SECTION 3: GUIDANCE ON ASSESSMENT OF THE HEALTH SYSTEM AND ITS CORE FUNCTIONS

MODULE 1: COUNTRY AND HEALTH SYSTEM OVERVIEW

This module describes the country-specific background information that is included in the overview chapter of the Health System Assessment report.

CONTENTS

FIGURE

TABLES

ACRONYMS

ANC	Antenatal Care
CBOH	Central Board of Health
DALY	Disability Adjusted Life Years
DHB	District Health Board
DHMT	District Health Management Team
DHS	Demographic and Health Survey
EPI	Expanded Programme on Immunization (WHO)
FBO	Faith-Based Organization
HIS	Health Information System
HSS	Health System Strengthening
MDG	Millennium Development Goals
MOF	Ministry of Finance
MOH	Ministry of Health
PEPFAR	The United States President's Emergency Plan for AIDS Relief
SDGs	Sustainable Development Goals
SWAps	Sector-wide Approaches
UHC	Universal Health Coverage

1. INTRODUCTION

This module helps the team leader and assessment coordinator understand which background information to gather about the HSA country and its health system.

The Country and Health System Overview is the background or foundational chapter of the assessment report. Using the principle "beginning with the end in mind," the background information should both reflect the client priorities for the HSA and paint a picture of the country's unique epidemiological and demographic profile as well as health system challenges and resources that will determine its path and progress toward universal health coverage (UHC).

The objectives of the assessment and the country-specific context are critical for deciding which technical areas should be prioritized, which indicators should be prioritized, which stakeholders should be interviewed, how the assessment team should be composed, and so on. And even if countries are far from achieving UHC and the specific focus of an HSA is not on UHC, the assessment team should be mindful of the two essential domains of UHC—coverage with good-quality essential services and with financial protection—which are also the aims of a well-functioning health system.

Ideally, the team leader will write or assign someone to draft this chapter before the assessment begins. Before starting their individual health system core function analyses, all technical members of the HSA team should read the chapter so they understand the overall health system context and the broad challenges and opportunities to strengthen health system performance and pursue UHC.

This module looks at how the HSA approaches the country and health system overview:

- Subsection I.I defines issues affecting the health system and examines general health conditions in the country.
- Subsection 1.2 describes the health system in the country.
- Subsection 1.3 describes assessment indicators.
- Subsection 1.4 describes linkages to country health strategies.
- Subsection 1.5 explores key issues related to external development partner support to health system strengthening.
- Subsection 1.6 contains a checklist of topics that the team leader or other writers can use to make sure they have included all recommended content in the chapter.

Prior to drafting this chapter, the team leader or team member should check to see if any recent assessments have been carried out on the country's health system performance on the whole, or of a particular component of the health system that sheds light on underlying systemic challenges the country faces. These assessments will provide extra background and depth to the HSA.

As discussed in Section I, there are a number of global initiatives in place or taking shape to assess countries' health system performance in the context of progress on the sustainable development goals (SDGs), readiness for or progress toward UHC, and health security and resilience in the face of epidemics, natural disasters, or political unrest. The HSA team will benefit from being aware of any specific assessments or shared data resulting from the following initiatives:

- European Observatory on Health Systems and Policies and WHO—Health Care Systems in Transition (HiT series)

- Global Health Security Agenda Assessment Tool
- Health Data Collaborative
- Joint Assessment of National Health Strategies (JANS) Tool & Guidelines of the International Health Partnership (IHP+)
- OECD Health Systems Analysis
- Poverty Reduction Strategy Paper Sourcebook
- Primary Health Care Performance Initiative
- WHO African Health Observatory
- WHO Country Health Policy Process
- WHO Global Health Observatory Data
- WHO Toolkit for Assessing Health-System Capacity for Crisis Management
- WPRO Asia Pacific Observatory

2. ISSUES AFFECTING THE HEALTH SYSTEM

The overview should include a discussion of the major county contextual factors that may have an effect on the health system. It should follow with key opportunities and challenges facing the health system with a view toward strengthening health system performance in the context of preparing for or advancing UHC policies and initiatives. Most countries address these challenges in their Ministry of Health (MOH) statistical bulletin, health system strategy, or other planning documents, so the HSA team can identify the challenges during the desktop review of secondary source materials.

The issues affecting the health system generally can be grouped into the following categories:

- Health issues
- Systemic issues
- Political/policy and macroeconomic issues

2.1. Health Issues

To understand the general health status in the study country, the HSA team should identify the following:

- Overall population trends to provide a sense of the population size, composition, and growth rate as well as where the study country is in terms of the demographic transition from higher to lower fertility and mortality rates. See Table 3.1.1 for population indicators from the Guatemala HSA.

Table 3.1.1 Population indicators in Guatemala and the LAC Region (2013)

Indicator	Guatemala	LAC
Population total (millions)	15.5	588
Total Fertility Rate (births per woman)	3.8	2.2
Population growth (annual %)	2.5	1.1
Rural population (% of total)	49.3	21
Population ages 0–14 (% of total)	40.4	27
Population ages 65 and above (% of total)	4.6	7

Source: World Bank 2015

- Evidence of progress made over the past decade toward the millennium development goals (MDGs) (United Nations 2015) and/or any progress made toward achieving the SDGs. See *Sustainable Development Goals* (United Nations n.d.).
- Major causes of mortality and morbidity: List the 5–10 main causes of mortality and morbidity for the country. (As noted above, these can usually be found in MOH documents.)
- Diseases that have the highest disability adjusted life years (DALY).[1] List the 5–10 diseases that have the highest DALY rates. If you want to compare the rates with those of other countries, use the age-standardized DALY rates.

Patterns in the burden of disease also can be noted so the team can begin to identify priorities for research and affected populations, especially for HIV and AIDS, TB, malaria, reproductive health, and child health. It can be helpful to extend the data analysis by sex and age groups, wealth quintiles, and rural versus urban areas. Examination of historical or recent shocks to the health system—such as the Ebola epidemic in West Africa or the earthquake in Haiti—are discussed further in the following section, as they affect not only the health system but also the country as a whole. These crises are important to take into consideration by charting morbidity and mortality over time and discussing the effect of the crises on the health sector. System "shock" is also discussed in Section 3, Module 2: Service Delivery and in Annex 2.4.C.

The following text box contains a burden of disease table and analysis done by the HSA team in Benin.

Benin HSA: Main Causes of Morbidity and Mortality

The epidemiological profile of Benin is characterized by a high rate of infectious diseases followed by nutritional issues. Table 3.1.2 presents the main causes of outpatient consultations and inpatient admissions in public facilities and in some private facilities in 2004.

Table 3.1.2. Main Causes of Outpatient Consultations and Inpatient Admissions in Benin, 2004

Outpatient Consultations		Inpatient Admissions	
Under Age 5	**Total**	**Under Age 5**	**Total**
Malaria	Malaria	Malaria	Malaria
ARI	ARI	Anemia	Anemia
Diarrhea	Gastrointestinal	ARI	Diarrhea
Anemia	Injuries	Diarrhea	ARI
Gastrointestinal	Diarrhea	Malnutrition	Injuries

Source: Translated from Adeya et al. 2007. Note: ARI = Acute Respiratory Infections.

The prevalence of HIV and AIDS in 2004 was estimated at 2 percent (2.4% in urban areas and 1.6% in rural areas). Also, the rate of noncommunicable diseases such as cardiac diseases and cancer is increasing in Benin. WHO data on mortality and DALY for Benin, based on 2002 data, are presented in Table 3.1.3. Age-standardized rates allow comparing with other countries having different age structures. But nonstandardized rates, which reflect the absolute figures, present a more precise profile of the morbidity and mortality in Benin and show that acute respiratory infections and malaria are the main causes of mortality and morbidity. Figures also show the impact of noncommunicable diseases, injuries, and other health problems (perinatal conditions).

Table 3.1.3. Diseases That Have the Highest DALY and Main Causes of Death According to WHO Global Burden of Disease (2002)

Diseases That Have the Highest DALY (age standardized)	Main Causes of Death (age standardized)	Diseases That Have the Highest DALY (nonstandardized)	Main Causes of Death (nonstandardized)
ARI	Cardiovascular diseases	ARI	ARI
Malaria	ARI	Diarrhea	Malaria
Injuries	Cancer	Malaria	Cardiovascular diseases
HIV and AIDS	Malaria	Injuries	Diarrhea
Cardiovascular diseases	Injuries	Diarrhea	Injuries
Neuropsychiatric conditions	HIV/AIDS	Perinatal conditions	HIV and AIDS
Diarrhea	Diarrhea	HIV and AIDS	Cancer
		Neuropsychiatric conditions	

Source: Translated from Adeya et al. 2007. Note: ARI = Acute Respiratory Infections.

Knowing the main causes of mortality and morbidity overall and affecting different socioeconomic and demographic groups is important for developing and prioritizing HSA recommendations. While the HSA approach does not have a disease-specific focus, it may be necessary to address such issues, based on client priorities, and to highlight particular challenges to be overcome in order to further progress toward a systemic focus on achieving UHC.

DALYs for a disease are the sum of the years of life lost due to premature mortality in the population and the years lost due to disability for incident cases of the health condition. The DALY combines in one measure the time lived with disability and the time lost due to premature mortality. One DALY can be thought of as one lost year of “healthy” life and the burden of disease as a measurement of the gap

between current health status and an ideal situation where everyone lives into old age free of disease and disability.

2.2. Systemic Issues

Many factors that influence the health of the population are outside the influence of health systems, yet they need to work together to improve a country's health system. Systemic issues are country specific and affect the whole health system. Systems constraints in a health system assessment typically include the following:

- The degree to which the business environment enables private sector enterprises and service providers to operate
- The capacities of public, private, and civil society organizations to strengthen the health system
- Historical or previous system shocks due to epidemics, natural disaster, civil or political unrest, or armed conflict
- The adequacy of human resources in the health system
- The prevalence of informal payments and/or corruption

The first two of these systemic issues are discussed below. Adequacy of human resources and issues like informal payments are discussed in later modules. See Annex 2.4.C for specific examples of systems constraints.

Enabling a Business Environment

As countries strive to meet their SDGs and achieve UHC, the private sector plays an important role in meeting growing demand for services. The HSA team should identify systemic issues that affect sustaining and expanding the overall private sector, such as barriers to private investment and enterprise growth. Research indicates that in many countries, private for-profit health providers are an effective alternative to public sector facilities that may lack trained health personnel, essential medicines and medical products, or equipment and supplies; in such settings, there is high demand for and utilization of the private sector for basic health services. In addition, businesses may provide health services for employees directly or by contributing to health insurance or other financing mechanisms. An environment that is conducive to private sector development can facilitate the expansion of private health service delivery.

The World Bank/International Finance Corporation Enterprise Survey and Doing Business websites offer information on the business climate in 183 economies, in particular the ease of starting, running, and exiting a business. More specifically, Enterprise Survey reports (World Bank Group n.d.) gives a snapshot of the investment climate of individual countries and comprehensive economy-specific reports. Doing Business reports (World Bank n.d.a) ranks the economies on the ease of doing business there.

A review of these reports will enable the team to identify the major barriers to doing business, which ultimately may be limiting the private delivery of health services. The team should confirm the barriers during in-country interviews with private health sector actors such as the following:

- Bank managers (specializing in small and medium enterprises)
- Business associations
- Chambers of commerce

- Economic Growth Division of the USAID mission in the HSA country
- International Finance Corporation representative
- NGOs and faith-based organizations (FBOs) (for informal sector and community organizations)
- Private companies and health care providers
- Technology companies

2.3. Health System Strengthening Capacities of Public, Private, and Civil Society Organizations to Strengthen Health Systems

The success of health systems strengthening (HSS) activities depends to an extent on the capacity of the organizations that might contribute to strengthening the health system—and not just in terms of providing health care. Without local capacity, HSS efforts will rely on international sources of assistance, which are costlier and lack the same degree of local ownership. The information collected for this section will inform how fast interventions can be implemented and suggest interventions aimed at strengthening country capacity.

TIP: RELIABLE RESOURCES FOR ECONOMIC INDICATORS

Updated information on macroeconomic, financial, and regulatory policy indicators for most countries is available in World Bank and International Monetary Fund publications

2.4. Health System Shock

In countries where there has been a shock to the country that affects not just the health system but also the country as a whole, it is critical to understand how the health system responded to that shock. The information collected for this section will address both historical and previous crises that "shocked the health system," among them epidemics, natural disasters, political unrest, or armed conflict. One way to reflect this information is to collect and reflect key service delivery indicators over time, including 3 years prior to the system shock through the present. See Section 3, Module 2: Service Delivery for more discussion on this as well as Annex 2.4.C.

Table 3.1.4 provides a framework for assessing readiness of a country's capacity to guide and strengthen the health system.

Table 3.1.4. Framework for Assessing Availability of Capacity to Guide and Strengthen the Health System

Role and Function	Organization
Leadership to set direction, align stakeholders with the direction, mobilize resources, set standards, and monitor implementation	MOH (e.g., planning department)
Research to provide the evidence for health system changes	Research institutions (e.g., universities, think tanks)
Technical assistance to address specific problems	Consulting firms, NGOs, and universities
Training to develop professionals with expertise in strengthening health systems	Training institutions (e.g., universities)
Advocacy organizations to build support and hold government accountable	NGOs, professional organizations, private sector associations
Standard setting	Professional organizations, MOH

A rapid assessment of the individual staff and organizational capacities of these institutions will provide an overall picture of the degree to which the country can take responsibility for HSS.

Key questions to ask include the following:

- Are there capable consulting firms, NGOs, or FBOs that can be contracted to provide technical assistance in issues related to the core health system functions?
- Are there organizations that have the capacity to provide norms and standards on quality of care for health workers to follow?
- Are there research institutions with the capacity to provide the evidence needed to inform HSS and health policy reform?
    - How capable are the institutions of carrying out research and studies and monitoring progress toward UHC?
    - Are they able to present the results of the research effectively to policymakers?
- Does the MOH have a unit with overall responsibility for HSS, such as a policy and planning department?
    - Does it have high-level support within the ministry?
    - Does it have the mandate, staff, and resources to carry out its functions?
- Is there organizational capacity to advocate for UHC through HSS improvements?
    - Where is this capacity within the government?
    - Where is this capacity outside the government?

- Is there sufficient capacity in-country to train public health leaders in HSS?
  - Where is this capacity—schools of higher education?
  - What specific degrees do they currently offer?

What is the country's commitment to and readiness for UHC reforms and policies? The overall intent of this part of the assessment is to determine whether HSS capacity—not just the capacity to deliver health care—exists in the country. If not, it can be included as an area of intervention, albeit over the longer term.

2.5. Political/Policy and Macroeconomic Issues

This section provides a picture of the macro-level decisionmaking processes for country policy and programs, the level of resources available in a country, and who controls the resources. It also indicates the opportunities for private sector strengthening and expansion and for innovative financing mechanisms.

This section first describes the political structure of the country. Key issues include:

- Does the country have a market economy? Is it in transition (e.g., from a command to a market economy)? How is the head of government elected? Popular vote? Are elections held regularly?
- Is the economy generally open and competitive, or is economic power highly concentrated?
- Is there separation of powers within the government? For example, are the legislative and executive branches independent of each other? What about the judicial branch? Are there mechanisms in place to uphold the law?
- What is the level of political stability within the country? For example, is the situation calm or is the country experiencing civil discord or violence?

This information indicates which institutions and actors the government, development partners, and technical assistance providers should work with and which systems ensure (or might be strengthened to ensure) financial and programmatic accountability.

It is also important to provide an overview of the macroeconomic environment. The following questions can serve as a guide:

- Is the country stable economically (e.g., low inflation, low unemployment, growth of the GDP)?
- What is the estimated size of the informal economic sector (usually given as a percentage of GDP)? In most developing countries, the informal sector is a significant part of the overall economy, representing up to 50 percent of the total labor market.[2]
- What is the level of economic development?
- What is the role of the private sector in the country?
  - Does the government support private sector activity?
  - What is the role of the private sector in health care provision?
  - Does the legal and regulatory framework of the country support the private provision of health care services?

What is the standard of living and the poverty level? What is the average level of education?

In addition, the overview should describe the country's general infrastructure: roads, transportation, water and sanitation, electricity, and telecommunications.

3. DESCRIPTION OF THE HEALTH SYSTEM

The general description of the health system should include information about who participates in the system, where services are provided, and how the system is managed.

3.1. Government, Private, and Civil Society Actors

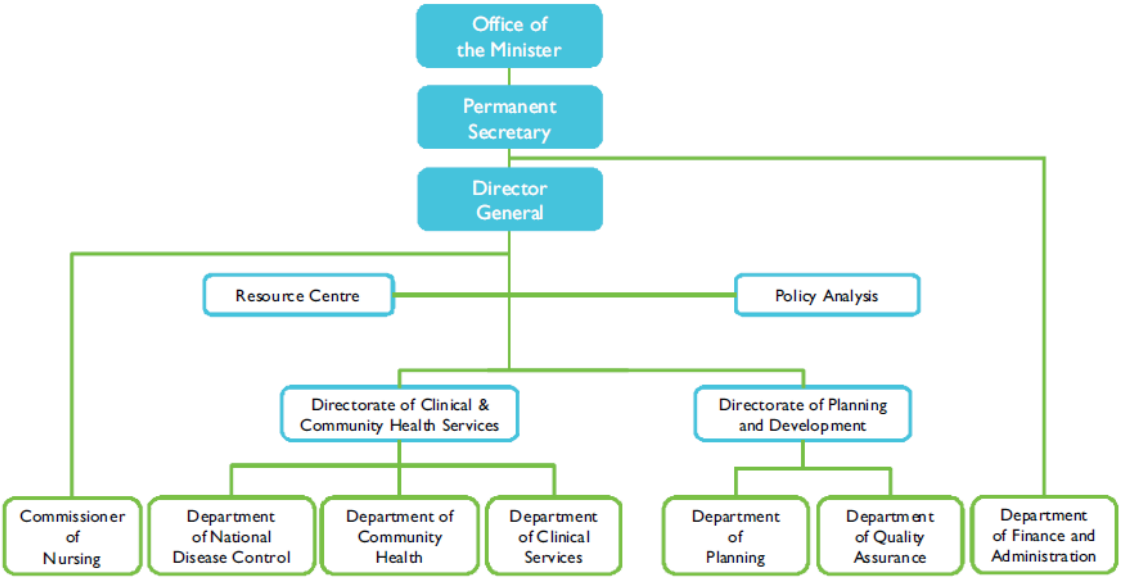
A key to understanding the overall functioning of a health care system is to understand the structure and interaction of the main governmental ministries and private organizations involved in the design and delivery of health services and how these might be affected by a commitment to UHC. These are, for example, the MOH, the Ministry of Finance (MOF), other line ministries, the social security program, health maintenance organizations, private insurance companies, private commercial providers, NGOs involved in service delivery, and other key actors. (See Section 2, Module 1.3, for the range of health system actors.) This analysis will help the HSA team identify the appropriate stakeholders to consult for this assessment.

The following are elements to identify, link, and map:

- Which agencies and organizations oversee the following functions of the health system: financing, planning, human resource management, service delivery, project implementation, insurance, leadership and governance, information and statistics management, and regulation?
- Which agencies and organizations (public and private) have mandates that affect the health system?
    - How are the primary sectors of the health system—public, private (both commercial for-profit and NGO/FBO) organized? Is civil society active?
- Who are the executive teams or individuals within these agencies and organizations?
- Who heads each of the departments and divisions responsible for health system functions in each of these agencies and organizations? Try to disaggregate the agencies and organizations responsible for each health system function.
-

An organogram is a useful way to present, in graphic form, the structure of an organization to understand its reporting structures, major units/divisions, functions, and levels of accountability. Figure 3.1.1 is an organogram that depicts the structure and relationships of the Ugandan MOH. See Health System Assessment Resource Center for a report on the Uganda Health System Assessment in 2011 (Ministry of Health, Health Systems 20/20, and Makerere University School of Public Health 2012).

Figure 3.1.1. Organogram of the Ministry of Health of Uganda



Source: Ministry of Health, Health Systems 20/20, and Makerere University School of Public Health (February 2012)

Proposed sources of information for this topic should include:

- Ministries' or private organizations' offices. Also, consult their websites and publications, if available.
- WHO's International Digest of Health Legislation (WHO 2009b). The digest and accompanying database of websites describe the MOH organizational structure for selected countries and where available, provide links to websites that contain the legislation that sets out the structure.

Another potentially useful way to view health system actors is by mapping a UHC readiness checklist. The USAID 2015 assessment, *Universal Health Coverage and Health Financing in Bangladesh: Situational Assessment and Way Forward* developed a UHC readiness checklist based on the documented experience with UHC across 24 countries, See *Going Universal: How 24 Countries Are Implementing Universal Health Coverage Reforms from the Bottom Up* (Cotlear et al., 2015). The assessment team applied this checklist to the Bangladesh context to help them identify preparedness, institutional capacity, issues and gaps, and priority needs in health system strengthening to advance UHC.

3.2. Health Facilities and Services

The service delivery function is defined as a health care system's ability to provide reliable, accessible, and quality services. This section of the overview should describe how the delivery of care is organized, how it functions, and who the health actors participating in service delivery are. Note that this dimension of health systems is also discussed in greater detail in Section 2, Module 2—Service Delivery.

For the HSA team to get a complete picture of the health system's service delivery system, the team leader or coordinator should complete Table 3.1.5 using the most recent information available on the number of health facilities and human resources. Sources of information include health facility or health

provider surveys, United Nations agencies in country, the MOH, and associations of private providers. The table may be customized to suit the country-specific terminology for facilities and workers.

Table 3.1.5. Template: Country's Service Delivery System—Facilities and Human Resources

Setting	Public	Private				Total
		For-profit	Not-for-profit or NGO	FBO	Total Private	
Facilities						
Hospitals						
Clinics						
Health posts						
Laboratories						
Pharmacies						
Others (e.g., voluntary counseling and testing centers)						
Human Resources						
Doctors						
Nurses						
Midwives						
Traditional healers						
Other						

It should be noted that most developing countries do not have data on utilization of private health services (such as outpatient visits and hospital admissions per capita) or supply of services (quantity of providers, market share of each, and composition). For this information, the team leader needs to contact private provider associations to find out how the sector is organized, who its members are, and what its role and experiences in partnering with the government or development partners are. In addition, in many emerging economies, the informal private health sector is a significant source of services. The most recent demographic and health survey (DHS) or household health expenditure survey may have data on the informal sector's "share" of the market. The informal health sector includes traditional healers, herbalists, kiosks, and black markets for medicines. Partnering with informal health providers can be an effective way to reach some target populations and to change behaviors.

Many countries do have data on the split between urban and rural locations of service providers, a breakdown that is critical for analyzing dimensions of access, quality, and equity. National Health Accounts data, if available, often show the percentage of total health financing that goes to private sector providers. Utilization data may be available from a household survey on health service utilization or from the DHS (which presents, for example, the percentage of women of reproductive age who get their contraception from the private sector or source of HIV testing). Typically, MOH utilization data cover only public sector providers.

3.3. System Management and Level of Decentralization

Decentralization is the distribution of power, authority, and responsibility for political, economic, fiscal, and administrative systems between the center and the regional or local levels of a country. It is critical to understand this aspect of the country's health system before starting the assessment, because it shows how the health system is organized and therefore where—that is from which level—different types of data can be collected.

The assessment team's objective will be to identify the responsibilities of the different levels of government regarding health system functions, which include the following:

- Financing the health system
- Handling capital investments in health infrastructures
- Implementing programs and projects related to health
- Managing HIS and data
- Managing human resources in the health system
- Organizing health service delivery
- Performing maintenance
- Procuring and distributing pharmaceuticals

Regulatory oversight and enforcement of health service delivery

According to the level and depth of decentralization, these responsibilities are assigned differently. In centrally governed countries, the responsibilities are placed at the central or national level, so the information will be available at that level, typically in offices in the capital city.

In countries that are more decentralized, responsibilities are devolved, delegated, or divested to provinces, districts, or other agencies. In these cases, the assessment team should focus on obtaining information at the appropriate level of government or other agencies, depending on the form of decentralization guiding the health system.

One method that can be used to evaluate the extent of decentralization is to identify for each function the level of responsibility each level of government has for it. The table in Annex 3.1.A can be used as a template to present the results of such an analysis. The rows show the degree of responsibility that each level of government has for the function. The table can by modified by adding or deleting rows and columns, according to the needs of the assessment or the country's governmental structure.

Annex 3.1.B is an example of a completed table, modified to show the health system responsibilities at the district level in Zambia. It shows that the districts have no power to determine salaries, but they have sole responsibility for contracting nonpermanent staff. This means that information on how salaries and benefits are determined would be obtained at the national—or central—level and information about the contracting of health personnel would probably have to come from the district level.

This table can be filled out prior to the in-country data collection phase of the assessment, using information from the secondary source review, and then verified during the meetings with in-country stakeholders. Each core health system function module provides specific guidance on assessing decentralization.

Forms of Health System Reorganization (Decentralization)

- **De-concentration** (or administrative decentralization): Transfer of authority and responsibility from central agencies in a country's capital city to field offices of those agencies at a variety of levels (regional, provincial, state, local).
- **Delegation:** Transfer of authority and responsibility from central agencies to organizations not directly under the control of those agencies or organizations outside of the government. They include semiautonomous entities, NGOs, and regional or local governments.
- **Devolution** (or democratic decentralization): Transfer of authority and responsibility from central government agencies to lower level autonomous units of government through statutory or constitutional provisions that allocate formal powers and functions.
- **Divestment** (sometimes called privatization): Transfer of planning and administrative responsibility or other public functions from government to voluntary, private, or other nongovernment institutions. In some cases, governments may transfer to "parallel organizations" (such as national industrial and trade associations, professional or ecclesiastical organizations, political parties, or cooperatives) the right to license, regulate, or supervise their members in performing functions that were previously controlled by the government.

4. ASSESSMENT INDICATORS

This subsection focuses on overall health in the country and shows the topics into which the indicators are grouped, lists data sources to inform the indicators, discusses how to deal with indicators that overlap with other core health system function modules, defines the indicators, and shows how to work with them in the Interpretation subsection.

4.1. Topics

The indicators for this module are grouped into nine topics (Table 3.1.6), which include basic health outcomes as well as socioeconomic data. The indicators have been chosen to provide background information on the health situation in the assessment country.

Table 3.1.6. Indicator and Topic Map for Health System Overview Module

Topic	Indicator Numbers
A. Population dynamics	1–5
B. Income and inequality	6–11
C. Education	12
D. Reproductive health	13–17
E. Mortality	18–21
F. Water and sanitation	22–26
G. Nutrition	27–28
H. HIV, TB, and malaria	29–36
I. Immunizations	37–38

The data for these indicators are drawn from publicly available databases compiled by WHO and other United Nations agencies, the World Bank, and MEASURE DHS (World Bank n.d.b). In addition, the *Global Reference List of 100 Core Health Indicators, 2015* (WHO 2016) is a standard set of 100 indicators prioritized by the global community to provide concise information on the health situation and trends.

The technical team should examine overall health system performance data for this and subsequent modules before reviewing other secondary sources. This is particularly important if the HSA team is assessing only selected core health system functions because the data provide background information relevant to all areas of the health care system.

TIP: DEFINITIONS OF HEALTH TERMINOLOGY

Can be found in the following:

- World Bank Health Systems Development: Glossary (World Bank 2010)
- WHO Terminology Information System: Glossary (WHO 2010b)

Table 3.1.7 presents a complete list of the indicators to include in this section. Some of these indicators are also examined during the assessment of individual core health system function modules, so they ought to be cross-referenced to ensure consistency. This table provides the indicator as well as a description of how to interpret and present the indicator data.

Table 3.1.7. Health System Overview Indicators

Indicator	Definition and Interpretation
A. Population Dynamics	
1. Population total	This indicator indicates the magnitude of general health care needs of a country.
2. Population growth (annual %)	Rapid population growth, which dramatically increases the need for food, health care, education, houses, land, jobs, and energy, can inhibit a country's ability to raise the standard of living, especially if government revenues do not increase at a rate that will finance the needs.
3. Rural population (% of total) and urban population (% of total)	The population distribution between rural and urban areas is one indicator of a country's level of urbanization. Urbanization can improve access to public services such as education, health care, and cultural facilities, but it can also lead to adverse environmental effects that require policy responses.
4. Population ages 0–14 (% of total)	Indicators 4 and 5 generally indicate whether the population is "young" or "old"—and therefore the dependence ratio or level—because people in these age groups generally do not participate in the labor force or produce goods or services for the society.
5. Population ages 65 and above (% of total)	
B. Income and Inequality	
6. GDP per capita (constant $2000.)	This indicator is a measure of the overall economic wealth of a country (but is not indicative of individual well-being because the degree of income inequality affects the association of overall and individual wealth). Generally (but not always), higher GDP per capita is associated with better availability and quality of health care and better population health.
7. GDP growth (annual %)	GDP growth compared to population growth provides a rough indication of whether the resources potentially available for health are increasing or decreasing.
8. Per capita total expenditure on health at international dollar rate	Higher total health expenditure per capita is generally (but not always) associated with better availability and quality of health care.

9. Private expenditure on health as percentage of total expenditure on health	Private expenditure on health comprises the outlays of insurers and third-party payers other than social security, mandated employer health services and other enterprise-provided health services, nonprofit institutions and NGO-financed health care, private investments in medical care facilities, and household out-of-pocket spending.
10. Out-of-pocket expenditure as percentage of private expenditure on health	This indicator provides information on the burden of health care financing on households and the level of financial protection prevailing in the country. In most transitioning and developing countries, out-of-pocket spending is the largest share of private health expenditures. High out-of-pocket spending at the point of service has negative implications for equity, access, and efficiency.
11. GINI index	This is a measurement of the income distribution of a country's residents and helps to define the gap between rich and poor. This indicator is particularly relevant to the equity component of development. Income or resource distribution has direct consequences on the poverty rate of a country or region.
C. Education	
12. Adult literacy rate (%)	Adult literacy rate is the percentage of people ages 15 and older who can, with understanding, read and write a short, simple statement on their everyday life. This indicator demonstrates the level of basic education among average citizens and whether they can understand health literature.
D. Reproductive Health	
13. Contraceptive prevalence (% of women ages 15–49)	These indicators show the utilization of reproductive health services for women; availability and accessibility are key components. Low antenatal care (ANC) rates imply limited access to services because they are not available or are not promoted or they require high out-of-pocket expenditures (the last limiting low-income households' access). Low utilization levels may also reflect weak demand for ANC.
14. Unmet need for family planning	
15. Fertility rate, total (births per woman)	
16. Percent of pregnant women who received 1+ antenatal care visits	
17. Percent of pregnant women who received 4+ ANC visits	
E. Mortality	
18. Life expectancy at birth, total (years)	This is a common indicator of the quality of the health system; countries with low life expectancy generally are perceived as having weaker health systems than those with longer life expectancies.
19. Mortality rate, infant (per 1,000 live births)	Infant mortality rate is a measure of overall quality of life in a country. It can also show accessibility and availability rates of ANC and postnatal care.
20. Mortality rate, under age 5 (per 1,000)	Child mortality, like infant mortality, is closely linked to poverty. Improvements in public health services are key, including safe water and better sanitation. Education, especially for girls and mothers, will save children's lives.

21. Maternal mortality ratio (per 100,000 live births)	This indicator is a measure of the likelihood that a pregnant woman will die from maternal causes—and of the availability and accessibility of reproductive health services, particularly the extent of use of modern delivery care.
F. Water and Sanitation	
22. Population with sustainable access to improved drinking water sources (% of total)	Almost half the people in the developing world have one or more of the main diseases or infections associated with inadequate water supply and sanitation: diarrhea, intestinal helminth infections, dracunculiasis, schistosomiasis, and trachoma. "88% of diarrhoeal disease—the second leading cause of death in children younger than five years after respiratory illnesses—is attributed to unsafe drinking water, inadequate sanitation, and poor hygiene. Diarrhea morbidity is reduced by around 21% through improved water supply and by around 37% through improved sanitation" (Bartram et al. 2005).
23. Diarrhea prevalence of children under age 5 (%)	
24. Diarrhea treatment (%)	
25. Improved water sources (%)	
26. Proportion of population with access to improved sanitation	
G. Nutrition	
27. Percentage of children under age 5 with low height for age (stunting)	In poor countries, maternal and child undernutrition is the underlying cause of more than one-third (3.5 million) of all deaths of children under age 5; many of these deaths are preventable through effective nutrition interventions operating at scale. "Pregnancy to age 24 months is the critical window of opportunity for the delivery of nutrition interventions. If proper nutrition interventions are not delivered to children before the age of 24 months, they could suffer irreversible damage into their adult life and to the subsequent generations" (The Lancet n.d., 2012)
28. Percentage of children under age 5 with low weight for age (underweight)	
H. HIV, TB, and Malaria	
29. Prevalence of HIV, total (% of population ages 15–49)	A high prevalence of HIV and AIDS or TB indicates a high burden on the health care system (in terms of infrastructure, staff, financing needs, and other factors).
30. HIV prevalence among pregnant women ages 15–24	
31. Pregnant women tested for HIV during ANC visit (%)	
32. Antiretroviral therapy coverage among people with advanced HIV infection	
33. TB prevalence, all forms (per 100,000 population)	
34. Proportion of TB cases detected and cured under DOTS	
35. Prevalence and death rates associated with malaria	
36. Children under age 5 sleeping under insecticide-treated bed nets	The team may want to consider the percentage of pregnant women who sleep under treated bed nets as well
I. Immunizations	
37. Measles coverage (proportion of children age 1 immunized against measles)	More than 95 percent of measles deaths occur in low-income countries. Measles vaccination resulted in a 78 percent drop in measles deaths worldwide between 2000 and 2008 (WHO)
38. DTP3 immunization coverage: children age 1 immunized with three doses of diphtheria, tetanus toxoid, and pertussis (%)	Rates of immunizations for DPT3 are an indicator for primary care service availability and coverage.

5. COUNTRY HEALTH STRATEGIES

An element critical to the success of an HSA is understanding how the findings and recommendations fit into the country's existing national health strategy and implementation plans as well as its strategies for each of the health system core functions. One way to examine the health system's strengths and weaknesses is to compare the HSA data to the goals set out in the national health strategy. Questions to ask include:

- What are the national health sector strategies, policies, and plans?
- Is the strategy a single comprehensive document or is it a compendium of multiple subsector disease/intervention-specific strategies below an umbrella overall health sector policy document?
- Does the country have a stated goal and strategy to achieve UHC and is this part of the national health sector strategy?

Describe the planning cycle, including health sector plan development mechanisms, periodic reviews, mechanisms to take corrective measures, etc. See Country Planning Cycle Database (WHO n.d.b) and the corresponding Country Planning Cycle Database home page.

- What are the country's commitments to the SDGs?
- Have all the elements of the country strategy been implemented?
- Is the country meeting goals for improving health system outcomes?
- Why or why not?
- Is there political will to achieve the strategy and desired goals?
- How has the private sector been engaged?

6. DEVELOPMENT PARTNER SUPPORT FOR HEALTH SYSTEM STRENGTHENING

When assessing a country's health system performance and preparing to make recommendations on how to strengthen the health system, it is useful to have a picture of the trends in international development partner support for health. A wide array of international partners contributes to strengthening the health system, including multilateral organizations, bilateral agencies, private foundations, and not-for-profit organizations. This information can be found at the Institute for Health Metrics and Evaluation (IHME n.d.); the institute provides an annual updated compendium on trends in development assistance for health and government health expenditures in low- and middle-income countries. The information can also be found on the WHO Country Planning Cycle Database home page, which can be accessed from WHO's National Health Policies, Strategies, and Plans. This website includes information related to the national health policies and plans and the way the health sector is funded, including major OECD development partners and other private foundations contributions.

Once that stage is set, external development partner support for HSS can be examined by asking the following key questions:

- Are external partners providing sufficient support in the most needed areas to address the country's most glaring HSS challenges?
- Are external partners working individually and/or together to help the country achieve the SDGs generally and to advance the country's readiness for or progress toward UHC specifically?
- Are external partners working together and harmonizing their resources?
- Are other nongovernmental providers (NGOs, FBOs, community-based organizations, foundations, etc.), funded through external sources?
- How do these external partners coordinate with the country authorities? Do they coordinate on a global level or by the core healthy system functions or a combination of both?

These five questions can be addressed by mapping current external aid development partners and their respective roles and then looking at their level of coordination.

6.1. Development Partner Mapping

Mapping of external development partners and nongovernmental providers is essential to (1) identifying different actors and their involvement and responsibilities in a country's health care systems and (2) recommending priority interventions at the end of the assessment. These external development partners can play a major role in financing the health system, advocating for policy change, supplying technical support, building capacity, or providing for the actual delivery of services and goods. Table 3.1.8 is an example of an external development partners mapping matrix for Angola.

Although this exercise can be time consuming, it is worth the investment up front. The assessment team should ask if a recent partner mapping of support to the health system is available. If so, and the information is still current, the team need not do their own mapping.

Table 3.1.8. Development Partner Mapping Matrix, Angola (2005)

Development Partner	Field of Intervention and Activities	Timeline and Duration	Amount of Commitment	Project Location	Counterpart
Global Fund	Malaria (Round 3)	2006–2007	$38 million (requested), $28 million (approved)	National level	MOH
	HIV and AIDS (Round 4)	2006–2007	$92 million (requested)	National level	MOH
European Union	At the national level, strengthening blood bank system	2004–2007	$28 million (approved)	Luanda, Benguela, Huila, Huambo, Bie	
	At the provincial level, support national rehabilitation program	2003–2007	€14 million	Provinces	

Source: Connor et al. (2005)
Note: This example is shortened for training purposes. It does not include all external development partners.

In completing the mapping matrix, follow these steps:

1. List the external partners involved in the health system in the country.
2. For each partner, list the field(s) of intervention, activities, or programs related to health.
3. For each field, list the type of support and commitment provided. Key categories include:
    - Research and development: product discovery and development of new therapies (e.g., vaccines and treatments)
    - Technical assistance and capacity building: support for improved service access and technical assistance to public, NGO, mission, or private sector providers
    - Service support: direct health service delivery, pharmaceutical or vaccine donations, funding for procurements or for supply chain management functions, or distribution programs through social marketing efforts
    - Advocacy (national and international levels): advocating for increased international and national response to specific diseases, fundraising for specific control programs
    - Financing: direct budget support to specific programs (e.g., Expanded Programme on Immunization [EPI], malaria, HIV and AIDS, TB) or direct global budget support
4. Identify the amount of funds allocated and committed to each field of intervention and the timeline (dates and number of years).
5. Understand how the money flows (through sector-wide approaches [SWAps], MOH, local development agencies, or own implementing agencies).
6. For each intervention, specify the counterpart (if applicable) within the government.
7. List the current and committed activities, and specify the start and end dates. The following are sources of data to explore for this mapping exercise:
    - Annual reports on external assistance and direct foreign investment produced by governments
    - Annual reports from development partners
    - Development partner websites (including links to country-specific programs and missions' websites)
    - Grant applications: An external development partner mapping analysis is frequently a requirement for grant application processes for many partners. If the country being assessed

has received a grant, the team can consult the country's application proposal, obtainable from partner websites, for example:

- The United States President's Emergency Plan for AIDS Relief (PEPFAR)
- The Global Fund

The external development partner mapping will also be useful for comparing external development partner-to-government interventions, particularly in identifying gaps and overlaps in health care interventions and financing or in determining if development partner funding is in line with the MOH's strategies and interventions.

Table 3.1.9 continues the example of Angola. It shows external development partners' inputs (in the form of funds or goods provided directly to the MOH or through other projects and organizations) and what the government of Angola is financing through its own budget.

Table 3.1.9. Comparison of External Development Partner and Government Interventions in the Health Care System in Angola (2005)

Interventions	External Development Partner				MOH	
	WHO	UNICEF	EU	Global Fund (UNDP)	Strategic Plan for the Accelerated Reduction of MMR and IMR	Sector Development Plan 2002–2005
National health policy and strategy	X		X	Angola is the principal recipient of the first round of Global Fund funds, so UNDP will design a program to strengthen the MOH and health system. Program to be implemented over 2006–2007.	X	X
Norms and protocols	X	X	X			
Increase integration and coordination between the vertical public health and the provincial health directorates		X	X		X	
Basic or financial management training or both		X	X		X	
Clinical training	X	X			X	
Provincial supervision of municipalities		X			X	

Interventions	External Development Partner				MOH	
	WHO	UNICEF	EU	Global Fund (UNDP)	Strategic Plan for the Accelerated Reduction of MMR and IMR	Sector Development Plan 2002–2005
Mapping all health facilities in the municipalities		X	X		X	
Health profile of municipal population					X	

Source: Connor et al. 2005
Note: EU = European Union; UNDP = United Nations Development Programme; MMR = maternal mortality ratio; IMR = infant mortality rate

Although the mapping exercise includes project investment start and end dates, it is advantageous, when feasible, to include analysis of the long-term outlook under external development support. This analysis should include a narrative on whether development partners will shift priorities, and how their assistance may change over time, or phase out, as low income countries move to middle income status.

6.2. Development Partner Coordination

Once development partners are identified (external as well as internal if any exist), the HSA team should assess the degree of coordination and collaboration among partners—and at what level this coordination takes place—for the country to achieve the SDG and UHC. Coordination platforms may include: single country compacts and the use of Joint Assessment of National Health Strategies (JANS) through International Health Partnerships + (IHP+), Partners for Health (P4H) global network for universal health care and social protection, and SWAps. In addition, other development partner and government collaboration platforms including joint monitoring teams and coordination bodies comprised of external partners and providers and local governments. All these platforms aim to improve and strengthen the efficiency and effectiveness of resources.

Inconsistent external development policies and practices impose burdens on partners, duplicate efforts, and minimize synergies, whereas strategic partnerships to maximize impact and build sustainable health systems will enhance the effectiveness of aid. This will ultimately work toward achieving sustainable and resilient health systems improvements, particularly for countries that receive a lot of external development support.

Coordination is essential to ensure that:

- Development assistance is aligned with country priorities and is adapted to the country context.
- Development partner requirements are aligned with the country and harmonized when multiple partners finance the same activity (e.g., to avoid having each duplication in monitoring and reporting).
- Information is shared.

To assess the level of coordination and alignment between the government and external partners, the team needs to get answers to the following questions, taking into consideration the various global health coordination mechanisms listed above:

- Do the development partner country programs draw on common (development partner and government) analyses and consider the government's objectives (sources: partner and MOH documents and interviews)?
- Is aid programmed over a multiyear time frame that is consistent with the financial planning horizon of the government (sources: partner, MOF, and MOH publications and interviews)?
- Have the development partners and the government agreed on a framework for review and monitoring of external funding? Ideally, they should seek to incorporate the framework into multipartner review and monitoring processes as mentioned above.
    - A medium-term expenditure framework budget that supports this policy.
- To what extent are nongovernmental providers and private sector stakeholders included in coordination efforts?
- Is the government or any other organization engaged in leadership of the consultative and collaborative process by organizing and chairing strategy platforms, consultative groups, meetings, and working groups, and by providing a secretariat? If the government is leading this process, it requires adequate staffing, resources, and an appropriate location within the government structure. Who is financing these structures, if they exist, and is this support sustainable?
    - Government leadership in a sustained partnership.
- Shared processes and approaches for implementing and managing the system strategy and work program, including review of sectoral performance against jointly selected milestones and targets.
    - Commitment to move to greater reliance on government financial management and accountability systems.

To assess the level of coordination among development partners themselves, the team needs to get answers to the following questions:

- Do development partners share information on activities to avoid duplication of efforts?
- Do development partners have explicit agreements among themselves (e.g., on roles, salaries, or on who finances what)?
- Have development partners implemented standardized systems and procedures? Identify whether their requirements are harmonized when multiple partners finance the same activity (e.g., do they avoid having each partner require different activity and financial reports at different dates?). Is the government coordinating these efforts?

Review the existing information and identify gaps and weaknesses in the level of coordination between government and external partners and among development partners themselves.

7. ASSESSMENT REPORT CHECKLIST: COUNTRY AND HEALTH SYSTEM OVERVIEW

Country Context and Issues Affecting the Health System

A. Health Issues (can include):

1. Health system overview and population trends
    a. Sex and age groups
    b. Urban versus rural
    c. Wealth quintiles
2. Health conditions and burden of disease
    a. Major causes of mortality and morbidity
    b. Diseases that have the highest disability adjusted life years (DALY)

B. Systemic Issues (can include):

1. Enabling business environment
2. Capacities of public/private, and civil society organizations to strengthen the health system
3. Political and macro-economic Issues

Description of the Country Health System

A. Government, Private, and Civil Society Actors

B. Public Health System

C. Health Facilities and Services
    a. Utilization of public, private, and not-for-profit providers
    b. Facility locations by urban versus rural
    c. Health financing by public and private organizations

D. Health System Structure, Management, and Level of Decentralization

Table: Facilities and Human Resources Sample Table

Assessment Indicators

A. Topics (can include)
    a. Population
    b. Income and inequality
    c. Education
    d. Reproductive health
    e. Mortality
    f. Water and sanitation
    g. Nutrition
    h. Communicable disease (HIV, TB, Malaria, other)
    i. Chronic disease
    j. Immunizations

Country Health Strategies

A. Topics (can include)
    a. National strategies
    b. National policies
    c. National plans
    d. Commitment to the SDGs

Development Partner Support for Health System Strengthening

A. Development Partner mapping

Table: External Development Partner map

B. Development Partner Coordination

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ANNEX 3.1.A TEMPLATE: THE LEVEL OF DECENTRALIZATION OF A HEALTH SYSTEM

Level of Government				
Health System Functions	**National**	**Subnational (Provincial, Regional)**	**Local Level (Municipality, District)**	**Health Facility**
Health Financing				
Revenue generation and sources				
Purchasing (budgeting, resource allocation, provider payment, payment mechanisms)				
Pooling and financial protection (insurance schemes, payment mechanisms)				
Governance (financial management, spending authority and allocation, accounting, audit)				
Financial audit				
Human Resources for Health				
Staffing allocation, distribution, and planning (planning and management)				
Education and training				
Labor market and contracts (finance, remuneration and incentives, supply and demand)				
Policy				
Service Delivery and Program or Project Implementation				
Access and allocation (geographic, service-specific, density by type, financial, availability)				
Coverage, utilization, and equity				
Facility management (all levels of care)				
Defining service packages (primary, tertiary care)				
Targeting service delivery to specific populations, consumer knowledge, and behavior				
Quality (setting norms,				

standards, regulations, monitoring and oversight of services, and product quality controls)				
Supply Chain Management and Operation Maintenance				
Product selection and procurement (quantification, estimation, ordering, payment)				
Storage and distribution system				
Logistics information systems and inventory management controls				
Vehicles and equipment facilities and infrastructure				
Information Management				
Governance and management (coalition building, capacity building, staffing, system platforms, structures, information sharing, dissemination)				
Data management (collection, processing, and analysis)				
Data quality and use (surveillance, planning/budgeting/advocacy, programming, reporting)				
Governance				
Civil society participation				
Transparency and accountability				
Community input (sector performance and feedback, client satisfaction)				
Data use (reporting, dissemination of information, data for decisionmaking, advocacy, and lobbying)				

Note: For each level of government, determine whether that level has extensive, some, limited, or no responsibilities for the function.

ANNEX 3.1.B LEVEL OF RESPONSIBILITY AT THE DISTRICT LEVEL IN ZAMBIA

Health System Functions	Local Level (Municipality, District)
Financing	
Revenue generation and sources	No responsibilities: District health management team (DHMT) and District Health Board (DHB) are almost totally dependent on central allocations, but currently receive about 50 percent of the MOH/Central Board of Health (CBOH) budget.
Expenditure management and accounting	Some responsibilities: DHMT and DHB develop and manage budget plans with central review but face restrictions on the percentage spent on administration, capital, and percentage allocated to different levels.
Human Resources	
Staffing (planning, hiring, firing, evaluation)	Some responsibilities: DHBs have hiring and firing authority only for delinked personnel (which applies to nonprofessional certified staff only after 1997).
Contracts	Extensive responsibilities: Contracting of nonpermanent staff.
Salaries and benefits	No responsibilities: Salaries and allowances are centrally determined.
Service Delivery and Program or Project Implementation	
Hospital and facility management	No responsibilities: Major hospitals are managed by centrally appointed boards; facility committees are composed of health workers and community representatives; facility action plan and budget are prepared with technical support from DHMT and approved by DBH and CBOH.
Managing insurance schemes	Extensive responsibilities: Prepayment schemes are allowed in all districts.
Payment mechanisms	Extensive responsibilities: Districts are allowed and encouraged to use a variety of payment mechanisms, including per capita and accepting prepayments and in-kind payments.

Source: Adapted from Bona and Thomas 2001

ANNEX 3.2.A. SUMMARY OF SERVICE DELIVERY ISSUES TO EXPLORE IN STAKEHOLDER INTERVIEWS

Overall, discussions with stakeholders should elicit their perspectives on specific strengths, weaknesses, opportunities, and threats in the service delivery system. These discussions provide the chance to get information beyond the story told by the indicators. The table below summarizes issues to be addressed in stakeholder interviews.

Stakeholder Profile	Issues to Discuss in Service Delivery Interviews	Indicators (When applicable)
Client staff and/or partners and programs that you or the client have identified via stakeholder analysis	• Determine the client's role. Elicit as much detail as possible on its needs for the assessment. • Help the client clarify its objectives for the assessment. • Identify key documents and key stakeholders to understand how the current system works.	n.a.
MOH officials or departments responsible for human resources, licensing, maintaining, equipping, and infrastructure planning	• Explore issues regarding coverage, availability, access, and utilization of services. • Determine the extent and functioning of facilities and health staff. • Understand the actual allocation of resources by cadre and geographic location.	SD Profile, 1–6
MOH statistical or planning division compiling service delivery data (make sure to cross-reference with facility-based data)	• Number of facilities by level and geography • Explore utilization data • Determine data reliability • Understand the process of data collection, including coverage of private sector • Compare facility-based data to central level, routine health information system quality	1, 2, 3, 13, 14, 16–28, 31, 32, 35, 36, 38, 39, 41, 42, 45
MOH maternal health or reproductive health division, United Nations agencies, external development partners, NGOs involved in maternal and reproductive health	• Explore issues regarding MOH programs' ability to gauge health needs, service delivery activity, and quality of services; to coordinate major health players; and to address gaps at the systems' level. • Determine integration of health programs.	11, 12, 13, 25
MOH child health or vaccine-preventable diseases division, World Health Organization, UNICEF, NGOs involved in child health	• Explore issues regarding MOH programs' ability to gauge health needs, service delivery activity, and quality of services; to coordinate major health players; and to address gaps at the systems' level, including issues regarding coordination and management of data.	16

Stakeholder Profile	Issues to Discuss in Service Delivery Interviews	Indicators (When applicable)
Regional health authority (including provincial, district) or MOH division(s) that conduct(s) supervision if regional level does not	• Explore the formal supervisory system, compare it to reality, and understand the barriers. Issues regarding management and supervisory capacity include the following: • Availability of equipment, materials, clinical standards, staff at facilities • Existence of clinical supervision by district-level supervisor • Frequency of supervision visits • Content or methodology of supervision visits, or both • Percentage of planned supervision visits to health centers that were actually conducted • Existence of other processes assuring quality of care besides supervision • Examine registries and service utilization books • Ask: At the facility level, are specific days of the week assigned to certain services such as new prenatal care visits or TB? The more this is the case, the less integrated the system, though you might find regional variations. • Ask: What vertical disease programs (e.g., polio, TB, HIV and AIDS, malaria) are offered? • Ask: Has the country adopted any integrated management of care strategies, such as Integrated Management of Childhood Illness, Integrated Management of Pregnancy and Childbirth, Integrated Management of Adult and Adolescent Illness?	7, 16, 18-27, 31–47, 49

ANNEX 3.4.A. ILLUSTRATIVE TRACER PRODUCT LIST

Product	Form, Dosage
Medicines for pain	
Acetylsalicylic acid (aspirin)	Tablet, 100mg to 500 mg
Paracetamol	Tablet, 100mg to 500 mg
Codeine	Tablet, 30mg
Antihelminthic medicines	
Mebendazole	Chewable tablet, 100 mg
Albendazole	Tablet, (chewable) 400mg
Praziquantel	Tablet, 600mg
All antiretrovirals	
Antimalarial medicines	
Artemether + Lumefantrine	Tablet, 20mg + 120mg
Artesunate + Amodiaquine	Tablet, 25mg + 67.5mg; 50mg + 135mg; 100mg + 270mg
Sulfadoxine + pyrimethamine	Tablet, 500 mg + 25 mg
Quinine dihydrochloride	Ampoule, 300 mg/ml
Anesthetic medicines	
Ketamine	Ampoule, 50 mg/ml in 10 mL vial
Halothane	Inhalation
Bupivacaine	Ampoule, 0.25%; 0.5% in vial
Antibacterial medicines	
Amoxicillin	Solid oral dosage form, 250 mg; 500mg
Metronidazole	Tablet, 200mg to500mg Ampoule, 500mg in 100mL vial
Benzylpenicillin sodium	Ampoule, 600mg ben (=1 million IU); 3g (=5 million IU) in vial.
Sulfamethoxazole + trimethoprim	Tablet,100mg + 20mg; 400 mg + 80 mg; 800mg + 160mg.
Ciprofloxacin	Tablet, 250 mg
Doxycycline	Solid oral dosage form, 50mg; 100 mg
Erythromycin	Solid oral dosage form, 250 mg

Product	Form, Dosage
Gentamicin	Ampoule, 10mg; 40 mg/ml in 2 mL vial
AntiTuberculosis Medicines	
Rifampicin + isoniazid	Tablet, 150 mg + 75mg; 300 mg + 150mg
Rifampicin+Isoniazid+Pyrazinamide + Ethambutol	Tablet, I50mg + 75mg + 400mg + 275mg
Cardiovascular medicines	
Verapamil	Tablet, 40 mg
Glyceryl trinitrate	Tablet, 500 micrograms
Hydroclorothiazide	Tablet, 12.5mg; 25 mg Oral liquid, 50mg/5mL
Gastrointestinal medicines	
Oral rehydration salts	Sachet
Vitamins and Minerals	
Ascorbic acid	Tablet, 50 mg
Iodine	Capsule, 200mg
Calcium	Tablet, 500mg
Ophthalmological preparations	
Aciclovir eye ointment 3%	Tube, 3% W/W
Vaccines	
Polio vaccine	Vial
Contraceptives	
Condoms	
Oral contraceptives; IUDs; other implants	

ANNEX 3.5.A. INFORMATION FLOW

Stakeholder Interviews Catalogue

Type of Information System	Specific Name, if Any	Service	Occurrence of Selected Disease(s)	Disease Outbreak (Immediate)	Financial Information	Drug, Contraceptive	Human Resources	Equipment/ Building	Vital Events	Others
Routine service-based reporting system										
Epidemiological surveillance for notifiable infectious diseases										
Specific program reporting systems (EPI)										
Special program reporting systems (TB)										
Special program reporting systems (Malaria)										
Special program reporting systems (HIV and AIDS)										
Special program reporting systems (MCH)										
Special program reporting systems (specify)										
Special program reporting systems (specify)										
Community-based information system										
Administrative system (finance); administrative system (HRH)										
Administrative system (training); administrative system (drugs, contraceptives, vaccines										
Administrative system (infrastructure,										
Vital registration other system										

Source: MEASURE Evaluation

Information Flow Chart

Information Flow Sheet									
Levels				**Types of Information Systems**					
	HMIS	**EPI**	**TB**	**Malaria**	**HIV and AIDS**	**MCH**	**Contraceptive**	**Administrative System (Finance)**	**Community Information System**
Central									
Regional level (province)									
District level									
Facility level									
Community level									

ANNEX 3.5.B. SUMMARY OF HEALTH INFORMATION SYSTEM ISSUES TO ADDRESS IN STAKEHOLDER INTERVIEWS

Summary of Issues to Discuss in Health Information System Stakeholder Interviews

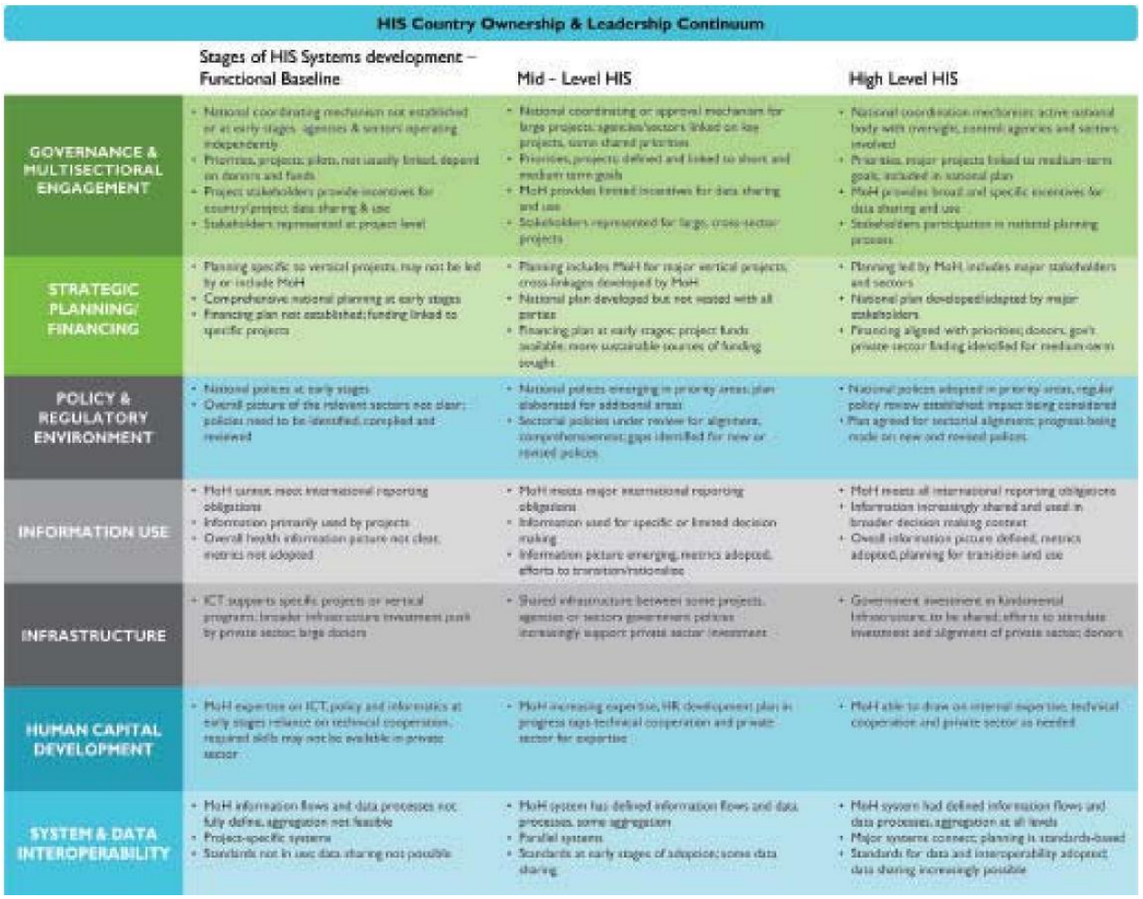
Stakeholder Profile	Issues to Discuss
Members of interagency health information system (HIS) task force	• Existence of a national HIS strategy and how it is being used
	• Effectiveness of the interagency body
Heads of disease control programs in MOH)and stand-alone programs (i.e., expanded program on Immunization)	• Availability of financial resources
	• Guidelines for data collection
	• Availability of standardized tools
	• Integration of vertical systems into the overall HIS
	• Relevance of indicators to decisions to be made
Central statistics office; central-level MOH budget authorities	• Availability of financial and physical resources to support the HIS
	• Availability of staff for HIS
	• Financing of training activities related to the HIS (e.g., for data collection, analysis, or reporting)
	• Use or role of HIS data in financial management and resource allocation decisions within the MOH
	• Legal/policy framework that endorses publishing statistics and sharing available data on a regular basis
Human resources officers at the MOH	• Availability of financial and physical resources to support the HIS
	• Presence and availability of formal documents defining and describing staff responsibilities regarding data collection, analysis, or reporting
	• Trainings regarding data collection, analysis, or reporting
	• Use or role of HIS in human resource management
Central statistics office; central-level program heads (especially the head of the planning or statistics unit)	• Guidelines for data collection
	• Procedures to verify the quality of data
	• Availability of personnel, infrastructure, and equipment for data collection, reporting, and analysis
	• Presence and availability of formal documents defining and describing staff responsibilities regarding data collection, analysis, or reporting, and for staff trainings
	• Availability of appropriate and accurate denominators
	• Availability of timely data analysis
	• Demand and use of data and results for planning and decision-making

Stakeholder Profile	Issues to Discuss
External development partner representatives; MOH department or unit responsible for development partner coordination	• Presence of international development partners providing specific assistance to support
	• Strengthening the entire HIS or its individual components in more than one region
	• Ability of HIS to meet development partner needs for information
	• Reporting requirements for vertical programs (HIV and AIDS, malaria)
District health management team	• Written guidelines for data collection
	• Procedures to verify the quality of data
	• Availability of personnel, infrastructure, and equipment for data collection, reporting, and analysis
	• Regular trainings are taking place
	• Availability of appropriate and accurate denominators
	• Availability of timely data analysis
	• Level of responsibility and authority with respect to program management and perceived data needs
	• Use of data and results for planning and decisionmaking
Facilities	• Number of reports they are required to submit and at what intervals
	• Availability of personnel, infrastructure, and equipment for data collection, reporting, and analysis
Health information unit (there may be no central information management unit and separate programs will be responsible for their individual subsystems, a sign of a fragmented system)	• Number of reports the unit is required to submit and at what intervals
	• Relationship between information unit and program management units
	• Degree to which private, nongovernmental, or faith-based organization facilities are collecting and submitting data to the HIS
Management unit and separate programs will be responsible for their individual subsystems, a sign of a fragmented system)	• Availability of personnel, infrastructure, and equipment for data collection, reporting, and analysis
	• Availability of appropriate and accurate denominators
Private sector, nongovernmental, or faith-based organization health associations	• Degree to which private, nongovernmental, or faith-based organization facilities are trained in data collection for the HIS

ANNEX 3.6.A. HEALTH INFORMATION SYSTEMS: COUNTRY OWNERSHIP AND LEADERSHIP CONTINUUM

One way of examining the degree of functionality within the HIS system is to look at the degree of country ownership. Note that the private health sector should be considered when investigating in all aspects of the HIS management.

Source: Landry 2011 Presentation - http://hisforum.org/documents/



[1] DALYs for a disease are the sum of the years of life lost due to premature mortality in the population and the years lost due to disability for incident cases of the health condition. The DALY combines in one measure the time lived with disability and the time lost due to premature mortality. One DALY can be thought of as one lost year of "healthy" life and the burden of disease as a measurement of the gap between current health status and an ideal situation where everyone lives into old age free of disease and disability.

[2] Informal sector workers are individuals earning income outside of formal employment, such as sole entrepreneurs or those engaged in underground illegal activity. This population, though working, does not pay any payroll or income taxes, and that presents an obstacle to establishing social health insurance.