Needs Assessment of Emergency Obstetric and Newborn Care

Needs Assessment Facilitation Guide

AMDD
Averting Maternal Death and Disability
Needs Assessment of Emergency Obstetric and Newborn Care

Needs Assessment Facilitation Guide
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### List of Acronyms

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<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>AMDD</td>
<td>Averting Maternal Death and Disability Program</td>
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<tr>
<td>BEmOC</td>
<td>basic emergency obstetric care</td>
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<tr>
<td>CEmOC</td>
<td>comprehensive emergency obstetric care</td>
</tr>
<tr>
<td>DAG</td>
<td>Data Analysis Guide</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>EmOC</td>
<td>emergency obstetric care</td>
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<tr>
<td>EmONC</td>
<td>emergency obstetric and newborn care</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
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<tr>
<td>IRB</td>
<td>Institutional Review Board (ethical review)</td>
</tr>
<tr>
<td>ITT</td>
<td>Implementation Team Training</td>
</tr>
<tr>
<td>MDG(s)</td>
<td>Millennium Development Goal(s)</td>
</tr>
<tr>
<td>NGO</td>
<td>non-governmental organization</td>
</tr>
<tr>
<td>TOR</td>
<td>terms of reference</td>
</tr>
<tr>
<td>UFI</td>
<td>Unique Facility Identifier</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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### 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.
The Needs Assessment Facilitation Guide has been prepared by AMDD. Principal collaborators were Emily Keyes and Patsy Bailey. Sourou Gbangbade, Laura Harris, Lisa Moreau, Isabelle Moreira, Halima Mouniri, Aline Mukundwa, Samantha Lobis, Koye Oyerinde, and Jennifer Potts contributed to the document.

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 of AMDD also provided technical expertise. Janet Butler-McPhee of AMDD provided editing and communications management services.

We would also like to thank the participants of the Emergency Obstetric and Newborn Care Needs Assessment Planning Workshop that was held in New York on November 5-8, 2008 for sharing their experiences and wisdom. Without their input this task would have been far more difficult. We extend our appreciation to UNFPA, UNICEF, and WHO for their input into the planning process and training materials for the EmONC Needs Assessments.

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 emergency obstetric care (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 Needs Assessment Facilitation Guide, 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 EmONC, using a set of EmONC 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.

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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 (TOR) 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: Trainer’s 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.*
How to Use the Needs Assessment Facilitation Guide

The Needs Assessment Facilitation Guide is designed for country core teams and others who participate in the Emergency Obstetric and Newborn Care (EmONC) Needs Assessment process.

It is organized around the three phases of this process:

- Phase 1: Advocacy and Planning
- Phase 2: Conducting the Needs Assessment
- Phase 3: From Data to Action

Each phase consists of several steps, many of which are divided into sub-steps. The steps and sub-steps appear in the task list and timeline presented as part of Step 3.

This guide includes a general description of what each step involves, and examples of supporting documents that have been used previously. We encourage you, the reader, to take advantage of any ideas and materials that you believe could be helpful. This document is merely a guide. It is expected that circumstances will vary from country to country, and that adaptations may be necessary.

Prior to using this guide, it is important to be familiar with the EmONC modules and methodology, especially the EmOC Signal Functions and Indicators; these provide the tools and rationale for conducting the Needs Assessment.

We recommend that you read and refer to the following key documents:

- National information for country core team and modules 1-9 for data collectors
- Data Collector’s Manual

Also included in this guide is an example of a TOR (see Appendix 2), which provides a quick orientation to the Needs Assessment process and serves as an example that can be adapted for in-country use. The EmOC Indicators and Basic and Comprehensive Signal Functions can be found in the example TOR and are important to consider when drafting a country’s TOR.
**Who facilitates the EmONC Needs Assessment process?**

AMDD may provide technical support to country core teams through all phases of the Needs Assessment. We hope that after country core teams are oriented to the process and tools, they will work closely with the AMDD technical support team as needed, and will build on this experience in future Needs Assessments.

AMDD may work closely with the country core team and Needs Assessment Coordinator or organization. Our role will vary by country, but in general we are available to provide guidance and help with many of the tasks at hand, such as preparing a TOR, research protocol and analysis plan, and participating in the training of data collectors. AMDD will not necessarily be involved in every step of the Needs Assessment. The country core team must be well versed in all steps contained in the Needs Assessment Facilitation Guide, although some members’ expertise may be related to one phase more than another.

We hope that this guide will be relevant and helpful for country teams during the planning process. Each country will ultimately develop its own nuanced strategies and organizational structures to implement the Needs Assessment and to use the results to benefit mothers and their newborns.
Phase 1: Advocacy and Planning

Step 1: Advocacy

**Task:** The initial team\(^2\) should build a partnership of informed support for the EmONC Needs Assessment across government agencies, UN agencies, the World Bank, and bilateral agencies. The team should ensure that EmONC is viewed in the larger context of strategies to reduce maternal and newborn mortality and morbidity and strengthen health systems, goals around which there is wide consensus.

**Developing an advocacy strategy**

Before starting advocacy, the initial team must first come to a consensus that the Needs Assessment is appropriate and important for the country to undertake at that time. As part of this process, the initial team should:

- Be able to explain how EmONC and the Needs Assessment fit into the national health plans/strategies (e.g., the Road Map for Accelerating the Attainment of MDGs 4 and 5)
- Be able to explain how the information from the Needs Assessment is going to be used
- Be able to explain how the information from the Needs Assessment is going to add value to the existing health system
- Be knowledgeable about recent and ongoing work related to maternal and newborn health
- Identify stakeholders who can create an enabling political environment for the Needs Assessment as well as those who can assist in rolling out the Needs Assessment
- Develop a strategy for the advocacy process

Stakeholders may include:

- Government officials from various ministries, including:
  - Ministry of Health
  - Ministry of Women
  - Ministry of Finance. Previous experience suggests that it is useful to engage with the Ministry of Finance early in the process. This will help to secure the financing that is needed once the evidence-based planning process begins.
- Development partners
- Universities, research institutions, and academics

\(^2\) Prior to the formation of the country core team, there usually exists a set of individuals informed about the Needs Assessment process who drive advocacy and the formation of the country core team. For this first step, we refer to these individuals as the “initial team.”
• Professional associations, such as national OB/GYN associations, midwives’ associations, pediatricians’ associations, women’s lawyers’ associations, and lawyers’ associations
• Community organizations, including women’s organizations, human rights organizations, and others
• Local and international NGOs with a public health focus
• Private sector practitioners

The team should think about and prepare responses to arguments against implementing a Needs Assessment. The following are some examples of these arguments:

• Concern that many assessments have already been completed or that there is ongoing data collection for other health issues; concern that there exists plenty of unanalyzed data and many reports with no subsequent action.
• Concern about duplication of EmONC data collected in other facility-based surveys such as the Service Provision Assessments or Service Availability Mapping. The initial team will need to understand and clarify the differences.
• Disinterest or the perception that there is no need for a Needs Assessment (e.g., needs have already been taken into consideration in the Road Map for Accelerating the Attainment of MDGs 4 and 5; a Needs Assessment was completed just a few years ago).
• Concern that a Needs Assessment takes too many resources (e.g., human, financial, and time).
• Competing priorities, both within the sector and across various sectors.
• Concern that resources for implementing evidence-based, recommended changes will be insufficient.
• Skepticism about the feasibility of conducting a Needs Assessment and reservations about the quality of data collected in a Needs Assessment.

Making sure that the initial team can respond to these questions (for example, by planning for use of results, by researching other similar assessments and what has been done with results, and other strategies) will certainly help with advocacy efforts. This will also serve as an internal check for the initial team – if the arguments cannot be adequately answered, perhaps an EmONC Needs Assessment is not the most appropriate use of resources at the current moment. However if the arguments can be answered, this is a strong indication that the Needs Assessment will be a critical study and will provide useful data with which the country may guide change.

**Issues for the initial team to consider**

*Your partners in advocacy*
Who should you include in your advocacy efforts besides the initial team? Don’t forget that you are advocating not only for the collection and analysis of data, but for using the results to implement change. The support you develop and the relationships you form during advocacy will also be important once the Needs Assessment is complete, when you begin the planning for evidence-based change. For example, organizations that work to reduce maternal and neonatal mortality can be good partners throughout the Needs Assessment process. In the past, Ministries of Health have worked together with UN agencies and their officers to identify a well-known and respected individual to serve as the spokesperson.

Your audiences

Consider having advocacy materials for different audiences (e.g., Ministry of Finance, community-based NGOs, etc.). The level of commitment, the resources available, and the effects of policy changes will be different at different levels of the health system and the government. Consider whether the stakeholder is interested in policy changes, facility infrastructure, demand creation, etc.

Whether and how to include the Health Management Information System (HMIS)

Including HMIS representation in the process is important for eventual modification of HMIS to collect better data on EmONC. If you decide to include HMIS staff, advocate for their early involvement. The extent of their involvement will depend on their availability, and the importance of their involvement will differ from country to country. In order to incorporate HMIS staff and plan for their continued involvement, consider the following steps as part of your advocacy plan:

- Review the monitoring framework of the national maternal health plan.
- Develop a full understanding of the local HMIS and how it is being used (both successfully and unsuccessfully) for planning and budget allocation.
- Involve an HMIS representative in the Needs Assessment (as a member of the country core team). This representative’s involvement will be important when addressing weaknesses discovered as a result of the Needs Assessment as well as when discussing budgetary implications for HMIS.
- Build technical consensus for the range of indicators to be integrated into the HMIS that can be collected in a Needs Assessment.

See Step 12 on action planning for a full range of steps to integrate EmOC Indicators into HMIS, as well as other information on EmONC.

How to determine and assess the likelihood of and local capacity for data usage?

You need to discuss this topic with in-country UN agencies and other organizations. A good indicator of interest and capacity is how strongly the government is asking for a Needs Assessment. If you can
identify possible obstacles (e.g., financial resources), explore what can be done to address each obstacle.

The media

Consider when it is appropriate to engage the media, and what type of media is best suited to your advocacy purposes and target audience. Be sure to prepare materials for journalists/media outlets that speak to the assessment's purpose and are accessible to or can be easily adapted for their target audience.

Analyze the timing

When the results are available, will the timing fit with national and regional planning processes? Will these results complement other planning efforts underway? Will these results fit with other reproductive health assessments?

Developing advocacy materials

Before meeting with stakeholders to secure support for the Needs Assessment, the initial team should develop advocacy materials that can be used in meetings and given to stakeholders. Consider developing a short PowerPoint presentation along with brief supporting materials. See appendices for a sample PowerPoint presentation on why Needs Assessments are important.

Advocacy materials should demonstrate the value of the Needs Assessment and should:

- Focus on the magnitude of maternal and newborn mortality.
- Explain the key strategies for reducing maternal and newborn mortality.
- Outline how the Needs Assessment will help strengthen health system planning and target investments.
- Include cost estimates for conducting a Needs Assessment.
- Highlight the action-oriented nature of the Needs Assessment, including activities in Phase 3: From Data to Action.
- Focus on concrete examples of how the results of the Needs Assessment have been used in other countries (include two or three references for published papers).
- Use case studies and anecdotes to give the story a human face.
- Provide current global context by using the most recent Countdown to 2015 report and/or country profiles.

When creating the materials, remember to keep it:

- Short. We suggest 10-15 slides and a two-page handout.
- Interesting. Use images and graphics, as well as anecdotes.
• Simple. Use clear and understandable language, and remember that your audience may not be technical experts.

Example slide content may include:

• Presenting the problem and setting the stage, both globally and nationally.
• Gender and human rights-based perspectives.
• Acknowledging the Road Map for Accelerating the Attainment of MDGs Relating to Maternal and Newborn Health
• The pillars of maternal health: Highlighting EmONC.
• Making the case for EmONC (e.g., 15% of pregnant women will have complications, and with appropriate emergency care, women’s and newborns’ lives will be saved).
• Why do we need a Needs Assessment, and what will it tell us?
• Field work – how much time will it take, how much will it cost, and how many staff are needed?
• Examples of how results can be presented.
• Examples of how results are used for planning and resource allocation.
Step 2: Establish the Country Core Team

Task: The initial team should form a country core team of those persons who should be involved in the Needs Assessment process, and collectively define their technical, financial, and political roles and responsibilities.

Establishing the country core team

One of the first steps in the process of country core team formation is to identify members of the team. You can think of the country core team as consisting of two types of people. The first type includes individuals who can help the focal person(s) coordinate the Needs Assessment by securing funding, resources, access to facilities, and political representation and legitimacy. These coordinating members are likely to include members of UN agencies and the Ministry of Health.

The second type of member of the country core team is technical experts. These experts include people from the public or the private sector who can assist with the actual implementation of the Needs Assessment; for example, by reviewing and revising modules, advising on relevant policies and programs, training data collectors, assuring data quality, helping to develop the protocol and the analysis plan, etc. There may already be a group of people that could serve as technical experts (e.g., Maternal and Newborn Health Committee or Working Group, or Sexual and Reproductive Health Committee). Their willingness to do the tasks needed to conduct the Needs Assessment is paramount. In addition, technical members should include AMDD, at least one biostatistician or professional knowledgeable about statistics, at least one clinician, and at least one planner and/or policy maker (e.g., an HMIS representative).

Every country is likely to have one or more focal or point person(s) to help facilitate the Needs Assessment process; they are the members of the country core team who commit the most time to the process and are most intensively involved. They could be persons from the public or the private sector but are most likely from the ministry of health. They could be aided by an in-country or international consultant(s) for day-to-day coordination if time availability will be an issue. Focal points (and consultants, if applicable) must have expertise in public health.

Tasks of the country core team:

- Plan and prepare budget, ensuring that funding is adequate for the Needs Assessment process.
- Determine whether to contract out portions of the Needs Assessment work. If the decision is made to contract, recruit and contract a private company or a public organization, such as the National Institute of Statistics or Central Statistics Bureau in the country.
• Work closely with the contracted company or the Central Statistics Bureau, especially with regard to the recruitment of data collectors and data entry staff, and the management of field work and data entry. Ideally, the group that will oversee the implementation of the survey will also have data entry capacity.

• Acquire an updated list of hospitals, health centers, and private clinics that perform deliveries from each region. This likely means coordinating with the Family Health Department, or the Planning Department of the Ministry of Health, for their assistance.

• Complete the National Information Module.

• Participate in the preparation of the TOR and research protocol, including whether Geographic Information System (GIS) technology should be used for Service Availability Mapping.

• Participate in the adaptation and pre-testing of modules.

• Participate in the data collector training sessions.

• Monitor progress of the field work, including making site visits for quality assurance during the first two weeks of field work.

• Organize and plan data analysis workshops.

• Write report or oversee writing of report.

• Disseminate results.

Roles and responsibilities of partners, country core team focal person(s), and AMDD technical support

Roles and responsibilities of partners (e.g., UN agencies, Ministry of Health, etc.)

UN agencies contribute to monitoring and tracking progress in the availability of EmONC services as part of their role of supporting governments in improving the capacity of health systems and delivery of health care services. These agencies also play a major role in funding the EmONC Needs Assessment process. UN agency representatives should be part of the country core team.

Partner tasks:

• Prepare budget and secure funding.

• Identify and contract an organization (public or private) to oversee and conduct the field work and data entry.

• Work closely with this organization and the Needs Assessment Coordinator (presumably someone from the organization), especially with regard to the recruitment of regional interviewing teams, training, and logistics.

• Assist the country core team in acquiring an updated list of hospitals, health centers, and private clinics that do deliveries from each region. This is likely to entail coordinating with the Planning or Family Health Department of the Ministry of Health.

• Participate in the finalization of modules.
- Participate in the data collectors training sessions.
- Monitor progress of the field work. This may mean making site visits for quality assurance.

**Roles and responsibilities of country core team focal person(s)**

The in-country focal person(s) helps facilitate the EmONC Needs Assessment process—from the first phase which includes advocacy and planning; through the second phase, conducting the Needs Assessment; to the third and final phase, which involves translating data into action.

It helps enormously with the progress of the Needs Assessment to have one person in-country who is responsible for the day-to-day tasks of the Needs Assessment through all phases and coordination among parties. This role is sometimes played by the focal person, such as a ministry of health official who oversees maternal and newborn health. However, in some countries with human resource constraints, a paid consultant is hired to focus specifically on managing and coordinating the Needs Assessment. If this option is chosen, the consultant needs to be engaged until the implementation phase.

**Focal person tasks:**

- Become familiar with current status of public and private sector maternal, newborn, and child health services by reading reports and conducting site visits.
- Assist with survey planning and sampling, if necessary.
- Meet with stakeholders to discuss the EmONC Needs Assessment.
- Work with the country core team to prepare survey protocol or TOR that will be used for negotiating and contracting with a public or private organization, if required.
- Assist with adaptation, pre-testing, and finalization of modules.
- Participate in training sessions for data collectors and supervisors.
- Monitor progress of the field work. This may mean making site visits for quality control.
- Prepare analysis plan, participate in data cleaning, preliminary and final analysis, and report writing.
- Follow the process closely throughout, and work creatively to overcome delays.
- Help with presentations of the final report findings.

**Roles and responsibilities of AMDD technical support**

The AMDD technical support team will have implemented several EmONC Needs Assessments. Their role is to provide technical support to the country core teams as needed in the following areas:

- Planning of the three Needs Assessment phases;
- Advocacy for the value added by a Needs Assessment and mobilizing partners;
- Identification of the institution that will conduct the Needs Assessment;
- Preparing the TOR and/or research proposal;
- Adapting, pretesting, and finalizing the modules;
- Training data collectors;
- Assuring the quality of:
  - Data collection
  - Data management and cleaning;
- Preparing district or regional fact sheets for action planning;
- Analysis and report writing; and
- Action planning.
Organizational chart of key needs assessment participants (up through data entry)

- AMDD Technical Support
- Country Core Team
  - Coordinating Members
  - Technical Experts
    - Focal Person
    - Needs Assessment Coordinator
  - Field Work Coordinator
  - Data Collection Team Supervisors
  - Data Collectors
  - Data Entry Supervisors
  - Data Entry Staff
- Needs Assessment Implementation Team
  (Includes representatives from each of these groups and the fieldwork coordinator, as well as trainers of data collectors)
Step 3: Plan and Budget

Task: As part of planning, the country team should determine the scope of the study, decide whether to contract, develop the TOR, and develop the budget.

Defining the scope of the study

One of the first steps of planning a Needs Assessment is to define the scope of the study. For example, you will need to ask what types of facilities will be surveyed (hospital, health center, and other types), and for each type, whether all facilities (or all facilities meeting certain relevant criteria regarding deliveries) will be included in the assessment, or whether facilities will be sampled.

We encourage the country core team to consider including in the assessment all facilities where delivery services are provided. Facilities that are selected should include those that might be upgraded to provide EmONC. Since the focus of the Needs Assessment is EmONC, facilities that attend fewer than 50 deliveries per year can be excluded. A population census should not be confused with a Needs Assessment census, which is facility-based.

In past Needs Assessments, many countries have sampled facilities, particularly at the lowest levels (e.g., health posts may be sampled while hospitals and health centers are surveyed by census). The benefit of visiting all facilities that routinely do deliveries is that you obtain facility-specific data that is useful for district-level planning. If you sample facilities, you will not have specific information for all facilities.

The chart on the following page summarizes some of the advantages and disadvantages of selecting a sample of facilities versus collecting information at all facilities, or at least all facilities that provide maternity services.
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Census</th>
<th>Sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goal</td>
<td>Achieves a complete picture of all facilities (within the selected areas – national, regional, or district). Allows for facility-specific baseline measurements for HMIS.</td>
<td>Achieves an overall picture of the situation (within the selected areas - national, regional, or district).</td>
</tr>
<tr>
<td>2. Adequacy of information at the decided area level</td>
<td>If facility-specific data are desired for baseline, then census is the only option.</td>
<td>If overall trends are desired, sampling is sufficient.</td>
</tr>
<tr>
<td>3. Systematic bias and the effects of chance variation</td>
<td>Census eliminates some sources of systematic bias and effects of chance variation. Interviewer bias is always a source of error for both census and sample survey.</td>
<td>Possible bias will occur with a poor sampling design. A sound sampling design will reduce these two types of errors.</td>
</tr>
<tr>
<td>4. Decision-making</td>
<td>If facility-specific data are desired for planning, then census is better.</td>
<td>Enough data for decision-making based on overall trends.</td>
</tr>
<tr>
<td>5. Time</td>
<td>Potentially more time consuming.</td>
<td>Potentially less time consuming.</td>
</tr>
<tr>
<td>7. Quality assurance (especially during data collection)</td>
<td>Potentially more of a challenge.</td>
<td>Potentially less of a challenge because there are fewer facilities to visit.</td>
</tr>
<tr>
<td>8. Analysis</td>
<td>No weighting of data required.</td>
<td>Will require weighting. Weighting can be difficult to explain; the absolute numbers (weighted and unweighted) will vary and can be confusing. If weighting is not used correctly, results are compromised.</td>
</tr>
<tr>
<td>9. Action planning</td>
<td>If goal is to use data at facility or district level for planning, then census is preferred.</td>
<td>Sampling makes it difficult to identify which facilities have certain gaps, but if the goal is to identify overall weaknesses in the health system (logistics, availability of human resources, etc), sampling is sufficient.</td>
</tr>
</tbody>
</table>
If the decision is made to collect data through sampling, please see Appendix 1: Explanation of Sampling Methodology for more information.

To contract or not to contract?
The country core team should decide if the Ministry of Health or the Central Statistics Bureau will manage data collection and entry, or if this work will be contracted to a private organization, a local university, or a research center. The team should make similar decisions about data analysis, report writing, and dissemination of findings.

The following are some issues to consider:

Public sector
- Using public institutions can foster strong commitment to the process and results within the very institutions that will implement change.
- Sometimes public institutions are too busy and/or do not have the capacity.
- The Needs Assessment can be viewed as an opportunity for capacity building.
- Public sector employees already receive a salary but may desire additional payment if they participate in a Needs Assessment.

Private sector
- More technical expertise may be available.
- Often more time and manpower are dedicated to data collection and entry.
- It is usually more expensive.
- It does not require government time.
- Care must be taken to involve Ministry of Health staff as much as possible throughout the entire process.

Joint Team of Public and Private Sectors

Another possibility is using a joint team of public and private sectors; for example, a team might consist of individuals from universities, medical schools, public health schools, research institutions, development agencies (private not-for-profit), NGOs, professional associations, retirees with experience, or current health professionals. If you decide to form a joint team, identify partners based on their health knowledge and survey/Needs Assessment experience.

Regardless of how you decide to divide the work:
- Government buy-in to the Needs Assessment is crucial.
• Consider that you may create a longer term commitment to maternal and newborn mortality reduction if you build relationships with institutions rather than individuals.
• The people who are doing the work must be clearly identified and managed by the country core team.
• All contracts or work orders must have very clear TORs.
• The individuals or representatives of the organization performing data analysis should be involved with the Needs Assessment process as early as possible, and continue involvement throughout the phases.

The Data Analysis Guide (DAG), another document in the AMDD Needs Assessment Toolkit, gives information about what is required during analysis and report writing; it is important to consult this document during the planning phase when considering budgeting and human resource questions.

**Budgeting and examples of budget line items**

The EmONC Needs Assessment requires significant resources because data quality is critical and the extent of information collected is great. Thus, it is important to be realistic about the cost. It is best to budget for Phases 2 and 3 (Conducting the Needs Assessment and From Data to Action) from the very beginning of the planning process. The size of the budget depends principally on the number of facilities surveyed and their geographic distribution, the number of modules and/or supplementary studies included, and the distribution of work between the public and private sectors.

If receiving funds from multiple sources, it is important to coordinate between the sources to make sure that all expenses are covered, and that all parties are clear on the expected contributions of the various funders.

The following is a list of budget line items. Not all items are relevant in all situations and other items may need to be added.

**Phase 1: Advocacy and Planning**

Advocacy and establishing the country core team:
• Preparatory meetings with relevant stakeholders
• Transportation to and from meetings
• Preparation and duplication of two-page Needs Assessment summary described in Advocacy phase
• Any other development of materials and printing
• Media expert (might be paid)

Implementation team training and/or other team activities before Phase 2:
• Off-site location/ Accommodation
• Per diems
• Transport
• Materials (flipcharts, masking tape, post-its)
• LCD projector, laptop, and screen
Salary or fee for consultant(s), if this option is chosen (see section on Roles and responsibilities of country core team focal person)

Phase 2: Conducting the Needs Assessment

Pre-testing data collection instruments:
- Printed modules
- Salaries and/or per diems
- Travel

Training of data collectors:
- Training venue rental
- Lunches and refreshments
- Per diems and lodging for trainees
- Honoraria for guest speakers
- Training supplies
  - Flipcharts and stand
  - Markers, masking tape, and post-its
  - Paper
  - Printing/copying expenses
  - Flash drives
  - Calculators
  - Notepads and clip boards
  - Nametags
  - Pens, pencils, and erasers
- Transportation for field activity
- Travel to training venue

Field work:
- Professionally printed data collection forms, or copying costs
- Envelopes for completed sets of modules
- Salaries/consultant rates
- Per diems
- Lodging allowance
- Food allowance
- Transportation
  - Vehicle rental
  - Petrol
  - Taxi hire
  - Bus fare
- Supplies
  - Pencils
  - Erasers
  - Pencil sharpeners
  - Clipboards
- Cell phones and minutes for communication, supervision, and management
- Bags for data collectors to carry materials

Quality assurance visits:
- Travel (How many days/how many trips?)
- Per diem
- Mobile phones/phone cards

Data entry and cleaning:
- Data entry personnel
- Data entry supervisors
- Communications with former field supervisors and facilities
• Paper
• Computers

Data analysis and report writing:
• Consultant time or coordination team time

Phase 3: From Data to Action
Regional or district data analysis workshops:
• Conference space
• LCD projector, laptop, and screen
• Computers and printer
• Per diems
• Lunches
• Transportation
• Materials

Final report production:
• Printing and binding
• Postage/courier costs

Dissemination activities:
• Determine number of workshops/presentations – per region, national, etc.
• Per diems
• Transportation
• Materials
• Conference spaces
• LCD projector, laptop, and screen
• Media strategy and popular press publications

Workshops to develop action plans:
• Determine number of workshops/presentations/meetings – per region, national, etc.
• Per diems
• Transportation
• Conference spaces
• LCD projector, laptop, and screen
• Publication of action plans and commitments
• Monitoring of implementation activities
### Task List and Timeline

<table>
<thead>
<tr>
<th>Phase 1: Advocacy and Planning</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Advocacy</strong></td>
</tr>
<tr>
<td>M1 M2 M3</td>
</tr>
<tr>
<td>Advocate for NA, funding, and tech support</td>
</tr>
<tr>
<td><strong>2. Establish the Country Core Team</strong></td>
</tr>
<tr>
<td>M1 M2</td>
</tr>
<tr>
<td>Establish country core team</td>
</tr>
<tr>
<td>Train and orient country core team members to the NA</td>
</tr>
<tr>
<td>Clarify roles and responsibilities of all parties</td>
</tr>
<tr>
<td><strong>3. Plan and Budget</strong></td>
</tr>
<tr>
<td>M2 M3</td>
</tr>
<tr>
<td>Determine scope of study (census or sampling)</td>
</tr>
<tr>
<td>Determine whether to contract aspects of NA</td>
</tr>
<tr>
<td>Set timetable, work plan and budget for phases 1-3</td>
</tr>
<tr>
<td>Develop and sign the TOR</td>
</tr>
<tr>
<td><strong>4. Write and Submit Protocol</strong></td>
</tr>
<tr>
<td>M3 M4 M5 M6</td>
</tr>
<tr>
<td>Develop research protocol with quality assurance plan</td>
</tr>
<tr>
<td>Submit to the MOH for approval</td>
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<tr>
<td>Submit protocol to ethical review board, if necessary</td>
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<tr>
<th>Phase 2: Conducting the Needs Assessment</th>
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<tbody>
<tr>
<td><strong>5. Recruitment</strong></td>
</tr>
<tr>
<td>M3 M4 M5 M6 M7</td>
</tr>
<tr>
<td>Recruit, hire firm/individual to manage data collection and entry</td>
</tr>
<tr>
<td>Recruit and hire data collectors and supervisors</td>
</tr>
<tr>
<td>Recruit and hire data entry supervisors and staff</td>
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<tr>
<td><strong>6. Revise and Test Modules</strong></td>
</tr>
<tr>
<td>M3 M4 M5 M6</td>
</tr>
<tr>
<td>Adapt modules to local context</td>
</tr>
<tr>
<td>Pre-test modules</td>
</tr>
<tr>
<td>Revise and finalize modules</td>
</tr>
<tr>
<td><strong>7. Data Collector Training</strong></td>
</tr>
<tr>
<td>M5 M6 M7</td>
</tr>
<tr>
<td>Prepare for data collector training</td>
</tr>
<tr>
<td>Conduct Implementation Team Training</td>
</tr>
<tr>
<td>Train data collectors</td>
</tr>
<tr>
<td><strong>8. Field Work</strong></td>
</tr>
<tr>
<td>M5 M6 M7 M8 M9 M10 M11 M12</td>
</tr>
<tr>
<td>Prepare arrangements for field work</td>
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<tr>
<td>Field work (data collection)</td>
</tr>
<tr>
<td>Quality assurance</td>
</tr>
<tr>
<td>Issue Data Collection certificates</td>
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<tr>
<td><strong>9. Data Entry</strong></td>
</tr>
<tr>
<td>M7 M8 M9 M10 M11</td>
</tr>
<tr>
<td>Prepare data entry screens</td>
</tr>
<tr>
<td>Review/revision of data screens</td>
</tr>
<tr>
<td>Train data entry supervisor and staff</td>
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<tr>
<td>Double data entry &amp; validation</td>
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<tr>
<td>Transfer data to analyst</td>
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<tr>
<td><strong>10. Data Analysis</strong></td>
</tr>
<tr>
<td>M3 M4</td>
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<tr>
<td>M11 M12 M13 M14 M15 M16 M17</td>
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<tr>
<td>Prepare analysis plan</td>
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<tr>
<td>Data cleaning</td>
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<tr>
<td>Preliminary analysis</td>
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<tr>
<td>Final analysis</td>
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<tr>
<td>Report writing</td>
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<tr>
<td>Establish a permanent database</td>
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<tr>
<th>Phase 3: From Data to Action</th>
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</thead>
<tbody>
<tr>
<td><strong>11. Dissemination</strong></td>
</tr>
<tr>
<td>M14 M15 M16 M17 M18</td>
</tr>
<tr>
<td>Disseminate preliminary results</td>
</tr>
<tr>
<td>Disseminate final results</td>
</tr>
<tr>
<td><strong>12. Action Planning</strong></td>
</tr>
<tr>
<td>M18</td>
</tr>
<tr>
<td>Planning to use the NA data</td>
</tr>
</tbody>
</table>
Writing the terms of reference (TOR)

The TOR is an essential document in the Needs Assessment process. It is the blueprint for conducting the Needs Assessment, and instructs all involved in how to proceed. For a generic EmONC Needs Assessment TOR that can be modified for in-country use, please see Appendix 2: Example Terms of Reference. Most TORs contain the following elements:

I. Background
   a. Table 1: EmOC Indicators

II. Rationale for the EmONC Needs Assessment

III. Objectives of the Needs Assessment
   - Study design
   - Sampling (if applicable)
      - Table: Number of facilities to be surveyed by type of facility and region
   - Data collection tools and techniques
   - Data assessment period
   - Data collector and supervisor training
   - Data collection and organization of field work
   - Needs Assessment Coordinator tasks
   - Field Work Coordinator tasks
   - Data Collection Supervisor tasks
   - Data collector tasks
   - Data management
   - Data analysis and report writing
   - Dissemination

V. Proposed outcomes of the Needs Assessment
   - National level
   - Local level

VI. Roles and responsibilities of partners
   - Partner tasks
   - AMDD technical support team tasks

VII. Suggested time schedule

VIII. Budget commitment
In addition to the generic TOR in Appendix 2, other sources of information can provide useful starting points for writing the TOR. Step 4: Write and Submit Protocol, contains further relevant information. The TOR and the protocol are similar documents, and you may find the annotated protocol outline useful in developing the TOR. The National Information Module collects various types of national-level information, much of which is helpful in making decisions about details in the methodology, time period, and other elements of the Needs Assessment discussed in the TOR. For example, this module asks for a list of health facilities, which is essential for determining the scope of the study, and a list of health related policies and protocols, which can determine the appropriateness of various modules.

We recommend completing the National Information Module early in the planning process so that the TOR and protocol are sure to accurately reflect country information. Another key source of information is the DAG, which is useful for formulating data management, analysis, and report writing sections of the TOR. In addition, the DAG can be useful for writing separate, more detailed data management and data analysis plans; these plans are important to create early in the Needs Assessment process.
Step 4: Write and Submit Protocol

Task: Develop a research protocol. Determine if medical or research ethics or institutional review board (IRB) approval is necessary. If so, a protocol will be required. Whatever the case, it is necessary to have some form of approval at senior levels of the ministry of health for the entire study process – content of tools, methodology, fieldwork etc.

Outline for research protocol

Regardless of whether the protocol needs to be submitted to an IRB, you should prepare a protocol. The protocol can be based on the early TOR, but fills in more details related to the protection of human subjects, data management and analysis, ownership, and use of the data. The research protocol may be developed by members of the country core team with technical support provided by AMDD if needed. Whether to seek IRB approval should be determined by the country core team. A protocol approved by an IRB is required by some journals where you may wish to submit articles based on the Needs Assessment data.

The following is an outline of a standard research protocol that indicates the important components to include in this document:

Introduction
- Global and regional context (MDGs 4 and 5 and the biannual Countdown to 2015)

Background
- Literature review (other assessments and research studies conducted on subject)
- Country background
  - Key statistics (e.g., Demographic Health Surveys, Multiple Indicator Cluster Surveys, HMIS, etc.)
    - Coverage (antenatal care, institutional delivery, cesarean delivery, postnatal care, newborn care, family planning)
    - Maternal mortality ratio
  - Map with administrative units (districts)
  - Organization of health system
  - Census (national and regional figures)
  - Social and economic characteristics of the population
  - Human resources for maternal and newborn health
  - Description of government health system
  - Medical training institutions
  - Professional and regulatory bodies/institutions
Rationale

- Magnitude of maternal and neonatal mortality in country
- Current and reliable data on EmONC are needed to identify gaps at all levels for planning purposes, monitoring progress, etc.

Goal and Objectives

- Overall goal (provide country with data and information to plan maternal and neonatal mortality programs/interventions)
- Specific objectives to be set locally according to modules selected, and could include:
  - Understand the current status of facilities that provide or potentially provide EmONC
  - Obtain information about the availability, utilization, and quality of services to be used for planning and policy decisions
  - Calculate the EmOC Indicators
  - Produce a baseline against which progress will be monitored or to produce comparison estimates when a baseline already exists

Needs Assessment management

- Roles and responsibilities
  - Advisory panel
  - Agencies involved
  - Core team (including donors)
- Criteria for selection of data collectors, supervisors, etc.

Methodology

- Study design
  - Sample versus census
    - If sample, sample design (a plan of sampling methodology could be included as an appendix)
  - Development of data collection instruments (including field test and adaptation)
- Synopsis of field work
  - Training of data collectors
  - Quality assurance plan
- Synopsis of data management
  - Data management (entry and cleaning)
  - Data analysis
  - Quality control

Data analysis

- Illustrative indicators
- Summary of analysis plans

Protection of human subjects and consent
• Will IRB approval be needed? If yes, which IRB(s)? When will the IRB be submitted?
• Potential risks and efforts to minimize risks (including informed consent and data management)

Work Plan (task list and timeline)
  o Use this opportunity to be realistic about the sequencing of steps and time required for each step

Dissemination Plan
  • How data will be used, shared, and disseminated

Budget

Appendices (e.g. population figures, lists of facilities by region, etc.)
Phase 2: Conducting the Needs Assessment

Step 5: Recruitment

**Task:** The country core team should develop and clarify roles and responsibilities of the different parties involved in the Needs Assessment as a part of the recruitment process.

**Roles and responsibilities**

The following section includes suggested minimum selection criteria and identifies important roles and responsibilities of the Needs Assessment Coordinator, the Field Work Coordinator, the data collection team supervisors, and the data collectors. We have also added selection criteria for data collector trainer(s) if the country core team decides to add trainers. You may find these job descriptions useful to develop requests for proposals, recruitment advertisements, contracts, and TORs. You may want to change their titles, or even modify their roles. For example, you may want to call the Needs Assessment Coordinator the Data Management Coordinator. It is also possible that one of the key roles of the Needs Assessment Coordinator is to coordinate the field work, so a separate Field Work Coordinator might not be necessary (review the organizational chart suggested in Step 2: Establish the Country Core Team). Each country will have to determine the best mix of roles and responsibilities.

If you are using staff within the Ministry of Health to fulfill some or all of these roles, you may simply need to identify qualified and available staff and secure permission for their release to work on the Needs Assessment. However, if you are recruiting outside the Ministry of Health, you will need to develop position descriptions, advertise the positions, interview and select candidates, and develop contracts.

Whatever you decide, we recommend that you use a formalized process of defining the minimum criteria for selection and clear roles and responsibilities. Then, use that framework to identify and hire qualified personnel.

*Needs Assessment Coordinator (data collection and data entry)*

Recruitment criteria:

- Minimum five years experience managing large surveys and/or data collection efforts
- Minimum five years experience managing, merging, and cleaning large data sets
- Demonstrated technical expertise with data entry software packages
- Demonstrated experience overseeing data entry staff
- Experience with public health projects
Roles and responsibilities:

- Develop a data management plan (see data management plan outline) in collaboration with the organization hired to collect and manage the data. AMDD can provide guidance in this process. The data management plan should explain the data collection process and roles of those involved, and the data entry process and the roles of those involved.
- Implement and oversee the data collection and data entry phases according to the data management plan.
- Work closely with the core team to determine how to handle text and open-ended responses during data cleaning.
- Produce and transfer the final clean database product as determined by the data management plan.

Tips:

- The person responsible for managing data entry should attend the data collectors training.
- Data entry screens should be created immediately after data collection begins.
- Data entry should occur simultaneously with data collection.

**Issue to consider: How to handle open-ended and “other” responses.** You will need to determine whether they will be entered as text and coded during analysis or coded at the point of data entry. If they are coded at the point of entry, it is critical to develop a clear process and to identify who will create and manage the code list. This should be decided early in the process and should be explained in the data management plan.

**Field Work Coordinator**

Recruitment criteria:

- Good people-management skills
- Well organized
- Experience with large surveys and/or EmONC medical expertise
- Note: It is not critical that the Field Work Coordinator be a medical expert, as there may be other medical experts on the team. The Field Work Coordinator’s job depends more on leadership and organizational skills, and understanding of surveys that require a lot of field work
- Master’s level education, preferably in public health, sociology, or demography
- Minimum of 10 years of work experience
- Supervisory experience
Roles and responsibilities:

- Develop a tentative route for facility visits in each region. This should be revised with each team during the data collectors training. This will require an updated list of all the health facilities that will be included in the Needs Assessment.
- Coordinate closely with contracted consultants and/or focal point during recruitment of data collectors.
- Coordinate the logistics for field work. Each team should have a sufficient number of clean questionnaires, clipboards, pencils, per diems, letters of introduction, cell phone minutes, etc.
- Ensure that the appropriate authority has sent letters to facilities to make them aware of the field work and have followed up with telephone calls to make sure the letters have been received. Ensure that supervisors have copies of these letters before they visit a facility.
- Ensure quality of the data. For example, to ensure completeness and organization of data, for each facility all modules completed should be gathered in one large envelope. The envelope will decrease wear and tear, and minimize loss. The envelope should be labeled with region, Unique Facility Identifier (UFI), district, and facility name. At all times except while actually collecting data, the modules should be kept in their envelopes so they will not become separated and lost. The Field Work Coordinator should ensure that envelopes are complete before delivering the completed questionnaires for data entry.
- Contact team supervisors on a regular basis to monitor progress and help resolve technical or logistical issues.
- Work closely with supervisors to address any disciplinary action that is needed. If termination of a data collector or a supervisor is required, ensure that the process is carried out professionally.
- Track completion rate of facilities in each region and work with country core team point persons should some teams fall behind or others finish more quickly than expected.
- Make some supervision field visits, especially if weak teams are identified.
- Make car rental arrangements together with country core team point persons.
- Compile a report of supervisors’ logs that includes challenges faced, problems resolved, incidents or facility stories that would be of interest to the survey and its organizers.

**Trainer(s)**

One or more trainers can work with the focal persons and the AMDD technical support team to conduct the data collectors training sessions.

Recruitment criteria:

- Previous training experience in public health field, preferably a minimum of three years experience
- Previous experience conducting health facility-related survey or study
• Mid-level health provider experience preferred or work/educational background in maternal and child health
• Ability to lead didactic and interactive skill-building sessions
• Ability to communicate effectively with fellow trainers and participants
• Ability to coach participants to improve skills/competencies and provide guidance and feedback
• Ability to manage on-site logistics related to training sessions, in coordination with training site staff and fellow trainers

Roles and responsibilities
Trainer(s) can play a lead role in coordinating the data collectors training sessions, including:
• Manage logistics.
• Prepare training materials.
• Communicate with participants before training.
• Prepare training site and field-based training activities.
• Assist with sessions in conjunction with technical staff.
• Optional: Supervise and coach data collectors during the first few weeks of data collection.

Data Collection Team Supervisor

The team supervisors should be familiar with clinical settings. They can have a background in hospital administration, nursing, or midwifery, or they can be physicians or health officers.

Recruitment criteria:
• Willingness to work extra hours
• Detail-oriented
• Leadership skills including team building and problem solving
• Supervisory experience
• Strong communication skills
• Excellent interpersonal skills
• Previous data collection experience
• Proficiency in language of training materials as well as local language
• Strong analytical abilities
• Knowledge of midwifery
• Familiarity with death reviews desirable
• Familiarity with EmONC desirable

Roles and responsibilities:
• Successfully complete the data collectors training as outlined in contract.
• Accompany the data collection team at all times; coordinate daily data collection and interviewer schedules at each facility by assigning modules to team members for completion. Assignment may depend on the individual data collector's skills; some people may be stronger
Interviewers and others may be better at counting, deciphering and doing the detective work of reading and finding information in registers and logbooks (e.g., see Module 4). The supervisor should know the team well enough to assign tasks so that the data collected is of the best possible quality.

- Assist with data collection.
- Assist the other data collectors with any technical issues.
- Assist with logistics in the field with regard to lodging, travel, clean questionnaires, pencils, etc.
- Review all the modules for each facility for completeness, making observations as necessary on the modules or the module envelope as to any deviations. This should be done before departing the facility.
- Organize the envelopes with their respective modules, ensuring that all the modules for a specific facility are in their proper envelope.
- Deliver the envelopes to the Field Work Coordinator as they are completed or as is feasible in terms of travel and logistics.
- Contact the Field Work Coordinator on a regular basis to report problems and progress. Each supervisor should have a mobile phone with minutes provided by the coordinator.
- Introduce the team to the facility director and explain the objectives of the assessment in order to gain his/her cooperation. Each supervisor should have a letter of introduction, but the facility directors should be contacted prior to the team’s arrival to inform them of the team’s mission.
- Maintain a facility log as described in the Data Collector’s Manual. Prepare a short report for the Coordinator about any incidents of interest, problems encountered, facility stories, or observations that might be of interest to the survey team. It would be interesting also to know how long it took for the team to go from point A to point B, and how long it took to complete all the modules at a given facility.

**Issue to consider:** How will you select data collection team supervisors? Will you recruit them specifically or identify them during the data collectors training?

We suggest that the process by which you select supervisors be determined by your specific context. However, when deciding how and when to select supervisors, you should consider the importance of having supervisors with:

- Personal or professional connections with health facilities (to facilitate access to facilities, personnel, and information)
- Strong data collection skills

If you identify supervisors during the training, you will need to determine the process by which they are selected (e.g., group vote, performance-based, trainers’ selection, etc.). Also, you should plan to identify them early in the training so that you can provide them with specific training and support them
with individualized attention, if needed. You will notice that the Data Collectors Training: Trainer’s Guide, allows for extra time with the supervisors during the training sessions. These sessions cover such topics as the supervisor’s role as team leader, how to ensure data quality, how to manage field logistics, and how to communicate with the Needs Assessment Coordinator. Generally, supervisors are paid more than the data collectors.

Data Collectors

The data collectors should be familiar with clinical settings and have a good understanding of EmONC services. Their background could be nursing, midwifery, or they could be physicians or health officers. In some instances you might consider social scientists, demographers, and health statisticians, but familiarity with facilities, equipment, and drugs is critical. Some members of each team must have clinical skills as some data collection requires clinical knowledge (see Data Collector’s Manual for more information). Previous data collection experience for all data collectors would be extremely beneficial. Also, strong local language skills are required.

Recruitment criteria:

- Minimum diploma or equivalent. For example, nurse/midwives, medical students, doctors, clinical officers, or heads of clinics
- Previous data collection experience preferred
- Proficiency in language of training materials as well as local language
- Patience and a positive attitude
- Expressed desire or interest – motivation
- Analytical abilities
- Communication skills
- Interpersonal skills
- Knowledge of midwifery
- Familiarity with death reviews desirable
- Familiarity with emergency obstetric and newborn care desirable

Roles and Responsibilities:

- Successfully complete the data collectors training as outlined in the contract.
- Complete the data collection instruments as accurately as possible by asking questions of the appropriate respondents, observing equipment and other items, reviewing records, registries, and logbooks, and interviewing clinical staff about their knowledge and training.
- Participate effectively as a part of the data collection team.
**Issue to consider:** How can you enlist data collectors for a relatively long period of time?

- Recent graduates from public health or pre-service training programs who are not yet employed can become excellent data collectors. Remember that most members of each data collection team must have clinical skills.

Further, it is often possible to recruit data collectors and supervisors who are health workers no longer serving in clinical roles (e.g. administrators, lecturers in health training institutes, and those involved with health professions councils).
Step 6: Revise and Test Modules

Task: Adapt modules to correspond to the specific needs and characteristics of the country.

The adaptation process

The EmONC Needs Assessment modules have always been dynamic, and continue to evolve. While we have created generic versions, we strongly endorse local adaptations: adding or deleting optional modules, and adding or deleting individual questions to the core modules. The core team or a subset of the core team is responsible for adapting the generic modules to the local context.

Please visit AMDD’s website, www.amddprogram.org, and/or contact AMDD for more information on and resources for adapting modules and integrating supplementary studies.

Adapting the modules

It is important to keep in mind that all of the EmONC Needs Assessment resources are linked. Country needs and context can lead to more, less, or different items than those that are included in the generic Data Collection Modules. However, the specific contents of the Data Collection Modules affect the Data Collector’s Manual and the Data Collectors Training: Trainer’s Guide in which these items are referenced. Even if the numbers of the items are not changed, content changes or wording of items may require changes to the Data Collector’s Manual or the Data Collectors Training: Trainer’s Guide.

Thus, there are two steps to the adaptation process: the adaptation of the Data Collection Modules, which is a substantive process; and the subsequent adaptation of the Data Collector’s Manual and the Data Collectors Training: Trainer’s Guide, which is based entirely on changes to the Data Collection Modules.

The group that adapts the Data Collection Modules should include, at a minimum:

- An OB/GYN, pediatrician, or other doctor who provides obstetric and/or neonatal services.
- A midwife or registered nurse.
- An individual or individuals familiar with laboratory supplies and the essential drug list (e.g., a laboratory technician, pharmacist, etc.)
- A statistician, in order to make sure that the questions are valid.
- Someone who is very familiar with all the modules and Needs Assessment documents. This person can help operationalize the content changes that are suggested. For example, this person can ensure appropriate and consistent question formatting, ensure that changes to one module are carried over to other modules as needed, ensure that questions are not duplicated, and ensure that skip patterns are maintained as originally intended.
It is useful to keep the group small, while still allowing for enough people to review all changes to the modules.

The modules, once adapted, should be pre-tested and finalized before the data collectors training. Finalizing the modules includes incorporating the changes that arose during pre-testing, and adapting the Data Collector's Manual and the Data Collectors Training: Trainer's Guide to the final changes in the modules. This requires the undivided attention of a very small group of people who are extremely familiar with all the Needs Assessment documents. A retreat prior to the data collectors training can serve as an excellent opportunity to focus attention in order to finalize these tools.

**Issues that need specification by country**

The following list highlights potential areas that need to be carefully examined to make sure that they are appropriate to each country's context. All countries should complete the core modules. All other modules should be selected by presenting a justification for using them. For example, if a system for routine maternal death reviews is already in place, Module 9 may not be needed.

**Core Modules**

- National Information Module
  - All information should be completed as asked.
- Module 1: Identification of Facility and Infrastructure
  - Administrative units (region/province/zone/district).
  - Type of facility.
  - Questions related to modes of transportation and communication.
  - Definition of urban and rural.
- Module 2: Human Resources
  - Categories of health worker cadres.
  - Section 2 currently describes a Monday-Friday work week and Saturday-Sunday weekend, but the work week may be composed of other days in some settings.
- Module 3: Essential Drugs, Equipment, and Supplies
  - Section A should include drugs on the national essential drug list as appropriate.
  - Other national lists for equipment and supplies should be consulted.
  - If the stakeholders insist that they need information on equipment and are not satisfied with the current distinction between “At least 1 available and functional” (Yes or No), then the questions can be reformatted to distinguish among "Available and functional," “Available but not functional,” and “Not available.”
- Module 4: Facility Case Summary
  - Revise the names and types of the registers.
o Determine the 12 month period for data collection. Note that the 12 month data summary for this module is a fixed period of time, whereas the “last 3 or 12 months” in Module 5 is rolling; that is, it refers to the three months before the date of interview, and will change every day that a new facility is visited.

o Verify the local definition of a stillbirth and adapt accordingly in the Data Collectors’ Manual. The WHO definition is 28 weeks or older, but some countries may use a different cutoff point. 3,4,5

o The Worksheet for Module 4 must be adapted to mirror any changes in that module.

- Module 5: EmOC Signal Functions and Other Essential Services
- Module 6: Partograph Review
- Module 7: Provider knowledge and competency for maternal and newborn care

Optional Modules

- Module 8: Cesarean Review
- Module 9: Maternal Death Review
- Two modules that have been recently used by some countries are a Referral module and a Neonatal Death Review module.
- Other modules have been used in one or more situations (maternal morbidities and treatment, modules on family planning, antenatal care, postnatal care, maternity waiting homes, warehouses, client satisfaction interviews, etc.) Please see Monitoring emergency obstetric care: A handbook for more information about these special studies and when to use them, or contact AMDD through the website.

The National Information Module is considered a core module. It should be filled out only once, so does not require the same process of adaptation. One or more members of the core team should take responsibility for collecting the information in the core module. The information relates to health worker training institutions, curriculum content and policies. This information is critical for data analysis and forming of policy and training recommendations. It also provides a good reference for the development and adaptation of other modules, as well as the TOR, and should be completed during the planning phase of the Needs Assessment.

Pre-testing the modules


5 28 weeks is a definition that may change based on the strength of a country’s health care system: in some countries, the cutoff point for stillbirths may be earlier than 28 weeks, but should not be later than 28 weeks.
Modules are pre-tested to ensure appropriate language, appropriate context, and clear instructions. Pre-testing can also serve to test field work procedures and how the data collection team should function.

 Ideally, pre-testing should be done before the data collectors training. After the pre-test, you should allow sufficient time for the modules to be carefully and thoroughly revised and reviewed, and enough time for the Data Collector's Manual and Data Collectors Training: Trainer's Guide to be carefully updated based on any revisions to the modules. The people who are most familiar with the modules and the manual should make the final revisions. Once the final changes are made in the modules and the Data Collector’s Manual, these materials will need to be printed for the data collectors training, and for the data collection teams who often begin field work immediately after training.

 In practice, sometimes the field activity that takes place on the fourth day of the data collectors training is used as a pre-test. This is not recommended because there is so little time between the field activity and when the teams are scheduled to go into the field. Also, having finalized versions of the modules and the Data Collector’s Manual at the training means that the training will run more smoothly and that the trainers will not need to re-train data collectors based on changes. This should result in less confusion for the data collectors and better quality data collection.

 However, if changes must be made during the training, you can extend the amount of time available to incorporate changes, make a final review, and print the final versions for the field work by having data collection initiate in the city where the training takes place and all teams work there for the first week or two.

 Because the modules have been used so extensively, we hope that intensive pre-testing will not be necessary. Also, because the time required from personnel in the facilities is so great, the field activity is treated as a definitive visit to the facility.
Step 7: Data Collector Training

Task: The country core team should prepare for the training of data collectors. As a part of this preparation, all those participating in conducting the Needs Assessment and data collectors training should take part in implementation team training. The Needs Assessment implementation team is the group that will coordinate and conduct data collection and management.

Preparing for data collector and supervisor training

The primary objective of the data collector training sessions is to train data collectors so that they collect accurate information in a uniform and standardized manner. It is the responsibility of the trainers of the data collector training sessions to teach the same things in the same way so that this objective may be achieved. For this reason, AMDD has produced the Data Collector Training: Trainer’s Guide for the training team’s use.

Before the data collector training: Implementation team training

The Needs Assessment implementation team refers to the group responsible for coordinating and conducting the field work associated with the data collection process and coordinating the management of the data collected. This group may be comprised of some members of the country core team, the focal person, in-country trainers who will be helping out with the training of the data collectors, the person responsible for managing the data, and the private or public organization that is responsible for organizing and facilitating data collection. There is considerable overlap between the core team and the implementation team, although some members of the core team may not be directly involved with implementation, and some people involved with implementation may not be members of the core team.

AMDD has produced a standardized implementation team training program, led by AMDD, which prepares participants for the process of conducting the Needs Assessment and training the data collectors. The need for implementation team training varies from country to country and depends partly on the scope of the study. The implementation team training includes an element of training of trainers; therefore, it should take place in the two weeks prior to training the data collectors. Please consider this in your timeline.

We recommend that data collectors be trained by a core training team that is composed of one or more AMDD technical support persons, an EmONC expert (i.e. a clinician), a statistician/researcher, and a trainer who is used to public health training programs. There should be a ratio of one team to about 20 potential data collectors. Remember to train more data collectors than you need.
There are a number of training models that have been used to implement EmONC Needs Assessments and each has its advantages and disadvantages. Different training models have varying financial implications and different logistics.

**Model A: Train all the data collectors by one team of trainers**

This model can be carried out in at least two ways:

1. Data collectors are trained in one location. Each training session will last one week. Thus the team of trainers will carry out multiple training sessions back to back over a period of several weeks (depending on the number of data collectors needed). It is then possible to deploy the first group of teams into the field once they are trained. After each week of training, another set of teams is deployed.

2. The training team moves from region to region to train regional teams.

In Model A the field work begins in a staggered manner. It would make sense to begin in the region with the highest number of facilities that require a visit. This model requires a large organizational effort to simultaneously deploy and supervise the first batch of teams while conducting the next training event. It is also possible for the trained teams to wait until all teams have been trained and then begin at the same time, but this is less efficient.

The advantage to Model A is that the training is highly standardized and uniform, which should be reflected in how the questions are asked and how the modules are completed. In other words, the data quality is more tightly controlled. Scientific survey literature has shown that data quality is compromised with an excessive number of data collectors and trainers. Standardization is increased by having a small number of trainers who are responsible for training all of the data collectors. Our recommendation is to try some version of Model A.

**Model B: Train data collectors in various regions by different teams of trainers**

Another model is to train a group of people who will make up multiple trainer teams. Once the teams of trainers are prepared, they go to different regions to train data collectors. An AMDD technical support person should accompany each training team. This model allows for data collector training sessions to be conducted simultaneously so that field work can begin at the same time.

The challenge with Model B is to have standardized and uniform training sessions. It is absolutely critical to train the trainers well; this will take approximately two weeks. We recommend working with no more than four trainer teams and ensuring that an AMDD technical person is present during each of the training sessions.

Regardless of the model selected, after each training event, at least one member of the original training team should accompany the newly trained teams during their first week of field visits to correct errors and answer questions. Cell phone communication is also helpful to answer questions.
The trainers can lead the exercises and activities and facilitate discussion about the Data Collection Modules and the Data Collector’s Manual. The AMDD technical support team and members of the core team or invited speakers should be on hand to provide technical expertise or more in-depth information regarding the Needs Assessment methodology when needed.

The AMDD technical support team, the focal person(s), other members of the country core team, and local trainers familiar with the modules and the Needs Assessment process will likely be responsible for the content of the training. Invited guest speakers may also provide expertise in some of the content areas, for example, the partograph review session. The Needs Assessment Coordinator should be responsible for the organizing and planning of the logistics for the data collectors training, but may not be the person leading the training. All members of the team need to work together closely to prepare for the training.

The following tasks should be completed before the training begins:

- Identify and secure training venue
- Arrange for lunches and refreshments
- Prepare to distribute per diems and payment for lodging expenses for trainees
- Arrange travel to training venue for data collectors
- Identify and arrange for guest speakers and honoraria, if appropriate
- Order and obtain training supplies including:
  - Flipcharts and stand
  - Markers, masking tape, and post-its
  - Paper
  - Printing/copying expenses
  - Flash drives
  - Calculators
  - Notepads and clip boards
  - Nametags
  - Pens, pencils, erasers, and pencil sharpeners
- Identify facilities for field activity and secure permission (get letters of introduction)
- Arrange transportation for field activity
- Print and bind the final modules (it is important to bind them because they can get confused with module copies distributed for exercises, or with the modules of the field activity)
- Print and bind the Data Collector’s Manual

Please see the Data Collectors Training: Trainer’s Guide for a detailed, session-by-session explanation of how to train data collectors and supervisors, and the logistical preparation it entails.
Step 8: Field Work

**Task:** At this point in the Needs Assessment process, the focal person(s), the Needs Assessment Coordinator, and the Field Work Coordinator should finalize the logistics of the Needs Assessment field work. A critical component of this process is the development of a quality assurance plan.

**Preparing for field work**

**Logistics to finalize include:**

1. Routes and schedules for data collection teams
   - Arrange transportation for each data collection team. This may include contracting cars/boats for data collection teams.
   - Determine how fuel will be paid for and how funds will be distributed.
   - Help inform data collection teams of possible lodging locations while they are in the field.

2. Field work permissions
   - Obtain authorization letter from the Ministry of Health; this needs to be done early in the process as it may take longer than expected.
   - Send study authorization letter from Ministry of Health to facilities.
   - Follow up with a call to each facility. Make sure that the appropriate party has received the letter and will inform his or her team about the study.
   - Distribute copies of each authorization letter (if more than one) to data collection supervisors to bring to each facility.

3. Field work supplies
   - Professionally print enough modules for field work (ensure there are extras).
   - Order and distribute supplies, including:
     - Notepads and pencils/pens
     - Clipboards
     - Erasers
     - Pencil sharpeners
     - Paper clips and staplers
     - Big envelopes for completed questionnaires
     - Telephone cards/airtime for supervisors
     - Bags (backpacks, satchels, etc.)
     - GPS devices
     - Roadmaps
     - Phone numbers of supervisors, Field Work Coordinator, and other key people
• Official name tags or badges that indicate that the data collector is part of the EmONC Needs Assessment initiative
• Develop plan for collecting completed questionnaires from the field.

4. Quality assurance plan
• Schedule quality assurance visits to the field, including visits by focal person(s), local trainers, Field Work Coordinator, and country core team members.
• Establish communication plan between Field Work Coordinator and field teams.
• Track completion rate of facilities in each region.
• Compile data collection team supervisor reports.

Developing and implementing a quality assurance plan
There are several important layers to ensuring the quality of data collected. First and foremost, the team supervisors must be well trained and competent, and they should understand the important role they play in ensuring the quality of the data collected. The roles and responsibilities of the team supervisors should be covered during sessions of the data collectors training. However, it is not enough to leave quality assurance to the team supervisors. Key members of the core team along with the AMDD technical support team should begin to develop a plan for quality assurance very early in the Needs Assessment process, preferably when developing the TOR. This quality assurance plan should include three key components:

1. A plan for quality control of the completed modules before data entry;
2. Field visits during the first two weeks of data collection to provide supportive supervision and to observe data collection; and
3. Validation of collected data by re-administering key modules in 3-5% of facilities.

For more information, please see the quality assurance guide, a short document that gives more detail about ensuring quality throughout all steps and phases of the Needs Assessment process. This document can be obtained on request by emailing info@amddprogram.org.

Important: Who should make the field visits for supportive supervision and validation of data?

We recommend that the people who visit the field be individuals who know how to complete the modules. In addition to the AMDD support team, this could include the focal person(s), data collector trainers, members of the core team, the Needs Assessment Coordinator, and/or the Field Work Coordinator. Whoever is identified must be very familiar with the modules and the Data Collector’s Manual, and preferably will have been present during the entire data collectors training. There will be
challenges to scheduling these field visits because many of these people are very busy. However, it is essential for data quality that data collection teams have guidance during the first two weeks of field work so that any errors or bad habits are corrected early.

Important issues to consider:

- Quality control of completed modules
  - Data collection team supervisors must review each completed module with the team before leaving the facility. Any problems should be addressed at that time.
  - Once completed modules are collected, they should be reviewed by the Needs Assessment Coordinator and/or the Data Entry Supervisor before data entry.
  - Items to check at this time are: a) that all questions have answers; b) that skip patterns were followed correctly; c) that comments and other written information are legible d) that UFIs are correct and on every page of every module and; e) that facility names and location information are correct, etc.
  - The Needs Assessment Coordinator and the Data Entry Supervisor should work together to ensure that any problems in the completed modules are corrected before the module’s data are entered. This may mean contacting the data collection team supervisor for clarification, or discussing the issue with the focal person(s).
  - Store all modules from each facility in envelopes to minimize damage and loss.

- Plan and schedule field visits for supportive supervision
  - During the first two weeks of data collection, try to make a visit to each team to identify common errors that can be corrected quickly.
  - The number of supportive supervision visits will depend on the size and geography of the country, and the number of data collection teams.
  - A schedule should be made before data collection begins to identify who will be making the field visits and when.
  - During these field visits, observe how questions are being asked, how modules are being completed and reviewed, how the team members and supervisor are interacting with facility staff and each other, etc.
  - Pay special attention to Module 4 (Facility Case Summary) to ensure all appropriate resources/registers are being used to complete this module.
  - Provide refresher training and reinforcement, as needed.
  - Help sort out problems with data collection logistics.
  - Be on the lookout for data collector fatigue.
  - If after additional training and supportive supervision, a data collector or a supervisor is doing a poor job, terminate their contract and find a replacement.

- Plan and schedule validation of data
  - We recommend that you visit 3-5% of the facilities after the data collection teams have visited to re-administer the core modules, Modules 1-5. (The case reviews cannot be
re-administered). Your ability to do this is dependent on the size and geography of the country, as well as the budget. As a minimum, we recommend five or six facilities, or at least one per region, whichever is larger.

- Choose sites with good geographical distribution.
- Do not review the module completed by the data collection team until after you have re-administered the module yourself.
- Compare the data you collected to that of the data collection team.
- This process should occur within the first weeks of the data collection to inform any immediate action.
- Use the process to identify areas where all teams need clarification or additional training, whether a particular team needs additional support, whether the data collection team needs to revisit a facility, etc. Use the supervisors as conduits of information.

**Letter of introduction for data collection teams**

Each data collection team should have a letter of introduction from an appropriate authority. The team should carry this letter with them so that they can use it to assure health facility staff that they are part of an authorized study and should be given access to the facility for data collection. This introduction letter should also be sent to each facility involved in the study before field work begins.

The letter should:

- Clearly indicate who is sponsoring and supporting the study (e.g., the Ministry of Health).
- Explain the purpose of the study, how the results will be used, and what type of information is being collected.
- Emphasize how the Needs Assessment results will be useful for facility staff.
- Address how facility managers will learn the results of the survey.

**Example letter**

Dear ___, (e.g., District Health Officer),

The Ministry of Health is conducting an Emergency Obstetric and Newborn Care Needs Assessment starting [DATE] until [DATE]. This is an important exercise because too many women and newborns are dying in pregnancy and childbirth. This assessment will help the government target its investments in health care in order to reduce the number of maternal and newborn deaths.

The main objective of the assessment is to provide evidence for a baseline (or for a follow-up to an earlier Needs Assessment) so that we can effectively track the country’s progress in improving access to emergency obstetric and newborn care, and toward achieving the targets put forth by the United Nations Millennium Development Goals 4 and 5. Additionally, the results will help inform facility staff in
prioritizing and planning interventions to strengthen the health delivery system. Study results will also inform policy changes at the facility and national levels.

The team will be visiting a number of departments and collecting data from your staff members. We would very much appreciate your participation.

[Insert sentence describing how facility managers will learn the results of the survey]

Thank you for your cooperation.

Yours sincerely,

Ministry of Health
Step 9: Data Entry

Task: the Needs Assessment Coordinator and the country core team should create a data management plan with the technical support of AMDD. This should be done early in the Needs Assessment process. Please see the DAG for more information.

Data management plan

A data management plan is an important component of a smoothly functioning, well run Needs Assessment. The earlier in the Needs Assessment process that the data management plan can be formed, the better, because it will ensure that the data collected will be of good quality and will be a suitable foundation for analysis.

A data management plan should include the following elements:

Overview of tools used
- Description of each module: the types of data collected and data collection method(s) used (e.g., interviews, data extraction, observation)
- Overview of other tools used to track data collection process (e.g., facility logs)
- Languages used and how translations were done
- How, where and by whom modules were pre-tested
- Description of the unique facility identifier, how it is formed, and how data collectors will use it

Data collection
- How data collectors will be recruited and hired
- How team supervisors will be identified
- How data collection teams will be trained
- How the field work will be organized and managed
- How quality of data will be assured during field work
- How the completed data collection modules will be collected

Data entry
- What software will be used for data entry screens
- How data entry staff will be recruited and hired
- Who will supervise data entry
- Extent of data editing
- How open-ended questions will be handled
- How data entry staff will be trained and how double data entry will be organized
- How data quality will be assured
• How the finished data sets will be verified and cleaned and who is responsible

Data transfer
• Who will transfer the final data sets to the person responsible for data analysis and in what form will the data sets be sent
• Where the completed modules will be stored, who will have access to them, and for how long
• Who will respond to queries that arise during preliminary analysis
• Where the final, clean data sets will be permanently stored after final analysis

A sample data management plan is included in the DAG. For more information, also see the roles and responsibilities of the Needs Assessment Coordinator in Step 5: Recruitment.

Further data entry tips
• It is important to plan for training and supervision of those performing the data entry. For example, during past assessments there has been a weeklong training for data entry clerks, and extensive review after the first week of entry. Partners can visit the clerks during the data entry process and cross-check some of the data, in order to give them confidence in the accuracy of the entry.

• AMDD strongly recommends using double data entry. 6 Double data entry can be used with any data entry software, but some software packages (for example CSPro and EpiInfo) have features that automate the validation, or comparison, of the two data sets. This process ensures high quality of data entered and almost eliminates data entry as a source of error.

• Each country should decide on the data entry software that they are most comfortable with using.

• The team responsible for managing data entry and the team responsible for data analysis should work closely together to decide on the format of the data sets and variable names.

• To the extent possible, data entry screens should be created that conform to the module formats and skip patterns. This makes data entry easier and minimizes errors.

• Data entry clerks should be required to enter the UFI when beginning data entry for each module. This will provide an effective check that will minimize the possibility of mismatching.

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6 Double data entry is the process in which each module is entered twice, then the data are compared and inconsistencies are highlighted so that they may be corrected.
Step 10: Data Analysis

**Task:** The core team should identify additional key players to assist in the process of creating a data analysis plan during Phase 1: Advocacy and Planning. The role of the analysis plan is to ensure that the data collected provide the basis to calculate the indicators and can meet the needs of health policy and planning officials at national, regional, and district levels. This plan should include table shells and an outline of the national report. The country core team along with any additional key players should lead the planning of the analysis. The team should identify one person or a small team of people to conduct the analysis. Creating a permanent database should be part of this process.

**Data analysis – Initial tips**

This section provides an introduction to data analysis. For more detailed guidance, consult the DAG, which discusses data analysis in greater depth. The DAG includes descriptions of data cleaning, the process of data analysis – including variable creation and treatment of missing values – and a module-by-module listing of sample tables with descriptions and accompanying table shells in Microsoft Excel.

There is likely to be interest in the results of the Needs Assessment at all levels of the public sector, private sector, and among other stakeholders (NGOs, professional associations, etc.).

- Facilities may wish to see how they stand compared to other facilities by comparing, for example, direct obstetric case fatality rates.
- District health management teams will want to identify specific facilities where gaps are occurring, such as those in need of new equipment or renovations in infrastructure.
- District, regional, or central levels of the health system will want to monitor the postings and transfers of human resources as well as identify what skills might be upgraded during in-service trainings.
- Professional societies and medical or nursing schools may be interested in identifying important areas that need to be added or emphasized during in-service training.

During Phases 1 and 2 of the Needs Assessment (Planning and Conducting the Needs Assessment), the country core team should identify key players to start work on Phase 3: From Data to Action. This group may include a number of different people, such as representatives from the Ministry of Health, health programs, central statistical bureau, and the HMIS office. They should begin to develop the analysis plan (during Phase 1), an outline for the national report, and tools for use in planning at the district level.

A national level report should always be produced to give an overview of EmONC and other essential services. Although it may be called a national report, most of the analyses will be presented by
region/province. Another important way to look at the data is by type of facility (e.g., hospital, maternity, health center, etc.).

Where it is possible, regional reports analyzed by district and type of facility are extremely helpful for regional and district level planning. These regional reports could be included in a national report, or they might stand on their own.

**Indicator selection**

The EmOC Indicators are an established component of the analysis of EmONC Needs Assessments. A description of the indicators can be found in the box below.

**EmOC Indicators**

<table>
<thead>
<tr>
<th>EmOC Indicators</th>
<th>Acceptable Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Availability of emergency obstetric care (EmOC): basic and comprehensive care facilities</td>
<td>There are at least five emergency obstetric care facilities (including at least one comprehensive facility) for every 500,000 population</td>
</tr>
<tr>
<td>2. Geographical distribution of EmOC facilities</td>
<td>All subnational areas have at least five emergency obstetric care facilities (including at least one comprehensive facility) for every 500,000 population</td>
</tr>
<tr>
<td>3. Proportion of all births in EmOC facilities*</td>
<td>Minimum acceptable level to be set locally</td>
</tr>
<tr>
<td>4. Meeting the need for emergency obstetric care: proportion of women with major direct obstetric complications who are treated in such facilities*</td>
<td>100% of women estimated to have major direct obstetric complications* are treated in emergency obstetric care facilities</td>
</tr>
<tr>
<td>5. Cesarean sections as a proportion of all births*</td>
<td>The estimated proportion of births by caesarean section in the population is not less than 5% or more than 15%</td>
</tr>
<tr>
<td>6. Direct obstetric case fatality rate*</td>
<td>The case fatality rate among women with direct obstetric complications in EmOC facilities is less than 1%</td>
</tr>
<tr>
<td>7. Intrapartum and very early neonatal death rate*</td>
<td>Standards to be determined</td>
</tr>
<tr>
<td>8. Proportion of maternal deaths due to indirect causes in EmOC facilities*</td>
<td>No standard can be set</td>
</tr>
</tbody>
</table>

* While these indicators focus on services provided in facilities that meet certain conditions (and therefore qualify as ‘emergency obstetric care facilities’), we strongly recommend that these indicators be calculated again with data from all maternity facilities in the area even if they do not qualify as emergency obstetric care facilities.

# The proportion of major direct obstetric complications throughout pregnancy, delivery, and immediately postpartum is estimated to be 15% of expected births.

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There are also many other indicators that are useful for planning at the district and regional levels. Remember that the indicators can also be useful for advocacy and HMIS reporting. Begin with a short list of general issue areas derived from the core modules, such as:

- Physical infrastructure
- Fees for services
- Human resources (see examples below)
- Drugs, supplies, and equipment
- Level of functioning in terms of life-saving and essential services
- Emergency referral system
- Utilization of specific services (family planning, PMTCT, rapid HIV testing, normal delivery, cesarean delivery, etc.)
- Quality of care

Then, expand each issue area with specific indicators. For example, below is a list of illustrative indicators based on the module for human resources:

- Ratio of health worker cadre to population (compare with national or international standards such as number of physicians and other cadres per 1000 or 100,000 population)
- Distribution of health worker cadres (by type of facility and region/district)
- Percentage of hospitals/health centers that meet local staffing requirements
- Turnover rates in last 12 months (by health worker cadre)
- Percentage of hospitals/health centers with staff on duty (versus on call) 24/7 to provide the EmOC Signal Functions/normal delivery/laboratory tests, etc.
- Percentage of facilities missing a signal function (by signal function) due to lack of trained health workers
- Percentage of facilities with at least one health care worker who can perform the signal functions (by signal function)
- Percentage of facilities with personnel (by health worker cadre) who perform essential or emergency services that were never part of pre-service training (informal task-shifting)
- Percentage of health care workers interviewed who correctly describe active management of the third stage of labor
- Percentage of health care workers interviewed who correctly describe how to perform neonatal resuscitation

The selection of indicators must be done in conjunction with program planners and policy makers. Hopefully, you will have planners and policy makers represented on your country core team. At the very least, the indicators should be vetted or approved by the principal stakeholders.

Table shells of the key indicators should be developed. Ideally, they should be developed before the modules are finalized to ensure that the data to be collected are those that are needed. An example of
a table shell is below. The process of creating and adapting table shells is explained in detail in the DAG.

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<th>Population</th>
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<td>Number of births attended in facilities</td>
<td>Percent of expected births</td>
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**Data analysis**

Data analysis typically occurs in two stages: preliminary analysis and final analysis. Preliminary data analysis generally involves preparing key indicators before the data have been completely cleaned for final analysis. These preliminary findings often serve to satisfy the needs of stakeholders who wish to have important results soon after data entry is completed.

There is always tension between the researcher, who wants data to be clean and defendable, and the users of the data, who are eager for results. Weigh the potential harm in sharing results based on preliminary or dirty data. Dissemination of results that are not finalized could lead to confusion.

Preliminary data analysis also serves to clean the data. It is during this preliminary phase that contradictions and other issues with the data will surface and will need to be rectified. It is important to allow enough time for this important process.

The final analysis occurs after the data have been cleaned, and provides a more detailed picture of EmONC availability, use, and quality. It usually will require updating the preliminary results (which may have been disseminated). All final reports, whether they are district, regional, or national level, should be based on the results of the final analysis.

The accompanying PowerPoint presentation, *Examples of Analyses from Recent Needs Assessments*, can be used as an additional resource; a PDF version of this presentation is found in the appendix.

**Establishing a permanent database**

There should be a central point within the government where these data can be stored and maintained as part of a permanent database, and to which data can be added over the years. This might be within the Ministry of Health itself or a national statistics institute.
To encourage on-going data collection, once the data entry has been completed, the data entry screens should be stored in this central location.

Ideally the data will become part of the public domain to stimulate further research and analysis, and to provide information to advocates about the reduction of maternal and newborn mortality.
Phase 3: From Data to Action

Step 11: Disseminate Results

Task: The country core team should consider the following when sharing the results of the Needs Assessment:

- Stakeholders to be informed
- Timing and strategies for the dissemination, including:
  - National launch of the final report
  - Organizing workshops with regional and district planning teams

Dissemination of the results and planning for action should be done in a way that is engaged with the overall planning process of the country, so that the data can be used to meaningfully guide EmONC improvement efforts.

Dissemination can take many forms. Print media is the most common way to disseminate results, but use of radio or television may also be possible, especially in countries where illiteracy rates are high and media consumption is most commonly aural. Interviews that are broadcast have the potential to reach many audiences.

A national launch of the final report is frequently a first step to dissemination and often an opportunity to invite television channels or newspaper reporters. A broad network of stakeholders such as government agencies, donors, technical assistance and non-governmental organizations, professional associations, and others should be invited. A launch can range from as little time as a couple of hours to a one or two day workshop. Key results should be presented and copies of the report or summary fact sheets distributed.

Dissemination can also take the form of daylong seminars or workshops. In workshops, dissemination is often combined with action planning. Regional health bureaus could hold their own meetings or workshops, analyze their own data, and devise ways for the facilities to learn of the results.

Two groups that are often neglected in the dissemination process are the data collectors or “research team” and the staff and managers at the health facilities who were instrumental in collecting and providing the data, respectively. Although it is important, this is not an easy task, and researchers struggle with how to do this given their limited budgets and competing priorities. The government and
other sponsors of the EmONC Needs Assessment have the primary responsibility for providing feedback to these constituencies.

A set of facility and district level EmONC fact sheets can be created to disseminate results. Fact sheets provide a medium to present important information about the functioning of facilities, and provide a quick and clear way to identify what needs to be improved and what is working well as a complement to the more comprehensive national report. They are particularly useful for facility and district managers.

National and international meetings present opportunities for dissemination of key results, as well as a chance to do more in-depth analysis of focused topics. Similarly, paper writing for national and international scientific journals should be encouraged.

Plans and reports should be shared with other Ministries such as Finance, Planning, Education, Women, etc. Another important audience could be national professional societies (e.g., of physicians, nurses, midwives, etc). In Africa, the Road Maps to Accelerate the Reduction of Maternal and Newborn Mortality have annual and biannual planning processes, but often they do not include data. EmONC Needs Assessment results can provide data for these Road Maps, informing feasible and appropriate strategies for reducing maternal and newborn mortality.

More information on dissemination workshops and materials, including sample fact sheets, can be found in the Data Analysis Guide.
Step 12: Plan for Action

Task: The country core team should create and implement a strategy for action planning at the national, regional, and district levels.

Action planning
Action planning is the first step in implementing evidence-based change to reduce maternal mortality. The benefit of the EmONC Needs Assessment is that the information collected can be readily translated into appropriate programs and policies that use resources effectively. A wide range of players will be needed to fully implement these policies and programs; however, the country core team must spearhead action planning and implementation.

When considering strategies for action, it is important to draw on the connections made during advocacy for the Needs Assessments, and look to a variety of stakeholders and partners in addition to the Ministry of Health and UN agencies.

National level workshops for regional health managers allow space and time to review a set of the key indicators (or all indicators) with the purpose of producing an action plan. A set of key tables for each region could be prepared in advance, and the workshop could allow for new analyses requested on demand.

Data should be examined in context. By comparing an indicator across administrative regions, geographical regions, or districts, program planners can make an informed decision about where specific interventions are most needed. Regions or districts with acute shortages of EmOC facilities, or where certain essential drugs or equipment are not available, should be prioritized. Transparency is enhanced by having data to support decision-making. The following are some examples of using the Needs Assessment results for program decision-making:

Example 1: District A has five health centers and one rural hospital, but none of the health centers provides anticonvulsants because no one on staff has been trained to use them. District B, on the other hand, has three health centers and two rural hospitals and all facilities except one health center provide anticonvulsants. Planners might prepare in-service training at the rural hospital in District A for health center midwives or nurses. Planners will know that District B is in reasonable shape, but they could send staff from the one health center that lacks staff who can administer anticonvulsants to be trained together with District A personnel.
Example 2: One region stands out as having many more newborn deaths than others. The combination of several indicators tells us that only one facility in that region has an ambu bag and mask and none of the facilities has a functioning oxygen cylinder. Regional and district management teams in that region should purchase and distribute ambu bags and masks, ensure a wider distribution of oxygen cylinders (important for adult emergencies as well), and implement a refresher course in the use of resuscitation for newborns.

Example 3: Looking at the indicators related to performance of the signal functions, we see that assisted vaginal delivery is the signal function most frequently missing. The reasons why include lack of equipment and few human resources who are trained to provide assisted vaginal delivery. A review of training curricula reveals that some of the medical schools do not teach doctors how to use a vacuum extractor or how to deliver a baby with forceps. Midwives are never taught to perform instrumental vaginal deliveries. This situation requires serious discussion with the national professional societies, OB/GYNs at the medical schools, the MNCH team at the Ministry of Health, the International Federation of Gynecology and Obstetrics (FIGO), if appropriate, and local training NGOs to discuss the practice of assisted vaginal delivery. They plan a one day advocacy seminar in which the international evidence is presented, and decide to re-introduce assisted vaginal delivery.

Where regional and national planning is done, it should be accompanied by costing. Cost data are needed to plan where, when, and how to scale up plans and determine resource allocation. There are a number of costing tools; WHO, UNFPA, MBB (marginal budgeting for bottlenecks), UNICEF, and IHTP (Integrated Health Technology Package) all have health-related tools.

Please see the accompanying PowerPoint presentation, *Utilization of EmONC Needs Assessment Data*, as a resource for ideas of how to improve EmONC in-country.

**Integrating EmOC indicators into health management information systems (HMIS)**

Integrating data necessary to calculate EmOC indicators into HMIS has been an important outcome of previous Needs Assessments. In order to proceed smoothly, the integration process should start during the first steps of the Needs Assessment process. Use the following steps as a guide:

1. Review the monitoring framework of the national maternal health plan.

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2. Develop a full understanding of the local HMIS and how it is being used (successfully and unsuccessfully) for planning and budget allocation.

3. Involve an HMIS representative in the Needs Assessment (as a member of the country core team). The representative’s involvement will be important when addressing weaknesses discovered as a result of the Needs Assessment as well as when discussing budgetary implications for HMIS.

4. Build technical consensus for the range of indicators to be integrated into the HMIS that can be collected during a Needs Assessment.

   Potential concerns:
   - Common understanding of the indicators among program managers and policy makers is often lacking.
   - Excessive indicators may burden the system.
   - Personnel who collect primary data require updating on indicators as the indicators change.
   - Country core team members should work with HMIS staff to make sure that these concerns are addressed.

5. Advocate at policy level for the integration of EmOC indicators into the HMIS. These policymakers might include the Minister of Health and other high level authorities. The government may decide only to incorporate certain indicators as opposed to all of them, and may decide to incorporate additional items related to EmONC.

6. Standardize EmOC indicators:
   - Definitions (numerators, denominators, assumptions, calculations)
   - Data collection tools
   - Periodicity of data collection at different levels of the health system
   - Report tools
   - Data flow and responsibilities at every level—map data flow

   Potential concern: Many data collection tools already exist, including a multiplicity of registers, (e.g., admissions registers, labor and delivery registers, operating room registers, and others)

   Solution: Design fewer but more comprehensive registers

7. Obtain official authorization (official communication).

8. Institutionalize and implement changes. This requires:
   - Leadership
- Capacity-building of staff and providers
- Supervision and feedback
- Printing and distribution of tools
- Monitoring and evaluation
- Cooperation across departments (e.g. direct and indirect obstetric complications are likely to be found in different departments)

9. Ensure use of the new HMIS at different levels of the health system.

10. In the Needs Assessment report, conduct a critical analysis of the status of the HMIS across different levels of the health system with clear recommendations. Module 4 collects information on which registers are in use for each facility. In addition, for a subset of registers there are questions meant to assess how well the registers are filled out and if they are up-to-date.
Appendix 1: Explanation of Sampling Methodology

Most of the data necessary for calculating these indicators will be collected in facilities. In a relatively small country, visiting every hospital should not be too difficult, but in a large country it might not be possible. Visiting every health centre that might provide EmOC, although ideal from a programme viewpoint, would be difficult even in some small countries. Therefore, in most countries, a subset of potential EmOC facilities will have to be selected for review.

We hope that in a few years the kind of information required for these indicators will be reported routinely to ministries of health, in which case data for all facilities would be compiled and available. If this information is available in a regular health management information system, it is easier to assess the availability of services and make changes and improvements in the health system.

The steps described in this section and the next will help in identifying a group of facilities that gives a reasonably accurate picture of the situation, while at the same time not requiring an unreasonable amount of work. In countries where financial and human resources are constrained, the approach described below will suffice to yield informative data about the maternity care system. Ensuring that the facilities selected for review give a fairly accurate picture of the situation depends largely on avoiding two major pitfalls: systematic bias and the effects of chance variation.

Systematic bias can occur when conscious or unconscious factors affect the selection of facilities for study. For example, the people selecting the facilities might want to present the situation in the most favourable light possible, or they might select facilities that are easily accessible (e.g., on a paved road or near a large town). In either case, the data collected might give an overly favourable impression. The effects of chance are, of course, unpredictable, but they do tend to diminish as the number of facilities studied increases.

Selection is done in two stages: selecting areas of a country for study and then selecting facilities within those areas. Sections 3.2.1 and 3.2.2 present a guide for selecting areas for study at national level. Facilities within those areas are selected at the area level, as described in sections 3.3.1 and 3.3.2.

3.2.1 Determine the number of areas to be studied
Consider a level smaller than ‘national’. The term for this administrative level will vary by country, e.g. state, province, but is referred to here as an ‘area’. In a few countries where the administrative units of

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'provinces' or 'states' are exceptionally large, it may be preferable to define smaller areas, e.g. district or county, for selection into the study. Alternatively, it may be logistically better to select the original administrative units even if they are large, but then select subareas for study at a second stage. As a rough guide, if an area has more than 100 hospitals (public and private), subareas may be selected; the number of subareas studied should represent at least 30% of the total. For the purposes of the forms, each subarea should be considered an 'area'. Professional help from a statistician should be sought in obtaining national estimates in countries where subareas are selected.

The following guidelines should be used to determine whether to study all areas of a country:

<table>
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<th>If a country has <strong>100 or fewer hospitals</strong> (public and private), then study all areas.</th>
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<tbody>
<tr>
<td>If a country has <strong>more than 100 hospitals</strong> (public and private), then a subset of areas may be selected for study. Select as many sub-national areas as possible, but the number selected should be <strong>at least 30% of the total number</strong> of sub-national areas in the country.</td>
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</tbody>
</table>

In selecting a subset of areas, the aim should be to study as many areas as possible, without compromising the quality of the data collected. For example, if there are 21 administrative areas in a country, 10 might be selected for study. Fewer can be studied if resources are scarce, but the proportion selected should not be less than 30% or a minimum of seven administrative areas.

### 3.2.2 Random selection of areas

**Step 1:** Make a list of all areas in the country. The list should be in alphabetical order, to minimize the possibility of bias.

**Step 2:** Assign each area a consecutive number, starting with 1 for the first area on the list.

**Step 3:** Calculate the 'sampling interval', which will tell you to select every nth area, once the first area has been selected at random. Use the following formula:

\[
\text{Sampling interval} = \frac{\text{Total number of areas in the country}}{\text{Number of areas selected}}
\]

Country W has a total of 21 areas, of which 10 are to be selected for study, giving a sampling interval of 2 (21/10 = 2.1). Sampling intervals should be rounded to the nearest whole number. If, for example, it had been decided that 15 of the 21 areas would be studied, the sampling interval would be 1.4, which would therefore round down to 1, an indication that either fewer areas should be selected for study or all areas should be included in the sample.

**Step 4:** Identify the first area to be included in the sample by generating a random number that is less than or equal to the sampling interval but greater than zero. This can be...
done with a random number table (at the end of Appendix 1). To use the table, look away from the page and touch it with the point of a pencil. The digit closest to where the pencil touches the page is the random number. If the digit is less than or equal to the sampling interval and greater than zero, use it; if not, read from left to right until a digit that satisfies this condition is reached. This number will be the first area selected.

For country W, the sampling interval is 2. Using the random number table, our pencil point falls on the digit 7, at row 22, column 5. This is larger than our sampling interval, so we read left to right, passing the digits 0, 7, and 0, until we come to 2. Thus, area #2 on the list will be the first area selected.

**Step 5:** Identify all other areas to be included in the sample by adding the sampling interval to the number that located the first area and continue to select areas until the desired number has been reached. As the first selected area is #2 on the list of areas, the next one would be 2 plus 2, or #4, and the next #6, and so on, until 10 areas have been selected.
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</tbody>
</table>

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Appendix 2: Example Terms of Reference

National Needs Assessment for emergency obstetric and newborn care (EmONC): patterns of availability and recent performance of the signal functions

I. Background
Maternal mortality is difficult and expensive to measure, especially in developing countries where vital registration systems are incomplete and inaccurate. Alternative methods such as the sisterhood method give estimates of the maternal mortality ratio covering a period of about 10 years prior to data collection, and therefore are not ideal for monitoring the short-term effects of interventions designed to reduce maternal mortality. [Insert name of country] is fortunate to have __ such measurements in the past decade. The Demographic and Health Surveys of 200? and 200? produced estimates of the maternal mortality ratio: ___ per 100,000 live births and ____, respectively. These maternal mortality ratios are critical to monitoring progress towards MDG 5. Although the maternal mortality ratios give the public health community a measurement of magnitude, they fail to inform us about what interventions are needed.

In recognition of the difficulties and limitations of the maternal mortality ratio, WHO/UNICEF/UNFPA/AMDD and partners developed the EmOC Indicators for the monitoring and evaluation of maternal mortality reduction interventions (see Table 1 below). These indicators depend largely on data from routine service records to show the availability, utilization and quality of EmOC. Needs Assessments for EmONC provide information about deficient services and where interventions can have the greatest impact on maternal and newborn mortality reduction. Needs Assessments also collect much of the information needed to calculate the EmOC Indicators.

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.
Table 1: EmOC Indicators

<table>
<thead>
<tr>
<th>EmOC Indicators</th>
<th>Description</th>
<th>Recommended Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of EmOC: Basic EmOC &amp; Comprehensive EmOC facilities</td>
<td>This is an audit of facilities that provide EmOC services in a country.</td>
<td>For every 500,000 pop., there should be at least 5 EmOC facilities (including at least 1 offering Comprehensive EmOC)</td>
</tr>
<tr>
<td>Geographic distribution of EmOC facilities</td>
<td>This looks at the number of facilities providing EmOC services on a regional basis.</td>
<td>All sub-national areas have at least 5 EmOC facilities per 500,000 pop. (including at least 1 offering Comprehensive EmOC)</td>
</tr>
<tr>
<td>Percentage of births in EmOC facilities</td>
<td>This is an estimate of whether mothers are actually using the facilities.</td>
<td>Minimum acceptable level to be set locally</td>
</tr>
<tr>
<td>Met need for EmOC services</td>
<td>This deals with the proportion of women with obstetric complications who are attended in health facilities.</td>
<td>≥ 100%</td>
</tr>
<tr>
<td>Proportion of all births by caesarean</td>
<td>This provides information on whether EmOC services actually deliver life-saving services.</td>
<td>5-15%</td>
</tr>
<tr>
<td>Direct Obstetric Case Fatality Rate</td>
<td>The proportion of women with direct obstetric complications who are admitted to a facility and die. This is an indicator of the quality of care.</td>
<td>&lt; 1%</td>
</tr>
<tr>
<td>Percentage of maternal deaths due to indirect causes</td>
<td>The proportion of maternal deaths due to indirect causes. This indicates what interventions in addition to EmOC are needed.</td>
<td>No target can be set.</td>
</tr>
<tr>
<td>Intrapartum and early neonatal death rate</td>
<td>The number of fresh stillbirths (intrapartum deaths) and very early neonatal deaths divided by the total number of deliveries. This is an indicator for the quality of intrapartum care.</td>
<td>Standard to be determined.</td>
</tr>
</tbody>
</table>

II. Rationale for the EmONC Needs Assessment

A facility qualifies as functionally basic EmOC if seven specific life-saving interventions or signal functions (newborn resuscitation has been added recently as the seventh signal function) have been performed in the three months prior to the assessment.11 A facility qualifies as functionally comprehensive EmOC if cesarean and blood transfusion services are provided in addition to the seven basic services.12

12 Signal functions refer to a set of interventions used to treat direct obstetric complications that make up the vast majority — roughly 80% — of maternal deaths globally. A functioning EmONC facility will be defined by the
**EmOC Signal Functions**

**Basic**
- Parenteral antibiotics
- Uterotonics (e.g., parenteral oxytocics)
- Parenteral anticonvulsants
- Manual removal of placenta
- Removal of retained product (e.g., through manual vacuum aspiration or dilation and curettage)
- Assisted vaginal delivery (with vacuum extractor or forceps)
- Basic neonatal resuscitation (e.g., with bag and mask)

**Comprehensive (Basic signal functions plus ...)**
- Surgery (e.g., cesarean)
- Blood transfusion

The availability of EmONC measures the capacity of the health system to respond to direct obstetric and newborn complications, a critical pathway to reducing maternal and newborn mortality. Having a clear picture of the availability of specific signal functions facilitates the filling of gaps by planning and implementing interventions. In many countries, Ministries of Health have no accurate national baseline data regarding the EmOC status of its facilities and little information on which signal functions are performed or where.

The proposed Needs Assessment will provide a baseline upon which future progress to strengthen health services for pregnant women and newborns can be measured. This information is critical for planning purposes, resource allocation and the support of human resource development (training, deployment, and retention). It will also help to develop advocacy tools that will be useful for policy review and change, and for negotiations with donors.

**III. Objectives of the Needs Assessment**
The general objectives are to:

- Provide evidence for a baseline useful in realizing a national plan of action, for example, 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.

performance of each signal function at least once in the previous 3-month period. Implicit in the definition is that these services are available 24 hours a day, 7 days a week.
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 HMIS;
- Understand the policy environment for training human resources 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 human resources who perform the EmONC signal functions;
- Measure knowledge and competency levels of human resources 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.

IV. Methodology

Study design

The UN EmONC Indicators and Needs Assessment methodology are described in the document *Monitoring emergency obstetric care: a handbook*, published in 2009 by WHO, UNFPA, UNICEF, and AMDD. The *Handbook* is a revision of the 1997 *Guidelines for Monitoring the Availability and Use of Obstetric Services*, which was based on the 1993 version that UNICEF requested of Columbia University.

The survey will be cross-sectional and entails visiting health facilities where childbirth services are provided. Data collection teams will use multiple techniques for collecting data: interviews with key staff, observation, and data extraction from logbooks, registries, and clinical records.

Sampling

[Note: Insert country specific sampling plan here.]
Table 2: Number of facilities to be surveyed by type of facility, by region

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Hospitals</th>
<th>No. of Health Centers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sampling will also be required at the facility for some of the modules. For the Partograph Review, Maternal Death Review, and Cesarean Delivery Review, three cases will be selected. If there is a relatively easy way to randomly select three cases, rather than choose the last three cases, this will be done. Instructions for how to select the three cases will be part of the training. For Module 7, which assesses provider knowledge and competency, the interview will be conducted with the person on duty with the most experience at the time of the facility visit (as defined by the number of babies delivered).

**Data collection tools and techniques**

Data collection tools are standard tools that have been used in many countries worldwide. They were developed initially by AMDD and have been adapted locally for every Needs Assessment. Adaptation will be a joint effort among members of the Ministry of Health, the core team, and AMDD.

The following tools are suggested for the Needs Assessment:

- **National Information Module** is designed to collect information at the national level. This tool helps the research team gather information such as: district populations, lists of health facilities, national drug lists, scopes of work for midwives, information about referral policies, and staffing levels.

- **Module 1: Identification of Facility and Infrastructure** requires interviewing a person of some authority at the facility and covers background information on the facility. This includes size/capacity, overall infrastructure, transport, communication, and cost of services.

- **Module 2: Human Resources** also involves interviewing one or more persons with excellent knowledge of the staffing patterns for obstetric and newborn care and which of the signal functions the staff provide. It also covers the staffing situation 24 hours a day 7 days a week by the health professionals in that facility.
• **Module 3: Essential Drugs, Equipment, and Supplies** examines those medications, equipment, etc. that are necessary for the delivery of EmOC and newborn services. This module is conducted primarily by observation.

• **Module 4: Facility Case Summary** is used to collect the necessary data from facility registers and records in order to calculate the EmOC Indicators; these data include deliveries, obstetric complications, cesarean deliveries, maternal deaths, intrapartum stillbirths, and very early neonatal deaths (< 24 hours).

• **Module 5: EmOC Signal Functions and Other Essential Services** looks at how facilities function and whether they offer all, some, or none of the services necessary to treat and save women with obstetric complications. It also looks at why these services are not available. Performance information will be determined through interview and validation with use of registries. For example, if the staff person says that removal of a retained placenta has been conducted in the last three months, they should be able to back up this assertion with clinical records.

• **Module 6: Partograph Review** is used to assess the competency of the providers to complete and use the partograph as a management tool for the prevention of obstructed/prolonged labor. Charts for three women who delivered will be reviewed.

• **Module 7: Health Provider Knowledge Assessment** is used to assess the knowledge of health providers about diagnosis and management of common maternal and newborn conditions; it also reviews specific training for and performance of key services. The interview will be conducted with the person with the greatest experience who is available to answer questions at the time of the visit.

• **Module 8: Cesarean Delivery Review** is used to evaluate record-keeping for cesareans, indications for cesarean, fetal well-being, and maternal outcome of the procedure. In every hospital, the last three caesareans performed will be reviewed.

• **Module 9: Maternal Death Review** will be helpful in developing a profile of mothers who died from direct or indirect obstetric causes in health facilities over the 12-month period under review as well as information on contributing factors associated with mortality. The last three maternal deaths will be reviewed.

**Data assessment period**

Module 4 (Facility Case Summary) requires data from 12 consecutive months. If a module examines only three cases, as in the case of the Partograph, Cesarean and Maternal Death Reviews, the three cases must have occurred in the last 12 months.

**Data collector and supervisor training**
Training will take place in __________. The data collection teams will consist of four individuals, one of whom will have the additional responsibility of being the supervisor. The supervisor could be a representative of the Regional Health Bureau. Supervisors and data collectors will be trained together for the most part, with one special training session dedicated to the supervisors.

[Insert how many teams will be trained.] To ensure good training and to keep the number of participants to a reasonable number, this will require ____ training sessions. Each session will last five days.

Each training session will include an overview of the survey objectives, background information on EmONC, standard interviewer techniques, appropriate interviewer behavior, communications skills, a detailed understanding of how Modules 1-9 and their worksheets are to be completed, and classroom and facility practice. Didactic sessions will entail careful discussion of the definitions of the obstetric complications, the need to consult multiple registers, and a review of the equipment should some of the equipment not be familiar to the trainees. Practice will take place among the team members in the classroom as well as going to local facilities in ______. We assume that the quality of the practice facilities will be sufficiently good that these facilities will be considered finished. If a team’s first experience is local, the coordinator, facilitator, and trainers can provide close supervision and resolve last minute questionnaire or logistics problems that may be encountered.

Finally, each data collector will receive a training manual that provides detailed explanations and definitions for each question of each module to facilitate a uniform understanding of the meaning of each question and response choices. This should improve data consistency given the large number of data collectors.

**Data collection and organization of field work**

[Insert country specific plan.] We foresee the data collection taking at least _____ months, but some regions will require more time than others. If a team concludes its work early and a neighboring region has not yet finished, this team can be deployed to help finish the larger regions.

Supervision of the data collection will be conducted by staff at the Ministry of Health, UNFPA, UNICEF, WHO, and AMDD, as appropriate.

**Needs Assessment Coordinator tasks:**

- Develop a data management plan (see data management plan outline) in collaboration with the organization hired to collect and manage the data. AMDD can provide guidance in this process. The data management plan should explain the data collection process and roles of those involved, and the data entry process and the roles of those involved.
• Implement and oversee the data collection and data entry phases according to the data management plan.
• Work closely with the core team to determine how to handle text and open-ended responses during data cleaning.
• Produce and transfer the final clean database product as determined by the data management plan.

Field Work Coordinator tasks:
• Develop a tentative route for facility visits in each region. This should be reviewed with each team during the data collectors training. This will require an updated list of all the health facilities that will be included in the Needs Assessment.
• Coordinate closely with contracted consultants and/or focal point during recruitment of data collectors.
• Coordinate the logistics for field work. Each team should have a sufficient number of clean questionnaires, clipboards, pencils, per diems, letters of introduction, cell phone minutes, etc.
• Ensure that the appropriate authority has sent letters to the facilities to make them aware of the field work, has followed up with telephone calls to make sure the letters have been received, and has ensured that the supervisors have copies of these letters before they visit a facility.
• Ensure quality of the data. For example, to ensure completeness and organization of data, for each facility all modules completed should be gathered in one large envelope. The envelope will decrease wear and tear, and minimize loss. The envelope should be labeled with region, UFI, district, and facility name. At all times except while actually collecting data, the modules should be kept in their envelopes so they will not become separated and lost. The Field Work Coordinator should ensure that envelopes are complete before delivering the completed questionnaires for data entry.
• Contact team supervisors on a regular basis to monitor progress and help resolve technical or logistical issues.
• Work closely with supervisors to address any disciplinary action that is needed. If termination of a data collector or a supervisor is required, ensure that the process is carried out professionally.
• Track completion rate of facilities in each region and work with country core team point persons should some teams fall behind or others finish more quickly than expected.
• Make some field visits to supervise, especially if weak teams are identified.
• Make car rental arrangements together with country core team point persons.
• Compile a report of supervisors’ logs regarding challenges they faced, problems resolved, incidents or facility stories that would be of interest to the survey team.

It is important that the coordinator have good people-management skills and that s/he be well organized. It may be more important that the person have experience with large surveys than that they
be an EmONC medical expert. Medical expertise can be gained elsewhere, but the coordinator’s job depends more on leadership, organization, and understanding of surveys with intensive field work.

**Data Collection Supervisor tasks:**

- Successfully complete the data collectors training as outlined in the contract.
- Accompany the team at all times; coordinate daily data collection and the interviewers at each facility, assigning modules to team members for completion. Assignment may depend on the individual data collector’s skills. Some people may be stronger interviewers and others may be better at counting, deciphering and doing the detective work of reading and finding the information in registers and logbooks (i.e., Module 4). The supervisor should know the team well enough to assign tasks so that the best quality data possible is achieved.
- Assist with data collection.
- Assist the other data collectors with any technical issues.
- Assist with logistics in the field with regard to lodging, travel, clean questionnaires, pencils, etc.
- Review all the modules for each facility for their completeness, making observations as necessary on the modules or the module envelope as to any deviations. This should be done before departing the facility.
- Organize the envelopes with their respective modules, ensuring that all the modules for a specific facility are in their proper envelope.
- Deliver the envelopes to the field work coordinator as they are completed or as is feasible in terms of travel and logistics.
- Contact the field work coordinator on a regular basis to report problems and progress. Each supervisor should have a mobile phone with minutes provided by the coordinator.
- Introduce the team to the facility director. Explain the objectives of the assessment and gain his/her cooperation. Each supervisor should have a letter of introduction, but the facility directors should be contacted prior to the team arrival to inform them of the team’s mission.
- Maintain a facility log as described in the Data Collector’s Manual. Prepare a short report for the Coordinator about any incidents of interest, problems encountered, facility stories or observations that might be of interest to the survey and its organizers. It would be interesting also to know how long it took for the team to go from point A to point B and how long it took to complete all the modules at a given facility.

**Data collector tasks:**

- Successfully complete the data collector’s training as outlined in the contract.
- Complete the data collection instruments as accurately as possible by asking questions of the appropriate respondents, observing equipment and other items, reviewing records, registries and logbooks, and interviewing clinical staff about their knowledge and training.
- Participate effectively as a part of the data collection team.
The data collectors should be familiar with clinical settings and have a good understanding of EmONC services. Their background could be nursing, midwifery, or they could be physicians or health officers. In some instances social scientists, demographers and health statisticians may be considered, but familiarity with facilities, equipment and drugs is critical. Previous data collection experience is extremely beneficial. Also, strong local language skills are required.

**Data management**

[Adapt if the private sector is not used, and according to data management plan.] A private firm will be contracted to develop the data entry programs and enter the data. Hopefully, this firm will be the same as the one contracted to manage the field work. It is highly advised that the personnel who will be involved with data entry have a chance to study the forms carefully before they are finalized as s/he may render their technical opinion on the formatting of the questionnaire modules. The contracted data management person(s) should attend the first training of the data collectors so that they too will have a better understanding of how the form should be filled out. Ideally, the data entry screens will be completed by the time the first teams finish their final practice so that data entry will begin shortly after the teams initiate the field work.

Double data entry (consisting of an initial entry and a second entry) is recommended as it produces cleaner data than a single entry. Data entry screens will be created in CSPRO, a flexible and powerful software for data entry and management. Ultimately, the CSPRO files will be exported into SPSS and STATA files for analysis.

Each module will have its own database/file. However, the following variables (Box 1) will be attached to each of the nine files so that the files can be merged. A combination of the team number and facility number will become the UFI for that facility. The UFI will be written on the top of every page of every module by the data collectors. The variable names will include the module number followed by question number. For example, Questions 1 through 3 in Module 1 can be named m11, m12, and m13, respectively. If question numbers have a suffix (e.g., Question 12a), the variable name should include that suffix (e.g., m112a).

The data management firm will provide the databases to the primary analyst or consultants for data cleaning, and together they will resolve any problems identified. Ideally, the databases will be sent electronically to the primary analyst and follow-up will take place to resolve outstanding issues and review the preliminary analysis (see below).

**Box 1: Variables that should appear on each database**
Data analysis and report writing

A preliminary analysis plan will be developed by AMDD, the core team, data management team, and supported by consultants as needed, based on previous reports. The specific responsibilities of who will analyze which module will be discussed at a later date, but if there are interested parties, the work plan will be shared accordingly. In general, the analysis will describe characteristics of health facilities at the national level and elucidate regional, facility type, and facility sector related variations in functioning capacity and in the availability and extent of surveyed health services. The preliminary analysis will be done by the primary analyst at the time they are “cleaning the data”. Once the data are clean, the files will be shared for analysis. A trip to ________ by analysts is tentatively programmed for ________, during which they will share the preliminary findings and resolve issues related to dirty data.

A draft report will be written by ________, shaped by discussion of the preliminary findings and feedback from the members of the country core team. After receiving feedback, the report will be finalized.

Dissemination

The first critical opportunity to disseminate preliminary findings is ___________ at the annual Health Sector Review (adapt according to country plans) meeting. Once the report has been finalized the results will be distributed at the national and regional levels. Papers should be published in peer reviewed journals and should be a joint effort among Ministry of Health, UN agencies, as well as AMDD if support is desired.

V. Proposed Outcomes of the Needs Assessment

At the national level

The information collected will be critical for planning and action; the Needs Assessment will uncover reasons why signal functions are missing at the health facility, district, and regional level. Reasons will
be related to human resources, training, supervision, basic infrastructure and management, and under-utilization of the facilities. Identifying which facilities are missing only one or two signal functions will be helpful in prioritization for facility upgrading.

Patterns of the availability and recent performance of the signal functions can reveal a great deal about maternity care policies and practices in any country, region, or district. If some signal functions are chronically missing, it may reflect policies that govern how the health system was designed to manage obstetric and newborn complications but that should now be revised given the ever-changing evidence environment. Thus, the findings may guide policy review for such areas as the distribution of medications, task-shifting among human resources, and in-service and pre-service training curricula.

To aid planning, **service availability mapping** using GIS technology will be conducted and all facilities visited will be mapped to inform which signal functions the facility provided during the baseline data collection.

In addition, these data will be used by the HMIS as baseline measures for on-going monitoring. With the inclusion of Indicator 1, availability of BEmOC and CEmOC in the national management information system, this data point can be updated on a regular basis for evaluation purposes.

**At local level**

The data will be useful for annual, regional, and district planning and monitoring. The current district planning process shows a lack of reliable data on maternal and newborn health at the local level. This exercise can help to narrow the information gap and make local planning more evidence-based. However, analysis of district-level findings is not within the scope of this proposal. It will be possible to provide each region with its own database if this is desirable, so that district-level analysis is possible.

The EmOC status of a health facility can change quickly once interventions are in place. If a facility also records why changes occur, facility management can better understand its strengths and gaps, which has implications for what program inputs are needed.

The data will also be useful in determining and mapping the adequacy and equity of the distribution of services and showing managers at all levels what life-saving interventions are or are not being provided.

**VI. Roles and responsibilities of partners**
[The roles and responsibilities will vary from country to country; adapt as necessary.] UN agencies, in their role to support the government in improving the capacity of health systems and delivery of health care services, will contribute to monitoring and tracking progress of the availability of EmONC services.

Partner tasks (adjust according to country):

- Prepare budget and secure funding.
- Identify and contract an organization (public or private) to oversee and conduct the field work and data entry.
- Work closely with this organization and the Needs Assessment Coordinator (presumably someone from the organization), especially with regard to the recruitment of regional interviewing teams, training, and logistics.
- Assist the country core team in acquiring an updated list of hospitals, health centers, and private clinics that do deliveries from each region. This is likely to entail coordinating with the Planning or Family Health Department of the Ministry of Health.
- Participate in the finalization of modules.
- Participate in the data collectors training sessions.
- Monitor progress of the field work. This may mean making site visits for quality assurance.

AMDD technical support team tasks:

The AMDD technical support team will have implemented several EmONC Needs Assessments. Their role is to provide technical support to the country core teams including:

- Planning of the three Needs Assessment phases;
- Advocacy for the value added by a Needs Assessment and mobilizing partners;
- Identification of institution that will conduct the Needs Assessment;
- Preparing the TOR and/or research proposal;
- Adapting, pretesting, and finalizing the modules;
- Training data collectors;
- Assuring the quality of:
  - Data collection
  - Data management and cleaning;
- Preparing district or regional fact sheets for action planning;
- Analysis and report writing; and
- Action planning.

VII. Suggested time schedule
[Adapt from task list and timeline]
VIII. Budget commitment

MINISTRY OF HEALTH
UNFPA
UNICEF
WHO
World Bank
Other
Appendix 3: Why do a Needs Assessment of Emergency Obstetric and Newborn Care

Why do a Needs Assessment of Emergency Obstetric and Newborn Care?

Maternal mortality: A shameful failure of development
Over 368,000 women die per year in pregnancy and childbirth.

<table>
<thead>
<tr>
<th>UN region</th>
<th>Number of maternal deaths</th>
<th>Lifetime risk of maternal death 15m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>207,000</td>
<td>36</td>
</tr>
<tr>
<td>Asia</td>
<td>106,000</td>
<td>210</td>
</tr>
<tr>
<td>Ireland</td>
<td>2</td>
<td>17,500</td>
</tr>
</tbody>
</table>


The magnitude of the problem of pregnancy-related mortality each year

- 4 million stillbirths
- 3 million early neonatal deaths
- Nearly half a million maternal deaths
- Over 7 million pregnancy-related deaths directly caused by maternal morbidity and poor care around the time of delivery

Source: Sharif et al. (2006); Leclerc et al. (2006); Leventhal et al. (2006).

"Women are not dying because of diseases we cannot treat...they are dying because societies have yet to make the decision that their lives are worth saving."

Prof. Mahmoud Fathalla, 1987
Former President of FIOO

Compare with other global figures

- 2.0 million deaths due to AIDS
- 1.3 million deaths due to tuberculosis
- 0.8 million deaths due to malaria

Approximately 4 million deaths total


Key maternal mortality reduction strategies

- Family planning
- Skilled care during pregnancy and delivery
- Emergency obstetric and newborn care (EmONC)
**Maternal and newborn care packages**

**Emergency obstetric and newborn care**
- Approximately 15% of pregnant women develop complications
- Most maternal deaths are caused by direct obstetric complications that can be treated
- Many direct obstetric complications cannot be predicted or prevented

**Causes of maternal death and disability in Africa**
- Hemorrhage (34%)
- Hypertensive disorders (9%)
- Puerperal sepsis (10%)
- Abortion (4%)
- Obstructed labor (4%)
- Other direct causes (7%)
- Indirect causes (27%)
- Unclassified (5%)
  - *Fistula - a common long-term consequence of prolonged labor*

**Causes of maternal death and disability in Asia**
- Hemorrhage (30.8%)
- Hypertensive disorders (9.1%)
- Puerperal sepsis (11.6%)
- Abortion (6.7%)
- Obstructed labor (9.4%)
- Other direct causes (2.1%)
- Anemia (12.8%)
- Other indirect causes (12.5%)
- Unclassified (6.1%)

**Maternal deaths averted through access to services**

**3.2 - 4 million stillbirths occur each year**
- Stillbirth rates
  - Sub-Saharan Africa: 32.2 per 1000 births
  - Asia: 31.9 per 1000 births
  - Latin America: 13.2 per 1000 births
- 1.02 million intrapartum or “fresh stillbirths”
**When neonates die**

- 50% of deaths occur in the first 24 hours
- 70% occur in the first week
- Premature/Low Birth Weight

**Time between the beginning of a complication and death**

<table>
<thead>
<tr>
<th>Complication</th>
<th>Hours</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemorrhage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postpartum</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Antepartum</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Ruptured uterus</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Obstructed labor</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Infection</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

**EmOC Signal Functions**

1. Parenteral antibiotics
2. Uterotonic drugs
3. Parenteral anticonvulsants
4. Manual removal of the placenta
5. Removal of retained products
6. Assisted or instrumental vaginal delivery
7. Neonatal resuscitation
8. Blood transfusion
9. Surgery (e.g., cesarean delivery)

**Why these Signal Functions?**

- **Cause of death**: Postpartum Hemorrhage
  - Signal Functions:
    - Perform blood transfusion
    - Perform manual removal of placenta
    - Perform removal of retained products
    - Perform surgery (hysterectomy) for uterine rupture

- **Cause of death**: Antepartum Hemorrhage
  - Signal Functions:
    - Perform blood transfusion
    - Perform surgery (e.g., cesarean delivery for placenta previa)

- **Cause of death**: Prolonged or obstructed labor
  - Signal Functions:
    - Perform assisted vaginal delivery
    - Perform surgery (cesarean delivery)
    - Administer uterotonic drugs
    - Perform neonatal resuscitation
Why these Signal Functions?

**Postpartum Sepsis**
- Cause of death
- Signal Functions:
  - Administer parenteral antibiotics
  - Remove retained products
  - Perform surgery for pelvic abscess

**Complications of abortion**
- Cause of death
- Signal Functions:
  - Perform blood transfusion
  - Remove retained products
  - Administer parenteral antibiotics
  - Perform surgery

**Pre-eclampsia/eclampsia**
- Cause of death
- Signal Functions:
  - Administer parenteral anticonvulsants
  - Perform neonatal resuscitation
  - Perform surgery (cesarean delivery)

**Ectopic pregnancy**
- Cause of death
- Signal Functions:
  - Perform surgery
  - Perform blood transfusion

**Ruptured uterus**
- Cause of death
- Signal Functions:
  - Perform surgery
  - Perform blood transfusion
  - Administer parenteral antibiotics

**Newborn distress (intrapartum)**
- Cause of death
- Signal Functions:
  - Perform newborn resuscitation
  - Perform surgery (cesarean delivery)
**Basic and Comprehensive EmOC facilities**

- The Signal Functions define 2 levels of care based on performance of the functions in the last 3 months
  - Basic EmOC
  - Comprehensive EmOC

**The EmONC Needs Assessment (NA): Overall objectives**

- Provide evidence for developing and implementing national strategic plans for achieving MDGs 4 and 5
- Guide policy, planning, and budgeting to strengthen the health system using EmONC as a point of entry
- Provide baseline or follow up for monitoring purpose

**Specific objectives**

- Measure the availability of infrastructure
- Establish a baseline for monitoring EmONC that will be linked to HMIS
- Assess the range of practices related to fees for obstetric services
- Determine the availability of
  - Equipment;
  - Supplies; and
  - Essential drugs for EmONC

**Specific objectives**

- Determine the availability of health workers who perform the EmOC Signal Functions
- Measure knowledge and competency levels of human resources regarding obstetric and newborn care
- Carry out case reviews of the partograph, cesareans, and maternal deaths
- Provide information on any other topic relevant to the fulfillment of the stated general objectives

**Major questions the NA can answer**

- Are there enough facilities that provide EmOC?
- Are they well distributed?
- Do women use these services?
- Are the women using services those who really need them?

**Major questions the NA can answer**

- Are facilities providing critical life-saving services?
- Is the quality of services adequate?
- Are other interventions needed?

These questions are answerable with the EmOC Indicators.
Expected outcomes of the NA

- Regional and district level workshops to prepare plans of action
- Preliminary results and final report
- Establish baseline for HMIS monitoring
- GIS mapping of available services

Taking the NA to the next step

- Health services
- Workforce
- Information for decision making
- Essential drug supply and logistics
- Financing and resource allocation
- Leadership and governance

Role of the Needs Assessment

<table>
<thead>
<tr>
<th>Health services</th>
<th>Are enough facilities providing EmONC services?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce</td>
<td>Do facilities have adequate numbers of health workers with the right mix of life-saving skills?</td>
</tr>
<tr>
<td>Information for decision making</td>
<td>Does HMIS capture key information for monitoring utilization of EmONC?</td>
</tr>
<tr>
<td>Essential drug supply and logistics</td>
<td>Are essential drugs in stock and equipment functional?</td>
</tr>
<tr>
<td>Financing and resource allocation</td>
<td>Is the distribution of resources among facilities equitable?</td>
</tr>
<tr>
<td>Leadership and governance</td>
<td>Are policies, protocols, and good practices being implemented?</td>
</tr>
</tbody>
</table>
Appendix 4: Examples of Analyses from Recent Needs Assessments

Examples of Analyses from Recent Needs Assessments

Indicator: Availability of Comprehensive and Basic EmOC facilities

- Recommendation: for every 500,000 population we should have a minimum of 5 EmOC facilities, where at least 1 is Comprehensive

Availability of facilities with EmOC: Sefala, Mozambique, 2006

Availability of facilities with EmOC: Ethiopia, 2008

Fulfillment of recommended minimum number of EmOC facilities: Angola 2007

How many hospitals provide CEmOC? Ethiopia 2009

Appendix 5: Utilization of EmONC Needs Assessment Data

Utilization of EmONC Needs Assessment Data:

Examples from several studies

Common Needs Assessment (NA) goals
- Improvement of maternal and neonatal health outcomes
- Upgrading of the health system including the improvement in EmONC services
- Fostering an enabling environment through evidence-based policies and strategies, and strengthening of health facilities

Achieving program objectives

An EmONC Needs Assessment is a planning and monitoring tool for:
- Promotion of needs-based policies
- Development of evidence-based strategies
- Transformation of health facilities into functional units

Use of data by module
1. Identification of Facility and Infrastructure
   Facility Level helps to establish the following:
   - Appropriateness of infrastructure
   - Availability of basic services - water and electricity
   - Availability of emergency transport and communication services
   - Identifying economic barriers in accessing services
   Policy & Program Level helps to establish the following:
   - Resource requirement and commitment
   - Planning and prioritization for infrastructure improvement of facilities under consideration
   - Equitable distribution of geographic coverage of facilities
   - Establishing referral linkages with higher facilities
   - Addressing issues of equity

2. Human Resources
   Facility Level helps to establish the following:
   - Availability of Human Resources by cadre
   - Identification of "skills deficit" related to signal functions and other essential services
   Program Level helps to establish the following:
   - Identification of priorities for filling vacant positions
   - Planning for training to enhance skills
   - Assessment of which cadres provide which services
   Policy Level helps to establish the following:
   - Framing personnel policy - transfer and posting
   - Assessment of human resource requirements for long-term strategies (opening of nursing schools, etc.)
   - Policy considerations for alternative approaches such as task-shifting

3. Essential Drugs, Equipment, and Supplies
   Facility Level helps to establish the following:
   - Identification of specific gaps for drugs, equipment, and supplies
   - Planning for maintenance of equipment
   - Demand forecasting and inventory management
   - Prioritization of resources for drug and supply management
   Program Level helps to establish the following:
   - Redistribution of equipment among facilities
   - Planning for procurement and distribution of drugs, equipment, and supplies
   - Intervention to improve logistics and supply system
   Policy Level helps to establish the following:
   - Budget allocation for maintenance of equipment
   - Centralization vs decentralization of procurement of drugs & supplies
   - Revise the essential drug list
Use of data

4. Facility Case Summary

**Facility Level** helps to establish the following:
- Assessment of the quality of care and the quality of human resource utilization (specialist called only when needed)
- Promotion of the use of protocols and standards

**Program Level** helps to establish the following:
- Assessment of the gaps between policy and performance

**Policy Level** helps to establish the following:
- Assessment of the gaps between policy and performance

Use of data

5. EmOC Signal Functions

**Facility Level** helps to establish the following:
- Identification of missing functions and skills set
- Realization of range of services offered by facility for corrective measures
- Identification of critical bottlenecks in service delivery (e.g., drug availability, etc.)

**Program Level** helps to establish the following:
- Planning of improved training needs
- Assessment of availability and quality of care
- Planning for referral linkage between facilities

**Policy Level** helps to establish the following:
- Definition of advocacy goals for strengthening the delivery of EmONC services e.g., personnel policy, referral policy, etc.

Use of data

6. Partograph Review

**Facility Level** helps to establish the following:
- Assessment of the quality of care and the quality of human resource utilization (specialist called only when needed)
- Promotion of the use of protocols and standards

**Program Level** helps to establish the following:
- Assessment of the gaps between policy and performance

**Policy Level** helps to establish the following:
- Assessment of the gaps between policy and performance

Use of data

7. Provider Knowledge and Competency for Maternal and Newborn Care

**Facility Level** helps to establish the following:
- Identification of training needs by worker cadre

**Program Level** helps to establish the following:
- Demonstration of the need for protocols and standards display
- Demonstration of the need for knowledge management skills

**Policy Level** helps to establish the following:
- Assessment of the gaps between policy and performance

Use of data

8. Cesarean Review

**Facility Level** helps to establish the following:
- Assessment of the quality of CS record keeping
- Documentation of the indications for cesarean delivery

**Program Level** helps to establish the following:
- Promotion of evidence-based practices
- Tracking of the appropriateness of care

**Policy Level** helps to establish the following:
- Adequacy of distribution of obstetric surgery services
- Review of human resources policy e.g., task-shifting for surgery and anesthesia

Use of data

9. Review of Maternal Deaths

**Facility Level** helps to establish the following:
- Exposure of clinical teams to the constructive (not punitive) role of death review
- Identification of the contributory factors to maternal death, including the interplay of direct and indirect causes, referral, etc.

**Program Level** helps to establish the following:
- Promotion of continuous learning and improved practices
- Promotion of evidence-based protocols
- Promotion of facility – community linkages

**Policy Level** helps to establish the following:
- Promotion of advocacy for enabling policy (e.g., blood storage units)
NA leads to a functional health system

- Upgrading and strengthening infrastructure and service environment of facilities
- Improving understanding and strengthening evidence-based strategies
- Enhancing skills of health care providers
- Prioritization and judicious use of financial resources
- Rationalization of human resources and infrastructure

Reports on the utilization of EmONC NAs

Role of NA (e.g., programming to improve uptake of magnesium sulfate)

- Problem identification
- Advocacy for evidence-based practices
- Policy change
- Supply management
- Training
- Overall health system improvements
- Increased EmONC program budgets

Reports on the utilization of EmONC NAs

From NA to policy and programming

- Policies around human resources
  - Senegal: vacuum extraction reintroduced in nurses’ training
  - Malawi: enrolled nurses were authorized to carry out all basic EmOC signal functions
  - India: use of GPs and nurses for anesthesia rather than specialists
- National planning processes
  - EmONC prioritized in Uganda SWAp after examining results

Role of NA and EmOC indicators

- Countdown to 2015 – Tracking Progress in Maternal, Newborn and Child Survival (2008) (Indicators on EmOC availability included)
- EmOC indicators integrated into HMIS in >5 countries (Bangladesh, Malawi, Morocco, Nepal, Ethiopia)

Highlighting lethality of severe pre-eclampsia/eclampsia

- In El Salvador 50% of intra-hospital deaths were due to pre-eclampsia and eclampsia
- Only 1% of hospitals had anticonvulsants

El Salvador