



Field-friendly Guide to Integrate

Emergency

Obstetric Care

in Humanitarian Programs



Women's Commission for Refugee Women and Children
on behalf of the Reproductive Health Response in Conflict Consortium

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The Reproductive Health Response in Conflict Consortium

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Mission Statement

The Reproductive Health Response in Conflict (RHRC) Consortium is dedicated to the promotion of reproductive health among all persons affected by armed conflict. The RHRC Consortium promotes sustained access to comprehensive, high quality reproductive health programs in emergencies and advocates for policies that support the reproductive health of persons affected by armed conflict.

The RHRC Consortium believes all persons have a right to good quality reproductive health care and that reproductive health programs must promote rights, respect and responsibility for all. To this end, the RHRC Consortium adheres to three fundamental principles:

- ◆ using participatory approaches to involve the community at all stages of programming;
- ◆ encouraging reproductive health programming during all phases of emergencies, from the initial crisis to reconstruction and development; and
- ◆ employing a rights-based approach in all of its work, as articulated in the 1994 International Conference on Population and Development Program of Action.

The RHRC Consortium comprises seven agencies: American Refugee Committee, CARE, Heilbrunn Department of Population and Family Health at Columbia University's Mailman School of Public Health, International Rescue Committee, JSI Research & Training Institute, Marie Stopes International, and Women's Commission for Refugee Women and Children.

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Acronyms

AMDD	Averting maternal death and disability
ARC	American Refugee Committee
ARM	Artificial rupture of membranes
BP	Blood pressure
CBR	Crude birth rate
CBT	Competency-based training
CNS	Central nervous system
COPE	Client-oriented provider-efficient services
CQ	Chloroquine
EmOC	Emergency obstetrical care
ER	Emergency room
ERT	Emergency response team
FHI	Family Health International
HMIS	Health Management Information System
IMPAC	Integrated management of pregnancy and childbirth
IPT	Intermittent preventive treatment
IRC	International Rescue Committee
ITN	Insecticide-treated nets
LBW	Low birth weight
LSS	Life-saving skills
MIP	Malaria in pregnancy
MISP	Minimum Initial Services Package
MNH	Maternal and neonatal health
MOH	Ministry of Health
MSI	Marie Stopes International
MVA	Manual vacuum aspiration
OT	Operating theater
PMTCT	Prevention of mother-to-child transmission (of HIV)
QA	Quality Assurance
QI	Quality Improvement
RH	Reproductive health
RHRC	Reproductive Health Response in Conflict ((RHRC) Consortium)
TBA	Traditional birth attendant
TOT	Training of trainers
UNFPA	UN Population Fund
VCT	Voluntary Counseling and Testing
WHO	World Health Organization



1. Background

In any new emergency setting 15 percent of pregnant women can be expected to develop complications during pregnancy or delivery and will require emergency obstetric care. Therefore, while some humanitarian actors are focusing on prioritizing displaced populations access to adequate shelter, food, water and sanitation and on preventing of infectious disease outbreaks, attention must also be given to the needs of pregnant women and infants from the earliest days of a new emergency to prevent maternal and perinatal morbidity and mortality. Emergency preparedness for safe motherhood should include planning for the rapid distribution of clean delivery supplies, essential medicines and equipment for obstetric care at health facilities as well as ensuring the presence of personnel qualified to provide EmOC to existing or new temporary health facilities. The focus of care in the early days and weeks of new emergencies is to ensure all visibly pregnant women receive clean delivery supplies; midwives and health facility have adequate equipment and supplies for safe deliveries and emergency obstetric care; and women have safe access to an emergency referral system 24 hours per day, 7 days per week.

Women who have survived rape should have access to medical care to prevent unwanted pregnancies and sexually transmitted infections, including HIV. Health providers should follow established guidelines for rape survivors such as the World Health Organization's *Clinical Management of Survivors of Rape*, available at <http://www.rhrc.org/pdf/cmrs.pdf>.

Women's Commission for Refugee Women and Children and emergency obstetric care

The Women's Commission for Refugee Women and Children (Women's Commission) works to ensure that refugee and displaced women, children and adolescents are protected, encouraged to participate in programs and services that affect their lives and have access to education, health services and livelihood opportunities. The Women's Commission, on behalf of the Reproductive Health Response in Conflict (RHRC) Consortium, is collaborating with the Heilbrunn Department of Population and Family Health's Averting Maternal Death and Disability (AMDD) Program at the Columbia University Joseph L. Mailman School of Public Health to address the critical emergency obstetric care (EmOC) needs of refugee and displaced women. Over the first four years of the project, technical assistance was provided at 16 sites for 12 pilot projects funded and implemented by four members of the RHRC Consortium: American Refugee Committee (ARC), the International Rescue Committee (IRC), Marie Stopes International (MSI) and the Women's Commission.

Information on maternal mortality

The majority of maternal deaths take place during childbirth and the immediate postpartum period. The major causes of maternal deaths due to direct obstetric complications are hemorrhage, sepsis, prolonged and obstructed labor, hypertensive disorders and abortion complications. At least 15 percent of all pregnancies are expected to require an emergency medical intervention; therefore, access to EmOC is crucial to saving women's lives and preventing disabilities. The World Health Organization (WHO), UNICEF and the UN Population Fund (UNFPA) recommended the minimum acceptable level of EmOC services:

- ◆ For every 500,000 population, there should be at least four basic and one comprehensive EmOC facilities.
- ◆ Minimum level for amount of EmOC services is also met in sub-national areas.
- ◆ At least 15% of all births in the population take place in EmOC facilities.
- ◆ 100% of women estimated to have obstetric complications are treated in EmOC facilities.
- ◆ As a proportion of all births in the population, Cesarean sections account for not less than 5% nor more than 15%.
- ◆ The case fatality rate among women with obstetric complications in EmOC facilities is less than 1%.

A basic EmOC facility should be able to perform the following signal functions: administer parenteral antibiotics, oxytocic drugs and anticonvulsants; manual removal of placenta; removal of retained products; and assisted vaginal delivery. A comprehensive EmOC facility should be able to offer all the functions above, plus Cesarean section and blood transfusion. To be able to qualify as either a basic or comprehensive EmOC facility, the health institution needs to perform these signal functions on a regular basis.

The major operational factors that contribute to maternal and perinatal deaths could be articulated by the three-delay model: delays in deciding to seek health care; delays in reaching a health facility; and delays in receiving life-saving interventions once reaching the health facility.

Why develop this manual?

As a key component of reproductive health (RH), EmOC is an integral part of humanitarian programs. *The Field-friendly Guide to Integrate Emergency Obstetric Care into Humanitarian Programs* has been developed to help organizations and staff understand the needs and provide step-by-step approaches to integrate EmOC into humanitarian programs.

The number of programs offering RH services to conflict-affected people has increased substantially in the last decade. More humanitarian organizations are providing basic and comprehensive EmOC or EmOC referral services to refugees and displaced populations. However, there is no simple method to integrate EmOC into humanitarian programs.

A review of five published RH guidelines¹ used by humanitarian organizations indicated that the UN Process Indicators for monitoring and evaluating EmOC interventions are not mentioned, reflecting the need to update these guidelines.

What is in this manual?

Since the general principles of providing reproductive health services to conflict-affected populations have been well documented, this field-friendly guide focuses on the practical aspects essential for a successful implementation of emergency obstetric care in the field, including the UN process indicators for monitoring and evaluation of services. A list of key resources is included in each of the steps.

Many organizations were contacted to ensure this guide would not duplicate existing resources and to solicit external feedback to ensure this tool is useful to a broad range of organizations and decision makers.

Who should use the manual?

Organizations, program managers and field staff who provide RH care in humanitarian crises.

1.1 Guiding principles

The following broad principles should guide the design and implementation of EmOC interventions in humanitarian crisis:

- ❖ Plan EmOC as an integral part of all humanitarian programs.
- ❖ Take a human rights-based approach that promotes equity to ensure the special needs of women and adolescents are met.
- ❖ Use evidence-based effective interventions and regular program monitoring and evaluation to achieve accountability.
- ❖ Strengthen the local health system and community capacity for sustainability.

¹ Sphere Project manual; Interagency field manual, *Reproductive Health in Refugee Situations*; MSF manual, *Refugee Health: An approach to emergency situations*; WHO *Reproductive Health during Conflict and Displacement: A Guide for Program Managers*; UNHCR *Guidelines on the Protection of Refugee Women* include the need for women's health services but do not mention EmOC specifically.

1.2 Objectives of this field guide

- ◆ To provide guidance to program managers and policy makers to plan EmOC services as an integral part of overall humanitarian programs.
- ◆ To provide a field-friendly, step-by-step guide to initiate and implement quality priority interventions in various phases of a humanitarian crisis.
- ◆ To provide up-to-date references and resource materials for the key intervention areas, such as conducting needs assessments and training; upgrading health facilities; improving quality of care; managing health information; and program monitoring and evaluation.

1.3 Special considerations

The unique situation during humanitarian crises deserves special attention while planning and implementing EmOC and neonatal care services. The areas that are most likely to be affected by conflicts include security, physical infrastructures, equipment and supplies, human resources, funding sources and logistics. Other issues to consider are:

- ◆ lack of adequate shelter and protection
- ◆ infectious disease outbreaks, such as diarrhea and cholera, due to lack of potable water and sanitation, measles and malaria
- ◆ serious malnutrition, including acute and chronic malnutrition, anemia
- ◆ gender-based violence: unwanted pregnancies, unsafe abortions, abandoned babies and infanticide as a result of rape as a weapon of war
- ◆ mental trauma and psychosomatic disorders: stress-related diseases, neglect of children by mothers who have been traumatized
- ◆ increased maternal and neonatal mortality; increased numbers of orphans
- ◆ dearth of professional staff among the host and displaced population
- ◆ interruption of supplies of medicine and other essential items, and breakdown of logistics maintenance systems
- ◆ cultural and language barriers affecting access and use of available services
- ◆ ongoing insecurity: pregnant women unable to travel to referral facilities for EmOC services and difficulties with referral and staff movement especially for night duties
- ◆ economic constraints could affect equitable access to and use of available EmOC services
- ◆ disruption of positive cultural and traditional practices to promote safe motherhood: resurgence of harmful birth practices
- ◆ breakdown in health services such as antenatal care resulting in many women delivering infants without a history of care during pregnancy

2. The Field-friendly Guide

to Integrate EmOC into Humanitarian Programs

Defining basic and comprehensive EmOC services

The signal functions of basic and comprehensive EmOC services are listed *Table 1* below. Typically, a basic EmOC facility can be set up in health centers where there are competent midwives or nurses with midwifery skills. A comprehensive EmOC facility requires doctors or clinical officers able to perform Cesarean sections, as well as the ability to administer blood transfusions, in addition to the basic EmOC functions.

Table 1. Signal functions of basic and comprehensive EmOC²

	Basic EmOC	Comprehensive EmOC
Signal functions	Parenteral antibiotics Parenteral oxytocics Parenteral anti-convulsants and anti-hypertensives Manual removal of placenta Removal of retained products (MVA) Assisted vaginal delivery (forceps, vacuum extraction)	All 6 basic functions plus: Blood transfusion Cesarean section
Settings	Health centers and hospitals	Hospitals with an operating theater (OT) and surgical capacity
Skilled attendants	Midwives and nurses with midwifery skills Supporting staff	A team of doctors, clinical officers, anesthetist, midwives, nurses and supporting staff

The key elements of implementing quality EmOC services in humanitarian crises are:

1. understanding the population's needs and local context;
2. adequate facility setup;
3. health care providers have competencies and skills required to provide EmOC;
4. quality improvement activities;
5. ensuring utilization of EmOC services;
6. referral mechanisms;
7. health Management Information System (HMIS), including standard antenatal care and maternity registers and monthly summary, store and log books;

² *Guidelines for Monitoring the Availability and Use of Obstetric Services.* UNICEF, WHO, UNFPA. 1997.

8. community mobilization to ensure early identification of obstetric complications and timely referrals;
9. linkages with other reproductive health program activities (neonatal care, malaria in pregnancy, PMTCT, violence against women);
10. program monitoring and evaluation.

A phased approach

A phased approach requires setting up immediate and long-term program goals and objectives, in order to prioritize strategies and interventions. During the initial phase of a humanitarian crisis, the focus of the activity is to ensure adequate human and material resources to support clean and safe deliveries, timely referral of obstetric emergencies and adequate EmOC at the referral facility.

When these priorities have been met and the situation becomes more stable, comprehensive services, including antenatal care, delivery and postpartum care, must be organized.

Table 2. Key EmOC-related activities during the initial and stable phases of an emergency

	Focus of Activities	
	Community	Health Facility
Initial phase	<ul style="list-style-type: none"> ◆ Provide clean delivery kits for use by visibly pregnant women or birth attendants to promote clean deliveries. ◆ Initiate the establishment of a referral system 24 hours per day, 7 days per week for obstetric emergencies. 	<ul style="list-style-type: none"> ◆ Provide midwife and obstetric kits. ◆ Initially may need to employ expatriates or health providers from host countries to manage referral health facilities. ◆ Upgrade skills and competency of health providers to manage normal and complicated deliveries, and essential neonatal care.
Stable phase	<p>Above plus:</p> <ul style="list-style-type: none"> ◆ Set up emergency funds and transport schemes and spread the information about emergency referrals to the community to reduce first and second delays (e.g., recognition of danger signs and transport to facility). ◆ Promote regular dialogue with community leaders and clients to improve quality of care and sustain utilization. ◆ Train birth attendants on active management of third stage labor to reduce risk of postpartum hemorrhage. 	<p>Above plus:</p> <ul style="list-style-type: none"> ◆ Coverage of basic and comprehensive EmOC – appropriate health facility infrastructure, supplies, equipment and medications. ◆ Refresher training and continuing education to maintain and improve competency of staff. ◆ Maintain 24-hour readiness and teamwork ◆ Improve quality and use of EmOC. ◆ Set up linkages with other programs, such as malaria in pregnancy, prevention of mother-to-child transmission (PMTCT), neonatal care and focused antenatal care.

The three-delay model³

This guide seeks to address the concept of three delays through the following interventions, as shown in *Table 3*. Health care providers should prioritize addressing the third delay to ensure the health facility and its staff are equipped and have the capacity to assist women prior to encouraging community awareness and referrals.

Table 3. Key interventions to address the three delays

Three delays	Common causes	Key interventions required
The first delay	Woman is not recognized as needing emergency obstetric care.	<ul style="list-style-type: none"> ◆ Improve awareness of obstetric danger signs among women, men and families. ◆ Involve TBAs in early recognition and timely referral of women with obstetric emergencies.
The second delay	Woman arrives late to referral facility.	<ul style="list-style-type: none"> ◆ Improve referral system, including communication capacity and transport mechanism. ◆ Implement community finance and transport schemes.
The third delay	Facility is not staffed and equipped to provide EmOC services or woman is not able to access the services upon arrival.	<ul style="list-style-type: none"> ◆ Improve coverage of EmOC to meet the minimum requirement (e.g., four basic and one comprehensive EmOC facilities for every 500,000 people). ◆ Improve quality of EmOC, clients' satisfaction and 24/7 coverage. ◆ Improve utilization of EmOC services by reducing barriers and ensuring equitable access.

The local health system

Program managers must decide to what extent the local health system should be used or upgraded to provide EmOC services in an emergency. There are three basic options:

- ◆ Upgrade the local health facilities to provide EmOC to the displaced population. The post-conflict situation often presents an opportunity to strengthen the host population's maternal and neonatal health care.
- ◆ Set up a separate EmOC service for the displaced population.
- ◆ A combined approach: for example, use local health system for referral of emergency cases and other supporting services and set up separate basic EmOC services for the displaced population.

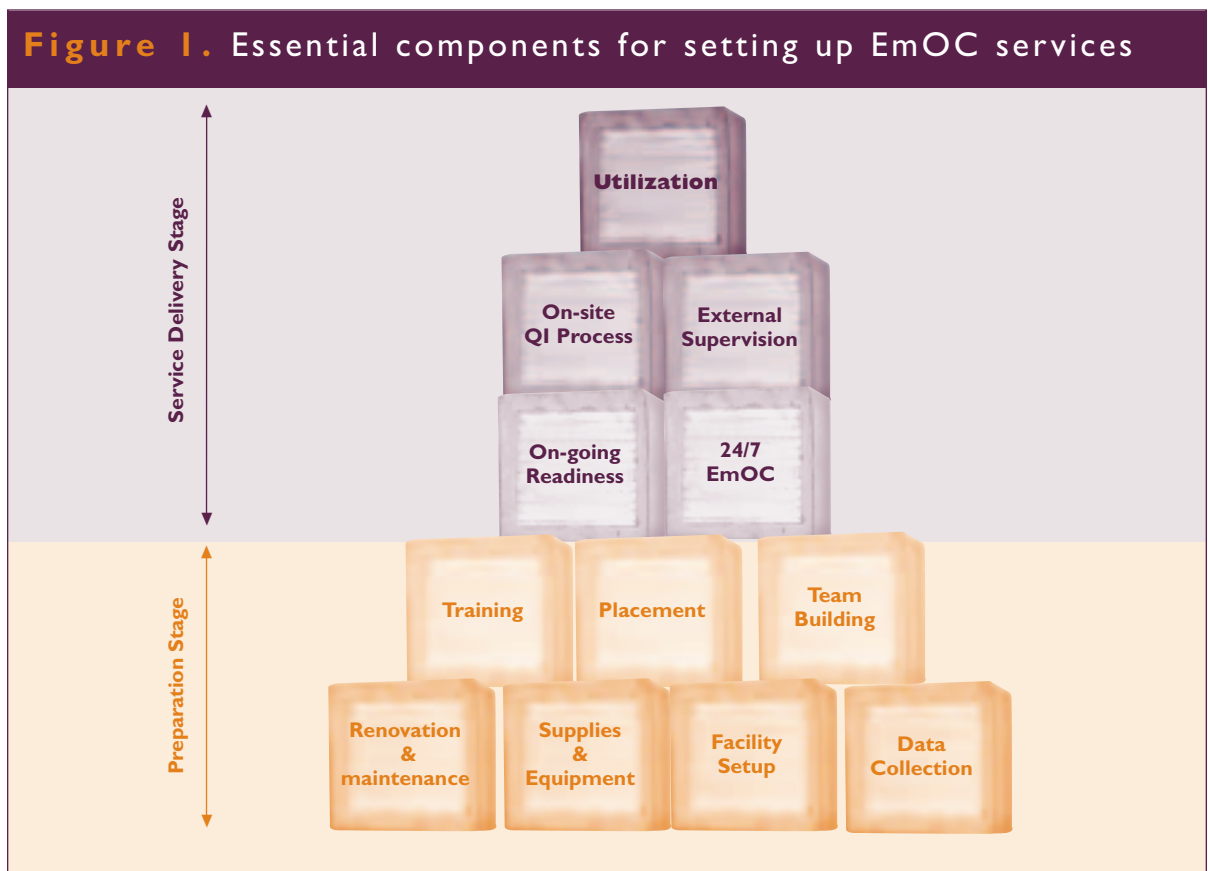
The more sustainable approach is to upgrade the local health system; however, for many reasons this may not be always feasible and project staff will need to determine the best options based upon the context.

³ S. Thaddeus and D. Maine, *Too Far to Walk: Maternal Mortality in Context*. Center for Population and Family Health, Columbia University School of Public Health, Prevention of Maternal Mortality Program. May 1990.

“How can we strengthen the local health system for long term sustainability?” – an issue to be thought about in the very beginning.

The process of implementing EmOC

Based upon worldwide field experience in EmOC programs, the “Building Blocks” Model⁴ demonstrates the key elements of planning and implementing EmOC programs. Each block is essential. The process is divided into two stages: preparation and service delivery. In emergency situations, the organization and implementation of EmOC must be creative and innovative while it may also be necessary to abbreviate it to cope with a sudden large population movement.



⁴ Zafarulla Gill and Deborah Maine. *Averting Maternal Death and Disability*. Columbia University. Implementing EmOC program. 2001.

2.1 Initial Assessment

Objectives:

- ◆ To assess obstetric care needs among refugee and displaced populations.
- ◆ To assess the capacity of local health facilities to provide EmOC and to cope with the extra demand of the increased population.
- ◆ To identify available human and logistical resources available among the host, refugee and displaced populations.
- ◆ To identify gaps requiring extra support, such as infrastructure, equipment, medicines, supplies, human resources, management and supervision, and quality of care.
- ◆ To plan immediate and long-term interventions based on the results of the initial assessment, and monitor and evaluate program outcomes and impacts compared to baseline data.

When to conduct the assessment

The initial assessment should be carried out before planning program interventions on emergency obstetric care, or within six months after the emergency interventions have started. Additional assessments can be carried out periodically after interventions have started to ascertain progress and to identify areas for improvement. The assessment should be well planned with an estimated cost and timeframe, even during emergency and conflict. The same assessment tool can be used in program evaluation as well.

The Minimum Initial Services Package (MISP) for reproductive health is a set of priority activities designed to prevent excess neonatal and maternal morbidity and mortality; reduce HIV transmission; prevent and manage the consequences of sexual violence; and plan for comprehensive reproductive health services. The MISP can be implemented without a new needs assessment because documented evidence already justifies its use. The MISP includes a kit of equipment and supplies to complement a set of priority activities that must be implemented in the early days and weeks of an emergency in a coordinated manner by trained staff. The components of the MISP form a minimum requirement and it is expected that comprehensive reproductive health services will be provided as soon as the situation allows. The MISP is a standard in the 2004 revised version of the Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response for humanitarian assistance providers.

The priority activities of the MISP relevant to the prevention of excess neonatal and maternal morbidity and mortality include providing all visibly pregnant women and TBAs with clean delivery supplies; providing supplies and equipment to midwives working at the health facility level; and ensuring that women suffering from complications of pregnancy and delivery have access to an emergency referral system 24 hours per day, 7 days per week. Thus, in the early days and weeks of an emergency, prior to an initial assessment, humanitarian actors should plan to distribute supplies and equipment and second qualified medical staff to the referral facility as necessary to ensure that adequate EmOC is available.

Who conducts the assessment?

Involve the district health authorities, local health facility staff and other local partners in planning, organizing and conducting the assessment. This will facilitate buy-in from the various stakeholders. Midwives and nurses may be trained to carry out the fieldwork with backup support from a professional with an obstetric and public health background. Those carrying out the assessment must speak the same language as the population and staff being assessed.

What to assess

Review available information sources to gather baseline data and determine information gaps. In addition to general demographic data, planners must determine the capacity of the local and referral health facilities to plan RH and implement EmOC services. Specifically, the assessment should review general personnel issues, equipment, supplies, drugs, EmOC signal functions, skills and competency of staff, referral mechanisms, community perceptions and resources among the displaced population. *Table 4* describes the required EmOC activities. See *Annex 1*, EmOC rapid assessment tool, and *Table 5* for more information.

Table 4. The UN recommendation for EmOC⁵

- ◆ For every 500,000 population, there should be at least one comprehensive and four basic EmOC facilities.
- ◆ There should be appropriate geographic distribution of EmOC facilities.
- ◆ 15% of all births should take place in EmOC facilities.
- ◆ 100% of obstetric complications should be treated.
- ◆ Cesarean sections should be between 5% and 15% of all births.
- ◆ Case fatality rate of direct obstetric complications should be less than 1%.

⁵ *Guidelines for Monitoring the Availability and Use of Obstetric Services*. UNICEF, WHO, UNFPA. 1997.

Table 5. Key information to be included in the initial assessment

Demographic characteristics

- ◆ Total refugee/displaced/target population
- ◆ Number of women and men of reproductive age
- ◆ Crude birth rate,⁶ annual number of expected deliveries, and direct obstetric complications

Health status

- ◆ Prevalence of anemia, malnutrition, malaria, TB, STIs and HIV/AIDS in the population and among women 15-49 years of age
- ◆ Other health problems pertinent to the population concerned

UN process indicators on EmOC

- ◆ Coverage of basic and comprehensive EmOC for every 500,000 people
- ◆ Geographic distribution of EmOC facilities
- ◆ Proportion of all births that take place in EmOC facilities
- ◆ Proportion of obstetric complications treated in EmOC facilities
- ◆ Proportion of all births by Cesarean section
- ◆ Case fatality rate of direct obstetric complications should be less than 1%

Local health care system

- ◆ Is there an existing health facility in the immediate locality or district that can respond to obstetric emergencies?
- ◆ Is there a functioning operating theater (OT)?
- ◆ Is there an obstetrician, surgeon and anesthetist available 24 hours a day, 7 days a week?
- ◆ Do blood testing and transfusion facilities function 24 hours a day, 7 days a week?
- ◆ How many qualified midwives and nurses are available?
- ◆ Are water and electricity supplies available?
- ◆ How far away is the facility?
- ◆ What are the road conditions and what modes of transport are available?
- ◆ Does the facility have the capacity to respond to the increased demand from the displaced population?
- ◆ Does the security situation allow staff to work in the health facilities at night?

Human resources among the population

- ◆ How many health professionals (doctors, nurses, midwives, clinical officers, medical assistants, etc.) have obstetric and midwifery skills?
- ◆ Which languages do they speak?
- ◆ How many traditional and skilled birth attendants are in the community? What other community health workers are there? How many are men, how many are women? What is their training? Are birth attendants familiar with clean delivery and universal precautions to prevent the spread of HIV and other infections?

Social organization

- ◆ What are the past and present social structures of the population?
- ◆ Are there women's groups and social workers who can help with emergency funds and transport?
- ◆ Are there TBAs and do they carry out deliveries?

Culture and practice

- ◆ Does the refugee/displaced population speak the same language as the local people and health care providers?
- ◆ What proportion of deliveries takes place at home among the refugee/displaced population in country/place of origin?
- ◆ Are there cultural practices and taboos preventing women from delivering at the health facility?

⁶ Find out the crude birth rate from available surveys in country of origin. The crude birth rate may change among the conflict-affected population. Crude birth rate x total population = expected annual births. Total annual expected births x 15% = number of expected direct obstetric complications annually.

How to obtain the information

- ◆ Individual interviews of key informants who are well known and respected by the community
- ◆ Clinical register and record review
- ◆ Client exit interviews
- ◆ Focus group discussions with women, men, TBAs and other relevant groups
- ◆ Health facility assessment related to obstetric care services

How to analyze the information

Unless the sample size is large, it is possible to process and analyze data in Excel or by hand. The method of calculating UN process indicators on EmOC is available in *AMDD Workbook – Using the UN process Indicators of EmOC services. Questions and Answers*.⁷

A clear understanding of the UN process indicator definitions and methods of data collection and analysis are crucial to the quality of data.

Contact the Women's Commission, WHO, UNICEF, UNFPA, AMDD program at Columbia University, Care and other organizations for technical assistance.

Table 6. Quick reference for calculating UN process indicators

Number of annual expected births in a population (1) =

Catchment area population x crude birth rate (CBR). CBR is the number of live births in a given period per 1,000 people in the same period (usually expressed per year). The CBR may change among refugees and displaced populations based on population movements.

Coverage of EmOC per 500,000 population =

number of either basic or comprehensive EmOC facilities in the catchment area x 500,000/catchment area population

Number of expected direct obstetric complications in a population (2) = (1) x 15%

Met need =

number of direct obstetric complications treated in EmOC facilities in the catchment area ÷ (2)

Cesarean sections (CS) as a proportion of all births =

number of CS performed in all the health facilities in the catchment area ÷ (1)

Case fatality rate =

maternal deaths due to direct obstetric complications ÷ number of direct obstetric complications treated in EmOC facilities x 100%

⁷ Anne Paxton, Deborah Maine and Nadia Hijab. *AMDD Workbook, Using the UN Process Indicators of EmOC services. Questions and Answers*. Columbia University. May 2003.

How to use the assessment results

Program planning

The results of the assessment should be shared and discussed with all stakeholders, including representatives of the local health system and communities. The assessment should be followed by a planning exercise with all of the key stakeholders. If many organizations are providing humanitarian assistance to the same population, a joint work planning process is needed. Various organizations should agree on common objectives, strategies, effective interventions, technical standards and guidelines, standard registers and records and indicators for monitoring and evaluation. The joint work plan should consider the comparative advantages of different agencies, allow resources to be spent in the most efficient way, and bring maximum benefit to the population.

Estimate the cost of EmOC interventions

The planning exercise must look at the human and financial requirement to meet the short- and long-term objectives. A rough cost can be made quickly for the initial phase based on priority interventions. Later on a more detailed budget based on costing analysis should be made to take long-term sustainability into account.

2.2 Adequate Facility Setup

To establish basic and comprehensive EmOC services in emergency settings, a minimum enabling environment is required. See *Table 7* (pg. 18).

Table 7. Minimum requirement for basic and comprehensive EmOC in emergency settings

Minimum Requirement	Basic EmOC	Comprehensive EmOC
Clinical hours	Midwife/nurse present or on call 24 hours	Emergency team present or on call 24 hours
Infrastructure	<ul style="list-style-type: none"> ◆ Rooms for essential services ◆ Running water ◆ Electricity (alternative backup) ◆ Sewage system ◆ Waste disposal (placenta pit) ◆ Secure staff quarters ◆ Kitchen for staff and patients ◆ Latrines for patients ◆ Shower for patients 	
Department and services	<ul style="list-style-type: none"> ◆ Outpatient area ◆ Ante- and post-natal ward/area ◆ Delivery room with visual and audio privacy ◆ Basic laboratory and pharmacy 	<ul style="list-style-type: none"> ◆ Outpatient area ◆ Ante- and post-natal ward ◆ Delivery room and operating theater with visual and audio privacy ◆ Essential neonatal care ◆ Laboratory, including blood screening and cross-matching ◆ Blood bank ◆ Pharmacy
Personnel	<ul style="list-style-type: none"> ◆ Midwife, nurse and supporting staff ◆ Lab and pharmacy staff ◆ Administrative staff ◆ Security staff 	<ul style="list-style-type: none"> ◆ OB/GYN ◆ Anesthetist ◆ Midwife, nurse and supporting staff ◆ Lab and pharmacy staff ◆ Administrative staff ◆ Security staff
Infection control	<ul style="list-style-type: none"> ◆ Disinfectants ◆ Boiler/autoclave ◆ Universal precautions to prevent the spread of HIV and other infections ◆ Laundry facilities 	
Referral	<ul style="list-style-type: none"> ◆ Reliable referral system 24 hours a day, 7 days a week ◆ If vacuum-assisted vaginal delivery is carried out, Cesarean section backup within 30 minutes is recommended, in case of failure ◆ Communication facilities: radio call or telephone 	
Registers and records	<ul style="list-style-type: none"> ◆ ANC register ◆ Delivery/maternity (including information on major obstetric complications) ◆ OT register (for comprehensive EmOC facility) ◆ Blood bank register (for comprehensive EmOC facility) ◆ Referral register ◆ Monthly summary ◆ ANC card ◆ Individual patient record ◆ Partograph ◆ Others 	

Renovation

Key factors to consider when renovating or constructing facilities include:

- ◆ easy access
- ◆ geographic location suitable for target population
- ◆ logical patient flow and barriers to reduce infection
- ◆ ventilation and light
- ◆ water and sanitation facilities
- ◆ privacy and comfort
- ◆ space for visiting relatives
- ◆ security
- ◆ kitchen
- ◆ laundry
- ◆ staff quarters



Do you require additional resources for renovation?

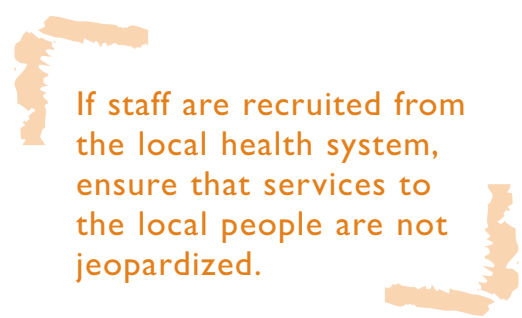
Plan it!

Recruitment of staff

To cope with the refugee/displaced population, competent health care providers with obstetric and midwifery skills, such as doctors, anesthetists, midwives and nurses, must be deployed to the field. If possible, health workers from the refugee and displaced population should be engaged. In addition, supporting staff such as laboratory technicians and pharmacists may be required. Expatriate or host country health care providers may have to be seconded to referral facilities even on a temporary basis until more sustainable solutions are secured. The extra staff should be able to ensure **24-hour EmOC services, skill mix, teamwork and competency**. If there is shortage of OB/GYN and surgeons, clinical officers and medical assistants may be employed and trained to provide comprehensive EmOC under adequate supervision.⁸

Organization of teams and initiation of EmOC services

An emergency response team (ERT) and a facility team (that deals with day-to-day management of the facility and provides support services) to support it should be established for every basic and comprehensive EmOC facility. At a facility providing basic EmOC, such as a health center, the ERT might include general physicians, midwives and nurses. At a comprehensive EmOC facility, the ERT should include an obstetrician, surgeon or clinical officer, anesthetist, midwives and nurses. These teams should have clear job responsibilities and maintain ongoing readiness. Teamwork can be maintained through team building exercises on appreciating each others' roles and supportive supervision. Drugs, supplies and equipment needed for EmOC must be available to the team on a 24-hour basis.



If staff are recruited from the local health system, ensure that services to the local people are not jeopardized.

Address the missing signal functions of EmOC

Priority should be given to upgrading the local district hospital and nearby health centers to provide comprehensive and basic EmOC services. It is costly to set up a separate surgical care facility unless it is not possible to use the local health facilities due to long distance, size of population, security concerns, etc.

⁸ Caetano Pereira et al. "A comparative study of caesarean deliveries by assistant medical officers and obstetricians in Mozambique." *British Journal of Obstetrics and Gynaecology*, June 1996. Vol 103. pp. 508-512.

Two basic EmOC functions that are frequently missing at the health center level are the removal of retained products and assisted vaginal deliveries. Cesarean sections and blood transfusions are also often not available at district and sub-district hospitals or are not provided on a 24-hour basis. This may be due to lack of skilled attendants, inadequate basic infrastructure, lack of equipment and supplies or absence of a reliable referral system. Therefore, addressing the missing functions requires a health system approach, including identifying skilled health care providers and upgrading their competency in life-saving functions as needed, providing essential equipment and supplies, improving the function of the operating theater and the blood bank system, including the source of blood, screening, cross matching and storage, improving teamwork, quality assurance, establishing referral backup and ensuring supervision of staff. Finally, it is important to focus on overall health system improvements to ensure sustainability.

Provision of essential equipment, supplies and drugs

Both local and offshore procurement options should be studied. Offshore procurement can take several months. While planning procurement, the mechanisms of maintenance and sustainability need to be identified and put into place. See *Annex 2* for a detailed list of essential equipment, supplies and drugs required for EmOC services. *Annex 2a* lists the contents and price of UNICEF pre-packaged midwifery, obstetric, basic resuscitation and sterilization kits. More detailed information can be obtained from www.unicef.org. *Annex 2b* shows the UNFPA pre-packaged kits for use at the primary health care, health center and referral levels. See www.unfpa.org.

Room-by-room assessment⁹

While setting up a health facility, a room-by-room assessment should be carried out to examine whether staff, infrastructure, equipment, medicines and essential supplies are adequate for the function of the specific room/area. The rooms that are important to EmOC are emergency room, change/scrub room, operating theater, obstetric ward, pharmacy, laboratory, blood bank and autoclave room.

Emergency room (Casualty)

The emergency room (ER) must be ready around the clock to receive emergency cases. A wheelchair, trolley or stretcher must be available at the hospital gate or reception area, and someone should be designated to transport the patient to the ER. Core staff must be available 24 hours a day. The ER should be equipped with the following items:

- ◆ emergency drugs and IV solutions
- ◆ examination table with privacy
- ◆ blood pressure (BP) apparatus, stethoscope, thermometer, kidney basin, sterile gloves
- ◆ waiting room with seats for relatives
- ◆ wall charts describing EmOC guidelines

Labor/delivery room

Labor and delivery staff should be available and prepared to handle emergency cases around the clock. The room should be kept ready with the following items:

- ◆ three sterilized delivery sets
- ◆ delivery table with stirrups
- ◆ sterilized gloves, gowns, gauze, cotton balls
- ◆ clean linen, e.g., gowns

⁹ Zafarullah Gill. *Implementing EmOC in developing countries*. AMDD Project Workshop. Marrakech, Feb. 2001.

- ◆ sterilized forceps set
- ◆ functioning vacuum extractor
- ◆ two manual vacuum aspiration (MVA) kits, including syringes and cannulas
- ◆ functioning suction machine with suction tube
- ◆ mucus extractors for neonates (for emergencies, not for routine suction)
- ◆ filled oxygen cylinder with cylinder carrier and key
- ◆ emergency drugs, with list showing quantity and expiration dates
- ◆ adult and neonatal resuscitation equipment
- ◆ ambu-bags
- ◆ functioning BP apparatus, stethoscope, thermometer
- ◆ IV stands, IV needles and cannulas
- ◆ stretcher or trolley
- ◆ wall charts describing EmOC guidelines

Is an inventory of the essential equipment and a list of EmOC drugs displayed?

Change/scrub room

The change and scrub rooms, whether separate or combined, should have the following items:

- ◆ OT gowns for changing from street clothes
- ◆ OT shoes/shoe covers
- ◆ caps and masks
- ◆ 24-hour running water and a wash basin with elbow tap
- ◆ scrub brushes and soap
- ◆ wall clock

Is there an alternative water supply for the OT and labor room?

The operating theater

On-call staff should be ready to perform emergency procedures within 30 minutes. The OT should be cleaned regularly and after surgery according to infection prevention principles. It should be equipped and made functional with the following items:

- ◆ at least three sets of sterilized Cesarean section instruments
- ◆ two dilation and curettage sets
- ◆ sterilized linen packs
- ◆ sterilized gloves, gowns, gauze, cotton balls
- ◆ sterilized suction tube and nozzle
- ◆ functioning OT light with spare bulbs
- ◆ OT table
- ◆ functioning suction machine
- ◆ emergency drugs, with list showing quantity and expiration dates
- ◆ resuscitator/ambu-bag
- ◆ laryngoscope with battery cells and spare bulbs
- ◆ endotracheal tubes

Is there a standard list of instruments for packing such as the Cesarean section pack, delivery pack, MVA and other procedures?

- ◆ functioning anesthesia machine with spare, filled oxygen and nitrous oxide cylinders
- ◆ anesthetic agents, with list showing quantity
- ◆ spinal needles, epidural kits
- ◆ antiseptics
- ◆ suture materials, with list showing quantity
- ◆ functioning BP apparatus, stethoscope, thermometer
- ◆ IV stands, IV needles and cannulas
- ◆ stretcher or trolley

Are guidelines for adult and neonatal resuscitation displayed?

The obstetric ward

The obstetric ward staff should be ready to receive emergencies. The ward should have the following items:

- ◆ beds: mattress covered with clean rubber sheet, bed sheets and pillows
- ◆ bedside locker
- ◆ bench or chair for attendant
- ◆ emergency drugs and IVs in the medicine cabinet
- ◆ functioning BP apparatus, stethoscope, thermometer
- ◆ IV stands, IV needles and cannulas
- ◆ filled oxygen cylinder with facemask, cylinder carrier and key

Is a list of EmOC drugs displayed in the emergency room, delivery room and operating theater?

Pharmacy

A system should be established in the pharmacy so that drugs for obstetric emergencies are available 24 hours a day, 7 days a week. A qualified person should be on call to dispense necessary drugs at all times. The following guidelines should be followed:

- ◆ EmOC drugs are in stock.
- ◆ Staff are aware of special storage conditions required for various drugs and vaccines.
- ◆ Drugs are replenished when supply reaches a certain minimum level.
- ◆ Emergency drugs are supplied in a timely manner to emergency room, OT, labor/delivery room and wards.
- ◆ Inventory register is accurately maintained.

Laboratory, blood supply

Laboratory service should be available 24 hours a day. A laboratory technician should be on call to process blood supply requests for obstetric emergencies. The lab must have the following items:

- ◆ blood type, cross matching reagents
- ◆ blood collection bags
- ◆ register for recording events
- ◆ functioning refrigerator
- ◆ reagents for blood screening, such as HIV, hepatitis B and syphilis

Is a guideline displayed to show the temperature, pressure and duration applied to different materials to be sterilized?

Autoclave room

Each EmOC facility should have a designated area or separate autoclave room, with a person trained in autoclaving. The following items should be in place:

- ◆ functioning autoclave machine with temperature and pressure gauges
- ◆ supply of indicator papers
- ◆ reliable and safe electric connections or supply of kerosene oil/gas
- ◆ table with marked areas — indicating space for non-sterilized and sterilized areas
- ◆ list of instruments for packaging for different procedures

2.3 Upgrade knowledge and skills of health care providers

Human resources is an area that presents an enormous challenge in post-conflict and even relatively peaceful situations. Although tapping expatriates is commonly used to overcome the shortage of skilled health care providers, upgrading skills of local staff should be considered whenever feasible, as a larger human resource development plan of the host government. Planning for this long-term objective should begin in the early phase or as soon as possible.

Various organizations have already developed training packages on EmOC, such as the Competency-based Training (CBT) developed by JHPIEGO (<http://www.mnh.jhpiego.org/>) and AMDD¹⁰ and the Life-saving Skills, including manual vacuum aspiration (MVA), developed by Family Health International.

2.3.1 Competency-based training on EmOC

Competency-based training on EmOC, developed by JHPIEGO and AMDD, is based on adult learning principles and aims to improve the competency of each trainee. It applies a humanistic method, that is, practicing on models before practicing on clients. The curricula are developed based on Integrated Management of Pregnancy and Childbirth (IMPAC) guidelines, which conform to evidence and standards in maternal and neonatal care. The curricula combine knowledge and clinical updates and site follow-up.

Trainers

Local or external trainers who have gone through Training of Trainers (TOT) on CBT are ideal trainers. Trainers should be able to communicate in the language of the trainees and be available to conduct follow-up visits after training. The training team members should consist of an obstetrician, midwife, anesthetist or nurse/anesthetist.

Site preparation

Before training can begin, a suitable clinical site, such as a district hospital or referral center, must be identified. The site must have a high enough patient volume to provide the number and variety of obstetric complications that participants need to achieve competency in basic skills. Staff should be willing and able to conform to high standards in clinical care, infection control and communication with clients.

Participant selection – team approach

Perhaps the most crucial decision in designing a clinical training course is the selection of participants. Participants should be clinicians who are committed to improving their skills, and willing to use evidence-based practices. Ideally participants should be selected in teams from the same facility with an objective

¹⁰ JHPIEGO is a not-for-profit international public health organization affiliated with Johns Hopkins University, USA. Averting Maternal Death and Disability, Columbia University, USA. *Basic Maternal and Newborn Care: A Guide for Skilled Providers*. 2004.

that the team will perform as a functioning EmOC team at their home facility. Competency-based training focuses on group communication and interaction, facilitating a highly effective team approach. Team members should be a mix of clinical providers (physician, midwife, nurse and anesthetist) who offer basic and comprehensive EmOC services.

Content and duration of training

1. Maternal and Neonatal Health (MNH) Technical Update Workshop (1 week)
 - ◆ This update includes presentations and discussion on normal childbirth and management of complications. Participants have the opportunity to examine and discuss the evidence for suggested changes in MNH practices.
2. Basic Maternal and Neonatal Health Clinical Skills Standardization (2 weeks)
 - ◆ This is a very practical, hands-on workshop covering normal childbirth and non-surgical management of complications. Participants work in clinical service areas.
3. Participants return to their clinical sites and work to implement these clinical initiatives. Additionally, each participant will be visited in her/his worksite by one of the trainers. The objectives of the visit are to:
 - ◆ assess the participants' ongoing skill development, training skills with provision of feedback, including areas for improvement;
 - ◆ assess the participants' progress in implementation of the action plan developed during the workshop detailing changes to be made in the worksite.
4. Follow-up visits to assess ongoing development and implementation of strengthened clinical skills.

Team members should be supported by their facility's administration, staff and supervisors to attend the training, to implement changes upon completing the training, and to serve as trainers in the future, likely requiring a rearrangement of the staff's schedules and workloads.

Training alone is NOT sufficient to improve performance. An enabling environment, including follow-up and supportive supervision, must be ensured.

Competency-based training using models

The use of models before practicing on patients in CBT helps to build the confidence of trainees and prevent potential harm to clients. See Annex 3, the EmOC training model list.

2.3.2 Life-saving skills (LSS) training

A typical course objective of LSS is to upgrade the competency of mid-level health providers in approximately two weeks. The training site requirement is similar to that of CBT. LSS can also be combined with a one-week course on post-abortion care.

Resources

- ◆ Family Health International (www.fhi.org) develops training modules and conducts training courses on LSS.
- ◆ American College of Nurse-Midwives (<http://www.midwife.org/dgo/index.cfm>) provides training and evaluation of LSS.
- ◆ Reproductive and Child Health Alliance (<http://rc.racha.org.kh>) provides a competency-based, two- to three-week course that emphasizes personal, hands-on training.

2.4 Improving quality of EmOC

Quality EmOC involves a state of **readiness** that will enable facility staff to **respond** appropriately to obstetric emergencies in a way that fulfills the needs and **rights** of clients, while also recognizing the specific rights and needs of staff so that they are able to provide this care.

The problems of low-quality EmOC services can be:

- ◆ **Clinical**, such as non-availability of clinical standards and guidelines, lack of competency of staff, inadequate use of drugs and poor infection controls.
- ◆ **Management**, such as lack of access to services and readiness, lack of supervision, poor maintenance of equipment, poor management of supplies, long waiting time for patients, poor coordination between departments, lack of clear job descriptions and inappropriate deployment of staff, etc.
- ◆ **Rights**, such as lack of respect of privacy, discrimination due to socio-economic status, religion, gender or other category, and inequitable access to and use of available services due to economic and geographic constraints. Rights of health care providers related to working conditions (such as remuneration, availability of supplies and equipment required and appropriate supervision) and safety (from infectious diseases and civil conflicts) must be respected, too.

2.4.1 Clinical aspect

Clinical guidelines and standards

In the absence of established clinical guidelines and standards by the local health system, the following resources, adapted to the local situation, can be used to guide clinical practice:

- ◆ *Integrated Management of Pregnancy and Childbirth (IMPAC)*, published by WHO, UNFPA, UNICEF and the World Bank, provides standards and guidelines. There are two series:
 - 1) *Managing Complications in Pregnancy and Childbirth: a guide for midwives and doctors*;
 - 2) *Managing Newborn Problems: a guide for doctors, nurses and midwives*. (www.who.org).
- ◆ *COPE (Client-Oriented Provider-Efficient Services) Guidelines and Instruments for a Situation*, EngenderHealth. The handbook is designed to address the range of caring needs women may have throughout the pregnancy period: antenatal care, routine labor and delivery, emergency obstetric care and postpartum care. (www.engenderhealth.org).
- ◆ *Emergency Obstetric Care: Resources and Tools*. AMDD and JHPIEGO. This CD-Rom contains the following resources and tools: 1) IMPAC Managing complications in pregnancy and childbirth: a guide for midwives and doctors; 2) Infection prevention; 3) Design and evaluation of maternal mortality program; 4) Guidelines for monitoring the availability and use of obstetric services; 5) AMDD workbook — Using the UN Process Indicators for EmOC Services, Questions and Answers; 6) Quality improvement for EmOC: the leadership manual; 7) Improve EmOC through criterion-based audit; 8) EmOC assessment tools for doctors and midwives; and 9) Anesthesia for EmOC: assessment tools for doctors and midwives. Available through AMDD or JHPIEGO.

Use of partograph

Prolonged labor is a leading cause of death among mothers and newborns in the developing world. If labor does not progress normally, the woman may experience serious complications, such as obstructed labor, dehydration, exhaustion, maternal infection, hemorrhage or rupture of the uterus.

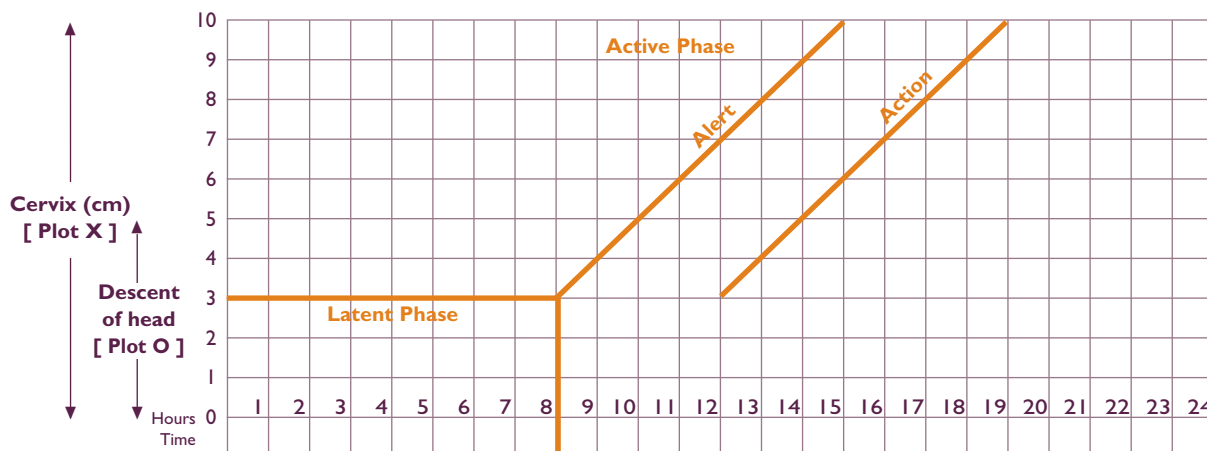
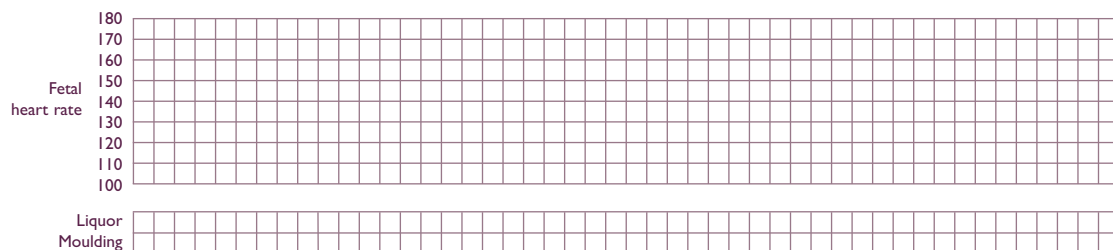
Prolonged labor may also contribute to neonatal infection, asphyxia or death. In 1990-1991, WHO conducted a multi-center trial involving more than 35,000 women in Indonesia, Malaysia and Thailand to evaluate the impact of the new partograph. The study showed that when the partograph was introduced into clinical practice along with a management protocol, labor outcomes were greatly improved. Use of the partograph reduced the number of prolonged labors (those longer than 18 hours), the need for augmentation of labor with oxytocin, rates of Cesarean section and the incidence of infection. As a result of this study, WHO recommended that the partograph be used in monitoring all labors to help identify abnormal progress and women who might need further intervention.

Figure 2. Sample Partograph¹¹

Partographs should be reviewed during supervisory visits in order to assess if normal and complicated labor are managed properly in a health facility. The key questions to answer during a review include:

1. Were uterine contractions regularly checked every 30 minutes?
2. Was the mother's pulse rate monitored every 30 minutes?
3. Was the blood pressure of the mother checked regularly?
4. What was the color/condition of the liquor (amniotic fluid)?
5. What was the condition of the fetal heartbeat?
6. What is the recorded condition of the baby at birth?
7. What is the recorded mode of delivery?
8. In case of Cesarean section, how many hours elapsed past the alert line before the Cesarean was done?

Name	Gravida	Para	Hospital no.
Date of admission	Time of admission	Ruptured membranes	Hours



The partograph is a vital tool for providers who need to be able to identify complications in childbirth in a timely manner and refer women to an appropriate facility for treatment.

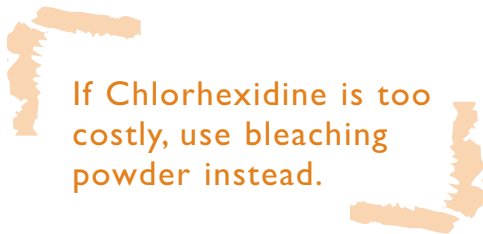
¹¹ Preventing Prolonged Labor: A Practical Guide. The Partograph, WHO/FHE/MSM/93.8.

Infection control

Water, a natural disinfectant, is absolutely essential. Disruption of the water supply should be anticipated with a functioning alternative water source.

To ensure universal precautions for the prevention of HIV and other infections, all used instruments should be soaked in 0.5% chlorine solution for 10 minutes before processing. Staff should wear thick rubber gloves while washing used instruments and sharps should be disposed in puncture-proof containers immediately after use.

A placenta pit, system or site for waste disposal protected from public access, animals and sewage should be established.



If Chlorhexidine is too costly, use bleaching powder instead.

Reference

- ◆ *Infection Prevention: Multimedia Package*. Training CD-Rom and reference for low-resource settings, EngenderHealth. The CD also includes a training modules booklet. 2001. An essential training and reference package for health workers on hand washing, gloving, aseptic technique, instrument processing, use and disposal of sharps, and housekeeping and waste disposal. The material may be used for self-instruction or as part of formal training in infection prevention. The booklet covers the same topics in more depth and serves as a quick desk reference. Booklet also available for sale on its own. (www.engenderhealth.org).

Maternal death review

A facility-based maternal death review, near misses review and community verbal autopsy can be effective tools to analyze the reasons behind a maternal death or near miss, identify suitable actions with available resources and improve the quality and accountability of services.¹² The exercise should be a dynamic process leading to continuous quality improvement.

External clinical support

The external support team should consist of an OB/GYN, an anesthetist and a nurse/midwife, and should be well-versed in evidence-based clinical practices and committed to onsite supportive supervision.

Clinical support team activities during facility visits include:

- ◆ observation and assessment of clinical practice
- ◆ case review on the ward
- ◆ observation of obstetric procedures (Cesarean section, vacuum extraction, etc.)
- ◆ chart review of recent cases managed
- ◆ presentation of case studies for discussion (such as maternal death, perinatal death and near misses)

Aspects of clinical care to observe:

- ◆ decision-making process
- ◆ initial and definitive treatment (use of protocols, knowledge, skills and performance)
- ◆ recovery – nursing care/notes, protocols, infection prevention (IP) practices, follow-up with patients
- ◆ discharge information, advice to patient
- ◆ coaching instead of criticizing

¹² *Beyond the Numbers. Reviewing maternal deaths and complications to make pregnancy safe*. WHO. 2004.

2.4.2 Management

Team building

Lack of teamwork is a common problem among different cadres of staff and different departments within the same health facility. Training the team in EmOC and team-building exercises are useful methods for improving teamwork. In addition, appreciating each team member's contribution, such as administrative staff, gate keepers and cleaners, helps build a strong team. Useful management tools/kits are available at <http://erc.msh.org/mainpage.cfm?file=01.htm&module=toolkit&language=English>.

*“Walk-through” of facility for quality improvement*¹³

The objective of the exercise is to resolve operational problems and improve the performance and accountability of managers, supervisors and service providers. With the team composed of representatives of various key departments, supervisors and managers provide supportive supervision against a standard check list. The majority of problems identified can be solved internally with available resources.

Instructions:

1. **Where to go:** The *walk-through* of the facility should include all client care and ancillary areas involved in providing EmOC services.
2. **What to do:** During the walk-through, focus on observation, talking to clients and *all* levels of staff, providing on-the-spot technical assistance training, and examining records.
3. **How to use this table (see pg. 29):** During the walk-through, the following broad categories in *Table 8* should be kept in mind and not used as a checklist. This way the monitor is free to observe, teach and discuss.

Note: The clinical members of quality assurance team may choose to do a CASE REVIEW with the staff to assess the following categories, especially if emergency cases are not present.

¹³ Dr. Zafarullah Gill, *Improving District Health System through use of Quality Assurance Teams*. AMDD Program Columbia University. January 18, 2005.

Table 8. Check list of “walk-through” health facilities for quality assurance

Area	How to Assess	What to Look For (Examples)
Facility	<ul style="list-style-type: none"> ◆ Walk-through: <ul style="list-style-type: none"> – <i>client areas</i> (waiting areas, latrines, exam areas, wards, procedure areas, OT) – <i>non-client areas</i> (instrument processing area, waste disposal site, stores, blood bank) ◆ Observation and discussion 	<ul style="list-style-type: none"> ◆ Is each area clean and structurally sound? ◆ Is there running water? ◆ Is there functional electricity? ◆ Is there a backup system for electricity and water? ◆ How frequently have services been interrupted for lack of water or electricity lately? ◆ Is it secure day and night?
Emergency readiness	<ul style="list-style-type: none"> ◆ Observe an emergency case if possible ◆ Ask staff about the last emergency case, how it was handled, what went well and what needs improvement ◆ Ask about existing emergency protocols 	<ul style="list-style-type: none"> ◆ Skilled staff available 24 hours a day who know how to: <ul style="list-style-type: none"> – recognize signs of complications – initiate emergency management – manage complications – perform CPR – locate the nearest emergency trolley ◆ Complete emergency trolley with emergency equipment, supplies and drugs available (oxygen/ambu-bag/face masks/suction) in all client-care areas, including operating room ◆ Clients monitored for BP, HR, RR and bleeding before, during and after care ◆ Transportation (car, driver, fuel) and a referral facility available ◆ Clients stabilized before transport
Staffing	<ul style="list-style-type: none"> ◆ Observe availability of staff ◆ Review current duty roster for 24-hour duty assignments ◆ Contact the provider on duty now, make trial call Ask staff: <ul style="list-style-type: none"> – experiences with getting providers during the night and holidays – if staffing is adequate and functional 	<ul style="list-style-type: none"> ◆ Current duty-roster with names and contact information posted in client care areas and nursing areas ◆ Staff available on-site who can: <ul style="list-style-type: none"> – perform normal labor & delivery – manage a complication (such as eclampsia, hemorrhage, infection) – perform uterine evacuation, Cesarean section, assisted delivery ◆ Anesthetist available

Table 8 continued ►

Table 8. (continued)

Area	How to Assess	What to Look For (Examples)
<p>Equipment/ supplies/ drugs</p>	<p>In each room, look at equipment, supplies and drugs, and discuss with staff.</p> <p>Check availability and functionality of equipment, such as:</p> <ul style="list-style-type: none"> ◆ Oxygen tank ◆ Anesthesia machine ◆ Instrument sterilizer ◆ Suction machine ◆ Refrigerator <p>Review contents of:</p> <ul style="list-style-type: none"> ◆ Supply cabinets ◆ Drug trays ◆ Emergency trolley ◆ Instrument kits, such as Cesarean section kit, adult and neonatal resuscitation kit ◆ Linen sets 	<p>For equipment:</p> <ul style="list-style-type: none"> ◆ Is each piece of equipment available where it should be? ◆ Is it functional? Can staff demonstrate its function now? ◆ Is there a functional repair and maintenance system? <p>For supplies and drugs:</p> <p>Adequacy:</p> <ul style="list-style-type: none"> ◆ Are supplies adequate for client load? Does staff run out of supplies? ◆ Are drugs adequate for client load? Does staff run out of drugs? <p>Storage:</p> <ul style="list-style-type: none"> ◆ Does staff use “first-in first-out” system? ◆ Are supplies and drugs stored in a dry, safe place? ◆ Are drugs within their expiry date? ◆ Is chlorine supply available and kept dry? <p>For instrument kits and emergency trolley:</p> <ul style="list-style-type: none"> ◆ Are complete emergency drug trays in each client care area? ◆ Are complete emergency trolley(s) in client care areas ◆ Are Cesarean section kits complete?
<p>Clinical technique</p>	<ul style="list-style-type: none"> ◆ Observe as many procedures as possible (evaluation, labor exam, delivery, assisted delivery, repair of lacerations, manual removal of placenta, Cesarean section, etc.). ◆ Observe management of as many complicated cases as possible. ◆ If observation is not possible, conduct a case review of a complicated case. 	<p>For each client observed note:</p> <ul style="list-style-type: none"> ◆ Promptness of evaluation and management – within 15 minutes of arrival for emergency cases ◆ Correct management ◆ Correct procedural technique ◆ If unstable, stabilizing treatment (i.e., IV fluids, MgSO₄ or diazepam, oxytocin) provided promptly ◆ Correct infection prevention practices

Area	How to Assess	What to Look For (Examples)
Anesthesia	<ul style="list-style-type: none"> ◆ Observe use of anesthesia. ◆ Ask anesthetist what he or she uses for a Cesarean section and how. ◆ Observe anesthesia equipment. ◆ Review emergency protocols to manage anesthetic complication. 	<ul style="list-style-type: none"> ◆ Is the client monitored during premedication, procedure and post-procedure? ◆ Is local anesthesia used when possible, such as for uterine evacuation? ◆ Is the client's pain controlled? ◆ Are staff available trained in the safe use of anesthesia? ◆ Are operating room staff trained to recognize anesthetic complications and resuscitate (staff knowledge of CPR and emergency procedures)?
Client-provider interaction	<ul style="list-style-type: none"> ◆ Observe any interaction between providers and: <ul style="list-style-type: none"> – clients – family members or others accompanying persons, such as TBAs 	Treatment with <ul style="list-style-type: none"> ◆ respect ◆ kindness and empathy ◆ privacy and confidentiality ◆ appropriate information provided
Post-service care	<ul style="list-style-type: none"> ◆ Observe post-surgical ward recovery room. ◆ Observe out-patient service for follow-up. ◆ Speak with staff. 	<ul style="list-style-type: none"> ◆ Clients are monitored after procedures and delivery for BP, HR, RR, bleeding: <ul style="list-style-type: none"> – after premed: every 15 min – during surgery: every 5 min – after surgery: every 15 min for 1 hour, then regularly until discharge. ◆ A place available with skilled care 24 hours a day, for clients returning in an emergency. ◆ All post-surgical/complication clients receive routine follow-up either at a facility or in the community.
Discharge counseling	<ul style="list-style-type: none"> ◆ Observe discharge counseling. 	<ul style="list-style-type: none"> ◆ Staff provide information (oral and written) routine care, warning signs and where to come for an emergency 24 hours a day ◆ Two-way communication ◆ Planning for follow-up in facility or community

Table 8 continued ►

Table 8. (continued)

Area	How to Assess	What to Look For (Examples)
Records and registers	Review 20 to 30 client entries in <i>facility registers</i> , such as: <ul style="list-style-type: none"> ◆ labor and delivery ◆ operating room ◆ maternity ward Review 5 to 10 <i>client records</i> of: <ul style="list-style-type: none"> ◆ normal cases ◆ complicated cases (eclampsia, hemorrhage, blood transfusion, Cesarean section) 	In facility registers: <ul style="list-style-type: none"> ◆ Are they always completed? ◆ Is there a column for complications, and is it always filled out? ◆ Is there a column for procedures, and is it always filled out? ◆ Is there a column for outcome of mother and baby? ◆ Is the reason for Cesarean section noted? In client records, do they always contain: <ul style="list-style-type: none"> ◆ Admitting exam, including BP, HR and RR? ◆ Diagnosis/treatment/outcome? ◆ Is a partogram attached and used for monitoring labor? ◆ Procedural notes (drugs/indications/finding/procedure)? ◆ Post operation and discharge notes (status/instruction)?

At the end of the walk-through, sit down with the staff from the department and hospital management to analyze causes of the identified problems, solutions and projected timeline for addressing them. A quality assurance (QA) register should be used to record the problems solved on a monthly or quarterly basis, as well as to monitor changes made over time.

2.4.3 Rights

Quality of client-provider interaction

Providers must treat clients with respect, be responsive to their needs and avoid judgmental attitudes. Adherence to the highest ethical standards is an essential component of the quality of care. Services should be provided in ways that ensure respect for privacy, confidentiality and freedom of choice, and that ensure equity of care to all groups. In any situation these are key issues and can be difficult to achieve. In situations of conflict and displacement they may be even more difficult to attain, but at all times an explicit attempt should be made to strive for the highest ethical standards.

Providers should see clients as partners in health care and should involve them in decision-making. Training should include communication skills and opportunities for staff to explore their own attitudes to providing reproductive health services to various groups (e.g., adolescents, unmarried women, commercial sex workers, other ethnic groups, women suffering from complications of unsafe abortion, men, HIV-positive people). Emphasis should be placed on the need for a positive non-judgmental attitude to all clients.

On-site quality improvement (QI) tools

- ◆ *COPE-Leadership Manual and Toolkit for Improving Quality of Services*, (<http://www.engenderhealth.org/pubs/pubslst.html>). The *manual* describes a continuous, four-step QI process that is based on participatory principles of staff involvement and ownership and that focuses on clients' rights and needs. In the four ongoing steps, staff gather and analyze information, develop an action plan, implement solutions, and review and evaluate progress. Targeted toward supervisors or "team leaders" who will guide their staff through the process, the manual is designed for regular use by EmOC staff to assess and adjust systems and practices in a constructive way. The accompanying *toolbook* contains the information-gathering instruments used as part of the QI process, along with instructions for their use.
- ◆ COPE® (<http://www.engenderhealth.org/pubs/pubslst.html>) contains the following tools:
 - 1) self-assessment guides for each of the clients' rights and providers' needs;
 - 2) an obstetric admission record review checklist;
 - 3) a client interview form; and
 - 4) client flow analysis forms for use with antenatal and postpartum clients. These tools have practical and easy-to-use data collection and analysis forms that are designed to be flexible so that the supervisors and staff can adapt them to their particular needs.
- ◆ *Improving Emergency Obstetric Care through Criterion-Based Audit*. AMDD. Mailman School of Public Health, Columbia University. Available at AMDD. Columbia University, New York. USA. (<http://cpmcnet.columbia.edu/dept/sph/popfam/amdd/docs/AuditEnglishFinal.pdf>).

2.5 Ensure utilization of EmOC services

After having ensured the availability and quality of services, it is possible that services will be under-utilized. There may be many reasons, but in emergencies and conflicts, special attention needs to be given to the following factors and solutions sought:

- ◆ Focus group discussions with women, families and community members can provide useful information regarding how they feel about the health services, and how to enable them to use the available services. Communities can help to identify solutions with local resources. This can help to bridge gaps between service providers and clients. See *Annex 4* for a focus group discussion guide.
- ◆ Structured interviews, such as exit interviews with clients and family members, are also a useful way to get feedback regarding various aspects of EmOC services, such as the three delays, satisfaction with quality of care, cost and communication skills of health care providers.

Table 9 (pg. 34) provides some possible causes for under-utilization of services in humanitarian settings and suggested solutions.

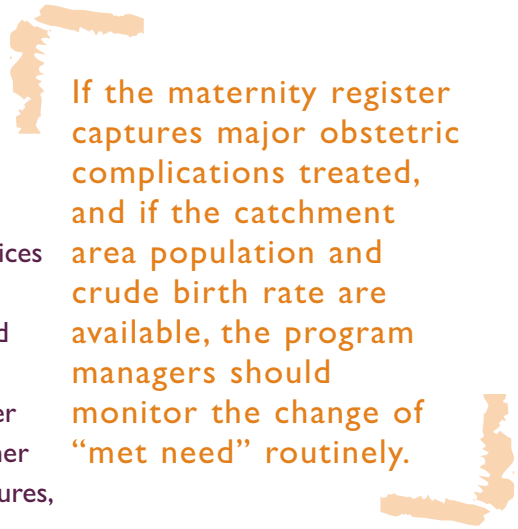
Table 9. Possible causes for under-utilization of EmOC services and suggested solutions

Possible Causes	Solutions
Refugee/displaced women may not feel comfortable using the local health services due to political, socio-economic and cultural differences, such as language and religious practices.	Encourage non-partial and non-judgemental attitudes of staff. Engage professionals from refugee/displaced population and health care providers who speak the same language.
Clients may fear, or know, that consultation will not be private or that health workers will not maintain confidentiality.	Provide privacy to clients/patients so that their discussions with health workers will not be overheard, and that details of their private lives will not be revealed in public. Ensure that staff understand patients' rights to confidentiality.
Clients may not trust the health care providers and/or quality of the services.	Improve quality of care, including communication skills of health care providers.
Cost of services may be too high.	Provide free or subsidized health care to the most vulnerable.
Social stigma may be attached to using a service, such as adolescents using RH services.	Establish youth friendly health services. Maintain confidentiality. Improve counseling and communication skills.
Clients may prefer to consult health workers of the same sex.	Show sensitivity to the cultural background of the population and identify preferences.
Waiting times may be too long and contact time may be too short, due to lack of staff, etc.	Ensure adequate staff and hours of operation. Improve management of patient flow.
Continued insecurity: pregnant women unable to travel to referral facilities for EmOC services, difficulties with referral system and staff mobility, especially for night duties.	Pre-plan special security arrangements for health care providers and at health facilities day and night. Identify community support mechanisms for transport. Shorten third delays (see pg. 11) through ongoing readiness.
Interruption of supplies of medicine and other essential items, and breakdown of system for maintenance.	Anticipate supply problems and establish logistics supply system immediately. Procure essential supplies and materials from the local market and private channels.

2.6 Health Management Information System (HMIS)

The maternity and delivery registers are the key registers for EmOC services. Sometimes these two registers are combined. At a minimum, the registers must include age of the mother, mode of delivery, obstetric complications, treatment, maternal outcome, birth outcome (live, stillbirth) and birth weight.

A monthly summary should be made to provide data on services provided. It is important to monitor the number of obstetric complications treated (hemorrhage, obstructed and prolonged labor, preeclampsia and eclampsia, abortion complications and postpartum sepsis) and Cesarean sections carried out in order to see changes in use of EmOC services and “met need.” Other data, such as numbers of blood transfusions and MVA procedures, might be added to the data collected depending upon the program interventions. When possible, work with and modify existing Ministry of Health (MOH) data collection systems. In cases where there is no MOH system, develop a data collection system in collaboration with local partners and promote adoption of the data collection tools by the local health care system. A sample of the maternity register and monthly summary report form are in *Annex 5a* and *5b*.



If the maternity register captures major obstetric complications treated, and if the catchment area population and crude birth rate are available, the program managers should monitor the change of “met need” routinely.

2.7 Referral mechanisms

An emergency referral system that includes obstetric complications must be available 24 hours a day, 7 days a week. Where feasible, a host country referral facility should be used and supported to meet the needs of refugees. If this is not feasible, then an appropriate refugee-specific referral facility should be provided. In either case, setting up a referral service that is open 24 hours, 7 days a week requires support from the local health system, the communities and NGOs. To summarize, the following activities are necessary to provide a comprehensive referral system:

- ◆ Support local or district hospital personnel and government officials.
- ◆ Ensure a midwife and/or doctor is always on call.
- ◆ Arrange transport and fuel.
- ◆ Arrange for the secure transport of patients and health workers.
- ◆ Provide a communication system either by telephone or radio.
- ◆ Educate pregnant women, birth attendants and community members to recognize danger signs of pregnancy and childbirth and to refer women with obstetric complications, such as hemorrhage, infection, eclampsia, prolonged/obstructed labor and complications of unsafe abortion, to health facilities.
- ◆ Promote community emergency committees/schemes for funds and transport to avoid second delay.

2.8 Involve the communities

The refugee and displaced population can contribute to the planning, provision and utilization of EmOC services. This not only provides the opportunity to support the existing social structure, organizations and available human resources, but also ensures that the programs and services designed suit the needs of the refugees and displaced population.

Some of the ways that RH can be supported indirectly include:

- ◆ *supporting* families and clans so they remain together as much as possible so that women and girls are not left without male support and protection against violence;
- ◆ *undertaking* a gender-sensitive approach in all programs to ensure that women, girls and marginalized groups are not disadvantaged by the way assistance is delivered.¹⁴

Other more direct ways of supporting individuals and communities to protect their own RH during armed conflict include:

- ◆ *Identifying* and supporting existing structures of service delivery;
- ◆ *Identifying* health workers with training in clean delivery, obstetric first aid and emergency obstetric care; support them with materials and supplies and provide additional training as needed;
- ◆ *Providing* all pregnant women with clean delivery kits and teaching them how to make them with local products and to use them; with health workers from the community, identifying other responses to RH needs that can be delivered through existing community resources;
- ◆ *Identifying* and supporting, through indigenous women's groups, ways in which women traditionally protect themselves against different forms of gender-based violence;
- ◆ *Supporting* women or couples who wish to avoid pregnancy during periods of danger and instability by identifying, with women and men in the community, methods for distributing contraceptives that ensure maximum accessibility during conflict (e.g., through community health workers/volunteers, through women's groups and through private commercial outlets);
- ◆ *Identifying*, in a similar way, outlets for condom distribution and STI/HIV/AIDS prevention messages;
- ◆ *Providing* advocacy at local, national and international levels for greater awareness of the risks of sexual violence in times of conflict, and of sexual violence as a human rights violation;
- ◆ *Including* the local host population in services to avoid tension between the displaced population and the local community.

Resources:

- ◆ *Community COPE: Building Partnership with Community to Improve Health Services*. EngenderHealth. Building on the facility-based COPE process, this handbook is designed to help supervisors and staff at service delivery sites to build bridges with community members. Specific tools include interview and focus group discussion guides, participatory exercises, a site walk-through guide and tools for analyzing and prioritizing solutions for problems identified, as well as guides for orienting site staff and local leaders to the process. (www.engenderhealth.org).

¹⁴ *Reproductive health during conflict and displacement*. WHO. Ref. WHO/RHR/00.13

- ◆ *Integrating Reproductive Health into NGO Programs Volume 2: Safer Motherhood for Communities.* Joyce V. Lyons, Jenny A. Huddart and Donna S. Bjerregaard. The SEATS Project: 1999. This handbook assists established NGOs to help communities assess, organize and implement “safer motherhood” strategies. It provides guidance to organizations about accessing the resources of the formal health system, but primarily focuses on interventions appropriate at the community level.

2.9 Linkages with other programs

While ensuring that EmOC is in place, staff should create linkages and coordinate with other programs, according to the needs based on local epidemiology and priorities.

2.9.1 Antenatal care

The WHO Technical Working Group¹⁵ in 1994 agreed upon a *minimum* of four antenatal visits, scheduled at specific times in the pregnancy to accomplish the essential level of recommended antenatal care. The content and quality of antenatal care is as important as the number of visits. Number, timing and content of antenatal visits are recommended as:

First visit by the end of the fourth month (16 weeks):

To screen and treat anemia, screen and treat syphilis, screen for risk factors and medical conditions that can best be addressed in early pregnancy, initiate prophylaxis where required (e.g., anemia, malaria) and begin to develop the individualized birth plan.

Second visit in the sixth or seventh month (24-28 weeks) and

Third visit in the eighth month (32 weeks):

To screen for preeclampsia, multiple gestation and anemia, and to further develop the individualized birth plan.

Fourth visit in the ninth month (36 weeks):

To identify fetal lie/presentation, and to update the individualized birth plan.

Note: Voluntary Counseling and Testing (VCT) and Prevention of Mother-to-Child Transmission (PMTCT), Intermittent Preventive Treatment (IPT) of Malaria in Pregnancy should be initiated if prevalence is high or there is a risk of increased transmission.

Identification and management of risk factors and complications

The risk of individual pregnant woman developing obstetric complications cannot be predicted.¹⁶

However, there are some conditions that call for more careful monitoring, because they may be predictive of complications. These are strikingly short stature, very young maternal age, multiple gestation and abnormal lie/presentations. For many of the factors (e.g., age), nothing can be done to alter the risk factor. However, additional care and watchfulness may prevent a complication arising or enable its early detection and management.

¹⁵ Report of a Technical Working Group, 1994 – WHO/FRH/MSM/96.8.

¹⁶ *Safe Motherhood Programs: Options and Issues.* Center for Population and Family Health, School of Public Health, Columbia University. 1991.

2.9.2 Neonatal care

Help every woman attending antenatal care to develop an individual birth plan

- ◆ Estimated date of delivery
- ◆ Intended place of delivery and birth attendant
- ◆ Know danger signs of major obstetric complications
- ◆ Cash and transport available for referral
- ◆ Persons to help during emergency, especially at night
- ◆ Which health facility to go to: name and place

Deaths in the first 28 days of life or in the neonatal period account for approximately two-thirds of infant deaths and one-third of under-five deaths. The annual global burden of neonatal deaths is estimated to be 4 million, in addition to the 4 million babies born as stillbirths. Infections, birth asphyxia and prematurity are principal causes of neonatal deaths. The majority (98 percent) of these deaths occur in developing countries and 40 to 70 percent of them are due to low birth weight. Closely linked to neonatal mortality and morbidity is lack of attention to maternal nutrition; malaria and maternal infections during pregnancy; poor preparation of the mother to initiate and exclusively breastfeed her infant; and inadequate planning for the birth, including in case of an emergency.

Synergy between maternal and neonatal care is increasingly recognized as necessary and logical. Since the majority of neonatal mortalities take place within the immediate postpartum period, improving the availability and quality of obstetric care is an effective way of reducing neonatal mortality. The CBT on EmOC and upgrading of health facilities should include the neonatal component.

The 2/3 rule

More than 7 million infants die 0-12 months.

- ◆ Almost two-thirds of infant deaths occur in the first month of life.
- ◆ Among those who die in the first month of life, almost two-thirds die within the first week.
- ◆ Among those who die in first week almost two-thirds die in the first 24 hours of life.

Causes of neonatal deaths

- ◆ Infections – 32%
- ◆ Birth asphyxia and trauma – 29%
- ◆ Complications of prematurity – 24%
- ◆ Congenital malformations – 10%

In over three-quarters of neonatal deaths, low birth weight is an underlying risk factor.

Essential newborn care includes

- ◆ basic preventive newborn care: before and during pregnancy, clean delivery practices, temperature control, eye and cord care, and early and exclusive breastfeeding on demand day and night;
- ◆ early detection of problems or danger signs (with priority for sepsis and birth asphyxia) and appropriate referral and transport arrangement;
- ◆ treatment of key problems: sepsis and asphyxia.

In emergency settings, it is critical to strengthen individual, family and community capacity to improve MNH at the community level:

- ◆ *Promote household-to-hospital continuum of care.*
- ◆ *Understand social cultural behaviors and values to promote best care practices with limited resources during emergencies, such as breastfeeding and Kangaroo mother (skin-to-skin) method.*
- ◆ *Promote male involvement in care of the newborn.*

All skilled attendants should be trained in neonatal resuscitation. An ambu-bag, a nasal extractor and two fingers could resuscitate the majority of asphyxic neonates in resource-poor settings.

2.9.3 Malaria in pregnancy

Malaria in pregnancy (MIP) is associated with negative pregnancy outcome for both mothers and babies. See *Table 10*.

Table 10. Major effects of malaria in pregnant women

In Stable Transmission Areas (Endemic)	In Unstable Transmission Areas (Seasonal)
<ul style="list-style-type: none"> ◆ Low birth weight: 8-14% ◆ Intra-uterine growth retardation: 13-70% ◆ Prematurity: 8-36% ◆ Infant death: 3-8% or 75,000 to 200,000 deaths per year ◆ Maternal anemia: 2-15% severe maternal anemia increases the mother's risk for death 	<ul style="list-style-type: none"> ◆ Severe malaria with central nervous system (CNS) complications ◆ Anemia ◆ Abortion (1st trimester) ◆ Low birth weight ◆ Prematurity (infection in 3rd trimester) ◆ Stillbirth ◆ Maternal death

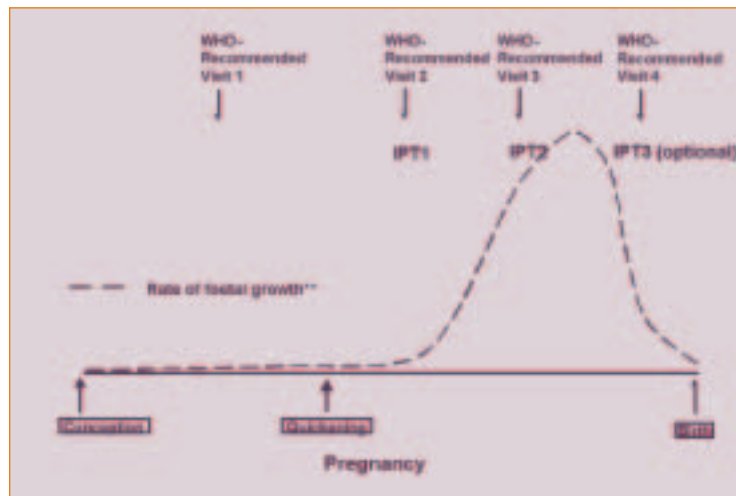
AFRO¹⁷ recommends three key interventions for MIP: intermittent preventive treatment; insecticide-treated bed net; and effective case management.

¹⁷ WHO AFRO MIP Framework, 2004.

I. Intermittent Preventive Treatment (IPT)

- ◆ At least 2 doses of IPT, beginning in the 2nd trimester. The most well-studied, safe and effective antimalarial drug for IPT is SP (Sulphadoxine-pyrimethamine). IPT is recommended for areas of stable malaria transmission in the WHO Africa region.
- ◆ 3rd dose is recommended in areas of high HIV prevalence (>12%).
- ◆ Weekly chemoprophylaxis with Chloroquine (CQ) is not recommended
 - ◆ poor compliance
 - ◆ increasing drug resistance
- ◆ IPT with SP is NOT recommended in areas of low or unstable transmission.

Figure 3. Schedule of IPT, WHO AFRO 2004



2. Insecticide-treated nets (ITN)

- ◆ ITN use during pregnancy in areas of stable transmission provides significant protection to the mother and the infant who sleeps under the net with the mother. A study carried out in Kenya (*AJTMH 2003*) shows a:
 - ◆ 38% reduction in incidence of malaria parasitaemia
 - ◆ 47% reduction in incidence of severe malarial anemia
 - ◆ 28% reduction in prevalence of low birth rate (LBW)

3. Case management of malaria illness and anemia

ANC package should include malaria diagnosis and treatment with antimalarial drugs that are safe and effective for use in pregnancy. In addition, it is recommended that pregnant women receive iron/folate supplementation for the prevention of anemia, as well as screening for anemia, and management, where necessary.

Drugs considered safe in pregnancy:

- ◆ Chloroquine – all trimesters
- ◆ Amodiaquine – all trimesters
- ◆ Quinine – all trimesters
- ◆ Proguanil – all trimesters
- ◆ SP – second and third trimester

2.9.4 Prevention of mother-to-child transmission of HIV

Voluntary counseling and testing (VCT) for HIV for all pregnant women in antenatal clinics and prevention of mother-to-child transmission (PMTCT) of HIV should be made available immediately, especially in high HIV prevalence populations. Rapid testing of HIV should be made available in labor wards.

To reduce the intra-partum risk of transmission the following interventions are recommended:

- ◆ Use of the partograph: proper use of the partograph will improve labor management and reduce the risk of HIV transmission due to prolonged labor.
- ◆ Vaginal cleansing can reduce the risk of puerperal and neo-natal sepsis and it may also have an impact on HIV transmission where membranes are ruptured for more than 4 hours. Care needs to be taken that the correct solution is applied to avoid damaging the mucus of the birth canal.
- ◆ Avoid artificial rupture of membranes (ARM): Ruptured membranes of longer than 4 hours duration is associated with an increased risk of HIV transmission. ARM should therefore be reserved for those with fetal distress or abnormal progress.
- ◆ Avoid routine episiotomy.

In addition, universal precautions should be practiced by health care providers assisting deliveries to avoid transmission of HIV from an infected pregnant woman to the provider and from an infected provider to a pregnant woman.

Several years of experience with implementing PMTCT programs have built a body of evidence on the most effective drug regimens, resistance resulting for certain regimens, their side effects and the feasibility of the various regimens in different settings. The latest recommendations issued by WHO in 2004 for the prevention of MTCT that are applicable for the emergency setting are presented in *Table 11*.¹⁸

¹⁸ Antiretroviral drugs and the prevention of mother-to-child transmission of HIV infection in resource-limited settings. Recommendations for a public health approach. WHO February 2004.

Table 11. Antiretroviral treatment regimen

Clinical Situation	Recommendation
HIV-infected pregnant women with no indications for ARV treatment	<p>First choice regimen</p> <p><i>Women</i> Zidovudine (ZDV) starting at 28 weeks or as soon as possible thereafter; continue ZDV at the same dose during labor. In addition, women should receive single-dose Nevirapine (NVP) at the onset of labor.</p> <p><i>Infant</i> Single dose NVP and 1-week ZDV</p> <p>Alternative regimen</p> <p><i>Women</i> Single dose NVP at the onset of labor</p> <p><i>Infant</i> Single dose of NVP</p>

2.10 Monitoring and evaluation

A feasible system to monitor both health status and EmOC service delivery requires defining measurable program objectives, indicators and mechanisms for data collection, analysis and use. The **UN process indicators**, supplemented with other indicators related to management, service delivery, quality of care, community engagement and other activities should be used to monitor EmOC programs in emergencies. Most of these indicators have been included in the initial assessment. Repeating these indicators through the regular monitoring system and at mid- and end-term evaluations will demonstrate program progress and identify areas for improvement.

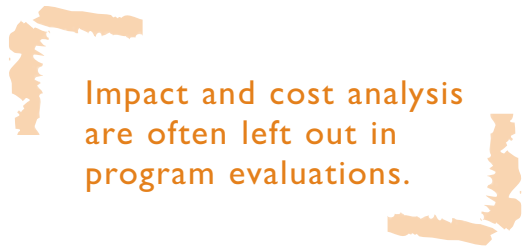
Key indicators to be monitored are:

- Population: Change and movement of refugee population
- Caseload: Number of new and repeat ANC cases, number attending VCT/PMTCT, number of deliveries and number of obstetric complications treated in health facilities, number of obstetric complications referred in and out
- Quality of care: Case fatality rate of major obstetric complications, percentage of deliveries with partograph used, availability of clinical guidelines, clients' satisfaction
- Supplies and drugs: For outpatient, infection control, antenatal care, normal and complicated deliveries, contraceptives, neonatal resuscitation
- Management: Facilitative supervision, health workers trained/retrained

The following sources can be used to collect data for monitoring:

- ❖ Daily reports on antenatal clients, deliveries, obstetric complications and Cesarean sections
- ❖ Monthly summary report
- ❖ Stock register and log books
- ❖ Registers on referral, death, laboratory, pharmacy and blood bank
- ❖ Others, such as observation of EmOC services (e.g., management of second and third stage of labor), community key informant interview, interview of health care providers, focus group discussions with women, ANC and postnatal exit interviews

A formal program evaluation can be conducted at mid-term and end of project. The evaluation team should consist of both internal and external resource people. The evaluation should detail the objectives and implementation of the program, results and impact, geographic area and beneficiary population, cost, experiences and lessons, and recommendations. Quite often, program evaluations do not include cost analysis explicitly.



Impact and cost analysis
are often left out in
program evaluations.

Tools

- ❖ *Guidelines for Monitoring the Availability and Use of Obstetric Services*, UNICEF, WHO and UNFPA. 1997. These guidelines provide definitions of UN process indicators, minimum standard on coverage and use of EmOC services and how to calculate the UN process indicators.
- ❖ *Maternal and Newborn Standards and Indicators Compendium*. USAID and Care. December 2004. This document is designed to assist program designers to select the essential components and actions for their chosen interventions and to select appropriate indicators. It is also helpful for assessing program effectiveness through monitoring and evaluation, and for creating protocols and tools for service delivery. It covers five areas: pre-conception/inter-conception, antenatal, labor and delivery, post-partum care and newborn care.
http://www.coregroup.org/working_groups/safe_motherhood_checklists-1.pdf.
- ❖ The 1999 AVSC Manual on Facilitative Supervision (working paper). This is a handbook on facilitative supervision which “describes a system of management in which supervisors at all levels of a health institution focus on the needs of the staff they oversee.” This approach emphasizes mentoring, joint problem solving and two-way communication between the supervisor and those being supervised. Includes self-instructional exercises. (2001)
- ❖ *Surveillance and monitoring, Reproductive Health in Refugee Situations: An Inter-agency Field Manual*, UNHCR. 1999. It describes: a system framework; an eight-step approach to surveillance and monitoring; overview of data sources; RH indicators for various phases of an emergency; reference rates and ratios for RH indicators; sample worksheet for monthly RH reporting. www.unhcr.org or www.rhrc.org.

- ❖ *Facilitative Supervision: A Vital Link in Quality Reproductive Health Service Delivery.* AVSC International, New York. 1999. This manual describes how a health facility or institution can move from a traditional supervisory system to a more facilitative or joint problem-solving strategy, to ensure continuous improvement in the quality of reproductive health services. Order at www.engenderhealth.org/pubs.
- ❖ Susan Purdin. *Design, Monitoring and Evaluation of Reproductive Health Services in Refugee Situations: Training Modules for the Health Team.* CD-Rom. 2005. The Reproductive Health Response in Conflict Consortium. Available by emailing info@rhrc.org.
- ❖ Anne Paxton, Deborah Maine and Nadia Hijab. *AMDD Workbook, Using the UN Process Indicators of EmOC services. Questions and Answers.* Columbia University. May 2003. This manual has a practical question and answer section to address the common concerns around the UN process indicators and methods of calculation. It is especially valuable to persons who conduct the EmOC baseline assessment the first time. Order from AMDD, Columbia University website: <http://cpmncnet.columbia.edu/dept/sph/popfam/amdd/>.

Further reading:

- ❖ The Magpie Trial Collaboration Group. 2002. "Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: a randomized placebo-controlled trial." *Lancet*. 359 (9321). 1 June 2002: 1877-1890.
- ❖ *Managing Maternal and Child Health Programmes: A Practical Guide.* WHO. This guide describes a wide range of strategies and interventions that can be used to improve the management of maternal and child health programs in developing countries. (bookorders@who.ch)
- ❖ WJ Prendiville, D Elbourne, S McDonald. "Active versus expectant management in the third stage of labour." *The Cochrane Database of Systematic Reviews* 2000, Issue 3. Art. No.: CD000007. DOI: 10.1002/14651858.CD000007.
- ❖ F Forna, AM Gülmezoglu. "Surgical procedures to evacuate incomplete abortion." *The Cochrane Database of Systematic Reviews* 2001, Issue 1. Art. No.: CD001993. DOI: 10.1002/14651858.CD001993.
- ❖ DR Elbourne, WJ Prendiville, G Carroli, J Wood, S McDonald. "Prophylactic use of oxytocin in the third stage of labour." *The Cochrane Database of Systematic Reviews* 2001, Issue 4. Art. No.: CD001808. DOI: 10.1002/14651858.CD001808.
- ❖ F Smaill, GJ Hofmeyr. "Antibiotic prophylaxis for cesarean section." *The Cochrane Database of Systematic Reviews* 2002, Issue 3. Art. No.: CD000933. DOI: 10.1002/14651858.CD000933.
- ❖ V Flenady, J King. "Antibiotics for prelabour rupture of membranes at or near term." *The Cochrane Database of Systematic Reviews* 2002, Issue 2. Art. No.: CD001807. DOI: 10.1002/14651858.CD001807.



Annexes

List of Resources

Annex I. EmOC rapid assessment tool¹⁹

I. Background Information

Date of data collection: _____ / _____ / _____
Day Month Year

Name of facility: _____ District: _____

B1. Type of facility: Hospital
 Center
 Other (specify): _____

B2. How many beds are there in this facility for female patients? _____

B3. What is the catchment area population _____ and are _____ (Km²)?

B4. What is the refugee or displaced population _____ and area _____ (Km²)?

B5. Are there other health facilities in the area?
(in the same town or within 5-10km) that provide delivery care? Yes No

B6. Is the health facility accessible to the refugees and displaced population? Yes No

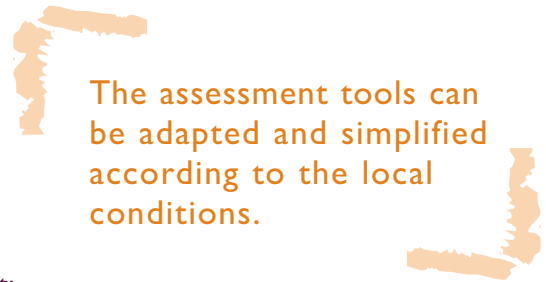
B7. How far is the facility from the area where refugees or displaced people stay? _____ Km.

B8. What is the main means of transport to the health facility? _____

Comments:

Name and title of person completing facility assessment form: _____

Medical training/Degree of person completing assessment form: _____



¹⁹ Forms 1-6 are developed by AMDD and adapted for humanitarian programs by the consultant.
Form 7 is adapted from Population Council, Kenya.

2. Maternity Services

Instructions: Please complete the following questions based on discussions with health care providers and review of facility registers, logbooks and other records.

No.	Question	Response	
1	Are there enough beds for the current caseload of obstetric and gynecology clients?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	What is the condition of the beds? (Mark one response)	<input type="checkbox"/> Most are in good shape <input type="checkbox"/> Most need minor repair <input type="checkbox"/> Most need major repair or replacement	
3	Are obstetric and gynecology clients in a separate room from other female inpatients?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Maternity/female ward: if there is more than one room, focus on Ob/Gyn beds			
4	Is it clean?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5	Is it well lit during the day (natural light)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6	Are there working lights for nighttime?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7	Does it get overcrowded? (patients and visitors)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8	Is there a functioning toilet area for the ward?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9	Are the toilets clean?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10	Are curtains or other means being used to establish privacy during examinations?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
11	Are there ceiling fans or other means of ventilation?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
12	Are blankets or heat available in cold climates?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
13	Are empty beds clean and ready for the next patient?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
14	Who provides linens for patients?	Hospital <input type="checkbox"/>	Family <input type="checkbox"/>
15	Who provides food for patients?	Hospital <input type="checkbox"/>	Family <input type="checkbox"/>
16	For unaccompanied women, does the hospital provide food?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
17	How would you characterize provider/patient interaction in the ward?	<input type="checkbox"/> Cold/Indifferent <input type="checkbox"/> Punitive/Angry <input type="checkbox"/> Warm/Helpful <input type="checkbox"/> Unable to observe	
	Overall, how would you describe the state of the ward? The comfort of patients and their attendants?		
The labor/delivery room:			
18	Are there enough delivery tables for the current caseload?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
19	Is it clean?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
20	Is there adequate light for procedures?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
21	Is there a functioning toilet?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
22	Are the toilets clean?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
23	Are curtains or other means used to establish privacy?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
24	Are delivery tables clean and ready for the next patient?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Maternity Services continued ►

No.	Question	Response		
25	Are supplies and equipment organized? (i.e., designated trolley or cabinet)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
26	Are supplies and equipment easily accessible?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
27	Is there a stock of emergency medications?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
28	Is the stock of emergency medications easily accessible?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
29	Do health care providers routinely use the partograph to monitor labor and childbirth?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
30	Are any of the following procedures routinely performed for women during delivery?	Episiotomies	Yes <input type="checkbox"/>	No <input type="checkbox"/>
31		Shaving	Yes <input type="checkbox"/>	No <input type="checkbox"/>
32		Enemas	Yes <input type="checkbox"/>	No <input type="checkbox"/>
33	Overall, how would you describe the state of the labor and delivery area?			
Payment for services				
34	Is formal payment required before entering the facility? (i.e., registration fee)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
35	In an emergency, is payment required <i>before</i> treatment is provided to a woman?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
36	In an emergency, is payment/purchase of medications or other supplies required before treatment is provided to a woman?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
37	Which of these possible costs is the most expensive for the woman and her family?	Check one: <input type="checkbox"/> Admission fees <input type="checkbox"/> Medications <input type="checkbox"/> Fees for procedures <input type="checkbox"/> Payment to staff <input type="checkbox"/> Food		
Please estimate the following costs, including fees, payments, medications, etc., to be paid by the patients and their families, in consultation with staff:				
38	What is the cost for a normal vaginal delivery?			
39	What is the cost for a Cesarean section?			
40	What is the cost for blood transfusion?			
41	What is the cost for vacuum or forceps delivery?			
42	What is the cost for MVA?			
43	Describe how costs and fees are recovered in this facility. (i.e., formal vs. informal payments, payments required before treatment or after, etc.)			

24-hour Availability of Services

Instructions: Please complete the following questions based on discussions with health care providers. To confirm responses, review the registers or records for cases treated. Do this outside of working hours.

				If NO, what days and hours are services available?	What is the estimated time of delay for services in off-hours?
44	Are labor and delivery services available at this facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
45	Is the operating theater available for procedures at this facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
46	Are medications available for EmOC procedures at this facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
47	Are laboratory services available for transfusions at the facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
48	Is there blood supply available for transfusions at this facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
49	Are anesthesia services available at this facility 24 hours a day, every day?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		

EmOC Functions

Instructions: The following data should be collected by looking at the facility's registers and records (e.g., maternity ward register, delivery book, general admissions register, etc.)

Were the following services performed at least once in the last three months?		Response	
F1	Parenteral antibiotics	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F2	Parenteral oxytocics	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F3	Parenteral sedatives/anticonvulsants	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F4	Manual removal of placenta	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F5	Removal of retained products (e.g., manual vacuum aspiration)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F6	Assisted vaginal delivery (e.g., vacuum extraction)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F7	Blood transfusion	Yes <input type="checkbox"/>	No <input type="checkbox"/>
F8	Cesarean section	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If yes to all questions F1-F8, the facility provides Comprehensive EmOC. If yes to F1-F6, but no to F7 and/or F8, the facility provides Basic EmOC. If no to any of questions F1-F6, the facility is Non-EmOC.		F9. Current EmOC Status: <input type="checkbox"/> Comprehensive EmOC <input type="checkbox"/> Basic EmOC <input type="checkbox"/> Non-EmOC	
F10	In the last month, how many obstetric cases were referred:	To this facility?	
F11		From this facility?	

3. Equipment and Supplies

This list of supplies is designed to assess if basic items required for emergency obstetric functions and for normal delivery are available in the facility. These items were chosen to help identify readiness to perform these functions in certain areas of a facility; this is not intended to be an exhaustive inventory of equipment and supplies.

Please check the box when the item listed can be found in the area being observed (or nearby, as appropriate). For equipment, check to see that it is in working order. You may also want to ask if there have been stockouts of these items in the last few months (include in comments at end of section).

Item		Acute care/ procedure area ²⁰	Delivery room	Operating theater
Infection prevention				
S1	◆ Running water			
S2	◆ Soap			
S3	◆ Antiseptics, e.g., betadine, chlorhexidine			
S4	◆ Sterile gloves			
S5	◆ Non-sterile gloves			
S6	◆ Non-sterile protective clothing (e.g., aprons/macintosh)			
S7	◆ Decontamination container			
S8	◆ Bleach or bleaching powder			
S9	◆ Prepared disinfecting solution			
S10	◆ Regular trash bin			
S11	◆ Covered contaminated waste bin			
S12	◆ Puncture-proof sharps containers			
S13	◆ Mayo stand (or equivalent for establishing sterile tray/field)			
Basic items				
S14	◆ BP cuff and stethoscope			
S15	◆ Kidney basin, placenta dish			
S16	◆ Cotton wool, gauze			
S17	◆ Laceration repair kits			
S18	◆ IV solution, tubing and needles			
S19	◆ Needles and syringes (10 – 20cc)			
S20	◆ Patient transport – e.g., wheelchair, gurney, hammock			
S21	◆ Blankets			
Antibiotics				
S22	◆ Ampicillin			
S23	◆ Gentamycin			
S24	◆ Metronidazole			
S25	◆ Others (please list)			

²⁰ Acute care area refers to any place emergency obstetric procedures might be done outside of main delivery room or OT.

Item	Acute care/ procedure area ²⁰	Delivery room	Operating theater
Anticonvulsants			
S26	◆ Magnesium sulfate		
S27	◆ Calcium gluconate		
S28	◆ Diazepam (Valium)		
S29	◆ Hydralazine/labetolol/nifedipine (antihypertensives)		
Uterotonic drugs			
S30	◆ Oxytocin		
S31	◆ Ergometrine		
S32	◆ Misoprostol		
Assisted vaginal delivery			
S33	◆ Vacuum extractor (ventouse)		
S34	◆ Forceps		
Removal of retained products			
S35	◆ Manual vacuum aspiration (MVA), syringes and cannulas		
S36	◆ Curettes, dilators		
S37	◆ Pelvic procedure instruments (i.e., speculum, tenaculum, sound)		
Cesarean section			
S38	◆ Sterile C-section instrument kits		
S39	◆ Sutures – various sizes – 0, 2-0, 3-0		
S40	◆ Suction machine		
S41	◆ Sterile drapes, gowns		
S42	◆ Light – adjustable, shadowless		
Anesthesia and resuscitation			
S43	◆ Local anesthetics, e.g., lignocaine		
S44	◆ Anesthesia machine and inhalational agents		
S45	◆ Ketamine		
S46	◆ Spinal anesthesia drugs and supplies		
S47	◆ Nitrous oxide		
S48	◆ Oxygen cylinder, mask, tubing		
S49	◆ Resuscitation supplies, i.e., ambu-bag, oral airways		
Newborn supplies			
S50	◆ Clean, dry towels		
S51	◆ Clean bulb syringe		
S52	◆ Ambu-bag		
S53	◆ Cord supplies (clamps/ties, scissors)		

Equipment and Supplies continued ►

3. Equipment and Supplies (Continued)

Item		Acute care/ procedure area ²⁰	Delivery room	Operating theater
Pain management supplies				
S54	◆ Oral analgesics – paracetamol			
S55	◆ Parenteral analgesics			
S56	◆ Parenteral narcotics – i.e., pethidine, morphine			
S57	◆ Naloxone, promethazine			
Blood transfusion — for these items, you will need to visit the laboratory				
S58	◆ Blood bags			
S59	◆ Needles and tubing for transfusion			
S60	◆ Blood screening reagents			
S61	◆ Microscope			
S62	◆ Refrigerator			
Comments on Equipment and Supplies:				

4. Personnel

Please complete the following section on staffing at this facility. Please write NA if a cadre is not applicable for this facility or country.

Cadre		Number of positions	Number of staff working in the facility in the last month?	Is at least one person on duty and physically present 24 hours a day?		Years of pre-service training for this cadre?
P1	OB/GYN			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P2	Medical officer			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P3	Registered nurse – midwife			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P4	Enrolled midwife			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P5	Registered nurse			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P6	Enrolled nurse			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P7	Enrolled CHN			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P8	Clinical officer			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P9	Registered CO			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P10	Nursing assistant/aides			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P11	Anesthetist – doctor			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P12	Anesthetist – non-doctor			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P13	Lab. Technician			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P14	Pharmacist			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
P15	Are there trainees working in this facility?			Yes <input type="checkbox"/>		No <input type="checkbox"/>
P16	Type of training program/cadre of personnel?					
P17	What are their responsibilities in this facility during training?					
P18	If there is a guard or gatekeeper, when are they on duty in the facility? (check all that apply)			<input type="checkbox"/> During the day <input type="checkbox"/> At night <input type="checkbox"/> On the weekends <input type="checkbox"/> No guard/gatekeeper		
P19	How many doctors have been trained in EmOC?					
P20	How many nurses and midwives have been trained in EmOC?					
P21	Who is responsible for management of the facility? If there is more than one person, briefly explain their responsibilities.					
P22	In your opinion, do staff work as a team (to respond to emergencies)?			Yes <input type="checkbox"/>		No <input type="checkbox"/>
P23	In your opinion, are managers supportive of staff?			Yes <input type="checkbox"/>		No <input type="checkbox"/>

5. Information systems

To understand the completeness of information recorded in the facility, ask staff to identify *all* sources of information on women with obstetric complications who are admitted to the facility. Some possible data sources are:

- ◆ general admission register
- ◆ delivery register
- ◆ maternity ward register
- ◆ female ward register
- ◆ operating theater register
- ◆ gynecology register
- ◆ abortion register (PAC register)
- ◆ individual patient records
- ◆ family planning register
- ◆ discharge register
- ◆ death/morgue register

For the registers that are *most often* used to record obstetric complications, please answer the following questions:

Items		Response	
1	Are the forms or registers easily accessible to staff?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2	Are they well maintained, up to date?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3	Are all columns complete?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4	Is information duplicated in different registers?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5	Is there a column for recording diagnoses in the key registers?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6	Is this column routinely filled out?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7	Is there a column in the register for recording treatment provided to the woman?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
8	Is there a column for recording the outcome of treatment (woman alive or dead)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
9	Is it clear which cases were obstetric complications?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
10	Are there regular reviews or analysis of records by staff?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
11	Who is responsible for filling out these records/registers?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
12	Are these records filled out as events occur (24 hours/7 days) or are they filled out at particular times (e.g., at the end of the shift)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Comments on data collection and registers:

6. Facility Case Summary Form

Process Indicators	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year's Total
Number of obstetric admissions													
Number of deliveries													
Number of Cesarean sections													
Admission to treatment (definitive intervention) interval													
Maternal deaths – direct causes													
Hemorrhage													
Obstructed/prolonged labor													
Ruptured uterus													
Postpartum sepsis													
Pre-eclampsia/eclampsia													
Complications of abortion													
Ectopic pregnancy													
Others (specify)													
TOTAL													
Maternal deaths – indirect causes													
Malaria													
HIV/AIDS													
Anemia													
TB													
Others (specify)													
TOTAL													

Facility Case Summary Form continued ▲

6. Facility Case Summary Form (Continued)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year's Total
Obstetric complications (treated) – direct causes													
Hemorrhage													
Obstructed/prolonged labor													
Ruptured uterus													
Postpartum sepsis													
Pre-eclampsia/eclampsia													
Complications of abortion													
Ectopic pregnancy													
Others (specify)													
TOTAL													
Obstetric complications (treated) – indirect causes													
Infectious hepatitis													
Malaria													
HIV/AIDS													
Anemia													
TB													
Others (specify)													
TOTAL													

7. Health provider knowledge & recommendations of treatment for maternal neonatal health

This tool should be used for the health care provider in any unit who attends most of the deliveries – in order to assess the “highest level” of competence.			
P1	District		Date and time of Record Review
P2	Name of facility		
P3	Type of facility Hospital = 1, H/C = 2, Dispensary = 3 Nursing H = 4, Clinic = 5	ENTER CODE	
P4	Facility administration (Gov = 1, Mission = 2, Private = 3)	ENTER CODE	
P5	What is your qualification? <i>Tick/check one appropriate response ✓</i>	<input type="checkbox"/> 1. Obstetrician/Gynecologist <input type="checkbox"/> 2. Medical officer <input type="checkbox"/> 3. Clinical officer <input type="checkbox"/> 4. Registered nurse <input type="checkbox"/> 5. Registered midwife <input type="checkbox"/> 6. Enrolled midwife <input type="checkbox"/> 7. Enrolled nurse/midwife <input type="checkbox"/> 8. Reg. community health nurse <input type="checkbox"/> 9. Enrolled community health nurse <input type="checkbox"/> 10. Bsc. Nursing <input type="checkbox"/> 11. Other (specify):	<i>Adapt the list to suit local situation</i>
P6	Gender of provider	<input type="checkbox"/> Male <input type="checkbox"/> Female	
For the following questions do not read out options but tick/check spontaneous responses and probe			
P7	What are the key aspects of quality antenatal care?	<input type="checkbox"/> 1. Four comprehensive visits <input type="checkbox"/> 2. Ensuring woman has an individual birth plan <input type="checkbox"/> 3. Preventing disease and promoting health <input type="checkbox"/> 4. Detecting existing diseases and managing complications <input type="checkbox"/> 5. Promoting safe delivery <input type="checkbox"/> 6. Promoting breastfeeding	Essential aspects If variables 1, 2 and 3 are all mentioned enter 1 in box below. Enter 0 if less than the essential three are entered <input type="checkbox"/>
P7a	Do you practice focused ANC?	No <input type="checkbox"/> Yes <input type="checkbox"/>	
P8	When was the last time that you attended a delivery? <i>Tick/check one appropriate response ✓</i>	<input type="checkbox"/> 1. Never <input type="checkbox"/> 2. In the past week <input type="checkbox"/> 3. In the past month <input type="checkbox"/> 4. In the past 6 months <input type="checkbox"/> 5. 6 months ago or more	If never , end interview
P9	How did you establish the patient was in labor? <i>(Allow multiple responses)</i> <i>Tick spontaneous responses ✓</i>	<input type="checkbox"/> 1. Regular uterine contraction <input type="checkbox"/> 2. Cervical dilatation <input type="checkbox"/> 3. Show (bloody mucous discharge) <input type="checkbox"/> 4. Breakage of water/ruptured membranes <input type="checkbox"/> 5. Other (specify):	Essential signs If variables 1, 2 are both mentioned enter 1 in box below. Enter 0 if less than the essential two are entered <input type="checkbox"/>

Health provider knowledge & recommendations of treatment for maternal neonatal health continued ►

7. Health provider knowledge & recommendations of treatment for maternal neonatal health (continued)

<p>P10</p>	<p>What observations or monitoring do you normally carry out? Tick spontaneous responses ✓ (Allow multiple responses)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Monitor fetal heart rate pattern <input type="checkbox"/> 2. Assess degree of molding <input type="checkbox"/> 3. Assess cervical dilatation <input type="checkbox"/> 4. Assess descent of head <input type="checkbox"/> 5. Monitor uterine contractions <input type="checkbox"/> 6. Monitor maternal blood pressure <input type="checkbox"/> 7. Monitor maternal respiratory rate <input type="checkbox"/> 8. Monitor maternal temperature <input type="checkbox"/> 9. Monitor maternal pulse <input type="checkbox"/> 10. Check the urine <input type="checkbox"/> 11. Other (specify): 	<p>Essential actions If variables 1, 2, 3, 4, 5 and 6 are all mentioned enter 1 in box below.</p> <p>Enter 0 if less than the essential six are entered <input type="checkbox"/></p>
<p>P11</p>	<p>Where do you normally record these observations?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. On a partograph <input type="checkbox"/> 2. In patients' notes <input type="checkbox"/> 3. On partograph and patients' notes <input type="checkbox"/> 4. On antenatal card <input type="checkbox"/> 5. On a piece of paper <input type="checkbox"/> 6. Other (specify): 	<p>Essential action If variable 1 is mentioned enter 1 in box below.</p> <p>Enter 0 if variable one not mentioned <input type="checkbox"/></p>
<p>P12</p>	<p>Last time you attended to a delivery, what was the immediate care you gave to the newborn?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. After birth of head, wipe face, nose, mouth <input type="checkbox"/> 2. Cord care (sterile cut 4 – 6 cm/umbilicus) <input type="checkbox"/> 3. Ensure baby is breathing <input type="checkbox"/> 4. Thermal protection <input type="checkbox"/> 5. Breastfeeding initiated within one hour <input type="checkbox"/> 6. Assess/examine newborn within one hour <input type="checkbox"/> 7. Baby weighed <input type="checkbox"/> 8. Eye prophylaxis 	<p>Essential action If 1, 2, 3, 4 are all mentioned enter 1 in box below.</p> <p>Enter 0 if less than the essential four not mentioned <input type="checkbox"/></p>
<p>P13</p>	<p>When a woman comes with or develops heavy bleeding after delivery, what signs do you look for? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Uncontracted uterus <input type="checkbox"/> 2. Signs of shock (dizziness, low BP) <input type="checkbox"/> 3. Amount of external bleeding <input type="checkbox"/> 4. Retained products/placenta <input type="checkbox"/> 5. Check if bladder is full <input type="checkbox"/> 6. Genital tract injuries <input type="checkbox"/> 7. Signs of anemia <input type="checkbox"/> 8. Other (specify): 	<p>Essential Signs If variables: 1, 2, 3, 4, and 5 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential five are entered <input type="checkbox"/></p>
<p>P14</p>	<p>When a woman comes with or develops heavy bleeding after delivery, what action do you take? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Massage the fundus <input type="checkbox"/> 2. Empty the woman's bladder <input type="checkbox"/> 3. Give ergometrine im or iv (Oxytocin) <input type="checkbox"/> 4. Start IV fluids <input type="checkbox"/> 5. Take blood for Hb, and X-matching <input type="checkbox"/> 6. Examine the woman for lacerations <input type="checkbox"/> 7. Manual removal of retained products <input type="checkbox"/> 8. Refer <input type="checkbox"/> 9. Raise foot of bed <input type="checkbox"/> 10. Other (specify): 	<p>Essential Actions If variables: 1, 2, 3, and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>

<p>P15</p>	<p>When a woman you have just delivered has a retained placenta, what actions do you take? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Empty urinary bladder <input type="checkbox"/> 2. Apply controlled cord traction <input type="checkbox"/> 3. Repeat oxytocics <input type="checkbox"/> 4. Apply manual removal of the placenta <input type="checkbox"/> 5. Give IV fluids <input type="checkbox"/> 6. Monitor vital signs for shock & act <input type="checkbox"/> 7. Check uterus is well contracted <input type="checkbox"/> 8. Test blood for group and cross match <input type="checkbox"/> 9. Prepare for theater <input type="checkbox"/> 10. Refer <input type="checkbox"/> 11. Other (specify): 	<p>Essential Actions If variables: 1, 2, 3, and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
<p>P16</p>	<p>When a woman comes with general malaise 48 hours after delivery, what signs do you look for? Tick spontaneous multiple responses ✓ (Probe: Anything else?)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. High pulse <input type="checkbox"/> 2. High fever <input type="checkbox"/> 3. Septic shock (unrecordable BP) <input type="checkbox"/> 4. Sub-involuted tender uterus <input type="checkbox"/> 5. Foul smelling lochia <input type="checkbox"/> 6. Tender abdomen 	<p>Essential Signs If variables: 1, 2, 3, 4 and 5 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential five are recorded <input type="checkbox"/></p>
<p>P17</p>	<p>When a woman complains of malaise 48 hours after delivery, what do you do? Tick spontaneous responses ✓ (Probe: Anything else?)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Start IV fluids <input type="checkbox"/> 2. Give parenteral antibiotics before referral to doctor or hospital <input type="checkbox"/> 3. Administer analgesics/antipyretic <input type="checkbox"/> 4. Take blood for BS & give malaria prophylaxis in endemic areas <input type="checkbox"/> 5. Palpate abdomen <input type="checkbox"/> 6. Examine lochia, perineum and breasts <input type="checkbox"/> 7. Refer 	<p>Essential Actions If variables: 1, 2, 3 and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
<p>P18</p>	<p>What danger signs would you look for if a pregnant woman comes with suspected severe malaria? Tick spontaneous responses ✓ (Allow multiple responses)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. High temperature (above 38C) <input type="checkbox"/> 2. Confusion/Coma <input type="checkbox"/> 3. Pallor <input type="checkbox"/> 3. Jaundice (yellow eyes) <input type="checkbox"/> 4. Status of the fetus <input type="checkbox"/> 5. Dizziness <input type="checkbox"/> 6. Joint pains <input type="checkbox"/> 7. Dehydration 	<p>Essential Signs If variables: 1, 2, 3 and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
<p>P19</p>	<p>When a woman comes for antenatal visit with signs of severe malaria, what must you do immediately? Tick spontaneous responses ✓ (Allow multiple responses)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Admit straight away <input type="checkbox"/> 2. Start on vital signs chart <input type="checkbox"/> 3. IV quinine and dextrose <input type="checkbox"/> 4. Do blood slide for MPS <input type="checkbox"/> 5. Check hemoglobin <input type="checkbox"/> 6. Refer 	<p>Essential Actions If variables: 1, 2 and 3 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential three are entered <input type="checkbox"/></p>

Health provider knowledge & recommendations of treatment for maternal neonatal health continued ►

7. Health provider knowledge & recommendations of treatment for maternal neonatal health (continued)

Newborn care			
P20	<p>What are the signs for asphyxia neonatorum? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<p><input type="checkbox"/> 1. Heart rate less 100BPM <input type="checkbox"/> 2. Gaspig respiration <input type="checkbox"/> 3. Slight muscle flexion <input type="checkbox"/> 4. Poor or no reflexes <input type="checkbox"/> 5. Blue to pale color</p>	<p>Essential Signs If variables: 1, 2, 3, 4 and 5 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential five are entered <input type="checkbox"/></p>
P21	<p>If a newborn fails to breathe at birth what action do you take? Tick spontaneous responses ✓ (Allow multiple responses)</p>	<p><input type="checkbox"/> 1. Clear the airways of blood and mucus <input type="checkbox"/> 2. Dry and wrap baby in a warm clean cloth <input type="checkbox"/> 3. Place under radiant heat warmer <input type="checkbox"/> 4. Assist breathing with ambu-bag <input type="checkbox"/> 5. Do cardiac massage <input type="checkbox"/> 6. Provide suction if there is meconium</p>	<p>Essential Actions If variables: 1, 2, 3, 4 and 5 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential five are entered <input type="checkbox"/></p>
P22	<p>What are the signs and symptoms of infection in the newborn (sepsis)? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<p><input type="checkbox"/> 1. Poor or no breastfeeding <input type="checkbox"/> 2. Hypothermia or hyperthermia <input type="checkbox"/> 3. Restlessness or irritability <input type="checkbox"/> 4. Respiratory difficulty <input type="checkbox"/> 5. Foci of infection may be found in throat, skin, eyes <input type="checkbox"/> 6. No apparent source of infection</p>	<p>Essential Signs If variables: 1, 2, 3 and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
P23	<p>When a newborn is presented with signs of infection what action do you take? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)</p>	<p><input type="checkbox"/> 1. Continue breastfeeding topped with EBM via NG tube if necessary <input type="checkbox"/> 2. Keep the baby warm <input type="checkbox"/> 3. Keep airway clear <input type="checkbox"/> 4. Start antibiotics and refer <input type="checkbox"/> 5. Explain situation/condition to the mother or caregiver</p>	<p>Essential Actions If variables: 1, 2, 3 and 4 are all mentioned enter 1 in box</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
P24	<p>When a newborn is less than 2.5 kgs, what extra care do you provide?</p>	<p><input type="checkbox"/> 1. Ensure thermal protection (skin-to-skin, etc.) <input type="checkbox"/> 2. Provide extra support to mother to establish and maintain breastfeeding <input type="checkbox"/> 3. Monitor baby closely for first 24 hours <input type="checkbox"/> 4. Ensure infection prevention <input type="checkbox"/> 5. Monitor sucking capability <input type="checkbox"/> 6. Refer to hospital</p>	<p>Essential Actions If variables 1, 2, 3 and 4 are all mentioned enter 1 in box below.</p> <p>Enter 0 if less than the essential four are entered <input type="checkbox"/></p>
P25	<p>What procedures are no longer carried out routinely during labor and delivery?</p>	<p><input type="checkbox"/> 1. Artificial rupture of membranes <input type="checkbox"/> 2. Episiotomies <input type="checkbox"/> 3. Shaving <input type="checkbox"/> 4. Routine suction of newborn babies <input type="checkbox"/> 5. Bathing the baby within 24 hours <input type="checkbox"/> 6. Milking of cord <input type="checkbox"/> 7. Enema</p>	<p>Essential Actions Enter 1 in box if 3 or more are mentioned.</p> <p>Enter 0 if less than 3 are mentioned. <input type="checkbox"/></p>

P26	What actions should you take for PMTCT during labor and delivery?	<input type="checkbox"/> 1. Provide NVP in early labor for HIV +ve woman <input type="checkbox"/> 2. Offer testing for those with unknown serostatus <input type="checkbox"/> 3. NVP to infant	Essential Actions If variables 1, 2 and 3 are all mentioned enter 1 in box below. Enter 0 if less than the essential three are entered <input type="checkbox"/>
Post-abortion care			
P27	What are the immediate complications of unsafe abortion?	<input type="checkbox"/> 1. Sepsis <input type="checkbox"/> 2. Bleeding <input type="checkbox"/> 3. Genital injuries <input type="checkbox"/> 4. Shock <input type="checkbox"/> 5. Other	Essential If variables: 1, 2, 3 and 4 are all mentioned enter 1 in box Enter 0 if less than the essential four are entered <input type="checkbox"/>
P28	When you encounter a woman with complications resulting from incomplete or unsafe abortions, what do you do? Tick spontaneous responses ✓ (Allow multiple responses) (Probe: Anything else?)	<input type="checkbox"/> 1. Assess the bleeding (Amount of vaginal) <input type="checkbox"/> 2. Assess the vital signs <input type="checkbox"/> 3. Start on IV fluids <input type="checkbox"/> 4. Start on antibiotics <input type="checkbox"/> 5. Do manual vacuum aspirations (MVA) <input type="checkbox"/> 6. Do vaginal examination <input type="checkbox"/> 7. Do conventional evacuation (D&C) <input type="checkbox"/> 8. Provide counseling <input type="checkbox"/> 9. Refer	Essential Actions If variables: 1, 2, 3, 4 and 5 are all mentioned enter 1 in box Enter 0 if less than the essential five are entered <input type="checkbox"/>
P29	What information do you give to patients who have been treated for complications of incomplete or unsafe abortion? Tick spontaneous responses ✓ (Allow multiple responses)	<input type="checkbox"/> 1. Information on STI/HIV prevention <input type="checkbox"/> 2. Cancer of cervix/breast prevention <input type="checkbox"/> 3. Family planning counseling & services <input type="checkbox"/> 4. Information on infertility prevention <input type="checkbox"/> 5. Information on social support <input type="checkbox"/> 6. Consequences of abortion <input type="checkbox"/> 7. Others (specify):	
Gender violence in pregnancy and rape			
P30	For a woman who has undergone female genital cutting (FGC), what are the potential risks during labor?	<input type="checkbox"/> 1. Genital tears <input type="checkbox"/> 2. Obstructed labor <input type="checkbox"/> 3. Obstetric fistula <input type="checkbox"/> 4. Neonatal asphyxia <input type="checkbox"/> 5. Birth trauma to baby	
P31	When did you last see a woman with complications of FGC in labor?	<input type="checkbox"/> 1. Perform episiotomy <input type="checkbox"/> 2. Monitor with partograph <input type="checkbox"/> 3. Refer to doctor or hospital <input type="checkbox"/> 4. Open up infibulations <input type="checkbox"/> 5. Reconstruct the vulva	
P32	When a woman with FGC-associated prolonged labor presents, what action do you take?	<input type="checkbox"/> 1. Perform episiotomy <input type="checkbox"/> 2. Monitor with partograph <input type="checkbox"/> 3. Refer to doctor or hospital <input type="checkbox"/> 4. Open up infibulations <input type="checkbox"/> 5. Reconstruct the vulva	

Health provider knowledge & recommendations of treatment for maternal neonatal health continued ►

7. Health provider knowledge & recommendations of treatment for maternal neonatal health (continued)

P33	<p>When a woman presents to antenatal clinic with signs of physical abuse, what do you look for?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Vaginal bleeding <input type="checkbox"/> 2. Signs of shock (rapid pulse, low BP) <input type="checkbox"/> 3. Tense, tender abdomen <input type="checkbox"/> 4. Decreased fetal movements <input type="checkbox"/> 5. Fetal distress <input type="checkbox"/> 6. Absent fetal heart rate <input type="checkbox"/> 7. Emotional disturbances
P34	<p>When a woman who has been raped presents, what do you do?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Advise her to report to the police <input type="checkbox"/> 2. Fill in the police form <input type="checkbox"/> 3. Pre- and post-counseling for HIV <input type="checkbox"/> 4. Counsel for pregnancy prevention <input type="checkbox"/> 5. Provide emergency contraception <input type="checkbox"/> 6. Post-exposure prophylaxis for HIV <input type="checkbox"/> 7. Specimen collection <input type="checkbox"/> 8. Documentation of examination findings <input type="checkbox"/> 9. Other (specify):
Training		
P35	<p>Have you learned in college or from your practical experience or during continuing medical education (CME)/on-the-job training (OJT) how to: Read out the list and tick/check box if yes ✓</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Perform focused antenatal care <input type="checkbox"/> 2. Use partographs to manage labor <input type="checkbox"/> 3. Manually remove placentas <input type="checkbox"/> 4. Start IV infusions <input type="checkbox"/> 5. Check Hb <input type="checkbox"/> 6. Administer MgSO₄ for managing pre/eclampsia <input type="checkbox"/> 7. Adult/neonatal resuscitation <input type="checkbox"/> 8. Cervical cancer screening <input type="checkbox"/> 9. Bimanually compress uterus (external) <input type="checkbox"/> 10. Bimanually compress uterus (internal) <input type="checkbox"/> 11. Suture episiotomies (repair) <input type="checkbox"/> 12. Suture vaginal lacerations <input type="checkbox"/> 13. Suture cervical lacerations <input type="checkbox"/> 14. Suture 3rd/4th degree lacerations <input type="checkbox"/> 15. Perform vacuum extractions <input type="checkbox"/> 16. Perform MVA <input type="checkbox"/> 17. Other (specify):
P36	<p>Have you practiced these skills in the last 3 months? Read out the list and tick box if yes ✓</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1. Perform focused ANC <input type="checkbox"/> 2. Use partographs for labor <input type="checkbox"/> 3. Manually remove placentas <input type="checkbox"/> 4. Start IV infusions <input type="checkbox"/> 5. Check Hb <input type="checkbox"/> 6. Administer MgSO₄ for managing pre/eclampsia <input type="checkbox"/> 7. Bimanually compress uterus (external) <input type="checkbox"/> 8. Bimanually compress uterus (internal) <input type="checkbox"/> 9. Suture episiotomies (repair) <input type="checkbox"/> 10. Suture vaginal lacerations <input type="checkbox"/> 11. Suture cervical lacerations <input type="checkbox"/> 12. Suture 3rd/4th degree lacerations <input type="checkbox"/> 13. Perform vacuum extractions <input type="checkbox"/> 14. Perform MVA <input type="checkbox"/> 15. Other (specify):

Annex 2. Essential equipment, supplies and drugs

Infrastructure

- ◆ Electricity or generator
- ◆ Water supply
- ◆ Staff quarters
- ◆ Telephone/radio call/mobile phone
- ◆ Ambulance

Infection Prevention

- ◆ Running water
- ◆ Soap
- ◆ Antiseptics, e.g., betadine, chlorhexidine
- ◆ Sterile gloves
- ◆ Non-sterile gloves
- ◆ Non-sterile protective clothing, e.g., aprons/macintosh
- ◆ Decontamination container
- ◆ Bleach or bleaching powder
- ◆ Prepared disinfecting solution
- ◆ Regular trash bin
- ◆ Covered contaminated waste bin
- ◆ Puncture-proof sharps containers
- ◆ Mayo stand (or equivalent for establishing sterile tray/field)

Basic Items

- ◆ BP cuff and stethoscope
- ◆ Kidney basin, placenta dish
- ◆ Cotton wool, gauze
- ◆ Laceration repair kits
- ◆ IV solution, tubing and needles
- ◆ Needles and syringes (10 – 20cc)
- ◆ Patient transport – e.g., wheelchair, gurney, hammock
- ◆ Delivery beds, ante- and postnatal beds
- ◆ Blankets

Antibiotics

- ◆ Ampicillin
- ◆ Gentamycin
- ◆ Metronidazole

Anticonvulsants

- ◆ Magnesium sulfate
- ◆ Calcium gluconate
- ◆ Diazepam (Valium)
- ◆ Hydralazine/labetolol/nifedipine (antihypertensives)

Uterotonic Drugs

- ◆ Oxytocin
- ◆ Ergometrine
- ◆ Misoprostol

Assisted Vaginal Delivery

- ◆ Vacuum extractor (ventouse)
- ◆ Forceps

Removal of Retained Products

- ◆ Manual vacuum aspiration (MVA) syringes and cannulas
- ◆ Curettes, dilators
- ◆ Pelvic procedure instruments (i.e., speculum, tenaculum, sound)

Cesarean Section

- ◆ Sterile C-section instrument kits
- ◆ Sutures – various sizes – 0, 2-0, 3-0
- ◆ Suction machine
- ◆ Sterile drapes, gowns
- ◆ Light – adjustable, shadowless

Anesthesia and Resuscitation

- ◆ Local anesthetics, e.g., lignocaine
- ◆ Anesthesia machine and inhalational agents
- ◆ Ketamine
- ◆ Spinal anesthesia drugs and supplies
- ◆ Nitrous oxide
- ◆ Oxygen cylinder, mask, tubing
- ◆ Resuscitation supplies, i.e., ambu-bag, oral airways

Newborn Supplies

- ◆ Clean, dry towels
- ◆ Clean bulb syringe
- ◆ Ambu-bag
- ◆ Cord supplies (clamps/ties, scissors)

Pain Management Supplies

- ◆ Oral analgesics – paracetamol
- ◆ Parenteral analgesics
- ◆ Parenteral narcotics – e.g., pethidine, morphine
- ◆ Naloxone, promethazine

Blood Transfusion

- ◆ Blood bags
- ◆ Needles and tubing for transfusion
- ◆ Blood screening reagents
- ◆ Microscope
- ◆ Refrigerator

Contraceptives

Barrier methods

- Condoms (male and female)
- Diaphragms with spermicide (nonoxinol)

Hormonal

- Sub-dermal implants (e.g., Norplant)
- Low-dose combined oral contraceptive
- Progestin-only oral contraceptive
- Depot medroxy-progesterone acetate (injectable)

Intrauterine Device

- Copper-containing devices

Annex 2a. Pre-packaged medical kits, UNICEF

Medical Kits		Estimated Cost (USD), as of 2004
9975020	First aid kit A	19.29
9902217	Midwifery kit, 1-drugs	191.83
9902218	Midwifery kit, 2-equipment	147.37
9902219	Midwifery kit, 3-renewable	388.76
9902220	Midwifery kit, supplementary 1a-drugs	12.84
9908300	Obstetric, surgical kit, suppl.1-drugs	1517.81
9908303	Obstetric, surgical kit, suppl.1a-drugs	1517.81
9908301	Obstetric, surgical kit, suppl.2-equipment	855.14
9908302	Obstetric, surgical kit, suppl.3-renewable	1,850.81
9908400	Resuscitation kit, basic	388.53
9908200	Sterilization, kit C	441.20
9910000	Surg. inst., abdominal/SET	157.05
9910001	Surg. inst., basic surgery/SET	63.94
9910002	Surg. inst., curettage/SET	50.58
9910003	Surg. inst., delivery/SET	5.91
9910005	Surg. inst., dressing/SET	3.15
9910007	Surg. inst., embryotomy/SET	47.56
9910006	Surg. inst., exam/sut, vaginal/cervical/SET	27.56
9910004	Surg. inst., suture/SET	5.43

Midwifery kit, 1-drugs

Technical Specifications

This kit represents the basic requirements of drugs to facilitate about 50 normal deliveries.

Note: Drugs which need import authorizations and/or cold chain, are packed separately.

Please refer to catalogue number **9902220** – Midwifery kit, supplementary 1a – drugs.

Kit contents/Description:

- 5 x 1505040 – Amoxicillin 250 mg caps/tabs/PAC-1000
- 2 x 1555650 – Metronidazole 250 mg tabs/PAC-1000
- 20 x 1510000 – Tetracycline eye ointment 1%/TBE-5g
- 5 x 1555205 – Lidocaine inj 1% 50 ml vial/BOX-5
- 1 x 1564326 – Sodium chl. inj 0.9% 500 ml w/giv.s/BOX-20
- 1 x 1552106 – Glucose inj 5% 500 ml w/giv.set/BOX-20
- 1 x 1560811 – Sod. lactat. comp. inj 500 ml w/g. set/BOX-20
- 1 x 1543805 – Water for inj. 10 ml amp/BOX-50
- 2 x 1531505 – Chlorhexidine conc. sol. 5%/BOT-1000 ml
- 5 x 1553105 – Povidone iodine sol 10%/BOT-500 ml
- 1 x 0584005 – Test strips, urinalysis, gluc/prot/PAC-100
- 5 x 1550020 – Ferr.salt + folic acd 60 + 0.4 mg tab./PAC-1000
- 1 x 1559360 – Magn. sulph. inj 500mg/ml 10ml amp/BOX-100

Midwifery kit, 2-equipment

Technical Specifications

This kit consists of basic medical equipment (initial investment) for one delivery room and/or one maternity ward.

Kit contents/Description:

- 1 x 0683200 – Sphygmomanometer (adult), aneroid
- 1 x 0686000 – Stethoscope, binaural, complete
- 2 x 0686500 – Stethoscope, fetal, Pinard
- 2 x 0567000 – Tape-measure, vinyl-coated, 1.5 m/5 feet
- 2 x 0211000 – Basin, kidney, stainless steel, 825 ml
- 2 x 0279000 – Tray, dressing, ss, 300 x 200 x 30 mm
- 2 x 0225000 – Bowl, stainless steel, 600 ml
- 2 x 0216000 – Bowl, round, stainless steel, 4 L
- 2 x 0214020 – Bowl, round, polypropylene, 6 L
- 2 x 0333500 – Jar, forceps, pp, 180 mm, w/o cover
- 2 x 0334200 – Jar, thermometer, pp, 11 cm, w/o cover
- 2 x 0722500 – Forceps, dressing, Cheron, 250 mm
- 4 x 0270000 – Tray, instr, ss, 225 x 125 x 50 mm, w/cover
- 2 x 0514000 – Brush, hand, scrubbing, plastic
- 2 x 0361020 – Drawsheet, plastic, 90 x 180 cm
- 2 x 0305000 – Apron, protection, plastic
- 2 x 0385000 – Tourniquet, latex rubber, 75 cm
- 5 x 0575000 – Towel, huck, 430 x 500 mm

1 x 0557000 – Scale, infant, spring, 5 kg x 25 g
1 x 0557200 – Sling for use with 0557000 & 0557100
5 x 4460000 – Pen, ball-point, blue
2 x 4410001 – Book, exercise, A5, ruled-8mm, 48 pages

2 x 9910003 – Surg. inst., delivery/SET:

Set contents:

1 x 0770500 – Scissors, Mayo, 140 mm, cvd, b/b
1 x 0774700 – Scissors, gyneco, 200 mm, cvd, b/b
2 x 0726000 – Forceps, artery, Kocher, 140 mm, str

2 x 9910004 – Surg. inst., suture/SET:

Set contents:

1 x 0773550 – Scissors, Deaver, 140 mm, cvd, s/b
1 x 0743600 – Needle holder, Mayo-Hegar, 180 mm, str
1 x 0726000 – Forceps, artery, Kocher, 140 mm, str
1 x 0745500 – Scalpel handle, no.4
1 x 0737000 – Forceps, tissue, standard, 145 mm, str
1 x 0759820 – Probe, double-ended, 145 mm

Accessories/Spare parts/Consumables

Please note that the following item(s) is recommended as part of the kit, but must be ordered separately:

10 x 0481052 – Thermometer, clinical, 35-42°C

Midwifery kit, 3-renewable

Technical Specifications

This kit represents the basic requirements of renewable medical supplies (consumables) to facilitate around 50 normal deliveries. Most of the items are sterile and disposable.

Kit contents/Description:

20 x 0552000 – Soap, toilet, bar, 110 g, wrapped
25 x 0328501 – Gloves, surg, 7, ster, disp, pair
25 x 0329501 – Gloves, surg, 8, ster, disp, pair
25 x 0330102 – Gloves, gynaeco, 7.5, ster, disp, pair
2 x 0330011 – Gloves, exam, latex, medium, disp/BOX-100
2 x 0566005 – Tape, umbilical, 3 mm x 50 m, non-ster
50 x 0322010 – Catheter, urethral, CH12, ster, disp
50 x 0319000 – Extractor, mucus, 20 ml, ster, disp
50 x 0374015 – Tube, suction, CH10, L50 cm, ster, disp
25 x 0374025 – Tube, suction, CH14, L50 cm, ster, disp
10 x 0366010 – Syringe, feeding, 50 ml, conical, ster
1 x 0564013 – Sut, abs, DEC3, need 3/8 50 mm, round/BOX-36
1 x 0564004 – Sut, abs, DEC2, need 3/8, 26 mm, tri/BOX-36
50 x 0709220 – Cannula, IV short, 20 G, ster, disp

50 x 0744400 – Needle, scalp vein, 21 G, ster, disp
 100 x 0523055 – Compress, gauze, 10 x 10 cm, ster/PAC-5
 5 x 0523005 – Compress, gauze, 10 x 10 cm, n/ster/PAC/100
 10 x 0503010 – Tape, adhesive, Z.O., 2.5 cm x 5 m
 1 x 0782413 – Syringe, dispos, luer, 10 ml, ster/BOX-100
 1 x 0782205 – Syringe, dispos, luer, 2 ml, ster/BOX-100
 1 x 0747432 – Needle, disp, 21 G x 1.5", ster/BOX-100
 1 x 0747420 – Needle, disp, 19 G x 1.5", ster/BOX-100
 5 x 0519600 – Cotton wool, 500 g, roll, non-ster
 1 x 0782208 – Safety box f. used syrgs/ndls, 5 lt/BOX-25
 5 x 0572510 – Blanket, survival, 220 x 140 cm
 5 x 0521425 – Envelope, plastic, 10 x 15 cm,/PAC-100
 100 x 0746510 – Scalpel blade, ster, disp, no.22

Midwifery kit, supplementary Ia - drugs

Technical Specifications

This kit contains drugs that may need import authorizations (psychotropic) and/or drugs that need to be stored at specific temperatures (cold chain).

Please refer to Supply Directive: CF/SD/2004-002 – Ordering of narcotic and/or psychotropic pharmaceutical products.

Note: This kit is complementary to catalogue number 9902217 – Midwifery kit, I – drugs.

Kit contents/Description:

5 x 1562020 – Salbutamol oral inh. 0.1 mg/ds 200 ds
 5 x 1545300 – Oxytocin inj 10 IU 1 ml amp/BOX-10
 1 x 1543625 – Diazepam inj 5 mg/ml 2 ml amp/BOX-10

Obstetric, surgical kit, supplementary I, drugs

Technical Specifications

This kit represents the basic requirements of drugs to facilitate an average of 50 deliveries with complications, including Cesarean sections, laparotomy and other minor surgery in emergency.

Note: Drugs which need import authorizations and/or cold chain, are packed separately.

Please refer to catalogue number 9908303 – Obstetric, surgical kit, supplementary Ia – drugs.

Kit contents/Description:

32 x 1505098 – Ampicillin pdr/inj 500 mg vial/BOX-25
 21 x 1551960 – Gentamicin inj 40 mg/ml 2 ml amp/BOX-50
 10 x 1543805 – Water for inj. 10 ml amp/BOX-50
 3 x 1555680 – Metronidazole inj. 500 mg/100 ml vl/BOX-50
 20 x 1545200 – Methylegrom. inj 0.2 mg/ml 1 ml amp/BOX-10
 5 x 1514010 – Atropine inj 1 mg/ml 1 ml amp/BOX-10
 1 x 1523005 – Dexamethasone inj 4 mg/ml 1 ml amp/BOX-50

20 x 1555205 – Lidocaine inj 1% 50 ml vial/BOX-5
 20 x 1555280 – Lidocaine inj 2% 50 ml vial/BOX-5
 10 x 1555290 – Lidocaine 5% + gluc. 7.5% inj 2 ml amp/BOX-10
 12 x 1552416 – Hydralazine pdr/inj 20 mg amp/BOX-5
 3 x 1555650 – Metronidazole 250 mg tabs/PAC-1000
 20 x 1505048 – Amoxicillin 500 mg caps/tabs/PAC-100
 2 x 1555965 – Paracetamol 500 mg tabs/PAC-1000
 2 x 1544400 – Doxycycline 100 mg tabs/PAC-1000
 20 x 1546315 – Erythromycin 250 mg tabs/PAC-100
 20 x 1555700 – Ciprofloxacin 250 mg tabs/PAC-10
 30 x 1510000 – Tetracycline eye ointment 1%/TBE-5 g
 15 x 1552106 – Glucose inj 5% 500 ml w/giv. set/BOX-20
 15 x 1564326 – Sodium chl. inj 0.9% 500 ml w/giv. s/BOX-20
 30 x 1531505 – Chlorhexidine conc. sol. 5%/BOT-1000 ml
 30 x 1553105 – Povidone iodine sol 10%/BOT-500 ml
 3 x 1560811 – Sod. lactat. comp. inj 500 ml w/g. set/BOX-20
 1 x 0584005 – Test strips, urinalysis, gluc/prot/PAC-100
 6 x 1588360 – Water purif. (NaDCC) 1.67 g tabs/PAC-200
 1 x 1559360 – Magn. sulph. inj 500mg/ml 10ml amp/BOX-100

Obstetric, surgical kit, supplementary Ia – drugs

Technical Specifications

This kit contains drugs that may need import authorizations (psychotropic + narcotic) and/or drugs that need to be stored at specific temperatures (cold chain).

Please refer to Supply Directive: CF/SD/2004-002 – Ordering of narcotic and/or psychotropic pharmaceutical products.

Note: This kit is complementary to catalogue number 9908300 – Obstetric, surgical kit, supplementary I – drugs.

Kit contents/Description:

3 x 1532305 – Ketamine inj 50 mg/ml 10 ml vial,/BOX-25
 10 x 1562020 – Salbutamol oral inh. 0.1 mg/ds 200 ds
 1 x 1545300 – Oxytocin inj 10 IU 1 ml amp/BOX-10
 5 x 1543625 – Diazepam inj 5 mg/ml 2 ml amp/BOX-10
 6 x 1555950 – Morphine sulph. inj 10 mg/ml 1 ml/BOX-1
 2 x 1569650 – Naloxone inj 400 mcg/ml 1 ml amp/BOX-10
 20 x 1560600 – Quinine inj 300 mg/ml 2 ml amp/BOX-10
 10 x 1560610 – Quinine 300 mg tabs/PAC-100

Obstetric, surgical kit, supplementary 2, equipment

Technical Specifications

This kit consists of surgical instrument sets (initial investment) for one delivery room and/or one operating room.

Kit contents/Description:

1 x 0791500 – Vacuum extractor, Bird, manual, compl/SET

1 x 9910000 – Surg. inst., abdominal/SET:

Set contents:

- 4 x 0712200 – Clamp, towel, Backhaus, 130 mm
- 1 x 0724000 – Forceps, artery, Kelly, 140 mm, cvd
- 2 x 0726000 – Forceps, artery, Kocher, 140 mm, str
- 2 x 0728000 – Forceps, artery, Pean/Roch, 200 mm, cvd
- 2 x 0728015 – Forceps, artery, Pean/Roch, 240 mm, cvd
- 6 x 0730000 – Forceps, artery, Halst-Mosq, 125 mm, cvd
- 1 x 0725000 – Forceps, artery, Mixer, 230 mm
- 1 x 0721000 – Forceps, dressing, standard, 155 mm, str
- 1 x 0722200 – Forceps, dressing, standard, 250 mm, str
- 1 x 0722500 – Forceps, dressing, Cheron, 250 mm
- 2 x 0728670 – Forceps, intest, clamp, Doyen, 230 mm, cvd
- 2 x 0741500 – Forceps, uterine, Phaneuf, 215 mm, cvd
- 1 x 0740000 – Forceps, uterine, Duplay, 280 mm, cvd
- 2 x 0738000 – Forceps, tissue, Allis, 150 mm
- 1 x 0736500 – Forceps, tissue, Babcock, 200 mm
- 2 x 0739100 – Forceps, tissue, Duval, 230 mm
- 1 x 0737000 – Forceps, tissue, standard, 145 mm, str
- 1 x 0737700 – Forceps, tissue, standard, 250 mm, str
- 1 x 0743600 – Needle holder, Mayo-Hegar, 180 mm, str
- 1 x 0767800 – Retractor, abdo, Collin, 3 blades
- 1 x 0767500 – Retractor, abdo, Balfour, 3 blades
- 1 x 0768960 – Retractor, Farabeuf, d-e, 180 mm, pair
- 1 x 0745500 – Scalpel handle, no.4
- 1 x 0771350 – Scissors, Metzern/Nelson, 180 mm, cvd, b/b
- 1 x 0771450 – Scissors, Metzern/Nelson, 230 mm, cvd, b/b
- 1 x 0770600 – Scissors, Mayo, 170 mm, cvd, b/b
- 1 x 0770800 – Scissors, Mayo, 230 mm, cvd, b/b
- 2 x 0779700 – Spatula, abdo, malleable, 270 mm
- 1 x 0760800 – Tube suction, Yankauer, 270 mm
- 1 x 0720000 – Forceps, clip, applying/removing, Michel
- 1 x 0781000 – Suture clip, Michel, 3 x 14 mm,/BOX-1000
- 1 x 0225000 – Bowl, stainless steel, 600 ml

1 x 9910002 – Surg. inst., curettage/SET:

Set contents:

- 1 x 0718210 – Dilators, uter, Hegar, d-e, 3-4 to 17-18 mm
- 1 x 0722500 – Forceps, dressing, Cheron, 250 mm
- 1 x 0742400 – Forceps, uterine, Museux, 240 mm, cvd
- 1 x 0768400 – Retractor, vaginal, Doyen, 45 x 85 mm
- 1 x 0779500 – Retractor, vaginal, Auvard, 38 x 80 mm
- 1 x 0715300 – Scoop, uterine, Simon, 6 mm, sharp
- 1 x 0713000 – Curette, uterine, Sims, 8 mm, blunt
- 1 x 0714300 – Curette, uterine, Sims, 7 mm, sharp
- 1 x 0714700 – Curette, uterine, Sims, 9 mm, sharp
- 1 x 0715200 – Curette, uterine, Sims, 12 mm, sharp
- 1 x 0775200 – Sound, uterine, Martin, 320 mm
- 1 x 0777500 – Speculum, vaginal, Graves, 95 x 35 mm
- 1 x 0237000 – Bowl, stainless steel, 180 ml

2 x 9910006 – Surg. inst., exam/sut, vaginal/cervical/SET:

Set contents:

- 1 x 0770600 – Scissors, Mayo, 170 mm, cvd, b/b
- 1 x 0743600 – Needle holder, Mayo-Hegar, 180 mm, str
- 2 x 0768400 – Retractor, vaginal, Doyen, 45 x 85 mm
- 1 x 0777000 – Speculum, vaginal, Graves, 75 x 20 mm
- 1 x 0777500 – Speculum, vaginal, Graves, 95 x 35 mm
- 1 x 0778000 – Speculum, vaginal, Graves, 115 x 35 mm
- 2 x 0722500 – Forceps, dressing, Cheron, 250 mm

1 x 9910007 – Surg. inst., embryotomy/SET:

Set contents:

- 1 x 0712700 – Cranioclast, Braun, 420 mm
- 1 x 0759700 – Perforator, Smellie, 250 mm
- 1 x 0774700 – Scissors, gyneco, 200 mm, cvd, b/b
- 1 x 0731000 – Hook, decapitation, Braun, 310 mm

Obstetric, surgical kit, supplementary 3, renewable

Technical Specifications

This kit represents the basic requirements of renewable medical supplies (consumables) to facilitate an average of 50 deliveries with complications, including Cesarean sections, laparotomy and other minor surgery in emergency. Most of the items are sterile and disposable.

Kit contents/Description:

- 50 x 0374010 – Tube, suction, CH08, L50 cm, ster, disp
- 50 x 0374015 – Tube, suction, CH10, L50 cm, ster, disp
- 50 x 0374025 – Tube, suction, CH14, L50 cm, ster, disp
- 10 x 0366010 – Syringe, feeding, 50 ml, conical, ster
- 50 x 0323010 – Catheter, urethral, CH14, ster, disp
- 50 x 0322010 – Catheter, urethral, CH12, ster, disp
- 50 x 0323302 – Catheter, Foley, CH14, ster, disp
- 100 x 0330500 – Bag, urine, collecting, 2000 ml
- 100 x 0709210 – Cannula, IV short, 18 G, ster, disp
- 100 x 0709220 – Cannula, IV short, 20 G, ster, disp
- 50 x 0709225 – Cannula, IV short, 22 G, ster, disp
- 50 x 0709230 – Cannula, IV short, 24 G, ster, disp
- 100 x 0744300 – Needle, scalp vein, 25 G, ster, disp
- 50 x 0744400 – Needle, scalp vein, 21 G, ster, disp
- 10 x 0782413 – Syringe, dispos, luer, 10 ml, ster/BOX-100
- 2 x 0782405 – Syringe, dispos, luer, 5 ml, ster/BOX-100
- 15 x 0782205 – Syringe, dispos, luer, 2 ml, ster/BOX-100
- 15 x 0747432 – Needle, disp, 21 G x 1.5", ster/BOX-100
- 5 x 0747452 – Needle, disp, 23 G x 1", ster/BOX-100
- 5 x 0747420 – Needle, disp, 19 G x 1.5", ster/BOX-100
- 100 x 0748100 – Needle, spinal, 22 G (0.7 x 90 mm), ster, disp
- 20 x 0503010 – Tape, adhesive, Z.O., 2.5 cm x 5 m
- 5 x 0504000 – Tape, adhesive, Z.O., perforated, 10 cm x 5 m
- 200 x 0523055 – Compress, gauze, 10 x 10 cm, ster/PAC-5
- 20 x 0523005 – Compress, gauze, 10 x 10 cm, n/ster/PAC-100
- 10 x 0519600 – Cotton wool, 500 g, roll, non-ster
- 5 x 0566005 – Tape, umbilical, 3 mm x 50 m, non-ster
- 10 x 0552000 – Soap, toilet, bar, 110 g, wrapped
- 10 x 0514000 – Brush, hand, scrubbing, plastic
- 5 x 0305000 – Apron, protection, plastic
- 5 x 0361020 – Drawsheet, plastic, 90 x 180 cm
- 5 x 0572510 – Blanket, survival, 220 x 140 cm
- 100 x 0328501 – Gloves, surg, 7, ster, disp, pair
- 200 x 0329001 – Gloves, surg, 7.5, ster, disp, pair
- 200 x 0329901 – Gloves, surg, 8.5, ster, disp, pair
- 5 x 0330011 – Gloves, exam, latex, medium, disp/BOX-100

5 x 0330012 – Gloves, exam, latex, large, disp/BOX-100
 100 x 0330102 – Gloves, gynaeco, 7.5, ster, disp, pair
 6 x 0564004 – Sut, abs, DEC2, need 3/8, 26 mm, tri/BOX-36
 2 x 0564010 – Sut, abs, DEC1, need 1/2, 18 mm, round/BOX-36
 4 x 0564012 – Sut, abs, DEC3, need 1/2, 30 mm, round/BOX-36
 2 x 0564013 – Sut, abs, DEC3, need 3/8, 50 mm, round/BOX-36
 4 x 0564020 – Sut, abs, DEC4, need 3/8 36 mm, tri/BOX-36
 2 x 0564030 – Sut, abs, DEC3, spool/BOX-36
 4 x 0565011 – Sut, nonabs, DEC3, need 3/8 30 mm, tri/BOX-36
 200 x 0746510 – Scalpel blade, ster, disp, no.22
 2 x 0782208 – Safety box f. used syrgs/ndls, 5L/BOX-25
 10 x 0521425 – Envelope, plastic, 10 x 15 cm,/PAC-100

Resuscitation kit, basic

Technical Specifications

This kit consists of basic resuscitation equipment to facilitate resuscitation in all types of environment, including emergency situations.

Kit contents/Description:

1 x 0760640 – Pump, suction, foot-operated
 1 x 0845000 – Resuscitator, hand oper., infant/child
 1 x 0845001 – Resuscitator, hand-oper., adult
 2 x 0700700 – Airway, Guedel, rubber, infant, 54 mm
 2 x 0700800 – Airway, Guedel, rubber, infant, 67 mm
 2 x 0700900 – Airway, Guedel, rubber, adult, 82 mm

Sterilization kit C

Technical Specifications

This kit consists of basic steam sterilization equipment to ensure foolproof sterilization facilities in all types of environment, including emergency situations.

Kit contents/Description:

1 x 0170000 – Stove, kerosene, single-burner, pressure
 1 x 0156000 – Sterilizer, steam, 39 L
 1 x 0983400 – Timer, 60 min x 1 min
 1 x 0558100 – Indicator TST control spot/PAC-300
 2 x 0106000 – Drum, cylindrical, 165 mm diameter
 2 x 0107700 – Drum, cylindrical, 260 mm diameter
 2 x 0108000 – Drum, cylindrical, 290 mm diameter
 1 x 0726000 – Forceps, artery, Kocher, 140 mm, str.

Surgical instruments, curettage set

Technical Specifications

This set should be considered part of any minimal investment in a health facility with surgical/obstetrical activities. A fully functional environment with theater, sterilization and resuscitation rooms, as well as trained personnel, must be available.

Muzeux forceps are used in preference to Pozzi forceps because they are less traumatic.

Vaginal retractors permit better access to the cervix than a speculum. Be careful with the use of uterine sound and also sharp and open uterine curettes.

Kit contents/Description:

- I x 0718210 – Dilators, uter, Hegar, d-e, 3-4 to 17-18 mm
- I x 0722500 – Forceps, dressing, Cheron, 250 mm
- I x 0742400 – Forceps, uterine, Museux, 240 mm, cvd
- I x 0768400 – Retractor, vaginal, Doyen, 45 x 85 mm
- I x 0779500 – Retractor, vaginal, Auvard, 38 x 80 mm
- I x 0715300 – Scoop, uterine, Simon, 6 mm, sharp
- I x 0713000 – Curette, uterine, Sims, 8 mm, blunt
- I x 0714300 – Curette, uterine, Sims, 7 mm, sharp
- I x 0714700 – Curette, uterine, Sims, 9 mm, sharp
- I x 0715200 – Curette, uterine, Sims, 12 mm, sharp
- I x 0775200 – Sound, uterine, Martin, 320 mm
- I x 0777500 – Speculum, vaginal, Graves, 95 x 35 mm
- I x 0237000 – Bowl, stainless steel, 180 ml

Vacuum Delivery Set

0791500 – Vacuum extractor, Bird, Manual, complete set

Technical Specifications

Vacuum extractor; hand-operated pump.

Vacuum extractor must be easy to use (to assemble and to clean) and safe.

Vacuum extractor can be totally disassembled, is easy to clean, disinfect and sterilize (all parts must be autoclaved at 121° C).

Annex 2b. UNFPA Reproductive Health Kit

An RH Kit for Emergency Situations has been developed by UNFPA, in coordination with others, for use in refugee situations. It is made up of 12 sub-kits, which can be ordered separately.

For use at primary health care/health center level: 10,000 population for 3 months

- 0 Training and administration
- 1 Condoms
- 2 Clean delivery sets
- 3 Post-rape management
- 4 Oral and injectable contraceptives
- 5 STD drugs

For use at health center or referral level: 30,000 population for 3 months

- 6 Professional midwifery delivery kit
- 7 IUD insertion
- 8 Management of the complications of unsafe abortion
- 9 Suture of cervical and vaginal tears
- 10 Vacuum extraction

For use at the referral level: 150,000 population for 3 months

- I1A Referral level surgical (reusable equipment)
- I1B Referral level surgical (consumable items and drugs)
- I2C Transfusion (HIV testing for blood transfusion)

Annex 3. Anatomic model list for emergency obstetric care training

Models	Item #	Quantity	Cost	Total
Advanced childbirth simulator (Gaumard)	S500	2	\$500	\$1,000
Fetal baby, umbilical cord and placenta for vacuum delivery (Gaumard)	S500.1	1	\$75	\$75
Lumbar puncture trainer	S411	1	\$695	\$695
Fetal model (Health Edco)	79814	1	\$54	\$54
Cloth pelvic model (Health Edco)	79808	1	\$76	\$76
Vinyl pelvic model (Health Edco)	54058	1	\$52	\$52
Placenta/cord/amnion/chorion model (Health Edco)	79807	1	\$44	\$44
CPR infant manikin (Health Edco)	84369	2	\$89.95	\$89.95
CPR infant manikin replacement face shields/lungs (Health Edco)	84368	2	\$24.95	\$24.95
Cervical dilation easel display (Health Edco)	79738	1	\$98	\$98
Adult intubation head (Health Edco)	54305	1	\$948	\$948
Total Models				\$3,156.90

Contacts:

Gaumard

14700 SW 136th Street
 Miami, FL 33196
 Tel: 1-800-882-6655 (in U.S)
 305-971-3790 (worldwide)
 Fax: 305-667-6085
 Web: www.gaumard.com
 Email: sima@gaumard.com

Health Edco

P.O. Box 21207
 Waco, TX 76702
 Tel: 1-800-299-3366 ext 295
 Fax: 888-9977-7653
 Web: www.healthedco.com

Annex 4. Focus group discussion guide²¹

Introduction

The focus group guide below was developed to interview women in the community about services available to them for obstetric emergencies. It provides questions for assessing women's perceptions of the local health facilities, and other factors affecting utilization of EmOC services. Ideally, to conduct the focus groups, there should be a facilitator and a person who takes notes but does not participate in the discussion.

For each facility that is surveyed using the preceding instruments, focus group discussions should be carried out in at least two communities within the catchment area of the facility, preferably in one community close to the facility and another that is farther away.

The questions in this guide are designed to provide starting points for discussions. The facilitator should cover all the topic areas in the discussion guide, but does not necessarily follow a particular sequence. The discussion should flow as naturally as possible and some topics may be raised by group members. The facilitator should follow the lead of the group members, probing topics they raise during the discussion. Some potential probing questions have been included in order to provide guidance for the facilitator.

Ethical issues

Informed consent: Every individual has the right to refuse to participate in a focus group, or to end her participation at any time. The focus group facilitator must respect this right.

Privacy: Individuals should understand that participation in a focus group is a completely voluntary activity and that even after the discussion begins they are free to leave. It is important that the focus groups be conducted in a manner that is comfortable for all participants, so they are able to speak openly and honestly.

Confidentiality: All participants should agree at the start of the discussion that anything discussed should remain in the group and is not to be discussed outside.

No identifying information should be kept in the notes or transcripts. This may mean deleting names if they are used in the discussion.

Who should participate in the focus group?

Identify a key informant from the community (a teacher, a women's group leader or other community leader) to assist you in identifying women to be invited to participate in the focus group. The group should be primarily composed of married women of reproductive age. You should try to include women of different ages so that both new mothers and older mothers are in the focus group. Additional focus group members might be older women who have daughters or daughters-in-law of reproductive age, and women who assist births in the community. A total of 8-12 women from the community should be included in the focus group representing different families. If the community is very heterogeneous (e.g., more than one ethnic group or people of markedly different social strata), more than one focus group should be considered, each with women from similar sub-groups. If more than one discussion group can be held in the community, consider dividing older and younger women so that younger women can speak more freely.

²¹ Developed by AMDD, Columbia University.

Purpose

To identify barriers to utilization of local health facilities for the care of emergency obstetric complications.

DISCUSSION QUESTIONS

A. Recognizing obstetric complications

1. What are some of the things that can go wrong when a woman gives birth?

Probes: Are these problems dangerous to the woman?

2. How do you know when the problem has become serious?

[Repeat for each of the complications mentioned.]

B. Obtaining care for obstetric complications

3. What should be done if a woman experiences one of these problems?

Probes: Who can help her? [in the community]

Where would she be taken first?

4. What are the problems involved in taking her to seek care?

Probes: How would she be transported?

Where would she get the money?

C. Perception of the health facility

5. What have you heard about the local hospital (give facility name)?

6. Do people get good care there?

Probes: Is this a place equipped to handle obstetric emergencies?

7. Has the care improved at this hospital in recent years?

8. What are some reasons to go there?

9. What are some reasons *not* to go there?

10. Where else might you go/take a woman who has a problem?

11. Are there other health facilities in the area where you might take a woman who has a problem?

12. What are the costs involved in going to the hospital?

Probes: How would the family obtain the money for this? What would be done if they cannot get the money?

13. What do people say about the staff at this place?

14. Is it comfortable there?

15. Is it safe there?

16. Are doctors and nurses respectful of patients?

D. Decision-making concerning obstetric care

17. Who makes the decision to seek help for a woman if she experiences a problem in childbirth?

Probes: Who are the alternative decision-makers (e.g., if husband is not at home)?

18. Who is consulted about such a decision?

19. What factors influence the decision-making about going to a health facility?

Probes: Money? Transport? Gender of the doctor? Risk that woman or baby will die?

Which of these makes it more likely that you will go?

Which factors make it less likely that you will go?

Summary points of focus group meeting (to be filled out by interviewer)

1. What obstetric complications do most women in the group recognize?
2. Are there additional obstetric complications that only a few people mentioned but did not seem to be generally recognized?
3. What is the community's first response to an obstetric emergency?
4. What barriers to seeking care were mentioned by the group?
5. What is the community's perception of the care given at the local health facility offering emergency obstetric care?
6. What positive things were said about the hospital and staff?
7. What negative things were said about the hospital and staff?
8. Was the community aware of the EmOC services of the facility?
9. Who is the main decision-maker during obstetric emergencies?
10. What are the main factors that influence decision-making about going/not going to a health facility?
11. Over all, did the group feel that this facility is a good place to go for help with obstetric problems?

Annex 5a. Monthly summary report for ANC and maternity
(this may be adapted according to the local conditions)

County:

Name of facility:

Month:

Year:

Antenatal care	
Total number of women attending ANC	
Number of new cases	
Number of follow-up cases	
Number of women received iron/folate	
Number of women received malaria IPT (Fansidar)	
Number of women received mosquito net	
Number of women had ANC card	
Number of women developed individual birth plan	
Number of women received TT immunization	
VCT/PMTCT	
Number of women received VCT	
Number of women received HIV test	
Number of women tested positive	
Number of women received take-home nevirapine	
Number of HIV+ mothers delivered in the facility	
Number of mothers with unknown status received rapid testing in the labor ward	
Number of HIV+ mothers received nevirapine	
Number of babies of HIV+ mothers received nevirapine	
Maternity	
Number of obstetric admissions	
Number of deliveries in the facility	
Number of Cesarean sections	
Number of obstetric complications treated	
◆ Prolonged/obstructed labor	
◆ Hemorrhage	
◆ Abortion complications	
◆ Postpartum sepsis	
◆ Pre-eclampsia and eclampsia	
◆ Retained placenta	
◆ Ruptured uterus	
Number of live births in the facility	
Number of still births in the facility	
Number of maternal deaths in the facility	
Number of neonatal deaths in the facility	

Photo credits:

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Cover:

© 2003, Asem Ansari/ ICDDR,B. A grandmother helps attend to her granddaughter's infant in Bangladesh. This adolescent mother's infant was the first child born in the MINIMAT study cohort in Matlab, Bangladesh. Four thousand mothers were followed through their pregnancies with nutritional interventions to prevent low birth weight.

Cover photo inset #2 from left:

© 2002, Ambre Murard. A young nomad girl feeds her newborn brother with a bottle, in the Tibetan grasslands. When nomad women don't have enough breast milk, they feed their children with animal milk. Unfortunately, due to lack of hygiene, the feeding bottle turns into a germ carrier and death weapon for children.

Cover photo inset #3 from left:

© 1994, James Williams/CCP. Five women walking down a road with infants in their arms.

Page 2 top:

© 1999, Anne Palmer/CCP. A woman holds her newborn infant at a family health clinic in Jakarta, Indonesia.

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Joanne Omang

Page 2 top:

Raghua Rai, on behalf of the David and Lucille Packard Foundation.

Page 2 bottom:

Rick Maiman, on behalf of the David and Lucille Packard Foundation.

Cover photo inset #4 from left:

Bennett, P., IDRC.

Contact Us

RHRC Consortium contact

For more information about the Reproductive Health Response in Conflict Consortium, please visit our website at www.rhrc.org.

All inquiries should be directed to info@rhrc.org.

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