Needs Assessment of Emergency Obstetric and Newborn Care

Data Collector's Manual

AMDD
Averting Maternal Death and Disability

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List of Acronyms

AIDS	acquired immunodeficiency syndrome
AMDD	Averting Maternal Death and Disability Program
APH	antepartum hemorrhage
ARV	antiretroviral
CPD	cephalopelvic disproportion
D&C	dilatation and curettage
D&E	dilatation and evacuation
EmOC	emergency obstetric care
EmONC	emergency obstetric and newborn care
FP	family planning
GPS	global positioning system
HIV	human immunodeficiency virus
HMIS	Health Management Information System(s)
ICU	intensive care unit
IM	intramuscular
IV	intravenous
MDG(s)	Millennium Development Goal(s)
MOH	Ministry of Health
MVA	manual vacuum aspiration
NGO	non-governmental organization
PAC	postabortion care
PMTCT	prevention of mother-to-child transmission
PPH	postpartum hemorrhage
PROM	preterm rupture of membranes
RTI	reproductive tract infection
S/S	stainless steel
STI	sexually transmitted infection
SVD	spontaneous vaginal delivery
TB	tuberculosis
UFI	Unique Facility Identifier
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Note on terminology

We refer to this Needs Assessment as the Emergency Obstetric and Newborn Care (EmONC) Needs Assessment because it focuses on both obstetric and newborn care. However, we refer to the Emergency Obstetric Care (EmOC) Signal Functions and EmOC Indicators, omitting the word "newborn." Even though all but one of the signal functions can affect newborn outcomes, and one of the indicators looks at newborn outcomes, the signal functions were designed primarily to assess maternal care and do not include several key aspects of postnatal newborn care. The EmONC Needs Assessment, however, asks about aspects of newborn care beyond those addressed by the signal functions and indicators, and therefore should be referred to as an assessment of EmONC.

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The Data Collector's Manual, the set of data collection instruments, and all the Needs Assessment materials are the result of many years of experience conducting EmONC Needs Assessments in collaboration with countries and partners. AMDD gratefully acknowledges the input of those countries, institutions, and individuals who have helped shape the EmONC Needs Assessment instruments and processes in place today, with special thanks to our colleagues at UNFPA and UNICEF. Lynn Freedman, Barbara Kwast, and Deborah Maine of AMDD also provided technical expertise. Janet Butler-McPhee of AMDD provided editing and communications management services.

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Who we are

AMDD is a global program of research, policy analysis, and technical support dedicated to the reduction of maternal mortality. Since 1999, AMDD has worked with United Nations (UN) agencies, non-governmental organizations (NGOs), and governments in more than 50 countries in Asia, Africa, and Latin America to expand the availability, quality, and utilization of EmOC as a critical component of maternal mortality reduction strategies. Recognizing that access to life-saving services depends on strong health systems that respect, protect, and fulfill the rights of both health workers and the people they serve, AMDD supports governments to implement innovative human resource strategies, such as the optimal use of mid-level providers.

For further information, please visit www.amddprogram.org.

Overview

Millennium Development Goals (MDGs) 4 and 5, launched in 2000, call for a reduction in the child mortality rate by two thirds and the maternal mortality ratio by three quarters, respectively, between 1990 and 2015. Interventions to improve emergency obstetric and newborn services will have a significant positive impact on these two goals. The EmONC Needs Assessment plays a critical role in helping individual countries determine the best way to achieve these goals for their unique contexts.
This document, the Data Collector's Manual, is part of the EmONC Needs Assessment Toolkit. The Toolkit contains documents needed to plan for, conduct, and use the results of an EmONC Needs Assessment. These documents include and build on the Needs Assessment data collection instruments with which AMDD and partners have worked for over 10 years.

The Toolkit is based on *Monitoring emergency obstetric care: a handbook* (The Handbook), which was published by the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children's Fund UNICEF, and AMDD in June 2009 as a revision of the 1997 *Guidelines for Monitoring the Availability and Use of Obstetric Services*.[1] The Handbook lays out a methodology for monitoring the functioning of the health system in providing EmOC, using a set of EmOC indicators to determine availability, use, and quality of this care. The EmONC Needs Assessment conducted with this Toolkit collects the data needed to calculate the EmOC Indicators as well as detailed data needed to plan for the improvement of EmONC services.

[1] World Health Organization, UNFPA, UNICEF, AMDD. *Monitoring emergency obstetric care: a handbook.* Geneva: World Health Organization, UNFPA, UNICEF, AMDD; 2009.

The EmONC Needs Assessment Toolkit includes the following six interrelated resources:

Data Collection Modules

This series of documents provides the standard questionnaires (modules) needed to gather the data in an EmONC Needs Assessment. Countries can adapt these modules to the local context. The National Information Module is administered by the country core team before the Needs Assessment data collection begins in order to develop appropriate terms of reference and agree upon modifications to the modules. Modules 1-9 are administered by the data collection teams during the data gathering phase.

Data Collector's Manual

This manual is a reference for all data collectors. It provides detailed information about the study methodology, general rules for data collection, and a module-by-module guide to data collection.

Needs Assessment Facilitation Guide

This guide familiarizes the country core team with the entire EmONC Needs Assessment process, from advocacy and planning, to conducting the Needs Assessment, to dissemination and action planning.

Data Collectors Training: Trainer's Guide

This guide provides instruction on developing the skills and knowledge of data collectors. It includes 16 session plans that familiarize data collectors with the modules and help them to gain the skills needed to complete the modules.

Implementation Team Training: Trainer's Guide

This guide provides the implementation team (the group that will coordinate and conduct data collection and management) with an orientation to the EmONC Needs Assessment process, using the Needs Assessment Facilitation Guide. It includes a training-of-trainers component for those who will be participating in or leading the Data Collectors Training, using the Data Collectors Training: Trainers Guide.

Data Analysis Guide

This guide functions as a guide to analyzing the data collected during the Needs Assessment. Sample tables from reports of previously conducted Needs Assessments are included.

For more information or for access to these resources, please visit www.amddprogram.org.

Objectives of the EmONC Needs Assessment

The EmONC Needs Assessment will determine the existing capacity of health facilities to provide necessary life-saving care to pregnant women and their newborns when complications occur.

The general objectives are to:

- Establish a baseline useful in realizing a national plan of action (e.g., the Road Map for Accelerating the Attainment of the MDGs related to maternal and newborn health, if applicable); and
- Guide policy, planning, and prioritization to strengthen the health system using EmONC as a point of entry.

The specific objectives are to:

- Measure the availability of infrastructure;
- Establish a baseline for monitoring the availability, geographic distribution, level of utilization, and quality of EmONC (using the EmOC Indicators) that will be linked to the Health Management Information System (HMIS);[2]
- Understand the policy environment for training health workers in life-saving practices;
- Describe the policies regarding fees for obstetric services and facility level practices;
- Determine the availability of essential drugs, equipment, and supplies for EmONC;
- Determine the availability of health workers who perform the EmOC Signal Functions;
- Measure knowledge and competency levels of health workers regarding obstetric and newborn care;
- Carry out case reviews of the partograph, cesarean deliveries, and maternal deaths to assess aspects of the quality of care; and
- Provide information on any other topic relevant to the fulfillment of the stated general objectives.

[2] See the Note on Terminology in the List of Acronyms for more about the distinction between EmOC and EmONC.

Methodology

Overview

Needs Assessments are implemented as a census (or sample) of public and private hospitals and health centers throughout the country. The EmONC Needs Assessment data collection instruments are composed of nine modules (Modules 1-9) which are described in detail below. The modules will be administered by data collection teams who will visit each health facility in their assigned region of the country. The Needs Assessment has a cross-sectional study design. It will give a picture of the current conditions in each facility. When information from all facilities is aggregated, the current conditions in the country as a whole will emerge.

Members of the data collection teams will be trained on the specifics of the Needs Assessment modules to ensure a common understanding and interpretation. The training will last roughly five days and will cover:

- Introduction and rationale for the EmONC Needs Assessment modules;
- Discussion of study methodology, research ethics, and appropriate study behavior;
- Training on key skills for data collection including interviewing, observation, and data collection and extraction;
- Activities and exercises to allow practice and reinforcement of key skills;
- Training on and practice in administration of each module;
- Field practice in facilities and feedback on the field experience;
- Pre- and post-training assessment of data collectors; and
- Discussion of the logistics of field work.

After completion of the training, the data collection teams will travel to their respective regions and will begin visiting facilities and collecting data.

Estimated duration of facility visits

To do thorough data collection, it usually takes approximately two to three days in large national or regional hospitals, one to two days in district hospitals, and one half day to one day in health centers. However, these are very rough estimates and the total time the team spends in the field will be a function of the size and patient volume of the facilities visited, distances between facilities, topography, and other logistical factors.

Organizing time in facility

NOTE: It is important to ensure that service delivery is not interrupted so as not to put the life of any patient in jeopardy. Data collection teams must be careful not to compromise provider-patient confidentiality.

Upon arrival at the facility, the first stop must be to the facility director or another officer in charge. The data collection team supervisor should perform the following tasks:

- Explain the purpose of the visit;
- Introduce the data collection team;
- Present the study authorization letter;
- Receive permission to begin data collection; and
- Determine if the officer in charge will be available throughout the day to introduce relevant staff and to identify areas of the facility, as needed.

See Appendix 1 for a sample script for the introduction of a Needs Assessment and team.

NOTE: Collection of facility case summary data (Module 4) is the most time-consuming. It is advised that whoever is working on Module 4 should begin immediately after the introductions to the facility director.

Responsibilities and expectations of the data collection team supervisor

All teams will have a team supervisor who is responsible for closely monitoring the work of the data collectors, ensuring that the data collection modules are completed correctly and consistently, answering questions that arise, and helping to collect data.

The team supervisor is responsible for maintaining a log of all the facilities visited, the dates of the visit, and any important comments about the visit. The Facility Log will help the team supervisor keep track of the Facility Number, which is a number that the supervisor assigns to each facility as it is visited. This Facility Number is recorded in Module 1 and makes up the important Unique Facility Identifier (UFI). More information about how to create the UFI is described in the section on Module 1. See Appendix 2 for a sample of the first page of the Facility Log.

The team supervisor will communicate with the field coordinator (whose role is described in the Needs Assessment Facilitation Guide) at the central level, letting him/her know where the team is, how many facilities they have visited, problems they have encountered in the field, etc.

Before a team leaves a facility, the team supervisor should ensure that the team meets as a group to review the work at that particular facility and to discuss any inconsistencies in the answers recorded on the modules. The team members might also exchange modules with one another to double-check them for completeness.

The team supervisor is also responsible for supporting each team member by providing guidance and clarification, finding answers to difficult questions by contacting the field coordinator, and ensuring that each team member is performing well. The team supervisor is ultimately responsible for the quality of the data collected by his/her team.

Responsibilities and expectations of the data collector

The responsibility of the individual data collector is to capture information about the facility in the truest and most accurate form possible. The data collector is expected to record data according to the guidance provided in the Data Collector's Manual, the directions provided in Modules 1-9, and the instruction offered during training.

The data collectors' role involves asking many questions, listening, observing, and recording. Their role is **not** about teaching, critiquing, or advising. If advice is sought then suggestions may be offered, but it is most important that data collectors record what they see or are told.

The data collectors will acquire and improve their performance based on an inventory of skills listed in the table below; these are discussed further in the Data Collectors Training.

Interviewing Skills
1. Demonstrate professionalism.
2. Listen effectively.
3. Capture data and responses and record them according to the standards outlined in the Data Collector's Manual.
4. Provide factual information as needed.
5. Demonstrate appropriate study behavior and communication skills.
6. Use appropriate non-verbal communication.
7. Recognize verbal and non-verbal problems and address problems as they are identified.
Observation Skills
8. Report observations in an objective manner.
Data Collection and Extraction Skills
9. Determine the appropriate source(s) for the information required; do not overlook important sources.
10. Recognize internal inconsistencies and resolve them when possible.
11. Accurately record information in the Needs Assessment modules, according to outlined standards.

General Rules for Data Collection

There are several general rules for data collectors which should be followed when completing Modules 1-9. They are described below.

General Rule 1: Each question should have an answer

In general, each question requires one response and no question should be left blank. The only time a question should be left blank is when you are directed to skip the question based on a skip pattern (General Rule 2). If a question that should have an answer is left blank, it is impossible to know how to interpret the blank response. For example, we will not know whether you forgot to ask the question, whether the information to answer the question was unavailable, whether the respondent did not know the answer, etc.

General Rule 2: Only skip questions when directed

Sometimes you will be instructed to skip a question or several questions based on an answer provided by the respondent. The skips are usually indicated in the far right-hand column of the module, following a question, or in the first row of a table. If no skip is noted, you should proceed to the very next question. In the example below, the data collector recorded a response of "No" to Item 9. As indicated by the skip instruction, the data collector should skip Items 10 through 14 and begin again at Item 15.

No.	Item	Response	Skip to
9	Does this facility have electricity? *(even if irregular, circle 1 for "Yes")*	Yes ..... 1 No..... 0	If "No," skip to Item 15
10	What is the <u>primary</u> source of electricity? *(circle one)*	Power lines (grid) ..... 1 Generator ..... 2 Solar ..... 3 Other (*specify*) ..... 4 _____	
11	Is the electricity functioning (at the moment of this interview)?	Yes ..... 1 No..... 0	
12	Is there a back-up generator available?	Yes ..... 1 No..... 0	If "No," skip to Item 14
13	Is the generator functional?	Yes ..... 1 No..... 0	
14	In the last month, how many days were you without electricity? *(write number; if electricity fails sporadically, but not for days at a time, use 88)*	|___|___|	
15	Does this facility have water for functions such as infection prevention, patient and staff use, etc.?	Yes ..... 1 No..... 0	If "No," skip to Item 19

General Rule 3: Circle the code next to response

Use circles to mark the codes next to each response. Do not circle the response itself, and do not use an X to mark the code. The X could cover the code and make it difficult to read during data entry.

Correct

No.	Item	Response
2	Urban/rural designation	Urban ..... 1 Rural 2

Incorrect

No.	Item	Response
2	Urban/rural designation	Urban ..... 1 Rural 2

No.	Item	Response
2	Urban/rural designation	Urban ..... 1 Rural 2

General Rule 4: Do not read responses aloud to respondent

Generally, when conducting an interview, you should not read the responses to the respondent. Simply read the question and listen to the answer that is **spontaneously** provided by the respondent. Circle the code next to the response that is closest to the answer provided. In the example below, you would read: "In labor and delivery, when are drug supplies ordered?". You would then listen to the response, and circle the code that corresponds to the answer provided.

No.	Item	Response
41	In labor and delivery, when are drug supplies ordered? *(circle one response)*	Order same time each week/month/quarter ..... 1 Order whenever stocks reach reorder level ..... 2 Reorder when we run out ..... 3 Never order drugs (shipments come/kits arrive) ... 4 Drug ordered on patient-by-patient basis ..... 5 Other (*specify*) _____ 6 No delivery services 9

General Rule 5: Follow italicized directions in parentheses

Instructions to you, the data collector, are usually written in italics and may be contained within parentheses. Italicized directions appear in several places: 1) at the beginning of each module; 2) at the beginning of some sections within modules; and 3) following individual questions.

Notice that the directions in the example below follow the question and indicate you should *read each item*. This means that you would ask: "Does the facility provide the following services: Focused antenatal care?". Then you would record the corresponding response. Next you would ask: "Does the facility provide postnatal care?". Then you would record the response and continue on.

No.	Item	Response		Skip to
19	We'd like to know about some of the basic services provided at this facility. Does the facility provide *(read each item)*	Yes	No	
	a. Focused antenatal care	(1)	0	
	b. Postnatal care	(1)	0	
	c. Obstetric surgery, (e.g., cesarean)	1	(0)	
	d. General anesthesia	1	(0)	
	e. Treatment or repair of obstetric fistula	(1)	0	
	f. Cervical screening (pap smear)	1	(0)	
	g. Diagnosis and treatment for sexually transmitted infections (STIs)	1	(0)	
	h. Family planning	(1)	0	
	i. Prevention of mother-to-child transmission (PMTCT)	(1)	0	

General Rule 6: Specify "Other" responses

If there is no code provided for the response given, you should circle the number for "Other" and write the response in the available space.

No.	Item	Response	Skip to
5	If parenteral oxytocics were administered in the last 3 months, which type of oxytocic was used? *(circle one)*	Oxytocin.....1 Ergometrine.....2 Both.....3 Other (*specify*).....(4) ____syntometrine_____	All responses to this item skip to Item 9

General Rule 7: Record “don’t know” or “no information available”

The majority of questions will have a response. There may even be some questions where the response is “Don’t know” or, if you are reviewing documents, where the answer is “No information available.” In some cases, there will be a pre-coded option for “Don’t know” or “No information.” You should write in or circle the correct code as appropriate.

In the example below, the directions indicate that if the respondent does not know the cost of an item, you should fill in the space with a series of 8s (8888.88). Notice that this is different than if the respondent says that the item is not available. In that case you would fill in the space with a series of 9s (9999.99), as per the directions.

No.	Item	Response	Skip to
48	What is the approximate current cost to the patient (in local currency) for: (*read each item, and enter 0000.00 if there is no cost to the patient; 9999.99 if service or item not available; or 8888.88 if the respondent does not know)* a. Admission fee b. Normal delivery c. Gloves	a. |___|___|___|___| .|__|__| b. |___|___|___|___| .|__|__| c. |___|___|___|___| .|__|__|	

In the next example, the data collector has entered 99 as the age of the patient for Case 2. This means that there was no information in the patient record that indicated the age of the woman in Case 2. Similarly, there was no information available about how to classify the cesarean for Case 3. To indicate this, the data collector has entered 9.

No.	Item	Case 1	Case 2	Case 3
1	Age of the woman (99 = No information)	21	99	29
5	Cesarean was classified in the register/partograph/ chart as: 1. Emergency 2. Elective →skip to 8 9. No information →skip to 8	1	1	9

Review of the Needs Assessment Modules 1 Through 9

The EmONC Needs Assessment modules used by the data collectors encompass interviews, observations, review of registers and cases, and an inventory of drugs, supplies, and equipment.

The modules are:

- Module 1: Identification of Facility and Infrastructure
- Module 2: Human Resources
- Module 3: Essential Drugs, Equipment, and Supplies
- Module 4: Facility Case Summary
- Module 5: EmOC Signal Functions and Other Essential Services
- Module 6: Partograph Review
- Module 7: Provider Knowledge and Competency for Maternal and Newborn Care
- Module 8: Cesarean Delivery Review
- Module 9: Maternal Death Review

Module 1: Identification of Facility and Infrastructure

OBJECTIVES:

- To record general identifying information about the facility in which you are conducting the survey, including the Unique Facility Identifier (UFI).
- To gather general information about the facility's overall size and infrastructure in terms of management, availability of electricity and water, and services offered.
- To identify the available and functioning means of transportation and communication at each facility.
- To determine if, how, and when individuals pay for services at health facilities.

DATA COLLECTION METHODS: Interviews and some observation.
Section 1 (Interview Information) should be completed by data collection team supervisor. Starting with Section 2 (Facility Identification Information), the data collector assigned to this module should direct questions to the officer in charge who is responsible for overall facility operations, or to the person s/he designates. However, if the officer in charge does not know the answer to some questions, you may ask other people in the facility.

NOTES:

SECTION 1. Interview Information

Before beginning the interview, the team supervisor should complete Section 1 by entering the UFI and basic facility information. The following is an example of how the UFI is created.

Team Number	Facility Number	Unique Facility Identifier (UFI)
| 1 | 2 |	| 0 | 1 | Sequential number beginning with 01	| 1 | 2 | 0 | 1 | 2-digit Team Number + 2-digit Facility Number

In this section, please note that the areas for region/province code and district code have been shaded. Neither the team supervisor nor the data collector will enter these codes; this will be done at the time of data entry by the data entry clerks. However, it is very important that you enter the names of the region/province and district where indicated.
Next, the team supervisor should let each team member know what the UFI is for that facility, and ask them to write the UFI on every page of every module.
If geographic coordinates are to be taken, this should be done at the front gate/front door of the facility. You should try to obtain a minimum of four satellites; if possible, obtain five or more. It is preferable to obtain an accuracy reading of four meters or less; however, for our purposes, an accuracy reading of around ±10 meters is sufficient. When you have obtained an acceptable coordinate reading, enter the coordinates where indicated in Section 1. Enter the UFI of the facility into the global positioning system (GPS) device before marking the coordinates. You will be shown how to do this during the Data Collectors Training.

SECTION 2. Facility Identification Information

The data collector responsible for the rest of Module 1 should direct the remainder of the questions in the module to the officer in charge of the facility.

- Item 1: *Have any deliveries been attended in this facility in the last 12 months?* IMPORTANT: If the answer to this item is "No," do **not** complete all the modules. You should:
    - Immediately inform your team members that there have been no deliveries so that they can adjust their strategy for data collection.
    - Complete all of Module 1.
    - Complete Section 1 of Module 2.
    - Complete all of Module 3.
    - Do **not** complete Modules 4 through 9.
- In Item 1, we are only interested in births that have occurred **within** the facility. Births attended by Health Extension Workers or Community Health Workers in the home are **not** considered facility births.
- Item 2: *Urban/rural designation?* (Urban and rural are defined by governments, usually by the number of inhabitants. The country-specific definitions will be provided during the Data Collectors Training.)

SECTION 3. General

First, read the transitional sentence at the beginning of the section.

- Item 6: *How many beds are available for patients in this facility?* Enter the total number of beds that are available to be used in the facility. Do not include beds that are in storage.
- Item 7: *How many of the total number of beds are dedicated exclusively to obstetric patients?* Include beds in the labor and delivery ward, gynecology and maternity wards, as well as other beds used exclusively by obstetric/gynecological patients.
- Item 8: *How many delivery tables are available?* Include only delivery beds and tables that are in the delivery room(s).
- Items 15-18: The availability of water is defined as having a source of water that is suitable for infection prevention and bathing. This does not have to be water appropriate for drinking.
- Item 15: *Does this facility have water for functions such as infection prevention, patient and staff use, etc.?* If a facility does not have water for **all** functions but has water for **some** functions, the answer to Item 15 is "Yes." For example, if there is water for infection prevention but not for patient use, the answer is "Yes."

SECTION 4. Transportation and Communication

Most questions in this section ask if there is "at least 1 available and functional." If there is at least one of the specified items available and reported to be functioning the answer is "Yes" (1). If there are none available, or if the item is available but it is not functioning, circle "No" (0).

- Item 21: *Landline telephone in the maternity area*. If there is no maternity area in the facility, the answer to this question is "No" (0).
- Items 21-26: In these questions, there is a second question that asks whether people use the telephones, cell phones, or radios for referral. Note that the skip instruction appears in the text before the table rows. In the example below, the data collector has recorded that there is a landline telephone available in the maternity area. Because the answer was "Yes," s/he would then ask whether the people on duty use the landline telephone for referral. Then the data collector would continue to the next row (i.e., Item 22). If the answer had been "No," the data collector would not ask about the use of the telephone in the maternity for referral, and would immediately continue to the next question.

Skip instruction

No.	Item	Is at least 1 available and functional?		If "Yes," is it used for referral?	
		Yes	No	Yes	No
21	Landline telephone in maternity area	1	0	1	0
22	Landline telephone elsewhere in facility	1	0	1	0
23	Cell phone (owned by facility)	1	0	1	0

- Item 42: *How long does it take to get to that referral hospital with surgical care?* We are looking for how long it takes, under ideal circumstances, to reach the nearest referral hospital with surgical care from the facility you are assessing. Ideal circumstances mean that there is access to a working vehicle (for traveling drivable roads) and/or there is access to the fastest mode of transportation along paths that are not drivable (e.g., a motorcycle, walking, etc.). If it is necessary to use more than one mode of transportation, the time required for each leg of the trip should be added together. For example, if one needs to walk to the road and then take a vehicle along the road to the referral hospital, you should record the total number of minutes it takes to walk to the road and then drive to the hospital.

SECTION 5. Payment for Services

The facility officer in charge may not know the answers to some of these cost-related questions. If s/he does not know, you may ask someone else in the facility (e.g., the accountant or the pharmacist).

- Item 47: *Is there a fee schedule for services posted in a visible and public place?* It is noted that this should be recorded *by observation only*. This means that you should not ask the facility officer in charge this question, but should respond to the question based on what you observe in the facility.
- Item 48: *What is the approximate current cost to the patient in this facility (in local currency) for …?* This question asks for the cost to the patient of a variety of items. The following are several points to remember about this question:
    - Record costs in local currency.
    - If there is no cost to the patient, you should enter 0000.00.
    - If the respondent does not know the cost, you should enter 8888.88.
    - If the indicated service or item is not offered or available in the facility, you should enter 9999.99.
    - We are interested in the full cost to the woman for each item, not the unit cost of the item. For example, if the full prescription for chloramphenical is more than one injection, you should enter the full prescription cost, **not** the cost per injection.
    - Often a drug used intramuscularly or intravenously will be sold with a syringe. Include cost of the syringe if needed.
    - If the facility only charges for the item occasionally, you should record the charges as of the day of the visit. For example, if last week the facility did not charge for penicillin, but on the day of your visit they are charging, you should enter the amount they are charging on the day of the visit.
- Item 50: *Is there a **formal** system in place to have fees for maternity services waived for poor women?* A formal system means that the government or the institution has an official policy about waiving fees.
- Item 51: *Is there an **informal** system in place to have fees for maternity services waived for poor women?* An informal system means that there is no official institutional policy but that poor women's fees are sometimes waived.

SECTION 6. Length of Stay

Length of stay can depend on many factors. The purpose of this question is to record the general or average length of stay for the situation specified.

Comments Box

Each module has a comments box either at the end or the beginning of the module. These boxes can be used to note any information that might be helpful in understanding the answers to the module questions, why a question might have been left blank, explanations for what looks like an inconsistency, or other issues that might warrant further explanation.

Module 2: Human Resources

OBJECTIVE:

To determine the staffing situation at the facility. This module collects information that will be used to describe the available personnel, staff training, and services provided.

DATA COLLECTION METHOD: Interviews.

Direct questions under:

- ***Overall Staffing*** to the facility officer in charge or the administrator who works with the payroll. If s/he does not know, go to the person in charge of the maternity.
- ***24 Hour Availability*** and ***EmOC Signal Functions and Other Essential Services*** to the person in charge of the maternity. If s/he does not know who provides services in the operating theater, ask the person in charge of the operating theater at the time of the visit.

NOTES:

SECTION 1: Overall Staffing

IMPORTANT: If the facility has had no deliveries in the past 12 months (see answer to Question 1 of Module 1), only complete Section 1 of Module 2.

You should obtain an answer to the first question (*How many funded positions does this facility have for this type of staff member?*) for the first column (Medical Doctor) and work down the section through all questions on the first section with reference to that category of worker. Then move on to the next category of health worker (Obstetrician/Gynecologist), and so on, until the first section is completed.

SECTION 2: 24 Hour Availability

Before beginning Section 2, take a moment to circle or mark the categories of health worker for which the answer to Question 2 is one or greater. Do this on the remaining pages of the module. Ask only about those groups of professionals who currently work at the facility. This will save you time and make the interview go more smoothly.

Like the first section, the table should be read from top to bottom for each type of health worker. If there is no health worker currently on staff, leave the column blank.

- Questions 9-12: *Is this cadre of worker on duty?* It is important to distinguish whether a health worker is on duty or on call. “On duty” means that there is at least one staff member in this category who is physically present in the facility or nearby. “On call” means that the worker can be contacted but is not physically present in the facility. This distinction is important because workers who are on call could cause a delay in the performance of a given function.

SECTION 3: EmOC Signal Functions and Other Essential Services

These questions ask whether each category of health worker provides specific services. It could be that only one individual of a health worker category provides the service, while others do not; in this case, circle “Yes” (1). We are not interested in whether the health worker was trained to provide the service. If a health worker category **requests** of another category that a service be provided or **directs** another type of worker to provide the service, but does not administer or perform the service him/herself, the answer to the question would be “No” (0). If a health worker ever provides the service him/herself, the answer is “Yes” (1).

- Question 34: *Does this cadre of staff provide immediate newborn care?* Immediate newborn care includes making sure the baby is dry, keeping the baby warm (e.g., skin-to-skin contact), exclusive breastfeeding, and eye and cord care.
- Question 39: *Does this cadre of staff provide PMTCT services?* PMTCT, the prevention of mother-to-child transmission of HIV, comprises many services, and can vary by setting. The most important elements of PMTCT for EmONC are rapid testing of the mother, and if she is seropositive, provision of antiretrovirals (ARVs) to the mother and the newborn.

Module 3: Essential Drugs, Equipment, and Supplies

OBJECTIVE:

To evaluate the availability and functionality of the drugs, equipment, and supplies necessary for the delivery of EmONC services.

DATA COLLECTION METHODS: Interviews and observation.

This module includes four sections. You could separate the sections and ask for assistance for:

- Section 1 (Pharmacy) from the Pharmacist
- Section 2 (Maternity) from the Head Midwife or Nurse in the Maternity
- Section 3 (Operating Theater) from the Head Nurse in the Operating Theater
- Section 4 (Laboratory) from the Head Laboratory Technician

If the person indicated above is not available, find someone else who knows the answers to the questions who is available to work with you.

NOTES:

This module has been organized **by area** in order to look at a facility's readiness to respond to obstetric emergencies. It is important to evaluate the availability of certain equipment by room rather than facility-wide because the presence or absence of essential equipment, supply items, and drugs in a particular area can affect a facility's ability to promptly deliver quality EmONC. For example, a facility may have available and functional blood pressure cuffs overall, but the maternity ward may not have any blood pressure cuffs to monitor women.

All sections begin with filter questions to determine if the particular area is available within the facility. For example, Section 3 has a question that asks if the facility has an operating theater. If the answer is "No," you would record that answer and then the directions would tell you to end Section 3.

The drug, equipment, and supplies lists have been organized into blocks of related items to evaluate whether each area of the facility has all of the necessary supplies to attend to particular tasks (for example, all of the supplies that would constitute a "delivery pack"). Each data collection team has a list of equipment (including photographs) to assist with the inventory of supplies and equipment. (See Photo List of Equipment, Appendix 3.)

Many questions in Sections 2, 3, and 4 are phrased "Is at least one available and functional?" If the item is both available **and** functional, the answer is "Yes". If the item is not available **or** not functional, the answer is "No". Because this module is lengthy, we have simplified the data collection by collapsing two questions into one.

The lists of drugs, equipment, and supplies in this module come from experts in the field of maternal health (including midwives and obstetricians) and from the following international documents:

- World Health Organization, Department of Reproductive Health and Research. *Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors.* World Health Organization; 2007.[3]
- World Health Organization, Department of Reproductive Health and Research. *Managing Newborn Problems: A guide for doctors, nurses, and midwives.* World Health Organization; 2003.[4]

Some of the obstetric equipment or laboratory equipment may be described by a proper name. If the facility staff do not recognize the proper name, simply ignore it and answer based on the additional information provided (e.g., dressing forceps, 250mm, S/S). The abbreviation S/S means stainless steel.

SECTION 1: Pharmacy

- Item 2: *Does the facility have a supply of medicines?* If there is no supply of medicines in this facility, circle 0 ("No") and there is no reason to complete Section 1. If there **is** a supply of medicines, circle 1 ("Yes") for Items 1 and 2 and find the Pharmacist to help complete Section 1.
- Items 17-30: Please note that each subsection begins with a question about whether the facility has a category of drug available. If the answer to the **category** question is "No" you should circle 0 and skip to the next group of drugs as indicated in the directions. If the answer is "Yes," circle 1 and indicate whether each type of that drug is available. Please refer to the example below.

No.	Drugs	Available	
		Yes	No
17	**Antibiotics: Does this facility have antibiotics?** ***If "No" → skip to Anticonvulsants (Item 18)***	1	0
17.01	Amoxicillin	1	0
17.02	Ampicillin	1	0
17.03	Cephazoline sodium	1	0
18	**Anticonvulsants: Does this facility have anticonvulsants?** ***If "No" → skip to Antihypertensives (Item 19)***	1	0
18.01	Magnesium sulfate (injection) 50% concentration	1	0
18.02	Magnesium sulfate (injection) concentration other than 50%	1	0
18.03	Diazepam (injection)	1	0
18.04	Phenobarbital (injection)	1	0

- Item 18.01: Here, and in other questions about magnesium sulfate, we are only interested in the injectable anticonvulsant. We are not interested in magnesium sulfate that is used as a laxative.

SECTION 2: Labor and Delivery and Maternity

[3] http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/9241545879/en/index.html
[4] http://www.who.int/making_pregnancy_safer/documents/9241546220/en/

- If there are no delivery services in this facility, circle 9 ("No delivery services") for Item 41, and do not complete Section 2. If there **are** delivery services, circle the appropriate response for Item 41 and complete Section 2.
- Items 46.01-46.08: *Are there guidelines or protocols available in the maternity for…?* Please answer "Yes" (1) if these items are available and accessible to all relevant staff in the maternity area. If a particular item is not accessible in the maternity, then the answer to the question is "No" (0).
- Item 46.01: *Are there guidelines or protocols available in the maternity for management of obstetric and newborn complications?* These could include guidelines/protocols for sepsis, prolonged labor, hemorrhage, eclampsia, and other complications. If guidelines/protocols for any of these complications are available, the answer to Item 46 is "Yes" (1).
- Items 53.01-53.05 ask about the availability of equipment for manual vacuum aspiration (MVA). These questions are in the section for the maternity area; **however**, it is possible that a facility may keep MVA equipment in the operating theater, the gynecology area, or somewhere else. For these MVA items, you may look in areas of the facility other than the maternity.

SECTION 3: Operating Theater

If there is no operating theater in this facility, circle 0 ("No") for Item 64, and do not complete Section 3. If there **is** an operating theater in the facility, circle 1 ("Yes") in Item 64 and complete Section 3.

SECTION 4: Laboratory

If there is no laboratory in this facility, circle 0 ("No") for Item 71, and do not complete Section 4. If there **is** a laboratory in the facility, circle 1 ("Yes") in Item 71 and complete Section 4.

Module 4: Facility Case Summary

OBJECTIVES:

- To collect the data necessary to calculate the EmOC Indicators and other important indicators. Information gathered when using this form will be used to show the utilization, functioning, and quality of EmOC and other services in the facility.
- To assess the completeness and quality of data used to calculate the indicators based on this module.

Module 4 is designed to collect information for a 12-month period. Data must be collected from the same 12-month period for all facilities.

DATA EXTRACTION: The first step in the data extraction process is to identify the registers, log books, or reports in the facility which contain the information needed. Explain to the medical director or matron what information is needed and use the Flow Chart at the end of this section to determine which data sources will be the most useful. You should write on the Flow Chart to help you remember which registers to consult. The Flow Chart may not contain all the relevant registers; therefore, you should feel comfortable writing the names of other registers on the Flow Chart as needed.

It is extremely helpful to have two people completing this module, where one reads the register and the other person counts or tallies using the worksheets for Module 4. Use the worksheets to tick each case that you find in the registers, and then sum the monthly number of each item. Finally, enter the monthly sum into the appropriate block on Module 4. Enter 0 if no cases were encountered.

Not all facilities provide all services; for example, most health centers do not have obstetric surgery. In such a case, the data collector should enter “0” for each month on the row for cesareans. This module is used to count numbers of women treated for various obstetric complications; the objective of this module is not to determine if specific services are performed. We will learn whether specific services are performed through other modules.

To be most effective when reading registers and log books, first familiarize yourself with the column headings, noting which columns have the information that you want. However, it is not sufficient to simply read down the columns (vertically); you must read across the rows (horizontally), case by case. Often you will find multiple pieces of information that you will need on one row. For example, in most labor and delivery registers you will find a fetal outcome column and an Apgar score column, which is helpful to confirm whether a dead newborn was a stillbirth (if Apgar = 0 → stillbirth). Reading horizontally allows you to count more than one item at a time; for example, the same register may allow you to count vaginal deliveries, instrumental deliveries, stillbirths, HIV+ women, some obstetric complications, and some referrals.

NOTE ON PERIODIC FACILITY STATISTICAL REPORTS: It has been our experience that statistician reports (monthly, quarterly, or annual) are not necessarily a reliable source of data for this module. Although it may be tempting to use such reports, we strongly suggest that before you do so you cross-check several months of data from the registers to compare your totals with those in the reports. If you find that your numbers match very closely (i.e., within one or two cases), you can feel confident that the reports are accurate enough for this module. Note, however, that the reports may be accurate for some items but not others. For example, the number of deliveries in the reports may match your totals, but the number of stillbirths or obstetric complications due to obstructed or prolonged labor may not. You should only use the report totals for those items that you have verified are accurate.

NOTES:

Allow a great deal of time to complete this module. It is best accomplished with two persons working together, beginning soon after arrival at the facility but after initial introductions have been made. In large institutions, when other members of the data collection team finish their assigned modules, they should help complete Module 4. Data fatigue comes easily with this module and being alert is important.

If possible, enlist the help of the facility staff to review the registers, log books, and reports with you. At the very least, let them know that you would very much like their help during the data collection exercise as you encounter questions about abbreviations, etc.

SECTION 1. Registers

In this section, note the type of registers and log books that are in use in the facility. This is not an exclusive list as it focuses on registers with information related to obstetric and newborn care and survival. If there are other registers in use for obstetric and newborn care, they can be added in the two rows marked "Other."

Please note the different purposes of this section of Module 4 and the Flow Chart at the end of this section.The Flow Chart will help you determine which registers to use for data extraction. This section of Module 4 documents the existing registers. Even though many registers may exist in the facility, you will not necessarily consult them all as sources of information for data extraction.

SECTION 2. Data for Indicators

How to determine which register to use: With the Flow Chart it is likely that more than one source will be identified for some items of information. For example, cesarean deliveries may be recorded in the labor and delivery ward register as well as the operating theater register. When a decision must be made about which register to consult for a particular piece of information, you must first determine whether the information in the different registers overlaps or if the information in each register is different.

- **More than one register used and the information overlaps**. In this case, you should always choose the register that is most complete and use it. To determine which is most complete, you might count an item, for example, HIV+ women, in one register and count them again in the other register(s). The register with the greater number of HIV+ women is generally the most complete. Experience tells us that the operating theater register is the most complete and reliable source for counting cesarean deliveries.
- **More than one register used, but information does not overlap**. It is possible that you will find that two different registers (or more) are used for registering what seems to be the same item but where the two groups of women do not overlap. For example, in one country, we found that one register was used to log abortion emergencies and another was used to record abortion-related complications that were not emergencies. You should determine which register to use based on the item that you are counting. In some cases, you might need to count items in each register and add them together for the final number.

It is extremely important to talk to the facility staff to understand how the registers are used and which ones are used for what purpose. However, experience again tells us that not all staff understand what is documented in each register. Therefore, some cross-checking (e.g., of women's names, admission dates, and age) is critical to reduce double-counting and under-counting.

Deliveries (Rows 14–20):

Number of spontaneous vaginal deliveries: This is the number of normal vaginal deliveries, including breech or face deliveries attended in the facility. Regarding breech deliveries: If they are recorded separately, add them here, but you must check that they are not already included in normal deliveries or cesarean deliveries. Remember to count the number of deliveries (i.e., women) and **not** the number of births (i.e., babies).

Number of deliveries with vacuum extraction: These are deliveries where vacuum extraction is used to facilitate the delivery of the baby.

Number of forceps deliveries: These are deliveries where forceps are used to facilitate the delivery of the baby.

Number of craniotomies/embryotomies: Often these cases are missed when counting the total number of deliveries; however, it is important to remember to count all destructive deliveries if this practice is done at the facility.

Number of cesarean deliveries: Count all emergency cesarean deliveries and all planned/scheduled cesarean deliveries. Include cesarean deliveries performed for maternal as well as fetal indications. The indications for cesareans that are in the same register used to count cesareans are likely to be many of the serious complications listed in Rows 24–33. This is one place where it is necessary to double tick: One tick for the cesarean delivery and another tick for the serious complication.

Number of laparotomies for ruptured uterus: Do not count all laparotomies, only those for ruptured uterus. This is another situation in which you must tick once for the delivery and again for the complication of ruptured uterus.

Total deliveries: This is the sum of Rows 14–19.

Postabortion Care (PAC) and Family Planning (Rows 21–23)

Number of PAC cases: For the purposes of data collection, when we ask about PAC cases we are interested in emergency treatment of abortion with electrical vacuum aspiration or manual vacuum aspiration (MVA), dilatation and curettage (D&C) or dilatation and evacuation (D&E). You should include missed or inevitable abortions but not threatened abortions. NOTE: This row should not include women admitted with severe complications as a result of either an unsafe abortion or a spontaneous abortion (e.g., women with hemorrhage, signs of infection, and/or uterine perforation). Women with severe complications of abortion should be counted on Row 31.

Number of postabortion women discharged with a contraceptive method: In this case and the next case (postpartum women), we are interested only in modern temporary or permanent contraceptive methods [i.e., oral pills, injectables, implants, intrauterine devices (IUDs), condoms, diaphragms, or sterilization]. Also, we restrict postabortion contraception to those women who leave the facility with the method. If a woman was counseled and then referred to a family planning clinic, she should not be included unless you can verify that she received a method before going home.

Number of postpartum women discharged with a family planning method: See instructions above (postabortion women).

Information on women who were sterilized after a cesarean delivery or who were sterilized after a vaginal delivery upon their request should be included. This information will likely be found in the operating theater register.

Direct Obstetric Complications (Rows 24–33)

Direct obstetric complications are those that develop directly as a result of pregnancy, delivery, or the postpartum period. The following are general and some specific tips for each direct complication. Please refer to Table 1, Definitions of Severe Direct Obstetric Complications, at the end of this chapter for internationally accepted operational definitions of direct obstetric complications. We must work with what we find in the registers and log books, even though they often do not have a high level of detail. For example, if an entry is written as cephalopelvic disproportion (CPD), this woman should be included under prolonged/obstructed labor. It is beyond the scope of the Needs Assessment to assess whether the clinician accurately diagnosed CPD.

General tips and criteria for all direct obstetric complications:

- Remember: Count the number of women with obstetric complications and not the number of obstetric complications.
- To be considered a case and included in Module 4, the woman must have been pregnant at the time of admission or recently pregnant or delivered.
- Only include women with events of sufficient severity that they required a life-saving procedure, drug, or were stabilized and then referred to another facility. Women who presented at the facility with an obstetric complication but who died before receiving treatment should be counted as well.
- If one patient had two diagnoses, select the more life-threatening one. For example, if a pregnant woman was admitted for hemorrhage and ruptured uterus, the main diagnosis is ruptured uterus. If you are not sure about which complication to choose, consult the staff working in the health facility and/or the data collection team supervisor.
- If a woman had a direct obstetric complication and an indirect complication, the direct complication should be counted.
- If a woman with a complication was admitted to the facility, received initial treatment, and was referred later, she should be counted at the first admitting facility. However, she may be counted again at the referral hospital where she received definitive treatment. It is important to learn how many women arrived with complications or developed them at each facility. In this case, double-counting is acceptable; when double-counting is considered a serious issue, it can be dealt with at the time of analysis.

- When diagnosis of complications is not available, use the following criteria for inclusion:
  - Evidence in the registers of clear signs or symptoms such as bleeding, high blood pressure, fever with discharge, convulsions, etc.
  - Exclude women who were admitted without any diagnosis (or clues leading to diagnosis such as serious signs or symptoms) and who received no treatment before being referred to another facility.

Number of antepartum hemorrhage (APH): Placenta previa or placental abruption may be found written as a complication in the labor and delivery ward register or as an indication for cesarean. We recommend that this complication be counted through an operating theater register or in a referral register if the facility does not have the capacity for surgery.

Number of postpartum hemorrhage (PPH): This complication may be found in a labor and delivery ward register or in an operating theater register if surgery was required.

Number of women with retained placenta: Although a woman with a retained placenta may not have hemorrhaged at the facility, it is likely that she has lost a considerable amount of blood. Some countries have registers designed specifically for documenting the number of cases of retained placenta.

Prolonged/obstructed labor: Either the first or second stage of labor can become prolonged. CPD is often a factor, as is transverse, brow, or face presentation. Instrumental delivery or a cesarean section may be found in conjunction with this complication.

Ruptured uterus: The most accurate diagnosis of ruptured uterus may be found in the operating theater log book.

Postpartum sepsis: Signs of fever and a painful abdomen may be indicative of postpartum sepsis.

Severe pre-eclampsia/eclampsia: Hypertension and protein in the urine are diagnostic of severe pre-eclampsia, as are diastolic blood pressure $\geq$110mmHg or proteinuria $\geq$3 after 20 weeks gestation. Convulsions are a sign of eclampsia. Since a quick termination of the pregnancy is desirable, the operating theater log book or a referral register are sources to consult. Do not count cases of pregnancy induced hypertension unless severe enough to be considered severe pre-eclampsia/eclampsia.

Severe abortion complications: Severe abortion complications include signs of infection/sepsis and/or hemorrhage. They can result from either induced or spontaneous abortions. A distinction should be made between women with severe abortion complications and women with less serious complications. Women with less serious complications are counted in Row 21 (PAC cases). Both less and more severe abortion complications may be found in a number of different registers such as emergency room registers, gynecology ward registers, minor procedure room log books, or registers specifically for abortion. Sometimes the registers are not sufficiently detailed to distinguish between severe complications and those which are less severe. Many times, abortion complications are recorded in log books/registers without using the word “abortion.” Rather, an entry might state “bleeding during pregnancy” or “hemorrhage during pregnancy,” or simply bleeding/hemorrhage. Other log book/register notations could include “vaginal or cervical trauma,” and/or “foreign objects found in the vagina or cervix.” The clinical treatment for a first trimester abortion is usually vacuum aspiration, and sometimes dilatation and

curettage (D&C). The clinical treatment for a second and early third trimester abortion is usually dilatation and evacuation (D&E). .

Ectopic pregnancy: This is another complication that is likely to be found in the operating theater register since surgery is the recommended treatment (usually laparotomy).

Other direct obstetric complications: This category should include preterm rupture of membranes (PROM), preterm labor, post-term, previous cesarean, cord prolapse, multiple gestations, as well as any other that can be considered a direct complication.

Indirect Obstetric Complications (Rows 34–38)

Indirect causes of complications result from "previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by the physiologic effects of pregnancy."[5] It is often even more difficult to find the records or registers of pregnant women who sought treatment and were admitted due to an indirect obstetric complication. The most common indirect complications are listed below and in Module 4.

Malaria: Search for cases of pregnant women admitted with malaria in the maternity ward register or medical ward registers.

HIV/AIDS-related: Registers for PMTCT at the time of labor and delivery or during antenatal care may be available. Experience suggests that these registers may not be complete since some registers include test results during antenatal care and others report testing and results at the time of delivery. Sometimes HIV+ women may be highlighted with a colored pen in the labor and delivery register. Ask staff how they identify HIV+ women in their information system.

Anemia: Women with moderate or severe anemia may be very difficult to find in the registers. They may be located through records of blood transfusions.

Hepatitis: As with malaria, pregnant women with hepatitis may be registered in maternity ward registers or medical ward registers.

Other indirect complications: Examples of other indirect complications include typhoid, tuberculosis (TB), cardiac disease, diabetes (including gestational diabetes), and others that can be considered indirect.

Maternal Deaths Due to Direct Obstetric Causes (Rows 39–48)

The WHO's definition of maternal death should be used:

> *The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes.*[6]

Use the definitions for obstetric causes listed in Table 1 at the end of this chapter to determine the cause of maternal death. For the Needs Assessment, if a woman died of both a direct and indirect cause of maternal death, the direct cause of death takes priority. If a primary and a secondary cause of death are listed, choose the primary cause of death (i.e., the originating condition of cause of death).

[5] WHO. International Classification of Diseases, 10th Revision. Geneva: World Health Organization; 2004.
[6] Ibid.

Maternal deaths can be difficult to find in some facility registers. Therefore, it is important to make inquiries of more than one person and to look at as many sources as possible.

Only count maternal deaths that occur in the facility being studied (i.e., do not include maternal deaths that took place in the community).

Maternal deaths can be a sensitive issue to discuss with health workers. Sometimes it may be helpful to explain that you are not auditing them. To make them feel more at ease, it may be nice to point out something positive about their facility (e.g., commenting positively about how many women they have been able to treat, etc.).

Other maternal deaths due to direct causes: This category could include deaths due to anesthesia, suicide, or embolisms. However, to determine that embolism is actually the cause of death, autopsies are desirable and often they are not performed.

Indirect Maternal Deaths (Rows 49–53)

The most common indirect causes of maternal death may be malaria, AIDS, anemia, and hepatitis.

Other maternal deaths due to indirect causes: This category may include typhoid, TB, cardiac disease, diabetes (including gestational diabetes), and others that can be considered indirect.

Maternal Deaths Due to Unknown Causes (Row 54)

This is where maternal deaths without an assigned cause of death can be counted.

Newborn Outcomes (for Facility Births) (Rows 55–61)

If the registers have sufficient detail, we would like to count several different outcomes.

Live births greater than or equal to 2.5kg

Low birth weight babies: The international definition of low birth weight is below 2.5kg. Only count live births. Low birth weight intrapartum stillbirths will be counted separately.

Stillbirths: Late fetal death occurring after 28 weeks of gestation. Stillbirths can be separated into two groups: fresh/intrapartum, or macerated.

- The fresh stillbirth is usually an intrapartum fetal death; often a fetal heart beat was observed at the time of admission. Death is assumed to have occurred <12 hours prior to delivery. Count and record how many fresh stillbirths weigh less than 2.5kg and how many weigh 2.5kg or more.
- A macerated stillbirth is a baby born dead where skin is not intact, and the death is assumed to have occurred >12 hours prior to delivery.
- If the stillbirth cannot be identified as either fresh or macerated, and/or birth weight is not available, these stillbirths should be included in Row 60.

Total newborn outcomes for facility births: This Row calculates all newborns delivered in the facility by summing Rows 55–60. The total newborn outcomes for each month should be equal to or greater than the number of deliveries in that month.

Very Early Neonatal Deaths (Rows 62–64)

Deaths occurring in the first 24 hours. These are babies who are born alive but who die within the first 24 hours of life. For very early neonatal deaths we count all babies that meet these criteria, whether or not they were born in the facility. The major causes of very early neonatal deaths include: asphyxia, preterm delivery/low birth weight, and congenital anomalies.

Many women are discharged with their babies before 24 hours. Thus, we understand that some newborns may die at home during their first 24 hours of life and will go uncounted. Experience also tells us that sick newborns will often be referred to a higher level of care. Therefore, if you are in a hospital or referral center, you must pay attention to the age of the baby at the time of death. The baby may have spent only six hours at the hospital before it died, but arrived already more than 24 hours of age, and therefore is **not** eligible for counting.

Like the stillbirths, you will count how many very early neonatal deaths weighed less than 2.5kg and how many weighed 2.5kg or more. Use Row 64 for very early neonatal deaths with unspecified birth weight.

Referrals (Rows 65–66)

Referrals: Referrals out due to obstetric indications (Row 65) and referrals out due to newborn complications (Row 66). Referrals take place when the facility cannot or will not provide definitive treatment.

SECTION 3: Quality of Registry Data (Rows 67–69)

Two aspects of quality are assessed for up to three different registers: if all the columns are completed and if the register is up-to-date. Use your best judgment to answer these questions. Up-to-date means that the most recent information has been entered in the register. In most cases that would mean that the last entry occurred on the day of or the day prior to your visit to the facility.

Where you may find information for Module 4 Facility Case Statistics

Row	Item		Where to Look
17. 18. 19.	No. Craniotomies/embryotomies No. Cesareans No. Laparotomies (for ruptured uterus)	→	Operating theater register (first choice) Labor and delivery ward register (second choice for cesareans)
22.	No. Postabortion women discharged with family planning method	→	Safe abortion/postabortion register (first choice) Gynecology ward register Family planning register
21. 31.	No. PAC cases (less severe complications) No. Abortion complications (hemorrhage and/or sepsis)	→	Safe abortion/postabortion register (first choice) Minor procedure register Gynecology ward register
24. 27. 28. 30. 32.	No. Antepartum hemorrhages No. Prolonged/obstructed labors No. Ruptured uteri No. Severe pre-eclampsia/eclampsia cases No. Ectopic pregnancies	→	Operating theater register (first choice) Referral register Register for obstetric complications Labor and delivery ward register
34–38.	No. Indirect obstetric complications	→	Medical ward register Maternity ward register PMTCT labor and delivery register
60–62.	No. Very early neonatal deaths	→	Newborn unit register ICU for newborns register Labor and delivery ward register
39–54.	No. Maternal deaths due to indirect, direct, and unknown or unspecified causes	→	Operating theater register Death/mortuary register Gynecology ward register Medical ward register Maternity ward register Discharge register
63–64.	No. Referrals out	→	Referral register

Table 1. Definitions of Severe Direct Obstetric Complications[7]

1. Hemorrhage **Antepartum** • Severe bleeding before labor and during labor: placenta previa, placental abruption **Postpartum** (any of the following) • Bleeding that requires treatment (e.g., provision of intravenous fluids, uterotonic drugs, or blood) • Retained placenta • Severe bleeding from lacerations (vaginal or cervical) • Vaginal bleeding in excess of 500ml after childbirth • More than one pad soaked in blood in five minutes
2. Retained Placenta • A placenta that remains inside the uterus after delivery for >2 hours
3. Prolonged or Obstructed Labor (dystocia, abnormal labor) (any of the following): • Prolonged established first stage of labor (>12 hours) • Prolonged second stage of labor (>1 hour) • Cephalopelvic disproportion, including scarred uterus • Malpresentation: transverse, brow, or face presentation
4. Ruptured Uterus Uterine rupture with a history of prolonged or obstructed labor when uterine contractions suddenly stopped. Painful abdomen (pain may decrease after rupture of uterus). Patient may be in shock from internal or vaginal bleeding.
5. Postpartum Sepsis A temperature of 38° C or higher occurring more than 24 hours after delivery (with at least two readings as labor alone can cause some fever) and any one of the following signs and symptoms: lower abdominal pain; purulent, offensive vaginal discharge (lochia); tender uterus; uterus not well contracted; history of heavy vaginal bleeding (rule out malaria).
6. Severe Pre-eclampsia and Eclampsia **Severe Pre-eclampsia** Diastolic blood pressure ≥110mmHg or proteinuria ≥3 after 20 weeks' gestation. Various signs and symptoms: headache; hyperflexia; blurred vision; oliguria; epigastric pain; pulmonary edema. **Eclampsia** Convulsions. Diastolic blood pressure ≥90mm Hg after 20 weeks' gestation or proteinuria ≥2. Signs and symptoms of severe pre-eclampsia may be present.
7. Complications of Abortion • Hemorrhage due to abortion which requires resuscitation with intravenous fluids, blood transfusion, or uterotonics • Sepsis due to abortion (including perforation and pelvic abscess)
8. Ectopic Pregnancy Internal bleeding from a pregnancy outside the uterus; lower abdominal pain and shock possible from internal bleeding; delayed menses or positive pregnancy test.

[7] Adapted from World Health Organization, UNFPA, UNICEF, AMDD. *Monitoring emergency obstetric care: a handbook.* Geneva: World Health Organization, UNFPA, UNICEF, AMDD; 2009.

Module 5: EmOC Signal Functions and Other Essential Services

The minimum package of necessary services to treat and save women with obstetric complications is called EmOC Signal Functions. In total, there are nine EmOC Signal Functions (see chart below). Many newborns can also be saved with these signal functions.

OBJECTIVES: This module gathers information about how facilities actually function and whether they provide all, some, or none of the EmOC Signal Functions as well as other important maternal health services. Specific objectives include:

- To determine whether to classify the facility as Basic EmOC, Comprehensive EmOC, or Non-EmOC (partially functioning).
- To determine which of the signal functions are not currently being provided in the facility; in other words, which of the signal functions were not performed in the last three and last 12 months.
- To learn why a facility does not perform or provide a particular signal function.
- To determine whether facilities provide other important maternal and newborn services.

DATA COLLECTION METHODS: Interviews, review of registers, and observation

Answer the questions in this module by interviewing health workers in the maternity ward and other departments, reviewing facility registers, and through observation.

NOTES:

IMPORTANT: We are interested in the performance of these signal functions in the context of **obstetric and newborn emergencies**. For example, if a patient was given parenteral antibiotics for an abscess on an arm but not for obstetric reasons then this is not considered the performance of an EmOC Signal Function.

If a facility provided all of the first seven EmOC Signal Functions in the last three months, the facility is classified as a Basic EmOC facility. If a facility provided all nine EmOC Signal Functions in the last three months, the facility is classified as a Comprehensive EmOC facility.[8]

Basic EmOC Signal Functions	Comprehensive EmOC Signal Functions
1. Administer parenteral antibiotics 2. Administer parenteral uterotonics (e.g., oxytocin) 3. Administer parenteral anticonvulsants (e.g., magnesium sulfate) 4. Perform manual removal of placenta 5. Perform removal of retained products (e.g., MVA, D&C) 6. Perform assisted vaginal delivery (e.g., vacuum extraction or forceps delivery) 7. Perform neonatal resuscitation (e.g., with bag and mask)	Perform signal functions 1-7, **plus**: 8. Perform surgery (e.g., cesarean section) 9. Perform blood transfusion

[8] See the Note on Terminology in the List of Acronyms section (insert final page number) for more about the distinction between EmOC and EmONC.

Pay close attention to the skip instructions in this module. Note that in some cases the skip instructions say “All skip” to a particular question. This means that you should skip to the question indicated in the skip instructions regardless of how the person answers the question.

Parenteral is defined as the administration of drugs by intramuscular (IM) injection or through intravenous (IV) infusion or drip.

If the signal function has not been performed in the last 3 months, it is important to understand why it has not been performed. We have found that the following categories are useful and cover most of the likely answers:

a. Lack of availability of necessary health workers

- Required health workers not posted to facility in adequate numbers (or not at all)

b. Training issues

- Authorized cadre is available, but not trained
- Providers lack confidence in their skills

c. Supplies/equipment Issues

- Supplies/equipment are not available, not functional, or broken
- Needed drugs are unavailable

d. Management issues

- Providers desire compensation to perform this function
- Providers are encouraged to perform alternative procedures
- Providers are uncomfortable or unwilling to perform procedure for reasons unrelated to training
- Lack of supervision

e. Policy issues

- National or hospital policies do not allow function to be performed

f. No indication

- No client needing this procedure came to the facility during this time period

Items 19 and 22: *If removal of retained products was performed in last 3 (or 12) months, which method was used?* Vacuum aspiration refers to either manual vacuum aspiration (MVA) or electric vacuum aspiration.

Items 51 and 52: *Has special or intensive care been provided to a preterm or low birth weight baby in the last 3 months? If not, why?* Special or intensive care might include phototherapy treatment for jaundice for prematurity; treatment for sepsis; the use of an incubator to ensure warmth; frequent feeding; administration of IV fluids; use of kangaroo mother care (KMC): resuscitation; or giving oxygen.

Item 59: *Have temporary family planning methods been provided in the last 3 months?* Temporary family planning methods include pills, condoms, injectables, implants, and IUDs.

Module 6: Partograph Review

OBJECTIVE: To assess the quality of partograph completion in the facility and to know how many facilities are using the WHO partographs (modified, simplified, and composite).

DATA COLLECTION METHOD: Data extraction

Complete Module 6 by reviewing three recent partographs that have been filled out. If possible, choose partographs that were filled in by different providers. Select partographs belonging to women who are:

- At term
- Less than 8cm dilatation at first exam
- Vertex presentation
- Fetal heart present at first exam
- Without obstetric complications (hemorrhage, eclampsia, and multiple gestations should be considered complications) at first exam

If the facility uses the composite WHO partograph, select only partographs that begin in the active phase of labor and exclude those that begin during the latent phase.

Also ask to see the case notes and/or patient records for these women.

NOTES:

- Item 1: *Do you use a partograph in this facility?* If the answer is "No," answer Item 2 and end Module 6.
- Item 2: *Why do you not use the partograph in this facility?* The respondent may have more than one answer. Circle 1 for all spontaneously mentioned answers. Do not read the pre-coded options. If a particular pre-coded answer is not mentioned, circle 0. This will be the end of Module 6 as they do not use partographs.
- Item 3: *Which type of partograph is used in this facility?* If any type of partograph other than the WHO modified, simplified, or composite is used, end Module 6.
- Item 6: *Was the first dilatation charted on the alert line?* If the answer is "No," circle the "No" response and end the review of this partograph. **DO NOT REPLACE THIS PARTOGRAPH WITH ANOTHER.**
- Item 7: *How many hours and minutes elapsed between first exam and delivery?* If the time elapsed was less than one hour, the answer for hour will be 00. Indicate the number of minutes in the space for minutes. You may need to refer to the case notes and/or the patient record to answer this question.
- Item 17: *If she delivered to the right of the action line, how many hours and minutes to the right of the action line?* If the time elapsed was less than one hour, the answer for hour will be 00. Indicate the number of minutes in the space for minutes.
- Items 20-23: This information may not be recorded on the partograph. You may need to refer to the case notes and/or the patient record to answer these questions.

Module 7: Provider Knowledge and Competency for Maternal and Newborn Care

OBJECTIVE: To evaluate aspects of providers' knowledge and competency.

DATA COLLECTION METHOD: Interview of one provider

Questions in this module should be directed to the provider who attended the largest number of deliveries in the last month among all the providers who are present at the time of your visit. If there were no deliveries at the facility in the last month, consider the previous two months.

NOTES

- Questions in this module must be directed to **one person only**. Unlike other modules where you can ask different people to answer questions in different sections, this module is a true interview and therefore you can ask only one person to answer the questions.
- The interview should be conducted in a private place.
- Assure the respondent that this is not a test, his/her name will not be written down, the interviewer will guard the information in complete confidence, and that the data will be analyzed in such a way that no one will be able to identify who responded.
- Provide the respondent with an example of the type of questions and responses they can expect before you ask the first question:

  Here is an example of the type of question you can expect: "How do you prepare for a delivery?". We would like you to describe as many of the actions you take to prepare for delivery **as possible**. The following are several examples of possible responses:

  - Prepare supplies and equipment such as a delivery kit.
  - Prepare oxytocin for active management of the third stage of labor.
  - Make sure that the newborn resuscitation equipment is available.
  - Create a comfortable environment—a warm room with sufficient light.
- Do not judge or say whether a response is correct or incorrect. In many cases there are several possible correct answers. After reading the question, your role as interviewer is to listen and record the responses.
- There is no option for writing in "Other" answers in Module 7, as we are particularly interested in whether people know the pre-coded answers provided. If the interviewee gives an answer that is not listed, it is not necessary to record those answers.
- Many questions allow the respondent to provide more than one response. You should ask the question, and note whether any of the coded responses are mentioned (by circling the 1 next to the response). We want to capture **spontaneous** responses, so you should not read the responses aloud. If necessary, you should ask "Do you have anything else to add?" to probe for more responses. When the respondent is finished responding, and you have circled 1 next to each response that was mentioned, circle the 0 next to all responses that were not mentioned.

No.	Question		Response	
			Mentioned	Did not mention
7	How do you know when a pregnant woman is in labor? *(circle all spontaneous answers and ask whether there is anything else the respondent would like to add)*	a. Regular uterine contractions	1	0
		b. Dilation of the cervix	1	0
		c. Discharge of blood and mucus	1	0
		d. Breaking of the waters/ruptured membranes	1	0

- Question 10: *What are the actions taken during active management of the third stage of labor?* In the responses, immediate oxytocin and immediate ergometrine mean within one to two minutes of the **birth of the baby**.
- Question 22 asks if the respondent has ever received instruction for Items a-t. Instruction might be in-service instruction or part of pre-service instruction; it does not necessarily mean a separate training exclusively for the item.
- Questions 23-29 (Guided Interview for Newborn Resuscitation): These questions should only be asked if the respondent answers "Yes" to at least one of the questions in 22t (Have you ever received instruction on how to resuscitate a newborn with bag and mask? Have you provided this service in the past 3 months?). If the respondent has neither received instruction on how to resuscitate with bag and mask nor provided this service in the last three months, you should end the interview.

Module 8: Cesarean Delivery Review

OBJECTIVE: To understand the principal clinical indications (causes) of cesareans and evaluate some aspects of the quality of the procedure and record keeping.

DATA COLLECTION METHOD: Data extraction

Identify the three most recent cesarean deliveries performed in the 12 months prior to the interview by consulting the birth registers and/or the operating room registers. Select women who are no longer hospitalized. Once you identify the cases, request the medical records for each. Review the records and record the data requested in the appropriate column.

NOTES:

This module will be used only in facilities where cesareans are performed. Not all health facilities have operating theaters or have the capacity to perform surgery.

There is always a code that should be used if there is no information available (such as 9 or 99). In the following example, where there is no information available, the data collector has entered 99.

No.	Question	Case 1	Case 2	Case 3
1	Age of the woman (99 = No information)	21	32	99
2	Parity of the woman (99 = No information)	2	99	4
3	Residence of the woman 1. Urban 2. Rural 9. Unknown	2	2	9
6	How many hours and minutes elapsed between the decision of a cesarean and the beginning of surgery? (99 = No information) If ≤30 minutes → skip to Item 7	03 hours 26 minutes	99 hours 99 minutes	00 hours 45 Minutes

- Question 6: *How many hours and minutes elapsed between the decision of a cesarean and the beginning of surgery?* If the time elapsed was less than one hour, the answer for hour will be 00. Indicate the number of minutes in the space for minutes.
- Question 7: *If the delay exceeded 30 minutes, what was the principal reason for the delay?* Answer this question only if the answer to Question 5 is greater than 30 minutes.
- Question 14: *What was the outcome for the newborn/newborns?* In the case of multiple births, such as twins or triplets, if the outcome was mixed (e.g., one baby survived and one did not) the answer will be 4: - "One or more alive, one or more dead (twins or more)". In this situation, for following questions, describe only the death.
- Question 18: *If maternal death, what was the primary cause of death?* In the appropriate cell, write the primary cause of death as written in the patient card or other source of information. If there is no cause of death written, write in 99. If the patient records indicate that the cause of death is unknown, then you should write in 88.

- Question 19: *If maternal death, what was the secondary cause of death?* In the appropriate cell, write the secondary cause of death as written in the patient card or other source of information. If there is no cause of death written, write in 99. If the patient records indicate that the cause of death is unknown, then you should write in 88.
- Question 20: *Were prophylactic antibiotics administered?* Prophylactic antibiotics are antibiotics administered before the cesarean was performed to avoid infection.

Module 9: Maternal Death Review

OBJECTIVE: To identify factors which contribute to institutional maternal deaths.

DATA COLLECTION METHOD: Data extraction

Identify the last three maternal deaths that occurred in the health facility in the 12 months prior to the interview by reviewing the appropriate registers (for example, the operating theater register, delivery register, admission register, etc.). The specific cause of the maternal death is not important to the selection. However, a maternal death is defined by WHO as:

> *The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes.*[9]

Once you have identified the three cases, request all clinical records related to those women. Complete this module using the information contained in the clinical records and the registers. You should fill in the appropriate column with the information requested.

NOTES:

- Question 16: *Did the woman receive any of the following life-saving services, treatments, or interventions?* If a woman received some treatment or intervention that is in the list (from a through q), it is expected that the treatment will be noted in her individual clinical record. We do not expect to find an entry in a clinical record that says a procedure was not performed, such as “did not perform hysterectomy”. So, you should interpret the absence of a note about a treatment as “was NOT performed”. Therefore, you should circle 0 for “No” next to any treatment that is not listed in the patient records.
- Question 17: *Outcome of the newborn.* In the case of multiple births, such as twins or triplets, if the outcome was mixed (e.g., one baby survived and one did not) the answer will be 4 “One or more alive, one or more dead (twins or more)”. If a woman died due to abortion-related complications or ectopic pregnancy, the answer to this question about the newborn should be 0 for “Not applicable”.
- Question 20: *Factors that contributed to the death.* This question is asking about the factors contributing to the maternal death. You should answer “Yes”, “No”, or “Don’t Know (DK)” to each of the possible contributing factors that are listed. Base your answers on your own best judgment of each case. Note that this is a subjective question.

[9] WHO. International Classification of Diseases, 10th Revision. Geneva: World Health Organization; 2004.

Field Visit Wrap-Up

At the end of each field visit, the team should come together to discuss the modules and ensure that all the modules have been filled in completely, correctly, and consistently.

As mentioned earlier, the team supervisor should review each of the modules to identify any questions or sections that are not completed or are completed incorrectly. Team members might also swap modules and review each other's work for completeness and to identify any areas that are not filled out correctly. Problem areas should be dealt with before leaving the facility. This may mean asking additional questions of the facility staff or asking to look at registers again.

Since your team members will have spoken to different people in the facility and reviewed data from different sources, the answers that have been recorded may not be consistent from one module to another. Following is a list of the most common and important inconsistencies that can appear. The team should spend some time checking for these types of inconsistencies and correcting them by asking for additional information, if necessary.

Inconsistencies within one module

Module 4

Inconsistencies in the data on complications and deaths can occur within Module 4: Facility Case Summary. For example, the facility may not completely record direct obstetric complications and you may see no hemorrhage complications of any type reported in the registers. But when looking for maternal deaths due to direct obstetric complications, you may find a death due to postpartum hemorrhage (PPH). In this case, the team should correct the reporting of complications by adding 1 PPH to the summary of obstetric complications. The number of maternal deaths for a given month should not exceed the number of complications reported in that month. Also, the total newborn outcomes for facility births (i.e. the number of babies born at the facility) during a given month should be greater than or equal to the number of deliveries for that month.

Inconsistencies between two modules

Module 1 and Module 3

The team should compare the answers in Module 1 Item 48 (*What is the approximate cost to the patient for various drugs?*) to the questions asking about the availability of these same drugs in Module 3. In Module 1, the data collector may report that a drug is not available at the facility (by entering 9999.99) but in Module 3, in the Pharmacy section, the drug may be recorded as being present. This inconsistency should be resolved by confirming whether the drug is available, and if it is, by changing the answer in Module 1 Item 48 from "Not available" to the actual cost. If you cannot determine the true answer, note your comments in the Comments box.

The opposite could also occur: a cost is listed in Module 1 while in Module 3 it is reported that the drug is **not** currently available. This inconsistency could be explained by the fact that the data collector was given the price of the drug when it **was** available. If this happens, Module 1 should report that the drug is **not** currently available (rather than report the price of the drug when it was last available).

Module 7 and Module 5

The provider interviewed in Module 7 could say that s/he provided a service in the last three months, but in Module 5 it was reported that that service was not provided in the last three months. Try to resolve this inconsistency by speaking again with the person interviewed for Module 7 and whoever provided the answers for Module 5.

Module 7 and Module 2

This example of an inconsistency is similar to the example above. The provider interviewed in Module 7 could say that s/he provided a specific service. In Module 2: Human Resources, it might be reported that his/her professional worker category does not carry out this type of service at this facility. For example, a nurse may be reported as a category that does not perform manual removal of the placenta, but in Module 7 the respondent who is a nurse, says that in the past three months she performed manual removal of placenta. This type of inconsistency should be corrected by bringing this situation to the attention of the person who helped fill out Module 2. Also, we recommend that the question be asked again of the nurse, confirming that s/he manually removed a placenta in the past three months.

Inconsistencies among 3 modules

Module 2, Module 3, and Module 5

Module 2: Human Resources may report that certain signal functions are performed at the facility, such as administration of anticonvulsants. Module 5: Signal Functions may report that the same signal function was not provided in the last three or 12 months. This situation might be further complicated by Module 3 where it may be reported that the facility does not have the equipment or supplies in stock (for example, anticonvulsants). This is a series of inconsistencies that may have a logical explanation. It is possible that there are staff who have provided parenteral anticonvulsants in the past, which is reported affirmatively in Module 2. However, if there has been a stock-out of anticonvulsants for more than a year, the answers to Modules 3 and 5 could also be correct. This type of inconsistency should be explained in the Comments box.

Module 3, Module 5, and Module 7

Similar inconsistencies can occur among Module 7, Module 5, and Module 3, and not involve Module 2. As an example: The provider interviewed in Module 7 reports that s/he has performed neonatal resuscitation with bag and mask in the last three months and in Module 5 it was reported that the signal function was, in fact, performed in the last three months. These two modules are consistent. However, in Module 3 we might learn that the facility does not have a bag and mask for neonatal resuscitation. This is an inconsistency that should be corrected by asking how staff perform neonatal resuscitation in the absence of bag and mask. If they are resuscitating with tube and mask, then we should accept that the signal function was performed for Module 5, but Module 3 should report the availability of tube and mask <u>and</u> the absence (no availability) of bag and mask. If the facility had a bag and mask until just last week, then it is also possible that the signal function was performed earlier than that, when the facility had a functioning bag and mask.

Appendices

Appendix 1: Script for Introduction of Assessment and Team

REVISE THIS SCRIPT SO THAT IT IS APPLICABLE TO YOUR COUNTRY

This script is for you to use as reference when you make your first introductions at the facility. It covers the most important information that should be explained to the officer in charge. Feel free to put any part or all of this script into your own words.

> Hello. My name is _____. I am the supervisor of the team assigned in this region to collect health facility information to assess the availability and quality of Emergency Obstetric and Newborn Care. This is an important subject because too many women and newborns are dying in pregnancy and childbirth. This assessment will help the government target its investments in health care so that women and newborns won't die from obstetric emergencies. This assessment is implemented on behalf of the Ministry of Health by the [ENTER APPROPRIATE AGENCY HERE], in collaboration with the three UN sister agencies (WHO, UNICEF, and UNFPA).
>
> The main objective of the assessment is to provide information so that we can effectively track the country's progress in improving access to Emergency Obstetric and Newborn Care. Also, the results of this assessment will play a critical role in providing policy guidance and in planning interventions to strengthen the health delivery system.
> This national assessment is the [FIRST/SECOND] of its kind in this country. Together with our colleagues, we will gather information from [ENTER NUMBER HERE] public and private facilities across the country, including all hospitals and health centers.
>
> We will need to speak with key people in this facility and to review registers and log books to collect information on various obstetric and newborn services.
>
> We would very much appreciate your participation. We will not share your identity or your individual responses with anyone. No patient or client identities will be included in the data we collect, and all the information that we collect will be used only for the very purpose indicated above. Only the survey coordinators that oversee this study may view the data. The responses you provide and the information you give us access to will be kept strictly confidential and will not be shown to other persons. Our visit usually takes less than one day for a health facility, and perhaps as many as two days in a hospital. Participation in this assessment is voluntary and you and your staff can choose not to answer any individual question or all the questions. However, we hope that you and your staff will participate fully since your views are important.
>
> At this point, is there anything you would like to ask us about the survey? For additional information about the assessment you can contact [INSERT APPOPRIATE CONTACT NAME].
>
> Would you be kind enough to introduce us to management staff at this facility so that we can begin our survey? Thank you.

Appendix 2: Facility Log (page 1)

EmONC Needs Assessment

Facility Log

Supervisor's Name _____

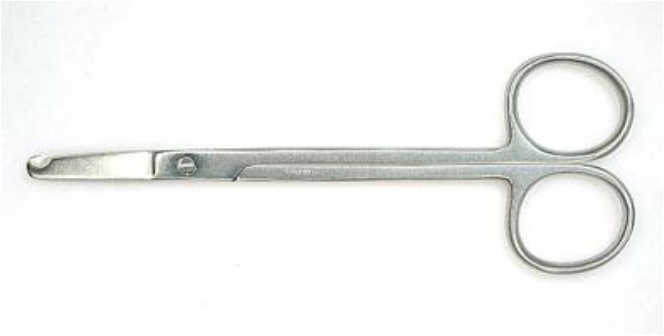
Team Members' Names _____

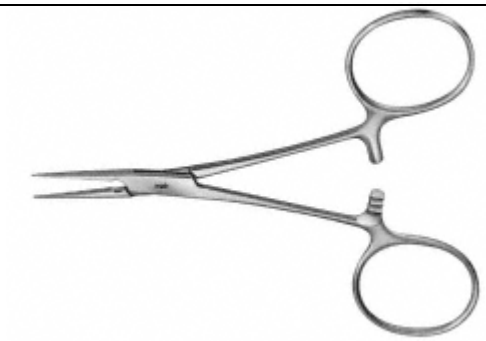
Facility No.	Facility Name	Data Collection (day/month/year)		Remarks: Include here any anecdotal information, reasons why any modules are incomplete, etc.
		Start Date	End Date	
01				
02				
03				
04				

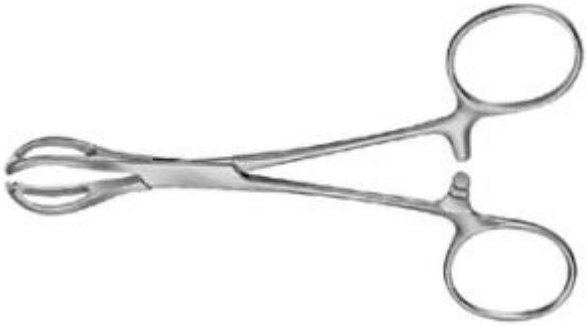
Appendix 3: Photo List of Equipment

Fetal Stethoscope (Fetoscope)	Fetoscope  Pinard Fetoscope  Doppler fetoscope 

Ambu Bag and Mask	
Mucus Extractor	
Scissors	Straight Mayo  Curved Mayo 

Scissors (continued)	Cord cutting  Episiotomy  Stitch 
Artery forceps	

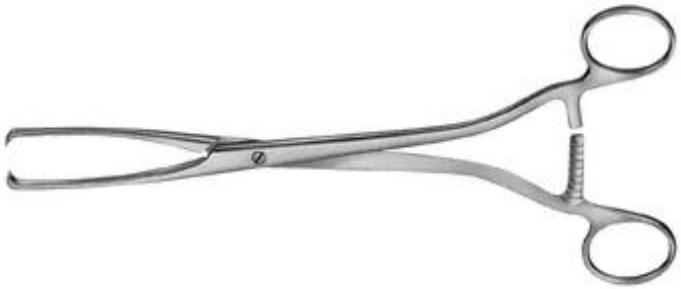
Mosquito forceps	
Sponge (ring) forceps	
Dissecting forceps	Plain  Toothed 
Dressing forceps	
Pean artery forceps	

Towel clip **(Towel clamp)**	
Ovum forceps	
Needle Holder	

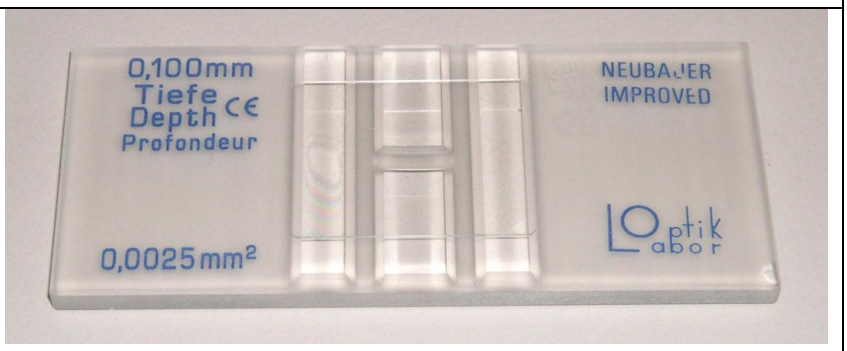
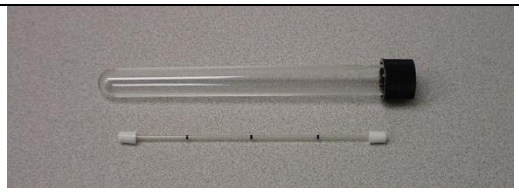
Vaginal Specula	Sims  Cusco  Cusco for virgins 

Vacuum extractor	 

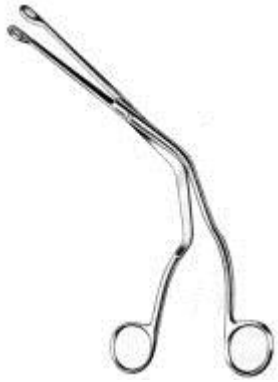
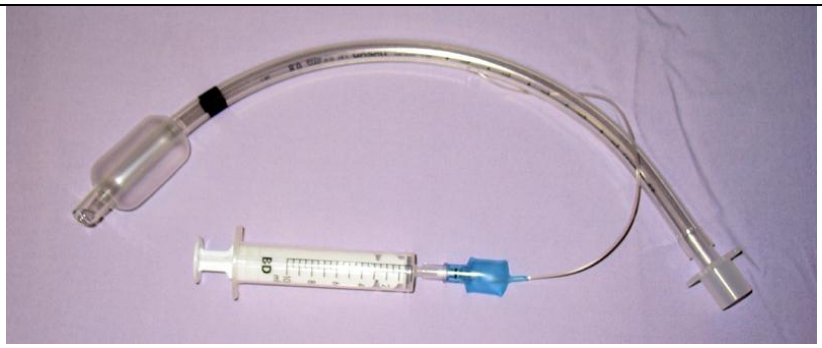
Obstetric forceps	Outlet  Midcavity  Breech (Piper) 

Uterine forceps	Straight  3x4 teeth, curved 
Uterine dilator	
Uterine curette	Sharp  Blunt 

Uterine sound (Uterine probe)	
Tenaculum	
Manual Vacuum Aspirator	
Flexible Cannulae, sizes 4–12mm	

Gallipot bowl	
Laryngoscope	
Counting Chamber	
Heparinized Capillary Tubes	

Lancets	
Pipette	
Decapitation Hook	
Embryotomy Scissors (Curved)	

Intubation Forceps	
Endotracheal Tubes	
Oropharyngeal airways	
Airway Needles	
Intestinal Clamps	

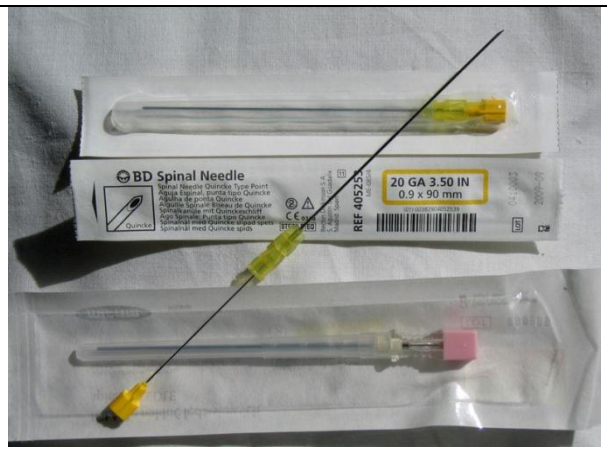
Abdominal Retractor	 Double ended 
Spinal needle	
Mayo Stand	

Photo Sources

Cafefiles.naver.net

Mayo stand

ebling.library.wisc.edu

Fetal stethoscope

Contecmed.com

Doppler fetoscope

Asceulap Surgical Instruments

Straight Mayo scissors
Curved Mayo scissors
Cord cutting scissors
Episiotomy scissors
Artery forceps
Mosquito artery forceps
Sponge/ring forceps
Dissecting forceps
Pean artery forceps
Towel clip
Ovum forceps
Needle holder
Vaginal specula
Outlet forceps
Breech forceps
Uterine forceps
Uterine dilator
Uterine curettes
Uterine sound
Tenaculum
Gallipot bowl
Intestinal clamps
Abdominal retractors

Odeoni.com.mk

Vacuum extractors

Ipas

Manual vacuum aspirator
Flexible cannulae

Oncallmedicalsuplies

Laryngoscope

Wikimedia Commons

Counting chamber
Pipette
Endotracheal tubes
Spinal needle
Ambu bag
Deasnet
Oropharyngeal airways

Rush University

Heparanized capillary tubes

Blood-lancet

Lancets

Eurosurgical

Decapitation hook
Embryotomy scissors

Sterimeddisposables

Mucus extractor