Service Availability and Readiness Assessment (SARA)

An annual monitoring system for service delivery

Reference Manual

World Health Organization

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The service availability and readiness assessment (SARA) methodology was developed through a joint World Health Organization (WHO) – United States Agency for International Development (USAID) collaboration. The methodology builds upon previous and current approaches designed to assess service delivery including the service availability mapping (SAM) tool developed by WHO, and the service provision assessment (SPA) tool developed by ICF International under the USAID-funded MEASURE DHS project (monitoring and evaluation to assess and use results, demographic and health surveys) project, among others. It draws on best practices and lessons learned from the many countries that have implemented health facility assessments as well as guidelines and standards developed by WHO technical programmes and the work of the International Health Facility Assessment Network (IHFAN).

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Project Management Group

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Abbreviations

AIDS	acquired immunodeficiency syndrome
ALT	alanine aminotransferase
CBR	crude birth rate
CSV	comma-separated values
DBS	dried blood spot
DCMI	Dublin Core Metadata Initiative
DDI	Data Documentation Initiative
DQRC	Data quality report card
DV	Data verification
EDC	electronic data collection device
FBO	faith-based organization
GIS	geographical information system
GPS	global positioning system
HIV	human immunodeficiency virus
HMIS	health management information system
HRIS	human resources information system
ID	identification
IHFAN	International Health Facility Assessment Network
IHP+	International Health Partnership and related initiatives
IHSN	International Household Survey Network
M&E	monitoring and evaluation
MDG	Millennium Development Goal
MFL	master facility list
MNCH	maternal, newborn and child health
MoH	ministry of health
NADA	national data archive
NGO	nongovernmental organization
OECD	Organisation for Economic Co-operation and Development
PMTCT	prevention of mother-to-child transmission (of HIV)
RDT	rapid diagnostic test
SAM	service availability mapping
SARA	service availability and readiness assessment
SPA	service provision assessment
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
XML	extensible markup language

1. Overview

1.1 Background

1.1.1 Why measure service availability and readiness?

Sound information on the supply and quality of health services is necessary for health systems management, monitoring and evaluation. Efforts to achieve the Millennium Development Goals (MDGs) and to scale up interventions for HIV/AIDS, malaria, safe motherhood and child health through global health partnerships, have drawn attention to the need for strong country monitoring of health services, covering the public, private-for-profit and private not-for-profit sectors, and their readiness to deliver key interventions.

With the increased demand for accountability and the need to demonstrate results at country and global levels, information is needed to track how health systems respond to increased inputs and improved processes over time, and the impact such inputs and processes have on improved health outcomes and better health status. However, despite heightened investments in health systems, few countries have up-to-date information on the availability of health systems that covers both the public and private sectors. Fewer still have accurate, up-to-date information required to assess and monitor the "readiness" of health facilities to provide quality services.

Ensuring access to quality health services is one of the main functions of a health system. Service access includes different components: availability, which refers to the physical presence or reach of the facilities; affordability, which refers to the ability of the client to pay for the services; and acceptability, which refers to the sociocultural dimension.

The quality of services is yet another dimension. A prerequisite to service quality is service readiness, i.e. the health facilities should have the capacity to deliver the services offered. This capacity includes the presence of trained staff, guidelines, infrastructure, equipment, medicines and diagnostic tests. Service availability and readiness are prerequisites to quality services, but do not guarantee the delivery of quality services.

1.1.2 The global and country context

Building upon principles derived from the Paris Declaration on Aid Effectiveness and the International Health Partnership and related initiatives (IHP+), global partners and countries have developed a general framework for the monitoring and evaluation (M&E) of health system strengthening (*1*). This framework centres on country health strategies and related M&E processes such as annual health sector reviews, and at its core is the strengthening of a common monitoring and review platform to improve the availability, quality and use of data to inform health sector review processes and global monitoring (*2*).

Within this context, WHO has been working with USAID, MEASURE Evaluation, MEASURE DHS, ICF International, and other country and global partners to develop tools to fill critical data gaps in measuring and tracking progress in health systems strengthening. Service availability and readiness assessment (SARA) is one tool available to fill data gaps on service delivery.

SARA relies on a rapid data collection and analysis methodology, and can be combined with a record review to assess data quality of the facility reporting system. Ideally, SARA is conducted approximately three to five months prior to a health sector review to allow for the results to feed into the health sector review process.

1.1.3 Related surveys and initiatives

The service availability and readiness assessment (SARA) effort builds on previous and current approaches designed to assess health facility service delivery including the service availability mapping (SAM) tool developed by WHO (*3*), and the service provision assessment (SPA) tool developed by ICF International under the USAID-funded MEASURE DHS project (*4*).

The SARA methodology takes into account best practices and lessons learned from the many countries that have implemented health facility assessments of service availability and readiness. It also draws heavily on the work of the International Health Facility Assessment Network (IHFAN) and on experiences from programme- and service-specific facility assessment work.

The training materials for SARA draw on best practices and materials developed for survey methods such as the SPA and the WHO/Health Action International (HAI) methodology for measuring medicine prices, availability, affordability and price components (*5*).

1.2 Survey overview

1.2.1 Survey objectives

SARA is designed as a systematic survey to assess health facility service delivery. The objective of the survey is to generate reliable and regular information on service delivery including service availability, such as the availability of key human and infrastructure resources, and on the readiness of health facilities to provide basic health-care interventions relating to family planning, child health services, basic and comprehensive obstetric care, HIV/AIDS, tuberculosis, malaria and noncommunicable diseases.

The SARA survey generates a set of tracer indicators of service availability and readiness that can be used to:

- detect change and measure progress in health system strengthening over time;
- plan and monitor the scale-up of interventions that are key to achieving the MDGs, such as implementing interventions to reduce child and maternal mortality, HIV/AIDS, tuberculosis and malaria, and to respond to the increasing burden of noncommunicable diseases;
- generate the evidence base to feed into country annual health reviews, to better inform the development of annual operational plans and to guide more effective country and partner investments;
- support national planners in planning and managing health systems (e.g. assessing equitable and appropriate distribution of services, human resources and availability of medicines and supplies).

Key outputs from SARA form the basis for national and subnational monitoring systems of general service availability and readiness, and service-specific readiness (maternal and child health, HIV/AIDS, tuberculosis, malaria, noncommunicable diseases, surgical care, etc.). SARA products include a regularly updated national database of public and private facilities, and an analytical report of core indicators to assess and monitor availability of health services and readiness to provide services.

QUESTIONS ANSWERED BY SERVICE AVAILABILITY AND READINESS ASSESSMENT (SARA)

- What is the availability of basic packages of essential health services offered by public and private health facilities?
- Is there an adequate level of qualified staff?
- Are resources and support systems available to assure a certain quality of services?
- How well prepared are facilities to provide high-priority services such as reproductive health services, maternal and child health services, and infectious disease diagnosis and treatment (e.g. HIV, sexually transmitted infections, tuberculosis and malaria)?
- Are facilities ready to respond to the increasing burden of noncommunicable diseases?
- What are the strengths and weaknesses in the delivery of key services at health-care facilities?

1.2.2 Key topics, indicators and indices

The SARA survey is designed to generate a set of core indicators on key inputs and outputs of the health system, which can be used to measure progress in health system strengthening over time (*6*). Tracer indicators aim to provide objective information about whether or not a facility meets the required conditions to support provision of basic or specific services with a consistent level of quality and quantity. Summary or composite indicators, also called indices, can be used to summarize and communicate information about multiple indicators and domains of indicators. Indices can be used for general and service-specific availability and readiness.

There are three main focus areas of SARA.

I. **Service availability** refers to the physical presence of the delivery of services and encompasses health infrastructure, core health personnel and aspects of service utilization. This does not include more complex dimensions such as geographical barriers, travel time and user behaviour, which require more complex input data. Service availability is described by an index using the three areas of tracer indicators (see Table 1.2.1). This is made possible by expressing the indicators as a percentage score compared with a target or benchmark, then taking the mean of the area scores.

II. **General service readiness** refers to the overall capacity of health facilities to provide general health services. Readiness is defined as the availability of components required to provide services, such as basic amenities, basic equipment, standard precautions for infection prevention, diagnostic capacity and essential medicines. General service readiness is described by an index using the five general service readiness domains (see Table 1.2.1). A score is generated per domain based on the number of domain elements present, then an overall general readiness score is calculated based on the mean of the five domains.

III. **Service-specific readiness** refers to the ability of health facilities to offer a specific service, and the capacity to provide that service measured through consideration of tracer items that include trained staff, guidelines, equipment, diagnostic capacity, and medicines and commodities.

TABLE 1.2.1: SUMMARY OF TRACER INDICATORS, ITEMS AND SERVICES FOR SERVICE AVAILABILITY AND SERVICE READINESS

Domain	Tracer indicators, items or services
I. Service availability	
1. Health infrastructure	• Number of health facilities per 10 000 population • Number of inpatient beds per 10 000 population • Number of maternity beds per 1000 pregnant women
2. Health workforce	• Number of health workers per 10 000 population
3. Service utilization	• Outpatient visits per capita per year • Hospital discharges per 100 population per year

Domain	Tracer indicators, items or services
II. General service readiness	
1. Basic amenities	Mean availability of seven basic amenities items (%): power, improved water source, room with privacy, adequate sanitation facilities, communication equipment, access to computer with Internet, emergency transportation
2. Basic equipment	Mean availability of six basic equipment items (%): adult scale, child scale, thermometer, stethoscope, blood pressure apparatus, light source
3. Standard precautions for infection prevention	Mean availability of 9 standard precautions items (%): safe final disposal of sharps, safe final disposal of infectious wastes, appropriate storage of sharps waste, appropriate storage of infectious waste, disinfectant, single-use disposable/auto-disable syringes, soap and running water or alcohol-based hand rub, latex gloves and guidelines for standard precautions
4. Diagnostic capacity	Mean availability of 8 laboratory tests available on-site and with appropriate equipment (%): haemoglobin, blood glucose, malaria diagnostic capacity, urine dipstick for protein, urine dipstick for glucose, HIV diagnostic capacity, syphilis RDT and urine pregnancy test
5. Essential medicines	Mean availability of 25 essential medicines (%):Amlodipine tablet or alternative calcium channel blocker, amoxicillin (syrup/suspension or dispersible tablets), amoxicillin tablet, ampicillin powder for injection, aspirin (capsules/tablets), beclometasone inhaler, beta blocker (e.g.bisoprolol, metaprolol, carvedilol, atenolol), carbamazepine tablet, ceftriaxone injection, diazepam injection, enalapril tablet or alternative ACE inhibitor (e.g. lisonopril, Ramipril, perindopril), fluoxetine tablet, gentamicin injection, glibenclamide tablet, haloperidol tablet, insulin regular injection, magnesium sulfate injectable, metformin tablet, omeprazole tablet or alternative (e.g. pantoprazole, rabeprazole), oral rehydration solution, oxytocin injection, salbutamol inhaler, simvastatin tablet or other statin (e.g. atorvastatin, pravastatin, fluvastatin), thiazide (e.g. hydrochlorothiazide) and zinc sulphate (tablet or syrup).
III. Service-specific readiness	
For each service, the readiness score is computed as the mean availability of service-specific tracer items in four domains: staff and training, equipment, diagnostics, and medicines and commodities	• Family planning • Antenatal care • Basic obstetric care • Comprehensive obstetric and neonatal care • Child health immunization • Child health preventative and curative care • Adolescent health services • Lifesaving commodities for women and children • Malaria diagnosis or treatment • Tuberculosis services • HIV counselling and testing • HIV/AIDS care and support services • Antiretroviral prescription and client management • Prevention of mother-to-child transmission (PMTCT) of HIV • Sexually transmitted infections diagnosis or treatment • Noncommunicable diseases diagnosis or management: diabetes, cardiovascular disease, chronic respiratory disease and cervical cancer screening • Basic and comprehensive surgical care • Blood transfusion • Laboratory capacity

1.2.3 Core instrument

The basic approach to SARA is to collect data that are comparable both across countries and within countries (i.e. across regions and/or districts). To achieve this, a standard core questionnaire has been developed. The core questionnaire was pretested in a variety of settings in two countries. The first pretest occurred in Sierra Leone in April, 2011. A second pretest occurred in Kenya in June, 2011. This second pretest was part of a larger pretest of the revised MEASURE DHS Service Provision Assessment (SPA) questionnaire, which includes all core SARA questions as they are embedded in the SPA Inventory questionnaire. Following the pilot test experience, adjustments were made to the questionnaire to account for the information gained, resulting in the standard core questionnaire.

Typically, a country adopts the core questionnaire with adaptations to certain elements such as:

- types of facilities
- managing authority of facilities
- national guidelines for services
- staffing categories
- national policies for medicines (e.g. for tuberculosis, HIV/AIDS).

The questionnaire does not attempt to measure the quality of services or resources, but it can be used in conjunction with additional modules such as management assessment or quality of care.

1.2.4 Survey design methodology

The SARA survey requires visits to health facilities with data collection based on key informant interviews and observation of key items. The survey can either be carried out as a sample or a census; the choice between these methodologies will depend on a number of elements including the country's resources, the objectives of the survey and the availability of a master facility list (MFL). For example, if the objective of the survey is to have nationally representative estimates, a sample survey would be appropriate. However, if the objective is to have district estimates, the sampling methodology must be adjusted to either a larger sample or in some cases a full census.

Service availability

The recommended data source for information on service availability is a national master facility list (MFL) of all public and private facilities (*7*). A facility census is usually required to establish and maintain a national MFL. A facility census aims to cover **ALL** public and private health facilities in a country. The census is designed to form the basis for a national and subnational monitoring system of service delivery, which can be supplemented by quality ascertainment through facility surveys and further in-depth assessments. A census is the recommended methodology for forming the baseline of service availability and readiness data. Service availability data should be updated annually through routine, facility-based reporting and validated approximately every five years through a facility census.

Service readiness

The recommended design methodology for measuring service readiness is a sample survey. Sampling is done in a systematic way to ensure that the findings are representative of the country and region/district in which the survey is being conducted. Drawing a random sample of health facilities is much more complicated if the country does not have a comprehensive and up-to-date MFL. Therefore, it is highly recommended to invest in establishing a MFL that includes all public and private facilities. In cases where a national list of facilities is not available or up-to-date, the service readiness survey can be carried out at the same time as the facility census for service availability.

Master facility list (MFL)

Regardless of the method selected, a complete MFL is required. Therefore, it is highly recommended to invest in establishing a MFL that includes all public and private health facilities. In many countries there are already lists of public facilities and sometimes also nongovernmental facilities. However, private facilities are often excluded or only partially included in these lists. WHO and partners have developed a guide to support countries in creating a MFL. Please refer to the document *Creating a master facility list* (*7*) for more information on best practices in establishing a MFL.

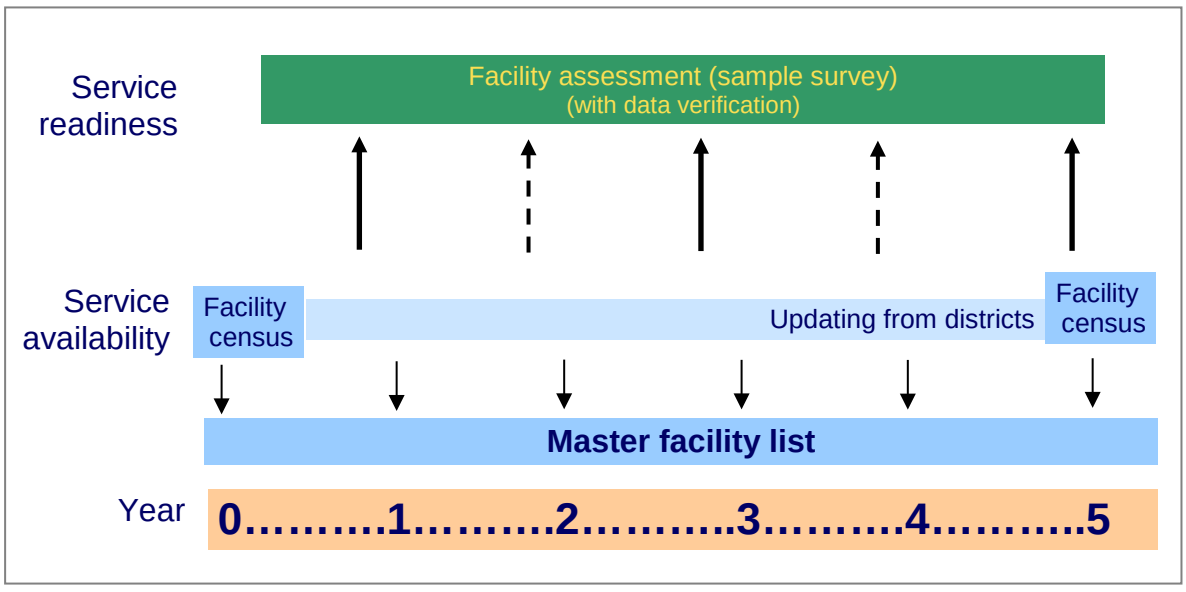
Data quality assessment

The service availability and readiness assessment can be used for to assess data quality of the routine system by comparing results with aggregated routine health information data at district, provincial and national level. In addition, the service readiness assessment can be combined with a record review for data verification purposes, to ascertain the completeness and quality of facility reporting. The data quality review (DQR) (*8*) can be used to verify the quality of routinely reported data for some key coverage indicators, quantifying problems of data completeness accuracy and external consistency.

1.2.5 Timeline of implementation

Service availability and readiness assessments should be planned on a yearly or biennial basis to coincide with and feed into national health planning cycles. Sample surveys should be organized every year about three to five months in advance of the annual review. The national MFL should be used to provide the sampling frame (see Figure 1.2.1).

FIGURE 1.2.1: TIMELINE OF IMPLEMENTATION FOR SERVICE AVAILABILITY AND READINESS ASSESSMENT



The time needed to complete a service availability and readiness assessment depends on the size of the country and whether or not there is a need for a full facility census. From the initial country-adaptation of the assessment tool to the dissemination of data and production of country reports, the entire process generally takes from three to six months.

Table 1.2.2 below provides an overview of the survey steps and the activities to be undertaken at each step.

TABLE 1.2.2: SUMMARY OF SURVEY STEPS AND ACTIVITIES

Steps	Survey activities
1. Survey planning and preparation	• Establish a survey coordinating group of country stakeholders to oversee and facilitate the objectives, scope, design, implementation and analysis • Obtain a list of all health facility sites (public, private, nongovernmental organizations (NGOs) and faith-based organizations (FBOs)), including country facility registry codes • Determine appropriate design methodology (census or sample), develop an implementation plan and budget, and secure funding • Adapt questionnaires to meet country-specific needs • Recruit survey personnel (survey manager, field supervisors, data collectors, data entry/processing personnel, data analysts) • Prepare a survey schedule • Identify the survey sites (sampling frame). Select the sample size and sample of health facilities (if sampling methodology is chosen) • Procure logistics including equipment and transport, taking into consideration the number of sites to be visited, the number of data collection teams, drivers, vehicles, petrol, etc. • Plan and conduct training courses for interviewers and field supervisors • Pilot test the survey in a selected number of health facilities, evaluate results and make amendments if necessary
2. Data collection in the field	• Plan the data collection visits (prepare a letter of introduction, contact each site, prepare a schedule of visits) • Prepare materials and tools for data collectors • Arrange for transport and regular communications during fieldwork • Assemble materials necessary for local data collection • Confirm appointments with health facilities • Visit health facilities and collect SARA data in teams (usually two interviewers and a driver) • At the end of the interview, check questionnaire and resolve missing/unreliable information • Return completed forms and/or transfer electronic files to field supervisor at the conclusion of each day • Return forms (paper and/or electronic) to survey manager when data collection is complete
3. Data entry, analysis and interpretation	• Enter data using the CSPro application • Edit, validate and clean data set, checking for consistency and accuracy • Export the data set for analysis (SARA indicators) • Conduct analyses of SARA data using the standard core indicators (SARA automated tool for results graphs and tables) as well as any country-specific indicators of interest
4. Results dissemination	• Meet with survey coordinating group to analyze and interpret survey results and to finalize recommendations • Prepare the final report • Plan and implement dissemination activities. The results should be used to support annual health reviews and feed into the M&E platform for the national health plan • Document and archive the survey using metadata standards

1.2.6 Roles and responsibilities

The survey is usually undertaken under the overall leadership of the **Ministry of Health.** The following section briefly outlines the roles and responsibilities of the key parties involved in the implementation of SARA and data quality activities.

Ministry of Health (MoH): Will have overall responsibility for the coordination of this process. Will coordinate and provide support to get permission to conduct data collection activities, help with the coordination of analysis and results dissemination meetings by inviting all the appropriate governmental departments, key non-governmental and development partners. Will also promote the use of this data for policy and planning.

Survey Coordinating Group: The Coordinating Group, led by Ministry of Health should include national institutes and other key stakeholders in the health services sector. This core group, will provide leadership and oversight throughout the whole process from questionnaire to dissemination of results.

Implementation agency: Will be responsible for conducting field data collection for SARA and the data verification component of the Data Quality Review. Details of the composition of the implementation agency team is given in a separate document.

Agency providing quality assurance and technical support: It is recommended that an independent party be involved in the implementation process. This support can be provided by a separate national institute or independent consultant. He/she will be responsible for providing support to the implementation team on planning and implementing SARA; provide a quality assurance role to ensure due processes are followed during training, data collection, cleaning and analyses stages (including validation visits in 10% of the facilities); to provide assistance and oversight to the implementing team on the production of the SARA and data quality assessment report.

1.3 Pre-survey preparation

1.3.1 Establishing a survey coordinating group

Bringing partners together and mobilizing them around the survey is a critical first step towards successful implementation. One of the first activities is to identify and establish a group of core stakeholders at country level to oversee, coordinate and facilitate the planning, implementation and follow-up of the facility assessment process. In general, partners include those groups, individuals, and/or organizations that are carrying out or planning similar efforts as well as those for whom the outputs of the health facility assessment will be of interest. These often include:

- ministries of health (as well as national institutes of statistics, geographical information system (GIS) units, health management information systems (HMIS) units, health services and other public research institutions);
- universities and other academic institutions involved in research;
- NGOs and other organizations involved in data collection;
- United Nations health-related organizations present in the country (e.g. WHO, UNICEF, UNDP, UNAIDS);
- international funders active in the country (i.e. the Global Fund to Fight AIDS, Tuberculosis and Malaria, government agencies for international development).

The role of the survey coordinating group should include:

- clarifying the objectives of the survey;
- supporting the survey manager in planning, preparing and conducting the study, and identifying important policy issues that should inform the survey protocol;
- advising on any matters that arise during survey preparation, fieldwork and data analysis;
- assisting in interpreting data and developing policy recommendations;
- promoting the findings of the survey and advocating for appropriate policy recommendations.

It is important to hold regular meetings with the survey coordinating group throughout the survey process. At least one meeting should be held to support the planning and preparation of the SARA survey, and one meeting should be held post-survey for interpreting survey results and developing recommendations. A second post-survey meeting may be beneficial to discuss the results and their policy implications, consolidate all survey results and finalize recommendations.

1.3.2 Identifying entities for survey implementation and quality assurance

Once the coordinating group has been established, it is important to define who will be in charge of the survey field implementation. It is recommended to identify and work with a national institute (e.g. National Statistical Office, School of Public Health, etc.) or an entity used to conducting such field assessments. The selection is done in agreement with the Ministry of Health.

The institute in charge of the survey implementation works closely with the coordinating group for the preparation, implementation and results dissemination of the survey. It is also recommended that a third party (different from the implementing agency – consultant, regional institute, etc.) ensures the quality of the survey (including organizing visits in 10% of the sites). This entity can also provide technical backstopping as required. It works closely with the coordinating group and implementation institute throughout the process, ensuring that survey procedures are followed properly and as per the defined methodology.

1.3.3 Compiling a master facility list (MFL)

Before beginning a health facility assessment, a situation analysis assessing the availability of health facility information must be carried out. An important prerequisite for conducting a SARA survey is the existence of a MFL. The analysis should therefore aim to ascertain the existence and reliability of an official MFL.

Regardless of the survey methodology (census or sample), a complete master list of facilities is required. Therefore, it is highly recommended to invest in establishing a MFL that includes public, private for-profit, and NGO facilities. In many countries there are already lists of public facilities and sometimes also nongovernmental facilities. However, the private facilities are often excluded or only partially included in these lists.

Before a health facility assessment can be implemented, **ALL** health facilities in a country must be identified and a health facility list created. This list must include health facilities in all sectors including the public sector, the private sector, FBOs and NGOs. In some countries, a MFL may be available containing all the required information. In most cases however, this information is not readily available and must be compiled. The ministry of health (MoH) generally maintains information on public health facilities and can serve as the basis for the MFL. Other contacts will need to be identified to retrieve information on private, FBO, NGO and other facilities.

All available health facility listings have to be reconciled to identify a single, comprehensive list, with each facility assigned a unique identification (ID) code. Facilities should be classified by level of service provision (from hospital at the highest level through clinic at the lowest level) and by ownership (MoH, mission, NGO or private). Locational information should be included in the MFL when available. The geographical coordinate collection method should also be recorded (i.e. global positioning system (GPS) remote device, digital place names, gazetteers, etc.).

A key component of the MFL is the unique ID code assigned to each facility. A set of data must be gathered with the specific purpose of uniquely identifying each survey site. In database terminology this set of identifier data is referred to as a "primary key" or a "unique key": a code uniquely identifying a row or column of a database. Without specific ID attached to each survey site, there is a risk of duplicate data collection. In addition to greatly lessening the risk of data duplication, site ID fields allow for cross-survey comparisons as well as comparisons over time.

Please refer to the document *Creating a master facility list* (*7*) for more information on best practices in establishing a MFL.

1.3.4 Designing a methodology and implementation plan

Design methodology

There are two potential design methodologies for the SARA survey:

- a facility census (i.e. assessment of all health facilities)
- a sample survey (i.e. a representative sample of facilities).

Service availability requires a denominator that includes all public and private health facilities in the country (i.e. a census). Service readiness can be measured through a representative sample of facilities.

Facility census

The recommended data source for information on service availability is a national MFL of all public and private facilities. A facility census is usually required to establish and maintain the MFL. Service availability data should be updated annually through routine, facility-based reporting, and data should be validated approximately every five years through a facility census.

A facility census aims to cover **ALL** public and private health facilities in a country. The census is designed to form the basis for a national and subnational monitoring system of service delivery, which can be supplemented by quality ascertainment through facility surveys and further in-depth assessments. A census is the recommended methodology for forming the baseline of service availability and readiness data.

Sample survey

The recommended design methodology for measuring service readiness is a sample survey. Sampling is done in a systematic way to ensure that the findings are representative of the country or state/province in which the survey is being conducted. Drawing a random sample of health facilities will be much more complicated if the country does not have a comprehensive and up-to-date MFL. Therefore, it is highly recommended to invest in establishing a MFL that includes public, private for-profit, and nongovernmental facilities. If a fairly complete master list of facilities already exists, a sampling approach can be used.

Implementation plan and budget

An implementation plan should be drafted based on the objectives of the survey and the results of the situation analysis of health facility information. The implementation plan serves as a comprehensive outline of the operational plan for implementing a SARA survey and is key to ensuring the success of the survey. The plan must lay out the reason for carrying out the survey, how the survey will be executed and how to oversee the survey to ensure that it will be completed on time and within budget. The objectives of the survey will help to determine the design methodology, which will in turn drive much of the operational plan and budget for the survey. When designing the budget, it is essential to ensure that the following items are accounted for.

Financial and human resources

- human resources
  - survey manager
  - TA/QA entity
  - field supervisors
  - data collectors
  - data entry personnel
  - data analysts
- training
  - training venue
  - daily allowance and accommodation
  - transport
  - materials
  - expenses related to pilot testing
- data collection and validation
  - daily field allowance and accommodation for data collectors
  - transport
  - materials (paper, pens, etc.)
  - photocopying
  - communication (e.g. telephone charges)
- data cleaning, processing and analysis
- meetings of the survey coordinating group
- report production and dissemination
- advocacy and communications
- overheads
- contingency.

Technical resources

- mobile electronic data collection devices (EDCs) e.g. personal digital assistants (PDAs), tablet computers or laptop computers: one for each data collection team
- GPS devices (if the facility coordinates need to be taken): one for each data collection team
- batteries for GPS devices
- memory cards for EDCs
- computer(s) for data entry
- data entry application (CSPro[1] recommended)
- data analysis programme.

Once a comprehensive budget has been developed, funding should be secured to cover all survey costs (a standard budget template is available in the *SARA Implementation Guide—Chapter 1: Planning).*

1.3.5 Adapting the SARA instrument to country-specific needs

A standard core questionnaire for measuring service availability and readiness is available. However, the questionnaire must be adapted for country use to reflect the needs of each country and specificities of each health-care system. When adapting the health facility questionnaire, consideration should be given to how changes will affect data collection, and adjustments should be made to ascertain that definitions are specific enough to assure comparability across the country and within districts. Training, data collection and analysis are carried out, even in larger countries, within one month, and adding more to the tool will make it slower and could create problems at the analysis stage if not carefully considered. SARA is not intended to provide comprehensive data on all aspects of health system functioning. Rather, it focuses on key "tracer" elements that are critical to programmes that are scaling up or that are indicative of the essential health system underpinnings or "readiness" to do so. This should be kept in mind while adapting the questionnaire and adding additional modules or questions.

The following areas of the SARA tool must always be adapted to the country context:

- types of facilities
- managing authority of facilities
- national guidelines for services
- staffing categories
- tuberculosis medicines
- HIV/AIDS medicines
- Routine immunization
- other country-specific medicines.

The questionnaire can be implemented as either a paper questionnaire or an electronic questionnaire.

Paper questionnaire: any changes should be made according to the country adaptation process prepared for the survey training.

Electronic questionnaire: once a mobile EDC has been selected, the appropriate software can be chosen. This software generally comprises a desktop forms designer and database, a synchronization conduit and the handheld forms application. Once the software is uploaded, the survey form can be designed on a desktop

[1] For information about the Census and Survey Processing System (CSPro), including free download, visit: http://www.census.gov/population/international/software/cspro/

computer and then synchronized with the handheld device. For the SARA survey, the recommended software for electronic questionnaires is CSPro.

1.3.6 Recruiting survey personnel

The SARA survey will require involvement of the following personnel:

- survey manager
- field supervisors
- data collectors
- data entry personnel
- data analysts.

Survey manager

The survey manager plans and coordinates the survey at the central (national) level. This includes planning the survey's technical and logistical aspects, recruiting and training survey personnel, supervising data collection and data entry, conducting data quality assurance and data analysis, interpreting results and preparing a survey report.

Wherever possible, the survey manager should have experience in conducting surveys and should be very familiar with the health-care system. The survey manager should be familiar with basic statistics and interpreting data. Successful communication of the survey results also requires an understanding of the policy-making process and different advocacy strategies. Where the survey manager does not possess all of these qualities, he or she should select the survey coordinating group members to ensure that the survey management team includes the necessary health, surveying, statistics, policy and advocacy skills.

Field supervisors

Field supervisors are responsible for overseeing all aspects of data collection in the survey area(s) for which they are responsible. In a small country or in a survey that is conducted in a single region of a country, it may be possible for all fieldwork to be undertaken by a single team. Experience has shown that in larger-scale studies, however, it is advisable to designate a field supervisor in each of the geographical areas that will be surveyed.

Field supervisors have a crucial role to play in ensuring data quality and consistency. They should be experienced in data collection and be familiar with health terminology. They are also instrumental in gaining access to facilities; if any field supervisor is unfamiliar with their designated area, a local contact may be needed to assist. Field supervisors may also be responsible for choosing local data collectors when they are not sent from the central level.

Data collectors

Data collectors are responsible for visiting health facilities and collecting SARA data with a high degree of accuracy. The survey methodology has been designed to minimize as far as possible the need for a high level of technical expertise.

However, data collectors should, wherever possible, have the following qualifications, skills and capabilities:

- a health qualification (nurse, midwife or medical student) and familiarity with the organization and functioning of health facilities;
- some understanding of the principles of sample surveys, ideally with some previous experience in conducting surveys;
- an appreciation of the logistics requirements for carrying out field studies;

- post-secondary school education as a minimum;
- familiarity with the locality and local language or dialect.

Data collection requires an aptitude for concentration and attention to detail. The best data collectors combine the discipline of collecting data in a standardized way with the ability to identify unusual situations that require advice from the field supervisor or survey manager. Data collectors must be available to work full time for the duration of the fieldwork. They should be willing to work extended hours if necessary and be able to stay away from their homes for extended periods of time.

The number of data collectors required depends on the sample size of the survey. Data collectors should work in pairs. Each visit to a health facility is likely to require about two hours plus transport time. In practice, this means that a team of two data collectors can survey two to four facilities per day. The number of data collectors will also depend on the budget available, the locations of the survey areas, the travel conditions and the number of health facilities to be surveyed. It is better to have a smaller number of better qualified data collectors than to have a large team where some data collectors lack the necessary skills.

Data entry and data processing personnel

Accurate data entry is vital to ensure the reliability of the results. Two data processing personnel with experience in using the selected data entry software are required: one to enter the data, and the other to re-enter the same data to check that the entries are correct. If data are being entered from paper questionnaires, double entry is essential to ensuring the accuracy of the data entry process. If data are collected both electronically and on paper, then the first instance of data entry has already occurred during the electronic data collection and the data entry personnel would only be responsible for the second entry of data for validation purposes. In some cases, it may be possible to use the same personnel for both data collection and data entry, provided they have the necessary expertise to undertake both functions.

Data analysts

The primary tasks of the data analyst(s) are to inspect, clean, transform, analyse and visualize data with the goal of highlighting useful information, suggesting conclusions and supporting decision-making. It is vital that the data analyst has an advanced knowledge of the chosen analysis software for the SARA survey. A working knowledge of health service delivery and the specific country's health system is important for interpretation of the results and is required of at least one member of the data analysis team.

1.3.7 Preparing the survey schedule

The complete survey should generally take between three and six months to complete, including survey preparation, data collection, data entry, data analysis and report writing. Further time should be allotted for dissemination and follow-up activities. Given that the information gathered from SARA should be used to inform decision-making, it is important that data collection be conducted rapidly and the report generated as soon as possible once data collection is complete. This will ensure that the survey results are relevant and informative for decision-makers. A survey schedule should be developed and consulted regularly to ensure that activities are proceeding according to plan. This schedule should detail the amount of time allotted for each step in the survey process, and should serve as a timeline for all survey activities.

1.4 Planning the survey

1.4.1 Selecting the sample size and sample

Determining the sample size and selecting the sample for a facility survey is a complex subject, which will vary considerably from case to case depending on the desired precision and type of estimates, the number of facilities in the country as well as the specific objectives of the assessment. For example, a SARA conducted to produce national estimates will require a much smaller sample size than if district-level estimates are desired. In order to ensure that the sample is representative, it is best to consult with a sampling expert or a statistician to select an appropriate sampling methodology. For the SARA, the most common sampling strategy is Option 1 in the table below—a nationally representative sample obtained by taking a simple random sample of facilities within each stratum (facility type and managing authority) at the national level. The table below presents different sampling options that could be used to conduct a SARA based on the desired level of estimates:

Domains of estimation	Sampling method	Sample size (estimate)[2]	Approximate cost
Option 1: National estimates only National estimates with disaggregation by facility type (3 levels) and managing authority (public/private)	***Small country*** Stratification by facility type and managing authority, simple/systematic random sampling within each stratum with census or oversampling of hospitals (design effect = 1)	150 – 250 facilities	$60K-100K
	Medium country Blend of list and area sampling: list sampling for large health facilities, and area sampling for small facilities (census of facilities in sampled area PSUs [3]) (deff = 1.2)	250 – 500 facilities	$100K-200K
Option 2: Subnational estimates Regional and national estimates with disaggregation by facility type (3 levels) and managing authority (public/private)	***Small country*** Stratification by region, facility type and managing authority, simple/systematic random sampling within each stratum, with census or oversampling of hospitals (deff = 1)	5 regions: 250 – 500 facilities 10 regions: 500 – 800 facilities	$100K-130K $130K-180K
	Medium/large country Blend of list and area sampling: list sampling for large health facilities, and area sampling for small facilities (census of facilities in sampled area PSUs[2]) (deff = 1.2)	***Medium country*** 4 regions: 300 – 500 facilities ***Large country*** 4 regions: 400 – 800 facilities	$120K-200K $180K-360K
Option 3: Subnational estimates Regional estimates for a subset of regions, with disaggregation by facility type (3 levels) and managing authority (public/private) for selected regions; no national estimates	***Large country*** Purposive sample of regions, simple/systematic random sample with oversampling of hospitals for each region	4 regions (150 facilities per region): 600 facilities	$60-100K per region

[2] Sample size estimates assume a margin of error of 0.1 and 95% level of confidence
[3] Administrative units that form the PSUs (Primary Sampling Units) for the area sample should contain approximately 1-5 health facilities each (communes, sub-counties, villages)

Domains of estimation	Sampling method	Sample size (estimate)[2]	Approximate cost
Option 4: District sample District estimates for sampled districts; national estimates if sufficiently many facilities are sampled	***Small, medium and large countries*** List sampling for regional and national hospitals plus sampling of districts (two-level cluster sample: selection of districts as first level, selection of facilities within these districts as the second level) (deff = 2)	***Small country*** 300-500 facilities (10-30 districts[4]) ***Medium country*** 400-800 facilities (20+ districts) ***Large country*** 600-1000 facilities (30+ districts)	$100K-200K $160K-320K $270K-470K
Option 5: Facility census All possible domains of estimation	***Small, medium and large countries*** Census of all facilities		Very expensive

Small country: 50 – 100 hospitals, 1000 – 2000 health facilities total, 10 – 80 districts (e.g. Sierra Leone, Togo, Burkina Faso)
Medium country: 100-500 hospitals, 2000 – 5000 health facilities total, 80 – 500 districts (e.g. Uganda, Tanzania)
Large country: 500 – 1000 hospitals, 5000 – 10000 health facilities total, 500 – 1000 districts (e.g. DRC, Nigeria)

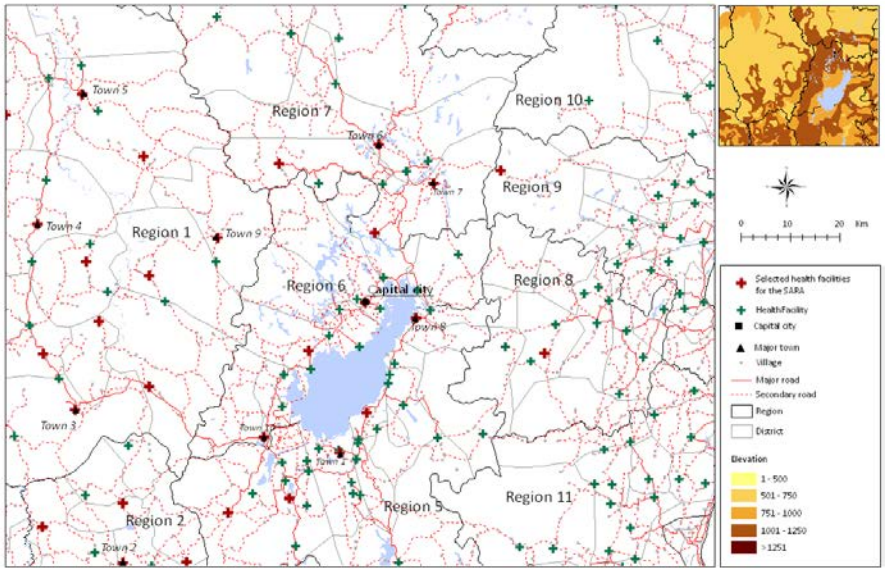
1.4.2 Procuring logistics

Planning for data collection requires consideration of the logistics needs for data collection teams as well as an assessment of the hardware and software needs for data collection. Equipment should be considered for a base camp as well as for fieldwork, and for operations as well as for training. The guiding principle that should be kept in mind when compiling equipment for the field is redundancy, i.e. to have backup components and a contingency plan in case equipment fails, breaks or is lost. All equipment should have one or more backups, depending on the equipment type and survey requirements. If feasible, paper forms and printing capabilities provide a viable contingency plan for the worst-case scenario of mobile device failure. Equipment requirements are also determined according to country-specific needs, as well as the availability of resources and budget.

Assigning facilities to teams

It is recommended to map all facilities in the survey sample to assist with logistics planning for the data collection. This map can be made either on paper or electronically. The map should include information such as roads, topography, basic geographical features, elevation and location of health facilities, which are useful in determining survey areas. Teams should be assigned to facilities based on the geographical distribution of the selected health facilities. Figure 1.4.1 gives an example of a map that would be useful for SARA logistics planning.

FIGURE 1.4.1 SERVICE AVAILABILITY AND READINESS ASSESSMENT (SARA) EXAMPLE MAP



[4] Number of districts in sample depends on the number of facilities per district

Survey team requirements

The duration of the field survey depends on the availability of resources, the number of teams, the number of health facilities to be visited, and the size of the country and population.

As a general guide, data collection teams consist of two interviewers/data collectors plus a driver. On average, one team can cover at least two health facilities per day.

The estimated duration of the survey is calculated during the planning phase and is unique to the needs and resources available in the country. The following examples illustrate the planning that is required.

Example 1. A country consisting of 50 districts with on average 40 health facilities per district.

One team covers one district (40 health facilities) over 20 days (two facilities per day), and so 10 teams cover 10 districts over 20 days.

Therefore 10 teams will cover one country (50 districts) over 100 days (or three months).

Example 2. An urban area with an average of 200 health facilities.

One team covers 200 health facilities over 100 days (two facilities per day), or 10 teams cover 200 health facilities over 10 days.

For all surveys, logistics planning needs to take into account the following:

- car hire and fuel for the duration of the survey
- per diem for the driver(s)
- per diem for the data collectors.

Equipment requirements

Equipment requirements are also determined according to country-specific needs, as well as the availability of resources and budget.

1.5 Training field supervisors data collectors and data entry personnel

This chapter provides practical guidance on conducting a training workshop for field supervisors, data collectors and data entry personnel. Training is an important element of survey preparation because it helps to ensure the accuracy and reliability of the data gathering and data entry procedures. Consequently, this chapter also covers the issue of ensuring data quality. This chapter has been developed to assist survey managers in conducting training workshops for their survey personnel, regardless of whether they have attended any previous training.

1.5.1 The importance of data quality

It is important to ensure data quality for several reasons:

- solid data support conclusions and recommendations;
- future policy decisions may rely on the evidence generated in the survey;
- critics and opponents will look for weaknesses in the survey methods and results;
- results will be publicly accessible and may be used by others, e.g. in conducting international comparisons.

There are several reasons for data problems commonly encountered in a survey:

- field supervisors, data collectors and data entry personnel receive insufficient or poor-quality training;
- the pilot survey is not conducted properly;
- work in the field is of poor quality (insufficient supervision, no quality control for submission of completed forms, misunderstanding of instructions, etc.);
- data are not checked at every stage of the survey process;
- data are entered incorrectly;
- there are problems with uniquely identifying facilities;
- there are problems of human error;
- there is non-response to questions.

Data problems can therefore be avoided by:

- carefully studying the survey manual and accompanying materials at every step, and following instructions;
- selecting capable and reliable personnel and ensuring they are well trained in the survey methodology;
- encouraging personnel to communicate openly about uncertainties in survey procedures and questionable data;
- double-checking data collection forms for accuracy and completeness after each data collection visit, at the end of each day of fieldwork, and prior to data entry;
- conducting double entry of the survey data – data are entered twice by different people and then cross-checked.

Thorough training of survey personnel is one of the most important ways of ensuring accurate data collection and good-quality data. Experience from previous surveys has shown that poor survey preparation, including inadequate training of survey personnel, results in onerous and time-consuming data checking that can significantly delay the survey's completion. It is therefore more effective and efficient to apply rigorous data collection methods than to try to clean or correct data once they are already collected.

1.5.2 Overview of training

All personnel involved in data collection, supervision and data entry require training to ensure reliable and accurate data collection, completion of questionnaires and data entry.

A training workshop for survey personnel should be held as part of the survey preparation. The overall objective of the training workshop is to provide field supervisors, data collectors and data entry personnel with the knowledge and skills required to carry out a SARA survey in an accurate and reliable manner.

Upon completion of the training, participants should:

- be familiar with the key aspects of the survey and how it is conducted;
- understand their roles and responsibilities in the survey, including specific tasks, timelines and reporting requirements;
- understand the critical content required to do their job effectively and possess the skills required to undertake each of their activities;
- be aware of common issues that may arise during survey activities, and understand troubleshooting/problem-solving strategies to address these issues;
- recognize the intrinsic value of good-quality data and be motivated to ensure data quality as part of their activities.

Training should therefore focus on teaching the following to the participants:

- the overall purpose of the survey;
- the consequences of poor-quality data;
- how to administer and record responses using the SARA questionnaire, the purpose and meaning of each question, and how to develop good rapport with the respondent;
- ethical issues involved in conducting a health facility survey, the importance of administering the informed consent statement, and how to maintain the privacy and confidentiality of the respondent;
- problem-solving in the field;
- how to enter data for both paper and electronic questionnaires;
- how to collect geographical coordinates of visited sites using GPS;
- common data collection and data entry mistakes.

It is recommended that the duration of a training workshop, which covers both data collection and data entry, last between 8 to 10 days (a sample agenda for the training of supervisors and data collectors is available in the *SARA implementation guide – Chapter 1: Planning*).

Training should include a data collection pilot test in which survey personnel visit public and private sector health facilities and collect data in the same way they would during actual fieldwork. This will not only provide survey personnel with practical experience in collecting data, but will also serve as a check of the appropriateness of the SARA questionnaire.

The trainer is usually the survey manager but could be a resource person with technical assistance from partner implementing agencies. The participants should include all field supervisors, data collectors and data entry personnel. For paper-based data collection, training on data entry is required. This can be held as a separate workshop or session for data entry personnel, however, there may be some advantage in holding a combined training session on data collection and data entry, since it will sensitize field supervisors and data collectors to the difficulties in entering poor-quality data. It is also recommended that the members of the survey coordinating group be invited to the introductory session of the training workshop to meet survey personnel and discuss the survey methodology.

The training workshop should be held as close as possible to the initiation of data collection – immediate departure for data collection can be scheduled if the survey manager has prepared well. Time lags between training and data collection should be avoided so that survey personnel have better recall of the data collection protocol.

1.5.3 Preparing for the training workshop

Planning the training workshop can require substantial time and preparation. Workshop preparations should begin early in the survey development process and should run in parallel to other survey planning and preparation activities. In preparing the training, it is essential to ensure that there is an adequate budget to cover costs for the training venue, transport, materials, and a daily allowance and accommodation for participants.

Select a training venue

A training venue should be selected based on the following criteria:

- availability of a room of appropriate size to hold the workshop;
- availability of essential technical resources (printer, photocopier, projector for presentations, electricity to charge mobile EDCs, etc.);
- proximity to health facilities that can be surveyed during the data collection pilot test;
- accessibility by routine modes of transport;
- on-site or nearby refreshments and accommodation for out-of-town participants;
- reasonable cost.

It is useful to check with survey coordinating group members to see if a meeting room can be made available for the training workshop at low or no cost.

Schedule dates of the training workshop

The training workshop should be scheduled close to the anticipated start of data collection. Do not plan the workshop during a time when weather or other conditions may delay the initiation of data collection. All survey personnel must attend the workshop and should be advised of the dates as early as possible. Invitations to attend the introductory session of the workshop should also be sent to survey coordinating group members.

Plan data collection pilot test

During the data collection pilot test, data collection team will visit at least three health facility (from different types) and collect data by following the survey procedures. It is recommended that each team visit one public health facility and one private health facility during the pilot test. The participation of pilot sites should be secured well in advance of the training workshops. The appointments should be made in advance and reconfirmed before the training session, avoiding peak periods when health facilities may be busy with patients.

Prior to the training workshop a written schedule should be prepared for each data collection team, indicating the time and location of each health facility visit, and including the name and contact details of the person in charge at the facility. The schedule should also contain the survey manager's telephone number so that survey personnel can call if there is a query or problem.

Secure equipment

All necessary equipment should be procured prior to the training session. This includes:

- projector, computer, etc. for the training session;
- pens, notepads, clipboards;
- mobile EDCs loaded with software and electronic forms;
- GPS devices for data collection teams;
- mobile phones for data collection teams to carry during the pilot test;
- access to a printer and photocopier for reproducing the SARA questionnaire.

Prepare training materials

Each training participant should receive:

- one copy of the SARA questionnaire;
- one copy of the SARA data collectors' guide;
- training hand-outs.

In addition, sufficient copies of the SARA questionnaire should be available for use in the pilot test.

1.5.4 Conducting the training workshop, including the data collection pilot test

The SARA data collectors' guide is available in the *SARA Implementation Guide – Chapter 5: Data collector's guide***.** The guide provides:

- an overview of data collection processes;
- general guidance on interviewing practices and techniques;
- detailed explanations and definitions for each question in the questionnaire to provide a uniform understanding of the meaning of each question and response choices, and to improve the consistency of the data collected by different data collectors in different facilities.

This manual should be used during the training of all data collectors. In addition, slide presentations and accompanying hand-outs to complement *the SARA data* collectors' guide are available as tools for trainers to use during the training workshop.

The quality of data collection is controlled at several points in the data collection process. The first point of quality control is the thorough training of data collectors and the exclusion from fieldwork of any trainees who do not exhibit competency in applying the data collection questionnaires at the end of training.

Conducting the data collection pilot test

During the pilot test, data collection teams and their field supervisors will visit health facilities and collect data in the same way they would during the actual survey. Each field supervisor and data collector should complete their own SARA questionnaire to gain hands-on experience. Field supervisors should also supervise and watch

out for common mistakes. It may be necessary to hold a preliminary pilot test with field supervisors to ensure that they are sufficiently knowledgeable about the survey protocol to supervise data collectors and identify mistakes. During the pilot test, any questions or uncertainties should be noted for clarification during the training workshop.

The data collection pilot test also serves as a pre-test of the questions in the SARA questionnaire and should help to highlight any country-specific adaptations that should be made to the survey including issues such as question format, wording and order. The pilot test allows for an opportunity to uncover any defects in the questions, glitches in wording of questions, lack of clarity of instructions, etc. The survey questionnaire should be piloted in all languages in which it will be administered. In addition to testing the paper questionnaire, the pilot test also tests field logistics, supervisory capacity and the application functionality for electronic data entry.

1.5.5 Finalizing the questionnaire

After piloting the SARA questionnaire, changes should be made to its format and/or content based upon any issues discovered during the piloting phase. All changes must be made to both paper and electronic versions of the questionnaire.

1.6 Preparing for data Collection in the field

The success of the SARA survey depends largely on the data collectors in the field, who are gathering and recording accurate, reliable data. Data collection requires careful planning and preparation, involving the following activities:

- planning the data collection visits
- preparing materials and tools for data collectors
- arranging transport and regular communications.

1.6.1 Planning the data collection visits

Who? Survey manager

The survey manager is responsible for planning the data collection visits. Before data collection starts, a schedule of visits to health facilities should be prepared for each survey area. The number of days required to collect the data can be estimated on the basis of the number of facilities to be visited in each geographical area, the distance between them and the mode of transport available. In general, two data collectors will require two hours plus travelling time for data collection in each facility.

Prepare a letter of introduction

Who? Survey manager

A letter of introduction from the survey manager is invaluable in introducing field supervisors – and later data collectors – to staff in the health facilities being surveyed. The survey manager should prepare a letter of introduction containing the following information:

- the name of the organization conducting the survey and the name of the survey manager
- contact details
- the purpose of the study
- the names of the data collectors who will visit the facility
- the time required for data collection in each facility.

The letter should also provide reassurance that the anonymity of the respondent will be maintained. The survey manager should provide field supervisors with sufficient signed copies for use during both the scheduling of field visits and the data collection visits.

Make initial contact with health facilities

Who? Field supervisors

It is essential that good relations be established with the person in charge of each facility to be surveyed, since they will have to set aside considerable time to provide information for the survey. Ideally, field supervisors should visit the heads of facilities personally, in advance, to seek their permission for data collection in their facility. Field supervisors should show them the letter of and introduction, and make an appointment for data collection on a date and at a time that is convenient for the head of the health facility, avoiding peak periods

when he or she may be busy with patients. Field supervisors should note the contact person's name and telephone number at each health facility. If visits are not possible, then those in charge of the facility should be contacted by phone. The day before the scheduled data collection visit, field supervisors should telephone the health facility to confirm the appointment.

The following checklist should be used by field supervisors when contacting health facilities.

- ❒ Contact each health facility (sample and backup) to introduce the survey.
- ❒ Introduce the survey using the letter of introduction
- ❒ Make an appointment for data collection at a date and time that is convenient for the facility, avoiding peak hours. Allow two hours for data collection at a primary level facility, plus travel time. For larger facilities and hospitals, allow for additional time.
- ❒ Note the name and telephone number of the contact person at each health facility.
- ❒ Explain about the possibility of a second visit for 'validation', which should ideally take place in 10% of the sampled health facilities.
- ❒ Before data collection starts, telephone each health facility to confirm the appointment.

Prepare a schedule of data collection visits

Who? Field supervisors

Field supervisors are responsible for preparing a written schedule for each data collection team. For each facility, the schedule should include the following:

- date and time of appointment
- name of facility
- contact person
- location
- administrative unit
- unique ID number for the facility (provided by survey manager)
- name and contact details of a backup facility.

EXAMPLE OF A SCHEDULE FOR DATA COLLECTION VISITS

Survey area: Region 1

Data collection Team 1

Date/time of appointment	Name of facility	Contact person	Location	Managing authority	ID number	Backup site contact details
20 April 2012 10:00	ABC health centre	Mrs Nguyen	45 Main Street Eastern City Tel: +22 414 000	Private	01234	XYZ health centre 59 Main Street Eastern City Mr Shah

Data collection Team 2

Date/time of appointment	Name of facility	Contact person	Location	Managing authority	ID number	Backup site contact details

1.6.2 Preparing materials and tools for data collectors

Finalize and print questionnaire

Who? Survey manager

Following the data collection pilot test conducted as part of the training workshop, the survey manager should review and, if necessary, revise the SARA questionnaire. Both the paper and electronic versions of the questionnaire will need to be updated. Once the questionnaire has been finalized, the survey manager will need to print sufficient copies and also deploy the electronic forms to the mobile data collection devices.

Prepare data collection forms for each facility to be visited

Who? Field supervisor

The survey manager should provide the field supervisor with a separate questionnaire (data collection form) for:

- each sample health facility in the assigned survey area
- each backup facility
- each validation visit.

The survey manager should also provide the field supervisor with a list of the sample facilities in the survey area. Ideally, about 10% of the sampled facilities should be visited a second time for validation. The field supervisor will identify the validation sites by randomly selecting at least one public facility and one private facility from the list of sample facilities.

The field supervisor should prepare the data collection forms for each facility by completing the front page of the form (see Figure 1.6.1) with the identifying information of each sample facility, backup facility and validation facility, i.e. completing the following fields:

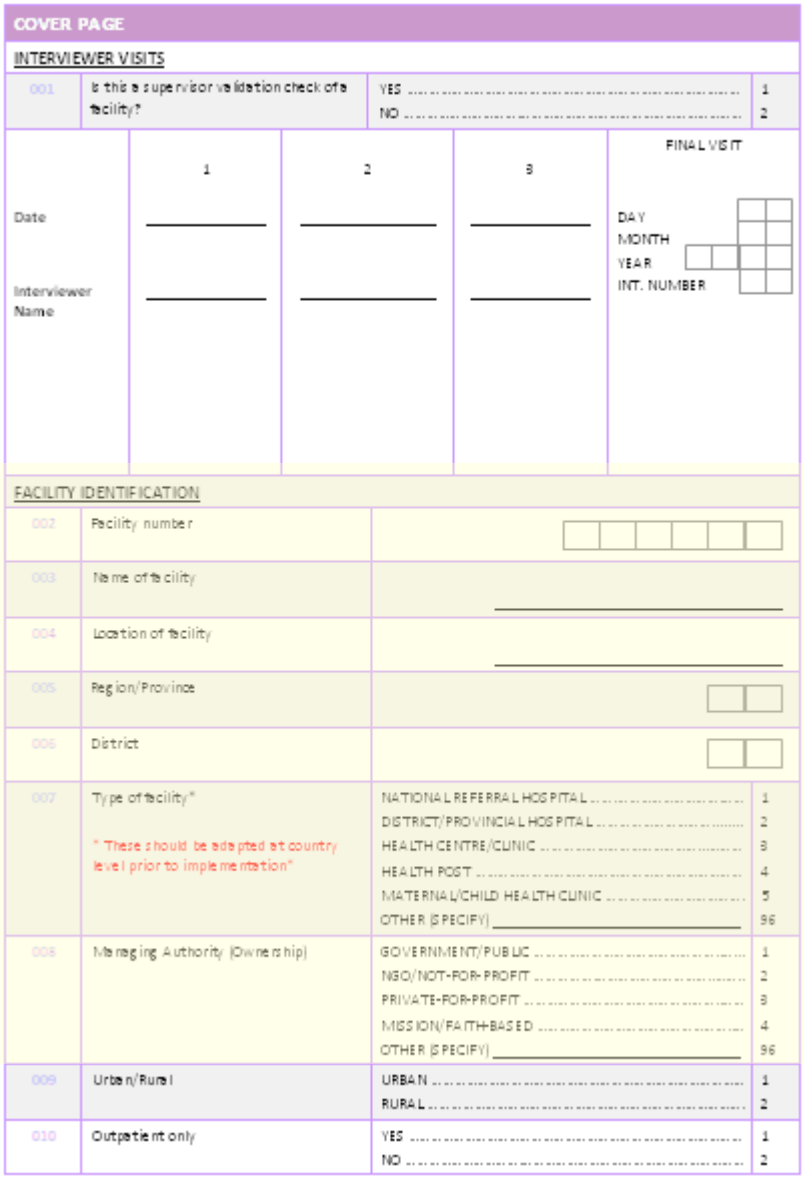
- name of health facility
- health facility unique ID
- name of town/village
- region and district
- type of facility
- managing authority

The following fields should not be completed by the field supervisor, as these will be completed by data collectors during the facility visits:

- date;
- name(s) of person(s) who provided information;
- name(s) of data collectors.

The verification at the top of the page should only be completed once the data collection form has been completed.

FIGURE 1.6.1: FRONT PAGE OF THE SARA DATA COLLECTION FORM



COVER PAGE

INTERVIEWER VISITS

001	Is this a supervisor validation check of a facility?	YES	1
		NO	2

	1	2	3	FINAL VISIT
Date				DAY / MONTH / YEAR
Interviewer Name				INT. NUMBER

FACILITY IDENTIFICATION

002	Facility number		
003	Name of facility		
004	Location of facility		
005	Region/Province		
006	District		
007	Type of facility* * These should be adapted at country level prior to implementation*	NATIONAL REFERRAL HOSPITAL	1
		DISTRICT/PROVINCIAL HOSPITAL	2
		HEALTH CENTRE/CLINIC	3
		HEALTH POST	4
		MATERNAL/CHILD HEALTH CLINIC	5
		OTHER (SPECIFY)	96
008	Managing Authority (Ownership)	GOVERNMENT/PUBLIC	1
		NGO/NOT-FOR-PROFIT	2
		PRIVATE-FOR-PROFIT	3
		MISSION/FAITH-BASED	4
		OTHER (SPECIFY)	96
009	Urban/Rural	URBAN	1
		RURAL	2
010	Outpatient only	YES	1
		NO	2

The field supervisor should complete this section before distributing to data collectors

Arrange for storage of completed questionnaires

Who? Field supervisor and Survey manager

Field supervisors should arrange to store completed questionnaires until all fieldwork is completed, at which time they are transferred to the survey manager. A copy of all paper forms should be made by the field supervisor, and all paper forms should be stored in sealed plastic bags to prevent damage. Electronic forms should be synchronized daily to a central computer and a copy of all records should be stored on a memory card as backup. Field supervisors should always keep a copy of all data collection forms, in case those sent to the survey manager are lost or damaged. The survey manager should arrange for the safe storage of all completed forms in secure conditions for an indefinite period, in the event that data need to be checked at a later date.

Prepare materials and tools for data collectors

Who? Field supervisor

Data collectors need to bring tools and information with them on each day of data collection. Field supervisors should prepare resource kits containing all needed items for each data collection team. Before each day of data collection, the field supervisor should ensure that the data collectors have all the necessary tools and information with them including the following.

- ❒ A list of data collection teams and contact information.
- ❒ Contact details of the field supervisor, including a mobile phone number to call in case of difficulty in the field.
- ❒ A schedule of visits to survey sites.
- ❒ Contact details of the sites to be visited.
- ❒ Details of backup facilities to be visited if scheduled visits are not possible.
- ❒ Copies of letter of introduction.
- ❒ Data collector's guide and relevant hand-outs.
- ❒ A SARA data collection form for each health facility to be visited that day.
- ❒ A SARA data collection form for each backup site that may need to be visited that day.
- ❒ An EDC (fully charged and loaded with the SARA questionnaire), batteries and power cable
- ❒ A memory card for data backup (if applicable, depending on EDC selected) or USB key.
- ❒ A fully charged and accurately configured GPS unit.
- ❒ Pens (pencils should not be used to record data), a clipboard and other supplies.
- ❒ A notebook to record any significant events or findings.
- ❒ A field allowance for local expenses.
- ❒ An identity document with a photograph for each data collector.
- ❒ A mobile phone for each team and credit.

Where feasible, each data collection team should also be equipped with a mobile phone and credit to contact the field supervisor. Additional supplies may include a local map and extra batteries.

1.6.3 Arranging transport and regular communications

Arranging transport

Who? Survey manager or Field supervisor

Once all the survey sites are known, the survey manager or field supervisor should arrange transportation according to the number of sites to be visited, the number of teams going into the field, and the number of people per team.

Arranging regular communications

Who? Survey manager and Field supervisor

Throughout the data collection process, field supervisors should be available to provide advice to data collectors and answer any questions they may have. Providing data collectors with their field supervisor's mobile phone number, when feasible, is one way of ensuring timely communication.

Data collectors should also meet with their field supervisor on a regular basis so that completed forms can be checked and any issues can be resolved. Ideally, this should occur at the end of each day of data collection so that errors do not carry over into future data collection visits. In addition, data collectors will be better able to recall the data collection visit, which may be useful in clarifying erroneous or illegible data. During data collection, data collectors should record how problems were solved or how data collection was simplified. These notes should be reviewed with the field supervisor during the debriefing.

The survey manager should also be available throughout the data collection process to respond to questions from field supervisors, and the survey manager should provide field supervisors with his/her mobile phone number for this purpose. Ideally, the survey manager should visit each survey area during data collection to supervise activities. If this is not possible, he or she should arrange for regular communications with each field supervisor to receive updates on the data collection process.

1.7 Data collection in the field

This chapter describes procedures for data collection in the field. Table 1.7.1 shows the activities involved for each day of data collection.

TABLE 1.7.1: DAILY ACTIVITIES FOR DATA COLLECTION

When?	What?	Who?
Before going out to collect data each day	Check that the data collection teams have all the materials necessary for field visits and confirm transport arrangements	Field supervisors/data collectors
	Call each facility to be visited and confirm appointment	Field supervisors
On arrival at the facility	Introduce survey team and remind facility staff of the purpose of the visit	Data collectors
	Verify and complete the SARA questionnaire	Data collectors
	Check that all data are entered on the SARA questionnaire before leaving the facility.	Data collectors
At the end of each day	Conduct meeting between field supervisors and their data collectors, and discuss any difficulties	Field supervisors/data collectors
	Review each SARA questionnaire and clarify missing/unreliable information	Field supervisors
	Sign, copy and store all checked data collection forms	Field supervisors

Each step of data collection is described below according to the personnel responsible, namely field supervisors and data collectors.

1.7.1 Field supervisors: fieldwork responsibilities

Field supervisors are responsible for ensuring the accuracy and reliability of data collection. This involves the following activities.

Field supervision

Field supervisors should meet with their data collectors at the end of each day to check completed data collection forms, get feedback on the data collection process and resolve any problems. They should visit the health facilities regularly with the data collection teams to ensure that the agreed procedures are being followed.

Daily check of completed SARA questionnaires

It is important that field supervisors review completed SARA questionnaires at the end of each day to check that the data are complete, consistent and legible. Once the team has left the field, it becomes difficult to verify information that may be missing or incomplete.

The supervisors should highlight any missing or unreliable information on the form and identify the source of the problem. If necessary, data collectors should return to the facility to collect any further data required. Once the field supervisor is satisfied with the completeness and reliability of a SARA questionnaire, he or she should

sign the form in the designated place to record that it has been checked. Forms should then be safely stored until completion of data collection, at which time they are transferred to the survey manager.

Validation of data collection

Field supervisors should validate data collection by repeating the survey, using a "light" version of the questionnaire (sub-selection of sections) at selected health facilities (about 10%) and checking their results against those of their data collectors. Where possible, health facilities visited for validation should be selected at random. Ideally, the validation should be done on the same day as data collection (soon after the data collectors have left the facility) to avoid changes in the availability of the items. Any discrepancies between the results of the field supervisor and those of their data collectors should be discussed with the data collectors, and the data collection protocol should be clarified as necessary. Any problems that cannot be resolved in the field should be discussed with the survey manager.

This validation can also be conducted by the entity in charge of the survey quality assurance. The supervisors ease access to the data collected by the data collection teams in view of the data files comparisons.

Storing of completed SARA questionnaires

Completed paper questionnaires should be copied and stored in sealed waterproof plastic bags, in a location that is protected from moisture, direct sunlight, rodents and insects. Originals should be stored in a separate location from copies. Electronic questionnaires should be synchronized with a central computer and saved both on the computer hard drive and on an external memory card for safe keeping. All original data collection questionnaires, including those for validation visits, should be transferred to the survey manager upon completion of fieldwork. Field supervisors should retain the copies for use in the event that the originals become lost or damaged.

In order to accomplish these tasks, each field supervisor should have the following materials:

- ❒ A full list of sample sites (and backup sites) for survey area and contact details.
- ❒ An assignment of sites by data collection team.
- ❒ A list of data collection teams and contact information when in the field.
- ❒ A schedule of visits to survey sites and contact details of the sites.
- ❒ Copies of letter of introduction.
- ❒ Copies of the supervisor and data collector's guides and other relevant documents/material.
- ❒ Extra copies of the SARA data collection form.
- ❒ A data collection form for data validation at each facility that may need to be visited that day.
- ❒ A fully-charged laptop computer with appropriate software (CSPro)
- ❒ Extra EDCs as backup (fully charged and loaded with the SARA questionnaire) in case of loss or damage, with extra batteries and power cables.
- ❒ Extra memory cards for data backup or USB keys (depending on the EDC used).
- ❒ Extra GPS units as backup (fully charged and accurately configured).
- ❒ Pens (pencils should not be used to record data), a clipboard and other supplies.
- ❒ A notebook to record any significant events or findings.
- ❒ A field allowance for local expenses.
- ❒ An identity document with a photograph.
- ❒ A cell phone with credit

1.7.2 Data collectors: fieldwork responsibilities

Before visiting the facilities each day

Before visiting the facilities each day, data collectors should check that they have all the materials they will need for data collection.

- ❒ A list of data collection teams and contact information.
- ❒ Contact details of the field supervisor, including a mobile phone number to call in case of difficulty in the field.
- ❒ A schedule of visits to survey sites.
- ❒ Contact details of the sites to be visited.
- ❒ Details of backup facilities to be visited if scheduled visits are not possible.
- ❒ Copies of letter of introduction.
- ❒ Data collector's guide and relevant hand-outs.
- ❒ A SARA data collection form for each health facility to be visited that day.
- ❒ A SARA data collection form for each backup site that may need to be visited that day.
- ❒ An EDC (fully charged and loaded with the SARA questionnaire), batteries and power cable
- ❒ A memory card for data backup (if applicable, depending on EDC selected) or USB key.
- ❒ A fully charged and accurately configured GPS unit.
- ❒ Pens (pencils should not be used to record data), a clipboard and other supplies.
- ❒ A notebook to record any significant events or findings.
- ❒ A field allowance for local expenses.
- ❒ An identity document with a photograph for each data collector.
- ❒ A mobile phone for each team and credit.

Where feasible, each data collection team should also be equipped with a mobile phone and credit to contact the field supervisor. Additional supplies may include a local map and extra batteries.

On arrival at the facility

On arrival at the health facility, data collectors should do the following.

- Introduce themselves and remind health facility staff of the survey's purpose as well as the scheduled data collection visit. Data collectors should also thank the staff for their cooperation and, if necessary, remind them that the respondents' identity will be kept confidential.
- Check that the facility information on the first page of the SARA questionnaire is complete and correct, informing the field supervisor at the end of the day if there were any inaccuracies.
- Fill in the date and names of the data collectors on the cover page.
- Take the GPS coordinates of the health facility.
- Obtain informed consent to begin the survey.
- Fill out the SARA questionnaire making sure to speak to the most knowledgeable person in the health facility for each section of the questionnaire. One data collector should complete the SARA data collection paper form and another should complete the SARA electronic form, paying close attention to the instructions on the forms. Data collectors should not leave the SARA data collection form at the facility to be filled in later. A separate SARA data collection form should be completed at each facility.

Before leaving the facility

Before leaving the health facility, data collectors should do the following.

- Double-check that the data collection form is legible, accurate and complete.

  NOTE: Backup facilities to be visited are identified in the schedule. The field supervisor should determine when it is necessary to visit a backup facility. When visiting a backup facility, questionnaires should be completed in exactly the same way as in other facilities, making sure to complete the SARA data collection form that corresponds to that facility.

- Thank staff at the facility for their participation.

At the daily meeting with the field supervisor

At the end of each day, data collectors should meet with the field supervisor and do the following:

1. back-up electronic data on the memory card in the EDC
2. submit the data collection forms and files completed that day
3. transfer data from the EDC to the central computer
4. report on the activities of the day
5. recharge the battery of the EDC to be ready for the next day
6. check the battery life of the GPS unit and get a second set of batteries if necessary
7. recharge mobile phone if necessary.

Data collectors should alert their field supervisor of any problems or uncertainties regarding data collection procedures. They should also report any problems with electronic equipment and arrange to get replacements if necessary.

1.7.3 Ensuring data quality

The quality of the information that the SARA survey generates depends on the accuracy of data collection. The survey manager has overall responsibility for the quality of the data, although all survey personnel have a role to play in ensuring the accuracy of the data collected. The field supervisors and data collectors should receive regular supervision. Rigorous enforcement of data collection procedures will pay off with the ease with which data entry and analysis occur. The following steps will also help to ensure greater accuracy of data collection.

1. Ensure that there is thorough preparation and training as a first step in minimizing errors.
2. Establish procedures to check for data completeness, consistency, plausibility and legibility in the field when it is still possible to correct errors or to fill in missing information. Field supervisors should review data collection forms every day after completion of the fieldwork and resolve any problems before the next day of data collection.
3. Plan random checks to ensure the quality of data collection. It is recommended that an entity returns to randomly-selected health facilities (10%) to collect the same data so as to check the accuracy of the first data set. Ideally, the validation should be done on the same day as data collection (soon after the data collectors have left the facility) to avoid changes in the availability of survey items.
4. Double-check all completed SARA questionnaires; verify any suspicious, incomplete or illegible data prior to the initiation of data entry.

1.8 Data entry and processing

If data are collected on paper forms, they must be entered electronically before proceeding with data processing and analysis. If data are collected in electronic forms, then one can proceed directly to the data processing step.

Once in electronic form, the data need to be checked for accuracy, completeness and consistency before the data set can be finalized. Any errors or inconsistencies must be flagged and resolved prior to analysis. The purpose of editing is to eliminate omissions and invalid entries, e.g. by changing inconsistent entries, and should be kept to a minimum: data should never be changed to conform to expectations. It is good practice to always preserve an unedited copy of the data set and to document in detail the data editing process.

Finally, once the data have been checked and verified, it is customary to export the final data set in some commonly-used file format, such as a spreadsheet file format or CSV (comma-separated values). This is useful for sharing the data with other parties, and to perform analysis in other statistical software packages.

1.8.1 Data entry

Any data collected on paper must be entered electronically before it can be processed and analysed. With input from technical members of the survey coordinating group, the survey manager selects the appropriate data entry software and sets up a data entry operation. Transferring the data from paper to electronic form can be a source of error; therefore, it is important to have the appropriate data validation processes in place to ensure accurate data entry. If electronic data collection has been used, the data already exist in an electronic format and this step is complete.

Selecting data entry software

When selecting data entry software, there are two main principles to consider:

1. use software that speeds up data entry and minimizes errors
2. have a thorough knowledge of the software selected.

Keeping these principles in mind when thinking about data entry software options helps to narrow down the potential options and results in selection of an appropriate solution.

While it is possible to use many types of software for data entry (including statistical programs, database management systems and spreadsheets), it is recommended that a specialized data entry software such as CSPro be used to minimize the possibility of entry errors and to facilitate validation.

Statistical software

Statistical software package programs are software packages that are specialized for data analysis. Some include data entry and data checking functions in addition to data analysis (e.g. CSPro), while others are useful primarily for data analysis and visualization. Some advantages of using a software package with built-in data entry and verification functionality are (1) data entry clerks are less likely to make mistakes when entering data, and (2) mistakes are much easier to identify and fix. In particular, the software can be programmed to provide a highly-structured data entry environment so that only valid values are accepted and skip patterns[5] are automatically integrated. In addition, such software facilitates independent data verification, in which the data are entered manually twice and differences are later reconciled. Once the data have been entered, it may be

[5] Skip patterns are a particular type of survey branching logic that will jump a respondent over a group of questions that isn't relevant to them.

necessary to use a different statistical software package to perform analysis, depending on whether the package offers the desired data analysis and graphing functions. These types of tools require some advanced technical knowledge, but overall result in improved data quality.

For SARA, the recommended data entry software is CSPro: a statistical software package with built-in data collection/entry functionality that allows for speedy data entry while also providing sufficient checks and data validation to ensure quality data. CSPro includes all the necessary functionality for SARA and can be downloaded free of cost.

Database management systems

A database management system is an application that allows the creation and management of databases, including storage and retrieval of data. There are different types of databases, but the most popular is a relational database that stores data in tables where each row ("record") in the table holds the same sort of information. Each record has a unique identifier ("key"), which allows retrieval of information from related tables. Databases are more difficult to set up than spreadsheets, but they allow more sophisticated data retrieval and search. In addition, it is possible to write scripts using a query language such as SQL to perform simple data checking and other functions. However, these programs are designed mainly for data storage and retrieval, and are usually not designed to facilitate manual data entry. For the SARA survey, it is recommended that a database system be used to store the data once it has been entered, but not for data entry itself.

Spreadsheets

Spreadsheet programs offer the most basic option for data entry. Although spreadsheets are easy to use and many people are knowledgeable about how to use the software programs, there are many disadvantages of using spreadsheets for data entry: it is very easy to make a mistake, data entry is slow, and there is no built-in checking for valid values. As a result, for the SARA survey, it is not recommended to use a spreadsheet for data entry unless there are no other viable options. Spreadsheet software is often useful to view data once it has been digitized and stored in a database.

Preparing for data entry

The data entry application must be designed using the selected data entry software. Valid values should be defined for certain responses and entry of data should be restricted to these values alone. Furthermore, special keys for missing data should be included in the value set and may use a standard identifying digit. Open-ended questions or the selection of the broad category of "other" can also be programmed to allow for entering the written response. This keying of open-ended questions will require the manual coding of these responses at some future date.

A centralized system for data entry should be set up, with one or more groups of data entry clerks managed by a supervisor. The number of data entry clerks will depend on a number of factors, including (1) budget, (2) timeline, (3) the availability of qualified personnel, and (4) the availability of computers and other equipment for data entry. Generally, the more data entry clerks there are, the quicker the data can be entered.

Part of the management and organization of a data entry operation requires establishing a specified work schedule. Monitoring the productivity of the individual data entry clerks should be part of a data entry system as well. Like other process, the data entry process requires good organizational and project management skills.

Entering data

Data should be entered using the software that has been selected.

In the data entry process, it is important to consider the following issues.

Missing data

In general, it is not good practice to use blanks as missing data codes. Missing data can arise in a number of ways, and it is important to distinguish among these different instances. There are at least five missing data situations, each of which should have a distinct missing data code.

- **Refusal/no answer**. The subject explicitly refused to answer the question or did not answer the question when he or she should have.
- **Don't know**. The subject was unable to answer the question, either because he or she had no opinion or because the required information was not available (e.g. a respondent could not provide information on the functionality of equipment due to inaccessibility).
- **Processing error**. For some reason, there is no answer to the question although the subject provided one. This can result from interviewer error, incorrect coding, machine failure or other problems.
- **Not applicable**. For one reason or another, the subject was never asked the question. Sometimes this results from "skip patterns"[6] that occur (e.g. for facilities that do not have a generator, questions regarding generator functionality and availability of fuel would be not applicable).
- **No match**. This situation may arise when data are drawn from different sources (e.g. a survey questionnaire and an administrative database), and information from one source cannot be located.

Selecting missing data codes

Missing data codes should always match the content of the field. If the field is numeric, the codes should be numeric, and if the field is alphabetic, the codes may be numeric or alphabetic. Most researchers use codes for missing data that are above the maximum valid value for the variable (e.g. 97, 98 and 99). Missing data codes should be standardized so that only one code is used for each missing data type across all variables in the data file or across the entire collection if the study produced multiple data files.

Not applicable and skip patterns

Handling skip patterns is a constant source of error in both data management and analysis. On the management side, deciding what to do about codes for respondents who are not asked certain questions is crucial. "Not applicable" codes, as noted above, should be distinct from other missing data codes. It is not good practice to leave the record blank. Data set documentation should clearly show for every item exactly who was asked and who was not asked the question. At the data cleaning stage, all "filter items" should be checked against items that follow to make sure that no one provides answers to the item who should not, and that those who did not answer the item have the correct kind of missing data code.

[6] Skip patterns are a particular type of survey branching logic that will jump a respondent over a group of questions that isn't relevant to them.

1.8.2 Data processing

After data entry, data should be checked for inconsistencies and possible errors. If the data are collected electronically, field supervisors should, for the duration of the data collection phase, check data for all health facilities that were visited each day. If the data are transferred from paper to electronic versions, the data should be checked for entry errors. It is particularly important to check that the facility ID items such as the facility number, name, location, facility type and managing authority have been entered correctly, and that there are no inconsistent or missing data. Usually errors can be resolved by reviewing all of the information provided by a respondent or by referring to the paper copy of the questionnaire responses.

Edit and correct data

The purpose of editing is to make the data as representative of the real life situation as possible; this can be done by eliminating omissions and invalid entries, and by changing inconsistent entries. Below are some important principles that should be followed.

- The fewest number of changes should be made to the originally recorded data. The goal is to make a record or questionnaire acceptable, not to make it conform to what one thinks should be acceptable.
- For certain items it may be acceptable to have a "not reported [NR]" or “not stated [NS]" category. Thus, in case of an omission or an inconsistent, impossible or unreasonable entry, a code for "NR" or "NS" can be assigned.
- Obvious inconsistencies among the entries should be eliminated.
- Providing corrected values for erroneous or missing items should be supplied by using other values as a guide, and always in accordance with specified procedures.
- Specifications for editing the questionnaire data should be developed at the same time as the questionnaire itself.

Remove any duplicate records

It is possible that a facility has been entered in the database twice and thus the duplicate record must be removed. For any records that are identical, one should be removed. If two records appear to be duplicates according to facility name, but do not contain the same data, a list of criteria must be used to determine if it is a true duplicate. The following data elements could be used as the criteria for determining duplicates:

- district
- facility code/name
- GPS coordinates
- facility type
- managing authority
- interviewer's name.

If these are all the same it is safe to consider the records as duplicates. At this point, the most complete record should stay in the data set. If both records are complete, the record with latest time stamp should be kept.

Check validity of GPS coordinates

GPS coordinates should be checked to ensure that they fall within the boundaries for the country and region. Sometimes latitude and longitude coordinates can be entered incorrectly (they can be inversed and +/- signs can be reversed, or an incorrect format can be entered). All GPS coordinates should be double-checked to ensure they are valid for the area being surveyed.

Check validity of responses

Data entry software often has built-in functionality to check data as it is being entered, such as range checks and within-record consistency checks. Data editing programs can be written to check the validity of responses after data entry, including whether the data follow the appropriate skip patterns.

Recode values for “other”

Questions where "other" is a possible response option should be checked, and the written responses reviewed to determine if the response actually corresponds with one of the pre-coded options. If this is the case, these responses should be recoded to the appropriate response category.

Review comments sections

At the end of the survey, there are several questions allowing for the interviewer to provide comments. Please review these sections for any relevant information.

Data validation and verification

Verification is a process of double entry of the same questionnaire and comparing the responses. This can either be the paper questionnaire entered twice or validation between paper and electronic versions if electronic data collection is used with paper questionnaires as a backup. Differences in keyed data of the same questionnaire need to be reconciled. A system of verification can virtually assure that the information presented in the questionnaire is faithfully keyed. Verification can be dependent or independent. Dependent data entry uses one data file and reconciles any identified error with the original data file. Independent verification is the process of keying to fully independent data files of the same questionnaire or cluster and comparing the two files. A report of inconsistencies is issued and the differences between the two data files must be fully reconciled.

Data clean-up

Before finalizing and exporting the data set, the following steps should be taken to clean the data set as applicable.

Rename the variables

The variable should be named according to the corresponding question number in the survey. This may already be the case if the database is set up in this way. If electronic software is used, variables are often assigned names based on category headings, which are sometimes long and cumbersome to use and do not provide a good description of the variable and thus require renaming. For example, the variable “_2_001_date” which corresponds to question 001 in the survey will be renamed “q001”.

Label the variables

Adding a label to a variable allows a text description to be associated with the variable name. For example, the new variable “q001” can have a label called "date." This enables the user to more easily identify what each variable represents.

Remove variables for which no data exist

If data are collected using electronic software, there may be variables in the data set which are actually instructions from the questionnaire and do not include any data. These variables must be removed from the data set.

Define the data type associated with variables

There are generally two data types associated with variables: numeric and string. Numeric variables are simple: they contain numbers. String variables contain text that can contain any characters on the keyboard: letters, numbers and special characters. It is important to define each variable according to the appropriate type in order for statistical analysis to be carried out on the data.

Adjust variables in which two numeric responses have been chosen

All variables with numeric responses should contain only one response. It is possible that a single select numeric variable is erroneously assigned two values. In some programs, this is represented in the data set as #;# and causes the variable to be categorized as a string variable due to the non-numeric character. These values must be imputed so that only one numeric value is recorded and then the data type of the variable must be converted from a string to a numeric value.

1.8.3 Exporting the data set

Once the data set has been processed and verified, it is good practice to export the finalized data set into some commonly used file format such as a spreadsheet format or CSV (.csv). This is useful when sharing the data and for analysis of the data using statistical software packages.

1.9 Data analysis

Once data have been verified, data analysis can begin. There are many different types of results that can be obtained from surveys. The types of analysis used depend to a large extent on the design determined in the planning phase of the SARA survey. Some data analyses are standard and are included in most survey reports. However, not all of the analyses of the survey data need to be included in the final report, as the focus should be on the most important and relevant results. Therefore, survey managers should generate the full range of survey results, and together with the survey coordinating group, select the most significant findings for inclusion in the final report. It is only by conducting a complete analysis of the survey data that it can be assured that important findings have not been overlooked. Based on the initial set of results from the standard analyses, there is often further analysis in areas of interest. Following data analysis, a meeting with the survey coordinating group should be held to assist in interpreting the results and developing recommendations.

Survey indicators are important in providing crucial information for informed policy choices, especially to decision-makers, programme planners and policy-makers. Serving as baselines, indicators are important for setting goals and targets for the future and allow for a certain level of comparability between surveys of different location and time period. Moreover, indicators help place focus on predetermined areas of a survey that are deemed to be most useful, relevant and important to the current health system. Having a consistent indicator set also contributes to standardized analytical reporting.

SARA uses both tracer indicators and composite indicators in data analysis. Tracer indicators aim to provide objective information about whether or not a facility meets the required conditions to support provision of basic or specific services with a consistent level of quality and quantity. Summary or composite indicators, also called indices, are a useful means to summarize and communicate information about multiple indicators and domains of indicators. Composite indices are useful to help get an overall view of the situation and to summarize multiple pieces of information. For SARA, composite indices are useful to compare districts or regions or to look at change over time. However, composite indices also have limitations. It can be difficult to understand the individual factors contributing to an index score, and thus it is important to have information on individual indicator items in addition to composite index scores.

The following sections provide an overview of how to calculate SARA indicators and indices.

1.9.1 Calculating the service availability indicators and index

Overview

An important note regarding service availability: although this information is collected through the SARA questionnaire, these indicators should not be calculated for a sample of facilities. **Data must be available for ALL facilities in an administrative unit in order to calculate service availability.** All service availability measures require data that link the numerator (e.g. number of facilities) to the denominator (e.g. population size). A sample survey would not allow computation of the service availability indicators as it is not clear what the corresponding population size to be used as the denominator should be.

The information needed to calculate service availability can be gathered from multiple sources in addition to the SARA questionnaire, namely the HMIS and other routine information systems, and should be collated for all facilities before calculating the service availability indicators. If SARA is implemented as a census, then it can be used to calculate service availability.

Service availability is described by three domains of tracer indicators: health infrastructure, health workforce and service utilization.

Health infrastructure indicators

- **Facility density (number per 10 000 population):** the facility density is primarily an indicator of outpatient service access.
- **Inpatient bed density (number per 10 000 population):** inpatient bed density provides an indicator of the inpatient services access. Paediatric beds (cots) are included, but maternity beds are excluded.
- **Maternity bed density (number per 1000 pregnant women):** maternity bed density provides an indicator of access to delivery services. Data on maternity beds can be used calculate the density of maternal beds per 1000 pregnant women per year. The denominator is estimated from the population data. The indicator does not include delivery beds.

Health workforce indicator

- **Health workforce density (number per 10 000 population):** the health workforce density is the number of core medical professionals per 10 000 population: physicians, non-physician clinicians, registered nurses and midwives. This includes part-time physicians who are given the value of 0.5 in the scoring.

Service utilization indicators

In populations with poor or suboptimal health infrastructure, the service utilization rate is an indicator of access.

- **Outpatient service utilization (number of outpatient visits per capita per year):** the number of visits for ambulant care, not including immunization, over the total population.
- Inpatient service utilization (number of hospital discharges per 100 population per year, excluding deliveries): this indicator provides additional information on the availability and access to inpatient services.

These indicators must all be expressed as a percentage score compared with a target or benchmark. Table 1.9.1 shows the target and computation of each indicator. If the tracer indicator score exceeds the target, it is scored as 100%.

TABLE 1.9.1: SERVICE AVAILABILITY INDICATORS

Domain	Indicator	Target*	Score (%) (n / target, maximum 100)
Health infrastructure			
a Facility density	Number per 10 000 population (*n*)	2	*n* / 2 × 100
b Inpatient bed density	Number per 10 000 population (*n*)	25	*n* / 25 × 100
c Maternity bed density	Number per 1000 pregnant women (*n*)	10	*n* / 10 × 100
Health workforce			
d Core health workforce density	Number per 10 000 population (*n*)	23	*n* / 23 × 100
Service utilization			
e Outpatient service utilization	Outpatient visits per person per year (*n*)	5	*n* / 5 × 100
f Inpatient service utilization	Hospital discharges per 100 per year (*n*)	10	*n* / 10 × 100

Health infrastructure targets and scores

The rationale for the targets can be summarized as follows.

Facility density (*a*): usually there is a country target, such as at least one facility per 5000 population, or two facilities per 10 000 population. A major limitation is that this indicator does not take into account the size of the facilities. The indicator is scored as n / 2 × 100% (maximum 100), where n is the number of facilities per 10 000 population.

Inpatient bed density (*b*): the global average is 27 per 10 000 (*10*). Lower- and upper-middle-income countries have 18 and 39 hospital beds per 10 000, respectively (*10*). For SARA, an arbitrary benchmark of 25 per 10 000 is selected. The indicator is scored as n / 25 × 100% (maximum 100), where n is the number of inpatient beds per 10 000 population.

Maternity bed density (*c*): under the assumption that there should be sufficient beds for all pregnant women with an occupancy rate of 80% (to account for the uneven spread of demand over time) and a mean duration of stay of 3 days, the target should be (1000 / 0.8) × (3 / 365) = 10 per 1000 pregnant women. The indicator is scored as n / 10 × 100% (maximum 100), where n is the number of maternity beds per 1000 pregnant women.

An estimation for the number of pregnant women in the population can be derived from the CBR (crude birth rate) for the country of interest and the following equations:[7]

A = estimated number of live births = (CBR per 1000 × total population)

B = estimated live births expected per month = (A / 12)

C = estimated number of pregnancies ending in stillbirths or miscarriages = (A × 0.15)

D = estimated pregnancies expected in the year = (A + C)

E = estimated number of women pregnant in a given month = (0.70 × D)

F = estimated % of total population who are pregnant at a given period = (E / total population × 100).

Health workforce target and score

Health worker density (*d*): The published figure by WHO is 23 per 10 000 population (*9*). The indicator is scored as n / 23 × 100% (maximum 100), where n is the number of core health workers per 10 000 population.

Service utilization targets and scores

Outpatient service utilization (*e*): in countries of the Organisation for Economic Co-operation and Development (OECD), the average number of physician consultations per person per year is about six (*10*). For SARA, the proposed benchmark is five visits per person per year. The indicator is scored as n / 5 × 100% (maximum 100), where n is the number of outpatient visits per person per year.

Inpatient service utilization (*f*): in OECD countries, which have an ageing population, there are about 15 discharges per 100 population per year (*11*). For SARA, the proposed benchmark is 10 discharges per 100 people per year. The indicator is scored as n / 10 × 100% (maximum 100), where n is the number of hospital discharges per 100 people per year.

The service availability index is calculated using the six above mentioned indicators. First, indices are calculated for health services infrastructure, health workforce and service utilization. The calculations for creating those indices are shown in Table 1.9.2 (please refer Table 1.9.1 for the definitions of indicators *a*–*f*). The service availability index is the unweighted average of the three areas: infrastructure, health workforce and utilization: [((a + b + c) / 3) + d + ((e + f) / 2)] / 3, and is a percentage score.

[7] These equations can be found at: http://www.who.int/reproductivehealth/publications/emergencies/field_manual_rh_humanitarian_settings.pdf, Chapter 5, Annex 3.

TABLE 1.9.2: SERVICE AVAILABILITY INDICES

Index	Indicator	Target	Score
Health infrastructure index	Average score of the three indicators: facility density, inpatient bed density, maternity bed density	100	$(a + b + c) / 3$
Health workforce index	Core health worker density	100	d
Service utilization index	Average score of the two indicators: outpatient visits, hospital discharges	100	$(e + f) / 2$
Service availability index	Unweighted average of the three areas: infrastructure, workforce and utilization	**100**	$\mathbf{[((a + b + c) /3) + d + ((e + f) / 2)] / 3}$

Required data sources

Table 1.9.3 shows the required information and potential data sources for calculating service availability.

TABLE 1.9.3: DATA SOURCES

Information needed	Potential data source
List of all health facilities	MFL
Service utilization data	HMIS
Health workforce data	Human resources information system (HRIS)
Inpatient and maternity beds data	Varies by country
Population data (national and regional/district depending on how results will be reported)	National Bureau of Statistics

Example calculation

Table 1.9.4 shows the data used for this example.

TABLE 1.9.4: EXAMPLE DATA

Data item	Value
Number of facilities	400
Number of inpatient beds	5500
Number of maternity beds	800
Number of core health workers	4600
Number of outpatient visits per year	9 000 000
Number of hospital discharges per	225 000
Population	3 000 000
Crude birth rate (CBR)	40

There are three main steps to calculate the service availability index.

Step 1. Calculate service availability indicators

The first step is to calculate the six service availability indicators. The following example (Table 1.9.5) shows the equations used to calculate each of the six indicators using the example data values.

TABLE 1.9.5: CALCULATING THE INDICATORS

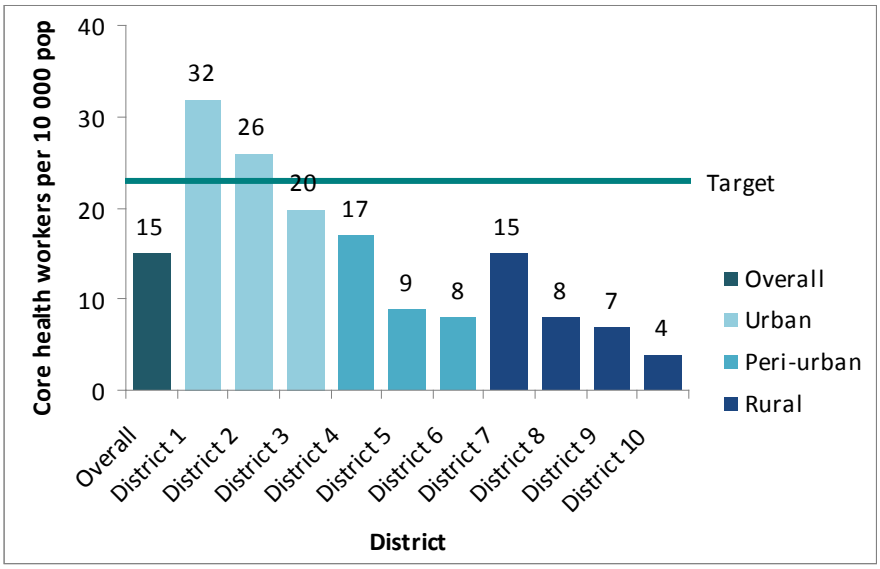
Indicator	Value
Facility density (number per 10 000 population)	number of facilities / population = *n* / 10 000 400 / 3 000 000 = *n* / 10 000 *n* = 1.33
Inpatient bed density (number per 10 000 population)	number of inpatient beds / population = *n* / 10 000 5500 / 3 000 000 = *n* / 10 000 *n* = 18.33
Maternity bed density (number per 1000 pregnant women)	number of maternity beds / pregnant population* = *n* / 1000 800 / 96 600 = *n* / 1000 *n* = 8.28 ***see Table 1.9.6 for how to calculate number of pregnant women**
Health workforce density (number per 10 000 population)	number of core health workers / population = *n* / 10 000 4600 / 3 000 000 = *n* / 10 000 *n* = 15.33
Outpatient service utilization (outpatient visits per capita per year)	number of outpatient visits per year / population = *n* 9 000 000 / 3 000 000 = *n* *n* = 3.00
Inpatient service utilization (hospital discharges per 100 population, excluding deliveries)	number of hospital discharges per year / population = *n* / 100 225 000 / 3 000 000 = *n* / 100 *n* = 7.50

TABLE 1.9.6: CALCULATING THE NUMBER OF PREGNANT WOMEN

A = Estimated number of live births = (CBR per 1000 × total population)	(40 / 1000) x 3 000 000 = 120 000
B = Estimated live births expected per month = (*A* / 12)	120 000 / 12 = 10 000
C = Estimated number of pregnancies ending in stillbirths or miscarriages = (*A* × 0.15)	120 000 x 0.15 = 18 000
D = Estimated pregnancies expected in the year = (*A* + *C*)	120 000 + 18 000 = 138 000
E = Estimated number of women pregnant in a given month = (0.70 × *D*)	0.7 x 138 000 = 96 600
F = Estimated % of total population who are pregnant at a given period = (*E* / total population × 100)	(96 600 / 3 000 000) x 100 = 3.22

Service availability indicators can each be displayed in a graph such as the one for health workforce density in Figure 1.9.1.

FIGURE 1.9.1: CORE HEALTH WORKERS PER 10 000 POPULATION



Step 2. Calculate service availability indicator scores

Next, use the values obtained from Step one to calculate the service availability indicator scores. The scores compare the indicator to a target and are expressed as a percentage. Table 1.9.7shows the calculations for each of the six service availability indicator scores.

TABLE 1.9.7: CALCULATING THE SERVICE AVAILABILITY INDICATOR SCORES

Domain		*n*	Target	Score (%) (n / target) x 100 (maximum 100)	
Health infrastructure					
a	Facility density	1.33	2	(1.33 / 2) x 100	66.5
b	Inpatient bed density	18.33	25	(18.33 / 25) x 100	73.3
c	Maternity bed density	8.28	10	(8.28 / 10) x 100	82.8
Health workforce					
d	Core health workforce density	15.33	23	(15.33 / 23) x 100	66.7
Service utilization					
e	Outpatient service utilization	3.00	5	(3 / 5) x 100	60.0
f	Inpatient service utilization	7.50	10	(7.5 / 10) x 100	75.0

Step 3. Calculate service availability indices

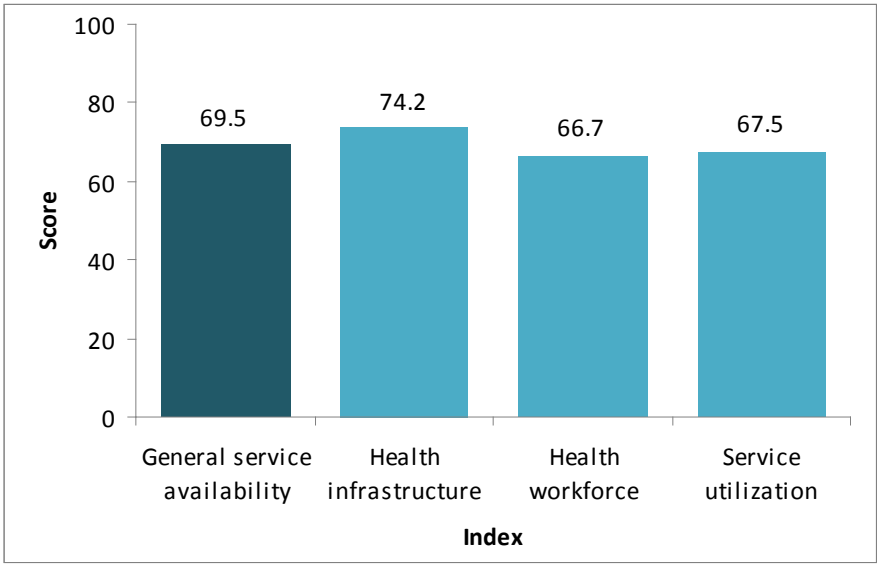
Lastly, use the service availability indicator scores to create the health infrastructure index, the health workforce index, the service utilization index and the overall service availability index. Table 1.9.8 shows these four index calculations using the example data.

TABLE 1.9.8: CALCULATING THE SERVICE AVAILABILITY INDEX

Index	Indicator	Score (%)	
Health infrastructure index	Average score of the three indicators: facility density, inpatient bed density, maternity bed density	(*a* + *b* + *c*) / 3	(66.5 + 73.3 + 82.8) / 3 = 74.2
Health workforce index	Core health worker density	*d*	66.7
Service utilization index	Average score of the two indicators: outpatient visits, hospital discharges	(*e* + *f*) / 2	(60.0 + 75.0) / 2 = 67.5
Service availability index	**Unweighted average of the three areas: infrastructure, workforce and utilization**	**[((*a* + *b* + *c*)/3) + *d* + ((*e* + *f*) / 2)] / 3**	**(74.2 + 66.7 + 67.5) / 3 = 69.5**

The service availability indices can be displayed in a graph such as the one in Figure 1.9.2.

FIGURE 1.9.2: SERVICE AVAILABILITY INDICES



1.9.2 Calculating the general service readiness indicators and index

Overview

General service readiness is described by the following five domains of tracer indicators:

- Basic amenities
- Basic equipment
- Standard precautions for infection prevention
- Diagnostic capacity
- Essential medicines.

Each domain consists of a set of tracer items. Table 1.9.9 lists the tracer indicators for each domain.

TABLE 1.9.9: GENERAL SERVICE READINESS ITEMS AND INDEX

General service domains	Tracer items	Domain score (mean availability of items)
(*a*) Basic amenities	• Power • Improved water source facility premises • Room with auditory and visual privacy for patient consultations • Access to adequate sanitation facilities for clients • Communication equipment (phone or short-wave radio) • Access to computer with e-mail and Internet • Emergency transportation	*n* / 7 × 100, where *n* is the total number of items available in the domain
(*b*) Basic equipment	• Adult scale • Child scale • Thermometer • Stethoscope • Blood pressure apparatus • Light source	*n* / 6 × 100 where *n* is the total number of items available in the domain
(*c*) Standard precautions for infection prevention	• Safe final disposal of sharps • Safe final disposal of infectious wastes • Appropriate storage of sharps waste (sharps box/container) • Appropriate storage of infectious waste (waste receptacle with lid and plastic bin liner) • Disinfectant • Single-use, standard disposable or auto-disable syringes • Soap and running water or alcohol-based hand rub • Latex gloves • Guidelines for standard precautions	*n* / 9 × 100 where *n* is the total number of items available in the domain
(*d*) Diagnostic capacity	• Haemoglobin • Blood glucose • Malaria diagnostic capacity • Urine dipstick - protein • Urine dipstick - glucose • HIV diagnostic capacity • Syphilis RDT • Urine pregnancy test	*n* / 8× 100 where *n* is the total number of items available in the domain
(*e*) Essential medicines	• Amlodipine tablet or alternative calcium channel blocker • Amoxicillin (syrup/suspension or dispersible tablets)	*n* / 25× 100 where *n* is the total number of items available in the domain

General service domains	Tracer items	Domain score (mean availability of items)
	• amoxicillin tablet	
	• Ampicillin powder for injection	
	• Aspirin (capsules/tablets)	
	• Beclometasone inhaler	
	• Beta blocker (e.g.bisoprolol, metaprolol, carvedilol, atenolol)	
	• Carbamazepine tablet	
	• Ceftriaxone injection	
	• Diazepam injection	
	• Enalapril tablet or alternative ACE inhibitor (e.g. lisonopril, Ramipril, perindopril)	
	• Fluoxetine tablet	
	• Gentamicin injection	
	• Glibenclamide tablet	
	• Haloperidol tablet	
	• Insulin regular injection	
	• Magnesium sulfate injectable	
	• Metformin tablet	
	• Omeprazole tablet or alternative (e.g. pantoprazole, rabeprazole)	
	• Oral rehydration solution	
	• Oxytocin injection	
	• Salbutamol inhaler	
	• Simvastatin tablet or other statin (e.g. atorvastatin, pravastatin, fluvastatin)	
	• Thiazide (e.g. hydrochlorothiazide)	
	• Zinc sulphate (tablet or syrup)	
General service readiness index		**(Mean score of the five domains)** **(*a* + *b* + *c* + *d* + *e*) / 5**

Required data source

Facility assessment information is needed to calculate general service readiness; the source for this information is the SARA survey.

1.10 Data archiving

Data archiving includes the acquisition, preservation, documentation, cataloguing and dissemination of microdata.[8] Archives are useful for promoting research and instruction in the social sciences; ensuring the continued viability and usability of microdata in the future; and providing equitable access to these data within the framework of the national legislation in the interest of all citizens, by protecting confidentiality and following international recommendations and good practices.

Fully documenting and archiving data sets helps ensure that important survey data and metadata are preserved for future reference and analysis. The data documentation, or metadata, helps researchers and other audiences to find the data, understand what the data are measuring and assess the quality of the data.

- **Finding** the data. Names, abstracts, keywords and other important metadata elements help individuals and organizations locate the data sets and variables that meet their needs.
- **Understanding** what the data are measuring and how the data have been created. Descriptions of the survey design and the methods used when collecting and processing the data, allow users to fully comprehend the context of the data.
- **Assessing** the quality of the data. Information about the data collection standards, as well as any deviations from the planned standards, is important for gauging whether the data are useful for specific uses.

1.10.1 Elements of data documentation

There are three main types of material that constitute ideal documentation for a data set: explanatory material, contextual information and cataloguing material. This represents the minimum to create and preserve a data set, and can be described as the material required to ensure the long-term viability and functionality of a data set. Full understanding of the data set and its contents cannot be achieved without this material.

Explanatory material

Information about the data collection methods

This information describes the data collection process, whether it is a survey; the collection of administrative information; or the transcription of a document source. It should describe the questionnaires used, the methods employed and how these were developed. If applicable, details of the sampling design and sampling frames should be included. It is also useful to include information on any monitoring process undertaken during the data collection as well as details of quality controls.

Information about the structure of the data set

Key to this type of information is a detailed document describing the structure of the data set and including information about relationships between individual files or records within the study. It should include, for example, key variables required for unique identification of subjects across files. It should also include the number of cases and variables in each file and the number of files in the data set. For relational models, a diagram showing the structure and the relations between the records and elements of the data set should be constructed.

[8] Microdata refers to data on the characteristics of units of a population, such as individuals, households, facilities, or establishments, collected by census, survey or experiment.

Technical information

This information relates to the technical framework and should include:

- the computer system used to generate the files
- the software packages with which the files were created
- the medium on which the data were stored
- a complete list of all data files present in the data set.

Variables, values, coding, and classification schemes

The documentation should contain a full list describing all variables (or fields) in the data set, including a complete explanation and full details about the coding and classifications used for the information allocated to those fields. It is especially important to have blank and missing fields explained and accounted for. It is helpful to identify variables to which standard coding classifications apply, and to record the version of the classification scheme used – preferably with a bibliographic reference to that code.

Information about derived variables

Many data producers derive new variables from original data. This may be as simple as grouping raw age data (age in years) according to groups of years appropriate for the needs of the survey, or it may be much more complex and require the use of sophisticated algorithms. When grouped or derived variables are created, it is important that the logic for the grouping or derivation be clear. Simple grouping, such as for age, can be included within the data dictionary. More complex derivations require other means of recording the information. The best method of describing these is by using flow charts or accurate Boolean statements. It is recommended that sufficient supporting information be provided to allow an easy link between the core variables used and the resultant, derived variables. It is also recommended that the computer algorithms used to create the derivations be saved together with information about the software.

Weighting

The weighting of variables needs to be fully documented, explaining the construction of the variables with a clear indication of the circumstances in which weights should be used. This is particularly important when different weights need to be applied for different purposes.

Data source

Details about the source the data is derived from should be included. For example, when the data source is made up of responses to survey questionnaires, each question should be carefully recorded in the documentation. Ideally, the text will include a reference to the generated variable(s). It is also useful to explain the conditions under which a question would be asked to a respondent, including if possible, the cases to which it applies, and ideally, a summary of response statistics.

Confidentiality and anonymization

It is important to note if the data contain any confidential information on individuals, households, organizations or institutions. Whenever this occurs, it is recommended to record such information together with any agreement on how to use the data, for example, with survey respondents. Issues of confidentiality may restrict the analyses to be undertaken or the results to be published, particularly if the data are to be made available for secondary use. If the data were anonymized to prevent subjects' identification, it is recommended to record the anonymization procedure and its impact on the data, as such modification may restrict subsequent analysis.

Contextual information

Contextual information provides users with material about the context in which the data were collected, and how data were put to use. This type of information adds richness and depth to the documentation, and enables the secondary user to fully understand the background and processes behind the data collection exercise. This also forms a vital historical record for future researchers.

Description of the originating project

Details should be provided about the history of the project or about the process that gave rise to the data set. This should offer information on the intellectual and substantive framework. For example, the description could cover topics such as:

- why the data collection was felt necessary
- the aims and objectives of the project
- who or what was being studied
- the geographical and temporal coverage
- publications or policy developments it contributed to or that arose as a response
- any other relevant information.

Provenance of the data set

Information on the origin of the data set relates to aspects such as the history of the data collection process, changes and developments that occurred in the data themselves and the methodology, or any adjustments made. The following can also be provided:

- details of data errors
- problems encountered in the process of data collection, data entry, data checking and cleaning
- conversion to a different software or operating system
- bibliographic references to reports or publications that stem from the study
- any other useful information on the life-cycle of the data set.

Serial and time-series data sets, new editions

For repeated cross-sectional, panel or time-series data sets, it is helpful to obtain additional information describing, for example, changes in the question text, variable labelling or sampling procedures.

Cataloguing material

Cataloguing material serves two purposes. First, it serves as a bibliographic record of the data set. This allows for the data set to be properly acknowledged and cited in publications, and for the material to act as a formal record for long preservation purposes. Second, it is the basic instrument used for resource discovery, allowing the data set to be uniquely identified within the collection by providing appropriate information to help secondary users identify the study as being useful to their purpose.

1.10.2 Metadata standards

Traditionally, data producers and archivists produced expansive, text-based codebooks. Today, various metadata alternatives, such the Data Documentation Initiative (DDI) and the Dublin Core Metadata Initiative (DCMI), have been developed for the documentation and cataloguing of microdata and related materials

according to international standards. These new type of 'codebooks' are based on Extensible Markup Language (XML), a type of regular text file that tags for meaning – rather than appearance – and can be viewed and edited using any standard text editor. XML files can be searched and queried like a regular database and can be edited.

Data Documentation Initiative (DDI)

The Data Documentation Initiative (DDI) is an effort to establish an international XML-based standard for microdata documentation. Its aim is to provide a straightforward means to record and communicate to others all the salient characteristics of microdata sets. By creating a consistent framework for microdata documentation, the DDI has several key features: interoperability, richer content, multi-purpose documentation, online analytical capability and search capability.

The DDI elements are organized in five sections.

Section 1.0. Document description

A study (survey, census or other) is not always documented and disseminated by the same agency as the one that produced the data. It is therefore important to provide information (metadata) not only on the study itself, but also on the documentation process. The document description consists of overview information describing the DDI-compliant XML document, or, in other words, "metadata about the metadata".

Section 2.0. Study description

The study description consists of overview information about the study. This section includes information about how the study should be cited; who collected, compiled and distributes the data; a summary (abstract) of the content of the data; and information on data collection methods and processing.

Section 3.0. Data file description

This section is used to describe each data file in terms of content; record and variable counts; version; producer; and so on.

Section 4.0. Variable description

This section presents detailed information on each variable, including literal question text; universe, variable and value labels; and derivation and imputation methods.

Section 5.0. Other material

This section allows for the description of other materials related to the study. These can include resources such as documents (e.g. questionnaires, coding information, technical and analytical reports, interviewer's manuals), data processing and analysis programs, photos and maps. However, the DCMI (described below) provides a standard for documenting digital resources such as questionnaires and reports.

Dublin Core Metadata Initiative (DCMI)

The Dublin Core Metadata Initiative (DCMI) is an open forum to develop the Dublin Core metadata standard, which is a simple set of elements for describing digital resources. This standard is particularly useful to describe resources related to microdata such as questionnaires, reports, manuals, data processing scripts and programs. A major reason behind the success of the Dublin Core metadata standard is its simplicity. From the outset it has been the goal of the designers to keep the element set as small and simple as possible to allow the standard to be used by non-specialists. In its simplest form the Dublin Core consists of 15 metadata elements, all of which are optional and repeatable. The 15 elements are:

1. title
2. subject (topic)
3. description: an abstract, a table of contents, or a free-text account of the content
4. type: the nature or genre of the content of the resource
5. source
6. relation: a reference to a related resource (rarely used)
7. coverage: the extent or scope of the content of the resource (e.g. spatial location or time period)
8. creator
9. publisher
10. contributor
11. rights: a rights management statement for the resource
12. date
13. format
14. identifier
15. language.

1.10.3 Creating metadata for SARA

Metadata can be created through a multitude of media including simple word processing programs and software application programs. This section provides guidance on creating metadata for SARA by identifying key elements to be included and by providing information on tools available to assist in creation of metadata.

Required elements

When creating a metadata document using a simple word processing program, the following elements need to be included. Much of this information will have been generated as part of the data processing steps.

Survey description

DOCUMENT DESCRIPTION

The document description serves as an introduction to the metadata as a whole. It provides background information such as the study title, document producer(s), date of production and version number.

STUDY DESCRIPTION

The study description serves to identify the study itself and to provide overview information, as well as the project scope, coverage and sampling, and information on data collection, editing, appraisal and access. This section also names producers and sponsors, and describes points of contact, and disclaimers and copyrights.

Data set(s)

FILE DESCRIPTION

The file description of a data set provides the data set contents, its producer and the version. It should also include an explanation of how missing data are coded or accounted for, as well as any other relevant notes. When applicable, a section on processing checks should be included. This element serves to provide information about the types of checks and operations that have been performed on the data file to make sure that the data are as correct as possible, e.g. consistency checking.

VARIABLES

The variables section of an archive consists of detailed descriptions of the actual data.

The *variables list* is typically a table listing every variable in the data set and providing for each the variable number, name and label. This list also provides the literal question associated with the variable, the variable format (character or numeric, number of units), and the number of valid and invalid cases (see Table 1.10.3).

TABLE 1.10.1: VARIABLES LIST

#	Name	Label	Type	Format	Valid	Invalid	Question
1	V_001	Facility Name	Discrete	Character-12	97	0	Record the name of the facility

The *variables description* is more detailed than the variable list. It includes variable information (type, format, missing value coding), statistics (valid and invalid), literal question, and any notes (see Table 1.10.4).

TABLE 1.10.2: VARIABLES DESCRIPTION

#1 V_001: Facility name	
Information	[Type= discrete] [Format=character] [Missing=*]
Statistics	[Valid=97 /-] [Invalid=0 /-]
Literal question	Record the name of the facility
Notes	

External resources

TYPES OF RESOURCES

External resources encompass all of the documents contributing to the implementation of the survey or stemming from the results of the survey. Examples include:

- questionnaires
- reports
- databases
- photos, videos, etc.
- maps or geospatial data
- technical documents
- analytical or administrative documents.

RESOURCE INFORMATION

Each external resource should be accompanied by relevant descriptive information.

Identification

- type of resource
- title
- authors: the individuals or organization primarily responsible for creating the resource
- date: the date on which the resource was created or last modified
- country: all countries within the scope of a resource
- language
- format
- an ID number, if applicable: an unambiguous reference to the resource.

Contributor and rights

- contributor(s): individuals or organizations who have supported or contributed to the development of the resource (including funding agencies)
- publisher(s): individuals or organizations responsible for disseminating the resource
- rights: a clear and complete description of the usage rights, if relevant.

Content

- description: an account of the content of the resource
- abstract
- table of contents: a listing of all sections of the resource
- subjects: key topics discussed in the resource.

Available tools

The Microdata Management Toolkit[9] developed by the World Bank Data Group is designed to address the technical issues facing data producers. It provides one of the most straightforward ways to create comprehensive metadata that adhere to international standards. The aim in developing the Toolkit was to promote the adoption of standards for international microdata documentation, dissemination and preservation, as well as to foster best practices by data producers in developing countries.

The Toolkit consists of:

- a Metadata Editor, which documents data in accordance with international standards;
- an International Household Survey Network (IHSN) Report Center, which generates metadata reports from inputs into the Metadata Editor;
- an Explorer, which allows users to view metadata and to re-export data in common formats;
- a CD-Rom Builder, which generates user-friendly outputs (CD-ROM, web) for dissemination and archiving.

Templates for SARA survey archiving are publicly available through the IHFAN web site at http://www.ihfan.org/home/index.php?editable=no&page_type=catalog.

[9] The Microdata Management Toolkit is free and available for download along with a user manual at: http://www.ihsn.org/home/index.php?q=tools/toolkit

1.10.4 Data archiving

Today, data archives are most always digital and are ideally web-based or are made publicly available through the Internet. While this can be accomplished through many different types of media, SARA makes use of the National Data Archive (NADA) which is a free, standardized application for publishing data archives.[10]

National Data Archive (NADA) tool

The International Household Survey Network (IHSN) developed the national data archive (NADA) as a complement to the Microdata Management Toolkit. NADA is a web-based survey cataloguing system that serves as a portal for researchers to browse, search, apply for access, and download relevant census or survey data and metadata.

NADA makes use of the XML-based international standards such as the DDI and Dublin Core and is a powerful instrument that facilitates the process of releasing study metadata and microdata to the user community. NADA is a tool for informing users about the existence and characteristics of survey, census or other microdata sets, and for sharing metadata and (optional) disseminating microdata files. NADA does not provide tools for data tabulation or analysis. It aims to provide users with detailed and searchable documentation of microdata sets, along with information on policies and procedures for their access and use. NADA comes as a pre-packaged but fully customizable web site. At the core of NADA is the data catalogue, which:

- provides summary information on each survey;
- provides access to reports, tables and other analytical output;
- provides data access policies to the user community and facilitates access by serving as an implementing tool of the data access policy;
- provides links to related survey metadata;
- facilitates searches at the variable level and displays variable-level information;
- provides authorized users with access to the data (via direct access or through online forms), with conditions for access clearly stated;
- keeps a log of user requests;
- links to the HTML output as provided by the CD-ROM Builder of the Microdata Management Toolkit;
- includes an automatically-generated history of added/updated data sets via an RSS feed;
- is easy to maintain and use.

The data catalogue interface is interactive, allowing users to sort and search the catalogue by study elements and/or data variables, or find out detailed information through the survey's metadata.

WHO has created a national data archive for SARA surveys, which can be located at http://apps.who.int/healthinfo/systems/datacatalog/index.php/catalog.
This site serves as an example of how a data archive can be created using the NADA software.

[10] NADA is available to download free of charge at: http://www.ihsn.org/home/index.php?q=tools/nada.

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9. Health workforce target reference

10. Outpatient service utilization target reference

11. Inpatient service utilization target reference

2. Core instrument

SARA core instrument

Version 2.2 July, 2015

The SARA core instrument is a questionnaire broken down into the following sections:

- **Section 1: Cover page**
  - Interviewer visits
  - Facility identification
  - Geographic coordinates
  - General information
- **Section 2: Staffing**
- **Section 3: Inpatient and observation beds**
- **Section 4: Infrastructure**
  - Communications
  - Ambulance/transport for emergencies
  - Power supply
  - Basic client amenities
  - Infection control
  - Processing of equipment for reuse
  - Health care waste management
  - Supervision
  - Basic equipment
  - Infection control precautions
- **Section 5: Available services**
  - Family planning
  - Antenatal care
  - Prevention of mother-to-child transmission of HIV
  - Obstetric and newborn care
  - Caesarean section
  - Immunization
  - Child preventative and curative care
  - Adolescent health
  - HIV counselling and testing
  - HIV treatment
  - HIV care and support
  - Sexually transmitted infections
  - Tuberculosis
  - Malaria
  - Non-communicable diseases
  - Surgery
  - Blood transfusion
- **Section 6: Diagnostics**
- **Section 7: Medicines and commodities**
- **Section 8: Interviewer's observations**

Number	Question	Result	
SECTION 1: COVER PAGE			
INTERVIEWER VISITS			
001	Facility number	☐☐☐☐☐☐	
002	Is this a supervisor validation check of a facility?	DATA COLLECTION FOR FACILITY ASSESSMENT.....	1
		SUPERVISOR VALIDATION	2

	1	2	3	FINAL VISIT
Date	_____	_____	_____	DAY ☐☐ MONTH ☐☐
Interviewer Name	_____	_____	_____	YEAR ☐☐☐☐ INT. NUMBER ☐☐

FACILITY IDENTIFICATION			
003	Name of facility	_____	
004	Location of facility	_____	
005	Region/Province	☐	
006	District	☐☐	
007	Type of facility* * These should be adapted at country level prior to implementation*	NATIONAL REFERRAL HOSPITAL	1
		DISTRICT/PROVINCIAL HOSPITAL	2
		HEALTH CENTRE/CLINIC.....	3
		HEALTH POST.....	4
		MATERNAL/CHILD HEALTH CLINIC	5
		OTHER (SPECIFY) _____	96
008	Managing Authority	GOVERNMENT/PUBLIC.....	1
		NGO/NOT-FOR-PROFIT.....	2
		PRIVATE-FOR-PROFIT.....	3
		MISSION/FAITH-BASED.....	4
		OTHER (SPECIFY) _____	96
009	Urban/Rural	URBAN	1
		RURAL.....	2
010	Outpatient only	YES	1
		NO.....	2

Number	Question	Result
GEOGRAPHIC COORDINATES		
COLLECT GEOGRAPHIC COORDINATES INFORMATION FOLLOWING THE INSTRUCTIONS*. **SET DEFAULT SETTINGS FOR GPS:** 1. **SET COORDINATE FORMAT TO DECIMAL DEGREES (HDDD.DDDDD)** 2. **SET "DATUM" TO WGS84** 3. **SET "UNITS" TO METRIC, "NORTH REF" TO MAGNETIC AND "ANGLE" TO DEGREE** **MOVE TO MAIN ENTRANCE OF THE BUILDING. STAND WITHIN 30 METERS OF DOOR WHERE ENTRANCE IS IN PLAIN VIEW TO THE SKY.** 1. **TURN GPS RECEIVER ON AND WAIT UNTIL SATELLITE PAGE INDICATES "READY TO NAVIGATE" AND ACCURACY IS AT A RECOMMANDED LEVEL** 2. **GO TO THE "MENU" PAGE AND SELECT "MARK"** 3. **HIGHLIGHT THE WAYPOINT NUMBER AND PRESS "ENTER"** 4. **ENTER FACILITY CODE AND PRESS "ENTER" TO GO BACK TO THE "MARK" PAGE** 5. **HIGHLIGHT "OK" AND PRESS "ENTER" TO REGISTER THE WAYPOINT** 6. **GO TO THE MENU PAGE, HIGHLIGHT "WAYPOINT" AND PRESS "ENTER"** 7. **HIGHLIGHT THE WAYPOINT AND PRESS "ENTER" TO OPEN ITS DETAILED INFORMATION** 8. **COPY INFORMATION FROM WAYPOINT LIST PAGE IN THE FORM BELOW** **BE SURE TO COPY THE WAYPOINT NAME (FACILITY NUMBER) FROM THE WAYPOINT LIST PAGE TO VERIFY THAT YOU ARE ENTERING THE CORRECT WAYPOINT INFORMATION ON THE DATA FORM**		
011	Waypoint name (Facility number)	☐☐☐☐☐☐
012	Altitude	☐☐☐☐ Meters
013	Latitude	N/S…… a ☐ DEGREES/DEC b ☐☐ . c ☐☐☐☐☐
014	Longitude	E/W…… a ☐ DEGREES/DEC b ☐☐☐ . c ☐☐☐☐☐

*Detailed information is available in the data collector's guide

Number	Question	Result	Skip
GENERAL INFORMATION			
FACILITY NUMBER		**INTERVIEWER CODE** ☐☐	
FIND THE MANAGER, THE PERSON IN-CHARGE OF THE FACILITY, OR MOST SENIOR HEALTH WORKER RESPONSIBLE FOR OUTPATIENT SERVICES WHO IS PRESENT AT THE FACILITY. READ THE FOLLOWING GREETING: **Good day! My name is _____. We are here on behalf of [IMPLEMENTING AGENCY] conducting a survey of health facilities to assist the government in knowing more about health services in [COUNTRY].** **Now I will read a statement explaining the study.** **Your facility was selected to participate in this study. We will be asking you questions about various health services. Information about your facility may be used by the [MOH], organizations supporting services in your facility, and researchers, for planning service improvement or for conducting further studies of health services.** **Neither your name nor that of any other health worker respondents participating in this study will be included in the dataset or in any report; however, there is a small chance that any of these respondents may be identified later. Still, we are asking for your help to ensure that the information we collect is accurate.** **You may refuse to answer any question or choose to stop the interview at any time. However, we hope you will answer the questions, which will benefit the services you provide and the nation.** **If there are questions for which someone else is the most appropriate person to provide the information, we would appreciate if you introduce us to that person to help us collect that information.** **At this point, do you have any questions about the study? Do I have your agreement to proceed?** _____ ☐☐ ☐☐ **2 0 1** ☐ **INTERVIEWER'S SIGNATURE INDICATING CONSENT OBTAINED** **DAY** **MONTH** **YEAR**		
015	May I begin the interview?	YES ..... 1 NO 2	➔5001
016	**INTERVIEW START TIME** (use the 24 hour-clock system)	☐☐ : ☐☐	

Indicator code	Number	Question	Result		Skip
	MODULE 1: SERVICE AVAILABILITY				
	SECTION 2: STAFFING				
	200	I have a few questions on staffing for this facility. Please tell me how many staff with each of the following qualifications are currently assigned to, employed by, or seconded to this facility. Please count each staff member only once, on the basis of the highest technical or professional qualification. For doctors, I would also like to know, of the total number, how many are part-time in this facility.	A) ASSIGNED/ EMPLOYED/ SECONDED (INCLUDING PART TIME)	B) PART TIME	
S4	01	Generalist (non-specialist) medical doctors	☐☐☐	☐☐☐	
S4	02	Specialist medical doctors	☐☐☐	☐☐☐	
S4	03	Non-physician clinicians/paramedical professionals	☐☐☐		
S4	04	Nursing professionals	☐☐☐		
S4	05	Midwifery professionals	☐☐☐		
	08	Pharmacists	☐☐☐		
	11	Laboratory technicians (medical and pathology)	☐☐☐		
	12	Community health workers	☐☐☐		
	SECTION 3: INPATIENT AND OBSERVATION BEDS				
S2	301	Excluding any delivery beds, how many overnight/inpatient beds in total does this facility have, both for adults and children?	# OF OVERNIGHT/ INPATIENT BEDS. . . . . ☐☐☐☐		
S3	302	Of the overnight/inpatient beds in this facility, how many are dedicated maternity beds? **THIS DOES NOT INCLUDE DELIVERY BEDS**	# OF DEDICATED MATERNITY BEDS. . . . . ☐☐☐		

Indicator code	Number	Question	Result	Skip
	MODULE 2: SERVICE READINESS			
	SECTION 4: INFRASTRUCTURE			
	This section will focus on questions related to infrastructure.			
	COMMUNICATIONS			
I5	400	Does this facility have a ***functioning land line telephone*** that is available to call outside at all times client services are offered? **CLARIFY THAT IF FACILITY OFFERS 24-HOUR EMERGENCY SERVICES, THEN THIS REFERS TO 24-HOUR AVAILABILITY.**	YES.....1 NO 2	
I5	401	Does this facility have a ***functioning cellular telephone or a private cellular phone*** that is supported by the facility?	YES.....1 NO 2	
I5	402	Does this facility have a ***functioning short-wave radio*** for radio calls?	YES.....1 NO 2	
I6	403	Does this facility have ***a functioning computer?***	YES.....1 NO 2	
I6	404	Is there access to email or internet within the facility today?	YES.....1 NO 2	
	AMBULANCE/TRANSPORT FOR EMERGENCIES			
I7	405	Does this facility have a ***functional ambulance*** or other vehicle for emergency transportation for clients that is stationed at this facility or operates from this facility?	YES.....1 NO 2	➔407
I7	406	Does this facility have access to an ambulance or other vehicle for emergency transport for clients that is stationed at another facility or that operates from another facility in near proximity?	YES.....1 NO 2	➔408 ➔408
I7	407	Is fuel for the ambulance or other emergency vehicle available today?	YES.....1 NO .....2 DON'T KNOW 98	
	POWER SUPPLY			
I1	408	Does your facility have electricity from any source (e.g. electricity grid, generator, solar, or other) including for stand-alone devices (EPI cold chain)?	YES.....1 NO 2	➔417

Indicator code	Number	Question	Result	Skip
I1	409	What is the electricity used for in the facility?	ONLY STAND-ALONE ELECTRIC MEDICAL DEVICES/APPLIANCES (e.g. EPI cold room, refrigerator, suction apparatus, etc.) .....1 ELECTRIC LIGHTING (EXCLUDING FLASHLIGHTS) AND COMMUNICATIONS...2 ELECTRIC LIGHTING, COMMUNICATIONS, AND 1 TO 2 ELECTRIC MEDICAL DEVICES/ APPLIANCES.....3 ALL ELECTRICAL NEEDS OF FACILITY 4	
	410	What is the facility's main source of electricity?	CENTRAL SUPPLY OF ELECTRICITY (e.g. national or community grid) .....1 GENERATOR (FUEL OR BATTERY OPERATED GENERATOR) ..... 2 SOLAR SYSTEM ..... 3 OTHER _____ 96 (SPECIFY)	
	411	Other than the main or primary source, does the facility have a secondary or backup source of electricity? IF YES: What is the secondary source of electricity?	NO SECONDARY SOURCE .....0 CENTRAL SUPPLY OF ELECTRICITY (e.g. national or community grid) .....1 GENERATOR (FUEL OR BATTERY OPERATED GENERATOR) ..... 2 SOLAR SYSTEM ..... 3 OTHER _____ 96 (SPECIFY)	
I1	412	During the past 7 days, was electricity available at all times from the main or any backup source when the facility was open for services?	ALWAYS AVAILABLE (NO INTERRUPTIONS) .....1 OFTEN AVAILABLE (INTERRUPTIONS OF LESS THAN 2 HOURS PER DAY).....2 SOMETIMES AVAILABLE (FREQUENT OR PROLONGED INTERRUPTIONS OF MORE THAN 2 HOURS PER DAY) 3	
		CHECK Q410 AND Q411: FACILITY HAS A GENERATOR ("2" CIRCLED FOR EITHER QUESTION)	FACILITY DOES NOT HAVE A GENERATOR ("2" NOT CIRCLED FOR BOTH QUESTIONS)	Q415
	413	Is the generator functional?	YES.....1 NO .....2 DON'T KNOW 98	→415 →415
	414	Is there fuel or a charged battery available today?	YES.....1 NO .....2 DON'T KNOW 98	

Indicator code	Number	Question	Result	Skip
	415	CHECK Q410 AND Q411: FACILITY HAS A SOLAR SYSTEM ("3" CIRCLED FOR EITHER QUESTION)	FACILITY DOES NOT HAVE A SOLAR SYSTEM ("3" NOT CIRCLED FOR BOTH QUESTIONS)	Q417
	416	Is the solar system functional?	YES, FUNCTIONING.....1 PARTIALLY, BATTERY NEEDS SERVICING/REPLACEMENT.....2 NO, NOT FUNCTIONAL .....3 DON'T KNOW 98	
	BASIC CLIENT AMENITIES			
	417	On average, how many hours per day is this facility open?	4 HOURS OR LESS .....1 5 TO 8 HOURS.....2 9 TO 16 HOURS.....3 17 TO 23 HOURS.....4 24 HOURS 5	
I2	**418**	What is the ***most commonly used*** source of water for the facility ***at this time***? **OBSERVE THAT WATER IS AVAILABLE FROM THE SOURCE OR IN THE FACILITY ON THE DAY OF THE VISIT. E.G. CHECK THAT THE PIPE IS FUNCTIONING.**	PIPED INTO FACILITY .....1 PIPED ONTO FACILITY GROUNDS .....2 PUBLIC TAP/STANDPIPE .....3 TUBEWELL/BOREHOLE .....4 PROTECTED DUG WELL .....5 UNPROTECTED DUG WELL .....6 PROTECTED SPRING .....7 UNPROTECTED SPRING .....8 RAINWATER COLLECTION .....9 BOTTLED WATER .....10 CART W/SMALL TANK/DRUM .....11 TANKER TRUCK.....12 SURFACE WATER .....13 OTHER _____96 (SPECIFY) DON'T KNOW .....98 NO WATER SOURCE 00	→420 →420 →420 →420 →420 →420 →420
I2	**419**	Is water available from this source on facility premises?	YES, INSIDE THE FACILITY .....1 YES, WITHIN THE GROUND OF THE FACILITY.....2 NO, OUTSIDE THE FACILITY GROUNDS.....3	
I3	**420**	Is there a room with auditory and visual privacy available for patient consultations?	AUDITORY PRIVACY ONLY .....1 VISUAL PRIVACY ONLY.....2 BOTH AUDITORY AND VISUAL PRIVACY ....3 NO PRIVACY.....4	

Indicator code	Number	Question	Result	Skip
I4	**421**	Is there a toilet (latrine) on premises in ***functioning condition*** that is accessible for general outpatient client use? IF YES: What type of toilet? **IF MULTIPLE TOILETS ARE AVAILABLE, CONSIDER THE MOST MODERN TYPE** **OBSERVE THAT THE TOILET (LATRINE) IS ACCESSIBLE (UNLOCKED OR KEY AVAILABLE) AND FUNCTIONING**	FLUSH TOILET .....1 VENTILATED IMPROVED PIT LATRINE (VIP).....2 PIT LATRINE WITH SLAB .....3 PIT LATRINE WITHOUT SLAB/OPEN PIT.....4 COMPOSTING TOILET.....5 BUCKET.....6 HANGING TOILET/ HANGING LATRINE.....7 NO FACILITIES ON PREMISES/BUSH/FIELD 8	
	INFECTION CONTROL			
T1	**422**	Does this facility have any guidelines on standard precautions for infection prevention? **IF YES, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
	PROCESSING OF EQUIPMENTS FOR REUSE			

	Number	Please tell me if the following items used for processing of equipment for reuse are available and functional in the facility today. **IF AVAILABLE, ASK TO SEE IT AND INDICATE IF IT IS FUNCTIONING OR NOT**	**A) AVAILABLE**			**B) FUNCTIONING**		
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
I8	**01**	Electric autoclave (pressure & wet heat)	1 → B	2 → B	3 → 02	1	2	8
I8	**02**	Non-electric autoclave	1 → B	2 → B	3 → 03	1	2	8
I8	**03**	Electric dry heat sterilizer	1 → B	2 → B	3 → 04	1	2	8
	04	Electric boiler or steamer (no pressure)	1 → B	2 → B	3 → 05	1	2	8
	05	Non-electric pot with cover for boiling/steam	1 → 06	2 → 06	3 → 06			
I8	**06**	Heat source for non-electric equipment	1 → B	2 → B	3 → 424	1	2	8
	HEALTH CARE WASTE MANAGEMENT							

Indicator code	Number	Question	Result	Skip
I9	424	Now I would like to ask you a few questions about waste management practices for sharps waste, such as needles or blades. How does this facility ***finally*** dispose of sharps waste (e.g., filled sharps boxes)? **PROBE TO ARRIVE AT CORRECT RESPONSE** **NOTE: IF ANY OF THE RESPONSES 2-9 TAKE PLACE OUTSIDE THE FACILITY, THEN THE CORRECT RESPONSE TO CIRCLE WILL BE IN THE CATEGORY OF "REMOVE OFFSITE"**	**BURN INCINERATOR** 2-CHAMBER INDUSTRIAL (800-1000+° C) .2 1-CHAMBER DRUM/BRICK .....3 **OPEN BURNING** FLAT GROUND - NO PROTECTION .....4 PIT OR PROTECTED GROUND .....5 **DUMP WITHOUT BURNING** FLAT GROUND - NO PROTECTION .....6 COVERED PIT OR PIT LATRINE .....7 OPEN-PIT - NO PROTECTION .....8 PROTECTED GROUND OR PIT .....9 **REMOVE OFFSITE** STORED IN COVERED CONTAINER.....10 STORED IN OTHER PROTECTED ENVIRONMENT.....11 STORED UNPROTECTED .....12 OTHER _____96 (SPECIFY) NEVER HAS SHARP WASTE 95	
I10	425	Now I would like to ask you a few questions about waste management practices for medical waste other than sharps, such as used bandages. How does this facility ***finally*** dispose of medical waste other than sharps boxes? **PROBE TO ARRIVE AT CORRECT RESPONSE** **NOTE: IF ANY OF THE RESPONSES 2-9 TAKE PLACE OUTSIDE THE FACILITY, THEN THE CORRECT RESPONSE TO CIRCLE WILL BE IN THE CATEGORY OF "REMOVE OFFSITE"**	SAME AS FOR SHARPS ITEMS .....1 **BURN INCINERATOR** 2-CHAMBER INDUSTRIAL (800-1000+° C) .2 1-CHAMBER DRUM/BRICK .....3 **OPEN BURNING** FLAT GROUND - NO PROTECTION .....4 PIT OR PROTECTED GROUND .....5 **DUMP WITHOUT BURNING** FLAT GROUND - NO PROTECTION .....6 COVERED PIT OR PIT LATRINE .....7 OPEN-PIT - NO PROTECTION .....8 PROTECTED GROUND OR PIT .....9 **REMOVE OFFSITE** STORED IN COVERED CONTAINER.....10 STORED IN OTHER PROTECTED ENVIRONMENT.....11 STORED UNPROTECTED .....12 OTHER _____96 (SPECIFY) NEVER HAS SHARP WASTE 95	
	426	CHECK Q424 AND Q425: INCINERATOR USED (EITHER "2" OR "3" CIRCLED)	INCINERATOR NOT USED (NEITHER "2" NOR "3" CIRCLED)	Q430

Indicator code	Number	Question	Result		Skip
I9 I10	**427**	Is the incinerator functional today?	YES.....1 NO .....2 DON'T KNOW 98		 ➔430 ➔430
I9 I10	**428**	Is fuel for the incinerator available today?	YES.....1 NO .....2 DON'T KNOW 98		
	SUPERVISION				
	430	When was the last time this facility received a supervision visit from the higher level (DHMT or other)?	THIS MONTH .....1 IN THE LAST 3 MONTHS .....2 MORE THAN 3 MONTHS AGO .....3 DON'T KNOW 98		 ➔500 ➔500
	431	During the supervision visit, did the supervisor assess the following?	**YES**	**NO**	
	01	Pharmacy (e.g. drug stock out, expiry, records, etc.)	1	2	
	02	Staffing (e.g. staff available and training)	1	2	
	03	Data (e.g. completeness, quality, and timely reporting)	1	2	
	GENERAL OUTPATIENT SECTION				
	BASIC EQUIPMENT				

			A) AVAILABLE			**B) FUNCTIONING**		
	500	Please tell me if the following basic equipment and supplies used in the provision of client services are available and functional in this facility today. **ASK TO SEE THE ITEMS**	OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
E1	**01**	Adult weighing scale	1 → B	2 → B	3 → 02	1	2	8
E2 E38	**02**	Child weighing scale- 250 gram gradation	1 → B	2 → B	3 → 03	1	2	8
E38	**03**	Infant weighing scale – 100 gram gradation	1 → B	2 → B	3 → 04	1	2	8
E18	**04**	Measuring tape-height board/stadiometre	1 → B	2 → B	3 → 05	1	2	8
E3	**05**	Thermometer	1 → B	2 → B	3 → 06	1	2	8
E4	**06**	Stethoscope	1 → B	2 → B	3 → 07	1	2	8
E5	**07**	Blood pressure apparatus (may be digital or manual sphygmomanometer with stethoscope)	1 → B	2 → B	3 → 08	1	2	8

Indicator code	Number	Question	Result					Skip
E6	08	Light source (flashlight acceptable)	1 → B	2 → B	3 → 09	1	2	8
M27	09	Intravenous infusion kits	1 → 10	2 → 10	3 → 10			
E45	10	Oxygen concentrators	1 → B	2 → B	3 → 11	1	2	8
E45	11	Oxygen cylinders	1 → B	2 → B	3 → 12	1	2	8
E45	12	Central oxygen supply	1 → B	2 → B	3 → 13	1	2	8
E45	13	Flowmeter for oxygen therapy (with humidification)	1 → B	2 → B	3 → 14	1	2	8
E45	14	Oxygen delivery apparatus (key connecting tubes and mask/nasal prongs)	1 → B	2 → B	3 → 501	1	2	8
E45	501	At any time during the past 3 months has oxygen been unavailable for any reason?	YES.....1 NO 2					
		INFECTION CONTROL PRECAUTIONS						
	600	Please tell me if the following resources/supplies used for infection control are available in the general outpatient area of this facility today. **ASK TO SEE THE ITEMS**	**OBSERVED**	**REPORTED NOT SEEN**	**NOT AVAILABLE**			
I15	01	Clean running water (piped, bucket with tap, or pour pitcher)	1	2	3			
I15	02	Hand-washing soap/liquid soap	1	2	3			
I15	03	Alcohol based hand rub	1	2	3			
I16	04	Disposable latex gloves	1	2	3			
I12	05	Waste receptacle (pedal bin) with lid and plastic bin liner	1	2	3			
I11	06	Sharps container ("safety box")	1	2	3			
I13	07	Environmental disinfectant (e.g., chlorine, alcohol)	1	2	3			
I14	08	Disposable syringes with disposable needles	1	2	3			
I14	09	Auto-disable syringes	1	2	3			

Indicator code	Number	Question	Result			Skip
	SECTION 5: AVAILABLE SERVICES					
	This section will focus on questions related to available services.					
	A. REPRODUCTIVE, MATERNAL AND NEWBORN HEALTH					
	FAMILY PLANNING SERVICES					
S7	700	Does this facility offer family planning services?	YES.....1 NO 2			➔800
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE FAMILY PLANNING SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT FAMILY PLANNING SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
	701	Does this facility ***provide*** or ***prescribe*** any of the following modern methods of family planning:	**YES**		**NO**	
S7_01	01	Combined estrogen progesterone oral contraceptive pills	1		2	
S7_02	02	Progestin-only contraceptive pills	1		2	
S7_03	03	Combined estrogen progesterone injectable contraceptives	1		2	
S7_04	04	Progestin-only injectable contraceptives	1		2	
S7_05	05	Male condoms	1		2	
S7_06	06	Female condoms	1		2	
S7_07	07	Intrauterine contraceptive device (IUCD)	1		2	
S7_08	08	Implants	1		2	
S7_09	09	Cycle beads for standard days method	1		2	
S7_10	10	Emergency contraceptive pills	1		2	
S7_11	11	Male sterilization	1		2	
S7_12	12	Female sterilization	1		2	
	702	Does this facility ***provide*** or ***prescribe*** any of the following modern methods of family planning for ***unmarried adolescents***:	**YES**		**NO**	
S12_02 S12_03	01	Combined estrogen progesterone oral contraceptive pills	1		2	
S12_02 S12_04	02	Male condoms	1		2	
S12_02 S12_06	03	Emergency contraceptive pills	1		2	
S12_02 S12_07	04	Intrauterine contraceptive device (IUCD)	1		2	
	703	Please tell me if the following documents are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**	**YES, REPORTED NOT SEEN**	**NO**	

Indicator code	Number	Question	Result					Skip
T2	01	National family planning guidelines	1	2	3			
T62	02	Any family planning check-lists and/or job-aids	1	2	3			
	704	Have you or any provider(s) of family planning services:	**YES**		**NO**			
T3	01	Received any family planning training in the last two years?	1		2			
T16	02	Received any training in adolescent sexual and reproductive health in the last two years?	1		2			
	705	Does this facility stock contraceptive commodities at this service site?	YES.....1 NO 2					➔800
	706	Are any of the following **reproductive health** medicines and commodities available in this service site today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M15	01	Combined estrogen progesterone oral contraceptive pills	1	2	3	4	5	
M96	02	Progestin-only contraceptive pills	1	2	3	4	5	
M16 M97	03	Combined estrogen progesterone injectable contraceptives	1	2	3	4	5	
M16 M98	04	Progestin-only injectable contraceptives	1	2	3	4	5	
M17	05	Male condoms	1	2	3	4	5	
M99	06	Female condoms	1	2	3	4	5	
M108	07	Implant (e.g. levonorgestrel, etonogestrel)	1	2	3	4	5	
M109	08	Emergency contraceptive pills (e.g. levonorgestrel tablet, ulipristal acetate tablet, mifepristone tablet 10-25 mg)	1	2	3	4	5	
M105	09	Intrauterine contraceptive device (IUCD)	1	2	3	4	5	
	707	For each of the following items, please check in the facility records if there has been a stock-out in the past 3 months:	**STOCK-OUT IN THE PAST 3 MONTHS**	**NO STOCK-OUT IN PAST 3 MONTHS**	**NOT INDICATED**	**PRODUCT NOT OFFERED**	**FACILITY RECORD NOT AVAILABLE**	
M99_A	01	Female condoms	1	2	3	4	5	
M108_A	02	Implant (e.g.levonorgestrel, etonogestrel)	1	2	3	4	5	
M109_A	03	Emergency contraceptive pills (e.g. levonorgestrel tablet, ulipristal acetate tablet, mifepristone tablet 10-25 mg	1	2	3	4	5	
	ANTENATAL CARE SERVICES							
S8	800	Does this facility offer antenatal care (ANC) services?	YES.....1 NO 2					➔900

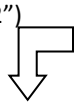
Indicator code	Number	Question	Result			Skip
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE ANTENATAL CARE SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT ANTENATAL CARE SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
	801	Do ANC providers provide any of the following services to pregnant women as part of routine ANC services?	YES		NO	
S8_01	01	Iron supplementation	1		2	
S8_02	02	Folic acid supplementation	1		2	
S8_03	03	Intermittent preventive treatment in pregnancy (IPTp) for malaria	1		2	
S8_04	04	Tetanus toxoid immunization	1		2	
S8_05	05	Monitoring for hypertensive disorder of pregnancy	1		2	
	802	Please tell me if the following documents are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**	**YES, REPORTED NOT SEEN**	**NO**	
T4	01	National ANC guidelines	1	2	3	
T63	02	Any ANC check-lists and/or job-aids	1	2	3	
T19	03	IPTp guidelines, check-lists and/or job-aids (including wall charts) **ACCEPTABLE IF PART OF ANC GUIDELINES.**	1	2	3	
	803	Have you or any provider(s) of ANC services:	YES		NO	
T5	01	Received any ANC training in the last two years?	1		2	
T21	02	Received any training in IPTp in the last two years?	1		2	
	PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV					
S20	900	Does this facility offer services for the prevention of mother-to-child transmission of HIV (PMTCT)?	YES.....1 NO 2			➔1000
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE PMTCT SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT PMTCT SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
	901	As part of PMTCT services, please tell me if this facility provides the following services to clients:	YES		NO	
S20_01	01	Provide HIV counselling and testing services to HIV positive pregnant women for PMTCT	1		2	
S20_02	02	Provide HIV counselling and testing services to infants born to HIV positive pregnant women for PMTCT	1		2	
S20_03	03	Provide ARV prophylaxis to HIV positive pregnant women for PMTCT	1		2	

Indicator code	Number	Question	Result			Skip
S20_04	04	Provide ARV prophylaxis to newborns of HIV positive pregnant women for PMTCT	1	2		
S20_05	05	Provide infant and young child feeding counselling for PMTCT	1	2		
S20_06	06	Provide nutritional counselling for HIV positive pregnant women and their infants for PMTCT	1	2		
S20_07	07	Provide family planning counselling to HIV positive pregnant women for PMTCT	1	2		
	902	Please tell me if the following guidelines are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**	**YES, REPORTED NOT SEEN**	**NO**	
T37	01	National guidelines for PMTCT	1	2	3	
T38	02	Guidelines for infant and young child feeding counselling	1	2	3	
	903	Have you or any provider(s) of PMTCT services:	**YES**	**NO**		
T39	01	Received any training in PMTCT in the last two years?	1	2		
T40	02	Received any training in infant and young child feeding in the last two years?	1	2		
I24	904	Is the PMTCT service room or area a private room/area with auditory and visual privacy?	AUDITORY PRIVACY ONLY .....1 VISUAL PRIVACY ONLY .....2 BOTH AUDITORY AND VISUAL PRIVACY ....3 NO PRIVACY.....4			
	OBSTETRIC AND NEWBORN CARE SERVICES					
S9	1000	Does this facility offer delivery (including normal delivery, basic emergency obstetric care, and/or comprehensive emergency obstetric care) and/or newborn care services?	YES.....1 NO 2			➔1100
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE OBSTETRIC AND NEWBORN CARE SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT OBSTETRIC AND NEWBORN CARE SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
	1001	Please tell me if the following interventions are routinely carried out by providers of delivery services in this facility:	**YES**	**NO**		
S9_13	01	Administration of oxytocin injection immediately after birth to all women for the prevention of post-partum haemorrhage	1	2		
S9_14	02	Monitoring and management of labour using partograph	1	2		
S9_15	03	Immediate and exclusive breastfeeding	1	2		

Indicator code	Number	Question	Result		Skip
S9_16	04	Hygienic cord care (cut with sterile item and apply disinfectant to tip and stump, and no application of other substances)	1	2	
S9_17	05	Thermal protection (drying baby immediately after birth and wrapping)	1	2	
	1002	Please tell me if any of the following interventions for the management of complications during and after pregnancy and childbirth have been carried out in the last 12 months by providers of delivery services as part of their work in this facility.	**YES**	**NO**	
S9_01 S9_18 S26_03	01	Parenteral administration of antibiotics (IV or IM) for mothers	1	2	
S9_02 S9_18 S26_03	02	Parenteral administration of oxytocic for treatment of post-partum haemorrhage (IV or IM)	1	2	
S9_03 S9_18 S26_03	03	Parenteral administration of magnesium sulphate for management of preeclampsia and eclampsia (IV or IM)	1	2	
S9_04 S9_18 S26_03	04	Assisted vaginal delivery	1	2	
S9_05 S9_18 S26_03	05	Manual removal of placenta	1	2	
S9_06 S9_18 S26_03	06	Removal of retained products of conception	1	2	
S9_07 S9_19 S26_03	07	Neonatal resuscitation with bag and mask	1	2	
S26_01 S26_03	08	Caesarean section	1	2	
S26_02 S26_03	09	Blood transfusion	1	2	
S9_09 S9_19	10	Antibiotics for preterm or prolonged PROM (premature rupture of membranes) to prevent infection	1	2	
S9_10 S9_19	11	Corticosteroids in preterm labour	1	2	
S9_11 S9_19	12	KMC (Kangaroo mother care) for premature/very small babies	1	2	
S9_12 S9_19	13	Injectable antibiotics for neonatal sepsis	1	2	

Indicator code	Number	Question	Result						Skip
	1003	Are the following documents available in the facility today: IF AVAILABLE, ASK TO SEE THE DOCUMENT	YES, OBSERVED		YES, REPORTED NOT SEEN		NO		
T6	01	Any national guidelines for essential childbirth care	1		2		3		
T64	02	Any check-lists and/or job-aids for Essential childbirth care	1		2		3		
T66	03	Any national guidelines for essential newborn care	1		2		3		
	1004	Have you or any provider(s) of delivery services:	YES				NO		
T65	01	Received training in newborn resuscitation using the newborn bag and mask in the last two years	1				2		
T7	02	Apart from newborn resuscitation, received training in essential childbirth care in the last two years	1				2		
	1005	I would like to know if the following basic equipment items are available in this service area today. For each equipment or item, please tell me if it is available today and functioning. ASK TO SEE THE ITEMS	A) AVAILABLE				B) FUNCTIONING		
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE		YES	NO	DON'T KNOW
E7	01	Examination light (flashlight ok)	1 → B	2 → B	3 → 02		1	2	8
E8	02	Delivery pack	1 → B	2 → B	3 → 03		1	2	8
E8	03	Cord clamp	1 → B	2 → B	3 → 04		1	2	8
E8	04	Episiotomy scissors	1 → B	2 → B	3 → 05		1	2	8
E8	05	Scissors or blade to cut cord	1 → B	2 → B	3 → 06		1	2	8
E8	06	Suture material with needle	1 → 07	2 → 07	3 → 07				
E8	07	Needle holder	1 → B	2 → B	3 → 08		1	2	8
E10	08	Manual vacuum extractor	1 → B	2 → B	3 → 09		1	2	8
E11	09	Vacuum aspirator or D&C kit	1 → B	2 → B	3 → 10		1	2	8
E30	10	Incubator	1 → B	2 → B	3 → 11		1	2	8

Indicator code	Number	Question	Result					Skip
I20	11	Disposable latex gloves	1 → 12	2 → 12	3 → 12			
E13	12	Blank partograph	1 → 13	2 → 13	3 → 13			
E37	13	Delivery bed	1 → B	2 → B	3 → 14	1	2	8
E50	14	Resuscitation table (with heat source) (for newborn resuscitation)	1 → B	2 → B	3 → 15	1	2	8
E12 E43	15	Newborn bag and mask size 1 for term babies (for newborn resuscitation)	1 → B	2 → B	3 → 16	1	2	8
E12 E43	16	Newborn bag and mask size 0 for pre-term babies (for newborn resuscitation)	1 → B	2 → B	3 → 17	1	2	8
E9 E43	17	Electric suction pump (for suction apparatus)	1 → B	2 → B	3 → 18	1	2	8
E9 E43	18	Suction catheter (for suction apparatus) for suctioning newborn	1 → B	2 → B	3 → 19	1	2	8
E9 E43	19	Suction bulb, single use	1 → B	2 → B	3 → 20	1	2	8
E9 E43	20	Suction bulb, sterilizable multi-use	1 → B	2 → B	3 → 21	1	2	8
E44	21	Speculum	1 → B	2 → B	3 → 22	1	2	8
E51	22	Infant weighting scale	1 → B	2 → B	3 → 23	1	2	8
E52	23	Blood pressure apparatus (may be digital or manual sphygmomanometer with stethoscope)	1 → B	2 → B	3 → 24	1	2	8
I25	24	Clean running water (piped, bucket with tap, or pour pitcher)	1 → 25	2 → 25	3 → 25			
I25	25	Hand-washing soap/liquid soap	1 → 26	2 → 26	3 → 26			
I25	26	Alcohol based hand rub	1 → 1006	2 → 1006	3 → 1006			
	1006	Does this facility stock any medicines for obstetric care in this service site?	YES.....1 NO 2					→1009
	1007	Are any of the following medicines and commodities available **in this service site** today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M21	01	Antibiotic eye ointment for newborn	1	2	3	4	5	

Indicator code	Number	Question	Result				Skip
M72 M23 M110 M141	02	Gentamicin injection	1	2	3	4	5
M71 M23	03	Ampicillin powder for injection	1	2	3	4	5
M106	04	Hydralazine injection	1	2	3	4	5
M73	05	Metronidazole injection	1	2	3	4	5
M75	06	Azithromycin cap/tab or oral liquid	1	2	3	4	5
M76	07	Cefixime cap/tab	1	2	3	4	5
M77	08	Benzathine benzylpenicillin powder for injection	1	2	3	4	5
M79	09	Nifedipine cap/tab (10mg)	1	2	3	4	5
M107	10	Methyldopa tablet	1	2	3	4	5
M70	11	Calcium gluconate injection	1	2	3	4	5
M24	12	Magnesium sulphate injectable	1	2	3	4	5
M26	13	Skin disinfectant	1	2	3	4	5
M27	14	Intravenous solution with infusion set	1	2	3	4	5
M69	15	Sodium chloride injectable solution	1	2	3	4	5
M78	16	Betamethasone injection	1	2	3	4	5
M78 M129	17	Dexamethasone injection	1	2	3	4	5
M22	18	Oxytocin injection	1	2	3	4	5
		IF OXYTOCIN IS OBSERVED AVAILABLE (Q1007_18 is “1” OR “2”) 	IF OXYTOCIN IS NOT OBSERVED AVAILABLE (Q1007_19 is “3”,”4”,OR” 5”) 				Q1009
	1008	Is the oxytocin stored in cold storage?	YES.....1 NO 2				
	CESAREAN SECTION						
	1009	CHECK Q1002_08: CESAREAN SECTION OFFERED 	CESAREAN SECTION NOT OFFERED 				Q1100
T51	1010	Do you have the national guidelines for Comprehensive Emergency Obstetric Care (CEmOC) available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3				

Indicator code	Number	Question	Result				Skip
T52	1011	Have you or any provider(s) of delivery service received any training in Comprehensive Emergency Obstetric Care (CEmOC) in the last two years?	YES.....1 NO 2				
T53	1012	Does this facility have a health professional who can perform caesarean section present in the facility or on call 24 hours a day (including weekends and on public holidays)?	YES.....1 NO 2				
T54	1013	Does this facility have an anaesthetist (or doctor with anaesthetics training) present in the facility or on call 24 hours a day (including weekends and on public holidays)?	YES.....1 NO 2				
	IMMUNIZATION						
S10	1100	Does this facility offer immunization services?	YES.....1 NO 2				➔1200
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE IMMUNIZATION SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT IMMUNIZATION SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.						
	1101	Is this facility providing immunization services today?	YES.....1 NO 2				
	1102	Does this facility provide any of the following immunization services in the facility only, as outreach at fixed post only, or both? *VACCINES SCHEDULE SHOULD BE SPECIFIED AS PART OF COUNTRY ADAPTATION	**BOTH IN THE FACILITY AND AS OUTREACH**	**IN THE FACILITY ONLY**	**OUTREACH ONLY**	**SERVICE NOT OFFERED**	
S10_07	01	Birth doses (e.g. hepB0, BCG, OPV0, …)	1	2	3	4	
S10_08	02	Infant vaccines (under 1 year)	1	2	3	4	
S10_09	03	Adolescent/adult vaccines (e.g. HPV, tetanus, flu)	1	2	3	4	
S10_10A S10_10B S10_10C S10_10D S10_10E	1103	How often does this facility offer routine full child immunization services at the facility?	DAILY .....1 WEEKLY .....2 MONTHLY.....3 QUARTERLY .....4 OTHER_____ 96 (SPECIFY)				
S10_11A S10_11B S10_11C S10_11D S10_11E	1104	How often does this facility offer routine full child immunization services as outreach?	DAILY .....1 WEEKLY .....2 MONTHLY.....3 QUARTERLY .....4 OTHER_____ 96 (SPECIFY)				

Indicator code	Number	Question	Result			Skip
T8	1105	Do you have the national guidelines for routine child immunization available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT** *NATIONAL GUIDELINE SHOULD BE SPECIFIED AS PART OF COUNTRY ADAPTATION	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3			
	1106	Have you or any provider(s) of immunization service delivery received any training in any of the following child immunization services in the last two years? **IF YES**: Pease specify if it was through formal training or supportive supervision	**YES, FORMAL TRAINING**	**YES, SUPPORTIVE SUPERVISION**	**NO TRAINING**	
T9	01	Immunization service delivery (Immunization in practice (IIP) or any similar)	1	2	3	
T9	02	Vaccine management/handling and cold chain	1	2	3	
T9	03	Data reporting and monitoring of service delivery (e.g. Data Quality Self-Assessment (DQS))	1	2	3	
T9	04	Disease surveillance and reporting	1	2	3	
T9	05	Injection safety and waste management	1	2	3	
T9	06	RED (Reaching Every District)	1	2	3	
T9	07	Training on new vaccine* prior to introduction * NEW VACCINE SHOULD BE SPECIFIED AS PART OF COUNTRY ADAPTATION	1	2	3	
	1107	I would like to know if the following items for immunization are available in this service area today. For each item, please tell me if it is available today. **ASK TO SEE THE ITEMS**	**OBSERVED**	**REPORTED NOT SEEN**	**NOT AVAILABLE**	
I14 I22	01	Auto-disable syringes	1	2	3	
I21	02	Sharps container/safety box	1	2	3	
E14	03	Vaccine carrier(s)/cold box	1	2	3	
E14	04	Set of ice packs for vaccine carriers (Note: 4-5 ice packs make one set)	1	2	3	
E41	05	Immunization cards (or child health booklet)	1	2	3	
E42	06	Official immunization tally sheets or integrated tally sheet	1	2	3	
	07	Official immunization registers or equivalent	1	2	3	

Indicator code	Number	Question	Result	Skip
E15 E47	1108	Does this facility have a refrigerator available and functioning for the storage of vaccines? **NOTE: FOR A REGRIGERATOR TO BE FUNCTIONAL IT MUST HAVE SUFFICIENT CAPACITY TO ACCOMMODATE ALL NEEDED VACCINES.**	AVAILABLE AND FUNCTIONAL.....1 AVAILABLE NOT FUNCTIONAL.....2 AVAILABLE DON'T KNOW IF FUNCTIONING .....3 NOT AVAILABLE.....4	➔1115
E40 E40_A E40_B E40_C E40_D E40_E E40_F	1109	What type of energy source is used for the vaccine refrigerator?	ELECTRICITY (GRID OR GENERATOR).....1 SOLAR (WITH OR WITHOUT BATTERIES)...2 GAS.....3 KEROSENE .....4 MIXED (ELECTRIC WITH GAS KEROSENE) ..5 OTHER 96	
E40	1110	Does this energy source supply power to the refrigerator for 24 hours a day and for 7 days in the week?	YES.....1 NO 2	

			A) AVAILABLE			B) FUNCTIONNING		
	1111	Which of the following devices for monitoring refrigerator temperature are available and functioning in the refrigerator today: **ASK TO SEE THE ITEMS**	OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
E39 E47	01	Thermometer	1 → B	2 → B	3 02	1	2	8
E39 E47	02	Continuous temperature recorder/logger	1 → B	2 → B	3 1112	1	2	8

E49 E47	1112	Is the temperature of the refrigerator monitored twice daily? **IF YES: PLEASE ASK TO SEE THE LOG USED TO RECORD THE TEMPERATURE**	YES, LOG OBSERVED.....1 YES, LOG REPORTED NOT SEEN.....2 NO 3	➔1115
E49 E47	1113	Has the temperature log been completed for the last 30 days? **PLEASE REVIEW LOG AND CHECK FOR COMPLETENESS (TEMPERATURE RECORDED 2 TIMES / DAY DURING THE LAST 30 DAYS)**	YES.....1 YES, PARTIALLY.....2 NO 3	➔1115
E49 E47	1114	Has the temperature been out of the range 2 to 8 °C inclusive in the last 30 days? **PLEASE CHECK THE TEMPERATURE RECORD AND VERIFY THE TEMPERATURE FOR THE LAST 30 WORKING DAYS IN ORDER TO ANSWER THE QUESTION**	OBSERVED IN RANGE .....1 REPORTED IN RANGE BUT NOT SEEN..... 2 OUT OF RANGE..... 3 RECORD NOT AVAILABLE..... 4	

Indicator code	Number	Question	Result				Skip
	1115	CHECK Q1101 AND Q1108: FACILITY IS OFFERING IMMUNIZATION SERVICES TODAY (Q1101 ="1") OR HAS A FUNCTIONNING REFRIGERATOR FOR THE STORAGE OF VACCINES (Q1108 = "1")	FACILITY DOES NOT OFFER IMMUNIZATION SERVICES TODAY (Q1101 = "2") AND DOES NOT HAVE A FUNCTIONAL REFRIGERATOR FOR THE STORAGE OF VACCINES (Q1108 = "2", "3" OR "4")				Q1117
	1116	Are any of the following vaccines available in this service site today? * THE LIST OF VACCINES BELOW SHOULD BE SPECIFIED AS PER NATIONAL SCHEDULE DURING COUNTRY ADAPTATION PROCESS **SELECT ONE OF EACH VACCINE AT RANDOM AND CHECK IF THE VACCINE IS VALID: 1. VIAL MONITOR (VVM) ON THE VACCINE VIAL HAS NOT TURNED AND 2. THE EXPIRY DATE HAS NOT PASSED**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M28	01	Measles vaccine and diluent	1	2	3	4	5
M29	02	DPT-Hib+HepB (pentavalent)	1	2	3	4	5
M30	03	Oral polio vaccine	1	2	3	4	5
M31	04	BCG vaccine and diluent	1	2	3	4	5
M92	05	Rotavirus vaccine	1	2	3	4	5
M93	06	Pneumococcal vaccine	1	2	3	4	5
M142	07	IPV (Inactivated polio vaccine)	1	2	3	4	5
M143	08	HPV (Human papillomavirus vaccine)	1	2	3	4	5
	1117	In the past three months were you unable to give any of the vaccines listed below because of unavailable stock? **FOR EACH OF THE FOLLOWING ITEMS, PLEASE CHECK IN THE FACILITY RECORDS IF THERE HAS BEEN A STOCK-OUT IN THE PAST 3 MONTHS** * THE LIST OF VACCINES BELOW SHOULD BE SPECIFIED AS PER NATIONAL SCHEDULE DURING COUNTRY ADAPTATION PROCESS	YES, STOCK OUT	NO STOCK OUT	NOT INDICATED	PRODUCT NOT OFFERED	FACILITY RECORD NOT AVAILABLE
M28_A	01	Measles vaccine and diluent	1	2	3	4	5
M29_A	02	DPT-Hib-HepB (pentavalent) vaccine	1	2	3	4	5
M30_A	03	Oral polio vaccine	1	2	3	4	5
M31_A	04	BCG vaccine and diluent	1	2	3	4	5
M92_A	05	Rotavirus vaccine	1	2	3	4	5
M93_A	06	Pneumococcal vaccine	1	2	3	4	5
M142_A	07	IPV (Inactivated polio vaccine)	1	2	3	4	5
M143_A	08	HPV (Human papillomavirus vaccine)	1	2	3	4	5
	B. CHILD AND ADOLESCENT HEALTH						
	CHILD PREVENTATIVE AND CURATIVE CARE SERVICES						
S11	1200	Does this facility offer preventative and curative care services for children under 5?	YES.....1 NO 2				➔1300

Indicator code	Number	Question	Result					Skip
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE CHILD PREVENTATIVE AND CURATIVE CARE SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT CHILD PREVENTATIVE AND CURATIVE CARE SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.							
	1201	Please tell me if this facility provides the following services:	**YES**			**NO**		
S11_01	**01**	Diagnose and/or treat child malnutrition	1			2		
S11_02	**02**	Provide vitamin A supplementation	1			2		
S11_03	**03**	Provide iron supplementation	1			2		
S11_04	**04**	Provide ORS to children with diarrhoea	1			2		
S11_04	**05**	Provide zinc supplementation to children with diarrhoea	1			2		
S11_05	**06**	Child growth monitoring	1			2		
S11_06	**07**	Treatment of pneumonia	1			2		
S11_07	**08**	Administration of amoxicillin for the treatment of pneumonia in children	1			2		
S11_08	**09**	Treatment of malaria in children	1			2		
	1202	Please tell me if the following documents are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**		**YES, REPORTED NOT SEEN**	**NO**		
T10	**01**	IMCI guidelines for the diagnosis and management of childhood illnesses	1		2	3		
T11	**02**	National guidelines for growth monitoring	1		2	3		
	03	Any check-lists and/or job-aids for IMCI	1		2	3		
	1203	Have you or any provider(s):	**YES**			**NO**		
T12	**01**	Of curative care services for sick children received any training in the Integrated Management of Childhood Illnesses (IMCI) in the last two years?	1			2		
T13	**02**	Of growth monitoring services for children received any training in growth monitoring in the last two years?	1			2		
	1204	Please tell me if the following basic equipment items are available and functional in this service area today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONNING**		
			OBSERVED	**REPORTED NOT SEEN**	**NOT AVAILABLE**	**YES**	**NO**	**DON'T KNOW**
E16	**01**	Length/height measuring equipment	1 → B	2 → B	3 02 ↵	1	2	8

Indicator code	Number	Question	Result	Skip
E17	02	Growth charts	1 → 1300 | 2 → 1300 | 3 → 1300	
	ADOLESCENT HEALTH SERVICES			
S12	1300	Does this facility offer adolescent health services?	YES.....1 NO 2	→1400
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE ADOLESCENT HEALTH SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT ADOLESCENT HEALTH SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.			
T14	1301	Do you have the national guidelines for service provision to adolescents available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
T15	1302	Have you or any providers of adolescent health services received any training on the provision of adolescent health services in the last two years?	YES.....1 NO 2	
	C. COMMUNICABLE DISEASES			
	HIV COUNSELLING & TESTING			
S17	1400	Does this facility offer HIV counselling and testing services?	YES.....1 NO 2	→1500
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE HIV COUNSELLING AND TESTING SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT HIV COUNSELLING AND TESTING SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.			
T30	1401	Do you have the national HIV counselling and testing guidelines available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
	1402	Have you or any provider(s) of HIV/AIDS counselling and testing services:	**YES** / **NO**	
T31	01	Received any training in voluntary counselling and testing (VCT) in the last two years?	1 / 2	
T17	02	Received any training in HIV/AIDS prevention, care, and management for adolescents in the last two years?	1 / 2	
S12_01	1403	Does this facility provide HIV counselling and testing services to minor adolescents?	YES.....1 NO 2	
I23	1404	Is the HIV testing and counselling service room or area a private room/area with auditory and visual privacy?	AUDITORY PRIVACY ONLY .....1 VISUAL PRIVACY ONLY .....2 BOTH AUDITORY AND VISUAL PRIVACY ....3 NO PRIVACY.....4	

Indicator code	Number	Question	Result			Skip
D6	1405	Does this facility have HIV rapid test kits (with valid expiration date) in stock in this service site today? **CHECK TO SEE IF VALID (NOT EXPIRED)**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3			
M17 M91	1406	Does this facility have condoms available in this service site today to give to clients receiving services? **IF YES, ASK TO SEE CONDOMS**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3			
	1407	Please tell me if the following resources/supplies used for infection control are available in this service area today. **ASK TO SEE THE ITEMS**	**OBSERVED**	**REPORTED NOT SEEN**	**NOT AVAILABLE**	
I15	01	Clean running water (piped, bucket with tap, or pour pitcher)	1	2	3	
I15	02	Hand-washing soap/liquid soap	1	2	3	
I15	03	Alcohol based hand rub	1	2	3	
I16	04	Disposable latex gloves	1	2	3	
I12	05	Waste receptacle (pedal bin) with lid and plastic bin liner	1	2	3	
I11	06	Sharps container ("safety box")	1	2	3	
I13	07	Environmental disinfectant (e.g., chlorine, alcohol)	1	2	3	
I14	08	Disposable syringes with disposable needles	1	2	3	
I14	09	Auto-disable syringes	1	2	3	
	HIV TREATMENT					
S19	1500	Does this facility offer HIV & AIDS antiretroviral prescription or antiretroviral treatment follow-up services?	YES.....1 NO 2			➔1600
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE HIV TREATMENT SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT HIV TREATMENT SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
	1501	Do providers in this facility:	**YES**	**NO**		
S19_01	01	Prescribe ART	1	2		
S12_09	02	Prescribe ART to adolescents	1	2		
S19_02	1502	Does this facility provide treatment follow-up services for persons on ART, including providing community-based services?	YES.....1 NO 2			
T35	1503	Do you have the national ART guidelines available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3			

Indicator code	Number	Question	Result		Skip
T36	1504	Have you or any provider(s) of ART received any training in ART prescription and management in the last two years?	YES.....1 NO 2		
	HIV CARE AND SUPPORT				
S18	1600	Does this facility offer HIV & AIDS care and support services, including treatment of opportunistic infections and provisions of palliative care?	YES.....1 NO 2		➔1700
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE HIV CARE AND SUPPORT SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT HIV CARE AND SUPPORT SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.				
	1601	Please tell me if this facility provides the following services for HIV/AIDS clients:	**YES**	**NO**	
S18_01	01	Prescribe treatment for any opportunistic infections or symptoms related to HIV/AIDS? This includes treating topical fungal infections.	1	2	
S18_02	02	Provide or prescribe palliative care for patients, such as symptom or pain management, or nursing care for the terminally ill, or severely debilitated clients?	1	2	
S18_03	03	Provide systemic intravenous treatment of specific fungal infections such as cryptococcal meningitis?	1	2	
S18_04	04	Provide treatment for Kaposi's sarcoma?	1	2	
S18_05	05	Provide nutritional rehabilitation services? e.g., client education and provision of nutritional supplements?	1	2	
S18_06	06	Prescribe or provide fortified protein supplementation (FPS)?	1	2	
S18_07	07	Care for paediatric HIV/AIDS patients?	1	2	
S18_08	08	Prescribe or provide preventive treatment for TB (INH + Pyridoxine)?	1	2	
S18_09	09	Primary preventive treatment for opportunistic infections, such as co-trimoxazole preventive treatment (CPT)?	1	2	
S18_10	10	Provide or prescribe micronutrient supplementation, such as vitamins or iron?	1	2	
S18_11	11	Family planning counselling for HIV/AIDS clients?	1	2	
S18_12	12	Provide condoms for preventing further transmission of HIV?	1	2	

Indicator code	Number	Question	Result			Skip
D14	1602	Do providers in this facility screen or test HIV clients for TB or have a system for diagnosis of TB among HIV positive clients? **IF YES, ASK TO SEE A REGISTER OR RECORD OF HIV-POSITIVE CLIENTS TESTED FOR TB**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 YES, REGISTER NOT MAINTAINED .....3 NO 4			
	1603	Please tell me if the following guidelines are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**	**YES, REPORTED NOT SEEN**	**NO**	
T32	01	National guidelines for the clinical management of HIV/AIDS	1	2	3	
T33	02	Guidelines for palliative care	1	2	3	
T34	1604	Have you or any provider(s) of HIV care and support services received any training in the clinical management of HIV/AIDS in the last two years?	YES.....1 NO 2			
	SEXUALLY TRANSMITTED INFECTIONS					
S21	1700	Does this facility offer diagnosis or treatment of STIs other than HIV?	YES.....1 NO 2			➔1800
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE STI SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT STI SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
S21_01	1701	Do providers in this facility diagnose STIs?	YES.....1 NO 2			
S21_02	1702	Do providers in this facility prescribe treatment for STIs?	YES.....1 NO 2			
T41	1703	Do you have the national guidelines for the diagnosis and treatment of STIs available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3			
T42	1704	Have you or any provider(s) of STI services received any training in STI diagnosis and treatment in the last two years?	YES.....1 NO 2			
	TUBERCULOSIS					
S16	1800	Does this facility offer diagnosis, treatment prescription, or treatment follow-up of tuberculosis?	YES.....1 NO 2			➔1900
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE TUBERCULOSIS SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT TUBERCULOSIS SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.					
S16_01	1801	Do providers in this facility diagnose TB?	YES.....1 NO 2			➔1803

Indicator code	Number	Question	Result			Skip
	1802	Which of the following methods are used at this facility for diagnosing TB:	YES		NO	
S16_03	01	Clinical symptoms	1		2	
S16_02 S16_04	02	Sputum smear microscopy examination	1		2	
S16_02 S16_05	03	Culture	1		2	
S16_02 S16_06	04	Rapid test (GeneXpert MTB/RIF)	1		2	
S16_02 S16_07	05	Chest X-ray	1		2	
S16_08	1803	Does this facility prescribe drugs for TB patients?	YES.....1 NO 2			
S16_09	1804	Does this facility provide drugs to TB patients?	YES.....1 NO 2			
S16_10	1805	Does this facility manage and provide treatment follow-up for TB patients?	YES.....1 NO 2			
D13	1806	Do providers in this facility screen or test TB patients for HIV or have a system for diagnosis of HIV among TB patients? **IF YES, ASK TO SEE A REGISTER OR RECORD OF TB CLIENTS TESTED FOR HIV**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 YES, REGISTER NOT MAINTAINED .....3 NO 4			
	1807	Please tell me if the following guidelines are available in the facility today: **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	**YES, OBSERVED**	**YES, REPORTED NOT SEEN**	**NO**	
T22	01	Diagnosis and treatment of TB	1	2	3	
T23	02	Management of HIV and TB co-infection	1	2	3	
T24	03	MDR-TB	1	2	3	
T25	04	TB infection control	1	2	3	
	1808	Have any providers of TB services at this facility received training in the following topics in the last two years?	YES		NO	
T26	01	Diagnosis and treatment of TB	1		2	
T27	02	Management of HIV and TB co-infection	1		2	
T28	03	MDR-TB	1		2	
T29	04	TB infection control	1		2	

Indicator code	Number	Question	Result					Skip
	1809	Does this facility stock any medicines for TB treatment?	YES, IN SERVICE SITE.....1 YES, ELSEWHERE (E.G BULK STORE/PHARMACY).....2 YES, IN BOTH LOCATIONS.....3 NO, TB MEDS NOT STOCKED.....4					→1900 →1900
	1810	Are any of the following medicines available in this service site today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**			**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M41	01	Ethambutol	1	2	3	4	5	
M41	02	Isoniazid	1	2	3	4	5	
M41	03	Pyrazinamide	1	2	3	4	5	
M41	04	Rifampicin	1	2	3	4	5	
M41	05	Isoniazid + Rifampicin (2FDC)	1	2	3	4	5	
M41	06	Isoniazid + Ethambutol (EH) (2FDC)	1	2	3	4	5	
M41	07	Isoniazid + Rifampicin + Pyrazinamide (RHZ) (3FDC)	1	2	3	4	5	
M41	08	Isoniazid + Rifampicin + Ethambutol (RHE) (3FDC)	1	2	3	4	5	
M41	09	Isoniazid + Rifampicin + Pyrazinamide + Ethambutol (4FDC)	1	2	3	4	5	
	10	Streptomycin Injectable	1	2	3	4	5	
	MALARIA							
S15	1900	Does this facility offer diagnosis or treatment of malaria?	YES.....1 NO 2					→2000
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE MALARIA SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT MALARIA SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.							
S15_01	1901	Do providers in this facility diagnose malaria?	YES.....1 NO 2					→1906
	1902	Which of the following methods are used at this facility for diagnosing malaria:	**YES**	**NO**				
S15_05	01	Clinical symptoms	1	2				
S15_02 S15_06	02	Rapid diagnostic testing (RDT)	1	2				
S15_02 S15_07	03	Microscopy	1	2				

Indicator code	Number	Question	Result	Skip
		CHECK Q1902_02: IF FACILITY CONDUCTS MALARIA RDTS: ↓	IF FACILITY DOES NOT CONDUCT MALARIA RDTS: →	Q1906
D3 D34 D36	1903	Does this facility have malaria rapid diagnostic test kits (with valid expiration date) in stock in this service site today? **CHECK TO SEE IF VALID (NOT EXPIRED)**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
D36_A	1904	Has there been a stock-out of malaria RDT kits in the past 4 weeks?	YES.....1 NO 2	➔1906
D36_B	1905	How many days of stock-out?	LESS THAN 7 DAYS.....1 7 TO 14 DAYS.....2 MORE THAN 14 DAYS.....3	
S15_03	1906	Do providers in this facility prescribe treatment for malaria?	YES.....1 NO 2	
T18	1907	Do you have the national guidelines for the diagnosis and treatment of malaria available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
T20 D34	1908	Have you or any provider(s) of malaria services received any training in malaria diagnosis with RDTs in the last two years?	YES.....1 NO 2	
T20	1909	Have you or any provider(s) of malaria services received any training in malaria treatment in the last two years?	YES.....1 NO 2	
S15_04	1910	Does this facility provide Intermittent preventive treatment for malaria?	YES.....1 NO 2	
	D. NON-COMMUNICABLE DISEASES			
S22 S23 S24 S29	2000	Does this facility offer diagnosis or management of non-communicable diseases, such as diabetes, cardiovascular disease, chronic respiratory disease, or cervical cancer?	YES.....1 NO 2	➔2100
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE NON-COMMUNICABLE DISEASE SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT NCD SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.			
S22	2001	Do providers in this facility diagnose and/or manage diabetes in patients?	YES.....1 NO 2	➔2004
T43	2002	Do you have the national guidelines for the diagnosis and management of diabetes available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	

Indicator code	Number	Question	Result	Skip
T44	2003	Have you or any provider(s) of diabetes services received any training in the diagnosis and management of diabetes in the last two years?	YES.....1 NO 2	
S23	2004	Do providers in this facility diagnose and/or manage cardiovascular diseases such as hypertension in patients?	YES.....1 NO 2	→2007
T45	2005	Do you have the national guidelines for the diagnosis and management of cardiovascular diseases available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
T46	2006	Have you or any provider(s) of services for cardiovascular diseases received any training in the diagnosis and management of cardiovascular diseases such as hypertension in the last two years?	YES.....1 NO 2	
S24	2007	Do providers in this facility diagnose and/or manage chronic respiratory diseases in patients?	YES.....1 NO 2	→2011
T47	2008	Do you have the national guidelines for the diagnosis and management of chronic respiratory disease available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
T48	2009	Have you or any provider(s) of chronic respiratory disease services received any training in the diagnosis and management of chronic respiratory diseases in the last two years?	YES.....1 NO 2	

			A) AVAILABLE			B) FUNCTIONING		
	2010	Please tell me if the following basic equipment items are available and functional in this service area today. **ASK TO SEE THE ITEMS**	OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
E19	01	Peak flow meters	1 → B	2 → B	3 02 ↵	1	2	8
E20	02	Spacers for inhalers	1 → B	2 → B	3 2011 ↵	1	2	8
S29	2011	Do providers in this facility diagnose cervical cancer in patients?	YES.....1 NO 2					→2100

Indicator code	Number	Question	Result						Skip
T60	2012	Do you have the national guidelines for cervical cancer prevention and control? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3						
T61	2013	Have you or any provider(s) received any training in cervical cancer prevention and control?	YES.....1 NO 2						
	2014	Please tell me if the following basic equipment/items are available in this service area today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**			
			OBSERVED	**REPORTED NOT SEEN**	**NOT AVAILABLE**	**YES**	**NO**	**DON'T KNOW**	
D37	01	Acetic acid	1 02	2 02	3 02				
E44	02	Speculum	1 → B	2 → B	3 2100	1	2	8	
	E. SURGERY								
	SURGICAL SERVICES								
S25 S28	2100	Does this facility offer any surgical services (including minor surgery such as suturing, circumcision, wound debridement, etc.), or caesarean section?	YES.....1 NO 2						➔2200
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE SURGICAL SERVICES ARE PROVIDED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT SURGICAL SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.								
	2101	Please tell me if this facility provides the following services:	**YES**			**NO**			
S25_01	01	Incision and drainage of abscesses	1			2			
S25_02	02	Wound debridement	1			2			
S25_03	03	Acute burn management	1			2			
S25_04	04	Suturing	1			2			
S25_05	05	Closed repair of fracture	1			2			
S25_06	06	Cricothyroidotomy	1			2			
S25_07	07	Male circumcision	1			2			
S25_08	08	Hydrocele reduction	1			2			
S25_09	09	Chest tube insertion	1			2			
S25_10	10	Closed repair of dislocated joint	1			2			
S25_11	11	Biopsy of lymph node or mass or other	1			2			
S25_12	12	Removal of foreign body (throat, eye, ear or nose)	1			2			

Indicator code	Number	Question	Result		Skip
		CHECK Q007: IF HOSPITAL: ↓	IF NOT HOSPITAL: →		Q2102
S28_01	13	Tracheostomy	1	2	
S28_02	14	Tubal ligation	1	2	
S28_03	15	Vasectomy	1	2	
S28_04	16	Dilatation & Curettage	1	2	
S28_05	17	Obstetric fistula repair	1	2	
S28_06	18	Episiotomy, cervical and vaginal laceration	1	2	
S28_07	19	Appendectomy	1	2	
S28_08	20	Hernia repair (strangulated)	1	2	
S28_22	21	Hernia repair (elective)	1	2	
S28_09	22	Cystostomy	1	2	
S28_10	23	Urethral stricture dilatation	1	2	
S28_11	24	Laparotomy (uterine rupture, ectopic pregnancy, acute abdomen, intestinal obstruction, perforation, injuries)	1	2	
S28_12	25	Congenital hernia repair	1	2	
S28_13	26	Neonatal surgery (abdominal wall defect, colostomy imperforate anus, intussusceptions)	1	2	
S28_14	27	Cleft palate repair	1	2	
S28_23	28	Contracture release	1	2	
S28_23	29	Skin grafting	1	2	
S28_17	30	Open reduction and fixation for fracture	1	2	
S28_18	31	Amputation	1	2	
S28_19	32	Cataract surgery	1	2	
S28_20	33	Club foot repair (casting or open club foot release)	1	2	
S28_21	34	Drainage of osteomyelitis-septic arthritis	1	2	

			A) AVAILABLE			B) FUNCTIONING		
	2102	Please tell me if the following surgical equipment and supplies are available and functional in this facility today. **ASK TO SEE THE ITEMS**	OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
E29 E27	01	Resuscitator bag and mask- adult	1 → B	2 → B	3 02 ↵	1	2	8
E29 E27	02	Resuscitator bag and mask- paediatric	1 → B	2 → B	3 03 ↵	1	2	8

Indicator code	Number	Question	Result					Skip
E21	03	Needle holder	1 → B	2 → B	3 04	1	2	8
E22	04	Scalpel handle with blades	1 → B	2 → B	3 05	1	2	8
E23	05	Retractor	1 → B	2 → B	3 06	1	2	8
E24	06	Surgical scissors	1 → B	2 → B	3 07	1	2	8
E25	07	Nasogastric tubes	1 → B	2 → B	3 08	1	2	8
E26	08	Tourniquet	1 → B	2 → B	3 09	1	2	8
E28	09	Suction pump (manual or electric) with catheter	1 → B	2 → B	3 10	1	2	8
	10	CHECK Q007 AND Q1002_08: IF HOSPITAL OR HEALTH FACILITY OFFERS CESAREAN SECTION:	IF NOT HOSPITAL AND CESAREAN SECTION NOT OFFERED:					Q2104
E29	11	Oropharyngeal airway- adult	1 → B	2 → B	3 12	1	2	8
E29	12	Oropharyngeal airway- paediatric	1 → B	2 → B	3 13	1	2	8
E29	13	Magills forceps- adult	1 → B	2 → B	3 14	1	2	8
E29	14	Magills forceps- paediatric	1 → B	2 → B	3 15	1	2	8
E29	15	Endotracheal tube neonatal – uncuffed size below 3	1 → B	2 → B	3 16	1	2	8
E29	16	Endotracheal tube paediatric- uncuffed sizes 3.0 to 5.0	1 → B	2 → B	3 17	1	2	8
E29	17	Endotracheal tube adult- cuffed sizes 5.5 to 9.0	1 → B	2 → B	3 18	1	2	8
E29	18	Laryngoscope handle and blade- adult	1 → B	2 → B	3 19	1	2	8
E29	19	Laryngoscope handle and blade- paediatric	1 → B	2 → B	3 20	1	2	8
E29	20	Laryngoscope handle and blade- neonatal	1 → B	2 → B	3 21	1	2	8
E29	21	Anaesthesia machine	1 → B	2 → B	3 22	1	2	8

Indicator code	Number	Question	Result					Skip
E29	22	Tubings and connectors (to connect endotracheal tube)	1 → B	2 → B	3 23 ↵	1	2	8
E29	23	Stylet	1 → B	2 → B	3 24 ↵	1	2	8
E32	24	Spinal needle	1 → B	2 → B	3 25 ↵	1	2	8
E29	25	Newborn bag and mask size 1 for term babies (for newborn resuscitation)	1 → B	2 → B	3 26 ↵	1	2	8
E48	26	Oxygen concentrators	1 → B	2 → B	3 27 ↵	1	2	8
E48	27	Oxygen cylinders	1 → B	2 → B	3 28 ↵	1	2	8
E48	28	Central oxygen supply	1 → B	2 → B	3 29 ↵	1	2	8
E48	29	Flowmeter for oxygen therapy (with humidification)	1 → B	2 → B	3 30 ↵	1	2	8
E48	30	Oxygen delivery apparatus (key connecting tubes and mask/nasal prongs)	1 → B	2 → B	3 2103 ↵	1	2	8
E48	2103	At any time during the past 3 months has oxygen been unavailable for any reason?	YES.....1 NO 2					

	Number	Question	OBSERVED AVAILABLE			NOT OBSERVED		Skip
	2104	Please tell me if any of the following materials or medicines are available in this service site today. I would like to see those that are available. **CHECK TO SEE IF AT LEAST ONE OF EACH MATERIAL/MEDICINE IS VALID (NOT EXPIRED)**	AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M63	01	Suture material (any type)	1	2	3	4	5	
M26	02	Skin disinfectant	1	2	3	4	5	
M64	03	Ketamine (injection)	1	2	3	4	5	
M65	04	Lidocaine 1% or 2% (anaesthesia)	1	2	3	4	5	
M148	05	Splints for extremities	1	2	3	4	5	
M149	06	Material for cast	1	2	3	4	5	
		CHECK Q007 AND Q1002_08: IF HOSPITAL OR HEALTH FACILITY OFFERS CESAREAN SECTION: ↓	IF NOT HOSPITAL AND CESAREAN SECTION NOT OFFERED: →					Q2105
M84	07	Thiopental (powder)	1	2	3	4	5	
M85	08	Suxamethonium bromide (powder)	1	2	3	4	5	
M86	09	Atropine (injection)	1	2	3	4	5	
M25	10	Diazepam (injection)	1	2	3	4	5	

Indicator code	Number	Question	Result				Skip
M87	11	Halothane (inhalation)	1	2	3	4	5
M88	12	Bupivacaine (injection)	1	2	3	4	5
M89	13	Lidocaine 5% (heavy spinal solution)	1	2	3	4	5
M62	14	Epinephrine (injection)	1	2	3	4	5
M90	15	Ephedrine (injection)	1	2	3	4	5
T49	2105	Do you have materials on Integrated Management of Emergency and Essential Surgical care (IMEESC) (e.g. best practices, protocols, etc.) available in this facility today? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3				
T50	2106	Have you or any provider(s) of basic surgical services received any training in IMEESC in the last two years?	YES.....1 NO 2				
T57	2107	Does this facility have a staff member trained in surgery, including caesarean section, (clinical officer, general physician, or surgeon) present in the facility or on call 24 hours a day (including weekends and on public holidays)?	YES.....1 NO 2				
T58	2108	Does this facility have a staff member trained in anaesthesia (nurse, clinical officer, general physician, surgeon, or anaesthesiologist) present in the facility or on call 24 hours a day (including weekends and on public holidays)?	YES.....1 NO 2				
	2109	I am interested in knowing if the following resources/supplies used for infection control are available in this service area today. **ASK TO SEE THE ITEMS**	**OBSERVED**	**REPORTED NOT SEEN**	**NOT AVAILABLE**		
I15	01	Clean running water (piped, bucket with tap, or pour pitcher)	1	2	3		
I15	02	Hand-washing soap/liquid soap	1	2	3		
I15	03	Alcohol based hand rub	1	2	3		
I16	04	Disposable latex gloves	1	2	3		
I12	05	Waste receptacle (pedal bin) with lid and plastic bin liner	1	2	3		
I11	06	Sharps container ("safety box")	1	2	3		
I13	07	Environmental disinfectant (e.g., chlorine, alcohol)	1	2	3		
I14	08	Disposable syringes with disposable needles	1	2	3		
I14	09	Auto-disable syringes	1	2	3		
	BLOOD TRANSFUSION						
S27	2200	Does this facility offer blood transfusion services?	YES.....1 NO 2				➔3000

Indicator code	Number	Question	Result				Skip
	ASK TO BE SHOWN THE LOCATION IN THE FACILITY WHERE BLOOD IS COLLECTED, PROCESSED, TESTED, STORED, OR HANDLED PRIOR TO TRANSFUSION. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT BLOOD TRANSFUSION SERVICES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.						
M66	2201	Have there been any interruptions in blood availability during the past 3 months?	YES.....1 NO 2				
M67	2202	Does this facility obtain blood from a national or regional blood centre?	YES.....1 NO 2				
M67	2203	Does this facility obtain ANY blood from sources other than the national or regional blood centre?	YES.....1 NO 2				
M67	2204	Does any place in this facility do blood screening for infectious diseases prior to transfusion?	YES.....1 NO 2				➔2206
	2205	Please tell me if the blood that is transfused in the facility is "always", "sometimes", ”rarely”, or "never" screened for any of the following infectious diseases.	**ALWAYS**	**SOMETIMES**	**RARELY**	**NEVER**	
M67	01	HIV	1	2	3	4	
M67	02	Syphilis	1	2	3	4	
M67	03	Hepatitis B	1	2	3	4	
M67	04	Hepatitis C	1	2	3	4	
E31	2206	Does this facility have a refrigerator available and functioning in this service area for the storage of blood?	AVAILABLE AND FUNCTIONAL.....1 AVAILABLE NOT FUNCTIONAL.....2 AVAILABLE DON’T KNOW IF FUNCTIONING .....3 NOT AVAILABLE.....4				➔2210
E31	2207	Is the temperature of the refrigerator monitored at least once every 24 hours? **IF YES: PLEASE ASK TO SEE THE LOG USED TO RECORD THE TEMPERATURE**	YES, LOG OBSERVED.....1 YES, LOG REPORTED NOT SEEN.....2 NO 3				➔2210
E31	2208	Has the temperature log been completed for the last 30 days? **PLEASE REVIEW LOG AND CHECK FOR COMPLETENESS (TEMPERATURE RECORDED AT LEAST ONCE EVERY 24 HOURS DURING THE LAST 30 DAYS)**	YES.....1 YES, PARTIALLY.....2 NO 3				➔2210
E31	2209	Has the temperature been out of the range 2 to 6 °C inclusive in the last 30 days? **PLEASE CHECK THE TEMPERATURE RECORD AND VERIFY THE TEMPERATURE FOR THE LAST 30 WORKING DAYS IN ORDER TO ANSWER THE QUESTION**	OBSERVED IN RANGE .....1 REPORTED IN RANGE BUT NOT SEEN.....2 OUT OF RANGE.....3 RECORD NOT AVAILABLE.....4				

Indicator code	Number	Question	Result	Skip
T55	2210	Do you have any guidelines on the appropriate use of blood and safe transfusion practices? **IF AVAILABLE, ASK TO SEE THE DOCUMENT**	YES, OBSERVED.....1 YES, REPORTED NOT SEEN .....2 NO 3	
T56	2211	Have any provider(s) of blood transfusion services received any training in the appropriate use of blood and safe transfusion practices in the last two years?	YES.....1 NO 2	

Indicator code	Number	Question	Result					Skip
	SECTION 6: DIAGNOSTICS							
	3000	Does this facility conduct any diagnostic testing including any rapid diagnostic testing?	YES .....1 NO.....2					➔4000
	ASK TO BE SHOWN THE MAIN LABORATORY OR LOCATION IN THE FACILITY WHERE MOST TESTING IS DONE TO START DATA COLLECTION. INTRODUCE YOURSELF AND EXPLAIN THE PURPOSE OF THE SURVEY, THEN ASK THE FOLLOWING QUESTIONS.							
	I would like to know if the following diagnostic tests and associated equipment are available today in this facility.							
	3100	Does this facility offer any of the following tests on-site?	YES (ONSITE)		NO			
D9	02	Rapid syphilis testing	1		2			
D6	03	HIV rapid testing	1		2			
D11	04	Urine rapid tests for pregnancy	1		2			
D4	05	Urine protein dipstick testing	1		2			
D5	06	Urine glucose dipstick testing	1		2			
D20	07	Urine ketone dipstick testing	1		2			
D7	08	Dry Blood Spot (DBS) collection for HIV viral load or EID	1		2			
	3101	I would like to know if the following items for rapid diagnostic testing are available or not available today. **CHECK TO SEE IF AT LEAST ONE OF EACH RDT IS VALID (NOT EXPIRED)**	OBSERVED AVAILABLE		NOT OBSERVED			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
D3 D34 D36	01	Malaria rapid diagnostic kit	1	2	3	4	5	
D9	02	Syphilis rapid test kit	1	2	3	4	5	
D6	03	HIV rapid test kit	1	2	3	4	5	
D11	04	Urine pregnancy test kit	1	2	3	4	5	
D4	05	Dipsticks for urine protein	1	2	3	4	5	
D5	06	Dipsticks for urine glucose	1	2	3	4	5	
D20	07	Dipsticks for urine ketone bodies	1	2	3	4	5	
D7	08	Filter paper for collecting DBS	1	2	3	4	5	
		CHECK Q3101_01: IF FACILITY CONDUCTS MALARIA RDTS (Q3101_01 = 1, 2, 3, OR 4): ↓	IF FACILITY DOES NOT CONDUCT MALARIA RDTS (Q3101_01 = 5): →					Q3200
D36_A	3102	Has there been a stock-out of malaria RDT kits in the past 4 weeks?	YES .....1 NO.....2					➔3200

Indicator code	Number	Question	Result						Skip
D36_B	3103	How many days of stock-out?	LESS THAN 7 DAYS .....1 7 TO 14 DAYS .....2 MORE THAN 14 DAYS 3						
	3200	Does this facility conduct the following tests onsite or offsite?	YES, ONSITE		YES, OFFSITE		DON'T CONDUCT THE TEST		
D2	01	Blood glucose tests using a glucometer	1		2		3		
D1	02	Haemoglobin testing	1		2		3		
D10	03	General microscopy/wet-mounts	1		2		3		
D3	04	Malaria smear tests	1		2		3		
D6 D23	05	HIV antibody testing by ELISA	1		2		3		
	3201	I would like to know if the following general equipment items are available and functional today. **ASK TO SEE THE ITEMS**	A) AVAILABLE			B) FUNCTIONING			
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW	
D3 D10 D35 D8 D31 D32 D33	01	Light microscope	1 → B	2 → B	3 02	1	2	8	
D3 D10 D35 D8 D31 D32	02	Glass slides and cover slips	1 → B	2 → B	3 03	1	2	8	
	03	Refrigerator	1 → B	2 → B	3 04	1	2	8	
D2	04	Glucometer	1 → B	2 → B	3 05	1	2	8	
D2	05	Glucometer test strips (with valid expiration date)	1 → B	2 → B	3 06	1	2	8	
D1	06	Colorimeter or haemoglobinometer	1 → B	2 → B	3 07	1	2	8	
D1	07	HemoCue	1 → B	2 → B	3 08	1	2	8	
D3 D35	08	Wright-Giemsa stain or other acceptable malaria parasite stain (e.g. Field Stain A and B)	1 → B	2 → B	3 09	1	2	8	
D6 D23	09	ELISA washer	1 → B	2 → B	3 10	1	2	8	
D6 D23	10	ELISA reader	1 → B	2 → B	3 11	1	2	8	

Indicator code	Number	Question	Result					Skip
D6 D23	11	Incubator	1 → B	2 → B	3 12 ↵	1	2	8
D6 D23	12	Specific assay kit- HIV antibody testing by ELISA	1 → B	2 → B	3 3202 ↵	1	2	8
T59 D35	3202	Does this facility have an accredited/certified microscopist?	YES .....1 NO 2					
	3300	CHECK Q1800: TB SERVICES OFFERED ↓	TB SERVICES NOT OFFERED →					Q3400
D8	3301	Does this facility do Ziehl-Neelsen testing for TB (AFB) onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO 3					 →3303 →3303
	3302	I would like to know if the following equipment items for TB testing are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**		
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
D8	01	Fluorescence microscope (FM)	1 → B	2 → B	3 02 ↵	1	2	8
D8	02	Ziehl-Neelsen stain	1 → B	2 → B	3 03 ↵	1	2	8
D8	03	Auramine Rhodamine stain for fluorescent microscopy	1 → B	2 → B	3 3303 ↵	1	2	8
	3303	Does this facility conduct Xpert MTB/RIF diagnostic testing for TB onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO 3					 →3400 →3400
	3304	Please tell me if the following equipment items for Xpert MTB/RIF diagnostic testing for TB are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**		
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
	01	GeneXpert 4 module unit with laptop	1 → B	2 → B	3 02 ↵	1	2	8
	02	TB rapid test cartridge	1 → B	2 → B	3 3400 ↵	1	2	8
	3400	Does this facility conduct liver function /renal function tests and/or white blood counts onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO 3					 →3500
	3401	Does this facility conduct the following liver and renal function tests onsite or offsite?	**YES, ONSITE**		**YES, OFFSITE**		**DON'T CONDUCT THE TEST**	
D19	01	ALT testing	1		2		3	
D19	02	Other liver function testing (such as bilirubin)	1		2		3	
D18	03	Serum creatinine testing	1		2		3	

Indicator code	Number	Question	Result						Skip
D18	04	Other renal function testing (such as urea nitrogen)	1		2		3		
		CHECK Q3401 liver function/renal function: IF "YES, ONSITE" CIRCLED FOR ANY TEST	IF ONLY "YES, OFFSITE" OR "NO" ARE CIRCLED						Q3403
	3402	Please tell me if the following equipment items and reagents for liver and kidney function testing are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**			
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW	
D18 D19	01	Biochemistry analyzer	1 → B	2 → B	3 02	1	2	8	
D18 D19	02	Centrifuge	1 → B	2 → B	3 03	1	2	8	
D19	03	Specific assay kit(s)- liver function test	1 → B	2 → B	3 04	1	2	8	
D18	04	Specific assay kit(s)- renal function test	1 → B	2 → B	3 3403	1	2	8	
D15 D25	3403	Does this facility do full blood count and differential testing onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO.....3						 →3405 →3405
	3404	Please tell me if the following equipment items and reagents for full blood count testing are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**			
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW	
D15 D25	01	Haematology analyzer (for full blood count)	1 → B	2 → B	3 02	1	2	8	
D15 D25	02	Stains for full blood count and differential	1 → B	2 → B	3 3405	1	2	8	
D16	3405	Does this facility do CD4 count (absolute and percentage) testing onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO.....3						 →3500 →3500
	3406	Please tell me if the following equipment items for CD4 testing are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**			
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW	
D16	01	CD4 counter	1 → B	2 → B	3 02	1	2	8	
D16	02	Specific assay kit- CD4 test	1 → B	2 → B	3 3500	1	2	8	
D21 D22	3500	Does this facility conduct blood group serology onsite or offsite?	YES, ONSITE .....1 YES, OFFSITE .....2 NO.....3						 →3600

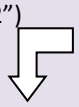
Indicator code	Number	Question	Result			Skip
	3501	Does this facility conduct the following blood group serology tests onsite or offsite?	YES, ONSITE	YES, OFFSITE	DON'T CONDUCT THE TEST	
D21	01	ABO blood grouping testing	1	2	3	
D21	02	Rhesus blood grouping testing	1	2	3	
D22	03	Cross-match testing by direct agglutination	1	2	3	
D22	04	Cross-match testing by indirect anti-globulin testing or other test with equivalent sensitivity	1	2	3	
		CHECK Q3501 Blood typing and cross match: IF "YES, ONSITE" CIRCLED FOR ANY TEST	IF ONLY "YES, OFFSITE" OR "NO" ARE CIRCLED			Q3600
	3502	Please tell me if the following equipment items and reagents for blood typing and cross match are available and functional today. **ASK TO SEE THE ITEMS**	A) AVAILABLE			B) FUNCTIONING
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
D21 D22	01	Centrifuge	1 → B	2 → B	3 02	1	2	8
D22	02	37° C incubator	1 → B	2 → B	3 03	1	2	8
D22	03	Grouping sera	1 → B	2 → B	3 3600	1	2	8
	3600	CHECK Q007: IF HOSPITAL:	IF NOT HOSPITAL:			Q4000
	3601	Does this facility conduct the following tests onsite or offsite?	YES, ONSITE	YES, OFFSITE	DON'T CONDUCT THE TEST	
D24	01	Serum electrolyte testing	1	2	3	
D32	02	Urine microscopy testing	1	2	3	
D29	03	Syphilis serology testing	1	2	3	
D31	04	Gram stain testing	1	2	3	
D33	05	CSF/ body fluid counts	1	2	3	
D30	06	Cryptococcal antigen testing	1	2	3	
D17	07	Molecular biological technique for HIV viral load or HIV early-infant diagnosis (PCR)	1	2	3	
	3602	Please tell me if the following equipment items and reagents are available and functional today: **ASK TO SEE THE ITEMS**	A) AVAILABLE			B) FUNCTIONING
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
D24	01	Specific assay kit- serum electrolyte test	1 → B	2 → B	3 02	1	2	8

Indicator code	Number	Question	Result					Skip
D29	02	Specific assay kit- syphilis serology	1 → B	2 → B	3 03	1	2	8
D31	03	Gram stains	1 → B	2 → B	3 04	1	2	8
	04	White blood counting chamber	1 → B	2 → B	3 05	1	2	8
D30	05	Specific assay kit- cryptococcal antigen test	1 → B	2 → B	3 06	1	2	8
D17	06	Assay specific automated system for estimating HIV viral load	1 → B	2 → B	3 07	1	2	8
D17 D24	07	Centrifuge	1 → B	2 → B	3 08	1	2	8
D17	08	Vortex mixer	1 → B	2 → B	3 09	1	2	8
D17	09	Pipettes	1 → B	2 → B	3 10	1	2	8
D24	10	Biochemistry analyzer	1 → B	2 → B	3 3603	1	2	8
	3603	Does this facility perform diagnostic x-rays, ultrasound, or computerized tomography?	YES ..... 1 NO 2					→ 4000
	3604	Please tell me if the following imaging equipment items are available and functional today. **ASK TO SEE THE ITEMS**	**A) AVAILABLE**			**B) FUNCTIONING**		
			OBSERVED	REPORTED NOT SEEN	NOT AVAILABLE	YES	NO	DON'T KNOW
E33	01	X-ray machine	1 → B	2 → B	3 02	1	2	8
E35	02	Ultrasound equipment	1 → B	2 → B	3 03	1	2	8
E36	03	CT scan	1 → B	2 → B	3 04	1	2	8
E34	04	ECG	1 → B	2 → B	3 4000	1	2	8

Indicator code	Number	Question	Result					Skip
	SECTION 7: MEDICINES AND COMMODITIES							
	4000	Does this facility stock medicines, vaccines, or contraceptive commodities?	YES ..... 1 NO 2					➔5000
	ASK TO BE SHOWN THE MAIN LOCATION IN THE FACILITY WHERE MEDICINES AND OTHER SUPPLIES ARE STORED. FIND THE PERSON MOST KNOWLEDGEABLE ABOUT STORAGE AND MANAGEMENT OF MEDICINES AND SUPPLIES IN THE FACILITY. INTRODUCE YOURSELF, EXPLAIN THE PURPOSE OF THE SURVEY AND ASK THE FOLLOWING QUESTIONS.							
	I would like to know if the following medicines are available today in this facility. I would also like to observe the medicines that are available. If any of the medicines I mention is stored in another location in the facility, please tell me where in the facility it is stored so I can go there to verify.							
	4001	Are any of the following medicines for the treatment of **infectious diseases** available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M43	01	Co-trimoxazole cap/tab (Oral antibiotic)	1	2	3	4	5	
M135	02	Fluconazole cap/tab	1	2	3	4	5	
M35	03	Albendazole or Mebendazole cap/tab	1	2	3	4	5	
M49	04	Metronidazole cap/tab	1	2	3	4	5	
M2	05	Amoxicillin cap/tab	1	2	3	4	5	
M5 M23 M110	06	Ceftriaxone injection	1	2	3	4	5	
M6	07	Ciprofloxacin cap/tab	1	2	3	4	5	
	4002	Are any of the following medicines for the management of **non-communicable diseases** available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M50	01	Metformin cap/tab	1	2	3	4	5	
M51	02	Insulin regular injection	1	2	3	4	5	
M52	03	Glucose 50% injection	1	2	3	4	5	
M53	04	ACE inhibitor (e.g. enalapril, lisinopril, ramipril, perindopril)	1	2	3	4	5	
M54	05	Thiazide (e.g. hydrochlorothiazide)	1	2	3	4	5	
M55	06	Beta blocker (e.g.bisoprolol, metoprolol, carvedilol, atenolol)	1	2	3	4	5	
M56	07	Calcium channel blocker (e.g. amlodipine)	1	2	3	4	5	
M57	08	Aspirin cap/tab	1	2	3	4	5	
M59	09	Beclomethasone inhaler	1	2	3	4	5	
M60	10	Prednisolone cap/tab	1	2	3	4	5	

Indicator code	Number	Question	Result				Skip
M61	11	Hydrocortisone injection	1	2	3	4	5
M62	12	Epinephrine injection	1	2	3	4	5
M114	13	Furosemide cap/tab	1	2	3	4	5
M10	14	Glibenclamide cap/tab	1	2	3	4	5
M115	15	Gliclazide tablet or glipizide tablet	1	2	3	4	5
M116	16	Glyceryl trinitrate sublingual tablet	1	2	3	4	5
M95 M44	17	Ibuprofen tablet	1	2	3	4	5
M118	18	Isosorbide dinitrate tablet	1	2	3	4	5
M11	19	Omeprazole tablet or alternative such as pantoprazole, rabeprazole	1	2	3	4	5
M38 M44	20	Paracetamol cap/tab (adult oral formulation)	1	2	3	4	5
M13	21	Salbutamol inhaler	1	2	3	4	5
M14	22	Simvastatin tablet or other statin e.g. atorvastatin, pravastatin, fluvastatin	1	2	3	4	5
M147	23	Spironolactone tablets	1	2	3	4	5
	4003	Are any of the following **reproductive health** medicines and commodities available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M15	01	Combined estrogen progesterone oral contraceptive pills	1	2	3	4	5
M96	02	Progestin-only contraceptive pills	1	2	3	4	5
M16 M97	03	Combined estrogen progesterone injectable contraceptives	1	2	3	4	5
M16 M98	04	Progestin-only injectable contraceptives	1	2	3	4	5
M17	05	Male condoms	1	2	3	4	5
M99	06	Female condoms	1	2	3	4	5
M108	07	Implant (e.g. levonorgestrel, etonogestrel)	1	2	3	4	5
M109	08	Emergency contraceptive pill (e.g. levonorgestrel tablet, ulipristal acetate tablet, mifepristone tablet 10-25 mg)	1	2	3	4	5
M105	09	Intrauterine contraceptive device (IUCD)	1	2	3	4	5
	4004	For each of the following items, please check in the facility records if there has been a stock-out in the past 3 months:	**STOCK-OUT IN THE PAST 3 MONTHS**	**NO STOCK-OUT IN PAST 3 MONTHS**	**NOT INDICATED**	**PRODUCT NOT OFFERED**	**FACILITY RECORD NOT AVAILABLE**
M99_A	01	Female condoms	1	2	3	4	5
M108_A	02	Implant (e.g. levonorgestrel, etonogestrel)	1	2	3	4	5

Indicator code	Number	Question	Result				Skip
M109_A	03	Emergency contraceptive pill (e.g. levonorgestrel tablet, ulipristal acetate tablet, mifepristone tablet 10-25 mg)	1	2	3	4	5
	4005	Are any of the following **maternal health** medicines available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M18	01	Iron tablets	1	2	3	4	5
M19	02	Folic acid tablets	1	2	3	4	5
M18 M19	03	Iron and folic acid combined tablets	1	2	3	4	5
M20	04	Tetanus toxoid vaccine	1	2	3	4	5
M69	05	Sodium chloride injectable solution	1	2	3	4	5
M70	06	Calcium gluconate injection	1	2	3	4	5
M24	07	Magnesium sulphate injectable	1	2	3	4	5
M71 M23	08	Ampicillin powder for injection	1	2	3	4	5
M72 M23 M110 M141	09	Gentamicin injection	1	2	3	4	5
M106	10	Hydralazine injection	1	2	3	4	5
M73	11	Metronidazole injection	1	2	3	4	5
M74	12	Misoprostol 200µg tablets	1	2	3	4	5
M75	13	Azithromycin cap/tab or oral liquid	1	2	3	4	5
M76	14	Cefixime cap/tab	1	2	3	4	5
M77	15	Benzathine benzylpenicillin powder for injection	1	2	3	4	5
M78	16	Betamethasone injection	1	2	3	4	5
M78 M129	17	Dexamethasone injection	1	2	3	4	5
M79	18	Nifedipine cap/tab (10mg)	1	2	3	4	5
M107	19	Methyldopa tablet	1	2	3	4	5
M22	20	Oxytocin injection	1	2	3	4	5

Indicator code	Number	Question	Result				Skip
		IF OXYTOCIN IS OBSERVED AVAILABLE (Q4005_20 is "1" OR "2") 	IF OXYTOCIN IS NOT OBSERVED AVAILABLE (Q4005_20 is "3","4",OR "5") 				➔4007
	4006	Is the oxytocin stored in cold storage?	YES ..... 1 NO 2				
	4007	For each of the following items, please check in the facility records if there has been a stock-out in the past 3 months:	STOCK-OUT IN THE PAST 3 MONTHS	NO STOCK-OUT IN PAST 3 MONTHS	NOT INDICATED	PRODUCT NOT OFFERED	FACILITY RECORD NOT AVAILABLE
M22_A	01	Oxytocin injection	1	2	3	4	5
M74_A	02	Misoprostol 200µg tablets	1	2	3	4	5
M24_A	03	Magnesium sulphate injection	1	2	3	4	5
M72_A	04	Gentamicin injection	1	2	3	4	5
M80_A	05	Procaine benzylpenicillin injection	1	2	3	4	5
M5_A	06	Ceftriaxone injection	1	2	3	4	5
M78_A	07	Betamethasone injection	1	2	3	4	5
M78_B	08	Dexamethasone injection	1	2	3	4	5
	4008	Are any of the following **child health** medicines available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M80 M110	01	Procaine benzylpenicillin injection	1	2	3	4	5
M32	02	Oral Rehydration Salts (ORS) sachets	1	2	3	4	5
M36	03	Zinc sulphate tablets	1	2	3	4	5
M36	04	Zinc sulphate syrup or dispersible tablets	1	2	3	4	5
M34	05	Vitamin A (retinol) capsules	1	2	3	4	5
M21	06	Antibiotic eye ointment for newborn	1	2	3	4	5
M7	07	Co-trimoxazole syrup/suspension	1	2	3	4	5
M12	08	Paracetamol syrup/suspension	1	2	3	4	5
M33	09	Amoxicillin 250 mg or 500 mg dispersible tablet or syrup/suspension	1	2	3	4	5
		IF AMOXICILLIN DISPERSIBLE TABLETS ARE OBSERVED AVAILABLE (Q4008_09 is "1") 	AMOXICILLIN DISPERSIBLE TABLETS NOT OBSERVED 				➔4011

Indicator code	Number	Question	Result				Skip
	4009	Is the product stored so that identification labels and expiry dates and manufacturing dates are visible?	YES ..... 1 NO 2				
	4010	Check the expiry dates of the stored product. Are they stored in first-to-expire, first-out (FEFO) order (i.e. the stock that will expire first is the closest to the front)? **CHECK THE EXPIRY DATES OF THE STORED PRODUCT AT THE FRONT AND AT THE BACK OF THE SHELF. IF THE PRODUCT AT THE FRONT EXPIRES FIRST, ANSWER "YES". IF THE PRODUCT AT THE BACK EXPIRES FIRST, ANSWER "NO".**	YES ..... 1 NO 2				
	4011	For each of the following items, please check in the facility records if there has been a stock-out in the past 3 months:	STOCK-OUT IN THE PAST 3 MONTHS	NO STOCK-OUT IN PAST 3 MONTHS	NOT INDICATED	PRODUCT NOT OFFERED	FACILITY RECORD NOT AVAILABLE
M33_A	01	Amoxicillin 250mg or 500mg dispersible tablet or syrup/suspension	1	2	3	4	5
M32_A	02	Oral rehydration salts (ORS)	1	2	3	4	5
M36_A	03	Zinc sulphate tablets	1	2	3	4	5
M36_B	04	Zinc sulphate syrup or dispersible tablets	1	2	3	4	5
	4012	Does this facility stock any medicines for malaria treatment?	YES ..... 1 NO 2				➔4016
	4013	Are any of the following **malaria medicines and commodities** available today in this facility? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M81 M37	01	ACT	1	2	3	4	5
M136	02	Artemisinin monotherapy (oral)	1	2	3	4	5
M82	03	Artesunate rectal or injection dosage forms	1	2	3	4	5
M39	04	SP (Sulfadoxine + Pyrimethamine)	1	2	3	4	5
M40	05	Insecticide treated bed nets for patients and their families and households	1	2	3	4	5
M40	06	Insecticide treated bed net vouchers for patients and their families and households	1	2	3	4	5
M138	07	Chloroquine (oral)	1	2	3	4	5
M139	08	Quinine (oral)	1	2	3	4	5
M140	09	Primaquine (oral)	1	2	3	4	5
		CHECK Q4013_01: IF FACILITY STOCKS ACT (Q4013_01 = 1, 2, 3, OR 4):	IF FACILITY DOES NOT STOCK ACT (Q4013_01 = 5):				➔4016

Indicator code	Number	Question	Result				Skip
M37_A	4014	Has there been a stock-out of ACT in the past 4 weeks?	YES ..... 1 NO 2				➔4016
M37_B	4015	How many days of stock-out?	LESS THAN 7 DAYS ..... 1 7 TO 14 DAYS ..... 2 MORE THAN 14 DAYS 3				
	4016	Does this facility stock any medicines for tuberculosis treatment?	YES ..... 1 NO 2				➔4018
	4017	Are any of the following **TB medicines** available today in this facility? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M41	01	Ethambutol	1	2	3	4	5
M41	02	Isoniazid	1	2	3	4	5
M41	03	Pyrazinamide	1	2	3	4	5
M41	04	Rifampicin	1	2	3	4	5
M41	05	Isoniazid + Rifampicin (2FDC)	1	2	3	4	5
M41	06	Isoniazid + Ethambutol (EH) (2FDC)	1	2	3	4	5
M41	07	Isoniazid + Rifampicin + Pyrazinamide (RHZ) (3FDC)	1	2	3	4	5
M41	08	Isoniazid + Rifampicin + Ethambutol (RHE) (3FDC)	1	2	3	4	5
M41	09	Isoniazid + Rifampicin + Pyrazinamide + Ethambutol (4FDC)	1	2	3	4	5
	10	Streptomycin injectable	1	2	3	4	5
	4018	Does this facility stock any antiretroviral medicines?	YES ..... 1 NO 2				➔4020
	4019	Are any of the following **ARVs** available today in this facility? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**		
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M45 M48	01	Zidovudine (ZDV, AZT)	1	2	3	4	5
M46	02	Zidovudine (ZDV, AZT) syrup	1	2	3	4	5
M45 M48	03	Abacavir (ABC)	1	2	3	4	5
M45 M48	04	Lamivudine (3TC)	1	2	3	4	5
M45 M48	05	Tenofovir Disoproxil Fumarate (TDF)	1	2	3	4	5

Indicator code	Number	Question	Result				Skip
M45 M48	06	Nevirapine (NVP)	1	2	3	4	5
M47	07	Nevirapine (NVP) syrup	1	2	3	4	5
M45 M48	08	Efavirenz (EFV)	1	2	3	4	5
M45 M48	09	Emtricitabine (FTC)	1	2	3	4	5
M45 M48	10	Lamivudine + Abacavir (3TC + ABC)	1	2	3	4	5
M45 M48	11	Zidovudine + Lamivudine (AZT + 3TC)	1	2	3	4	5
M45 M48	12	Zidovudine + Lamivudine + Abacavir (AZT + 3TC + ABC)	1	2	3	4	5
M45 M48	13	Zidovudine + Lamivudine + Nevirapine (AZT + 3TC + NVP)	1	2	3	4	5
M45 M48	14	Tenofovir + Emtricitabine (TDF + FTC)	1	2	3	4	5
M45 M48	15	Tenofovir + Lamivudine (TDF + 3TC)	1	2	3	4	5
M45 M48	16	Tenofovir + Lamivudine + Efavirenz (TDF + 3TC + EFV)	1	2	3	4	5
M45 M48	17	Tenofovir + Emtricitabine + Efavirenz (TDF + FTC + EFV)	1	2	3	4	5
M45	18	Didanosine (DDI)	1	2	3	4	5
	19	Lamivudine (3TC) syrup	1	2	3	4	5
M45	20	Stavudine 30 or 40 (D4T)	1	2	3	4	5
	21	Stavudine syrup	1	2	3	4	5
	22	Efavirenz (EFV) syrup	1	2	3	4	5
M45	23	Delavirdine (DLV)	1	2	3	4	5
M45	24	Enfuvirtide (T-20)	1	2	3	4	5
M45	25	Stavudine + Lamivudine (D4T + 3TC)	1	2	3	4	5
M45	26	Stavudine + Lamivudine + Nevirapine (D4T + 3TC + NVP)	1	2	3	4	5
	4020	Does this facility stock any protease inhibitors for the treatment of HIV/AIDS?	YES ..... 1 NO 2				➔4022
	4021	Are any of the following **protease inhibitors** available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE** AT LEAST ONE VALID	AVAILABLE NON VALID	**NOT OBSERVED** REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M48	01	Lopinavir (LPV)	1	2	3	4	5
	02	Indinavir (IDV)	1	2	3	4	5
	03	Nelfinavir (NFV)	1	2	3	4	5

Indicator code	Number	Question	Result				Skip
	04	Saquinavir (SQV)	1	2	3	4	5
	05	Ritonavir (RTV)	1	2	3	4	5
	06	Atazanavir (ATV)	1	2	3	4	5
	07	Fosamprenavir (FPV)	1	2	3	4	5
	08	Tipranavir (TPV)	1	2	3	4	5
	09	Darunavir (DRV)	1	2	3	4	5
	4022	Are any of the following **other** medicines and commodities available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE** AT LEAST ONE VALID	AVAILABLE NON VALID	**NOT OBSERVED** REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE
M27	01	Normal saline IV solution	1	2	3	4	5
M27	02	Ringers lactate IV solution	1	2	3	4	5
M27	03	5% dextrose IV solution	1	2	3	4	5
M42	04	IV treatment for fungal infections	1	2	3	4	5
M26	05	Skin disinfectant	1	2	3	4	5
	06	Gowns	1	2	3	4	5
	07	Eye protection (goggles, face shields)	1	2	3	4	5
	08	Medical (surgical or procedural) masks	1	2	3	4	5
M63	09	Absorbable suture material	1	2	3	4	5
M63	10	Non-absorbable suture material	1	2	3	4	5
M64	11	Ketamine (injection)	1	2	3	4	5
M65	12	Lidocaine 1% or 2% (anaesthesia)	1	2	3	4	5
M25	13	Diazepam (injection)	1	2	3	4	5
		CHECK Q007 AND Q1002_08: IF HOSPITAL OR HEALTH FACILITY OFFERS CESAREAN SECTION:	IF NOT HOSPITAL AND CESAREAN SECTION NOT OFFERED:				Q4100
M84	14	Thiopental (powder)	1	2	3	4	5
M85	15	Suxamethonium bromide (powder)	1	2	3	4	5
M86	16	Atropine (injection)	1	2	3	4	5
M87	17	Halothane (inhalation)	1	2	3	4	5
M88	18	Bupivacaine (injection)	1	2	3	4	5
M89	19	Lidocaine 5% (heavy spinal solution)	1	2	3	4	5
M62	20	Epinephrine (injection)	1	2	3	4	5
M90	21	Ephedrine (injection)	1	2	3	4	5
	4023	Are any of the following mental health and neurological medicines available in the facility	**OBSERVED AVAILABLE**		**NOT OBSERVED**		

Indicator code	Number	Question	Result					Skip
		today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M1	01	Amitriptyline tablet	1	2	3	4	5	
M119	02	Carbamazepine tablet	1	2	3	4	5	
M120	03	Chlorpromazine injection	1	2	3	4	5	
M121	04	Diazepam tablet	1	2	3	4	5	
M122	05	Diazepam injection or diazepam rectal tubes	1	2	3	4	5	
M94	06	Fluoxetine tablet	1	2	3	4	5	
M123	07	Fluphenazine injection	1	2	3	4	5	
M124	08	Haloperidol tablet	1	2	3	4	5	
M125	09	Lithium tablet	1	2	3	4	5	
M126	10	Phenobarbital tablet	1	2	3	4	5	
M127	11	Phenytoin tablet	1	2	3	4	5	
M128	12	Valproate sodium tablet	1	2	3	4	5	
M144	13	Lorazepam injection	1	2	3	4	5	
M145	14	Levodopa + carbidopa tablet	1	2	3	4	5	
	4024	Are any of the following palliative care medicines available in the facility today? **CHECK TO SEE IF AT LEAST ONE OF EACH MEDICINE/COMMODITY IS VALID (NOT EXPIRED)**	**OBSERVED AVAILABLE**		**NOT OBSERVED**			
			AT LEAST ONE VALID	AVAILABLE NON VALID	REPORTED AVAILABLE BUT NOT SEEN	NOT AVAILABLE TODAY	NEVER AVAILABLE	
M129	01	Dexamethasone injection	1	2	3	4	5	
M130	02	Haloperidol injection	1	2	3	4	5	
M131	03	Hyoscine butylbromide injection	1	2	3	4	5	
M132	04	Lorazepam tablet	1	2	3	4	5	
M133	05	Metoclopramide injection	1	2	3	4	5	
M83 M44	06	Morphine granules, tablet	1	2	3	4	5	
M83 M44	07	Morphine injection	1	2	3	4	5	
M134	08	Senna preparation (laxative)	1	2	3	4	5	
M146	09	Loperamide tab/cap	1	2	3	4	5	

Indicator code	Number	Question	Result			Skip
	SUPPLY CHAIN					
	4100	Who is the principal person responsible for managing the ordering of medical supplies at this facility?	NURSE ..... 1 CLINICAL OFFICER ..... 2 PHARMACY TECHNICIAN ..... 3 PHARMACY ASSISTANT ..... 4 PHARMACIST ..... 5 MEDICAL ASSISTANT ..... 6 OTHER _____ 96 (SPECIFY)			
	4101	Which of the following mechanisms is used to determine this facility's resupply quantities? ASK FOR EACH OF THE BELOW	**YES**	**NO**	**DON'T KNOW**	
	01	The facility itself (pull distribution system)	1	2	3	
	02	A higher level facility (push distribution system)	1	2	3	
	03	Other _____ (SPECIFY)	1	2	3	
	4102	How are the facility's resupply quantities determined?	FORMULA (ANY CALCULATION) ..... 1 DON'T KNOW ..... 2 OTHER MEANS 3			
	4103	What is the main source of your routine pharmaceutical commodity supplies? By this I mean who is the direct supplier to your facility?	NATIONAL MEDICAL STORES ..... 1 JOINT MEDICAL STORES ..... 2 NGO/DONORS ..... 3 PRIVATE SOURCES ..... 4 OTHER _____ 96 (SPECIFY)			
	4104	How are your pharmaceutical commodity supplies from the main supplier of your routine pharmaceuticals delivered to this facility?	SUPPLIER DELIVERS TO FACILITY ..... 1 FACILITY MUST ARRANGE DELIVERY TO FACILITY ..... 2 OTHER _____ 96 (SPECIFY)			
	4105	Who is responsible for transporting products from central medical stores to your facility?	**YES**	**NO**		
	01	Local supplier delivers	1	2		
	02	Higher level delivers	1	2		
	03	This facility collects	1	2		
	04	Other _____ (SPECIFY)	1	2		

Indicator code	Number	Question	Result	Skip
	4106	For the most recent order, how long did it take between ordering and receiving products?	LESS THAN 2 WEEKS..... 1 2 WEEKS TO 1 MONTH..... 2 BETWEEN 1 AND 2 MONTHS ..... 3 MORE THAN 2 MONTHS 4	
	We have now completed all of the questions in this module of the survey. Thank you for your participation.			

Number	Question	Result	Skip
SECTION 8: INTERVIEWER'S OBSERVATIONS			
5000	**INTERVIEW END TIME** (use the 24 hour-clock system)	☐☐ : ☐☐	
5001	**RESULT CODES (LAST VISIT):**	COMPLETED .....1 RESPONDENT NOT AVAILABLE .....2 REFUSED .....3 PARTIALLY COMPLETED .....4 OTHER _____96 (SPECIFY)	
COMMENTS ABOUT THE RESPONDENT:			
_____ _____ _____ _____			
COMMENTS ON SPECIFIC QUESTIONS:			
_____ _____ _____ _____ _____			
ANY OTHER COMMENTS:			
_____ _____ _____ _____ _____			
SUPERVISOR'S OBSERVATIONS:			
_____ _____ _____ _____ _____			
NAME OF SUPERVISOR: _____		DATE: _____	

3. Indicators index

3.1 Indicators ID numbers

In order to more easily identify which questions in the questionnaire correspond to the indicators in this document, an ID number has been given for each indicator and the corresponding questions in the questionnaire are labelled with the same ID number. This can be useful for a number of purposes including:

- Identifying which questions corresponds to each indicator;
- Determining which questions to remove from the questionnaire if certain indicators are not to be included in the survey; and
- Identifying items for inclusion in the analysis portion of the survey implementation.

The ID numbers have been assigned to each indicator using a two part system: First the indicator is given a letter based on the category of indicator. Second, the indicator is given a unique number. Table 3.1.1 below gives the categories used for the indicator types:

TABLE 3.1.1: INDICATOR CATEGORIES

Indicator type	Abbreviation
Service availability	S
Infrastructure	I
Equipment	E
Medicines and commodities	M
Diagnostics	D
Training	T
Domains	DO
Indices	IN

3.2 SARA general service availability indicators

An important note regarding service availability: although this information is collected through the SARA questionnaire, these indicators should not be calculated for a sample of facilities. **Data must be available for ALL facilities in an administrative unit in order to calculate service availability.** All service availability measures require data that link the numerator (e.g. number of facilities) to the denominator - population size. A sample survey would not allow computation of the service availability indicators, as it is not clear what the corresponding population size to be used as the denominator should be. The information needed to calculate service availability can be gathered from multiple sources in addition to the SARA, namely the HMIS and other routine information systems, and should be collated for all facilities before calculating the service availability indicators. If the SARA is implemented as a census, then it can be used to calculate service availability.

Service Availability is described by three areas of tracer indicators:

3.2.1 Health infrastructure

- **Facility density per 10 000 population:** the facility density is primarily an indicator of outpatient service access.
- **Inpatient bed density per 10 000 population:** inpatient bed density provides an indicator of the inpatient services access. Paediatric beds (cots) are included, but maternity beds are excluded.
- **Maternity bed density per 1000 pregnant women:** maternity bed density provides an indicator of access to delivery services. Data on maternity beds can be used calculate the density of maternal beds per 1000 pregnant women per year. The denominator is estimated from the population data. The indicator does not include delivery beds.

3.2.2 Health workforce

- **Health workforce density:** core medical professionals per 10 000 population: physicians, non-physician clinicians, registered nurses, and midwives. This includes part-time physicians who are given the value of 0.5 in the scoring.

3.2.3 Service utilization

In populations with poor or suboptimal health infrastructure the service utilization rate is an indicator of access.

- ***Number of outpatient visits per capita per year:*** the number of visits for ambulant care, not including immunization, over the total population.
- ***Number of hospital discharges per 100 population (excluding deliveries):*** this indicator provides additional information on the availability and access to inpatient services.

These indicators must all be expressed as a percentage score compared with a target or benchmark. Table 3.1.2 below shows the benchmark and computation of each indicator. If the tracer indicator score exceeds the benchmark, it will be scored as 100%.

TABLE 3.1.2: SERVICE AVAILABILITY INDICATORS

		Indicator	Target	Score
Health infrastructure				Score = N/target
(a)	Facilities	N per 10 000 population	2	N/2 * 100 (max.100)
(b)	Inpatient beds	N per 10 000 population	25	N/25 * 100 (max.100)
(c)	Maternity beds	N per 1000 pregnant women	10	N/10 * 100 (max.100)
Health workforce				
(d)	Core health workforce	N per 10 000 population	23	N/23 * 100 (max.100)
Service utilization				
(e)	Utilization	Outpatient visits per person/year	5	N/ 5 * 100 (max.100)
(f)	Utilization	Hospital discharges per 100/year	10	N/ 10 * 100 (max.100)

The rationale for the targets can be summarized as follows:

(a) Facility density: usually there is a country target, such as at least one facility per 5000 population, or 2 per 10 000. A major limitation is that this indicator does not take into account the size of the facilities. The indicator is scored as N of facilities / 2 * 100% (max. 100).

(b) Inpatient beds: the global average is 27 per 10 000, lower- and upper middle-income countries have 18 and 39 hospital beds per 10 000 respectively. An arbitrary benchmark of 25 per 10 000 is selected. The indicator is scored as N / 25 * 100% (max. 100).

(c) Maternity beds: under the assumption that there should be sufficient beds for all pregnant women with an occupancy rate of 80% (to account for the uneven spread of demand over time) and a mean duration of stay of 3 days, the target should be (1000/.8) * (3/365) = 10 per 1000 pregnant women. The indicator is scored as N / 10 * 100% (max. 100).

An estimation for the number of pregnant women in the population can be derived from the CBR (crude birth rate) for the country of interest and the following equations*:

i = Estimated number of live births = (CBR per 1,000 * total population)

ii = Estimated live births expected per month = (a / 12)

iii = Estimated number of pregnancies ending in stillbirths or miscarriages = (a * 0.15)

iv = Estimated pregnancies expected in the year = (a + c)

v = Estimated number of women pregnant in a given month = (0.70 * d)

vi = Estimated % of total population who are pregnant at a given period = (e / total population * 100)

(d) Health workers: WHO has published a figure of 23 per 10 000 population. The indicator is scored as N/23*100% (max. 100).

(e) Outpatient service utilization: in the OECD countries, the average number of physician consultations per person per year is about 6. The proposed benchmark is 5 visits per person per year. The indicator is scored as (N of outpatient visits per person per year)/ 5 * 100% (max. 100).

(f) Inpatient service utilization: in the OECD countries, which have an ageing population, there are about 15 discharges per 100 population per year. 10 discharges per 100 people per year is proposed as a benchmark. The indicator is scored as (N of hospital discharges per 100 people per year)/ 10 * 100% (max. 100).

The service availability index is calculated using the above mentioned indicators. First, indices are calculated for health services infrastructure, health workforce, and service utilization. The calculations for creating those indices are as follows in Table 3.1.3. Please refer Table 3.1.2 for the definitions of indicators a-f. The service availability index is the un-weighted average of the three areas: infrastructure, health workforce, and utilization: [((a + b + c)/3) + d + ((e + f) / 2)] / 3, and is a percentage score.

* Equation from UNFPA: http://www.unfpa.org/emergencies/manual/9a5.htm

TABLE 3.1.3: SERVICE AVAILABILITY INDICES

	Indicator	Target	Score
Health Services Infrastructure Index	Average score of the three indicators: facility density, inpatient beds, maternity beds	100	((a) + (b) + (c)) / 3
Health Workforce Index	Core health workers	100	d
Service Utilization Index	Average score of the two indicators: outpatient visits, hospital discharges	100	((e) + (f)) / 2
Service Availability Index	Un-weighted average of the three areas: infrastructure, workforce, and utilization	**100**	**[((a + b + c)/3) + d + ((e + f) / 2)] / 3**

Table 3.1.4 below gives the ID numbers for the service availability indicators and indices.

TABLE 3.1.4: SERVICE AVAILABILITY INDICATOR ID NUMBERS

Indicator	ID Number
Facilities	S1
Inpatient beds	S2
Maternity beds	S3
Core health workforce	S4
Outpatient service utilization	S5
In-patient service utilization	S6
Health infrastructure index	IN1
Core health workforce index	IN2
Service utilization index	IN3
Service availability index	IN4

3.3 SARA general service readiness indicators

TABLE 3.3.1: TRACER INDICATORS FOR GENERAL SERVICE READINESS

Domain	Tracer indicator	ID	Definition	Data collection notes
Basic amenities **DO1** Domain score = Mean score of items as percentage N/7*100	Power	I1	Facility routinely has electricity for lights and communication (at a minimum) from any power source during normal working hours; there has not been a break in power for more than 2 hours per day during the past 7 days.	Reported availability.
	Improved water source inside OR within the ground of the facility	I2	Improved water source uses uniform definitions for safe water sources promoted by UNICEF. These include the following: Piped, public tap, standpipe, tubewell/borehole, protected dug well, protected spring, rain water. NOTE: The type of base for the standpipe or tubewell is not considered for this question. The water source is located inside the facility or within the ground of the facility	Observed availability.
	Room with auditory and visual privacy for patient consultations	I3	Private room or screened off area available in main service area (usually the general outpatient service area), a sufficient distance from sites where providers/clients routinely may be, so that a normal conversation could be held without being overheard, and without the client being observed.	Observed availability.
	Access to adequate sanitation facilities for clients	I4	The toilet/latrine is classified using uniform criteria for improved sanitation promoted by UNICEF. These include the following: Flush/pour flush to piped sewer system or septic tank or pit latrine, pit latrine (ventilated improved pit (VIP) or other) with slab, composting toilet. There is adequate sanitation facilities accessible (unlocked or key available) for clients on premises.	Observed availability.

Domain	Tracer indicator	ID	Definition	Data collection notes
	Communication equipment (phone or SW radio)	I5	Functioning communication equipment. This will not include private cell phones unless the facility reimburses for cost of phone calls. This will not include payphones outside of the facility.	Reported availability accepted
	Facility has access to computer with email/internet access	I6	Facility has a functioning computer and has access to email/internet with internet working on the day of the survey.	Reported availability accepted
	Emergency transportation	I7	Facility has a functioning vehicle with fuel that is routinely available that can be used for emergency transportation or access to a vehicle in near proximity that can be used for emergency transportation	Reported availability accepted
REFERENCES: Progress on sanitation and drinking water 2010 update http://www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf Guidance for Selecting and Using Core Indicators for Cross-Country Comparisons of Health Facility Readiness to Provide Services http://ihfan.org/home/docs/attachments/WP-07-97_Guidance_HF_Core_Indicators.pdf				
Basic equipment **DO2** Domain score = Mean score of items as percentage N/6*100	Adult scale	E1		Items observed and functioning in the main service area (usually the general outpatient department) or in the immediate vicinity where it is reasonable to assume that they can be used for the services being provided in the main service area. Note: if items are in service specific areas but are readily available for use for general outpatient clients, this is acceptable
	Child scale	E2	Weight gradation minimum 250 grams. A digital standing scale where adult holds child and gradations go to 250 grams is acceptable	
	Thermometer	E3		
	Stethoscope	E4		
	Blood pressure apparatus	E5	Digital BP machine or manual sphygmomanometer with stethoscope	
	Light source	E6	Spotlight source that can be used for patient examinations. A functional flashlight is accepted.	

Domain	Tracer indicator	ID	Definition	Data collection notes
REFERENCES: Guidance for Selecting and Using Core Indicators for Cross-Country Comparisons of Health Facility Readiness to Provide Services http://ihfan.org/home/docs/attachments/WP-07-97_Guidance_HF_Core_Indicators.pdf				
Standard precautions for infection prevention **DO3** Domain score = Mean score of items as percentage N/9*100	Safe final disposal of sharps	I9	Safe final disposal of sharps includes incineration, open burning in protected area, dump without burning in protected area, or remove offsite with protected storage. If method is incineration, incinerator functioning and fuel available.	Observed final disposal/holding site for sharps and verify no unprotected sharps are observed.
	Safe final disposal of infectious wastes	I10	Safe final disposal of infectious wastes includes incineration, open burning in protected area, dump without burning in protected area, or remove offsite with protected storage. If method is incineration, incinerator functioning and fuel available.	Observed final disposal/holding site for infectious wastes and verify no unprotected waste is observed.
	Appropriate storage of sharps waste	I11	A puncture-resistant, rigid, leak-resistant container designed to hold used sharps safely during collection, disposal and destruction. Sharps containers should be made of plastic, metal, or cardboard and have a lid that can be closed. Sharps containers should be fitted with a sharps aperture, capable of receiving syringes and needle assemblies of all standard sizes, together with other sharps. Boxes must be clearly marked with the international bio-hazard warning not less than 50mm diameter, printed in black or red on each of the front and back faces of the box. .	Observed availability in all three main service areas: general OPD, HIV testing area, and surgery area
	Appropriate storage of infectious waste	I12	Waste receptacle (pedal bin) with lid and plastic bin liner.	
	Disinfectant	I13	Chlorine-based or other country specific used for environmental disinfection	Observed availability anywhere in the facility
	Single use —standard disposable or auto-disable syringes	I14		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Soap and running water or alcohol based hand rub	I15		Observed available in all four main service areas: general OPD, HIV testing area, basic obstetric and newborn care area and surgery area.
	Latex gloves	I16	If equivalent non latex gloves are available this is acceptable.	
	Guidelines for standard precautions	T1		Observed availability anywhere in their facility
REFERENCES: Practical Guidelines for Infection Control in Health Care Facilities. Geneva http://whqlibdoc.who.int/wpro/2003/a82694.pdf				
Diagnostic capacity **DO4** Domain score = Mean score of items as percentage N/8*100	Haemoglobin	D1	This may include colorimeter OR haemoglobinometer OR hemocue.	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. These may be in a laboratory or in the service area where the test is conducted.
	Blood glucose	D2	Glucometer and glucometer test strips	
	Malaria diagnostic capacity	D3	RDT kit or smear with microscope, slides, and Wright Giemsa stain	
	Urine dipstick- protein	D4	Dipsticks for urine protein (with valid expiration date)	
	Urine dipstick- glucose	D5	Dipsticks for urine glucose (with valid expiration date)	
	HIV diagnostic capacity	D6	RDT kit or ELISA test with ELISA washer, ELISA reader, incubator, specific assay kit	
	Syphilis rapid test	D9	RDT kit	
	Urine test for pregnancy	D11	RDT kit	
REFERENCES: Consolation on technical and operation recommendations for clinical laboratory testing harmonization and standardization http://www.who.int/healthsystems/round9_9.pdf				
Essential medicines **DO5** Domain score = Mean score of items as percentage N/25*100	Amlodipine tablet or alternative calcium channel blocker	M56		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Amoxicillin syrup/suspension or dispersible tablet	M33		
	Amoxicillin tablet	M2	Respiratory antibiotic	
	Ampicillin powder for injection	M71		
	Aspirin cap/tab	M57		
	Beclometasone inhaler	M59		
	Beta blocker (e.g.bisoprolol, metoprolol, carvedilol, atenolol)	M55		
	Carbamazepine tablet	M119		
	Ceftriaxone injection	M5	2nd line injectable antibiotic	

Domain	Tracer indicator	ID	Definition	Data collection notes
	Diazepam injection	M25		
	Enalapril tablet or alternative ACE inhibitor e.g. lisinopril, ramipril, perindopril	M53		
	Fluoxetine tablet	M94		
	Gentamicin injection	M72		
	Glibenclamide tablet	M10	Oral treatment type 2 diabetes	
	Haloperidol tablet	M124		
	Insulin regular injection	M51		
	Magnesium sulphate injectable	M24		
	Metformin tablet	M50		
	Omeprazole tablet or alternative such as pantoprazole, rabeprazole	M11	Gastro-esophogeal reflux	
	Oral rehydration solution	M32		
	Oxytocin injection	M22		
	Salbutamol inhaler	M13	Chronic asthma attacks	
	Simvastatin tablet or other statin e.g. atorvastatin, pravastatin, fluvastatin	M14	High cholesterol	
	Thiazide (e.g. hydrochlorothiazide)	M54		
	Zinc sulphate tablets, dispersible tablets or syrup	M36		

REFERENCES:

WHO (2013). WHO Model List of Essential Medicines. http://apps.who.int/iris/bitstream/10665/93142/1/EML_18_eng.pdf?ua=1
Monitoring the Building Blocks of Health Systems: A Handbook of Indicators and their Measurement Strategies. Geneva: World Health Organization. Available at: http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf

3.4 SARA service specific availability and readiness indicators

TABLE 3.4.1: TRACER INDICATORS FOR REPRODUCTIVE, MATERNAL, NEWBORN, CHILD, AND ADOLESCENT HEALTH SERVICE AVAILABILITY AND READINESS

Domain	Tracer indicator	ID	Definition	Data collection notes
Family planning services				
SERVICE AVAILABILITY **% of facilities offering:**				
	Family planning services	S7		
	Provision of combined oral contraceptive pills	S7_01		
	Provision of progestin-only contraceptive pills	S7_02		
	Provision of combined injectable contraceptives	S7_03		
	Provision of progestin-only injectable contraceptives	S7_04		
	Provision of male condoms	S7_05		
	Provision of female condoms	S7_06		
	Provision of intrauterine contraceptive device	S7_07		
	Provision of implant	S7_08		
	Provision of cycle beads for standard days method	S7_09		
	Provision of emergency contraceptive pills	S7_10		
	Male sterilization	S7_11		
	Female sterilization	S7_12		
SERVICE READINESS IN6 **% of facilities providing family planning services with tracer items on the day of the assessment**				
Staff and guidelines DO6	Guidelines on family planning	T2	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Family planning check-lists and/or job-aids	T62		
	Staff trained in FP	T3	At least one staff member providing the service trained in the last two years in some aspect of FP	Interview response from in-charge of service area day of survey.

Domain	Tracer indicator	ID	Definition	Data collection notes
Equipment DO7	Blood pressure apparatus	E5	Digital BP machine or manual sphygmomanometer with stethoscope	Observed availability, reported functionality, and in service area or adjacent area.
Medicines and commodities DO8	Combined estrogen progesterone oral contraceptive pills	M15		Observed in service area OR where routinely stored; in stock with at least one valid.
	Progestin-only contraceptive pills	M96		
	Injectable contraceptives	M16	Can be either combined estrogen progesterone injectable contraceptives or progestin-only injectable contraceptives	
	Condoms	M17	Male	
AUXILIARY INDICATORS **% of facilities providing family planning services with:**				
Other family planning commodities in stock	Combined estrogen progesterone injectable contraceptives	M97		Observed in service area OR where routinely stored; in stock with at least one valid.
	Progestin-only injectable contraceptives	M98		
	Female condoms	M99		
	Implants	M108	E.g.levonorgestrel or etonogestrel implant	
	Emergency contraceptive	M109	E.g.Levonorgestrel tablet or ulipristal acetate tablet or mifepristone tablet 10-25 mg	
	Intrauterine contraceptive device (IUCD)	M105		
Stock-outs (in past 3 months)	Female condoms	M99_A		
	Implants	M108_A	E.g.levonorgestrel or etonogestrel implant	
	Emergency contraceptive	M109_A	E.g.Levonorgestrel tablet or ulipristal acetate tablet or mifepristone tablet 10-25 mg	
REFERENCES: Family Planning: A Global Handbook for Providers http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf Essential Medicines for Reproductive Health: Guiding Principles for Their Inclusion on National Medicines Lists http://whqlibdoc.who.int/hq/2006/a91388.pdf				
Antenatal care services				
SERVICE AVAILABILITY **% of facilities offering:**				
	Antenatal care services	S8		
	Iron supplementation	S8_01		
	Folic acid supplementation	S8_02		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Intermittent Preventive Treatment in pregnancy (IPTp) for malaria	S8_03		
	Tetanus toxoid vaccination	S8_04		
	Monitoring for hypertensive disorder of pregnancy	S8_05		
SERVICE READINESS IN7 **% of facilities providing antenatal care services with tracer items on the day of the assessment**				
Staff and guidelines **DO9**	Guidelines on ANC	T4	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	ANC check-lists and/or job-aids	T63		
	Staff trained in ANC	T5	At least one staff member providing the service trained in some aspect of ANC in the last two years	Interview response from in-charge of service area day of survey.
Equipment **DO10**	Blood pressure apparatus	E5	Digital BP machine or manual sphygmomanometer with stethoscope	Observed availability, reported functionality, and in service area or adjacent area.
Diagnostics **DO11**	Haemoglobin	D1	This may include colorimeter, haemoglobinometer, hemocue, or any other country specific method.	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In the area where ANC tests are conducted or anywhere in the facility where laboratory testing is routinely conducted.
	Urine dipstick- protein	D4	This includes urine protein dipsticks.	
Medicines and commodities **DO12**	Iron tablets	M18	Iron and folic acid may be combined	Observed in service area OR where routinely stored; in stock with at least one valid.
	Folic acid tablets	M19		
	Tetanus toxoid vaccine	M20		
	*IPT drug	M39	Sulfadoxine + Pyrimethamine(SP)	
	*ITNs	M40	ITNs or vouchers available for distribution	
REFERENCES: Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf *Only in high prevalence areas				
Basic obstetric and newborn care				
SERVICE AVAILABILITY **% of facilities offering:**				
	Delivery services	S9		
	OBSTERIC SIGNAL FUNCTIONS			
	Parenteral administration of antibiotics for mothers	S9_01		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Parenteral administration of oxytocic drug	S9_02		
	Parenteral administration of anticonvulsants	S9_03		
	Assisted vaginal delivery	S9_04		
	Manual removal of placenta	S9_05		
	Manual removal of retained products	S9_06		
	Mean availability of obstetric signal functions offered	S9_18		
	NEWBORN SIGNAL FUNCTIONS			
	Antibiotics for preterm or prolonged PROM to prevent infection	S9_09		
	Neonatal resuscitation with bag and mask	S9_07		
	Corticosteroids in preterm labour	S9_10		
	KMC (Kangaroo mother care) for premature/very small babies	S9_11		
	Injectable antibiotics for neonatal sepsis	S9_12		
	Mean availability of newborn signal functions offered	S9_19		
	ROUTINE PRACTICES (perinatal)			
	Administration of oxytocin for the prevention of post-partum haemorrhage	S9_13	Routine administration of oxytocin injection immediately after birth to all women for the prevention of post-partum haemorrhage	
	Monitoring and management of labour using partograph	S9_14		
	Immediate and exclusive breastfeeding	S9_15		
	Hygienic cord care	S9_16	Cut with sterile item and apply disinfectant to tip and stump, and no application of other substances	
	Thermal protection (drying baby immediately after birth and wrapping)	S9_17		
SERVICE READINESS IN8 **% of facilities providing facility-based delivery services with tracer items on the day of the assessment**				
Staff and guidelines **DO13**	Guidelines for essential childbirth care	T6	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Check-lists and/or job-aids for essential childbirth care	T64		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Guidelines for essential newborn care	T66		
	Staff trained in essential childbirth care	T7	At least one staff member providing the service trained in essential childbirth care in the last two years (other than training on newborn resuscitation using bag and mask)	Interview response from in-charge of service area day of survey.
	Staff trained in newborn resuscitation	T65	At least one staff member providing the service trained in newborn resuscitation using bag and mask in the last two years	
Equipment **DO14**	Emergency transport	I7	Facility has a functioning vehicle with fuel that is routinely available that can be used for emergency transportation or access to a vehicle in near proximity that can be used for emergency transportation	Reported availability and functionality.
	Sterilization equipment	I8	This is usually either a dry heat sterilizer or an autoclave. If the machine is not electric, then make sure that the heat source is available and (If relevant) functioning (e.g., wood or gas is present for the autoclave).	Observed availability anywhere in the facility reported functionality.
	Examination light	E7	Functioning spotlight source that can be used for patient examinations. A functional flashlight is accepted.	Observed availability, reported functionality, and in service area or adjacent area.
	Delivery pack	E8	Delivery pack OR cord clamp, episiotomy scissors, scissors/blade to cut cord, suture material with needle, AND needle holder	
	Suction apparatus (mucus extractor)	E9	Suction bulb (single use or sterilizable multi-use) or electric suction pump AND suction catheter for suctioning newborn	
	Manual vacuum extractor	E10		
	Vacuum aspirator or D&C kit (with speculum)	E11		
	Neonatal bag and mask	E12	Newborn bag and mask (size 1 for term babies AND size 0 for pre-term babies)	
	Delivery bed	E37		
	Partograph	E13	Blank partographs	Observed in service area.
	Gloves	I20	Sterile latex or equivalent	
	Infant weighting scale	E51		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Blood pressure apparatus	E52	Digital BP machine or manual sphygmomanometer with stethoscope	
	Soap and running water OR alcohol based hand rub	I25		
Medicines and commodities **DO15**	Antibiotic eye ointment for newborn	M21		Observed in service area OR where routinely stored; in stock with at least one valid.
	Injectable uterotonic	M22	Oxytocin	
	Injectable antibiotic	M23	Broad-spectrum injectable antibiotic treatment of sepsis in mother and newborn- Specific combination- Ampicillin + gentamicin OR penicillin + gentamicin OR ceftriaxone OR as per country specific formulation	
	Magnesium sulphate (injectable)	M24	Magnesium sulphate 50% injection or alternative strength	
	Skin disinfectant	M26		
	Intravenous solution with infusion set	M27	Normal saline or Ringers Lactate, and Dextrose 5%	
REFERENCES: Guidelines for Monitoring the Availability and Use of Obstetric Services http://www.childinfo.org/files/maternal_mortality_finalgui.pdf Monitoring Emergency Obstetric Care: a handbook http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf				
Comprehensive obstetric care				
SERVICE AVAILABILITY **% of HOSPITALS and LOWER-LEVEL FACILITIES offering:**				
	Caesarean section	S26_01		
	Blood transfusion	S26_02		
	Comprehensive emergency obstetric care	S26_03	Offers all 7 obstetric signal functions + caesarean section and blood transfusion	
SERVICE READINESS IN23 **% of HOSPITALS AND FACILITIES PROVIDING CAESAREAN SECTION with tracer items on the day of the assessment**				
Staff and guidelines **DO62**	Guidelines for CEmOC	T51	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in CEmOC	T52	At least one staff member providing the service trained in CEmOC within the past 2 years	Interview response from in-charge of service area day of survey.
	Staff trained in surgery	T53	Health worker who can perform caesarean section present in the facility or on-call 24 hours a day	

Domain	Tracer indicator	ID	Definition	Data collection notes
	Staff trained in anaesthesia	T54	Anaesthetist present in the facility or on-call 24 hours a day	
Equipment **DO63**	Anaesthesia equipment	E29	• Anaesthesia machine to deliver aesthetic gases and oxygen • Tubings and connectors to connect to the endotracheal tube • Resuscitator bag and mask- adult and paediatric • Intubation set adult and paediatric: (Oropharyangeal airway, endotracheal tubes, laryngoscope, Magill's forceps, stylet)	Observed availability, reported functionality, and in service area.
	Resuscitation table	E50	Resuscitation table with heat source for newborn resuscitation	
	Incubator	E30		
	Oxygen	E45	Oxygen cylinders OR concentrators OR central oxygen supply AND (functioning flowmeter for oxygen therapy AND oxygen delivery apparatus (key connecting tubes and mask/nasal prongs) AND oxygen available at all times during the 3 past months	
	Spinal needle	E32		
Diagnostics **DO64**	Blood typing	D21	ABO blood group test, Rhesus blood group test, and centrifuge	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. This may be in a laboratory or in the service area where the test is conducted.
	Cross match testing	D22	Cross match (should use methods that demonstrate ABO incompatibility and incompatibility due to other clinically significant antibodies and should include an indirect anti-globulin test or a test of equivalent sensitivity), centrifuge, 37°C incubator, and grouping sera	
Medicines and commodities **DO65**	Blood supply sufficiency	M66	No interruption of blood availability in last three months	Reported availability.
	Blood supply safety	M67	Blood obtained ONLY from national or regional blood bank, OR blood obtained from other sources but screened for HIV, Syphilis, Hepatitis B, and Hepatitis C.	
	Lidocaine 5%	M89		Observed in service area; in

Domain	Tracer indicator	ID	Definition	Data collection notes
	Epinephrine (injectable)	M62		stock with at least one valid.
	Halothane (inhalation)	M87		
	Atropine (injectable)	M86		
	Thiopental (powder)	M84		
	Suxamethonium bromide (powder)	M85		
	Ketamine (injectable)	M64		
REFERENCES: Guide to Infrastructure and Supplies at Various Levels of Health Care Facilities: Emergency and Essential Surgical and Anaesthesia Procedures http://www.who.int/surgery/publications/GuideAnestheticInfrastFormatted06.pdf Guidelines for Monitoring the Availability and Use of Obstetric Services http://www.childinfo.org/files/maternal_mortality_finalgui.pdf Monitoring Emergency Obstetric Care: a handbook http://whqlibdoc.who.int/publications/2009/9789241547734_eng.pdf				
Immunization				
SERVICE AVAILABILITY **% of facilities offering:**				
	Routine immunization services	S10		
	Birth doses	S10_07	As per national schedule. Immunization service delivery provided at the facility, as outreach or both	
	Infant vaccines	S10_08	As per national schedule. Immunization service delivery provided at the facility, as outreach or both	
	Adolescent/adult vaccines	S10_09	As per national schedule. Immunization service delivery provided at the facility, as outreach or both	
Frequency routine child immunization	Frequency all child immunization services offered in the facility	S10_10A S10_10B S10_10C S10_10D S10_10E	Routine child immunization services are offered in the facility on daily, weekly, monthly, quarterly or other basis.	
	Frequency all child immunization services offered as outreach	S10_11A S10_11B S10_11C S10_11D S10_11E	Routine child immunization services are offered as outreach on a daily, weekly, monthly, quarterly or other basis.	
SERVICE READINESS IN9 **% of facilities providing routine immunization services with tracer items on the day of the assessment**				
Staff and guidelines **DO16**	Guidelines for child immunization	T8	Country adapt to which guidelines are required/accepted for routine child immunization	Guidelines observed in service area.

Domain	Tracer indicator	ID	Definition	Data collection notes
	Staff trained in child immunization	T9	At least one staff member providing the service trained in some aspect of immunization service delivery in the last two years by formal training	Interview response from in-charge of service area day of survey.
Equipment **DO17**	Cold box/vaccine carrier with ice packs	E14		Observed in service area or adjacent site.
	Refrigerator	E15	Functioning refrigerator with sufficient storage capacity to accommodate all needed vaccines.	Observed availability, and functionality, and in service area or adjacent site.
	Sharps container/safety box	I21	A puncture-resistant, rigid, leak-resistant container designed to hold used sharps safely during collection, disposal and destruction. Sharps containers should be made of plastic, metal, or cardboard and have a lid that can be closed. Sharps containers should be fitted with a sharps aperture, capable of receiving syringes and needle assemblies of all standard sizes, together with other sharps. Boxes must be clearly marked with the international bio-hazard warning not less than 50mm diameter, printed in black or red on each of the front and back faces of the box.	Observed in service area
	Auto-disable syringes	I22		
	Temperature monitoring device in refrigerator	E39	Thermometer or recorder/logger	Observed availability, and functionality, and in service area or adjacent site.
	Adequate refrigerator temperature	E49	The temperature is monitored twice daily and has not been out of the range 2 to 8 ^{o}C inclusive in the last 30 days /record verification)	Observed in records in the services area OR where routinely stored
	Immunization cards	E41	In stock	Observed in service area OR where routinely stored.
	Immunization tally sheets	E42	In stock	Observed in service area OR where routinely stored.
Medicines and commodities **DO18** *Vaccines to be specified as per the national schedule	Measles vaccine	M28		Observed in service area OR where routinely stored; in stock with at least one valid (not expired and VVM not turned) on day of assessment
	DPT-Hib+HepB vaccine	M29	Country specific vaccine combination	
	Oral polio vaccine	M30		
	BCG vaccine	M31		
	Pneumococcal vaccine	M93	If part of the national schedule	
	Rotavirus vaccine	M92	If part of the national schedule	

Domain	Tracer indicator	ID	Definition	Data collection notes
	IPV (Inactivated Poliovirus Vaccine)	M142	If part of the national schedule	
	HPV (Human Papillomavirus)	M143	If part of the national schedule	
AUXILIARY INDICATORS **% of facilities providing routine immunization services with:**				
Stock-outs (in past 3 months) *Vaccines to be specified as per the national schedule	Measles vaccine	M28_A		Check vaccine stock records. Inability to give vaccine anytime in past three months due to unavailable stock
	DPT-Hib+HepB vaccine	M29_A	Country specific vaccine combination	
	Oral polio vaccine	M30_A		
	BCG vaccine	M31_A		
	Pneumococcal vaccine	M93_A	If part of the national schedule	
	Rotavirus vaccine	M92_A	If part of the national schedule	
	IPV	M142_A		
	HPV	M143_A		
Cold Chain	Cold chain minimum requirements	E47	The minimum adequate cold chain requirements are available (there is a functional refrigerator, there is a temperature monitoring device, and the temperature has been maintained between 2 and 8 C checked for the last 30 days.	
	Energy source and power supply for vaccine refrigerator	E40	Energy provided to the vaccine refrigerator through any source that supplies power to the refrigerator 24hours a day and for 7 days in the week	
	Types of power used for cold chain refrigeration	E40_A E40_B E40_C E40_D E40_E E40_F	Grid or generator Solar Gas Kerosene Mixed Other	
REFERENCES: Immunization Essentials: A Practical Field Guide http://www.who.int/pmnch/topics/tools/20081021_usaidimmunization/en/index.htm				
Child health services: preventative and curative care				
SERVICE AVAILABILITY **% of facilities offering:**				
	Preventive and curative care for children under 5	S11		
	Malnutrition diagnosis and treatment	S11_01		
	Vitamin A supplementation	S11_02		
	Iron supplementation	S11_03		

Domain	Tracer indicator	ID	Definition	Data collection notes
	ORS and zinc supplementation	S11_04		
	Growth monitoring	S11_05		
	Treatment of pneumonia	S11_06		
	Administration of amoxicillin for the treatment of pneumonia in children	S11_07		
	Treatment of malaria in children	S11_08		
SERVICE READINESS IN10 **% of facilities providing child curative care services with tracer items on the day of the assessment**				
Staff and guidelines **DO19**	Guidelines for IMCI	T10	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Guidelines for growth monitoring	T11	Country adapt to which guidelines are required/accepted	
	Staff trained in IMCI	T12	At least one staff member providing the service trained in some aspect of IMCI in the last two years	Interview response from in-charge of service area day of survey.
	Staff trained in growth monitoring	T13	At least one staff member providing the service trained in some aspect of growth monitoring in the last two years	
Equipment **DO20**	Child and infant scale	E38	Weight gradations at minimum 250 grams and 100 grams	Observed availability, reported functionality, and in service area or adjacent area.
	Length/height measuring equipment	E16	Wooden boards or metal beams with a mounted rule that permits measurement of crown-to-heel length (infants under 2 y, lying down) or height (older children, standing up) in centimetres. Gradations at 1 or 5 mm.	
	Thermometer	E3		
	Stethoscope	E4		
	Growth chart	E17		Observed in service area or adjacent area.
Diagnostics **DO21**	Haemoglobin (Hb)	D1	This may include colorimeter, haemoglobinometer, hemocue, or any other country specific method.	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the
	Test parasite in stool (general microscopy)	D10	Microscope, slides, covers	

Domain	Tracer indicator	ID	Definition	Data collection notes
	Malaria diagnostic capacity	D3	Malaria rapid test or smear (microscope, slides, and stain)	day of the survey. In area where tests for child health are carried out or anywhere in the facility where laboratory testing is routinely conducted.
Medicines and commodities **DO22**	Oral rehydration solution packet	M32	Any child dosage or formulation.	Observed in service area OR where routinely stored; in stock with at least one valid.
	Amoxicillin (dispersible tablet 250 or 500 mg OR syrup/suspension)	M33		
	Co-trimoxazole syrup/suspension	M7		
	Paracetamol syrup/suspension	M12		
	Vitamin A capsules	M34		
	Me-/albendazole cap/tab	M35		
	Zinc sulphate tablets, dispersible tablets or syrup	M36		
REFERENCES: Handbook: IMCI integrated management of childhood illness http://whqlibdoc.who.int/publications/2005/9241546441.pdf Training Course on Child Growth Assessment http://www.who.int/childgrowth/training/en/				
Adolescent health ‡				
SERVICE AVAILABILITY **% of facilities offering:**				
	Adolescent health services	S12		
	HIV testing and counselling services to adolescents	S12_01		
	Family planning services to adolescents	S12_02	Facility provides condoms and at least one other method of family planning to adolescents	
	Provision of combined oral contraceptive pills to adolescents	S12_03		
	Provision of male condoms to adolescents	S12_04		
	Provision of emergency contraceptive pills to adolescents	S12_06		
	Provision of intrauterine contraceptive device (IUCD) to adolescents	S12_07		
	Provision of ART to adolescents	S12_09		
SERVICE READINESS IN11 **% of facilities providing adolescent health services with tracer items on the day of the assessment**				

Domain	Tracer indicator	ID	Definition	Data collection notes
Staff and guidelines DO23	Guidelines for service provision to adolescents	T14	Country adapt to which standards/guidelines are required/accepted.	Guidelines observed in service area.
	Staff trained in provision of adolescent health services	T15	At least one staff providing services for adolescents trained in adolescent health in the last two years.	Interview response from in-charge of service area day of survey.
	Staff providing family planning services trained in adolescent sexual and reproductive health	T16	At least one staff providing family planning services trained in adolescent sexual and reproductive health in the last two years.	
	Staff providing HIV testing and counselling services trained in HIV/AIDS prevention, care, and management for adolescents	T17	At least one staff providing HIV testing and counselling services trained in HIV prevention, care, and management in the last two years.	
Diagnostics DO77	HIV diagnostic capacity	D6	RDT kit or ELISA test with ELISA washer, ELISA reader, incubator, specific assay kit	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for HIV are carried out or anywhere in the facility where laboratory testing is routinely conducted.
Medicines and commodities DO24	Condoms	M17	Male	Observed in service area OR where routinely stored; in stock with at least one valid.
REFERENCES: Quality assessment guidebook: a guide to assessing health services for adolescent clients http://whqlibdoc.who.int/publications/2009/9789241598859_eng.pdf Adolescent job aid: a handy desk reference tool for primary level health workers http://whqlibdoc.who.int/publications/2010/9789241599962_eng.pdf Orientation programme on adolescent health for health-care providers http://www.who.int/child_adolescent_health/documents/9241591269/en/index.html Adolescent friendly health services: An agenda for change http://whqlibdoc.who.int/hq/2003/WHO_FCH_CAH_02.14.pdf Protecting young people from HIV and AIDS: the role of health services http://whqlibdoc.who.int/publications/2004/9241592478.pdf				
Priority medicines for mothers D070 **% of facilities offering delivery services that have:**				
	Oxytocin injectable	M22		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Sodium chloride injectable solution	M69		
	Calcium gluconate injectable	M70		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Magnesium sulphate injectable	M24	Magnesium sulphate 50% injection or alternative strength	
	Ampicillin powder for injection	M71		
	Gentamicin injectable	M72		
	Metronidazole injectable	M73		
	Misoprostol cap/tab	M74		
	Azithromycin cap/tab or oral liquid	M75		
	Cefixime cap/tab	M76		
	Benzathine benzylpenicillin powder for injection	M77		
	Betamethasone or Dexamethasone injectable	M78		
	Nifedipine cap/tab	M79	Immediate release 10mg capsule formulation	
	Hydralazine injection	M106		
	Methyldopa tablet	M107		
REFERENCES: Priority medicines for mothers and children 2011 http://www.who.int/medicines/publications/A4prioritymedicines.pdf				
Priority medicines for children DO71 **% of facilities providing child health curative care services that have:**				
	Amoxicillin (dispersible tablet 250 or 500 mg OR syrup/suspension)	M33	Any child dosage or formulation.	Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Ampicillin powder for injection	M71		
	Ceftriaxone powder for injection	M5		
	Gentamicin injectable	M141		
	Procaine benzylpenicillin powder for injection	M80		
	Oral Rehydration Salts (ORS) sachets	M32		
	Zinc sulphate tablets, dispersible tablets or syrup	M36		
	Artemisinin combination therapy (ACT)	M81		
	Artesunate rectal or injectable forms	M82		
	Vitamin A capsules	M34		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Morphine granule, injectable or cap/tab	M83		
	Paracetamol syrup/ suspension	M12		
REFERENCES: Priority medicines for mothers and children 2011 http://www.who.int/medicines/publications/A4prioritymedicines.pdf				
Life-saving commodities for women and children **% of facilities that have:**				
COMMODITIES IN STOCK				
Family planning	Female condoms	M99		Observed available in pharmacy or where they are routinely stored, at least one with valid expiration date;
	Implants	M108	E.g. levonorgestrel or etonogestrel implant	
	Emergency contraceptives	M109	E.g. levonorgestrel, ulipristal acetate, or mifepristone 10-25 mg tablet	
Maternal health	Oxytocin	M22	Injectable	
	Misoprostol	M74	200 µg tablets	
	Magnesium sulphate	M24	Injectable (50% or alternative strength)	
Newborn health	Injectable antibiotics	M110	Procaine benzylpenicillin (PBP) or gentamicin and ceftriaxone	
	Antenatal corticosteroids	M78	Betamethasone or dexamethasone	
	Skin disinfectant	M26		
	Resuscitation equipment	E43	Newborn bag and mask (size 1 for term babies AND size 0 for pre-term babies), suction device (suction catheter and electric suction bulb, or mucus aspirator bulb – single use or multi-use sterilizable)	
Child health	Amoxicillin	M33	250 mg or 500 mg dispersible tablets or syrup/suspension	
	Oral rehydration salts	M32		
	Zinc sulphate	M36	Tablets, dispersible tablets or syrup	
STOCK OUTS % of facilities that had a stock out in the previous 3 months				
	Female condoms	M99_A		
	Implants	M108_A	E.g. levonorgestrel, etonogestrel (or other as per country official standard)	
	Emergency contraceptive	M109_A	Levonorgestrel tablet, ulipristal acetate tablet, mifepristone tablet 10-25 mg (or other as per country official standard)	

Domain	Tracer indicator	ID	Definition	Data collection notes
	Oxytocin injection	M22_A		
	Misoprostol 200µg tablets	M74_A		
	Magnesium sulphate injection	M24_A	Magnesium sulphate 50% injection or alternative strength	
	Gentamicin injection	M72_A		
	Procaine benzylpenicillin injection	M80_A		
	Ceftriaxone injection	M5_A		
	Betamethasone injection	M78_A		
	Dexamethasone injection	M78_B		
	Amoxicillin (dispersible tablet 250 or 500 mg OR syrup/suspension)	M33_A		
	Oral rehydration salts (ORS)	M32_A		
	Zinc sulphate tablets	M36_A		
	Zinc sulphate syrup or dispersible tablets	M36_B		

REFERENCES:

UN Commission on Life-Saving Commodities
http://www.everywomaneverychild.org/resources/un-commission-on-life-saving-commodities/life-saving-commodities

NOTES :

Malaria :
* Only for high prevalence regions.

Adolescent health :
‡ This is an optional indicator. In countries with adolescent health programs, definitions need to be further refined to reflect country-specific context and content of the programs. Indicators may not be comparable across countries.

Staff training :
† During a pretest of the core SARA questionnaire, it was suggested that indicators regarding trained staff may be subject to data quality issues given the current methodology i.e., the phrasing of the questionnaire, and the respondent of the questions on trained staff. Results should be interpreted with caution. Alternate questions are being planned to be tested, and the definition will be updated accordingly.

TABLE 3.4.2: TRACER INDICATORS FOR COMMUNICABLE DISEASE SERVICE AVAILABILITY AND READINESS

Domain	Tracer indicator	ID	Definition	Data collection notes
Malaria				
SERVICE AVAILABILITY **% of facilities offering:**				
	Malaria services	S15		
	Malaria diagnosis	S15_01		
	Malaria diagnostic testing	S15_02	Facility uses laboratory diagnostic test (RDT or microscopy) to diagnose malaria	
	Malaria diagnosis by clinical symptoms	S15_05		
	Malaria diagnosis by RDT	S15_06		
	Malaria diagnosis by microscopy	S15_07		
	Malaria treatment	S15_03		
	IPT	S15_04	Only for high prevalence areas	
SERVICE READINESS IN12 **% of facilities providing malaria services with tracer items on the day of the assessment**				
Staff and guidelines **DO26**	Guidelines for diagnosis and treatment of malaria	T18	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	*Guidelines for IPT	T19	Country adapt to which guidelines are required/accepted	
	Staff trained in malaria diagnosis and treatment	T20	At least one staff member providing the service trained in some aspect of malaria diagnosis and treatment in the last two years.	Interview response from in-charge of service area day of survey.
	*Staff trained in IPT	T21	At least one staff member providing the service trained in some aspect of IPT in the last two years.	
Diagnostics **DO27**	Malaria diagnostic capacity	D3	Malaria rapid test or smear (microscope, slides, stain, and accredited/certified microscopist)	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for malaria are carried out or anywhere in the facility where laboratory testing is routinely conducted.
Medicines and commodities **DO28**	First-line antimalarial in stock	M37	Artemisinin-based Combination Therapy (ACT) or other country specific	Observed in service area OR where routinely stored; in stock with at least one valid.
	Paracetamol cap/tab	M38		
	*IPT drug	M39	Sulfadoxine + Pyrimethamine (SP)	

Domain	Tracer indicator	ID	Definition	Data collection notes
	*ITN	M40	ITNs or vouchers available for distribution	
AUXILIARY INDICATORS **% of facilities providing malaria services with:**				
Staff	Accredited/certified microscopist	T59		
Diagnostics	Capacity to conduct malaria microscopy	D35	Microscope, slides, stain, and accredited/certified microscopist	
	Capacity to conduct RDT	D34	Staff trained in malaria diagnosis with RDTs, and RDTs available (observed and non-expired) at the facility on the day of the assessment	
	Availability of RDT	D36		Observed in service area OR where routinely stored; in stock with at least one valid.
Stock outs	RDT stock out	D36_A	Facility had a stock out of malaria RDTs in the past four weeks	
	Length of RDT stock out	D36_B		
	ACT stock out	M37_A	Facility had a stock out of ACT in the past four weeks	
	Length of ACT stock out	M37_B		
Medicines	Artemisinin monotherapy (oral)	M136	Facilities are not expected to have this medicine	
	Artesunate rectal or injection dosage forms	M82		
	Chloroquine (oral)	M138	Facilities are not expected to have this medicine	
	Quinine (oral)	M139		
	Primaquine (oral)	M140		
REFERENCES: World Malaria Report http://www.who.int/malaria/world_malaria_report_2010/worldmalariareport2010.pdf Guidelines for the treatment of malaria, second edition http://whqlibdoc.who.int/publications/2010/9789241547925_eng.pdf				
Tuberculosis				
SERVICE AVAILABILITY **% of facilities offering:**				
	TB services	S16		
	TB diagnosis	S16_01		
	TB diagnostic testing	S16_02	Facility uses laboratory diagnostic test (sputum smear microscopy, culture, rapid test) or chest X-ray to diagnose TB	

Domain	Tracer indicator	ID	Definition	Data collection notes
	TB diagnosis by clinical symptoms	S16_03		
	TB diagnosis by sputum smear microscopy examination	S16_04		
	TB diagnosis by culture	S16_05		
	TB diagnosis by rapid test (GeneXpert MTB/RIF)	S16_06		
	TB diagnosis by chest X-ray	S16_07		
	Prescription of drugs to TB patients	S16_08		
	Provision of drugs to TB patients	S16_09		
	Management and treatment follow-up for TB patients	S16_10		
SERVICE READINESS IN13 **% of facilities providing tuberculosis services with tracer items on the day of the assessment**				
Staff and guidelines **DO29**	Guidelines for diagnosis and treatment of TB	T22	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Guidelines for management of HIV & TB co-infection	T23	Country adapt to which guidelines are required/accepted	
	Guidelines related to MDR-TB treatment (or identification of need for referral)	T24	Country adapt to which guidelines are required/accepted	
	Guidelines for TB infection control	T25	Country adapt to which guidelines are required/accepted	
	Staff trained in TB diagnosis and treatment	T26	At least one staff member providing the service trained in TB diagnosis and treatment in the last two years.	Interview response from in-charge of service area day of survey.
	Staff trained in management of HIV & TB co-infection	T27	At least one staff member providing the service trained in HIV & TB co-infection in the last two years.	
	Staff trained in client MDR-TB treatment or identification of need for referral	T28	At least one staff member providing the service trained in MDR-TB in the last two years.	
	Staff trained in TB Infection Control	T29	At least one staff member is a referral person in charge of TB infection control and has received training in the last two years.	
Diagnostics **DO30**	TB microscopy	D8	Light or fluorescent microscope, slides, and ZN stain OR fluorescent microscope, slides, and auramine-rhodamine stain	Able to conduct the test off-site OR ability to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey.
	HIV diagnostic capacity	D6	RDT kit or ELISA test with ELISA washer, ELISA reader, incubator, specific assay kit	

Domain	Tracer indicator	ID	Definition	Data collection notes
	System for diagnosis of HIV among TB clients	D13	Record or register showing TB clients who have been tested for HIV	Observed availability and in service area or adjacent area.
Medicines and commodities **DO31**	First-line TB medications	M41	Isoniazid, Pyrazinamide, Rifampicin, and Ethambutol, or combinations to meet first-line TB treatment	Observed in service area OR where routinely stored; in stock with at least one valid.
REFERENCES: Treatment of Tuberculosis: Guidelines for national programmes, 4th edition http://whqlibdoc.who.int/publications/2010/9789241547833_eng.pdf The Global Plan to Stop TB 2011-2015: Transforming the fight towards elimination of tuberculosis http://www.stoptb.org/assets/documents/global/plan/TB_GlobalPlanToStopTB2011-2015.pdf				
HIV: counselling and testing				
SERVICE AVAILABILITY **% of facilities offering:**				
	HIV counselling and testing	S17		
SERVICE READINESS IN14 **% of facilities providing HIV counselling and testing services with tracer items on the day of the assessment**				
Staff and guidelines **DO32**	Guidelines on HIV counselling and testing	T30	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in HIV counselling and testing	T31	At least one staff member providing the service trained in some aspect of VCT in the last two years.	Interview response from in-charge of service area day of survey.
Equipment **DO33**	Visual and auditory privacy	I23	Private room or screened off area available in HIV/AIDS counselling area, a sufficient distance from sites where providers/clients routinely may be, so that a normal conversation could be held without being overheard, and without the client being observed.	Observed in service area.
Diagnostics **DO34**	HIV diagnostic capacity	D6	RDT kit or ELISA test with ELISA washer, ELISA reader, incubator, specific assay kit	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for HIV are carried out or anywhere in the facility where laboratory testing is routinely conducted.
Medicines and commodities **DO35**	Condoms	M91	Male	Observed in service area or immediate vicinity; in stock with at least one valid.

Domain	Tracer indicator	ID	Definition	Data collection notes
REFERENCES: A Handbook for Improving HIV Testing and Counselling Services http://whqlibdoc.who.int/publications/2010/9789241500463_eng.pdf				
HIV/AIDS care and support services				
SERVICE AVAILABILITY **% of facilities offering:**				
	HIV/AIDS care and support services	S18		
	Treatment of opportunistic infections	S18_01		
	Provision of palliative care	S18_02		
	Intravenous treatment of fungal infections	S18_03		
	Treatment for Kaposi's sarcoma	S18_04		
	Nutritional rehabilitation services	S18_05		
	Prescribe/provide fortified protein supplementation	S18_06		
	Care for paediatric HIV/AIDS patients	S18_07		
	Provide/prescribe preventative treatment for TB	S18_08		
	Primary preventative treatment for opportunistic infections	S18_09		
	Provide/prescribe micronutrient supplementation	S18_10		
	Family planning counselling	S18_11		
	Provide condoms	S18_12		
SERVICE READINESS IN15 **% of facilities providing HIV/AIDS care and support services with tracer items on the day of the assessment**				
Staff and guidelines **DO36**	Guidelines for clinical management of HIV & AIDS	T32	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Guidelines for palliative care	T33	Country adapt to which guidelines are required/accepted	
	Staff trained in clinical management of HIV & AIDS	T34	At least one staff member providing the service trained in some aspect of treatment of opportunistic infections in the last two years	Interview response from in-charge of service area day of survey.
Diagnostics **D037**	System for diagnosis of TB among HIV + clients	D14	Record or register showing HIV+ clients who have been tested for TB	Observed availability and in service area or adjacent area.
Medicines and commodities	Intravenous solution with infusion set	M27	Normal saline or Ringers Lactate, and Dextrose 5%	Observed in service area OR where routinely stored;

Domain	Tracer indicator	ID	Definition	Data collection notes
D038	IV treatment fungal infections	M42	Country-specific treatment of choice	in stock with at least one valid.
	Co-trimoxazole cap/tab	M43	Oral adult formulation	
	First-line TB treatment medications	M41	Isoniazid, Pyrazinamide, Rifampicin, and Ethambutol, or combinations to meet first-line TB treatment	
	Palliative care pain management	M44	Country-specific treatment of choice for high level oral pain medication (e.g., codeine, demerol, diclofenac, ibuprofen, paracetamol, morphine)	
	Condoms	M17	Male	
REFERENCES: Essential Prevention and Care Interventions for Adults and Adolescents Living with HIV in Resource-Limited Settings http://www.who.int/hiv/pub/toolkits/Essential%20Prevention%20and%20Care%20interventions%20Jan%2008.pdf				
HIV/AIDS: Antiretroviral prescription and client management				
SERVICE AVAILABILITY **% of facilities offering:**				
	ARV prescription or ARV treatment follow-up services	S19		
	Antiretroviral prescription	S19_01		
	Treatment follow-up services for persons on ART	S19_02		
SERVICE READINESS IN16 **% of facilities providing antiretroviral prescription and client management services with tracer items on the day of the assessment**				
Staff and guidelines DO39	Guidelines for antiretroviral therapy	T35	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in ART prescription and management	T36	At least one staff member providing the service trained in some aspect of ART in the last two years	Interview response from in-charge of service area day of survey.
Diagnostics DO40	Full blood count	D15	Haematological counter, stains	Able to conduct the test off-site OR ability to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for HIV are carried out or anywhere in the facility where laboratory testing is routinely conducted.
	CD4 or Viral load	D16 D17	CD4:CD4 counter and specific assay kit VL: Assay specific automated system, centrifuge, vortex mixer, pipettes	
	Renal function test (serum creatinine testing or other)	D18	Specific assay kit, centrifuge, biochemistry analyzer	
	Liver function test (ALT or other)	D19	Specific assay kit, centrifuge, biochemistry analyzer	
Medicines and commodities DO41	Three first-line antiretrovirals	M45	Country-specific first line treatment regimen	Observed in service area OR where routinely stored; in stock with at least one valid.

Domain	Tracer indicator	ID	Definition	Data collection notes
REFERENCES: Antiretroviral Therapy for HIV Infection in Adults and Adolescent http://www.who.int/hiv/pub/guidelines/artadultguidelines.pdf				
HIV/AIDS: Preventing mother-to-child transmission (PMTCT)				
SERVICE AVAILABILITY **% of facilities offering:**				
	Preventing mother-to-child transmission (PMTCT) services	S20		
	Counselling and testing for HIV+ pregnant women	S20_01		
	Counselling and testing for infants born to HIV+ women	S20_02		
	ARV prophylaxis to HIV+ pregnant women	S20_03		
	ARV prophylaxis to infants born to HIV+ women	S20_04		
	Infant and young child feeding counselling	S20_05		
	Nutritional counselling for HIV+ women and their infants	S20_06		
	Family planning counselling to HIV+ women	S20_07		
SERVICE READINESS IN17 **% of facilities providing prevention of mother-to-child transmission (PMTCT) services with tracer items on the day of the assessment**				
Staff and guidelines DO42	Guidelines for PMTCT	T37	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Guidelines for infant and young child feeding counselling	T38	Country adapt to which guidelines are required/accepted	
	Staff trained in PMTCT	T39	At least one staff member providing the service trained in some aspect of PMTCT in the last two years	Interview response from in-charge of service area day of survey.
	Staff trained in infant and young child feeding	T40	At least one staff member providing the service trained in some aspect of infant and young child feeding for HIV+ mothers in the last two years	

Domain	Tracer indicator	ID	Definition	Data collection notes
Equipment **DO43**	Visual and auditory privacy	I24	Private room or screened off area available in PMTCT area, a sufficient distance from sites where providers/clients routinely may be, so that a normal conversation could be held without being overheard, and without the client being observed.	Observed in service area.
Diagnostics **DO44**	HIV diagnostic capacity for adults	D6	RDT kit or ELISA test with ELISA washer, ELISA reader, incubator, specific assay kit	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for PMTCT are carried out or anywhere in the facility where laboratory testing is routinely conducted.
	Dried blood spot (DBS) filter paper for diagnosing HIV in newborns	D7	DBS filter paper (with valid expiration date)	
Medicines and commodities **DO45**	Zidovudine (AZT) syrup	M46		Observed in service area OR where routinely stored; in stock with at least one valid.
	Nevirapine (NVP) syrup	M47		
	Maternal ARV prophylaxis	M48	Option A: AZT, NVP, and 3TC Option B: AZT + 3TC + LPV or AZT + 3TC + ABC or AZT + 3TC + EFV or TDF + 3TC (or FTC) + EFV	
REFERENCES: Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infections in Infant http://whqlibdoc.who.int/publications/2010/9789241599818_eng.pdf Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf				
Sexually transmitted infections (STI)				
SERVICE AVAILABILITY **% of facilities offering:**				
	STI services	S21		
	STI diagnosis	S21_01		
	STI treatment	S21_02		

Domain	Tracer indicator	ID	Definition	Data collection notes
SERVICE READINESS IN18 **% of facilities providing sexually transmitted infection services with tracer items on the day of the assessment**				
Staff and guidelines **DO46**	Guidelines for diagnosis and treatment of STIs	T41	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in STI diagnosis and treatment	T42	At least one staff providing the service trained in STI diagnosis and treatment in the last two years	Interview response from in-charge of service area day of survey.
Diagnostics **DO47**	Syphilis rapid test	D9	RDT kit	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for STIs are carried out or anywhere in the facility where laboratory testing is routinely conducted.
Medicines and commodities **DO48**	Condoms	M17	Male	Observed in service area OR where routinely stored; in stock with at least one valid.
	Metronidazole cap/tab	M49		
	Ciprofloxacin cap/tab	M6		
	Ceftriaxone injection	M5		
REFERENCES: Sexually transmitted and other reproductive tract infections: a guide to essential practice http://whqlibdoc.who.int/publications/2005/9241592656.pdf				

NOTES :

Malaria :
* Only for high prevalence regions.

Adolescent health :
‡ This is an optional indicator. In countries with adolescent health programs, definitions need to be further refined to reflect country-specific context and content of the programs. Indicators may not be comparable across countries.

Staff training :
† During a pretest of the core SARA questionnaire, it was suggested that indicators regarding trained staff may be subject to data quality issues given the current methodology i.e., the phrasing of the questionnaire, and the respondent of the questions on trained staff. Results should be interpreted with caution. Alternate questions are being planned to be tested, and the definition will be updated accordingly.

TABLE 3.4.3: TRACER INDICATORS FOR NON-COMMUNICABLE DISEASE SERVICE AVAILABILITY AND READINESS

Domain	Tracer indicator	ID	Definition	Data collection notes
Diabetes				
SERVICE AVAILABILITY **% of facilities offering:**				
	Diabetes diagnosis and/or management	S22		
SERVICE READINESS IN19 **% of facilities providing diabetes services with tracer items on the day of the assessment**				
Staff and guidelines DO49	Guidelines for diabetes diagnosis and treatment	T43	Country adapt to which guidelines are required/accepted (can be NCD guidelines which contain information on diabetes)	Guidelines observed in service area.
	Staff trained in diabetes diagnosis and treatment	T44	At least one staff providing the service trained in diabetes diagnosis and treatment in the last two years (can be an NCD training including a section on diabetes)	Interview response from in-charge of service area day of survey.
Equipment DO50	Blood pressure apparatus	E5	Digital BP machine or manual sphygmomanometer with stethoscope	Observed availability, reported functionality, and in service area or adjacent area.
	Adult scale	E1		
	Measuring tape (height board/ stadiometre)	E18		
Diagnostics DO51	Blood glucose	D2		Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. In area where tests for NCDs are carried out or anywhere in the facility where laboratory testing is routinely conducted.
	Urine dipstick- protein	D4		
	Urine dipstick- ketones	D20		
Medicines and commodities DO52	Metformin cap/tab	M50		Observed in service area OR where routinely stored; in stock with at least one valid.
	Glibenclamide cap/tab	M10		
	Insulin regular injectable	M51		
	Glucose 50% injectable	M52		
	Gliclazide tablet or glipizide tablet	M115		

REFERENCES:

Definition, Diagnosis and Classification of Diabetes Mellitus
http://whqlibdoc.who.int/hq/1999/who_ncd_ncs_99.2.pdf

Definition and diagnosis of diabetes mellitus and intermediate hyperglycemia
http://www.who.int/diabetes/publications/Definition%20and%20diagnosis%20of%20diabetes_new.pdf

Domain	Tracer indicator	ID	Definition	Data collection notes
Cardiovascular disease				
SERVICE AVAILABILITY **% of facilities offering:**				
	Cardiovascular disease diagnosis and/or management	S23		
SERVICE READINESS IN20 **% of facilities providing cardiovascular disease services with tracer items on the day of the assessment**				
Staff and guidelines **DO53**	Guidelines for diagnosis and treatment of chronic cardiovascular conditions	T45	Country adapt to which guidelines are required/accepted (can be NCD guidelines which contain information on CVD)	Guidelines observed in service area.
	Staff trained in diagnosis and management of chronic cardiovascular conditions	T46	At least one staff providing the service trained in diagnosis and management of chronic cardiovascular conditions in the last two years (can be an NCD training including a section on CVD).	Interview response from in-charge of service area day of survey.
Equipment **DO54**	Stethoscope	E4		Observed availability, reported functionality, and in service area or adjacent area.
	Blood pressure apparatus	E5	Digital BP machine or manual sphygmomanometer with stethoscope	
	Adult scale	E1		
	Oxygen	E45	Oxygen cylinders OR concentrators OR central oxygen supply with functioning flowmeter for oxygen therapy (with humidification) AND oxygen delivery apparatus (key connecting tubes and mask/nasal prongs), available at any time during the 3 past months	
Medicines and commodities **DO55**	ACE inhibitor (e.g. enalapril, lisinopril, ramipril, perindopril)	M53		Observed in service area OR where routinely stored; in stock with at least one valid.
	Hydrochlorothiazide tablet or other thiazide diuretic tablet	M54		
	Beta blocker (e.g.bisoprolol, metoprolol, carvedilol, atenolol)	M55		
	Calcium channel blockers (e.g. amlodipine)	M56		
	Aspirin cap/tabs	M57		
	Metformin cap/tabs	M50		

REFERENCES:

Prevention of cardiovascular disease: guideline of assessment and management of cardiovascular risk
http://www.who.int/cardiovascular_diseases/guidelines/Full%20text.pdf

WHO CVD-risk management package for low – and medium-resource settings
http://whqlibdoc.who.int/publications/2002/9241545852.pdf

Domain	Tracer indicator	ID	Definition	Data collection notes
Chronic respiratory disease (CRD)				
SERVICE AVAILABILITY **% of facilities offering:**				
	Chronic respiratory disease diagnosis and/or management	S24		
SERVICE READINESS IN21 **% of facilities providing chronic respiratory disease services with tracer items on the day of the assessment**				
Staff and guidelines **DO56**	Guidelines for diagnosis and management of CRD	T47	Country adapt to which guidelines are required/accepted (can be NCD guidelines which contain information on CRD)	Guidelines observed in service area.
	Staff trained in diagnosis and management of CRD	T48	At least one staff providing the service trained in diagnosis and management of CRD in the last two years (can be an NCD training including a section on CRD).	Interview response from in-charge of service area day of survey.
Equipment **DO57**	Stethoscope	E4		Observed availability, reported functionality, and in service area or adjacent area.
	Peak flow meter	E19		
	Spacers for inhalers	E20		
	Oxygen	E45	Oxygen cylinders OR concentrators OR central oxygen supply with functioning flowmeter for oxygen therapy (with humidification) AND oxygen delivery apparatus (key connecting tubes and mask/nasal prongs), available at any time during the 3 past months	
Medicines and commodities **DO58**	Salbutamol inhaler	M13		Observed in service area OR where routinely stored; in stock with at least one valid.
	Beclomethasone inhaler	M59		
	Prednisolone cap/tabs	M60		
	Hydrocortisone injection	M61		
	Epinephrine injectable	M62		
Cervical cancer screening				
SERVICE AVAILABILITY **% of facilities offering:**				
	Cervical cancer diagnosis	S29		
SERVICE READINESS IN26 **% of facilities providing cervical cancer screening services with tracer items on the day of the assessment**				
Staff and guidelines **DO78**	Guidelines for cervical cancer prevention and control	T60	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in cervical cancer prevention and control	T61	At least one staff providing the service trained in cervical cancer prevention and control in the last two years (can be a broader training including a section on cervical cancer).	

Domain	Tracer indicator	ID	Definition	Data collection notes
Equipment **DO79**	Speculum	E44		
Diagnostics **DO80**	Acetic acid	D37		

NOTES :

Malaria :
* Only for high prevalence regions.

Adolescent health :
‡ This is an optional indicator. In countries with adolescent health programs, definitions need to be further refined to reflect country-specific context and content of the programs. Indicators may not be comparable across countries.

Staff training :
† During a pretest of the core SARA questionnaire, it was suggested that indicators regarding trained staff may be subject to data quality issues given the current methodology i.e., the phrasing of the questionnaire, and the respondent of the questions on trained staff. Results should be interpreted with caution. Alternate questions are being planned to be tested, and the definition will be updated accordingly.

TABLE 3.4.4: TRACER INDICATORS FOR SURGERY AND BLOOD TRANSFUSION SERVICE AVAILABILITY AND READINESS

Domain	Tracer indicator	ID	Definition	Data collection notes
Basic surgery				
SERVICE AVAILABILITY **% of facilities offering:**				
	Basic surgical services	S25		
	Incision and drainage of abscesses	S25_01		
	Wound debridement	S25_02		
	Acute burn management	S25_03		
	Suturing	S25_04		
	Closed repair of fracture	S25_05		
	Cricothyroidotomy	S25_06		
	Male circumcision	S25_07		
	Hydrocele reduction	S25_08		
	Chest tube insertion	S25_09		
	Closed repair of dislocated joint	S25_10		
	Biopsy of lymph node or mass or other	S25_11		
	Removal of foreign body (throat, eye, ear or nose)	S25_12		
SERVICE READINESS IN22 **% of facilities providing basic surgical services with tracer items on the day of the assessment**				
Staff and guidelines DO59	Guidelines for IMEESC	T49	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in IMEESC	T50	At least one staff member providing the service trained in some aspect of IMEESC in the last two years	Interview response from in-charge of service area day of survey.
Equipment DO60	Needle holder	E21		Observed availability, reported functionality, and in service area.
	Scalpel handle with blades	E22		
	Retractor	E23		
	Surgical scissors	E24		
	Nasogastric tubes (10-16 FG)	E25		
	Tourniquet	E26		
	Adult and paediatric resuscitators	E27		
	Suction apparatus (manual or electric sucker)	E28	Suction apparatus with catheter	
	Oxygen	E45	Oxygen cylinders OR	

Domain	Tracer indicator	ID	Definition	Data collection notes
			concentrators OR central oxygen supply with functioning flowmeter for oxygen therapy (with humidification) AND oxygen delivery apparatus (key connecting tubes and mask/nasal prongs), available at any time during the 3 past months	
Medicines and commodities **DO61**	Skin disinfectant	M26		Observed in service area; in stock with at least one valid.
	Sutures (any type)	M63		
	Ketamine (injectable)	M64		
	Lidocaine (1% or 2% injectable)	M65		
	Splints for extremities	M148		
	Material for cast	M149		
REFERENCES: Guide to Infrastructure and Supplies at Various Levels of Health Care Facilities: Emergency and Essential Surgical and Anaesthesia Procedure http://www.who.int/surgery/publications/GuideAnestheticInfrastFormatted06.pdf Surgical care at the district hospital http://www.who.int/surgery/publications/en/SCDH.pdf				
Blood transfusion				
SERVICE AVAILABILITY **% of facilities offering:**				
	Blood transfusion	S27		
SERVICE READINESS IN24 **% of facilities providing blood transfusion services with tracer items on the day of the assessment**				
Staff and guidelines **DO66**	Guidelines on the appropriate use of blood and safe blood transfusion	T55	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in the appropriate use of blood and safe blood transfusion	T56	At least one staff member providing the service trained in the appropriate use of blood and safe blood transfusion within the past 2 years	Interview response from in-charge of service area day of survey.
Equipment **DO67**	Blood storage refrigerator	E31	Available and functional and with temperature being monitored (checked that temperature has been monitored at least once in the past 24 hours AND maintained at 2 – 6 ^{o}C)	Observed availability, reported functionality, and in service area or adjacent area.
Diagnostics	Blood typing	D21	ABO blood group test, Rhesus blood group test, and centrifuge	Able to conduct the test on-site (in the facility) and

Domain	Tracer indicator	ID	Definition	Data collection notes
DO68	Cross match testing	D22	Cross match (should use methods that demonstrate ABO incompatibility and incompatibility due to other clinically significant antibodies and should include an indirect anti-globulin test or a test of equivalent sensitivity), centrifuge, 37°C incubator, and grouping sera	functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. This may be in a laboratory or in the service area where the test is conducted.
Medicines and commodities DO69	Blood supply sufficiency	M66	No interruption of blood availability in last three months	Reported availability.
	Blood supply safety	M67	Blood obtained ONLY from national or regional blood bank, OR blood obtained from other sources but screened for HIV, Syphilis, Hepatitis B, and Hepatitis C.	

REFERENCES:

Universal access to safe blood transfusion
http://www.who.int/bloodsafety/publications/UniversalAccesstoSafeBT.pdf

Screening Donated Blood for Transfusion-Transmissible Infection
http://whqlibdoc.who.int/publications/2009/9789241547888_eng.pdf

NOTES :

Malaria :
* Only for high prevalence regions.

Adolescent health :
‡ This is an optional indicator. In countries with adolescent health programs, definitions need to be further refined to reflect country-specific context and content of the programs. Indicators may not be comparable across countries.

Staff training :
† During a pretest of the core SARA questionnaire, it was suggested that indicators regarding trained staff may be subject to data quality issues given the current methodology i.e., the phrasing of the questionnaire, and the respondent of the questions on trained staff. Results should be interpreted with caution. Alternate questions are being planned to be tested, and the definition will be updated accordingly.

TABLE 3.4.5: TRACER ESSENTIAL MEDICINES BY CATEGORY

Domain	Tracer indicator	ID	Definition	Data collection notes
Infectious disease medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
	Me-/albendazole cap/tab	M35		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Amoxicillin cap/tab	M2		
	Ceftriaxone injection	M5		
	Co-trimoxazole cap/tab	M43		
	Ciprofloxacin cap/tab	M6		
	Fluconazole cap/tab	M135		
	Metronidazole cap/tab	M49		
Non-communicable disease medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
	Amlodipine tablet or alternative calcium channel blocker	M56		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Aspirin cap/tab	M57		
	Beclometasone inhaler	M59		
	Beta blocker (e.g.bisoprolol, metoprolol, carvedilol, atenolol)	M55		
	Enalapril tablet or other ACE inhibitor e.g. lisinopril, ramipril, perindopril	M53		
	Epinephrine injectable	M62		
	Furosemide cap/tab	M114		
	Glibenclamide cap/tab	M10		
	Gliclazide tablet or glipizide tablet	M115		
	Glucose 50% injection	M52		
	Glyceryl trinitrate sublingual tablet	M116		
	Hydrochlorothiazide tablet or other thiazide diuretic tablet	M54		
	Hydrocortisone injection	M61		
	Ibuprofen tablet	M95		
	Insulin regular injection	M51		
	Isosorbide dinitrate tablet	M118		
	Metformin tablet	M50		
	Omeprazole tablet or alternative such as pantoprazole, rabeprazole	M11		
	Paracetamol cap/tab	M38		
	Prednisolone cap/tab	M60		
	Salbutamol inhaler	M13		
	Simvastatin tablet or other statin e.g. atorvastatin, pravastatin, fluvastatin	M14		

Domain	Tracer indicator	ID	Definition	Data collection notes
	Spironolactone tablet	M147		
Reproductive health medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
See "8. Priority medicines for mothers"				
Child health medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
See "9. Priority medicines for children"				
Mental health and neurological medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
	Amitriptyline tablet	M1		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Carbamazepine tablet	M119		
	Chlorpromazine injection	M120		
	Diazepam tablet	M121		
	Diazepam injection or diazepam rectal tubes	M122		
	Fluoxetine tablet	M94		
	Fluphenazine injection	M123		
	Haloperidol tablet	M124		
	Levodopa + carbidopa tablet	M145	Levodopa+carbidopa combination tablet	
	Lorazepam injection	M144		
	Lithium tablet	M125		
	Phenobarbital tablet	M126		
	Phenytoin tablet	M127		
	Valproate sodium tablet	M128		
Palliative care medicines **% of facilities that have the following medicines in stock (observed valid) on the day of the assessment**				
	Dexamethasone injection	M129		Observed in pharmacy or in area where they are routinely stored, at least one with valid expiration date.
	Haloperidol injection	M130		
	Hyoscine butylbromide injection	M131		
	Ibuprofen	M95		
	Loperamide tab/cap	M146		
	Lorazepam tablet	M132		
	Metoclopramide injection	M133		
	Morphine granule, injectable or cap/tab	M83		
	Paracetamol	M38		
	Senna preparation (laxative)	M134		

TABLE 3.4.6: TRACER INDICATORS GENERAL SERVICE READINESS: HOSPITAL LEVEL OPTIONAL INDICATORS

*** THESE ARE IN ADDITION TO THE PRIMARY LEVEL INDICATORS***

Domain	Tracer indicator	ID	Definition	Data collection notes
23. Comprehensive surgery				
SERVICE AVAILABILITY **% of facilities offering:**				
	Comprehensive surgical services	S28	Hospital that provide surgical services	
	Tracheostomy	S28_01		
	Tubal ligation	S28_02		
	Vasectomy	S28_03		
	Dilatation & Curettage	S28_04		
	Obstetric fistula repair	S28_05		
	Episiotomy	S28_06		
	Appendectomy	S28_07		
	Hernia repair (strangulated)	S28_08		
	Hernia repair (elective)	S28_22		
	Cystostomy	S28_09		
	Urethral stricture dilatation	S28_10		
	Laparotomy	S28_11		
	Congenital hernia repair	S28_12		
	Neonatal surgery	S28_13		
	Cleft palate	S28_14		
	Skin grafting and Contracture release	S28_23		
	Open reduction and fixation for fracture	S28_17		
	Amputation	S28_18		
	Cataract surgery	S28_19		
	Club foot repair	S28_20	Casting or open club foot release	
	Drainage of osteomyelitis-septic arthritis	S28_21		
SERVICE READINESS IN25 **% of facilities providing comprehensive surgical services with tracer items on the day of the assessment**				
Staff and guidelines **DO72**	Materials for IMEESC (WHO Integrated Management for Essential and Emergency Care)	T49	Country adapt to which guidelines are required/accepted	Guidelines observed in service area.
	Staff trained in IMEESC	T50	At least one staff member providing the service trained in some aspect of IMEESC in the last two years	Interview response from in-charge of service area day of survey.
	Staff trained in surgery	T57	Trained health professional (clinical officer, general doctor, or surgeon) providing surgery present in the facility or available 24 hours a day	

Domain	Tracer indicator	ID	Definition	Data collection notes
	Staff trained in anaesthesia	T58	Trained health professional (nurse, clinical officer, general doctor, surgeon, or anaesthesiologist) providing anaesthesia present in the facility or available 24 hours a day	
Equipment **DO73**	Oxygen	E45	Oxygen cylinders OR concentrators OR central oxygen supply AND (functioning flowmeter for oxygen therapy AND oxygen delivery apparatus (key connecting tubes and mask/nasal prongs) AND oxygen available at all times during the 3 past months	Observed availability, reported functionality, and in service area.
	Anaesthesia equipment	E29	•Anaesthesia machine to deliver aesthetic gases and oxygen •Tubings and connectors to connect to the endotracheal tube (neonatal, paediatric and adult) •Resuscitator bag and mask- adult and paediatric and neonatal (size 1 for term babies) •Intubation set adult and paediatric: (Oropharyangeal airway, endotracheal tubes, laryngoscope (neonatal, paediatric and adult), Magill's forceps, stylet)	
	Spinal needle	E32		
	Suction apparatus	E28	Manual or electric	
Medicines and commodities **D074**	Thiopental (powder)	M84		Observed in service area; in stock with at least one valid.
	Suxamethonium bromide (powder)	M85		
	Atropine (injectable)	M86		
	Diazepam (injectable)	M25		
	Halothane (inhalation)	M87		
	Bupivacaine (injectable)	M88		
	Lidocaine 5% (heavy spinal solution)	M89		
	Epinephrine (injectable)	M62		
	Ephedrine (injectable)	M90		

REFERENCES:

Guide to Infrastructure and Supplies at Various Levels of Health Care Facilities: Emergency and Essential Surgical and Anaesthesia Procedures
http://www.who.int/surgery/publications/GuideAnestheticInfrastFormatted06.pdf

Surgical care at the district hospital
http://www.who.int/surgery/publications/en/SCDH.pdf

Domain	Tracer indicator	ID	Definition	Data collection notes
24. Laboratory capacity DO75 (in addition to the primary lab tests)				
SERVICE AVAILABILITY % of facilities offering:				
	Serum electrolytes	D24	Specific assay kit, centrifuge, biochemistry analyser	Able to conduct the test on-site (in the facility) and functioning equipment and reagents needed to conduct the test are observed on-site on the day of the survey. This may be in a laboratory or in the service area where the test is conducted.
	Full blood count with differential	D25	Haematological counter, stains	
	Blood typing (ABO and Rhesus) and cross match (by anti-globulin or equivalent)	D21/ D22	ABO blood group test, Rhesus blood group test, and centrifuge. Cross match (should use methods that demonstrate ABO incompatibility and incompatibility due to other clinically significant antibodies and should include an indirect anti-globulin test or a test of equivalent sensitivity), centrifuge, 37°C incubator, and grouping sera	
	Liver function test (ALT or other)	D19	Specific assay kit, centrifuge, biochemistry analyzer	
	Renal function test (serum creatinine testing or other)	D18	Specific assay kit, centrifuge, biochemistry analyzer	
	CD4 count and percentage	D16	CD4 counter, specific assay kit	
	HIV antibody testing (ELISA)	D23	ELISA washer, incubator, ELISA reader, specific assay kit	
	Syphilis serology	D29	Specific assay kit	
	Cryptococcal antigen	D30	Specific assay kit	
	Gram stain	D31	Microscope, slides, gram stains	
	Urine microscopy testing	D32	Microscope, slides	
	CSF/body fluid counts	D33	Microscope	
REFERENCES: Consultation on technical and operation recommendations for clinical laboratory testing harmonization and standardization http://www.who.int/healthsystems/round9_9.pdf				
25. High level diagnostic equipment DO76				
SERVICE AVAILABILITY % of facilities offering:				
	X-ray	E33		Observed availability, reported functionality, anywhere in the facility.
	ECG	E34		
	Ultrasound	E35		
	CT scan	E36		

NOTES :

Malaria :
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Staff training :
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