are people, especially the poor, protected from the financial risks associated with ill-health? ..... HSF\_O\_6.1

<sup>63</sup> The framework and indicators for this building block are drawn from: WHO 2010a; WHO 2010b; Islam 2007; MSH 2010; USAID 2009; Murray and Evans 2003; Gottret and Schieber 2006; and MSH 2006.

# ANNEX 14

## Generic Performance Indicators for Health System Financing <sup>63</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>FINANCING PROCESSES</b>			
<b>1. Collecting revenues</b>	1.1 Are responsibilities for financing clearly defined and agreed upon among all actors (different levels of government, development partners, and citizens)?	Existence of a joint annual review and planning process, where financial commitments are made, involving all major development partners	
	1.2 Are committed funds collected/dispensed in a timely and predictable fashion?	Disbursement rates of committed health funds from all sources (international donors, national government budget, insurance schemes)	
		Inclusion of funding from all sources (public, donor, OOP, etc.) in national/provincial/district/facility annual plans and/or budgets.	
	1.3 Are direct payments for health products and services well managed?	% of facilities/dispensaries that post prices for goods and services	
		% of facilities/dispensaries that use a cash-register and receipts system	
		% of patients that believe user fees/co-payments are well managed	
<b>2. Pooling risks</b>	2.1 Are risk-pooling mechanisms in place, especially those targeting the most vulnerable (i.e., poor and marginalized populations)?	Existence of social health insurance schemes targeting the poor and most vulnerable	
		Existence of community-based health financing schemes	

# ANNEX 14

## Generic Performance Indicators for Health System Financing <sup>63</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>3. Allocating resources</b>	3.1 Are budgets being used effectively for planning and implementation?	The budget is linked to the annual operational plan for the current year	MSH 2006, pg. 55
		% of regions/provinces/districts/municipalities using planning and budgeting procedures to strengthen service delivery performance	MSH 2006, pg. 58
		The organization prepares budgets using Activity-Based Costing (ABC)	MSH 2006, pg. 59
	3.2 Is information on population health needs used to inform resource allocation decisions?	Review of population health data in annual review process	
	3.3 Is analysis of cost-effectiveness used to inform resource allocation decisions?	Costs and cost-effectiveness of delivering services, scaling up services, and introducing new services are being measured, analyzed, and used in annual review and planning process	
<b>4. Making payments for health services and health system costs</b>	4.1 Is the country achieving cost savings through reform/innovation in procurements and contracting practices?	Active purchasing <sup>64</sup> principles are followed by the government	
		Existence of strategies to reduce the price of medicines and other health products (e.g., procuring generics, pooled procurement, negotiated price reductions, etc.)	
		Existence of legal provisions to allow generic drug substitution in private sector	
	4.2 Does financing flow easily from source to intended end user?	% of funding allocated to be used at the provincial/district/facility/community level that reaches that level	

<sup>64</sup> Active purchasing (as opposed to passive purchasing, which is based on past practice) involves making purchasing decision based on analyzing the following: needs for goods and services; activities that will best meet those needs; the potential effects of different contracting or payment arrangements; and from whom goods and services can be purchased.

# ANNEX 14

## Generic Performance Indicators for Health System Financing <sup>63</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
5. Accounting and financial management	5.1 Is there a functional system for revenue and expenditure tracking?	Responsibility for National Health Accounts has been delegated to a specific body and provided with a budget for implementation	WHO 2010a, pg. 78
		An assessment has been done of: existing human resources (numbers and capacity) and infrastructure for generating NHA data	WHO 2010a, pg. 78
		An assessment of data sources for NHA data has been done	WHO 2010a, pg. 78
		Existence of a mechanism to periodically assess the completeness and accuracy information submitted or collected for the NHA, with a systematic strategy for feedback to the data sources to improve availability and quality of needed information	WHO 2010a, pg. 78
		The financial management system produces accurate and timely information on expenditures	MSH 2006 pg. 56
		The accounting system generates regular reports tracking expenditures against the budget and notes variances	MSH 2006, pg. 54
		The information gained from the financial management system is used to make management decisions	MSH 2006, pg. 57
		The organization prepares monthly financial reports using Activity-Based Costing (ABC)	MSH 2006, pg. 60
	5.2 Are there mechanisms for public oversight over finances at all levels?	Existence of independent national/provincial/district/community bodies/committees that regularly review public expenditures	
	5.3 Is accuracy of financial records verified?	% of facilities that have had a financial audit conducted in the past year	



# ANNEX 14

## Generic Performance Indicators for Health System Financing <sup>63</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>FINANCING OUTPUTS</b>			
<b>1. Service delivery</b>	1.1 Is the total expenditure on health enough to afford universal coverage of essential health interventions?	Total expenditure on health per capita (e.g., at least US\$40 per capita)	WHO 2010a, pg. 75
	1.2 Is the government spending enough on health?	General government expenditure on health as a proportion of general government expenditure	WHO 2010a, pg. 76
	1.3 Are the poor able to afford essential health services?	Out-of-pocket spending as a share of total health spending (more than 60% indicates a financial barrier)	Islam. 2007, pg. 8.19
<b>2. Health workforce financing</b>	2.1 Is sufficient financing available to pay for the needed health workforce?	% of government health expenditure spent on salaries	Islam. 2007, pg. 7.18
		% of total health expenditure spent on salaries	
<b>3. HSIS financing</b>	3.1 Is sufficient financing available for the HSIS?	Per capita spending on the HSIS (according to HMN, it should be between US\$0.53 and US\$2.99)	WHO 2010a, pg. 36
<b>4. Financing community-based organizations</b>	4.1 Do community based organizations have secure sources for financing?	Number and percentage of community-based organizations that have core funding secured for at least two years	GFATM 2010, pg. 55
<b>5. Financial fairness/equity</b>	5.1 Are household contributions to the cost of health care in proportion to their different abilities to pay?	Health spending as a share of household spending	Islam. 2007, pg. 8.19
		User fee exemptions or waivers for vulnerable groups	Islam. 2007, pg. 8.20

# ANNEX 14

## Generic Performance Indicators for Health System Financing <sup>63</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>6. Financial risk protection</b>	6.1 Are people, especially the poor, protected from the financial risks associated with ill-health?	The proportion of the population incurring catastrophic health expenditure due to out-of-pocket payments, by income, wealth, or expenditure quintile if the data is available	WHO 2010a, pg. 73; WHO 2010a, pg. 76

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

### HSIS INPUTS ..... PAGES 75-77

#### 1. Financing

1.1 Is sufficient financing available for the HSIS? ..... HSIS\_I\_1.1

#### 2. HRH

2.1 Are there sufficient management, professional, and/or clinical HRH employed to implement an effective HSIS? ..... HSIS\_I\_2.1

#### 3. Equipment

3.1 Is their functioning equipment for collecting, managing, and transmitting data? ..... HSIS\_I\_3.1

#### 4. Leadership

4.1 Are structures in place to lead and manage HSISs? ..... HSIS\_I\_4.1

### HSIS PROCESSES ..... PAGES 78-88

#### 1. Defining information needs and objectives

1.1 Has a core set of indicators and data requirements been defined? ..... HSIS\_P\_1.1

1.2 Have coordinated policies, plans and strategies been developed for HSIS? ..... HSIS\_P\_1.2

#### 2. Collecting data

2.1 Is timely, complete and accurate census data being collected? ..... HSIS\_P\_2.1

2.2 Is timely, complete and accurate civil registration data being collected? ..... HSIS\_P\_2.2

2.3 Is timely, complete and accurate population-based survey data being collected? ..... HSIS\_P\_2.3

2.4 Is timely, complete and accurate data being collected to monitor notifiable diseases ("individual records")? ..... HSIS\_P\_2.4

2.5 Is timely, complete and accurate service record data being collected? ..... HSIS\_P\_2.5

2.6 Is timely, complete and accurate health facility infrastructure, equipment and supplies data being collected? ..... HSIS\_P\_2.6

2.7 Is timely, complete and accurate human resource data being collected? ..... HSIS\_P\_2.7

2.8 Is timely, complete and accurate financial data being collected? ..... HSIS\_P\_2.8

#### 3. Managing data

3.1 Is data from across different information sub-systems managed in a coordinated and integrated fashion? ..... HSIS\_P\_3.1

#### 4. Data quality assurance

4.1 Is a systematic data quality audit in place across different HSIS functional areas? ..... HSIS\_P\_4.1

#### 5. System quality improvement

5.1 Are mechanisms in place to continuously improve information systems, such as identifying and reducing unnecessary reporting burdens, simplifying processes, and/or utilizing ICT to strengthen processes? ..... HSIS\_P\_5.1

<sup>65</sup> The framework and indicators for this building block are drawn from: HMN 2008b; WHO 2010; GFATM 2009; Islam 2007; de Vries 1998; Sapirie 2000; HMN 2008a; and USAID 2009.

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

**6. Analysis: Transforming data into information**

6.1 Is data being analyzed and synthesized to produce useful information about population health status and needs, and health system performance? .....HSIS\_P\_6.1

**7. Disseminating information**

7.1 Is there an effective system for disseminating HSIS information to policy makers, zmanagers, providers, and other stakeholders at all levels and across agencies/departments? .....HSIS\_P\_7.1

**HSIS OUTPUTS ..... PAGES 89-90**

**1. Tracking core indicators**

1.1 Is data available for core health and health system indicators? .....HSIS\_O\_1.1

**2. Using information for planning and management decisions**

2.1 Is information from the HIS and population surveys used as a foundation for deciding how resources will be allocated across service areas, service delivery levels, and geographic areas? .....HSIS\_O\_2.1

2.2 Is information from the HIS, HRIS, LMIS, and financial accounting systems used to inform the management of programs and services?.....HSIS\_O\_2.2

**3. Using information to inform healthy behaviors**

3.1 Is information from population surveys and/or the routine HIS used to inform the public about healthy behaviors? .....HSIS\_O\_3.1

**4. Using information to identify and respond to epidemics**

4.1 Are outbreaks being identified in a timely fashion? .....HSIS\_O\_4.1

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK <sup>66</sup>	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HSIS INPUTS</b>			
<b>1. Financing</b>	1.1 Is sufficient financing available for the HSIS?	Per capita spending on the HSIS (according to HMN, it should be between US\$0.53 and US\$2.99)	WHO 2010a, pg. 36
		There are specific budget line items within the national budget for various sectors to provide adequately for a functioning HIS for all relevant data sources in the ministry of health	HMN 2008b, pg. 22
		There are specific budget line items within the national budget for various sectors to provide adequately for a functioning statistics system for all data sources in the national statistics office	HMN 2008b, pg. 22
<b>2. HRH</b>	2.1 Are there sufficient management, professional, and/or clinical HRH employed to implement an effective HSIS?	The health information system has a cadre of trained health information staff who have at least two years of specialized training and are in place at the district level	HMN 2008b, pg. 41
		Health workers in health facilities (clinics and hospitals) receive regular training in health information that is either integrated into continuing education or through in-service training in the public sector	HMN 2008b, pg. 41
		Number of staff members within and outside facilities trained in M&E (per level)	GFATM 2009, pg. 321
		Number and percentage of civil society organizations with at least one staff member trained in M&E	GFATM 2009, pg. 324
		The ministry of health has adequate capacity in core health information sciences (epidemiology, demography, statistics, information, and ICT)	HMN 2008b, pg. 20
		The national statistics office has adequate capacity in statistics (demography, statistics, ICT)	HMN 2008b, pg. 20
		At sub-national levels (e.g., regions/provinces and districts) there are designated full-time health information officer positions and they are filled	HMN 2008b, pg. 20

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		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	HMN 2008b, pg. 21
		Capacity-building activities have taken place over the past year for staff of the national statistics office (statistics, software and database maintenance) at national and sub-national levels	HMN 2008b, pg. 21
		HIS capacity-building activities have taken place over the past year for health-facility staff (on data collection, self-assessment, analysis, and presentation)	HMN 2008b, pg. 21
		Assistance is available to health and HIS staff at national and sub-national levels in designing, managing, and supporting databases and software	HMN 2008b, pg. 21
		Acceptable rate of health-information staff turnover at national level in the ministry of health	HMN 2008b, pg. 21
		Acceptable rate of health-information staff turnover at national level in national statistics office	HMN 2008b, pg. 21
		The country has adequate capacity to: (1) implement data collection (census, vital registration, and household surveys); (2) process the data; and (3) analyze the data	HMN 2008b, pp. 33, 35, 37
		The country has adequate capacity to: (1) diagnose and record cases of notifiable diseases; (2) report and transmit timely and complete data on these diseases; and (3) analyze and act upon the data for outbreak response and planning of public health interventions	HMN 2008b, pg. 39
		Percentage of health workers making primary diagnoses who can correctly cite the case definitions of the majority of notifiable diseases	HMN 2008b, pg. 39
		There are human resources and equipment for maintaining and updating the database and maps on health facilities and services	HMN 2008b, pg. 42

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		There are human resources for maintaining and updating the national HR database	HMN 2008b, pg. 43
		Adequate numbers of qualified, long-term staff are regularly deployed to work on the National Health Account (NHA), regardless of whether they are employed by the ministry of health	HMN 2008b, pg. 44
3. Equipment	3.1 Is there functioning equipment for collecting, managing, and transmitting data?	Recording forms, paper, pencils, and other supplies that are needed for data collection are available	HMN 2008b, pg. 22
		Computers are available at the relevant offices at national, regional/provincial, and district levels to permit the rapid compilation of sub-national data	HMN 2008b, pg. 23
		A basic ICT infrastructure (telephones, internet access, and e-mail) is in place at national, regional/provincial, and district levels	HMN 2008b, pg. 23
		Support for ICT equipment maintenance is available at national, regional/provincial, and district levels	HMN 2008b, pg. 23
4. Leadership	4.1 Are structures in place to lead and manage HSISs?	There is a representative and functioning national committee in charge of HIS coordination	HMN 2008b, pg. 19
		The national statistics office and ministry of health have established coordination mechanisms (e.g., a task force on health statistics); this mechanism may be multi-sectoral	HMN 2008b, pg. 19
		There are functional central HIS administrative units to design, develop, and support health information collection, management, analysis, dissemination, and use for planning and management	HMN 2008b, pg. 20
		There are meetings and a multiyear plan to coordinate the timing, key variables measured, and funding of nationally representative population-based surveys that measure health indicators	HMN 2008b, pg. 38
		The health and statistical constituencies in the country work together closely on survey design and implementation and data analysis and use	HMN 2008b, pg. 38

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HSIS PROCESSES</b>			
1. Defining information needs and objectives	1.1 Has a core set of indicators and data requirements been defined?	Existence of a national set of indicators with targets and annual reporting to inform annual health sector reviews and other planning cycles	WHO 2010a, pg. 53
		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, and outcomes; and health status)	HMN 2008b, pg. 27
		There is a clear and explicit official strategy for measuring each of the health-related MDG indicators relevant to the country	HMN 2008b, pg. 27
		Core indicators are defined in collaboration with all key stakeholders (e.g., ministry of health [MOH], national statistics office [NSO], other relevant ministries, professional organizations, sub-national experts, and major disease-focused programs)	HMN 2008b, pg. 27
		Core indicators have been selected according to explicit criteria, including usefulness, scientific soundness, reliability, representativeness, feasibility, and accessibility	HMN 2008b, pg. 27
	1.2 Have coordinated policies, plans, and strategies been developed for HSIS?	Country has a 10-year costed survey plan that covers all priority health topics and takes into account other relevant data sources	WHO 2010a, pg. 49
		A nationally coordinated multiyear, disease-specific M&E plan with a schedule for survey implementation and data analysis has been prepared and is being implemented	GFATM 2009, pg. 322
		The country has up-to-date legislation providing the framework for health information that covers the following specific components: vital registration; notifiable diseases; private-sector data (including social insurance); confidentiality; and fundamental principles of official statistics	HMN 2008b, pg. 19



# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
2. Collecting data	2.1 Is timely, complete, and accurate census data being collected?	A census was carried out in the past 10 years	HMN 2008b, pg. 33
		Mortality questions were included in the last census: a) questions to estimate child mortality—children ever born and children still alive; and b) questions to estimate adult mortality—household deaths in the past 12 (or 24) months, including sex of deceased and age at death	HMN 2008b, pg. 33
		Evaluation of completeness of adult mortality data from the last census has been undertaken and the results have been published along with the published mortality statistics	HMN 2008b, pg. 33
	2.2 Is timely, complete, and accurate civil registration data being collected?	There is a reliable source of nationwide vital statistics: civil registration; Sample Registration System (SRS); or Demographic Surveillance System (DSS)	HMN 2008b, pg. 35
		Coverage of deaths registered through civil registration	GFATM 2009, pg. 323; WHO 2010, pg. 51
		Cause-of-death information is recorded on the death registration form if civil registration is in place	HMN 2008b, pg. 35
		The International Statistical Classification of Diseases and Related Health Problems (ICD) is in use for cause of death registration	HMN 2008b, pg. 35
		Proportion of all deaths coded to ill-defined causes (garbage codes)	HMN 2008b, pg. 35
		Published statistics from civil registration or SRS are disaggregated by: 1) sex; 2) age; and 3) geographical or administrative region (or urban/rural)	HMN 2008b, pg. 35

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	2.3 Is timely, complete, and accurate population-based survey data being collected?	In the past five years, a nationally representative survey has measured the percentage of the relevant population receiving key maternal and child health services (e.g., family planning, antenatal care, professionally attended deliveries, immunizations)	HMN 2008b, pg. 37
		In the past five years, a nationally representative survey has provided sufficiently precise and accurate estimates of infant and under-five mortality	HMN 2008b, pg. 37
		In the past five years, nationally representative population-based survey(s) have measured the prevalence of some priority non-communicable diseases/health problems (e.g., disability, mental illness, hypertension, diabetes, accidents, violence) and leading risk factors (e.g., smoking, drug use, diet, physical inactivity)	HMN 2008b, pg. 37
		Surveys follow international standards for consent, confidentiality, and access to personal data (e.g., OECD guidelines)	HMN 2008b, pg. 37
		The data allow disaggregation by age, sex, locality (urban/rural, major geographic or administrative unit), and socioeconomic status (income and education)	HMN 2008b, pg. 37
		Metadata (design, sample implementation, questionnaires) are available from recent surveys	HMN 2008b, pg. 38
	2.4 Is timely, complete, and accurate data being collected to monitor notifiable diseases (“individual records”)?	For each of the key epidemic-prone diseases (e.g., cholera, diarrhea with blood, measles, meningitis, plague, viral hemorrhage fevers, yellow fever, SARS, bird flu) and diseases targeted for eradication and/or elimination (e.g., poliomyelitis, neonatal tetanus, leprosy), appropriate case definitions have been established and cases can be reported using the current reporting format	HMN 2008b, pg. 38
		Mapping of specific at-risk populations in place (e.g., populations with high levels of malnutrition and poverty) and of general population exposed to specific risks (e.g., vectors, environmental and industrial pollution)	HMN 2008b, pg. 39

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Percentage of health facilities submitting weekly or monthly surveillance reports on time to the district level	HMN 2008b, pg. 39
		Percentage of districts submitting weekly or monthly surveillance reports on time to the next-higher level	HMN 2008b, pg. 39
		International Statistical Classification of Diseases and Related Health Problems (ICD) is currently used for reporting hospital discharge diagnoses	HMN 2008b, pg. 39
		Existence of a surveillance and outbreak control checklist	MSH 2006, pg. 50
		Percentage of health centers that perform surveillance and outbreak control tasks as measured by checklist	MSH 2006, pg. 51
		Data on HIV prevalence for relevant surveillance populations is available and published within 12 months of preceding year	WHO 2010a, pg. 52
		Number and percentage of civil society organizations reporting routine HIV, TB, and malaria data to the nationally designated entity according to national guidelines (number and percentage)	GFATM 2009, pg. 327
		Modern communication technology is used for reporting on notifiable diseases	WHO 2010a, pg. 52
		2.5 Is timely, complete, and accurate service record data being collected?	There is a health-service-based information system that brings together data from all public and private facilities
	Percentage of districts that submit timely, complete, and accurate HMIS reports of key data series (defined in the country) to the national level (90% target)		WHO 2010a, pg. 52; GFATM 2009, pg. 326

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Number and percentage of civil society organizations using standard data collection formats according to national guidelines	GFATM 2009, pg. 325
		Percent of data elements reported accurately in management information system reports	MSH 2006, pg. 48
	2.6 Is timely, complete, and accurate health facility infrastructure, equipment, and supplies data being collected?	There is a national database/roster of public- and private-sector health facilities, and each health facility has been assigned a unique identifier code that permits data on facilities to be merged	HMN 2008b, pg. 42
		Global Positioning System (GPS) coordinates for each health facility are included in the database	HMN 2008b, pg. 42
		Period since the national database of facilities was updated	HMN 2008b, pg. 42
		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	HMN 2008b, pg. 46
		Periodicity and completeness of reporting on equipment and physical infrastructure in the public sector	HMN 2008b, pg. 46
		Each facility is required to report at least quarterly on its level of supplies and commodities (e.g., drugs, vaccines, and contraceptives) in the public sector	HMN 2008b, pg. 46
		Annual data produced on the availability of tracer medicines and commodities in public and private facilities	WHO 2010, pg. 52
		Periodicity and completeness of reporting on supplies and commodities in the public sector	HMN 2008b, pg. 46
		A nationwide facility census or facility survey been completed in the past five years	

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	2.7 Is timely, complete, and accurate human resource data being collected?	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	HMN 2008b, pg. 43; WHO 2010a, Pg. 52;
		There is a national database that tracks the annual numbers graduating from all health-training institutions	HMN 2008b, pg. 43
		Period since national HR database statistics were last updated	HMN 2008b, pg. 43
	2.8 Is timely, complete, and accurate financial data being collected?	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, and firms and corporations)	HMN 2008b, pg. 44
		There is a system for tracking budgets and expenditure by all the financial agents disaggregated by sub-national or district level	HMN 2008b, pg. 44
		Responsibility for NHA has been delegated to a specific body and provided with a budget for implementation	WHO 2008, pg. 78
		Periodicity and timeliness of routine NHA	HMN 2008b, pg. 44
		NHA routinely provides information on the following four classifications of financial flow: (1) financial sources; (2) financial	
		agents; (3) providers; and (4) functions (the types of goods and services provided and activities performed)	HMN 2008b, pg. 45

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		NHA provides information on health expenditure by major diseases, health program areas, geographical or administrative region, and/or target populations (according to major policy concerns)	HMN 2008b, pg. 45
3. Managing data	3.1 Is data from across different information sub-systems managed in a coordinated and integrated fashion?	Are there standard formats and codes used across information sub-systems (to facilitate data exchange and aggregation)?	[MSH, 2010, pg. 8.8]
		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	HMN 2008b, pg. 48
		Data management tasks have been defined and responsibilities assigned	FHI 360 Kenya
		Integration of reporting for disease surveillance and other focused public health programs (e.g., maternal care, family planning and growth monitoring)	HMN 2008b, pg. 40
		The HIS unit at the national level is running an integrated data warehouse that contains data from all population-based and institution-based data sources (including all key health programs) and has a user-friendly reporting utility accessible to various user audiences	HMN 2008b, pg. 48
		At the sub-national level, a data warehouse equivalent to the national one exists and has a reporting utility that is accessible to various users	HMN 2008b, pg. 48
		A metadata dictionary exists that provides comprehensive definitions about the data, and definitions include information in the following areas: (1) use of data in indicators; (2) specification of collection methods used; (3) periodicity; (4) geographical designations (urban/rural); (5) analysis techniques used; and (6) possible biases	HMN 2008b, pg. 48

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Unique identifier codes are available for administrative geographical units (e.g., region/province, district, or municipality) to facilitate the merging of multiple databases from different sources	HMN 2008b, pg. 48
		A national microdata archive for health surveys and censuses is established and operational	WHO 2010, pg. 53
		Degree to which vertical reporting systems (e.g., for TB or vaccination) communicate well with the general health service reporting system	HMN 2008b, pg. 41
		Degree to which reporting systems for different supplies and commodities are integrated in the public sector	HMN 2008b, pg. 46
4. Data quality assurance	4.1 Is a systematic data quality audit in place across different HSIS functional areas?	Existence of a data quality assessment carried out and published within the past three years and using an internationally recognized standard, such as the IMF Data Quality Assessment Framework	WHO 2010, pg. 52
		Frequency of the assessment of completeness of civil registration data	HMN 2008b, pg. 35
		It is official policy to conduct regular meetings at healthcare facilities and health administration offices (e.g., at national, regional/provincial or district level) to review information on the HIS and take action based upon such information	HMN 2008b, pg. 20
		There are mechanisms in place at national and subnational levels for supervising and receiving feedback on information practices in the public sector	HMN 2008b, pg. 41
		There is a mechanism in place, from the district level up through the national level, for verifying the completeness and consistency of data from facilities	HMN 2008b, pg. 41

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Degree to which managers and analysts at national and sub-national levels frequently use findings from surveys and civil registration (or other vital statistics systems) to assess the validity of clinic-based data	HMN 2008b, pg. 42
		Managers at national and sub-national levels routinely attempt to reconcile data on the consumption of commodities with data on cases of disease reported in the public sector	HMN 2008b, pg. 46
5. System quality improvement	5.1 Are mechanisms in place to continuously improve information systems, such as identifying and reducing unnecessary reporting burdens, simplifying processes, and/or utilizing ICT to strengthen processes?	There is a routine system in place for monitoring the performance of the HIS and its various subsystems	HMN 2008b, pg. 19
		An analysis of reporting burdens at facility, district, or regional levels has been conducted in the past three years	
		Steps to streamline/coordinate data gathering, management, and/or analysis processes are included in national M&E strategies/plans	
		Large donor-funded programs rely on nationally managed information systems for their program monitoring and evaluation	
6. Analysis: Transforming data into information	6.1 Is data being analyzed and synthesized to produce useful information about population health status and needs and health system performance?	Existence of a designated and functioning institutional mechanism charged with analysis of health statistics, synthesis of data from different sources, and validation of data from population-based and facility-based sources	WHO 2010a, pg. 53
		Data from population-based surveys, routine HIS, and facility surveys are used to analyze the different needs and experiences of women, men, girls, and boys	
		Accurate population projections by age and sex are available for small areas (districts or below) for the current year	HMN 2008b, pg. 34



# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Percent of organizational planning units using management information system data as a basis for annual input/output projections	MSH 2006, pg. 18
		Information from civil registrations/SRS/DSS on 1) mortality rates and 2) causes of death is used for national and sub-national analysis	HMN 2008b, pg. 36
		Degree to which data derived from health service records are used to estimate the coverage of key services (e.g., antenatal care, delivery with a skilled attendant, and immunization)	HMN 2008b, pg. 42
		Managers and analysts at national and district levels commonly evaluate physical access to services by linking information about the location of health facilities and health services to the distribution of the population	HMN 2008b, pg. 43
7. Disseminating information	7.1 Is there an effective system for disseminating HSIS information to policy makers, managers, providers, and other stakeholders at all levels and across agencies/departments?	Existence of a website for country health statistics, making the latest reports and data available to the general public	WHO 2010, pg. 52
		Graphs are widely used to display information at sub-national health administrative offices (e.g., regional/provincial, district) and health facilities, and they are up to date and clearly understood	HMN 2008b, pg. 66
		Maps are widely used to display information at sub-national health administrative offices (e.g., regional/provincial, district) and health facilities, and they are up to date and clearly understood	HMN 2008b, pg. 66
		Integration of reporting for disease surveillance and other focused public health programs (e.g. maternal care, family planning, and growth monitoring)	HMN 2008b, pg. 40
		Integrated HIS summary reports that include information on a minimum set of core indicators (including those used to measure progress towards achieving the MDGs and those used by Global Health Partnerships, if applicable) are distributed regularly to all relevant parties	HMN 2008b, pg. 66

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		A report including descriptive statistics (age, sex, residence by smallest administrative level) from the most recent census is available and widely distributed (online or paper copy)	HMN 2008b, pg. 33
		Surveillance data on epidemic-prone diseases are disseminated and fed back through regularly published weekly, monthly, or quarterly bulletins	HMN 2008b, pg. 40
		Lag time between data collection (census and vital registration) and the time that descriptive statistics were published	HMN 2008b, pg. 34
		Time elapsed since an annual summary of health service statistics was published with statistics disaggregated by major geographical or administrative region	HMN 2008b, pg. 41
		Maps are available in most districts showing the location of health infrastructure, health staff, and key health services	HMN 2008b, pg. 43
		NHA findings are widely and easily accessible	HMN 2008b, pg. 45
		Microdata are available for public access	HMN 2008b, pg. 34, 37

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HSIS OUTPUTS</b>			
1. Tracking core indicators	1.1 Is data available for core health and health system indicators?	Reporting on a minimum set of core indicators occurs on a regular basis	HMN 2008b, pg. 27
2. Using information for planning and management decisions	2.1 Is information from the HIS and population surveys used as a foundation for deciding how resources will be allocated across service areas, service delivery levels, and geographic areas?	Health information (population health status, health system, risk factors) is demonstrably used in the planning and resource-allocation processes (e.g., for annual integrated development plans, medium-term expenditure frameworks, long-term strategic plans, and annual health sector reviews)	HMN 2008b, pg. 67
		HIS information is widely used by district and subnational management teams to set resource allocations in the annual budget processes	HMN 2008b, pg. 68
		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)	HMN 2008b, pg. 67
		Population projections are used for the estimation of coverage and planning of health services	HMN 2008b, pg. 34
		NHA has been used for policy formulation and resource allocation	HMN 2008b, pg. 45
	2.2 Is information from the HIS, HRIS, LMIS, and financial accounting systems used to inform the management of programs and services?	Managers at health administrative offices at all levels (national, regional/ provincial, district) use health information for health service delivery management, continuous monitoring and periodic evaluation	HMN 2008b, pg. 68
	Care providers at all levels (national, regional/ provincial, district hospitals and health centers) use health information for health service delivery management, continuous monitoring and periodic evaluation.	HMN 2008b, pg. 68	

# ANNEX 15

## Generic Performance Indicators for Health System Information Systems<sup>65</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Degree to which districts or similar administrative units compile their own monthly/quarterly and annual summary reports, disaggregated by health facility	MSH 2006, Pg. 41
		Organizational units systematically use information to plan and monitor performance	MSH 2006, Pg. 49
		Use of facility-retained patient medical records to support quality and continuity of care	HMN 2008b, pg. 39
3. Using information to inform healthy behaviors	3.1 Is information from population surveys and/or the routine HIS used to inform the public about healthy behaviors?	Information on health risk factors is systematically used to advocate for the adoption of lower risk behaviors by the general public and by targeted vulnerable groups	HMN 2008b, pg. 68
4. Using information to identify and respond to epidemics	4.1 Are outbreaks being identified in a timely fashion?	Proportion of investigated outbreaks with laboratory results	HMN 2008b, pg. 39
		Proportion of epidemics noted at regional/provincial or national level (through analysis of surveillance data) first detected at district level	HMN 2008b, pg. 40

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

### HEALTH WORKFORCE PROCESSES.....PAGES 93-97

#### 1. Health workforce planning and policy

- 1.1 Is there regular and coordinated health workforce planning involving regional and/or national ministries of health, education and finance, major private sector actors, development partners, and other key stakeholders? ..... HW\_P\_1.1
- 1.2 Are there realistic and needs-based plans for health workforce development?.....HW\_P\_1.2
- 1.3 Is there a unit responsible for leadership on HRH development? .....HW\_P\_1.3

#### 2. HRH

- 2.1 Is financing being allocated to develop and sustain an effective health workforce? ..... HW\_P\_2.1

#### 3. Managing workforce entry: pre-service education

- 3.1 Do pre-service education institutions have sufficient capacity to graduate students with the requisite clinical, technical, and management skills? ..... HW\_P\_3.1
- 3.2 Do training institutions for clinical health sciences oriented their education towards primary health care and community health needs, and adopted inter-professional training strategies? .....HW\_P\_3.2
- 3.3 Do pre-service training programs provide high quality training? .....HW\_P\_3.3

#### 4. Managing workforce entry: hiring

- 4.1 Is the public sector able to fill open positions? ..... HW\_P\_4.1

#### 5. Managing workforce performance: supervision, support, accreditation

- 5.1 Is there an effective system of HR management that includes support, supervision, and performance monitoring of HR? .....HW\_P\_5.1

#### 6. Managing workforce performance: compensation

- 6.1 Is compensation provided as agreed (in full and on time)? ..... HW\_P\_6.1

#### 7. Managing workforce performance: lifelong learning (and professional development)

- 7.1 Do health workers receive adequate professional development / continuing education support? .....HW\_P\_7.1

#### 8. Managing workforce retention and attrition

- 8.1 Are there high pre-mature attrition rates? ..... HW\_P\_8.1
- 8.2 Are there high absenteeism rates? .....HW\_P\_8.2
- 8.3 Does the health workforce receive social protection? .....HW\_P\_8.3
- 8.4 Is the staff working within “their communities”? .....HW\_P\_8.4
- 8.5 Is the health workforce satisfied with working conditions? .....HW\_P\_8.5

### HEALTH WORKFORCE OUTPUTS ..... PAGES 98-100

#### 1. Service delivery

- 1.1 Are there enough clinical, management, and/or professional HRH employed to provide essential services that meet quality standards? .....HW\_O\_1.1
- 1.2 Is the health workforce appropriately distributed to address the populations health needs? ..... HW\_O\_1.2

<sup>68</sup> The framework and indicators for this building block are drawn from: Pacqué-Margolis et al 2011; GFATM 2009 and 2010; Islam 2007; WHO 2010; and USAID 2009.

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

- 1.3 Does the health workforce have the necessary mix of skills? ..... HW\_O\_1.3
- 1.4 Do graduating clinical cadres have the skills required to fill needed positions? ..... HW\_O\_1.4
- 1.5 Does the health workforce have an appropriate mix of demographic diversity (language, gender, ethnicity)? .....HW\_O\_1.5
- 1.6 Is there a high rate of dual practice/employment ..... HW\_O\_1.6

**2. HSIS**

- 2.1 Are there enough appropriately skilled clinical, management, and/or professional HRH to collect, report, and use information on health status, health determinants, and health system performance? .....HW\_O\_2.1

**3. Community**

- 3.1 Are there sufficient community-based health workers (professional and/or volunteer) to effectively engage and serve the communities? .....HW\_O\_3.1

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HEALTH WORKFORCE PROCESSES</b>			
1. Health workforce planning and policy	1.1 Is there regular and coordinated health workforce planning involving regional and/or national ministries of health, education and finance, major private sector actors, development partners, and other key stakeholders?	Existence of joint annual HRH planning process that involves key stakeholders from across government departments and development partners	
		Existence of clear lines of authority over hiring, firing, disciplining, paying, rewarding, promoting, and deploying workers	Islam 2007, pg. 9.5
		Existence of institutional models for projecting, monitoring, and evaluating staffing requirements	Pacqué-Margolis et al 2011, pg. 5
		Establishment of global code of practice and international recruitment ethical norms (country level)	Pacqué-Margolis et al 2011, pg. 8
		Existence of an HRH self-sufficiency policy	Pacqué-Margolis et al 2011, pg. 4
	1.2 Are there realistic and needs-based plans for health workforce development?	Existence of a comprehensive, evidence-based, prioritized, and costed national development and/or management plan for the health workforce	WHO 2010a, pg. 33; Islam 2007, pg. 9.10
	1.3 Is there a unit responsible for leadership on HRH development?	Level of development/capacity of an HRH unit	Pacqué-Margolis et al 2011, pg. 4
2. Financing HRH	2.1 Is financing being allocated to develop and sustain an effective health workforce?	HRH expenditure, total, per capita, and as a proportion of total expenditure on health (in national currency units, in US dollars, and in international dollars)	Pacqué-Margolis et al 2011, pg. 4
		Breakdown of HRH expenditure by place of work (hospitals, ambulatory centers, public health offices), sector (public, private for-profit, private not-for-profit), employment status (regular employees, self-employed workers), occupational function (health service providers [direct patient care], health system management and support personnel).	Pacqué-Margolis et al 2011, pg. 4

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		% of budget devoted to human resource management or human resource development annually	Pacqué-Margolis et al 2011, pg. 4
		Existence of budgetary provision for in-service/continuing education training	Pacqué-Margolis et al 2011, pg. 5
3. Managing workforce entry: pre-service education	3.1 Do pre-service education institutions have sufficient capacity to graduate students with the requisite clinical, technical, and management skills?	Graduates of health training institutions per 10,000 population, disaggregated by cadre	WHO 2010, 31; USAID 2009, 32; GFATM 2009, pg. 287
		No. of students graduating from secondary school, e.g., expressed as % of all children of secondary schooling age	Pacqué-Margolis et al 2011, pg. 6
		No. of education and training places per cadre and health education institution	Pacqué-Margolis et al 2011, pg. 7
		No. and % of applicants accepted for health education training programs per cadre	Pacqué-Margolis et al 2011, pg. 6
		Current % of training programs for the designated professional groups (nurses, nursing auxiliaries, health technicians, and community health workers) that match or surpass the stated requirements for current employment positions	Pacqué-Margolis et al 2011, pg. 6
		Proportion of courses devoted to country priority diseases	Pacqué-Margolis et al 2011, pg. 7
	3.2 Do training institutions for clinical health sciences orient their education toward primary health care and community health needs, and adopt inter-professional training strategies?	% of institutions where training (for physicians, nurses, and midwives) is not centered on biomedical model	Pacqué-Margolis et al 2011, pg. 7



# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE	
		% of institutions where primary health care content is included in the curriculum	Pacqué-Margolis et al 2011, pg. 7	
		% of institutions where primary health care practice is included in the curriculum (e.g., through clinical experience in community or primary health care centers)	Pacqué-Margolis et al 2011, pg. 7	
		% of institutions where inter-professional training strategies are used	Pacqué-Margolis et al 2011, pg. 7	
		% of institutions where there is financial support for inter-professional training	Pacqué-Margolis et al 2011, pg. 7	
	3.3 Do pre-service training programs provide high-quality training?	Schools of clinical health sciences and, specifically, public health accredited by a recognized accreditation body	Pacqué-Margolis et al 2011, pg. 6	
		No. of students per (full-time) qualified instructor, per cadre, and per health education institution	Pacqué-Margolis et al 2011, pg. 7; WHO 2010, pg. 33	
		Attrition (turnover) rate among instructors, per cadre and health education institution (over a given period)	Pacqué-Margolis et al 2011, pg. 7	
		Attrition (drop-out) rate per student cohort, per cadre, and per health education institution (over a given period)	Pacqué-Margolis et al 2011, pg. 7	
	4. Managing workforce entry: hiring	4.1 Is the public sector able to fill open positions?	Percentage of designated posts that are filled	Islam 2007, pg. 11.23
			Number of health workers newly recruited at primary care facilities in the past 12 months, expressed as a percentage of planned recruitment targets	WHO 2010a, pg. 33

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Existence of explicit, transparent, and efficient hiring practices in the public sector that are routinely followed	
5. Managing workforce performance: supervision, support, accreditation	5.1 Is there an effective system of HR management that includes support, supervision, and performance monitoring of HR	% of health service providers at primary health care facilities that received personal supervision in the past six months, in both public and private facilities	GFATM 2009, pg. 287; WHO 2010a, 34; USAID 2009, 78; SWEF
		[Number of supervision visits to health centers conducted in the last year for which data are available]/[number of planned supervision visits to health centers for the same year]	Islam 2007, pg. 9.20
		Number of senior staff at primary health care facilities who have received in-service management training (with nationally approved curriculum) in the past 12 months	WHO 2010a, pg. 34
		Civil society staff and volunteers who received personal supervision in the past six months (number and percentage)	GFATM 2009, pg. 287
6. Managing workforce performance: compensation	6.1 Is compensation provided as agreed (in full and on time)?	Proportion of salary payment made on time and in full	Islam 2007, pg. 9.17
		Proportion of health workforce who receives a viable living wage	Islam 2007, pg. 9.17
7. Managing workforce performance: lifelong learning (and professional development)	7.1 Do health workers receive adequate professional development/ continuing education support?	Percentage of facility staff receiving in-service training/continuing education annually during a reference period (e.g., annually), by cadre and type of training (also measured by days of training per staff member annually)	Pacqué-Margolis et al 2011, pg. 8
		Existence of a formal in-service training component for all levels of staff	Islam 2007, pg. 9.22

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Existence of a coordinated system of in-service training/continuing education across the MOH, the private sector, and donor development programs	
8. Managing workforce retention and attrition	8.1 Are there high premature attrition rates?	Rate of retention of health service providers at primary health care facilities, disaggregated by cadres and regions	WHO 2010a
		Ratio of exits from the health workforce (can be subdivided based on data available for cadre, reason for leaving, etc.)	Pacqué-Margolis et al 2011, pg. 9
	8.2 Are there high absenteeism rates?	Number of days of that health workers are absent relative to the total number of scheduled working days over a given period among staff at primary health care facilities, disaggregated by cadres and regions	WHO 2010a, pg. 24
		Average number of days worked per week per HRH category	Pacqué-Margolis et al 2011, pg. 10
	8.3 Does the health workforce receive social protection?	Total no. of health service employment positions in the country that are without social protection/Total no. of health employment positions in the country	Pacqué-Margolis et al 2011, pg. 9
	8.4 Is the staff working within “their communities”?	Percentage of health workers whose current primary health care practice setting is the same geographic location as their own community; “their own community” is defined as the geographic location (city/town and country) that the primary health worker identifies as his or her place of birth	Pacqué-Margolis et al 2011, pg. 9
	8.5 Is the health workforce satisfied with working conditions?	Staff feel satisfied and well treated by the organization	Pacqué-Margolis et al 2011, Appendix B

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HEALTH WORKFORCE OUTPUTS</b>			
<b>1. Service delivery</b>	1.1 Are there enough clinical, management, and/or professional HRH employed to provide essential services that meet quality standards?	The number of health workers per 1000 population, disaggregated by cadre	GFATM 2009, pg. 287; USAID 2009, pg. 31; WHO 2010a, pg. 29; Islam. 2007, pg. 9.77
		No. and % of new nationally trained health workers granted professional certification/licensure, per cadre	Pacqué-Margolis et al 2011, pg. 8
		No. and % of new internationally trained (foreign-trained) health workers granted professional certification/licensure, per cadre	Pacqué-Margolis et al 2011, pg. 8
		Proportion of HRH currently active (employed) in the health workforce	Pacqué-Margolis et al 2011, pg. 9
		No. of graduates of health professions education institutions in the last year/Total no. of health workers	Pacqué-Margolis et al 2011, pg. 8
	1.2 Is the health workforce appropriately distributed (geography and skill mix) to address the population's health needs?	Number of health workers per 1,000 population (by cadre), disaggregated by districts, rural/urban areas, or other relevant geographic units	GFATM 2009, pg. 287; WHO 2010a, pg. 30; USAID 2009, pg. 32
		No. of primary health care physicians as a percentage of the total number of physicians	Pacqué-Margolis et al 2011
		Distribution of the workforce across institutions (public/private, hospitals/other facilities)	GFATM 2009, pg. 287; WHO 2010a, pg. 30; USAID 2009, pg. 19; Islam 2007, pg. 9.8

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	1.3 Does the health workforce have the necessary mix of skills?	Distribution of employed HRH by occupation, specialization, or other skill-related characteristic	GFATM 2009, pg. 287; WHO 2010a, pg. 30; USAID 2009, pg. 19
		% of health services and program managers certified in health management	Pacqué-Margolis et al 2011, pg. 5
		Existence of primary health care teams	Pacqué-Margolis et al 2011, Appendix B
	1.4 Do graduating clinical cadres have the skills required to fill needed positions?	Differences between demand (the skill/cadre mix needed in the health sector) and supply (the skill/cadre mix of new graduates coming out of training institutions)	
	1.5 Does the health workforce have an appropriate mix of demographic diversity (language, gender, and/or ethnicity)?	The number of health workers across all sectors disaggregated by sex, age, ethnicity, and language	GFATM 2009, pg. 287
	1.6 Is there a high rate of dual practice/employment?	Proportion of HRH currently employed at more than one location	Pacqué-Margolis et al 2011, pg. 10
<b>2. HSIS</b>	2.1 Are there enough appropriately skilled clinical, management, and/or professional HRH to collect, report, and use information on health status, health determinants, and health system performance?	MOH staff members trained in M&E (per level) (number)	GFATM 2009, pg. 288
		Civil society organizations with at least one staff member trained in M&E (number and percentage)	GFATM 2009, pg. 288

# ANNEX 16

## Generic Performance Indicators for the Health Workforce<sup>68</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
3. Community	3.1 Are there sufficient community-based health workers (professional and/or volunteer) to effectively engage and serve the communities?	Deaths due to malaria (per 100,000 population)	WHO 2011, pg. 66
		Number and percentage of community health workers and volunteers currently working with community based organizations who received training or retraining in HIV, TB, or malaria service delivery according to national guidelines (where such guidelines exist) in the last 12 months	GFATM 2010, pg. 50
		Number and percentage of staff members and volunteers currently working for community-based organizations that have worked for the organization for more than one year	GFATM 2010, pg. 51
		Number and percentage of volunteers working for community-based organizations who are provided with a stipend/allowance	GFATM 2010, pg. 53
		Number and percentage of staff members and volunteers of community-based organizations with written terms of reference and defined job duties	GFATM 2010, pg. 63
		Attrition rate of community health workers	

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

### HEALTH INFRASTRUCTURE, EQUIPMENT, AND PRODUCTS PROCESSES.....PAGES 102-107

#### 1. Product selection

- 1.1 Is there a formal list of essential medicine consistent with population health priorities? .....HIEP\_P\_1.1
- 1.2 Is product selection in line with national essential medicine list? .....HIEP\_P\_1.2

#### 2. Forecasting and procurement

- 2.1 Are stakeholders committed to a procurement plan for products (pooled procurement, coordinated shipping cycles, etc.)?.....HIEP\_P\_2.1
- 2.2 How accurate are the forecasts of drug needs/consumption? .....HIEP\_P\_2.2
- 2.3 Is the procurement process efficient and effective; i.e. getting the best drugs for the best price? .....HIEP\_P\_2.3

#### 3. Inventory storage and distribution

- 3.1 Is there an unacceptable level of waste of essential medical products (either due to expiration, damage, or corruption)?.....HIEP\_P\_3.1
- 3.2 Are stocks effectively and efficiently stored and distributed? .....HIEP\_P\_3.2

#### 4. Serving customers

- 4.1 Are clinical guidelines followed for dispensing essential medicines? .....HIEP\_P\_4.1
- 4.2 Are service providers in place to dispense essential medicines and commodities? .....HIEP\_P\_4.2

#### 5. Quality and safety monitoring

- 5.1 Are procured products effectively regulated for efficacy and safety?.....HIEP\_P\_5.1
- 5.2 Are medical products monitored for quality (potency, proper labeling, expiration, damage, or tampering)?.....HIEP\_P\_5.2
- 5.3 Are rational use practices being followed? .....HIEP\_P\_5.3

#### 6. The logistics management information system

- 6.1 Do logistics managers have access to accurate and timely essential data on, at least: stock on hand, rate of consumption, and losses and adjustments?.....HIEP\_P\_6.1

### HEALTH INFRASTRUCTURE, EQUIPMENT, AND PRODUCTS OUTPUTS ..... PAGES 108-109

#### 1. Physical infrastructure for service delivery

- 1.1 Are service delivery sites (clinics, hospitals, labs, etc.) well distributed and equipped to delivery essential services? .....HIEP\_O\_1.1

#### 2. Medicines and supplies required for essential services are available in the right place, at the right time, in the right quantity, of the right quality, and for the right cost

- 2.1 Does the population have access to the medicine they need, when they need them? .....HIEP\_O\_2.1
- 2.2 Are essential medicines affordable to clients? .....HIEP\_O\_2.2

<sup>69</sup> The framework and indicators for this building block are drawn from: Aronovich et al 2010; GFATM 2009 and 2010; Islam 2007; WHO 2010; and DELIVER 2009. In our search of the health system performance assessment literature we found a gap in the availability of process indicators related to managing infrastructure and equipment. Therefore, the process indicators focus on the logistics system for medicines, commodities, and other supplies.

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HEALTH INFRASTRUCTURE, EQUIPMENT, AND PRODUCTS PROCESSES</b>			
<b>1. Product selection</b>	1.1 Is there a formal list of essential medicine consistent with population health priorities?	Existence and year of last update of a published national medicines policy	WHO 2010a, pg. 65
		Existence and year of last update of a published national list of essential medicines	WHO 2010a, pg. 65
		Existence of an active national committee responsible for managing the process of maintaining a national medicines list	Islam 2007, pg. 10–17
	1.2 Is product selection in line with the national essential medicine list?	Percent of selected products that are on the national essential medicines list	Aronovich et al 2010, pg. 7
<b>2. Forecasting and procurement</b>	2.1 Are stakeholders committed to a procurement plan for products (pooled procurement, coordinated shipping cycles, etc.)?	Stakeholders demonstrate commitment (time, money, issued mandates) to carry out an established procurement plan by product	Aronovich et al 2010, pg. 10
	2.2 How accurate are the forecasts of drug needs/consumption?	Percentage of difference between forecast previously made for a year and actual consumption or issues data for that year	Aronovich et al 2010, pg. 8
	2.3 Is the procurement process efficient and effective, i.e., getting the best drugs for the best price?	Existence of policies and/or SOPs on medicines procurement that specify the most cost-effective medicines in the right quantities and open, competitive bidding of suppliers for quality products	WHO 2010a, pg. 88; Islam 2007 pp. 10–19
		Existence of legal provisions to allow/encourage generic substitution in the private sector	WHO 2010a, pg. 65
		Percentage of contracts issued as framework contracts	Aronovich et al 2010, pg. 11
		The government engages in active purchasing	



# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Lag time between when purchase decisions is made and when the contract or purchase order is issued	Aronovich et al 2010, pg. 11
		Lag time between when purchase order or contract is issued and when the contract is signed	Aronovich et al 2010, pg. 12
		Percent of average international price paid for last regular procurement of index drugs, commodities, and supplies	MSH 2006, pg. 68; Aronovich et al 2010, pg. 13
		Percentage markup on products in cost recovery system	Aronovich et al 2010, pg. 13
		Ratio of unit prices paid through an emergency procurement vs. competitive bidding process	Aronovich et al 2010, pg. 14
		Percentage of purchase orders/contracts issued as emergency orders	Aronovich et al 2010, pg. 16
		Fixed order cost = Average estimated cost of operating the entire procurement unit per order in a period of time (e.g., month, quarter, year).	Aronovich et al 2010, pg. 15
		Total procurement costs over a defined period	Aronovich et al 2010, pg. 20
		Average number of orders processed per full-time equivalent in procurement	Aronovich et al 2010, pg. 15
		Order compliance = Percentage of orders that meet the set order criteria, such as correct products, amounts, time, packaging, expiration dates, and condition (i.e., undamaged)	Aronovich et al 2010, pg. 17
<b>3. Inventory storage and distribution</b>	3.1 Is there an unacceptable level of waste of essential medical products (either due to expiration, damage, or corruption)?	Product losses by value due to expired drugs, damage, and theft per value received (percentage and number)	Aronovich et al 2010, pp. 28, 35, 39, 40; GFATM 2009, pg. 288

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	3.2 Are stocks effectively and efficiently stored and distributed?	Recorded stock inventory levels are consistent with actual levels	MSH 2006, pg. 63
		Facilities with staff trained in stock management (number and percentage)	GFATM 2009, pg. 288
		Facilities that maintain acceptable storage conditions and handling procedures (number and percentage)	GFATM 2009, pg. 288; MSH 2006, pg. 67
		Number and percentage of community-based organizations that maintain adequate storage conditions and handling procedures for essential commodities	GFATM 2010, pg. 59
		Number and percentage of community-based organizations with staff or volunteers trained or retrained in stock management in the last 12 months	GFATM 2010, pg. 58
		Inventory accuracy rate: percentage of storage sites that have no discrepancies when stock cards are compared to physical inventory count	Aronovich et al 2010, pp. 23, 32
		Defined guidelines/SOPs in place to prevent theft and leakage of products	Aronovich et al 2010, pg. 25
		Warehouse order processing time	Aronovich et al 2010, pg. 25
		Total warehousing/storage cost	Aronovich et al 2010, pp. 27, 39
		Total transportation cost (and/or average cost per km/volume/weight)	Aronovich et al 2010, pg. 49
Ratio of transportation cost to value of product	Aronovich et al 2010, pg. 50		

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Percentage of the total storage space actually being used out of the total storage space available	Aronovich et al 2010, pg. 28
		Order fill rate (correct quantities and products delivered in good condition)	Aronovich et al 2010, pp. 32, 45, 46
		On-time arrivals	Aronovich et al 2010, pg. 45
		Stocking according to plan (percentage of facilities with supplies above the minimum and below the maximum)	Aronovich et al 2010, pg. 33
		Plan in place to adjust stocks for predictable change in demand (e.g., seasonal variance, campaigns, etc.)	Aronovich et al 2010, pg. 36
		Average amount of time it takes from when an order is placed by a lower-level facility to when the order is received	Aronovich et al 2010, pg. 38
		Inventory turnover rate (well-functioning storage facilities turn their value 6–12 times per year)	Aronovich et al 2010, pg. 41
		Average amount of time products remain in inventory	Aronovich et al 2010, pg. 42
		At each level of the distribution system (central, regional, district, facility), refrigeration units (such as refrigerators or coolers) with functional temperature controls are in place	Islam 2007, pp. 10–26
		Percentage of orders placed through electronic ordering system	Aronovich et al 2010, pg. 42
<b>4. Serving customers</b>	4.1 Are clinical guidelines followed for dispensing essential medicines?	Existence of written standard treatment guidelines for essential medicines/commodities	Delivery 2009; Islam 2007, pp. 10–28
		Treatment guidelines are used for basic and in-service training of health personnel	Islam 2007, pp. 10–28

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Availability/knowledge of standard treatment guidelines at service delivery points	Delivery 2009
		Percentage of service delivery points where prescribing practices are routinely monitored and compared to standard treatment guidelines	Delivery 2009
	4.2 Are service providers in place to dispense essential medicines and commodities?	Population per licensed pharmacist or pharmacy technician	Islam 2007, pp. 10–32
		Population per authorized prescriber	Islam 2007, pp. 10–32
		Percent of households more than 5/10/20 km from a health facility/pharmacy that is expected to dispense a set of tracer items in stock	Islam 2007, pp. 10–33
		Population per drug retail outlet in the private sector	Islam 2007, pp. 10–33
	5. Quality and safety monitoring	5.1 Are procured products effectively regulated for efficacy and safety?	Percentage of procured products registered in country
Percentage of procured products that meet stringent regulatory authority or WHO standards			Aronovich et al 2010, pg. 10
Existence of mechanisms for the licensing, inspection, and control of (1) pharmaceutical personnel, (2) manufacturers, (3) distributors/importers, and (4) pharmacies/drug retail stores			Islam 2007, pp. 10–15
5.2 Are medical products monitored for quality (potency, proper labeling, expiration, damage, or tampering)?		Existence of standard procedures for the quality control of health products at initial receipt at the central level	GFATM 2009, pg. 289
		Existence of a system for the collection of data regarding the efficacy, quality, and safety of marketed products (post-marketing surveillance)	Islam 2007, pp. 10–15

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Product batches of pharmaceuticals that have undergone a quality control process at the initial receipt according to standard procedures (percentage)	GFATM 2009, pg. 289; Aronovich et al 2010, pg. 9
		Percentage of health facilities that have a procedure in place to report product quality issues	GFATM 2009, pg. 289
	5.3 Are rational use practices being followed?	Percentage of medicines prescribed based on national treatment guidelines or an essential medicines list or formulary	GFATM 2009, pg. 289
		Percentage of dispensed medicines adequately labeled with dosage instructions	GFATM 2009, pg. 289
		Health facilities with an adherence register or other similar record-keeping system available to report adherence rates (percentage)	GFATM 2009, pg. 289
6. The logistics management information system	6.1 Do logistics managers have access to accurate and timely essential data on, at a minimum: stock on hand, rate of consumption, and losses and adjustments?	Percentage of facilities that keep accurate logistics data for inventory management	GFATM 2009, pg. 288
		Number and percentage of community based organizations that keep accurate data for inventory management	GFATM 2010, pg. 57
		Facility reporting rates = Percentage of facilities that complete and submit reports according to the defined reporting schedule	Aronovich et al 2010, pg. 43
		Amount of time between when an order is received and when it is entered into a paper or electronic system	Aronovich et al 2010, pg. 37
		Percentage of orders placed that were entered completely and correctly into the records	Aronovich et al 2010, pg. 36
		Percentage of invoices processed with perfect match of items ordered (product, quantities, price)	Aronovich et al 2010, pg. 37

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>HEALTH INFRASTRUCTURE, EQUIPMENT, AND PRODUCTS OUTPUTS</b>			
<b>1. Physical infrastructure for service delivery</b>	1.1 Are service delivery sites (clinics, hospitals, labs, etc.) well distributed and equipped to deliver essential services?	Distribution of health facilities per 10,000 population (number)	GFATM 2009, pg. 286
		Distribution of inpatient beds per 10,000 population (number)	GFATM 2009, pg. 286
		Health facilities that meet basic service capacity standards (number and percentage)	WHO 2010a, pp. 11, 17; GFATM 2009, pg. 286; USAID 2009, pg. 24
		Distribution of health facilities with the capacity to provide specific services (for priority diseases) per 10,000 population (number)	GFATM 2009, pg. 286
<b>2. Medicines and supplies required for essential services are available in the right place, at the right time, in the right quantity, of the right quality, and for the right cost</b>	2.1 Does the population have access to the medicines they need when they need them?  Are medicines being provided of sufficient quality (i.e., not expired and properly handled/stored)?	Percentage of public and private facilities with all tracer medicines (14 essential medicines) in stock on the day of the visit	GFATM 2009, pg. 288; WHO 2010a, pg. 63
		Percent of facilities (service delivery points and warehouses) that experience stock-outs of essential drugs and family planning commodities	Aronovich et al 2010, pg. 31; MSH 2006, pg. 62
		Number and percentage of community-based organizations reporting no stock out of essential commodities during the reporting period	GFATM 2010, pg. 56
		Percent of unexpired index drugs/commodities available at service delivery points	MSH 2006, pg. 64
		Average percent time out of stock for a set of indicator drugs	MSH 2006, pg. 65

# ANNEX 17

## Generic Performance Indicators for Health Infrastructure, Equipment, and Products<sup>69</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Percent improvement in the availability of drugs, contraceptives, and related medical surgical commodities at the central, provincial, or district health facility level	MSH 2006, pg. 66
		Percent of clinics and health centers that experience decreasing stock-outs of essential drugs or other supplies	MSH 2006, pg. 69
	2.2 Are essential medicines affordable to clients?	Median consumer price ratio of 14 selected essential medicines in public and private health facilities	WHO 2010a, pg. 64

# ANNEX 18

## Generic Performance Indicators for the Community Component<sup>72</sup>

### COMMUNITY COMPONENT PROCESSES ..... PAGES 111-113

#### 1. Designing health systems and health services

- 1.1 Is there community participation in decision making and improving service quality at all levels of the health system?.....C\_P\_1.1
- 1.2 Are community-based organizations/networks meaningfully involved in policy making processes at national and /or sub-national levels? .....C\_P\_1.2

#### 2. Delivering health services (prevention, treatment, care and support)

- 2.1 Is there an institutional structure for a community-based service delivery system? .....C\_P\_2.1
- 2.2 Are strong management and accountability systems in place for community based organizations? .....C\_P\_2.2
- 2.3 Are community based organizations practicing strong M&E and contributing to the HSIS? .....C\_P\_2.3

#### 3. Overseeing health system performance

- 3.1 Are there mechanisms for the community to express dissatisfaction with health services, monitor or otherwise provide feedback on quality of care?.....C\_P\_3.1

#### 4. Managing workforce entry: hiring

- 4.1 Is the public sector able to fill open positions? ..... HW\_P\_4.1

### COMMUNITY COMPONENT OUTPUTS..... PAGE 114

#### 1. Voice/influence

- 1.1 Do communities feel that they have an effective voice in key health system decisions? ..... C\_O\_1.1

#### 2. HSIS

- 2.1 Is information from community systems feeding into formal HSIS?..... C\_O\_2.1

#### 3. Health system financing

- 3.1 Are community-based risk pooling mechanisms in place, especially those targeting the most vulnerable (i.e. poor and marginalized populations)?..... C\_O\_3.1

#### 4. Service coverage

- 4.1 Are community services expanding the reach of health services?..... C\_O\_4.1

---

<sup>72</sup> The framework and indicators for this building block are drawn from: The framework and indicators for this building block are drawn from: GFATM 2010; Butterfoss 2006; and Rifkin et al 1988.



# ANNEX 18

## Generic Performance Indicators for the Community Component<sup>72</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>COMMUNITY COMPONENT PROCESSES</b>			
<b>1. Designing health systems and health services</b>	1.1 Is there community participation in decision-making and improving service quality at all levels of the health system?	Number and percentage of community-based organizations that are represented in national- or provincial-level technical and policy bodies of disease programs	GFATM 2010, pg. 47
		Existence of committees/forums where community members can engage with and influence decisions affecting the health system	
		Involvement of community members in sub-national annual planning processes	
		Breadth of community role (as compared to the role of professionals) in conducting needs assessments for health programs	Rifkin et al 1988, pg. 934
		Breadth of community role (as compared to the role of professionals) in program leadership	Rifkin et al 1988, pg. 934
		Breadth of community role (as compared to the role of professionals) in program management	Rifkin et al 1988, pg. 934
		Breadth of community role (as compared to the role of professionals) in program organization	Rifkin et al 1988, pg. 934
		Breadth of community role (as compared to the role of professionals) in resource mobilization	Rifkin et al 1988, pg. 934
	1.2 Are community-based organizations/networks meaningfully involved in policy-making processes at national and /or sub-national levels?	Number and percentage of community-based organizations that implemented a costed communication and advocacy plan in the last 12 months	GFATM 2010, pg. 45
		Number and percentage of community-based organizations with a staff member or volunteer responsible for advocacy	GFATM 2010, pg. 46

# ANNEX 18

## Generic Performance Indicators for the Community Component<sup>72</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
2. Delivering health services (prevention, treatment, care, and support)	2.1 Is there an institutional structure for a community-based service delivery system?	Number and percentage of community-based organizations with a developed strategic plan covering three to five years	GFATM 2010, pg. 70
		Number and percentage of community-based organizations with the minimum capacity to deliver services according to national guidelines (where such guidelines exist)	GFATM 2010, pg. 60
		Number and percentage of community-based organizations that deliver services for prevention, care, or treatment and that have a functional referral and feedback system in place	GFATM 2010, pg. 48
		Number and percentage of community-based organizations that received supervision and constructive feedback in accordance with national guidelines (where such guidelines exist) in the last three/six months	GFATM 2010, pg. 52
	2.2 Are strong management and accountability systems in place for community-based organizations?	Number and percentage of community-based organizations that submit timely, complete, and accurate financial reports to the nationally designated entity according to nationally recommended standards and guidelines (where such guidelines exist)	GFATM 2010, pg. 54
		Number and percentage of community-based organizations with staff or volunteers who received training or retraining in management, leadership, or accountability in the last 12 months	GFATM 2010, pg. 62
		Number and percentage of community-based organizations that received technical support for institutional strengthening in the last 12 months	GFATM 2010, pg. 64
	2.3 Are community-based organizations practicing strong M&E and contributing to the HSIS?	Number and percentage of community-based organizations with a staff member or volunteer responsible for monitoring and evaluation	GFATM 2010, pg. 65

# ANNEX 18

## Generic Performance Indicators for the Community Component<sup>72</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Number and percentage of community-based organizations that are implementing a costed annual work plan that includes monitoring and evaluation activities	GFATM 2010, pg. 66
		Number and percentage of community-based organizations with at least one staff member or volunteer who received training or retraining in planning or M&E according to nationally recommended guidelines (where such guidelines exist) in the last 12 months	GFATM 2010, pg. 67
		Number and percentage of community-based organizations using standard data collection tools and reporting formats that enable submission of reports to the national reporting system	GFATM 2010, pg. 68
		Number and percentage of community-based organizations conducting reviews of their own program performance in the last three/six months	GFATM 2010, pg. 69
<b>3. Overseeing health system performance</b>	3.1 Are there mechanisms for the community to express dissatisfaction with health services and monitor or otherwise provide feedback on quality of care?	Number and percentage of community-based organizations that have been involved in joint national program review or evaluations in the last 12 months	GFATM 2010, pg. 44
		Number and percentage of community-based organizations that held at least one documented feedback meeting with the community they serve in the last six months	GFATM 2010, pg. 49

# ANNEX 18

## Generic Performance Indicators for the Community Component<sup>72</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>COMMUNITY COMPONENT OUTPUTS</b>			
<b>1. Voice/ influence</b>	1.1 Do communities feel that they have an effective voice in key health system decisions?	Satisfaction of community committee (e.g., facility governance committee, volunteer stakeholder committees, etc.) members with the process of participation and/or influence over decisions (e.g., setting goals and objectives, setting the budget, formulating annual plans, etc.)	Butterfoss, 2006, pg. 234
		Turnover rates for community committee membership	Butterfoss, 2006, pg. 234
<b>2. HSIS</b>	2.1 Is information from community systems feeding into formal HSIS?	Percentage of community health workers that report into the routine HIS	
<b>3. Health system financing</b>	3.1 Are community-based risk pooling mechanisms in place, especially those targeting the most vulnerable (i.e., poor and marginalized populations)?	Existence of community-based health financing schemes	
<b>4. Service coverage</b>	4.1 Are community services expanding the reach of health services?	Number and percentage of people who have access to community-based HIV, TB, or malaria services in a defined area	GFATM 2010, pg. 61

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

### SERVICE DELIVERY PROCESSES ..... PAGES 117-122

#### 1. Planning the delivery of services

- 1.1 Is there a systematic process of reviewing and planning service delivery? ..... SD\_P\_1.1
- 1.2 Are routine planning and decision making processes “evidence-based”;  
i.e. is available information used on population health needs, past performance, and costs? ..... SD\_P\_1.2
- 1.3 Are patients and target populations engaged in routine planning and decisions-making processes? ..... SD\_P\_1.3
- 1.4 Have clear and realistic service delivery targets been set? ..... SD\_P\_1.4

#### 2. Managing a continuum of care (integrated services, referrals, patient centered services)

- 2.1 Are essential services being provided? ..... SD\_P\_2.1
- 2.2 Are service “patient centered”? ..... SD\_P\_2.2
- 2.3 Is an effective referral system in place? ..... SD\_P\_2.3
- 2.4 Are communities and civil society engaged in providing services? ..... SD\_P\_2.4

#### 3. Managing service quality

- 3.1 Are clinical quality and patient satisfaction being monitored and assured? ..... SD\_P\_3.1
- 3.2 Are there mechanisms or initiatives for making quality improvements? ..... SD\_P\_3.2

#### 4. Managing outreach services and access issues

- 4.1 Are communities made aware of and encouraged to use services? ..... SD\_P\_4.1
- 4.2 Are there efforts to identify/understand barriers to access,  
especially for poor and marginalized populations? ..... SD\_P\_4.2

#### 5. Establishing collaboration between public and private sectors in service delivery

- 5.1 Are civil society organizations playing an important role in delivering health services? ..... SD\_P\_5.1
- 5.2 Are their well-functioning public private partnerships? ..... SD\_P\_5.2

### SERVICE DELIVERY OUTPUTS ..... PAGES 123-126

#### 1. Accessibility

- 1.1 Are the poor able to afford essential health services (i.e. are services financially accessible)? ..... SD\_O\_1.1
- 1.2 Are services physically accessible to the entire population? ..... SD\_O\_1.2

#### 2. Quality

- 2.1 Are services of sufficient/optimal quality? (i.e. do service meet quality standards?) ..... SD\_O\_2.1

#### 3. Continuity of care

- 3.1 Do patient experience seamless access to services that address their range of health needs? ..... SD\_O\_3.1

#### 4. Utilization

- 4.1 Are people using the services? ..... SD\_O\_4.1

#### 5. Technical efficiency

- 5.1 Are health services delivered efficiently with a minimum wastage of resources? ..... SD\_O\_5.1

<sup>69</sup> The framework and indicators for this building block are drawn from: The framework and indicators for this building block are drawn from: GFATM 2009; IHI 2007; Islam 2007; WHO 2010; USAID 2009; HMN 2008b; MSH 2006; MEASURE DHS 2006; WHO 2011; and HLQAT 2009.

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

**6. Allocative Efficiency**

6.1 Are budgeting decisions across health program areas (priority afflictions, prevention/treatment), geographic areas and spending categories (wages, equipment, products, etc.) informed by information on need and effectiveness? .....SD\_O\_6.1

**7. Equity**

7.1 Are essential services equitably distributed throughout the country?..... SD\_O\_7.1  
7.2 Is spending on health services equitable? .....SD\_O\_7.2

**8. Sustainability**

8.1 Are health services financially sustainable? ..... SD\_O\_8.1

**9. Safety**

9.1 Are facilities, services, and products safe? .....SD\_O\_9.1

**10. Responsiveness**

10.1 Do services respond to the needs of the population? .....SD\_O\_10.1

**HEALTH SYSTEM OUTPUTS .....PAGE 127**

- 1. Coverage: Family Planning..... 127**
- 2. Coverage: Maternal health ..... 127**
- 3. Coverage: Child health..... 127**
- 4. Coverage: Infectious diseases ..... 128**

**HEALTH SYSTEM OUTCOMES ..... PAGE 129**

- 1. Health status..... 129**
- 2. Health equity.....130**
- 3. Risk protection.....130**

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>SERVICE DELIVERY PROCESSES</b>			
<b>1. Planning the delivery of services</b>	1.1 Is there a systematic process of reviewing and planning service delivery?	Existence of an annual review and planning process at facility, district, and/or provincial levels	
		Existence of regular meetings (e.g., monthly) to review progress against annual plans at the facility and district levels	
	1.2 Are routine planning and decision-making processes “evidence-based,” i.e., is available information used with regard to population health needs, past performance, and costs?	Use of HIS, administrative, and population data (appropriately disaggregated) in annual review and planning processes (at the local government or facility level)	
		Use of HIS and administrative data in monthly management meetings (at the local government and/or facility level)	
		Use of scenario planning in the process of medium- or long-term health planning and budgeting	
		Analysis of the different needs and experiences of different segments of the target population (women, men, girls, boys, stigmatized groups, youth, migrants, linguistic groups, etc.) is used to inform the design and planning of service delivery	
		Existence of official mechanism for eliciting population priorities, perceptions of quality, and barriers to seeking care	Islam 2007, pg. 8.35
		HIS information is used to advocate for equity and increased resources to disadvantaged groups and communities (e.g., by documenting their disease burden and access to services)	HMN 2008b, pg. 67

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
	1.3 Are patients and target populations engaged in routine planning and decision-making processes?	Presence of official mechanisms to ensure the active engagement of civil society and the community in management of the health system	Islam 2007, pg. 8.34
		Use of patient satisfaction survey findings in annual review and planning processes	
	1.4 Have clear and realistic service delivery targets been set?	Existence of facility- or district-level annual plans with specific and realistic service delivery targets	
<b>2. Managing a continuum of care (integrated services, referrals, patient-centered services)</b>	2.1 Are essential services being provided?	Daily availability of the full range of key primary health care services (e.g., immunization, TB, prenatal care, family planning, malaria, malnutrition)	Islam 2007, pg. 8.26
		Proportion of health facilities offering specific services	WHO 2010a, pg. 12
		Number and distribution of health facilities offering specific services per 10,000 population	WHO 2010a, pg. 12
	2.2 Are services "patient centered"?	Existence of a patients' bill of rights	
		Percentage of facilities and hospital departments that have patients' bill of rights publicly displayed	
	2.3 Is an effective referral system in place	Existence of referral protocols	
		Existence of referral system data at the district level	Islam 2007, pg. 8.28
		% of referred patients reaching site within [X amount of time] (e.g., one month)	
	2.4 Are communities and civil society engaged in providing services?	Presence of official mechanisms to ensure the active engagement of civil society and the community in service delivery	Islam 2007, pg. 8.34



# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>3. Managing service quality</b>	3.1 Are clinical quality and patient satisfaction being monitored and assured?	Existence of national policies for promoting quality of care	Islam 2007, pg. 8.30
		Existence of clinical standards and safety guides adapted into a practical form for use at local level	Islam 2007, pg. 8.30
		Existence of clinical supervision by district-level supervisor	Islam 2007, pg. 8.31
		Percentage of supervision visits to health centers planned that were actually conducted	Islam 2007, pg. 8.32
		Existence of other processes assuring quality of care (e.g., formal or informal accreditation, continuous quality improvement teams, periodic health audits followed by improvement efforts, etc.)	Islam 2007, pg. 8.33
		A system for quality assurance has been institutionalized	MSH 2006, pg. 52
		There is a systematic approach to evaluating the quality of services provided by health facilities that 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 five years	HMN 2008b, pg. 41
		Managers at health administrative offices at all levels (national, regional/ provincial, district) use health information for health service delivery management, continuous monitoring, and periodic evaluation	HMN 2008b, pg. 68
		Care providers at all levels (national, regional/ provincial, and district hospitals and health centers) use health information for health service delivery management, continuous monitoring, and periodic evaluation	HMN 2008b, pg. 68

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		# of times in the past 12 months that facility/hospital leadership conducted community focus groups	HLQAT 2009, pg. 1
		# of times in the past 12 months that facility/hospital leadership reviewed patient satisfaction surveys/complaints, patient safety data, and/or employee satisfaction data	HLQAT 2009, pp. 1-2
		# of times in the past 12 months that facility/hospital leaders conducted walk rounds to discuss quality and safety of care with staff, patients, or families	HLQAT 2009, pg. 2
		# of times in the past 12 months that facility/hospital managers discussed clinical quality and patient satisfaction data with staff	HLQAT 2009, pg. 4
		% of hospital/facilities that make their data on clinical quality and patient satisfaction publicly available	HLQAT 2009, pg. 3
		Existence of forum for managers from different departments or disease programs to jointly discuss and address quality and patient satisfaction issues	HLQAT 2009, pg. 4
		Existence of an up-to-date and accurate registration system for professional health workers	WHO 2010a, 33
	3.2 Are there mechanisms or initiatives for making quality improvements?	Number and percent of facilities/hospitals where quality improvement (QI) teams have been established (i.e., where QI initiatives are being implemented)	
		Number and percent of facilities/hospitals that have established measures to evaluate progress toward quality improvement goals	HLQAT 2009, pg. 3
		# of times in the past 12 months that facility/hospital leadership reviewed updates on major quality improvement initiatives	HLQAT 2009, pg. 1

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		# of times in the past 12 months that facility/hospital leadership reviewed progress toward clinical quality goals	HLQAT 2009, pg. 2
		Number and percent of facilities where QI initiatives have been evaluated for effectiveness (improvement trends, comparison to other facilities, etc.)	HLQAT 2009, pg. 6
		Number and percent of facilities where QI initiatives have been evaluated for sustainability	HLQAT 2009, pg. 6
		Number and percent of facilities that have annual operating budgets that include specific funding for QI activities	HLQAT 2009, pg. 6
<b>4. Managing outreach services and access issues</b>	4.1 Are communities made aware of and encouraged to use services?	Number and percent of facilities that have annual operating budgets that include specific funding for QI activities	HLQAT 2009, pg. 6
	4.2 Are there efforts to identify/understand barriers to access, especially for poor and marginalized populations?	% of facilities that have conducted community outreach or demand-generation activities in the past six months	
Existence of official mechanism for eliciting population priorities, perceptions of quality, and barriers to seeking care		Islam 2007, pg. 8.35	
<b>5. Establishing collaboration between public and private sectors in service delivery</b>	5.1 Are civil society organizations playing an important role in delivering health services?	Civil society organizations with the minimum capacity to deliver HIV, TB, and malaria services (number and percentage)	GFATM 2009, pg. 286

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Distribution of civil society organizations providing HIV, TB, and malaria services in a defined catchment area per 1,000 population by type of service (number)	GFATM 2009, pg. 286
		Civil society organizations supported for health system strengthening (number and percentage)	GFATM 2009, pg. 286
	5.2 Are there well-functioning public-private partnerships?	% of private sector hospitals/facilities/dispensaries that are integrated into the public referral system	

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>SERVICE DELIVERY PROCESSES</b>			
<b>1. Accessibility</b>	1.1 Are the poor able to afford essential health services (i.e., are services financially)	Out-of-pocket (OOP) spending as a share of total health spending (more than 60% indicates a financial barrier)	Islam 2007, pg. 8.19; USAID 2009, pg. 23
		Existence of user fee exemptions and waivers	Islam 2007, pg. 8.20
		Median consumer price ratio of 14 selected essential medicines in public and private health facilities	WHO 2010a, pg. 64
	1.2 Are services physically accessible to the entire population?	% of the population within [X] kms of a primary health facility (or average distance from primary health facility)	Islam 2007, pg. 8.19; WHO 2010
		Physicians, nurses, hospitals per 1,000 population	Kruk and Freedman 2008, pg. 267
		Basic and comprehensive emergency obstetrics care facilities per 500,000 population	Kruk and Freedman 2008, pg. 267
<b>2. Quality</b>	2.1 Are services of sufficient/optimal quality (i.e., do services meet quality standards)?	Use of evidence-based diagnostics and therapies (Hb A1C for diabetes, aspirin for myocardial infarction, correct antibiotic for community-acquired pneumonia)	Kruk and Freedman 2008, pg. 267
		Rate of avoidable hospitalizations	Kruk and Freedman 2008, pg. 267
		Infection and complication rates from surgery	Kruk and Freedman 2008, pg. 267

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
		Case fatality rates	Kruk and Freedman 2008, pg. 267
		Treatment complication rates (TB)	Kruk and Freedman 2008, pg. 267
<b>3. Continuity of care</b>	3.1 Do patients experience seamless access to services that address their range of health needs?	Level of informational continuity of care	Islam 2007, pg. 8.27
		Level of vertical continuity of care	Islam 2007, pg. 8.28
<b>4. Utilization</b>	4.1 Are people using the services?	Number of people seeking services at outpatient departments per 10,000 population	WHO 2010a, p. 10; GFATM 2009, p. 286; Islam 2007, p. 8.21
		Utilization of essential health services by disadvantaged groups (e.g., attended delivery, modern contraceptives, specialist visits)	Kruk and Freedman 2008, pg. 267
<b>5. Technical efficiency</b>	5.1 Are health services delivered efficiently with a minimum wastage of resources?	Cost per case treated (e.g., per hospital day, per inpatient case, per outpatient visit)	Kruk and Freedman 2008, pg. 267; IHI Improvement Map, L5
		Average length of stay	Kruk and Freedman 2008, pg. 267
		Cost effectiveness ratios for specific services (compared to alternative services)	Kruk and Freedman 2008, pg. 267

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
6. Allocative efficiency	6.1 Are budgeting decisions across health program areas (priority afflictions, prevention/treatment), geographic areas, and spending categories (wages, equipment, products, etc.) informed by data on need and effectiveness?	HIS information is widely used by district and subnational management teams to set resource allocations in the annual budget processes	HMN 2008b, pg. 68
7. Equity	7.1 Are essential services equitably distributed throughout the country?	Difference between health worker densities, stock-out rates for essential medicines, and facility readiness scores across geographic areas	
	7.2 Is spending on health services equitable?	Proportion of health financing that reaches the poorest income quintile	Kruk and Freedman 2008, pg. 267
		Extent of out-of-pocket payments, indirect payments, and informal fees for essential services	Kruk and Freedman 2008, pg. 267
		OOP spending as a percentage of private health spending (more than 80% might indicate imbalance)	Islam 2007, pg. 8.19
8. Sustainability	8.1 Are health services financially sustainable?	% of facilities that have secure funding for at least two years	
		Percent of annual revenue generated from diverse sources	MSH 2006, pg. 98
		Percent of annual operating budget that is covered by income generated through service delivery	MSH 2006, pg. 99
		# of proposals the organization submitted for external funding in the past 12 months	MSH 2006, pg. 100

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

FRAMEWORK	PERFORMANCE QUESTIONS	PERFORMANCE INDICATORS	REFERENCE
<b>9. Safety</b>	9.1 Are facilities, services, and products safe?	Number of illnesses or injuries resulting from unsafe medicines, supplies, or equipment	
		Rate of adverse events	IHI 2007, pg. 20
		Incidence of nonfatal occupational injuries and illnesses	IHI 2007, pg. 21
<b>10. Responsiveness</b>	10.1 Do services respond to the needs of the population?	Percentage of people expressing satisfaction with the care and support services received at the community level	GFATM 2009, pg. 286
		Percentage of people expressing satisfaction with health care services received within public and private health facilities	GFATM 2009, pg. 286
		Being treated with respect	Kruk and Freedman 2008, pg. 267
		Quality of physician-patient communication	Kruk and Freedman 2008, pg. 267
		Length of wait for care	Kruk and Freedman 2008, pg. 267



# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

HEALTH SERVICE/HEALTH SYSTEM INTERMEDIATE OBJECTIVES <sup>77</sup>		
<b>1. Coverage: Family planning</b>	Contraceptive Prevalence Rate (% of women aged 15–49)	Islam 2007, pg. 8.11; WHO 2011, pg. 59
	Birth Spacing (36 months or more)	MEASURE DHS 2006
	Births to young mothers (under age 18)	MEASURE DHS 2006
	High parity births (births order five or more)	MEASURE DHS 2006
<b>2. Coverage: Maternal health</b>	Births attended by skilled health personnel (%)	Islam 2007, pg. 8.10; WHO 2011, pg. 28
	Percentage of pregnant women who received 1+ antenatal care visits from a skilled health professional	Islam 2007, pg. 8.12; WHO 2011, pg. 18
	Antenatal care coverage = at least four visits (%)	WHO 2011 pg. 15
	Institutional delivery rates	MEASURE DHS 2006
<b>3. Coverage: Child health</b>	Diphtheria tetanus toxoid and pertussis (DTP3) immunization coverage among one-year-olds (%)	Islam 2007, pg. 8.11; WHO 2011, pg. 80
	Children aged <5 years with diarrhea receiving oral rehydration therapy	WHO 2011, pg. 48
	Safe disposal of children's stools	MEASURE DHS 2006

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

HEALTH SERVICE/HEALTH SYSTEM INTERMEDIATE OBJECTIVES <sup>77</sup>		
	Children aged 6–59 months who received vitamin A supplementation	WHO 2011, pg. 54
	Children aged <5 years underweight (%)	WHO 2011, pg. 43
	Exclusive breastfeeding under six months (%)	WHO 2011, pg. 93
	Population using improved drinking-water sources (%)	WHO 2011, pg. 198
<b>4. Coverage: Infectious diseases</b>	Household ownership of insecticide-treated nets	MEASURE DHS 2006
	Children aged <5 years sleeping under insecticide-treated nets (%)	WHO 2011, pg. 38
	Tuberculosis case detection rate for new smear-positive cases (%)	WHO 2011, pg. 226
	Prevalence of condom use by adults (15–49 years) at higher-risk sex (%)	WHO 2011, pg. 205
	Antiretroviral therapy coverage among HIV-infected pregnant women for PMTCT (%)	WHO 2011, pg. 21
	Antiretroviral therapy coverage among people with advanced HIV infection (%)	WHO 2011, pg. 24
	Number and percentage of people that have access to community-based HIV, TB, or malaria services in a defined area	GFATM 2010, pg. 61
	Effective treatment for malaria within 24 hours	Kruk and Freedman 2008, pg. 267

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

SERVICE DELIVERY/HEALTH SYSTEM OUTCOMES		
<b>1. Health status</b>	Life expectancy at birth	WHO 2011, pg. 116; Islam 2007, pg. 8.12
	Health life expectancy (HALE) at birth	WHO 2011, pg. 105
	Mortality rate, infant (per 1,000 live births)	Islam 2007, pg. 8.12
	Maternal mortality ratio (per 100,000 live births)	WHO 2011, pg. 119; Islam 2007, pg. 8.13
	Neonatal mortality rate (per 1,000 live births)	WHO 2011, pg. 130
	Total fertility rate (per woman)	WHO 2011, pg. 225
	Higher-risk sex among women/men 15–49	MEASURE DHS 2006
	Youth sexual experience among women/men 15–19	MEASURE DHS 2006
	Prevalence of HIV, total (% of population aged 15–49)	Islam 2007, pg. 8.13; WHO 2011, pg. 113
	Deaths due to malaria (per 100,000 population)	WHO 2011, pg. 63
	Estimated prevalence of tuberculosis (per 100,000 population)	WHO 2011, pg. 91
	Estimated deaths due to tuberculosis, excluding HIV (per 100, 000 population)	WHO 2011, pg. 87

# ANNEX 19

## Generic Performance Indicators for Service Delivery<sup>73</sup>

SERVICE DELIVERY/HEALTH SYSTEM OUTCOMES		
2. Health equity	Mortality rates for lowest quintile (under five, 15–49, maternal, cancer)	Kruk and Freedman 2008, pg. 267
	Mortality rates for women, immigrants, members of ethnic groups, people in remote geographic areas	Kruk and Freedman 2008, pg. 267
3. Risk protection	Proportion of population with catastrophic health expenditures	Kruk and Freedman 2008, pg. 267





THE SCIENCE OF IMPROVING LIVES

**FHI 360 HEADQUARTERS**

2224 E NC Hwy 54  
Durham, NC 27713 USA  
**T** 1.919.544.7040  
**F** 1.919.544.7261

**WASHINGTON DC OFFICE**

1825 Connecticut Ave, NW  
Washington, DC 20009 USA  
**T** 1.202.884.8000  
**F** 1.202.884.8400

**ASIA-PACIFIC REGIONAL  
OFFICE**

19th Floor, Tower 3  
Sindhorn Building  
130–132 Wireless Road  
Kwaeng Lumpini, Khet  
Phatumwan  
Bangkok 10330 Thailand  
**T** 66.2.263.2300  
**F** 66.2.263.2114

**REGIONAL TECHNICAL HUB**

Valley Road  
Chancery Building, 2nd Floor  
Nairobi, Kenya  
**T** 254.20.271.3911/5  
**F** 254.20.282.4170

[www.FHI360.org](http://www.FHI360.org)