

# CHAPTER 9

## MATERNAL AND NEWBORN HEALTH

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### 9.1 INTRODUCTION

Globally, 1 in 7 women will face a complication during pregnancy or childbirth. There are over 303,000 maternal deaths each year, 99% of which occur in the developing world. Every year, an estimated 2.9 million newborns die in the first 4 weeks of life (the

neonatal period) and 2.6 million more are stillborn, dying in utero during the last 3 months of pregnancy (including during childbirth).

Two-thirds of preventable maternal deaths and 45% of newborn deaths take place in countries affected by recent conflict, natural disaster, or both. Emergent humanitarian settings and situations of conflict, post-conflict, and disaster significantly hinder the progress of maternal and newborn mortality reduction. In such situations, the breakdown of health systems can cause a dramatic rise in deaths due to complications that would be easily treatable under stable conditions. For example, Sierra Leone has the world's highest maternal mortality ratio (MMR) at 1,360 maternal deaths per 100,000 live births. South Sudan and Somalia have MMRs of 789 and 732, respectively. In countries designated as fragile states, the estimated lifetime risk of maternal mortality is 1 in 54, compared with 1 in 5,800 in the UK or 1 in 8,800 in Canada.

### BOX 9.1: CAUSES OF MATERNAL DEATH

The World Health Organization (WHO) reports the most common causes of maternal mortality include:

**ABORTION (8%)**

**EMBOLISM (3%)**

**HEMORRHAGE (27%)**

**HYPERTENSION (14%)**

**SEPSIS (11%)**

**OTHER DIRECT CAUSES (10%)**

**INDIRECT CAUSES (27%)**

Many of these causes are preventable or could be managed by skilled providers with adequate resources at the facility level. The Global Strategy for Women's, Children's and Adolescent's Health builds on strategies for Ending Preventable Maternal Mortality (EPMM) and the Every Newborn Action Plan (ENAP) and lays out a roadmap for ending all preventable deaths of women, children, and adolescents within a generation. Achieving the 2030 targets for reducing maternal and newborn mortality requires intentional efforts to minimize inequities in access to and quality of care around the time of birth, including increased focus on care for mothers and babies

Most maternal and neonatal deaths occur around the time of labor, delivery, and the immediate postpartum period. The “day of birth” is the most dangerous with more than 40% of maternal and newborn deaths and stillbirths occurring in the first 24 hours after birth. The leading causes of maternal death are hemorrhage, hypertension, sepsis, and complications of unsafe abortion. Other direct causes of maternal mortality include embolism, complications of delivery, and obstructed labor/ruptured uterus. Indirect causes of maternal death include malaria and existing disorders, such as HIV, when exacerbated by pregnancy. Neonatal deaths are up to 7 times more frequent than maternal deaths. The 3 main causes of neonatal mortality are intrapartum-related complications, infections, and complications of prematurity and low birth weight (LBW). The leading causes of both maternal and newborn death are presented in Box 9.1 and Box 9.2.

### BOX 9.2: CAUSES OF NEONATAL DEATH

The WHO reports the most common causes of neonatal death include:

**CONGENITAL (10%)**

**COMPLICATIONS FROM PRETERM BIRTH (35%)**

**DIARRHEA (1%)**

**INTRAPARTUM RELATED (24%)**

**PNEUMONIA (5%)**

**SEPSIS/MENINGITIS (15%)**

**TETANUS (2%)**

**OTHER (8%)**

in humanitarian settings where an increasing proportion of preventable deaths occur.

Ensuring respectful maternity care is especially critical in a humanitarian setting, where everyday violence and lack of accountability mechanisms are already affecting both women seeking care and their providers. The care provided has to be acceptable to the population served so that women are not deterred from delivering in a facility with a skilled birth attendant. Psychosocial support in pregnancy and childbirth is also needed to account for the life-changing circumstances in which women find themselves.

## 9.2. OBJECTIVES

The objective of this chapter is to assist sexual and reproductive health (SRH) Coordinators, health program managers, and service providers working with crisis-affected populations to:

- Understand evidence-informed interventions and barriers to implementation that impact maternal and newborn health (MNH)
- Plan for and implement comprehensive and respectful MNH services in humanitarian settings
- Improve quality of care for mothers and newborns that supports the universal rights of childbearing women throughout pregnancy, childbirth, and postpartum periods

## 9.3. MATERNAL AND NEWBORN HEALTH PROGRAMMING

One of the objectives of the Minimum Initial Service Package (MISP) is to prevent excess maternal and newborn morbidity and mortality (see Chapter 3). MISP interventions focus on the day of birth because most maternal and neonatal deaths occur around the time of labor, delivery, and the immediate postpartum period. This chapter also describes approaches for SRH Coordinators, health program managers, and service providers to program for comprehensive MNH services as soon as the situation allows, building upon the MISP interventions. While this manual provides guidance on programmatic approaches and service components of MNH, it is not meant to provide detailed comprehensive clinical management guidelines. Section 9.7 of this manual and the supplementary resources online provide more information.

### BOX 9.3: PRIORITY ACTIVITIES OF THE MISP RELATED TO PREVENTING EXCESS MATERNAL AND NEWBORN MORTALITY AND MORBIDITY

- Ensure availability and accessibility of clean and safe delivery, essential newborn care, and lifesaving emergency obstetric and newborn care (EmONC) services including:
  - At referral hospital level: Skilled medical staff and supplies for provision of comprehensive emergency obstetric and newborn care
  - At health center level: Skilled birth attendants and supplies for uncomplicated vaginal births and management of basic obstetric and newborn complications (BEmONC)
  - At community level: Provision of information to the community about the availability of safe delivery and EmONC services and the importance of seeking care from health facilities. Clean delivery kits should be provided to visibly pregnant women and birth attendants to promote clean home deliveries when access to a health facility is not possible
- Establish a 24 hour per day 7 days per week referral system to facilitate transport and communication from the community to the health center and hospital
- Ensure the availability of life saving post-abortion care in health centers and hospitals
- Ensure availability of supplies and commodities for clean delivery and immediate newborn care where access to a health facility is not possible or unreliable

### 9.3.1 Minimum services for preventing maternal and newborn morbidity and mortality

#### EMERGENCY OBSTETRIC AND NEWBORN CARE (EMONC)

Basic emergency obstetric and newborn care (BEmONC) must be provided at the health center level to address

the main complications of childbirth, including newborn complications. If these are not available, stabilize the mother and/or newborn before referral to a hospital.

“Signal functions” are key medical interventions that are used to treat the direct obstetric complications that cause the vast majority of maternal deaths around the globe, as outlined on Table 9.1. This includes treatment

of complications from unsafe and/or incomplete abortion. Some critical services are not mentioned but are included within these functions. For example, conducting caesarean surgeries implies that anesthesia is provided.

The insufficient supply of high quality lifesaving commodities is a persistent bottleneck in efforts to end preventable maternal deaths and the provision of signal functions 1-3 (Table 9.1) are dependent on the continuous availability of essential drugs. With specific reference to

managing post-partum hemorrhage (PPH), misoprostol should also be available as an essential lifesaving commodity at facilities as it can be used to prevent and manage PPH, with minimal training of providers needed. Magnesium sulfate (MgSO<sub>4</sub>) is the drug of choice for the prevention and treatment of eclampsia.

Caesarean surgery may be necessary when vaginal birth could pose a risk to the woman or baby – for example due to prolonged labor, fetal distress, or because the fetus has

**TABLE 9.1: SIGNAL FUNCTIONS FOR EMERGENCY OBSTETRIC AND NEWBORN CARE (EMONC)**

BASIC EMONC (BEMONC)	COMPREHENSIVE EMONC (CEMONC)
<ol style="list-style-type: none"> <li>1. Administer parenteral antibiotics for treatment of sepsis</li> <li>2. Administer uterotonic drugs (i.e., parenteral oxytocin or misoprostol tablets) for treatment of postpartum hemorrhage</li> <li>3. Administer parenteral anticonvulsants to manage preeclampsia and eclampsia (i.e., magnesium sulfate)</li> <li>4. Perform assisted vaginal delivery (e.g., vacuum extraction, forceps delivery)</li> <li>5. Manually remove the placenta</li> <li>6. Remove retained products of conception (e.g., manual vacuum aspiration, misoprostol for treatment of incomplete abortion)</li> <li>7. Perform basic neonatal resuscitation (e.g., with bag and mask)</li> </ol>	<p>Perform signal functions 1-7, plus:</p> <ol style="list-style-type: none"> <li>8. Perform surgery (e.g., caesarean section)</li> <li>9. Perform safe blood transfusion observing universal infection prevention precautions</li> </ol>

an abnormal presentation or position. However, caesarean surgeries without a medical indication can cause significant complications, disability, or death, particularly in settings that lack the facilities to conduct safe surgeries or treat potential complications.

As with obstetric emergencies, newborn emergencies cannot always be predicted. For example, when complications arise during labor and are not recognized or properly dealt with on a timely basis, the baby may emerge stillborn or be born alive but severely stressed and may not spontaneously begin to breathe. Therefore, staff must be prepared for neonatal resuscitation at every birth and equipment for newborn bag and mask ventilation must be available.

### BOX 9.4: NEWBORN RESUSCITATION

**5%-10% of all newborns need some type of resuscitation at birth. Newborn resuscitation consists of a range of interventions, from the simple, such as keeping the baby dry and warm, stimulation, positioning and clearing airway (suction), to the more complex, such as ventilation (bag- and mask-resuscitation). All newborns must be closely monitored following resuscitation.**

Similarly, staff must be prepared to identify and treat possible severe newborn infections. Clean birth practices, hand washing before contact with a baby, clean cord care, and immediate and exclusive breastfeeding significantly contribute to prevention of infection in newborns. There are also simplified algorithms for the diagnosis and treatment of potentially severe newborn infections, including guidelines for initial treatment prior to referral, and treatment when referral is not possible.

Finally, staff should be prepared to diagnose, prevent, and manage complications associated with prematurity and low birth weight, provided there is the capacity and infrastructure needed to comprehensively support preterm infants. Small and sick newborns require timely, high-quality inpatient care to survive. This includes provision of warmth and feeding support, as well as more intensive and advanced care in some cases.

Ensure health providers are competent in providing emergency obstetric and newborn care procedures, and can refer to higher levels of care when needed. Publicly display protocols and make relevant medicines, equipment

and supplies available in all health centers.

## REFERRAL SYSTEMS

Because most maternal and perinatal deaths are due to a failure to get skilled help in time for complications of childbirth, it is critical to have a well-coordinated system to identify obstetric complications and ensure their immediate management and/or referral to a hospital with comprehensive EmONC (CEmONC) capacity. This includes protocols specifying when and where to refer and an adequate record of referred cases (including individual names, reasons for referral, outcomes at the referral facility, return to the initial health facility, and follow-up with providers there). Quality referral systems and counter-referral systems require clinical, communication, and transport protocols, as well as trust and understanding between the community, service providers, health center, and the hospital. As a rule, health staff must understand that the further away the referral facility is, the earlier they must make a decision to refer women with obstetric complications.

### PROGRAMMATIC EXAMPLE 9.1: MANAGING OBSTETRIC REFERRALS IN A REFUGEE CAMP SETTING

**ORGANIZATION:** American Refugee Committee (ARC)

**LOCATION:** Rwanda

**INTRODUCTION:** ARC is managing health centers in 3 refugee camps in Rwanda. All the facilities are integrated into the Ministry of Health (MOH) structure to ensure provision of high quality curative and preventative primary health care, including reproductive health and nutrition for refugees.

**PROJECT DESCRIPTION:** ARC provides primary health care according to MOH standards, including antenatal care (ANC), safe delivery, post-natal care, and family planning services. Patients presenting with complications at ANC visits, outpatient consultations, or inpatient consultations are immediately referred to a district hospital. If necessary, a plan to deliver at a district hospital is established. Women who come to the maternity service to deliver but are determined to be complicated and beyond the capacity of health center to handle safely are also immediately referred to the district hospital using ambulances available at each camp health center. If the case is not able to be managed at the district hospital level, the woman is referred to the next level (tertiary hospital). The referral to secondary or tertiary levels is based on standard operating procedures developed by UNHCR using referral forms; these document the outcome of the referral and help the referring institution learn from the process. Referral costs to secondary level institutions (district hospital) are paid by ARC, with reimbursement from UNHCR, while tertiary level referrals are covered by another partner.

**RESULTS AND LESSONS LEARNED:** Full integration of refugee health services into the host country MOH structure has enabled refugee women to access comprehensive EmONC and other secondary and tertiary health care services. This process has helped to ensure that cases are referred on time and has had a positive impact on maternal mortality, with 2 or fewer deaths per year in the camps where ARC provides services.

## CLEAN, SAFE DELIVERY AND NEWBORN CARE KITS

In all humanitarian settings, there are women and girls in the later stages of pregnancy who will give birth during the emergency. At the onset of a humanitarian emergency and in settings with high levels of home deliveries before the emergency, births may take place outside of health facilities without the assistance of skilled birth attendants.

Clean, safe delivery and newborn care kits should be made available to all visibly pregnant women to improve birth practices when access to a health facility is not possible. Distributions can be done at registration sites or via community health workers where there is a network established. At a minimum, kits should include 1 sheet of clean plastic for the women to deliver on (noting she should assume birth position of choice), a bar of soap, a pair of gloves, 1 new razor blade to cut the umbilical cord, 3 pieces of string to tie the cord, 2 pieces of cotton cloth (1 to dry and the other to cover the baby), and 1 tube of 7.1% chlorhexidine digluconate antiseptic gel for clean cord care.

In settings with national protocols for advanced distribution of misoprostol tablets for PPH prevention, this essential life-saving commodity should be included in all kits. Decades of research have proven the safety and efficacy of using misoprostol as a prophylactic uterotonic to reduce post-partum hemorrhage when taken immediately after birth of a newborn. The World Health Organization recommends the administration of misoprostol by community health workers and lay health workers where skilled birth attendants are not present and oxytocin is not available. Recent evidence from both stable and crisis-affected settings suggests that self-administration of misoprostol can be done safely and effectively. In particular, misoprostol has the potential to reach women who give birth, by choice or by necessity, at home or in health facilities that lack electricity, refrigeration, and/or skilled health providers.

In all settings, context-appropriate instructional materials should be provided in all kits. At the time of distribution, women should be provided with essential information on kit contents, use, and danger signs.

## 9.3.2 Transitioning to comprehensive MNH Services

Comprehensive MNH programming has **3 strategic priorities**:

- Understand and remove barriers to MNH services
- Increase availability of evidence-informed MNH services
- Improve utilization and demand for MNH services

### QUALITY OF CARE

Quality of care underpins all components of comprehensive MNH services and is considered a key component of the right to health and the route to equity and dignity for women and children. Characteristics of quality MNH services include:

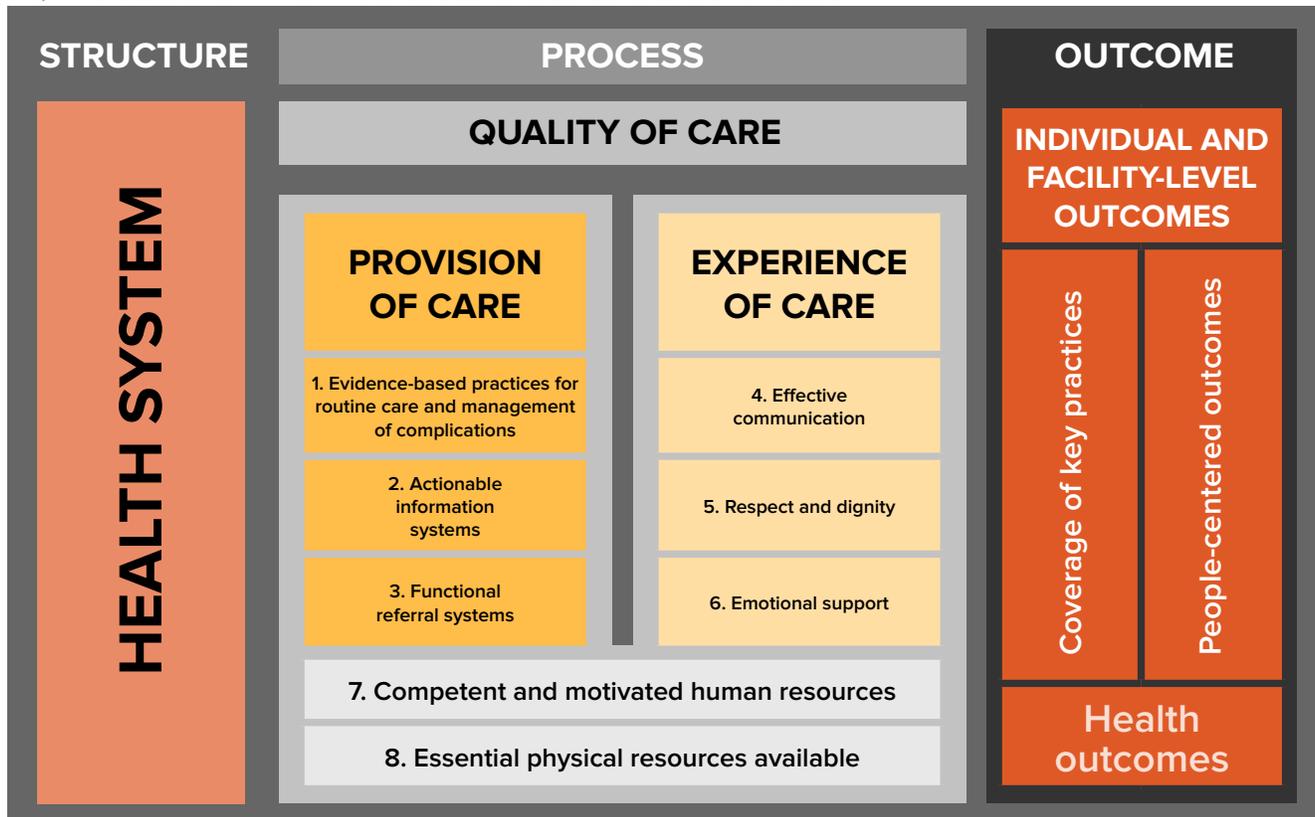
- **Availability:** There must be at least 5 EmONC facilities (including at least 1 CEmONC facility) for every 500,000 people. They must be open and adequately staffed 24 hours per day and 7 days per week (24/7), as childbirth and complications can occur any time
- **Accessibility:** Services must be reachable by roads or waterways and affordable means of transport can be found
- **Acceptability:** Providers must be committed and enabled to treat everyone with dignity and respect, create trust, and promote demand for services
- **Effectiveness:** Services include evidence-informed interventions to improve maternal and newborn health and survival in pregnancy, childbirth, and the postnatal period
- **Affordability:** Efforts must be made to offer services at reduced cost or free of charge
- **Culturally appropriate:** Consider language and culture of the target populations, such as preference for a female health provider; however, lack of a female provider should not be a barrier to services
- **Safety:** Care and services should not harm patients
- **Timely:** Care and services should be provided when and where needed

- **Respectful:** Services must respect every woman's humanity, feelings, choices, and preferences. They should uphold the *Respectful Maternity Care Charter: The Universal Rights of Childbearing Women*

As the WHO's vision for quality of care for maternal and newborn health illustrates (Fig. 9.1), quality MNH

services in any setting requires competent and motivated human resources, health infrastructure, appropriate use of effective clinical and nonclinical interventions in a humane, supportive environment where a woman (or her family if required) can feel that she understands what is happening and what to expect before, during, and after childbirth.

**FIGURE 9.1: THE WORLD HEALTH ORGANIZATION'S QUALITY OF CARE FRAMEWORK**



### 9.3.3 Comprehensive MNH services

#### ANTENATAL CARE

Recommended antenatal care schedules may vary by country. An ideal antenatal care (ANC) package consists of eight antenatal contacts with the first contact early in pregnancy, 2 contacts during the second trimester (at 20 and 26 weeks gestation), and 5 contacts in the third trimester (at 30, 34, 36, 38 and 40 weeks). This guidance replaces WHO's 4-visit focused antenatal care model; the word "contact" is used instead of "visit" to emphasize the connection between a pregnant woman and her health provider(s) and include provision for contacts with health workers via community outreach activities as

well as traditional clinic visits. In any setting, the primary objectives of antenatal care are to:

- Provide disease prevention and health promotion
- Identify and manage pre-existing health problems and complications arising during pregnancy
- Provide counseling on birth preparedness and complications readiness
- Establish a relationship of trust between woman and provider

For an overview of antenatal care interventions, see section 9.7.

## BOX 9.5: PROMISING PRACTICE: GROUP ANTENATAL CARE

**Group Antenatal Care (G-ANC) is an alternative to traditional ANC (i.e., provided by a skilled provider to 1 individual woman at a time). G-ANC is provided for a group of up to 15 pregnant women of approximately the same gestational age. Trained facilitators lead a series of structured, highly participatory 2-hour meetings that integrate the usual health assessment with information, education, and peer support. Research has demonstrated increased attendance, knowledge, and patient and provider satisfaction as well improved health practices and outcomes with G-ANC. The WHO ANC Recommendations on Antenatal Care for a Positive Pregnancy Experience recommends G-ANC in the context of research.**

### Immunization

All women giving birth, and their newborn babies, should be protected against tetanus. Immunizing women during pregnancy is recommended to provide protection against both maternal and neonatal tetanus. Antenatal services provide a convenient opportunity for vaccinating pregnant women. However, where ANC coverage is inadequate and there is a high risk for maternal and neonatal tetanus, mass immunization of women of childbearing age could be an alternative, albeit more costly, option.

### Screening for syphilis

All pregnant women should be screened for syphilis at the first antenatal visit. Syphilis contributes to maternal morbidity and negative pregnancy outcomes. Every year, maternal syphilis causes half a million stillbirths and miscarriages and is responsible for at least half a million infants born with congenital syphilis. Previously, the standard tests for syphilis were difficult to perform and not appropriate for primary care settings. Simple and effective rapid diagnostic tests (RDTs) for syphilis are now available with results immediately available so that women (and their partners) testing positive can be treated without delay at the point of care.

### Diagnosis and treatment of asymptomatic and symptomatic urinary tract infections

During pregnancy, urinary tract infection is associated with increased risks of maternal and newborn morbidity and mortality, even when the infection is asymptomatic. Screening and treatment of urinary tract infections can reduce the risk of maternal sepsis and anemia, preterm birth, low birth weight, and perinatal death. This includes antenatal urine screening combined with appropriate antibiotic treatment for women diagnosed with bacteriuria.

### Nutrition needs of pregnant and lactating women

During pregnancy and lactation, women's nutritional needs for energy, protein, and micronutrients increase significantly. Pregnant women require an additional 285 kcal/day and lactating women require an additional 500 kcal/day. Adequate intake of iron, folate, and iodine are particularly important for the health of women and their infants. The increased micronutrient needs of pregnant and lactating women are usually not met through the provision of a basic food ration. Pregnant and lactating women should therefore receive an appropriate fortified food supplement providing 500 to 700 kcal for on-site feeding and 1,000 to 1,200 kcal if provided as a take-home ration. Pregnant women must receive daily supplements of iron (60 mg/day) to prevent anemia and folic acid (400 µg/day) to prevent neural tube defects.

### Birth preparedness and complication readiness

Many maternal and newborn deaths could be prevented if women received care when needed. Three phases when delays often contribute to maternal and neonatal death are: 1) deciding to seek care; 2) reaching care; and 3) receiving care. Preparing for birth and complications reduces delays. Antenatal care is an opportunity for health care providers to support a woman and her family to establish a birth and emergency plan based on her unique needs, resources, and circumstances. The birth and emergency plan identifies her intentions about where and with whom she intends to give birth and actions to be taken in the event of complications (e.g., transport, place of referral, emergency funds). The plan also includes identifying a support person, planning childcare, saving money, planning transport, and educating family members about the signs of a complication (See Box 9.6) and what action to take. As most complications during labor and

childbirth are unpredictable, delivery under the care of a skilled birth attendant in a well-equipped health facility that can address potential complications is recommended and must be encouraged.

### BOX 9.6: KEY MESSAGES FOR BIRTH PREPAREDNESS

- Prepare a birth kit
- Choose a facility
- Choose a birth companion
- Save money for birth expenses
- Have a transportation plan for day and night
- Teach family members danger signs and discuss decision making
- Have a plan for healthy timing and spacing of pregnancy

### BOX 9.7: KEY DANGER SIGNS IN PREGNANCY

- Vaginal bleeding
- Severe abdominal pain
- Convulsions
- Severe headache
- Fever
- Fast or difficult breathing

Counseling on post-partum family planning (PPFP) and health needs is also an important part of birth preparedness. PPFP, which aims to prevent the high risk of unintended and closely spaced pregnancies during the first year following childbirth, is one of the highest impact interventions to avoid increased risk of premature birth, low birth weight, fetal and neonatal death, and adverse maternal health outcomes. Unmet demand for PPFP services remains high in many countries therefore PPFP should be introduced in ANC and again following birth and in the postpartum period. All women should be given information about the physiological process of recovery after birth and told that some health problems are common, with advice to report concerns to a health care professional. Women should also be counseled on post-partum care and hygiene, nutrition, birth spacing and family planning, including post-partum pregnancy risks and contraceptive options, and when to return for post-natal examinations and immunization.

Counseling on newborn care includes guidance on breastfeeding, cord care, and prompt recognition of newborn danger signs. Post-natal contacts should occur within 24 hours of birth as well as at 48-72 hours, 7-14 days, and 6 weeks after birth. For births that occur outside of the facility an extra contact at 24-48 hours is recommended.

#### Recording of clinical data

All clinical findings and treatments provided during antenatal care must be recorded, preferably on a health card or record that stays with the woman. Good record-keeping is essential to facilitate appropriate decision-making and interventions.

#### CHILDBIRTH CARE

Childbirth includes labor, delivery, and the immediate post-partum period. Childbirth should take place in a health facility that ensures privacy, confidentiality, and dignified and respectful care free from discrimination; is secure, safe, and equipped with the necessary essential supplies, drugs, and personnel; and has access to transport to and communication with referral hospitals for obstetric and newborn emergencies. SRH Coordinators and SRH health program managers must ensure that all healthcare facilities have clinical protocols in place as well as protocols for standard precaution measures, including medical waste management for amniotic fluid, blood, and placentas. Hand washing and other infection prevention measures must be maintained.

#### Partograph

The partograph is an often underutilized decision-making tool for supporting intrapartum care, specifically monitoring the progress of labor and detecting maternal or fetal complications. The simplified WHO partograph (see section 9.7) is an important tool used in many settings to:

- Identify complications during labor (e.g., fetal complications) in a timely manner
- Inform decision-making regarding prolonged labor and use of augmentation
- Improve clinical practice and quality of care provided to women (e.g., decrease newborn mortality due to intrapartum complications)

Numerous factors contribute to underutilization of the partograph and challenges may be exacerbated in humanitarian settings. Strategies for facilitating correct use of the partograph include:

- Establishing a champion for partograph use within the facility
- Ensuring that management protocols for labor and delivery are linked to the partograph so that providers know what actions to take as labor progresses
- Monitoring the partograph's use and updating providers on how to use it correctly

### Prevention of post-partum hemorrhage

One of the leading causes of maternal mortality is post-partum hemorrhage. Administration of a uterotonic drug within one minute of the birth of the baby reduces the risk of retained placenta and PPH.

Oxytocin is the recommended uterotonic for the prevention of atonic PPH. However, in some settings it may not be possible to provide oxytocin to all women in the third stage of labor because of the absence of skilled staff, difficulties in ensuring safe injection practices, and/or lack of refrigeration, all of which are necessary for oxytocin use. In these settings, the use of misoprostol, a heat-stable uterotonic tablet, is recommended. Health workers who administer misoprostol must be trained in avoiding administration before birth, correct use (misoprostol 600 µg orally immediately after the birth of the baby), and counseling the woman on side effects and managing side-effects. In such cases no active intervention to deliver the placenta should be carried out.

In settings where there were programs for advance distribution of misoprostol for self-administration to prevent post-partum hemorrhage at home delivery in place before the emergency, every effort should be made to ensure continued availability as soon as possible after the emergency. In other settings, this may be introduced as part of a comprehensive strategy for addressing post-partum hemorrhage at both community and facility levels.

### Immediate newborn care

Essential newborn care is the basic care required for every baby. Irrespective of where the birth takes place, cord clamping should be delayed 1-3 minutes to increase the

newborn's iron reserves for the first 6-8 months of life. Essential care for all newborns also includes **thermal care** (drying and keeping the baby warm through skin-to-skin contact for the first hour after birth, delaying bathing), **infection prevention** (promoting and supporting handwashing for all caregivers, providing hygienic umbilical cord and skin care), **feeding support** (early and exclusive breastfeeding), and **monitoring of newborns for danger signs** indicating the need for additional care.

## **BOX 9.8: KEY DANGER SIGNS IN NEWBORNS**

- **Not feeding**
- **Fast breathing**
- **Severe chest in-drawing**
- **No spontaneous movement**
- **Fever**
- **Low body temperature**
- **Jaundice in the first 24 hours of life or yellow palms and soles at any age**

### Prevention and management of preterm birth

Preterm birth is the single largest cause of perinatal and neonatal mortality and morbidity and the leading cause of death in children under the age of 5. Infant deaths and long-term disabilities following preterm birth can be reduced when interventions are appropriately provided to the mother at imminent risk of preterm birth and to the preterm infant after birth. Recommended interventions for women with imminent preterm birth include provision of antenatal corticosteroids to women 24 to 34 weeks gestation, provision of antibiotics for preterm pre-labor rupture of membranes, and provision of magnesium sulfate to women less than 32 weeks gestation for fetal neuroprotection if preterm birth is likely within 24 hours. Accurate gestational age dating is essential to guide appropriate care and interventions should only be considered when adequate hospital-level care is available for the woman and newborn.

Complications associated with LBW/preterm birth are hypoglycemia, hypothermia, feeding difficulty, jaundice, and increased risk of infection. Care of the LBW/preterm baby include kangaroo mother care (KMC) or prolonged skin-to-skin care, keeping babies warm, immediate and exclusive breastfeeding, feeding assistance, prevention

## PROGRAMMATIC EXAMPLE 9.2: PROMOTING NEWBORN CORD CARE

**ORGANIZATION:** JSI Research & Training Institute, Inc., in partnership with the Government of Nepal

**LOCATION:** Nepal

**INTRODUCTION:** Chlorhexidine (CHX) is a broad spectrum antiseptic that reduces bacterial colonization on the umbilical stump of newborns. JSI is assisting the Government of Nepal and other partners to reduce neonatal mortality by scaling up the use of chlorhexidine for umbilical cord care. Since its inception, 1.5 million babies received CHX, 5,800 newborn deaths were prevented, and 67% of newborns now have access to CHX. The April/May 2015 earthquake resulted in 9,000 people dying, 800,000 houses damaged, and 500 health facilities destroyed.

**PROJECT DESCRIPTION:** Following the earthquakes in 2015, the JSI-led program Chlorhexidine Navi Care Program (CNCP) quickly mobilized female community health volunteers (FCHVs) and staff to respond in the 15 districts most affected and rapidly distributed CHX and trained health workers in its use thereby quickly scaling-up services to help those most affected.

**RESULTS:** Within months post-earthquake, JSI specifically assisted with continued scale-up of the program, distribution of the emergency relief packages for health volunteers, and capacity-building of service providers (1,308 health workers and 703 FCHVs). Consequently, the program supplied around 65,490 of CHX gel tubes in these districts.

**LESSONS LEARNED:** Existing programs, staff, community members, and structures can be rapidly mobilized post disaster, thus expanding and/or returning to comprehensive MNH services quickly.

## BOX 9.9: KEY NEWBORN CARE PRACTICES

- Delayed bathing
- Skin-to-skin contact
- Clean cord care
- Exclusive breastfeeding
- Immunization

of infection and early identification and appropriate treatment of infections and complications.

## POSTNATAL MATERNAL AND NEWBORN CARE

The postnatal period is a time of rapidly occurring physiological changes for the mother and baby, with the first 24-48 hours being the most critical. Sixty percent of maternal deaths and 40% of neonatal deaths occur in the first 24 hours following childbirth. Following the non-complicated delivery of a healthy term baby, it is recommended to keep mother and baby in the health facility for observation for at least 24 hours. If discharged prior to 48 hours following delivery, a qualified provider must assess mother and baby within 24-48 hours after discharge. Ensure health workers are trained in recognizing postpartum complications and referring mothers and newborns who may need additional observation or treatment. Inform families to know the danger signs for postpartum mothers and newborns in order to seek care early if needed. Where possible all postpartum women should also have a home visit within the first week regardless of where she gave birth.

At least three additional postnatal contacts are recommended for all mothers and newborns, on day 3 (48-72 hours), between days 7-14 after birth, and 6 weeks after birth. These visits provide an occasion to assess and discuss hygiene, breastfeeding, and appropriate methods and timing of family planning. Ensure health providers support early and exclusive breastfeeding and discuss appropriate nutrition with the mother. These visits also provide an opportunity to weigh the newborn, discuss his or her care, and provide referrals; newborns must be referred to the under-5 clinic for immunizations, growth monitoring, and other well-child services.

### Breastfeeding

Breastfeeding is particularly important in humanitarian settings. The risks associated with bottle feeding and breast-milk substitutes are dramatically increased when there is poor hygiene, crowding, and limited access to clean water and fuel. In these situations, breast milk may be the only safe and sustainable source of food for infants. Therefore,

it is important to promote an environment that supports exclusive breastfeeding by promoting uninterrupted skin-to-skin contact, helping mothers initiate breastfeeding within an hour of birth, showing mothers how to express breast milk, giving no food or drink other than breast milk unless medically indicated, encouraging mothers and babies to remain together, and encouraging breastfeeding on demand without restriction on length or frequency of feeding. On-demand breastfeeding during the first 6 months also provides contraceptive protection, provided menses has not returned and no other food is given to the baby (lactational amenorrhea method).

### Post-partum family planning

The purpose of postpartum family planning is to help women decide on the contraceptive method they want to use, initiate use of the method, and support her to continue contraceptive use for 2 years or longer, depending on the reproductive intentions of the woman or couple. Counseling on PFP can be provided at many points of contact in the health system from the antenatal period to 12 months after birth. An important consideration when planning a PFP program or intervention is clinical safety, that is, which methods can be used at what point in time following birth and given the mother's breastfeeding status (see Chapter 7).

## RAISING AWARENESS AND INCREASING UTILIZATION OF MNH SERVICES

To make sure that the services provided are appropriate, of the highest quality, and fully utilized, SRH Coordinators and health program managers must ensure that:

- All women and their families know where to obtain assistance for ANC, childbirth, and postnatal care and how to recognize signs of complications
- MNH services are provided by competent, motivated, and skilled staff working within an enabling environment, including having appropriate and sufficient supplies, receiving refresher trainings and close supervision
- Services are free from harm and ill treatment which might otherwise discourage women from seeking services, including delivery at a facility with a skilled birth attendant
- Service providers understand and respectfully discuss

community beliefs and practices and health-seeking behaviors related to pregnancy and childbirth, such as nutrition, birthing positions, presence of relatives for support, and traditional practices both positive (breastfeeding) and harmful (female genital cutting)

SRH Coordinators and health program managers can use the model of the **Three Delays** to identify barriers to service utilization in their setting.

## BOX 9.10: DEFINING THE THREE DELAYS

- **Delay 1:** Delay in the decision to seek care
- **Delay 2:** Delay in reaching care
- **Delay 3:** Delay in receiving quality care

## 9.4 PROGRAMMING FOR COMPREHENSIVE MATERNAL AND NEWBORN HEALTH

### 9.4.1 Needs assessments

After the MISP is in place, integrate MNH considerations into needs assessments for comprehensive SRH planning in order to design an appropriate and comprehensive MNH program. Using a combination of tools, SRH Coordinators need to collect or estimate the following information, in coordination with other health sector/cluster actors:

### POPULATION CHARACTERISTICS

- The size of affected population and its geographical distribution
- Demographic indicators about the MNH status of the affected population prior to the crisis, for example, the maternal mortality ratio (MMR), neonatal mortality rate (NMR), crude birth rate (CBR), general or total fertility rate (GFR, TFR), contraceptive prevalence rate (CPR), percentage of births with a skilled birth attendant (% SBA), etc.
- The number of women of childbearing age, pregnant women, and newborns
- The number of deliveries per month
- Beliefs, knowledge, attitudes, and practices of the

population related to pregnancy and childbirth

- Community awareness of and satisfaction with the MNH service availability and quality

## NATIONAL LEGISLATION AND POLICIES

SRH Coordinators, health program managers, and service providers must also be familiar with national legislation and policies related to MNH. For example, determine where there are laws, regulations or policies regarding:

- Reducing maternal mortality
- Access to and provision of MNH services. Pay particular attention to provisions on:
  - o Routine performance of maternal, perinatal, and neonatal death audits and reviews
  - o Licensing for skilled birth attendants
  - o Traditional birth attendants (TBAs)
  - o Use, distribution, and provision of medicines essential for maternal and neonatal health (including at the community level)
- Mandatory birth registration
- Testing pregnant women for HIV and prevention of mother-to-child transmission of HIV
- Treatment, care, and support for HIV positive pregnant women
- Third-party (i.e., a husband's) authorization to seek maternal health services
- Female genital cutting (FGC) and/or other harmful practices that have damaging consequences to maternal health
- The elimination of early and forced marriage, the minimum age of marriage, and/or free and full consent to marriage

## MNH SERVICE AVAILABILITY AND READINESS

Map existing health service delivery points by geographic location and type and the agency supporting/managing them. Each facility needs to be evaluated for its capacity

to provide quality MNH services, including EmONC, the availability of skilled health providers and medical supplies, and/or the possibility to refer to higher level services. Examples of information to collect include:

- Number, location, and type of health centers and hospitals
- Which among these facilities provide MNH services, including BEmONC and CEmONC
- Availability of functioning equipment, supplies, and medicines for MNH service delivery
- Provisions for standard precautions, including medical waste and placenta disposal facilities
- Number, availability, type and skill levels of health staff (training needs assessment)
- Availability of MNH protocols and guidelines
- On referral mechanisms:
  - o Distances from community to BEmONC facilities
  - o Distances from BEmONC to CEmONC facilities
  - o Feasible transport options
  - o Means of communication
  - o Protocols for managing and referring complications
- Availability of clean water, electricity, refrigeration, and sanitation (bathing and toilet facilities) at the service delivery points
- Availability of adequate nutrition for pregnant and lactating women
- Information, education, and communication (IEC) on the availability of services

### 9.4.2 Principles for working in maternal and newborn health

- Maintain focus on both the woman and the newborn (mother-baby dyad)
- Consider service capacity pre-crisis and resources available at different levels (start with where the capacity is)

- Maintain compliance with global clinical and program standards
- Ensure a continuum of woman/family-centered quality, respectful, and dignified care, free from harm and ill treatment, from pregnancy through the post-partum period

### 9.4.3 Programming considerations

#### LOGISTICS AND SUPPLY CHAIN

Logistics are critical for successful MNH service provision. In the initial phases of the emergency response, focus should be on ensuring that MNH service providers have life-saving commodities available and that transportation is available to facilitate timely referral of obstetric and newborn complications when needed. As the situation stabilizes and programs transition to provision of comprehensive MNH services, a broader range of logistics issues must be considered in program planning and implementation.

#### Procurement

In many settings, Inter-Agency Reproductive Health Kits (RH Kits) are the primary source of supplies for MISIP implementation. However, RH Kits are not intended to replace national supply chains, and efforts should be made to assess what is available and establish or repair public and private sector supply chains and pipelines as quickly as possible. When relying on RH Kits, it is important to note that RH Kits do not contain sufficient supplies for provision of comprehensive intrapartum care. For example, through 2018, the block of RH Kits (6-10) for health centers only includes enough supplies to stabilize and refer clients with obstetric or newborn complications. It does not include enough oxytocin for every woman to receive a uterotonic after delivery for PPH prevention, nor enough magnesium sulfate to administer both loading and maintenance doses to women with severe pre-eclampsia or eclampsia.

RH Kit contents can be used as a guide for procurement in the early phases of emergency response. However, every effort should be made to procure the full range of items on the WHO and/or national essential medicine lists for comprehensive MNH services as soon as possible. MNH

program managers should work with service providers and logistics teams to procure the correct items, in the correct dose and form, for the target population.

In times of crisis, large donations of infant formula, feeding bottles, and teats are often received from various sources. Although intentions are generally good, there is lack of awareness that such donations can do more harm than good as there are neither basic infrastructure nor adequate conditions to reduce the risks linked to the preparation of infant formula and other breast milk substitutes. Therefore, these donations should be avoided. Instead, suitable substitutes forming part of the regular inventory of foods and medicines must be procured, distributed, and fed only to the small number of infants who have to be fed on breast milk substitutes after a proper needs assessment.

#### Supply management

An important part of logistics for MNH is establishing the cold chain and there are some items within the RH Kits that need cold chain support. The quicker SRH Coordinators and health program managers establish this in an emergency response, the more flexibility and capacity there will be for programming. Solar powered refrigerators and mobile technologies for supply management are being used more often in emergencies.

#### Transportation for referrals

For every logistician working in emergency response and every MNH program manager, there are few things worse than needing transportation for a person in need of urgent health care but being unable to find it. Be it due to a lack of planning, a lack of resources, or the context, transportation seems to always top the list of programming needs just after staffing. However, there is one area that is often overlooked until there are tragic consequences: transportation for referral systems. These referral systems do not need to rely on the purchase of a brand new hard top vehicle, but should be as locally contextualized and reliable as possible. In some areas due to security, rented vehicles may be the most appropriate approach, while in others a system of donkey carts or even stretchers to hand carry women to the main road may be suitable. What matters is that that SRH Coordinators and health program managers begin planning at the beginning of any

MNH programmatic response whichever transportation referral system works the quickest and ensures access to emergency care within the resources of the program. Several forms of transportation may need to be connected in order to get a woman to the hospital. For example, the woman may be carried by stretcher to the main road where the ambulance meets her and takes her the remaining distance to the hospital.

## HUMAN RESOURCES AND TASK-SHARING

Levels of health facilities, their sizes and services, and the cadre of health providers vary among contexts, making it difficult to reach global consensus on an optimal number and composition of health workers. Programmers should therefore adhere to national level standards for numbers and profiles of health staff to ensure an adequate skill mix and capacity to provide maternal and newborn services. Human resources providing MNH services should be composed of a range of providers (e.g., doctors, midwives, nurses, pharmacists, community health workers

(CHWs)) who are trained, competent, compassionate, and respectful and work within an enabling environment and in adequate number to meet client volume with high quality of care. Ethnicity and gender of health providers may also be important aspects to consider in maternity care in certain contexts. Benefit and incentive schemes, including ensuring safe, gender-sensitive environments for staff should be considered in order to facilitate mental health, wellbeing, motivation and retention of health workers in remote and hardship settings.

While it is promising that training community health workers and/or TBAs could improve perinatal and neonatal outcomes, evidence is currently mixed and insufficient. As such, where skilled birth attendants are not available, or access to facilities is limited, training community health workers and/or TBAs in selected interventions may reduce poor health outcomes for neonates. However skilled birth attendants will continue to be essential to reduce maternal and newborn mortality.

## BOX 9.11: SKILLED BIRTH ATTENDANT VERSUS TRADITIONAL BIRTH ATTENDANT

A skilled birth attendant is defined as an accredited health professional – such as a midwife, doctor, or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirths, and the immediate postnatal period, and in the identification, management, and referral of complications in women and newborns.

Although traditional birth attendants, either trained or untrained, cannot be considered skilled providers, they often hold a special place in the community. Training

of TBAs to be skilled birth attendants is no longer recommended, but it is important to integrate them into other service delivery aspects of MNH. For example, TBAs can play a role in promoting sexual and reproductive health, addressing barriers to care, facilitating referrals to health facilities, and providing labor support to women. This can optimize community acceptance of MNH services and help build links between families, communities, local authorities, and reproductive health services.

Task-sharing MNH services is a critical strategy to expand access in settings with a shortage of health workers. Much evidence has been generated to support task-sharing key interventions from more senior staff to mid-level health workers and community health workers.

A quality assurance approach that ensures services are of high quality, respectful, regularly monitored, supported, and well-managed should be established. An effective quality assurance framework would ensure that staff achieve and maintain competencies on essential clinical

and interpersonal skills required to provide high quality MNH services. Provider performance should be assessed at baseline, gaps identified, and capacity building interventions identified including effective training models. It is important that training models be adapted to meet population needs and scope of work of cadres per national legislation and policies. Furthermore, participation of community and clients in project design and monitoring will help to ensure principles of quality services, including respectful care, are upheld.

## 9.4.4 Special issues and populations

### OBSTETRIC FISTULA

It is estimated that more than 2 million women suffer from untreated obstetric fistula and at least 50,000 to 100,000 new women are affected each year. The vast majority of fistula cases are caused by prolonged or obstructed labor, one of the leading direct causes of maternal mortality and morbidity.

SRH Coordinators and health program managers must ensure that national fistula programs, if they exist, reach refugee and internally displaced communities. Fistula eradication strategies include primary prevention, secondary prevention, treatment, and reintegration. Primary and secondary prevention include delaying early marriage and childbirth, improving nutrition for girls and adolescents, educating against harmful traditional practices, increasing education for women and girls, using the partograph correctly and consistently, and improving access to emergency obstetric care, especially caesarean surgeries.

### FEMALE GENITAL CUTTING

FGC-associated complications during pregnancy can be identified through history taking and pelvic examination during antenatal care. Where excision of part or all of the external genitalia and stitching/narrowing of the vaginal opening (Type III FGC) is common, the vulva area should be routinely inspected at the first ANC visit. Opening up of the infibulation is performed during the second trimester, after careful counseling of the woman and her partner. Once the infibulation has been opened up, episiotomy should only be performed if necessary during labor and if the woman gives informed consent.

When a woman with an unopened Type III FGC gives birth, the formation of rigid scar tissue around the vaginal opening is likely to lead to

## PROGRAMMATIC EXAMPLE 9.3 : DEVELOPING A NEWBORN CARE FIELD GUIDE

**ORGANIZATION:** Save the Children and other partners

**LOCATION:** South Sudan

**INTRODUCTION:** Relatively poor newborn outcomes persist in areas affected by conflict or political instability. Recognizing this need, Save the Children and the United Nations Children's Fund (UNICEF) led an interagency effort to develop the Newborn Health in Humanitarian Settings Field Guide (Field Guide). Save the Children, in collaboration with Johns Hopkins Bloomberg School of Public Health, UNICEF, International Medical Corps (IMC) and the US Centers for Disease Control and Prevention piloted implementation of the Field Guide in South Sudan. South Sudan is the world's newest country following decades of civil war with a high number of internally displaced people and refugees due to renewed conflict internally and within surrounding countries. The long history of conflict has resulted in a limited health workforce and poor medical supply chains and infrastructure.

The baseline study objectives:

- 1) What factors influence the implementation of the Field Guide among International Medical Corps health workers and program staff at the community and health facility level?
- 2) What are health worker attitudes toward the adoption of newborn practices?
- 3) What is the association between the intervention and changes in newborn care practices at baseline and 5 months post intervention?

**PROJECT DESCRIPTION:** The project was implemented through international non-governmental organization-run sites at the community, health center, and hospital levels in refugee and internally displaced camp settings. Key intervention areas were provision of newborn care supplies, training of community and facility health workers, and supervision and training of program managers. Cross-cutting areas included ensuring data quality and behavior change and communication.

**RESULTS:** Baseline and endline assessments were conducted using a mixed-methods approach. Results indicate improvements in knowledge and practices for community and facility health workers as well as knowledge and care-seeking behavior by mothers.

**LESSONS LEARNED:** This project revealed that 1) Provision of quality newborn care services is feasible; 2) Positive attitudes among the health workers towards the importance of newborn care practices exist; 3) Newborn-specific medicines and supplies are often lacking; and 4) Low knowledge among mothers and community and facility health workers on newborn danger signs and key practices exists.

delay in the second stage of labor, which may endanger both the woman and the baby. An anterior episiotomy, cutting the scarred infibulations, possibly extended into lateral episiotomies, may be needed for safe delivery. Alternatively, the baby may need to be delivered by caesarean. Providers need to be trained to not resuture the labia together after delivery, but to suture the edges separately on each side to avoid recreating an infibulation. Both partners need sensitive counseling to understand and accept the changes after deinfibulation.

## PREVENTION AND TREATMENT OF MALARIA

Malaria is the cause of 2%-15% of anemia in pregnant women in Africa, resulting in an increased risk of maternal mortality and morbidity. Malaria also increases the risk of spontaneous abortion, stillbirth, preterm birth, and low birth weight. An estimated 3%-8% of all infant deaths can be traced back to malaria infection in the mother. To prevent malaria in pregnancy:

- Advise women to cover doors and windows to prevent mosquitoes from entering the living space, avoid going out after dark or before dawn and use mosquito coils to either kill or drive mosquitoes away
- Encourage all pregnant women to sleep under insecticide-treated bed nets (ITN) from as early in pregnancy as possible and continue using an ITN during the postpartum period, together with their babies. Nets must be used all night, every night and cover the entire bed
- Provide intermittent preventive therapy of pregnant women with sulfadoxine-pyrimethamine (IPTp-SP) in areas of moderate to high malaria transmission. IPTp-SP should be initiated as early as possible in the second trimester. IPTp-SP is ideally administered as directly observed therapy and is recommended at each scheduled ANC visit until the time of delivery as long as doses are given at least one month apart
- Assess any pregnant woman with anemia and/or fever who has been exposed to malaria and treat her for malaria according to country guidelines
- An integrated package of interventions is needed to prevent malaria, iron deficiency, and anemia in

pregnancy. To ensure effectiveness of IPTp-SP, the dose of folic acid should be limited to less than 5 mg. Ideally, use a combined daily supplement of iron 60 mg and folic acid 0.4 mg starting as early as possible in pregnancy

## SCREENING FOR HIV/AIDS AND PREVENTION OF MOTHER-TO-CHILD TRANSMISSION

Screening for HIV and prevention of mother-to-child transmission is an essential component of comprehensive MNH services in many countries. An estimated 150,000 children were newly infected with HIV in 2015, over 90% of them through mother-to-child transmission. Without treatment, about half of these HIV positive children will die before their second birthday. Without intervention, the risk of mother-to-child transmission ranges from 15% to 45%. With specific interventions, the risk of transmission can be reduced to less than 2% in non-breastfeeding populations and to 5% or less in breastfeeding populations.

Key recommendations and principles of prevention of mother-to-child transmission (PMTCT):

- Offer all pregnant women voluntary HIV counseling and testing in the first ANC visit. Antiretroviral therapy (ART) should be initiated immediately in women who test positive for the first time once already pregnant, as per the recommendation to initiate ART in all adults living with HIV regardless of WHO clinical stage and CD4 cell count. Ideally pregnant HIV positive women should be initiated on lifelong treatment, but in the absence of this option the national protocol should be observed
- Pregnant women and mothers known to be HIV-positive should be provided with lifelong antiretroviral treatment or antiretroviral (ARV) prophylaxis throughout pregnancy and breastfeeding
- Mothers living with HIV should breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer (similar to the general population) while being fully supported for ART adherence
- The key to ensuring support within families is involving partners in programs for PMTCT and providing couples counseling and ongoing follow up

See Chapter 11 for the recommended ART regimen to use for pregnant and breastfeeding women.

### 9.4.5 Coordinating and making linkages

Strong inter-sectoral linkages are needed to provide comprehensive maternal and newborn health services.

Achieving and maintaining adequate water, sanitation and hygiene (WASH) services in health care facilities is critical for infection prevention and control. Clean and safe health care facilities also improve the experience of care, trust in the health system, and demand for services.

Links to mental health and psychosocial support programs are also essential. Depression, anxiety, and other maternal mental health problems are a common cause of disability during and after pregnancy, affecting the quality of life of both mothers and children.

Linkages to gender-based violence (GBV) prevention and response efforts are also essential. Women who experience violence during their pregnancies potentially face a number of complications to maternal and newborn health. Survivors of GBV need integrated and comprehensive care that addresses their legal, psychological and health needs, and the barriers they face in accessing services. Health care providers have an important role to play in both providing care and, in some cases, identifying those who have experienced violence and facilitating linkages to legal and social protection services.

### 9.4.6 Advocacy

At times, service providers may face difficult decisions or dilemmas when providing MNH information and services. Providing appropriate care may be restricted by national legislation, social or cultural norms, or medical misconceptions. For example, laws on age of marriage may be different for boys and girls and girls may therefore be subject to early and/or forced marriage. Social norms may prevent women from leaving their homes to go to a health facility for MNH services or certain groups of people in a humanitarian setting (e.g., refugees and internally displaced persons (IDPs)) may not be able to access EmONC services through government-sponsored program. Such norms, laws, and practices can be in conflict with internationally accepted human rights principles. SRH

managers or service providers may face such dilemmas and must be aware of agency/organization positions on these SRH issues. This information also needs to be included in the analysis of the situation and possible next steps.

When faced with a difficult situation, SRH Coordinators, health program managers, or service providers should first and foremost give priority to the client's safety and health as well as their own safety and that of colleagues. Next steps may include:

- Talking with a supervisor
- Discussing options with the client
- Finding out if the agency is engaged in advocacy on the issue and ways one can contribute
- Exploring linkages with and referrals to local organizations that might be able to help the client further
- While respecting the confidentiality of the client, working with colleagues and other SRH providers to identify how to avoid/handle such situations in the future
- Raising these concerns in health coordination meetings

## 9.5 HUMAN RIGHTS AND LEGAL CONSIDERATIONS

Respectful maternity care (RMC) in humanitarian settings is a woman's right, not a luxury. Ensuring that women are not only satisfied with their experiences of care but have a good birth experience can be the catalyst to ensuring they survive and thrive. Women's experiences with maternal and newborn health services can empower and comfort them, or can inflict lasting damage and emotional trauma. Mistreatment of women in maternity care is a global issue and undermines ongoing efforts to increase skilled birth attendance. Mistreatment is complex with many drivers, including the health system itself and gender inequities. Efforts to reduce mistreatment and advance RMC are integral to improving quality of care.

Respectful maternity care is a universal human right that is due to every childbearing woman in every health system and setting. The Universal Rights of Childbearing Women recognized in the Respectful Maternity Care Charter include:

- The right to be free from harm and ill treatment before, during, and after childbirth
- The right to information, informed consent and refusal, and respect for her choices and preferences (including the right to her choice of companionship during labor and delivery, where possible)
- The right to privacy and confidentiality before, during, and after childbirth
- The right to be treated with dignity and respect before, during, and after childbirth
- The right to equality, freedom from discrimination, and equitable care before, during, and after childbirth
- The right to healthcare and the highest attainable level of health including access to antenatal, delivery, and postpartum care for all mother-baby pairs and all necessary measures to reduce preventable maternal and perinatal mortality and morbidity
- The right to liberty, autonomy, self-determination, and freedom from coercion

The fulfilment of other human rights, such as the right to adequate food, shelter, clean water, information and education, are also key to ensuring the survival and health of mother and child.

## 9.6 MONITORING AND EVALUATION

### 9.6.1 MNH service availability and utilization

Ongoing monitoring of MNH services is essential to understand the needs of women and newborns in the acute emergency phase, and whether their needs are being met as response activities progress to providing comprehensive MNH services. Data that are required for monitoring can

be obtained through a variety of mechanisms, which are explained in greater detail in Chapter 5.

In the acute emergency phase, emergency obstetric and newborn care, essential newborn care, and referral pathways are areas of key concern to be assessed and monitored. As programs shift to comprehensive MNH service provision, monitoring efforts should move past tracking the availability of services and begin to assess utilization and quality of provided services. Data related to routine ANC, care during childbirth, post-natal care, and the workforce will, in most cases, be collected through facility-based systems. The registers and aggregated report templates should be standardized and simplified as much as possible. It is important to minimize the burden of monitoring efforts by only requiring the collection of data that will be used to make clinical and programmatic decisions.

Monitoring the existence and functionality of referral pathways is also key to providing quality MNH services in the aftermath of an emergency. Information about referrals received and made should be collected by facilities when possible (through registers or referral forms). Assessments of referral systems will require collaboration with all functioning health facilities and investigation into all requirements for a functional referral system. This will include facility mapping, knowledge of the capacities of each facility, transportation options, and communication channels.

### 9.6.2 MNH service quality

Quality of MNH services is an area that NGOs and funders are increasingly interested in assessing and monitoring. Quality refers to both the care that is provided as well as the experience of care, which can include the perspective of the provider and the client. There are many aspects of quality of care that can be monitored, from appropriate use of clinical interventions to client satisfaction, and the aspects that can be monitored will be determined by program objectives. To obtain data related to service quality, program managers can utilize facility records but will also need to utilize other data collection means which can include client and provider interviews, facility assessments, direct service observations, and focus groups with clients and/or providers.

## MATERNAL AND PERINATAL DEATH SURVEILLANCE AND RESPONSE

Mortality audits and near-miss reviews are tools that can be used to assess quality of care. Reviews of maternal deaths, stillbirths, and neonatal deaths, as well as cases where the woman or baby almost died, are used to identify the factors leading to the complications or death. They also help identify health system breakdowns and can inspire local solutions to prevent such complications or deaths in the future. There are several different techniques that can be used to conduct maternal and perinatal mortality audits and near-miss reviews as part of a comprehensive MNH program. It is extremely important to start the assessments with an understanding that no names will be recorded and no blame will be assigned. This process of mortality audit and feedback, if combined with an action plan and clear targets, shows greater impact on health care practices and outcomes than other quality improvement strategies.

### 9.6.3 Priority indicators for monitoring MNH services in humanitarian settings

There are many indicators related to MNH that can be utilized to monitor program implementation and progress. In emergency contexts, data collection and monitoring efforts should be limited to necessary information and specific to program activities and goals. The top 11 indicators for monitoring efforts recommended are listed below.

#### PERCENT OF PREGNANT WOMEN WHO HAD AT LEAST 4 ANTENATAL VISITS DURING PREGNANCY

- Definition: Number of women giving birth who received antenatal care from a skilled provider 4 or more times during pregnancy divided by the total number of live births in a given period
- Purpose/rationale: Antenatal care coverage is the recommended indicator for access to care during pregnancy
- Data collection methods and considerations: Data can be collected from representative household surveys. In some settings, facility data and vital registration systems may also be used

#### SKILLED BIRTH ATTENDANCE RATE

- Definition: Percent of live births attended by skilled personnel in a given period (number of births attended by doctors/nurses/midwives trained in providing obstetric and newborn care divided by the total number of live births in the same period)
- Purpose/rationale: Most non-abortion-related maternal deaths happen during labor and delivery or within the first few days following birth. Skilled birth attendance rate is the recommended indicator for access to lifesaving care during childbirth
- Data collection methods and considerations: Data can be collected from representative household surveys or demographic/health surveillance systems. In some settings, facility data and vital registration systems may also be used

#### PERCENT OF WOMEN AND GIRLS GIVING BIRTH AT A FACILITY WHO RECEIVE A UTEROTONIC IMMEDIATELY AFTER BIRTH FOR PREVENTION OF POST-PARTUM HEMORRHAGE

- Definition: Number of women who received a uterotonic (oxytocin or misoprostol) in the third stage of labor divided by the total number of women giving birth in the same period
- Purpose/rationale: Post-partum hemorrhage is the leading cause of maternal mortality in low-income countries and the primary cause of nearly one-quarter of maternal deaths globally. Uterotonic administration immediately after birth is the recommended indicator for quality of care during childbirth
- Data collection methods and considerations: Data should be collected from facility records

#### PERCENT OF MOTHER-BABY DYADS WHO RECEIVE POSTNATAL CARE WITHIN TWO DAYS OF CHILDBIRTH

- Definition: Number of women/girls and their babies who receive postnatal care within two days of childbirth divided by the total number of women/girls with a live birth in a given period

- Purpose/rationale: Early postnatal care is critical for detection of complications in postpartum women and their newborns. Postnatal care coverage is the recommended indicator for access to postnatal care
- Data collection methods and considerations: Data can be collected from representative household surveys. In some settings, facility records may also be used

### AVAILABILITY OF EMONC FACILITIES

- Definition: The number of facilities providing basic and comprehensive obstetric services (known as signal functions) at least once in the previous 3 months per 500,000 population
- Purpose/rationale: This indicator demonstrates the availability of life-saving obstetric care services. It is intended to reflect how facilities are actually functioning and not how they are supposed to function
- Data collection methods and considerations: Data can be collected from facility surveys that examine medical records or service statistics. Interviews with knowledgeable staff who attend obstetric patients are a second, albeit, potentially more biased source of information than written records

### CESAREAN SECTIONS AS A PROPORTION OF ALL BIRTHS

- Definition: Number of live births at a facility delivered by caesarean section divided by the number of live births at a facility in a given time
- Rationale: This indicator is a marker of comprehensive emergency obstetric care and provides insight for both maternal and newborn care. If the percentage is high (expected range 5-15%), it may mean that there is use of non-indicated caesarean sections. When aggregated by facility, it may also highlight inequities of human resources, training, and equipment/supplies
- Data collection: Data should be collected from facility records. Women who are transferred to referral health facilities because of obstetric complications should be included, although the ability to obtain that data will depend on the strength of the referral system

### DIRECT OBSTETRIC CASE FATALITY RATE (OR INSTITUTIONAL MATERNAL MORTALITY RATE IF CAUSE OF DEATH CANNOT BE CONFIRMED)

- Definition: Number of women giving birth at a facility who die before discharge due to direct obstetric causes divided by the total number of women giving birth at the facility in a given time
- Purpose/rationale: Maternal deaths are rare events, and it may not be practical to conduct large-scale surveys required to estimate maternal mortality at a population level. Direct obstetric case fatality rate is a recommended indicator for the availability and quality of emergency care
- Data collection methods and considerations: The data should be collected from facility records

### STILLBIRTH RATE

- Definition: Number of babies born after 28 weeks gestation born with no signs of life divided by the total number of births in a given period
- Purpose/rationale: Stillbirth rate is an important indicator of the quality of care during childbirth
- Data collection methods and considerations: The data should be collected from facility records

### EARLY NEONATAL MORTALITY RATE (PRE-DISCHARGE)

- Definition: Number of babies born at a facility that die during the first 24 hours of life (or before discharge if staying less than 24 hours) divided by the total number of live births at that facility in a given period
- Purpose/rationale: Worldwide, nearly 2 million infants die each year around the time of delivery. Early neonatal deaths include neonates born at term who could not be resuscitated, for whom resuscitation was not available, or who had a specific birth trauma, where death occurred within 24 hours of delivery
- Data collection methods and considerations: The data should be collected from facility records

## NEONATAL RESUSCITATION RATE

- Definition: Number of babies successfully resuscitated divided by the number of babies born at a facility in a given time period that are not breathing/crying at birth
- Data collection methods and considerations: The data should be collected from facility records

## PROPORTION OF BABIES WITH LBW

- Definition: Number of babies born weighing less than 2500 grams divided by the total number of live births in a given period
- Purpose/rationale: Low birth weight is either the result of preterm birth or restricted fetal growth. Risks of neonatal mortality are significantly higher among babies with low birthweight
- Data collection methods and considerations: The data should be collected from facility records

## 9.7 FURTHER READING AND ADDITIONAL RESOURCES

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