Newborn Health in Humanitarian Settings

FIELD GUIDE

Save the Children

unicef

Newborn Health in Humanitarian Settings

FIELD GUIDE

INTERIM VERSION

UNICEF - Programme Division
3 United Nations Plaza
New York, NY 10017 USA
www.unicef.org

© United Nations Children's Fund (UNICEF), and Save the Children 2015
All rights reserved.

This compendium is based on country-level documentation and data. While carefully reviewed, it is not edited or fact checked to official UN publication standards. Statements in the case studies do not imply or constitute official opinions or policy positions of either The United Nations, UNICEF or Save the Children

Table of Contents

ACKNOWLEDGEMENTS

The *Newborn Health in Humanitarian Settings: Field Guide* is the result of inter-agency collaboration among representatives from the United Nations High Commissioner for Refugees (UNHCR), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention (CDC), International Rescue Committee (IRC), Save the Children, World Vision International, International Medical Core (IMC), Medecins Sans Frontieres (MSF), and Women's Refugee Commission (WRC).

Writers: Judith Robb-McCord and Rachael Sacks

Technical Reviewers (in alphabetical order): Ribka Amsalu (Save the Children), Nadine Cornier (UNHCR), Laura Cremonini (Save the Children), Bernadette Daelmans (WHO), Joseph de Graft - Johnson (Save the Children), Wilma Doedens (UNFPA), Preetha Iyengar (Save the Children) Kate Kerber (Save the Children), Sandra Krause (WRC), Janet Myers (IMC), Diane Morof (CDC),

Heather Papowitz (UNICEF), Nicolas Peyraud (MSF), Paul Robinson (IMC), Severin Ritter Von Xylander (WHO), Marian Schilperoord, Lisa Thomas (WHO), Basia Tomczyk (CDC), Maria Tsolka, Stephen Wall (Save the Children), and Bina Valsangkar (Save the Children). Reviewers drew on their wealth of experience and their commitment to and knowledge about Reproductive, maternal, newborn, child and adolescent Health (RMNCAH) in humanitarian settings to ensure the *Field Guide* is relevant and adherent to international standards and guidelines for newborn care.

Co-chairs of the newborn health in humanitarian settings working group: Ribka Amsalu (Save the Children), Heather Papowitz (UNICEF), Basia Tomczyk (CDC), and Sandy Krause (WRC).

This *Field Guide* is a companion to the *Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings (2010)*, providing information related specifically to newborn care during the neonatal period (days 0-28 of life). It has been designed as an enhancement to national strategies and programs aimed at improving the lives of newborns and their mothers, and to strategies such as the *Every New Born Action Plan* (ENAP).[1] We encourage its use in advocacy and strengthening efforts of existing country programs for newborn care, regardless of whether such programs were developed in response to humanitarian crises or as permanent systems during times of stability. Our ultimate aim is to improve the survival of newborns in humanitarian settings.

We welcome your feedback. Please send comments and suggestions to Heather Papowitz (hpapowitz@unicef.org) and Ribka Amsalu (ramsalu@savethechildren.org) future revisions. Funding for this *Field Guide* was provided by Saving Newborn Lives/Save the Children and UNICEF.

1 WHO, UNICEF. *Every Newborn Action Plan*. Genva, Switzerland: WHO; 2014. http://www.who.int/maternal_child_adolescent/topics/newborn/every-newborn-action-plan-draft.pdf

ABBREVIATIONS

ACS	Antenatal Corticosteroids
ANC	Antenatal Care
ART	Antiretroviral Therapy
BCC	Behavior Change Communication
BEmOC	Basic Emergency Obstetric Care
CBR	Crude Birth Rate
CDC	U.S. Centers for Disease Control and Prevention
CEmOC	Comprehensive Emergency Obstetric Care
CHW	Community Health Worker
CHX	Chlorhexidine
CPR	Contraceptive Prevalence Rate
CPAP	Continuous Positive Airway Pressure
CSF	Cerebral Spinal Fluid
DRC	The Democratic Republic of Congo
ENC	Essential Newborn Care
GBS	Group B Streptococci
HBB	Helping Babies Breathe
HFA	Health Facility Assessment
HIV	Human Immunodeficiency Virus
IAFM	*Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings*
ICCM	Integrated Community Case Management
IDP	Internally Displaced Person
IM	Intramuscular
IMCI	Integrated Management of Childhood Illnesses

IPTp	Intermittent Preventive Treatment of Malaria during pregnancy
ITN	Insecticide Treated Net
IV	Intravenous
KMC	Kangaroo Mother Care
LBW	Low Birth Weight
MISP	Minimum Initial Service Package for Reproductive Health in Crisis Situations
MMR	Maternal Mortality Ratio
M&E	Monitoring and Evaluation
MNH	Maternal and newborn health
NMR	Neonatal Mortality Rate
NGO	Non-Governmental Organization
PNC	Postnatal Care
pPROM	Preterm Premature Rupture of Membranes
RMNCAH	Reproductive, Maternal, Newborn and Child Adolescent health
SARA	Service Availability and Readiness Assessment
SGA	Small Size for Gestational Age
STI	Sexually Transmitted Infection
SBR	Stillbirth Rate
TFR	Total Fertility Rate
U5MR	Under-five Mortality Rate
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

1 INTRODUCTION

1.1 What is the Purpose of this Field Guide?

The *Newborn Health in Humanitarian Settings: Field Guide* provides guidance and tools to reduce neonatal morbidity and mortality in humanitarian crisis situations that result from natural disasters, armed conflicts, political turmoil and other social and systemic upheavals.

The *Field Guide* focuses on the unique challenges surrounding the 28-day neonatal period following birth. It complements guidance provided by the *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings*[2] *(IAFM)* for building reproductive, maternal, newborn and child health programs along a comprehensive care continuum. The *IAFM* was first published in 1996 (as the *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings*), calling the attention of the international community to the urgent need to prioritize reproductive health within health responses to humanitarian crises. The current edition of the *IAFM*, released for field testing in 2010, includes the *Minimum Initial Service Package (MISP) for Reproductive Health in Crisis Situations*, describing essential services to be established at the onset of an emergency with recommendations and guidelines for the establishment of more comprehensive reproductive health services as situations stabilize.

2 Inter-agency Working Group on Reproductive Health in Crises. *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings: 2010 Revision for Field Testing*. IAWG; 2012.

This *Field Guide* builds upon the *IAFM* guidance by focusing on field implementation of the most critical newborn health services, prioritizing lifesaving activities that can be introduced relatively quickly, without specialist training in advanced newborn care. It provides guidance to program managers regarding the initiation of newborn health services during the acute phase of a humanitarian crisis as well as the enhancement and expansion of these services over time, as the setting allows.

The epidemiology, interventions, and services highlighted in this *Field Guide* are not unique to humanitarian settings; information presented here is derived from existing World Health Organization (WHO) standards and guidelines the basic care required for all babies, and services to prevent and manage the three main causes of newborn mortality: severe infections, intrapartum-related complications and prematurity.

1.2 Who is the Field Guide Intended For?

The *Newborn Health in Humanitarian Settings: Field Guide* provides essential guidance and tools to health staff involved in designing, managing, monitoring and evaluating newborn health services within humanitarian settings. Also targeted are general program and surge staff deployed for emergency response, including field-level health program managers who may originate from host governments, local and international non-governmental organizations (NGOs), United Nations agencies, donor organizations or private voluntary organizations. The information presented here may also be useful to health policy staff and program leaders at the regional and national levels advocating for, prioritizing and scaling up existing newborn care interventions in crisis situations.

The *Field Guide* is not a clinical guide; rather, the guidance and tools presented here are designed to assist humanitarian programs to develop new initiatives to provide newborn care, as well as to support the expansion of newborn health services within existing humanitarian response plans. The *Field Guide* includes abbreviated clinical and technical aspects of newborn health services as well as planning and programmatic aspects in order to support those staff working at all points along the continuum of health service planning and implementation: before a crisis, as a component in the disaster preparedness plan of a local, regional or national health program; during a crisis, as acute health care needs arise; and/or immediately following a crisis, when health services are being re-established. Certain sections of the *Field Guide* may prove more useful to organizational leaders and managers, while others may be more relevant to field staff.

The language use in this *Field Guide* is directive in tone, describing how to develop and implement various newborn health services and program components and to ensure essential supplies are ordered and available. In some instances, the *Field Guide* may direct readers to provide a specific service, to educate women and families, to conduct surveys or to carry out other similar activities. The intention of this instruction is to ensure that readers note essential activities and ensure they are completed.

1.3 How is the Field Guide Organized?

Background on Newborn Health. The *Field Guide* begins with an introduction to humanitarian settings and the challenges to providing health services within them, followed by an overview of the newborn epidemiology. The reader may use these facts to enhance communication and training materials for humanitarian health staff, as well as to advocate for increased attention to the topic of newborn health in crisis situations at the uppermost levels of policy and program development.

Technical Content: Newborn Health Services. This section includes abridged clinical and technical guidance for providing newborn

care,centered around preventing and treating the three main causes of newborn mortality during and immediately following humanitarian crises. The outlined services and required commodities are relevant whether crisis-affected populations are accessing health services through UN/NGO supported services (such as mobile clinics, or temporary clinics set up in camps) or via local health care systems. Links to resources and training materials are also included.

Program Implementation Considerations. This section presents guidance related to newborn health service development and implementation. Critical activities described in this section include developing key messages and behavior change communication (BCC) materials, developing referral systems, strengthening postnatal care at community level, and procuring medicines and commodities for newborn health supply kits.

Strategic Considerations. This section presents considerations for broader program development, service integration and coordination within humanitarian settings. Areas addressed include working with governments and humanitarian partner organizations, conducting a situation analysis, developing an integrated strategy and response plan and introducing a monitoring and evaluation (M&E) plan that incorporates key health indicators.

Resource List. Resources and references to complement the Field Guide are presented at the end of each chapter, and are comprised in a full list of recommended resources in this section. Resources are presented according to topic and chapters. These resources are intended for all readers, at all staff levels, functioning in diverse roles.

Annexes. A set of annexes containing practical tools and templates to facilitate newborn health interventions is included at the end of the *Field Guide*. Each annex is cited within the section of the document to which it relates. For many readers, these tools will form the most essential and practical components of the *Field Guide*. To maximize their benefit, apply these tools in the way described within the technical sections of the document.

Throughout the *Field Guide*, boxes and figures are used to differentiate key elements:

- **BLUE BOXES**, included throughout the text, contain examples, supporting facts and key details about topics
- **GREEN BOXES**, presented at the end of each chapter, identify important topical resources
- **FIGURES** display visual information to illustrate important facts about topics

The information provided in this Field Guide focuses on the first month of life because the newborn period is an identified gap and a key time to influence care throughout the life cycle. However, all services should be situated within a system that cares for women and older children as well. The *Newborn Health in Humanitarian Settings: Field Guide*, therefore, is not a "stand-alone" package. Apply it as an essential component within a comprehensive national approach to RNMCAH, complementing government services, the *IAFM/MISP* and other RNMCAH protocols currently in use. Specific areas that are ***not covered*** in this guide, but are critical complementary packages to these core newborn health services, include maternal health care; prevention of mother-to-child transmission (PMTCT) of HIV; water, sanitation and hygiene, nutrition interventions, early childhood development (EDC) and protection services. ■

2 BACKGROUND

2.1 Humanitarian Settings Across the Globe

A humanitarian crisis may result from a natural disaster, such as an earthquake, flood or epidemic, or from political turmoil, an armed conflict or other types of social upheavals. Humanitarian crises threaten the health, safety and wellbeing of a community or a large group of people across a region or a country, not just because of the impact of injuries and illnesses directly related to the crisis, but also because of the destruction of existing health services and systems resulting from the crisis, exacerbating the toll associated with the usual causes of morbidity and mortality in the affected area.

In recent years, humanitarian crises worldwide have intensified in terms of complexity and scale. Regional political turmoil and armed conflicts have produced the largest global numbers of refugees and internally displaced persons seen in 15 years. In the Middle East and North Africa, intense social and political upheavals, as well as armed conflicts continue to the present, and have resulted in major population displacements in

Libya, Syria, Yemen and elsewhere. Similarly, conflicts in Africa, such as in the Central African Republic (CAR), Democratic Republic of the Congo (DRC), Mali and South Sudan have produced major population displacements (Box 2.1). Globally, a trend of increasing insecurity and violence has been documented in these crisis situations, alongside shrinking humanitarian-designated space coupled with an exacerbation of attacks against health workers and healthcare facilities.

In parallel, natural disasters regularly wreak havoc on populations in low-resource settings worldwide. In areas where famine, floods and other natural crises may already threaten populations, climate change has added a new menace. Examples include more frequent and severe droughts in the Horn of Africa and the Sahel; floods, particularly in Pakistan and other Asian nations; and windstorms, in Myanmar, the Philippines and elsewhere. In addition, the past decade has seen some of the most devastating earthquakes and tsunamis ever documented; examples include Haiti, Japan and Indonesia. In some countries, these natural disasters may be exacerbated by political and social turmoil and armed conflicts, producing complex, challenging humanitarian crises requiring urgent, comprehensive and effective responses.

BOX 2.1. The DRC: a humanitarian setting with no end in sight

Since 1998, in the DRC war, hunger and disease have killed more than 5 million people. Millions have been displaced, and the health system has been destroyed. It is statistically more dangerous to be a woman or a child than it is to be a soldier in the DRC: 1 child in 8 does not survive to age 5, and 21,000 women die each year from causes related to pregnancy or childbirth.

Humanitarian response programs must incorporate services tailored to the special needs of pregnant women and their newborns in these complex settings to protect their health and survival.

UNICEF: *State of the World's Children 2015. New York City, NY: UNICEF; 2014. http://sowc2015.unicef.org/ in Humanitarian CriseS*

Rebuilding health facilities and systems, providing emergency care and training health workers form critical components of any humanitarian response, and maternal and newborn health services comprise a key domain within that process. Some facts:

- More than 250 million children under age 5 live in countries affected by armed conflict;
- Worldwide, women and children are up to 14 times more likely than men to die in a humanitarian crisis;
- More than 80 % of the high-mortality countries have suffered either a recent conflict, recurring natural disasters or both, setting them back from achieving global targets for reduction of child deaths.[3]

2.2 Newborn Health: Epidemiology

"Newborn" and "neonatal" are terms that refer to the first 28 days of life. Mortality risk during the neonatal period is highest at the time of birth and decreases over the subsequent days and weeks. Up to 36% of neonatal deaths occur within the first 24 hours of birth and nearly 73% in the first week of life.[4] This period is also when most maternal deaths occur, rendering labour and delivery, and the early postnatal period, a dangerous time for both mothers and their babies.

Increasing access to maternal and newborn health (MNH) services and to lifesaving medical commodities may be the single most important way to improve these statistics. About one third (32%) of all mothers and newborns globally do not receive skilled care at birth[5], and evidence has shown that about three quarters of all babies born outside a health

3 Save the Children. State of the World's Mothers 2014: *Saving Mothers and Children in Humanitarian Crises*. Westport, CT: Save the Children; 2014. www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/SOWM_2014.PDF

4 Oza S, Cousens SN, Lawn JE, et al. Estimation of daily risk of neonatal death, including the day of birth, in 186 countries in 2013: a vital-registration and modelling-based study. *The Lancet Global Health, 2014*, 2(11):e635-644.

5 UNICEF. *State of the World's Children 2015*. New York City, NY: UNICEF; 2014. http://sowc2015.unicef.org/

facility do not receivean early postnatal care visit following delivery.[6] It is estimated that improving MNH services could prevent up to three out of four newborn deaths, specifically through the increased coverage and quality of preconception, antenatal, intrapartum, and postnatal interventions (*Box 2.2*).[7]

2.2.a. Global burden of newborn mortality

Deaths in the first month of life account for an increasing proportion of all deaths amongst children under-5 in every region of the world; now 44%. Yet up until recently these newborn deaths have received comparatively little attention to their causes and solutions. *Figure 2.1* presents a map of neonatal mortality, highlighting the important contribution of these deaths to total under-5 mortality globally, and *Figure 2.2* displays rates of progress for neonatal survival across the globe.

BOX 2.2. Available interventions scaled up can improve outcomes for every newborn and nations.

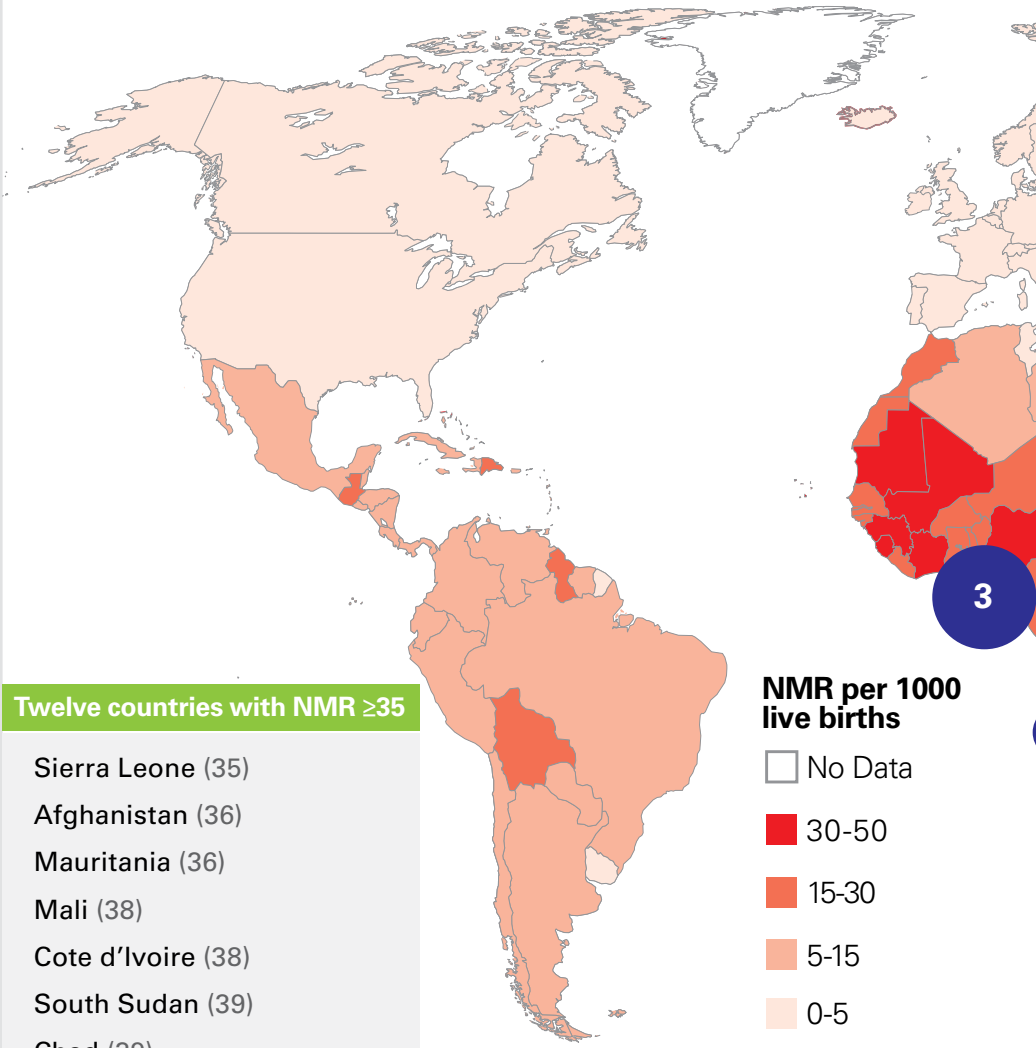
The health of mothers and their babies is so closely linked that the delivery of effective interventions has a triple return on investment with the potential to avert 71% of newborn deaths, 33% of stillbirths, and 54% of maternal deaths at full coverage. These interventions and packages can be scaled up within existing health systems. They are cost effective and will also benefit development outcomes and economic capital.

Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? Lancet 2014, 384(9940):347-70.

6 WHO, UNICEF. *Home visits for the newborn child: a strategy to improve survival – WHO/UNICEF Joint Statement*. Geneva, Switzerland: WHO; 2009. www.unicef.org/spanish/health/files/WHO_FCH_CAH_09.02_eng.pdf

7 Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *Lancet* 2014, 384(9940):347-70

Figure 2.1. Neonatal mortality rates (NMR) across the globe in 2015

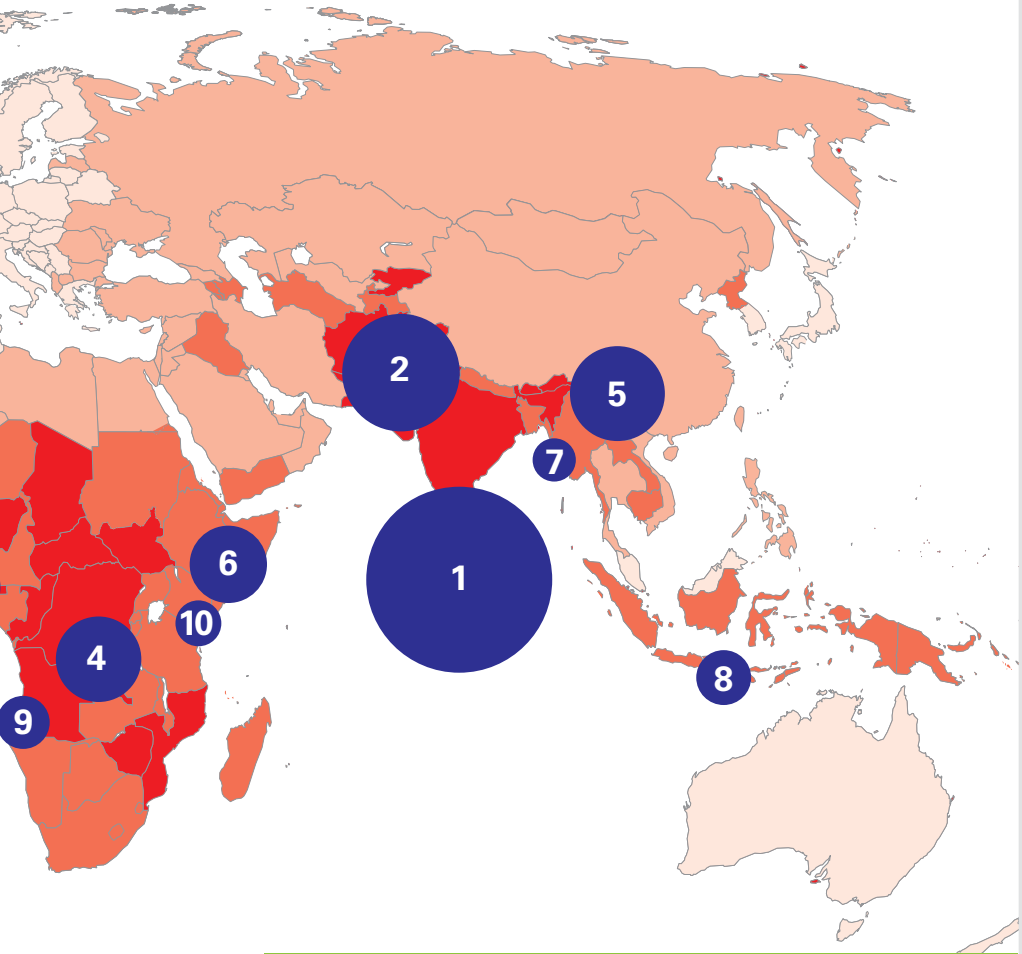


Twelve countries with NMR ≥35

- Sierra Leone (35)
- Afghanistan (36)
- Mauritania (36)
- Mali (38)
- Cote d'Ivoire (38)
- South Sudan (39)
- Chad (39)
- Guinea-Bissau (40)
- Somalia (40)
- Central African Republic (43)
- Pakistan (46)
- Angola (49)

Updated from Lawn JE, Blencowe H, Oza S, et al. Progress, priorities, and potential beyond survival. Lancet 2014, 384(9938): 189–20.

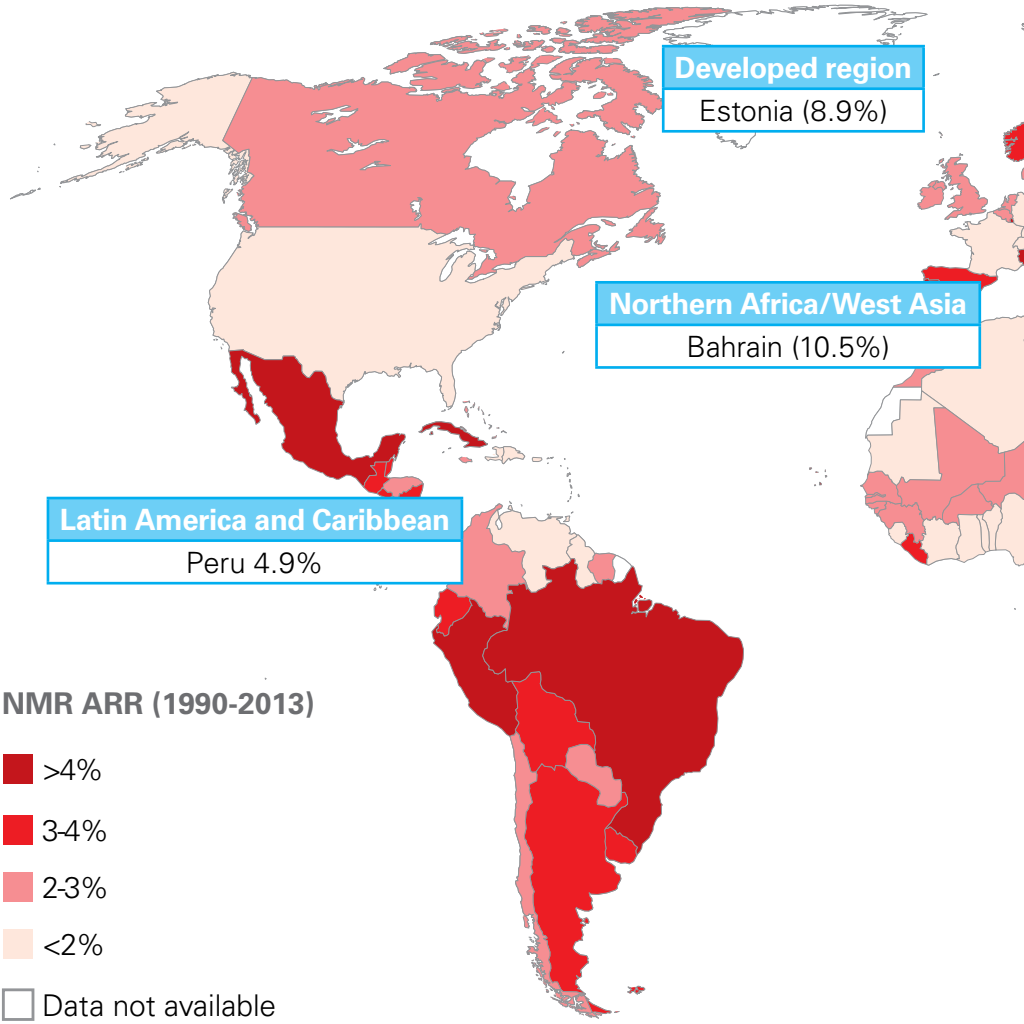
UNICEF, WHO, The World Bank, United Nations. Levels and trends in child mortality: Report 2015. New York, USA: UNICEF, 2015. www.unicef.org/publications/files/Child_Mortality_Report_2015_Web_8_Sept_15.pdf



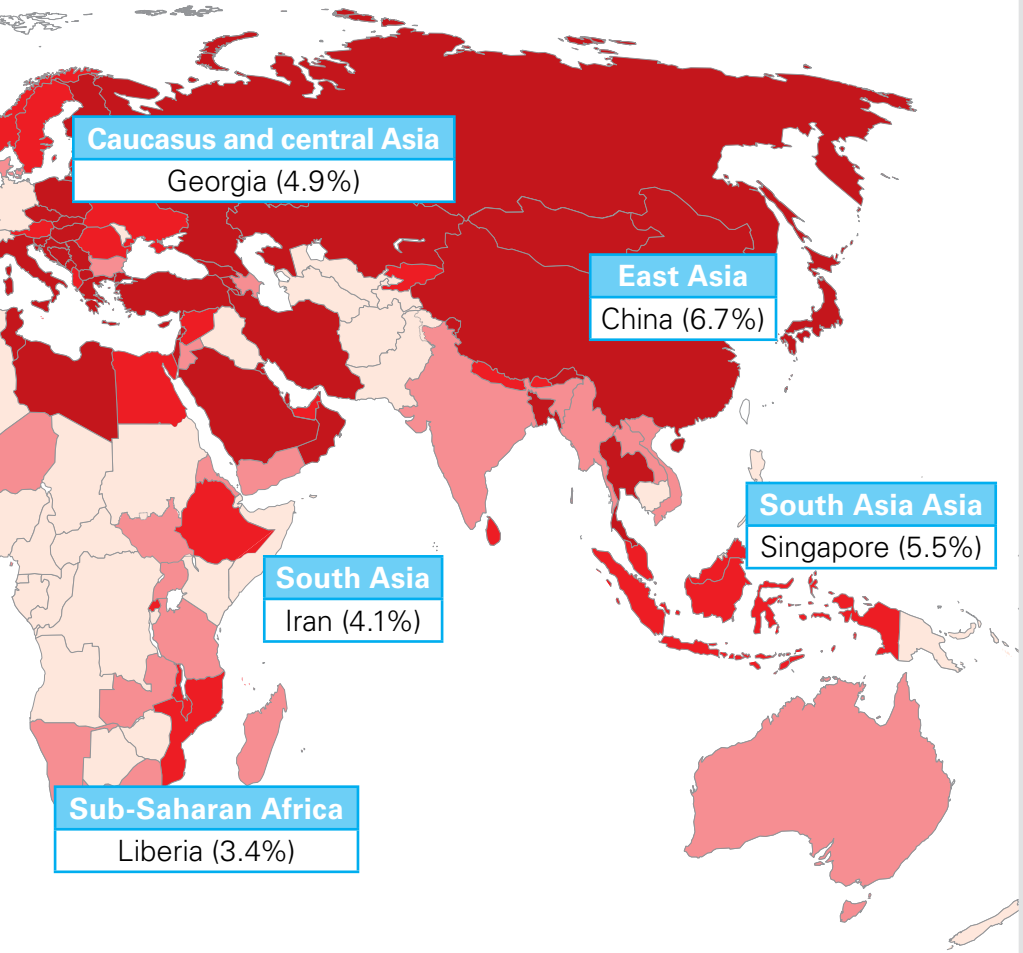
Ten countries with the highest neonatal death numbers

1 India (696,000)
2 Pakistan (245,000)
3 Nigeria (240,000)
4 Democratic Republic of the Congo (94,000)
5 China (93,000)
6 Ethiopia (87,000)
7 Bangladesh (74,000)
8 Indonesia (74,000)
9 Angola (53,000)
10 Tanzania (39,000)

Figure 2.2. Rates of progress for neonatal survival across the globe in 2015



Updated Lawn JE, Blencowe H, Oza S, et al. Progress, priorities, and potential beyond survival. Lancet 2014, 384(9938): 189–20.


Caucasus and central Asia
Georgia (4.9%)
East Asia
China (6.7%)
South Asia Asia
Singapore (5.5%)
South Asia
Iran (4.1%)
Sub-Saharan Africa
Liberia (3.4%)

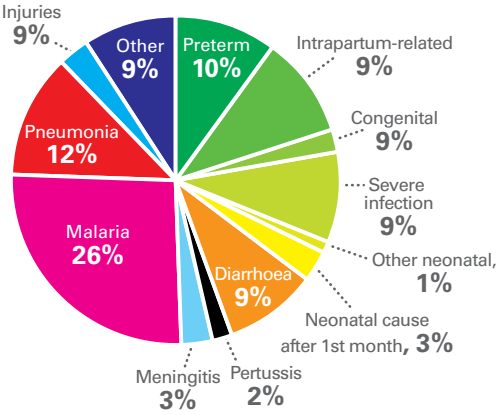
To further emphasize the importance of neonatal mortality as a contributor to overall under-5 mortality in diverse countries experiencing different humanitarian crises, *Figure 2.3*. displays the proportional contributions of different causes of child death in Central African Republic, the Philippines and Syria. According to 2013 data, under 5-year mortality rates differ substantially in these countries. Yet, in each country, deaths in the neonatal period account for the largest proportion of the under 5-year mortality burden:[8]

- In the CAR, which has the highest under 5-year mortality rate among these three examples, neonatal causes account for around one third of all under 5 deaths.
- In the Philippines, deaths in the first month of life account for nearly one half of all under-5 deaths.
- In Syria, where under-5 mortality was relatively low, neonatal mortality accounts for one half of all under-5 deaths.

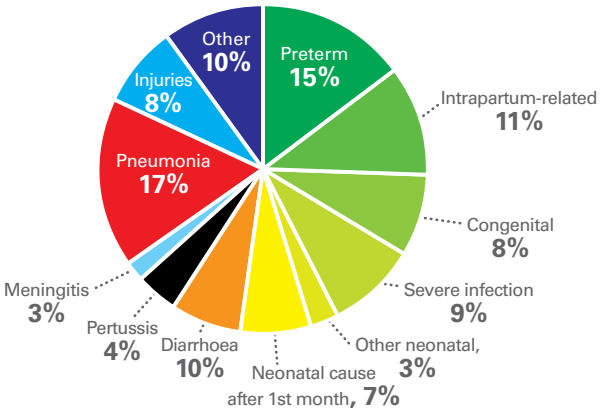
8 UNICEF. State of the World's Children 2015. New York City, NY: UNICEF; 2014. http://sowc2015.unicef.org/

Figure 2.3. Causes of neonatal and under-5 deaths in three countries impacted by humanitarian crises.

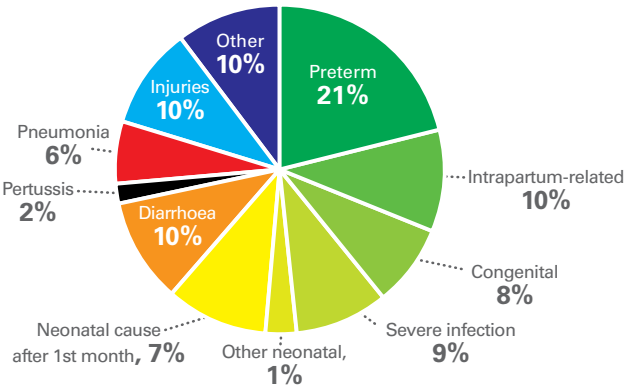
Central African Republic
U5MR: 130
NMR: 43



Philippines
U5MR: 28
NMR: 13



Syria
U5MR: 13
NMR: 7



Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. Lancet 2014 385(9966):430-40.

There has been little attempt to quantify the additional burden of deaths in the first month of life in emergency contexts but in all settings the proportion is significant. A comprehensive humanitarian response plan, in any region or nation, should incorporate newborn health services in order to ensure a safe and healthy start to life.

2.2.b. Principal causes of neonatal deaths

Globally, the three main causes of newborn deaths are direct preterm complications (36% of neonatal deaths worldwide), severe infection (23%), and intrapartum-related complications (23%).[9] *Figure 2.4.* details the burden of neonatal mortality by cause.

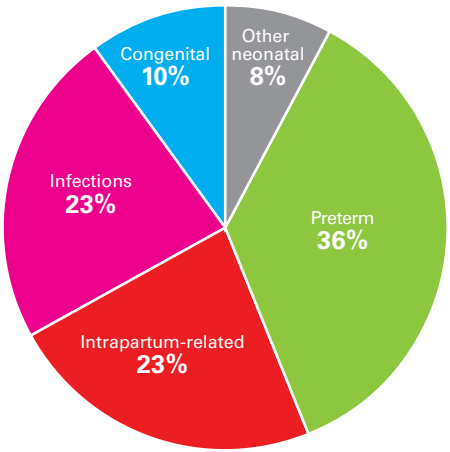
- **Preterm complications,** which refers to babies born before 37 completed weeks of gestation, is among the causes of low birth weight **(LBW)** among newborns, and renders newborns at higher risk of complications and death. *Extremely preterm* babies are born before 28 weeks of gestation; *very preterm* babies are born between 28-32 weeks of gestation; *moderate to late preterm* babies are those born between 32-37 weeks of gestation. Although babies born before 28 weeks gestation are likely to require intensive care, these cases comprise only 5% of total preterm births globally. Over 80% of premature babies are born as moderate to late preterm births and most of these do not need intensive care in order to survive. Up to 58% of premature babies could be saved globally through the provision of cost-effective care that can be feasibly delivered in low-resource settings.[10]
- **Severe infections** include neonatal sepsis, pneumonia, diarrhea, meningitis and tetanus. Globally, approximately 630,000[11] newborns die each year as a result of severe infections. Most of these deaths could be averted through preventive measures such

9 Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet* 2014.

10 Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *Lancet* 2014, 384(9940):347-70.

11 Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet* 2014 385(9966):430-40.

Figure 2.4. Major causes of newborn mortality



Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet* 2014 385(9966):430-40.

vaccination including tetanus toxoid, improving hygiene during labor and delivery and through clean cord care that incorporates the application of chlorhexidine; and by ensuring that curative care is available to sick newborns through transfers to higher-level facilities that are equipped to treat infections.

- **Intrapartum-related complications** includes conditions that occur during labor and delivery. Over 1800 newborns die every day due to complications of childbirth, plus many more stillbirths.[12] The time between a potentially catastrophic event during labour and death can be short, making the first minute a crucial time for the 10% of babies who do not breathe spontaneously at birth.

Most of the risk factors for three main causes of neonatal deaths are preventable or treatable. However, many cannot be predicted and rely on preparedness throughout pregnancy, birth and the postnatal period to access timely, quality care when needed, and the knowledge and ability to practice healthy behaviours at home.

12 Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet* 2014 385(9966):430-40.

Key resources to accompany Chapter 2

Humanitarian Settings:

- Inter-agency Working Group on Reproductive Health in Crises. *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings: 2010 Revision for Field Review*. IAWG, 2012. Available at: www.iawg.net/resources/field_manual.html#download
- Women's Commission for Refugee Women and Children. 2011. *Minimum Initial Service Package (MISP) for Reproductive Health in crisis Situations: A Distance Learning Module*. New York City, NY: UNFPA. Available at: www.unfpa.org/emergencies/manual/2.htm

Neonatal epidemiology:

- Lancet Every Newborn Series, 2014. www.thelancet.com/series/everynewborn
- Liu L, Oza S, Hogan D, et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet.* 2014 385(9966):430-40.
- Wang H, Liddell CA, Coates MM, et al. Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study. Lancet 2013 384(9947):957-79.
- The UN Inter-agency Group for Child Mortality Estimation, 2015. *Levels & trends in child mortality: Report 2015*. New York City, NY: UNICEF www.unicef.org/publications/files/Child_Mortality_Report_2015_Web_8_Sept_15.pdf
- UNICEF. *Committing to child survival: A Promise Renewed progress report, 2015.* New York City, NY: UNICEF. www.unicef.org/publications/files/APR_2015_9_Sep_15.pdf

3 NEWBORN HEALTH SERVICES

3.1 General Principles and Considerations

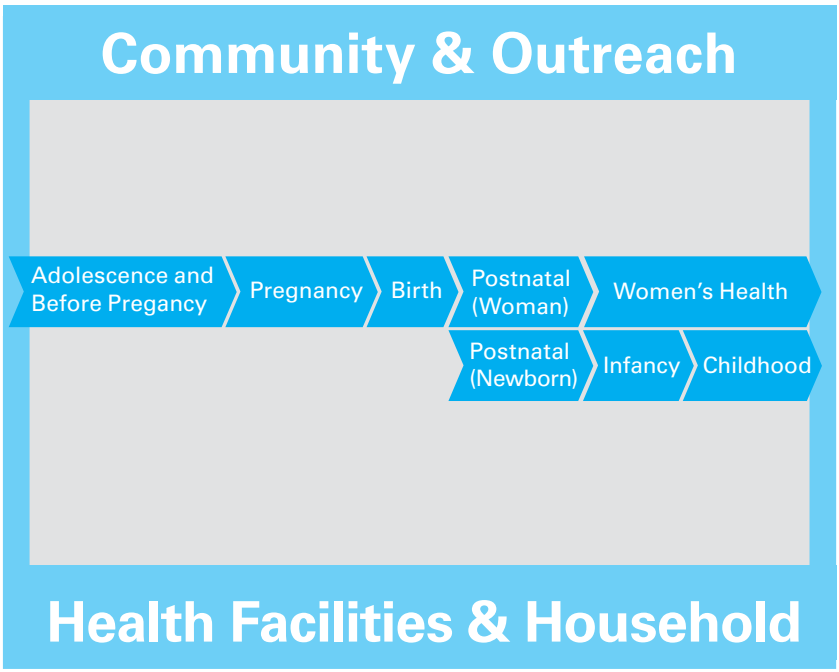
3.1.a. The Continuum of Care

The neonatal period is part of a continuum of care for mother and baby encompassing a spectrum of reproductive, maternal, newborn and child health (RMNCH) services (*Figure 3.1*). Beginning before pregnancy and continuing through labor and delivery, the immediate postnatal period, the extended postnatal period and childhood. Integrated service delivery extends from household to health facility, hospital and back home.

A safe birth and a healthy start in life are at the heart of thriving and stable communities.[13] Accordingly, the neonatal period merits special attention within humanitarian settings, when health services and systems may be interrupted and emergency support is brought in through national and international mechanisms. The newborn health services described in this *Field Guide* are intended to complement the spectrum of services for women and their babies offered through governmental and non-governmental channels across the continuum of RMNCH care.

13 Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? Lancet 2014, 384(9940):347-70.

Figure 3.1. Continuum of RHMCH services



Partnership for Maternal, Newborn & Child Health, 2011; available at: www.who.int/pmnch/about/continuum_of_care/en/
Adapted from WHO, 2005: Make every mother and child count

3.1.b. Levels of Care

In humanitarian settings, staff working at all levels should deliver RMNCH services across the continuum of care:

1. **Households/Community Settings (including camps).**
   This care is provided to women and babies in their homes or in camp settings by community health workers (CHWs), traditional birth attendants (TBAs), outreach workers or other trained health workers. These workers may be linked to a health post or peripheral health facility. The care is mainly promotive and preventive, with outreach services including follow-up of women and newborns after discharge from the health facility.

2. **Peripheral health facilities.** This care includes clinics operating out of permanent structures, temporary clinics in camp settings and mobile clinics. Typically, these primarily outpatient services are delivered by mid-level staff such as nurses and midwives, with support for referral to hospital if needed, and connections to community structures after discharge.
3. **Hospitals.** Inpatient referral care is provided by midwives, nurses and physicians with pharmacy and laboratory support services.

3.1.c. Challenges to Newborn Health Service Delivery

Humanitarian settings are characterized by myriad challenges that threaten the health of communities, including newborns and their mothers:

- **Service disruption and facility destruction.** This could include the breakdown of prevention programs, such as vaccination, vector control, and disruption of supply chains, reducing access to medicines and other commodities; shortages of health care providers and other health staff; reduced access to other essential services such as water, sanitation and hygiene, and nutritious foods; unusable roads and lack of transport vehicles.
- **Population movements.** Inability to access services among mobile populations; crowding in locations housing internally displaced persons (IDP) and refugees.
- **Competing priorities.** Injuries and displacements overwhelm existing health facilities and programs, rendering them unable to cope with the additional strain of urgent newborn care; funding may be routed to other areas of acute need, such as injury treatment and prevention and management of life-threatening epidemics (e.g., cholera) within the child and adult populations.
- **Lack of safety.** Threats to the security and safety of affected populations and the staff working to support them hinder access to and delivery of health care to women and babies before, during and following childbirth. Curfews, lack of transport, and other logistical challenges prevent women from accessing skilled delivery care at health facilities when they need it.

Preventing excess illness and death among newborns requires that care be available and functional, and tailored to the local situation (*Box 3.1*). In humanitarian settings that require international responses, the coping capacity of the affected community is overwhelmed, and external assistance is brought to the affected area. Staff designing and managing humanitarian response programs have a responsibility to ensure that protocols are in place to provide appropriate newborn care. Service providers should offer basic emergency obstetric care (BEmOC), comprehensive emergency obstetric care (CEmOC) (or appropriate referral), skilled birth attendants, essential newborn care (ENC), and identification and basic care for sick or small babies (or appropriate referral).

BOX 3.1. Managing Newborn Health Care in High-Risk Settings

Threats to safety and security are an unfortunate reality for pregnant and postnatal women, their families and the humanitarian health workers serving them within crisis settings. Safe access to health services for the crisis-affected population must be prioritized:

- Establish temporary health outposts/facilities as close as possible to the crisis-affected communities
- Provide mobile services when feasible and when the security situation allows
- Deploy home visiting staff (CHWs or others) that can safely reach pregnant and postnatal women in their households
- Ensure that health workers have the supplies they need, and are trained to detect newborn danger signs, treat life-threatening newborn conditions to the greatest extent possible and transfer pregnant and postnatal women to referral facilities (or hospitals) when the security situation allows

See *Chapter 4: Program Implementation Considerations (Community Level)* and *Chapter 5: Strategic Considerations (National Level)* for guidance on developing and implementing newborn health services in crisis settings.

Although each humanitarian crisis presents different issues and challenges to responders, the life-saving interventions and commodities presented in this section have been defined according to WHO-approved standards for newborn care, and comprise a supplementary package of care to improve MNH outcomes in all humanitarian settings. Adapt these recommendations to local needs, and incorporate them within the health services offered through existing and donor-supported services to improve upon guidelines already in place outlining minimum care and supply requirements for RMNCH care in crisis and refugee settings.

3.2 Essential Newborn Care (ENC)

- ***See Annex 1A*** *for a summary table of ENC services for all newborns, presented by level of care.*
- ***See Annex 2*** *for a summary table of newborn supply kit components, by level of care.*

ENC is the basic care required for every baby (*Box 3.2*). Irrespective of where the birth takes place, essential care for all newborns comprises **thermal care** (delayed bathing, drying and keeping the baby warm through skin-to-skin contact); **infection prevention** (promoting and supporting hand washing for all caregivers, providing hygienic umbilical cord and skin care); **feeding support** (early and exclusive breastfeeding); and **postnatal care**, including monitoring of newborns for **danger signs** of serious infections and identifying babies requiring additional care.

Immediately following birth and throughout the neonatal period at every visit, examine newborns for indications of life-threatening conditions. Danger signs for severe illness in newborns that all families and CHWs should be aware of are listed in *Box 3.3*. The condition of a newborn, especially those who are small, can deteriorate quickly. Families and CHWs should have a plan for seeking extra care that accounts for possible changes in the logistical and security situation in the local area.

BOX 3.2. ENC Components: Services for All Newborns

- **Thermal care:** Drying, warming, skin-to-skin contact, delayed bathing
- **Infection prevention/hygiene:** Clean birth practices, hand washing, clean cord/skin/eye care. Chlorhexidine cord care is recommended for newborns born at home and in settings where the neonatal mortality rate is above 30 per 1000 live births (*Box 3.7*).
- **Feeding support:** Skin-to-skin contact, support for immediate and exclusive breastfeeding, not discarding colostrum (or first milk)
- **Monitoring:** Frequent assessment for danger signs of serious infections and other conditions that require extra care outside the household or health post
- **Postnatal care checks:** Women and babies should receive care at or as close to home as possible in the first week of life. The first 24 hours are the most critical time and should be prioritized for a postnatal visit. Every effort should be made to reach those babies born at home as soon as possible after delivery.

3.2.a. ENC at the household level

During pregnancy/antenatal period: Identify pregnant women early through outreach and community informants, or through an antenatal care register at the local health facility. Conduct an initial visit with pregnant women in their homes. At that visit, promote the use of formal health facilities for antenatal care, delivery, and postnatal care. Provide information about the closest facility, location, hours of operation and options for transport to the facility. In crisis settings where access to facilities is not safe or is not possible with additional resources, care can be provided through ongoing home visits. WHO recommends a minimum of four antenatal visits commencing early in pregnancy (first trimester). Key activities in this period center around birth preparedness.

BOX 3.3. Danger Signs of Serious Illnesses in Newborns

Note: The below danger signs can be used by CHWs and family members to refer a newborn to a health facility for further care. See Box 3.6 for danger signs of newborn infection that can be used by formally trained medical personnel.

- Not feeding well
- Fits or convulsions
- Reduced activity or lack of movement
- Fast breathing (more than 60 breaths per minute)
- Severe chest indrawing
- Temperature above 37.5 degrees C
- Temperature below 35.5 degrees C
- Very small size at birth (<2.5 kg)

Note: if any of the danger signs are present, immediately refer to a health facility.

These include engaging community leaders and members, and developing a birth plan with the woman and family that include emergency transport, security, and monetary considerations. The family should be provided with a clean delivery kit, see contents as defined in Inter-agency Reproductive Health Kits for Crisis Situations, 5th edition, available at www.unfpa.org and newborn supply kit (*annex 2*). Women should be counseled on nutrition during pregnancy, reduced workload, and the importance of sleeping under an insecticide treated net (ITN) in malaria-endemic areas. They should also be counseled to visit the local health center as soon as possible in order to access HIV and malaria interventions, as well as vaccinations.

The importance of safe birth practices should also be introduced during pregnancy visits. One of the most critical interventions to prevent maternal and newborn death is the provision of care by skilled birth attendants in a health facility that is equipped with drugs and medical supplies needed to manage complications. Encourage delivery in a health facility, but inform families that if a birth happens to take place at home, they should go to the health facility as soon after birth as possible for an examination of both mother and baby. Discussions around early and exclusive breastfeeding and safe newborn care should also happen during this time.

During labor and delivery: No birth is without risk and therefore all should be supported by a skilled birth attendant with access to referral care if complications arise. During the birth, implement clean birth practices including maintaining clean hands, a clean perineum, a clean surface, and clean cord and tying instruments, sterile cutting instruments a clean cutting surface. Provide thermal care by immediately thoroughly drying the baby and placing the baby on mother's chest. For babies who are not breathing at the time of delivery, dry and rub the back vigorously two to three times (tactile stimulation); if breathing is not initiated, refer to *Section 3.5. Intrapartum complications*. For term newborns who are breathing at birth and do not require resuscitation, do not clamp the cord for at least one minute after birth.[14]

During the immediate postnatal period (within the first hour of delivery): Continue thermal care by placing the baby, skin-to-skin, on the mother's chest, and covering with a blanket and hat. Delay bathing the newborn for at least 24 hours to prevent heat loss and hypothermia. Initiate exclusive breastfeeding as soon after delivery as possible (within one hour). Continue clean practices such as handwashing for those handling the newborn to prevent infections. Provide eye care by giving the baby a single dose of tetracycline hydrochloride 1% eye ointment in each eye. Provide cord care by applying 7.1% chlorhexidine (CHX) digluconate gel or liquid to the cord. The application of CHX to the umbilical cord stump once per day from the first to the seventh day of life has contributed to reduction in neonatal mortality[15] in research studies that were conducted in Asian countries.. WHO recommends the use of CHX for cord care for all babies delivered at home in settings where the neonatal mortality rate is greater than 30 per 1000 live births.
Educate women and families to look for these danger signs, and to seek care promptly when they are detected. Identify, support, and if necessary refer newborns that need additional care *Section 3.3*, *3.4*, and *3.5*.

14 WHO. Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes, 2014. Geneva, Switzerland: World Health Organization. www.who.int/nutrition/publications/guidelines/cord_clamping/en/

15 PATH. *Chlorhexidine for umbilical cord care: A new, low-cost intervention to reduce newborn mortality.* Seattle, WA: PATH: February 2014. www.path.org/publications/detail.php?i=1556

During the first week after delivery (second hour following delivery up to seven days): If the newborn kit has not yet been given to the family, it can be provided at first postnatal visit at home or hospital. Conduct home visits on days 1, 3 and 7 of the newborn's life, or at least 3 times during the first week with the first visit as close to the first 24 hours as possible. Three-quarters of newborn deaths take place during the first week of life, so it is important that visits take place in this key window for saving lives. Continue health promotion activities including promotion of exclusive breastfeeding, thermal care for the baby, hand washing for people touching the baby and hygienic cord and skin care. Continue to examine the baby for danger signs of serious illnesses, and continue to encourage the family to look for these danger signs. If danger signs are detected, facilitate access for the mother and baby to the closest health facility or hospital. Encourage HIV-positive mothers to access HIV testing and other care for their newborns. Inform women and families of the importance of an immunization visit for the newborn at 6 weeks.

Consult *Annex 2A* for a list of newborn supply kit components for caring for newborns at home (or in the community), including a hat, towel, blanket and other items discussed above to promote health and protect against infections.

3.2.b. ENC in peripheral health facilities

During the pregnancy/antenatal period: In addition to the activities conducted at the household level, provide counseling on complication readiness. In malaria endemic areas, distribute ITNs to pregnant women to sleep under during pregnancy and with the newborn after delivery. Provide intermittent preventive treatment in pregnancy for malaria (IPTp) according to national guidelines. Provide two doses of tetanus toxoid vaccine at the appropriate interval; provide folate, iron and other micro-nutrient supplements as needed. Diagnose and promptly treat urinary tract infections, syphilis, other maternal illnesses and complications like pre-eclampsia and diabetes.

During labor and delivery: In addition to the activities described above at household level, if the peripheral health facility is equipped to do normal deliveries, monitor labor with the use of the partogram, documenting critical maternal and fetal statistics (e.g., cervical dilation, fetal heart rate, duration of labor). Manage maternal complications, and fetal distress; and be prepared to manage newborn complications such as asphyxia and take appropriate action if the need arises (*see Sections 3.3, 3.4, and 3.5*).

During the immediate postnatal period (within the first hour of delivery): Perform a complete physical examination within two hours of birth. Weigh the newborn baby and record birth weight appropriately. In addition to the activities described above, provide the newborn with 1 mg of vitamin K intramuscularly (IM) and provide immediate vaccination according to national vaccination protocol. Commonly used vaccines for newborns immediately after birth are Hepatitis B, Polio and BCG. The Hepatitis B vaccine should be especially encouraged in areas of high Hepatitis B endemnicity.[16] Provide birth certificate or record of birth card to the mother or family, in accordance with national practice.

During the first week after delivery (second hour following delivery up to seven days): Prior to discharge, assess mothers and their new babies for danger signs of serious infections and for other problems (e.g., congenital malformations, such as cleft palate). Coordinate with field staff to organize a first home visit with mothers and families within 24 hours after the birth. Instruct women to return to the facility on the 7th day after birth if possible, especially if there is no mechanism for home visits in place. Emphasize the importance of a return visit, even if everything is going well. Advise women to return immediately to the facility if they notice any danger signs. For babies born to HIV positive mothers, initiate antiretroviral therapy (ART) as per local protocol.

The newborn care supply kit for peripheral health facilities includes all components identified for the household level; additionally, include an

16 Newborn vaccinations such as oral polio, BCG and Hepatits B are ***NOT*** included in the ENC supply kit because they are typically procured through UNICEF as part of the vaccination programs. Close collaboration with organizations working with child health and the procurement of and management of vaccinations is essential to ensure the provision of vaccinations in the postnatal period.

injectable pediatric vial of Vitamin K (2mg/0.2 ml); dressing trays[17] (for labor, delivery and newborn care materials; and a mobile examination lamp. See *Annex 2B* for a complete list of supply kit contents.

3.2.c. Essential newborn care in hospitals

During the immediate postnatal period (within the first hour of delivery): Follow the same guidance detailed at peripheral level facilities, with accommodations for complications such as assisted delivery or birth by cesarean section. Preterm and low-birth-weight babies should be identified immediately after birth and should be provided special care. All postpartum women should have regular assessment of vaginal bleeding, uterine contraction, fundal height, temperature and heart rate (pulse) routinely during the first 24 hours starting from the first hour after birth.

During the first week of life (second hour following delivery up to seven days): When newborns are sick, manage their conditions. See *Section 3.3.*, *3.4.* and *3.5.* for information about managing prematurity, infections and intrapartum complications.

The newborn care supply kit for hospitals includes all components identified for the household level, as well as additional items included in the second-level kit (e.g., Vitamin K, dressing trays[18] and mobile examination lamps). See *Annex 2C* for a complete list of supply kit contents. Also, for advanced care in the hospital setting, see additional medicines and commodities needed to treat prematurity (*Section 3.3.*) severe infections (*Section 3.4.*) and intrapartum-related complications (*Section 3.5.*). Consult WHO's guidance on managing problems in newborns.[19]

17 Dressing trays for labor and delivery are not part of the ENC supply kit and must be ordered separately.

18 Dressing trays for labor and delivery are not part of the Newborn Care Health Kit and will need to be ordered separately.

19 WHO. Managing Newborn Problems, 2003. Geneva, Switzerland: World Health Organization. www.who.int/reproductivehealth/publications/maternal_perinatal_health/9241546220/en/

3.3 Prematurity

- ***See Annex 1B*** *for a summary table of services to manage prematurity, presented by level of care.*
- ***See Annex 2*** *for a summary table of newborn supply kit components, by level of care.*

Prematurity refers to babies born before 37 weeks of gestation, and is among the causes of LBW among newborns, rendering these newborns at higher risk of complications and death. *Extremely preterm* babies are born before 28 weeks of gestation; *very preterm* babies are born between 28-32 weeks of gestation; *moderate to late preterm* babies are those born between 32-37 weeks of gestation. Morbidity and mortality associated with prematurity can be reduced through prevention and care for preterm babies and their mothers. Being born small might be due to prematurity or a baby may be small for gestational age, or a combination of both. Low birthweight (less than 2500g) has been used as a marker for the highest mortality and morbidity risk for babies. However, risks alter with birth size and gestational age, and it's important to understand the reasons for a baby's low birthweight, as much as is possible in each case.

- **Prevention:** There is a lack of highly-effective interventions to prevent preterm birth from occurring. The mechanisms causing preterm birth and in-utero growth restriction are not yet well understood and known prevention strategies are often long-term (e.g. multi-generational) and complex. For women at risk of preterm birth, known preventive interventions during pregnancy include identification and treatment of hypertension, close monitoring of multiple pregnancies, and identification and management of underlying conditions like malaria and sexually transmitted infections such as syphilis and HIV.

  Once preterm labor has commenced, administering antenatal corticosteroids (ACS) to women has been shown to minimize newborn mortality and reduce respiratory distress among preterm newborns with gestational ages between 24-34 weeks. ACS should only be administered once preterm labor has started, at a health facility with the ability to confirm that the gestational age of the fetus is between 24-34 weeks; adequate care is available for preterm newborns; and reliable, timely and appropriate treat-

ment for maternal infections is available[20]. ACS can be delivered as betamethasone (12 mg intramuscularly, 2 doses 24 hours apart) or dexamethasone (6 mg intramuscularly, 4 doses 12 hours apart). WHO has released preterm care guidelines which include more detail on the use of ACS.[21] Other medicines manage complications when they arise. For instance, the administration of antibiotics for preterm premature rupture of membrane (pPROM) has been shown to reduce neonatal morbidity. Tocolytics (also known as anti-contraction medications) can be used to delay preterm births, but there is not yet evidence showing an impact on neonatal mortality. If tocolytics are used to facilitate ACS administration or transfer of a laboring mother in emergent situations, nifedipine is the preferred agent, although impact on neonatal mortality has not been established.

- **Care/management:** Thermal care, breastfeeding support, infection prevention and management and, if needed, neonatal resuscitation are the foundational interventions to manage conditions that arise related to prematurity. These interventions can be enhanced with extra care for small babies, including Kangaroo Mother Care, or KMC, in which the baby is carried with skin-to-skin contact *(see Box 3.4.)*. Other methods include additional support for breastfeeding [including the use of a breast pump, administering the milk by cup or another utensil (or by oral/nasogastric tube) and supplementary nursing techniques]; treating infections, including with antibiotics as per guidelines; safe oxygen management and monitoring of newborns for saturation, supportive care for respiratory distress syndrome and, if appropriate and available, continuous positive airway pressure (CPAP) and/or surfactant. Surfactant is recommended for intubated and ventilated infants with respiratory distress syndrome, and should only be used in facilities where intubation, ventilator care, blood gas analysis, newborn nursing care, and monitoring are available. For extremely preterm babies with apnea, consider

20 Segre J, Lawn J, Hodgins S, Smith J, Litch J, Barker P, Crowther C. Notes on the Antenatal Corticosteroids Trial (ACT)—October 15, 2014. UN Commission of Life Saving Commodities Antenatal Corticosteroids Working Group.

21 World Health Organization. *Recommendations on interventions to improve preterm birth outcomes*. Geneva: Switzerland: WHO, 2015. Available at: www.who.int/reproductivehealth/publications/maternal_perinatal_health/preterm-birth-guidelines/en/

BOX 3.4. KMC: Helping Small Babies Survive and Thrive

KMC is one of the most promising ways to save preterm and low birth weight (LBW) babies in all settings. This form of care, initiated in health facilities, involves teaching health workers and caregivers how to keep newborns warm through continuous, 24 hours per day, skin-to-skin contact on the mother or caregiver's chest.

Getting started with KMC:

- Not much is needed to start KMC other than designated beds with infection and access control and access to extra care if complications arise.
- Health workers should counsel mothers and families with stable small babies to initiate KMC as soon as possible after birth, particularly in the absence of intensive neonatal care.

Positioning:

- Dress baby in only socks, diaper, and hat
- Place baby between mother's breasts, in vertical position, with head turned to side, slightly extended to protect airway
- Flex hips in frog position
- Flex arms
- Wrap/tie baby securely with cloth to mother

Feeding:

- Mother provides exclusive breastfeeding 2 to 3 hourly, and on-demand
- If baby unable to latch/suckle, feed expressed breastmilk with cup or spoon

Duration:

- LBW and premature babies should remain in KMC for at least 20 hrs/day (with mother or surrogate) until baby no longer tolerates KMC positioning.
- Mother should sleep in a half-sitting position, with baby tied in KMC
- If baby needs to be out of KMC position, care should be taken to keep baby warm

Follow-up

- Mother and baby should be sent home in KMC position with counseling prior to discharge and follow-up monitoring as clinically indicated

Visit www.who.int/maternal_child_adolescent/documents/9241590351/en/ to download WHO's *Kangaroo Mother Care: A Practical Guide*

caffeine administration as per WHO guidelines. Employ incubators if needed (where KMC is not an option); in settings where the affected population has access to hospital care, neonatal intensive care provides additional support.[22,23]

LBW can be a consequence of preterm birth or small size for gestational age (SGA, defined as weight for gestation < 10th percentile), or both.[24] Small babies are vulnerable to temperature instability, feeding difficulties, low blood sugar, infections and breathing difficulties. Being born with LBW is recognized as a disadvantage for the infant, who will be at higher risk of early growth restriction, infectious disease, developmental

22 World Health Organization, et. al. *Born Too Soon—The Global Action Report on Preterm Birth*. Geneva, Switzerland: WHO; 2012 (p. 6).

23 World Health Organization, 2013. *Pocket Book of Hospital Care for Children*. Geneva, Switzerland: WHO; 2005 (p. 61). Available at: www.who.int/maternal_child_adolescent/documents/9241546700/en/

24 *World Health Organization. Guidelines on Optimal feeding of low birth-weight infants in low- and middle-income countries*. Geneva, Switzerland: WHO; 2011. Available at: www.who.int/maternal_child_adolescent/documents/9789241548366.pdf

delay and death during infancy and childhood.[25] Improving the care of LBW infants through feeding, temperature maintenance, hygienic cord and skin care, and early detection and treatment of complications, can substantially reduce infant mortality rates among this vulnerable group.

While basic essential newborn care can be provided in the home and community through trained health workers, small newborns will require some in-patient care. Whenever possible, transfer small babies to a hospital for support with thermal care, feeding and growth monitoring. After the newborn's health is stable, support outside the health facility has been established, and mothers and caregivers have learned and initiated KMC, many small babies can be discharged to continue KMC at home.

In humanitarian settings where access may be limited, prioritize activities such as KMC, breastfeeding, CHX for cord care, strict hygienic practices with hand washing for caretakers and health workers, and if infection is suspected, ATB treatment.

3.3.a. Managing prematurity at the household level

During the pregnancy/antenatal period: In addition to the recommendations in 3.2.a., Provide health education on prematurity, preterm labor and care for small babies. Identify women in preterm labor and refer to nearest health facility for care.

During delivery: If labour begins at home, support transfer to a health facility. If transfer is not possible and the delivery is taking place at home, provide care as outlined in Section 3.2.

During the immediate postnatal period (within the first hour of delivery): Refer all babies born before 37 weeks gestation and all LBW newborns (< 2500g) to more advanced care (ideally, in a formal hospital setting; see below). Identify small babies that have been born at home using a newborn weighing scale or a foot length card that has been calibrated to the local setting (see Annex 3 for a sample foot length card used in Uganda). All babies weighing less than 2500g should be placed in KMC position with their mother or a surrogate and taken immediately to a health facility for follow up.

25 Katz J, Lee AC, Kozuki N, et al: Mortality risk in preterm and small-for-gestational-age infants in low-income and middle-income countries: a pooled country analysis. Lancet 2013, 382:417-425.

During the first week after delivery (second hour following delivery up to seven days): Preterm and LBW babies should be followed up carefully after delivery at home or discharge from the health facility through extra postnatal visits, preferably at home. These should occur on days 1, 3 and 7 after birth, at a minimum. Ensure immediate referral to facility-based care for newborns showing any danger signs (*Box 3.3*).

3.3.b. Managing prematurity in peripheral health facilities

During the pregnancy/antenatal period: In addition to activities performed at the household level, for malaria endemic areas or for refugees or IDPs from malaria endemic areas, provide pregnant women with intermittent preventive treatment (IPTp). Diagnose and treat other infections including sexually transmitted infections (STIs), such as syphilis and HIV/AIDS. Provide asymptomatic bacteriuria screening and treatment. For women who have completed less than 34 weeks of pregnancy and have one of the four conditions associated with preterm delivery (i.e., preterm labor, pPROM, antepartum hemorrhage, multiple pregnancy, severe pre-eclampsia), refer to a hospital for ACS and further monitoring. ACS should only be administered as described in section 3.3.

During delivery: In the case of known preterm labour, implement clean birth practices as outlined in *Section 3.2.b*. For newborns that do not start breathing on their own after tactile stimulation within one minute after birth, provide basic newborn resuscitation (*Section 3.5*). Refer to *Section 3.5*. for guidance on managing intrapartum-related complications.

During the immediate postnatal period (within the first hour of delivery): Perform a complete physical examination within two hours of birth. Weigh the newborn baby and record birth weight appropriately. Ensure availability of heel lancets and rapid blood sugar testing sticks. Provide extra thermal care for small babies through KMC (*Box 3.4*). Encourage early breastfeeding to prevent hypoglycemia, as small babies are more susceptible. Employ strict infection-prevention measures through strict hand washing, ensuring a clean environment, and avoiding sharing of incubators. Provide feeding support (e.g., cup and spoon; nasogastric tube) if the baby is unable to breastfeed. Medical supplies needed at the facility level include: bag and mask for resuscitation; digital infant weighing scale; digital infant thermometer; mobile examination lamp; syringes (2, 5, 10 cc) and needles (16,18); alcohol swabs; and oxygen concentration. Additional/ optional items include breast pump (battery powered or manual),

phototherapy lamp and fluorescent tubes. For more details of supply kit contents, see *Annex 2B*.

During the first week after delivery (second hour following delivery up to seven days): Observe and monitor newborn vital signs for a minimum of 24 hours. Continue KMC with careful monitoring of feeding, weight gain and signs of illness. For newborns that are having difficulty breastfeeding ensure mothers are comfortable hand-expressing breast milk; emphasize the importance of hand washing before expressing breast milk and of keeping all feeding cups and utensils clean. Provide antibiotic prophylaxis for newborns at risk of infection due to pPROM or meconium aspiration during delivery [intravenous (IV)/intramuscular (IM) ampicillin powder for injection 500 mg vial (250mg/ml); IV/IM gentamicin, 40mg/ml (20mg/ml, if available)].

3.3.c. Managing prematurity in hospitals

During the pregnancy/antenatal period: Follow recommendations in 3.2.c. and 3.3.b. Monitor labor closely and prepare the delivery room for aniticipated complications such as hypothermia and asphyxia.

At delivery: Deliver services per facility-level care guidelines, in section 3.2.c. and 3.3.b..

During the immediate postnatal period (within the first hour of delivery): If the baby is stable, follow guidelines as per 3.2.c. and 3.2.b. If the baby is not stable, provide immediate newborn resuscitation, outlined in section 3.5. If the baby is unstable requiring frequent ventilatory support, and a functional, clean incubator is available, use the incubator until the baby is stable enough to transition to KMC. If the mother is not available to perform KMC, try to enlist the support of another caregiver to perform KMC.

During the first week after delivery (second hour following delivery up to seven days): In addition to measures recommended in 3.3.b., measure the newborn's body temperature every four hours. Weigh the newborn at least once per day. Continue providing ENC *(Section 3.2.)* and feed breast milk every 2 to 3 hours for about 20 minutes per session until

the baby is tolerating feeds, alert, and has no issues with hypoglycemia.[26] Many preterm babies will not feed on demand and should be woken up to feed on schedule to ensure they are eating enough in order to gain weight and prevent hypoglycemia. If intensive care equipment is available, provide incubator care for preterm babies not yet stable enough for KMC. Provide advanced care for respiratory distress: employ therapeutic use of surfactant for intubated and ventilated infants with respiratory distress syndrome[27]; provide CPAP and monitor oxygen levels; prevent and treat prematurity apnea. Manage newborns with jaundice with phototherapy, or exchange blood transfusion based on bilirubin cut-off points.

Medicines for inclusion at the hospital level, depending on local capacity, include:

1. **benzylpenicillin** (injectable 5 million IU/vial)
2. **caffeine citrate** (20mg/ml oral/injectable solution)
3. **cefotaxime** (injectable 125mg/vial)
4. **ceftriaxone** (injectable 250mg/vial)
5. **cloxacillin** (injectable 250mg/vial)
6. **diazepam** (injectable 5mg/ml)
7. **epinephrine** (1:10000 solution: 1 mg/ml, vial 1 ml);
8. **glucose hyper**, 50% (50 ml, vial)
9. **gentamycin doses** (injectable 40mg/ml)
10. **IV/IM Phenobarbital Sodium** (injection 200g/ml, vial 1 ml)
11. **sterile water for injections that require dilution**
12. **dexamethazone** (4mg Injections)
13. **surfactant doses** (suspension for intratracheal instillations 25mg/ml or 80mg/ml)

Supplies at the hospital level should include a breast pump (battery powered), phototherapy lamp and fluorescent tubes. See *Annex 2C* for a complete list of supply kit contents to support the management of prematurity at the hospital level.

26 Edmond K, Bahl R.Optimal feeding of low-birth-weight infants : technical review. World Health Organization. 2006.

27 WHO recommendations on interventions to improve preterm birth outcomes. 2015.

3.4 Newborn Infections

- ***See Annex 1C*** *for a summary table of newborn health services (including ENC and services to prevent and treat prematurity, infections and intrapartum birth complications), presented by level of care.*
- ***See Annex 2*** *for a summary table of newborn supply kit components, by level of care.*

Use preventive measures during the antenatal period and labor/delivery to protect the health of the mother and reduce the risk of congenital and newborn infections. Clean birth practices, including hand washing before, during and after delivery, are critical.

Timely management and treatment of birth complications are important factors in reducing newborn and maternal mortality. To give women access to life-saving care, standard guidelines recommend that all births take place in a health facility under the care of a skilled provider. Yet, because of the logistical challenges and resource limitations of crisis settings, many women might give birth at home, and require household-level care. Task CHWs and other field workers with conducting community outreach and postnatal follow-up at the household level to identify and transfer newborns with infections to health facilities equipped to treat them.

BOX 3.5. Basic preventive measures to reduce the risk of early neonatal infections

- Employ clean birth practices at delivery
- Wash hands before and throughout delivery
- Ensure that the mother and family wash hands before handling the baby
- Emphasize hygienic cord care (use CHX)
- Antibiotics to women with prolonged rupture of membrane
- Treat any maternal infections during pregnancy and labor

See *Box 3.3*. for a list of clinical signs and symptoms of newborn infections that can be used by CHWs and family members, and *Box 3.6* for signs and symptoms that can be identified by trained healthcare workers. Equip peripheral health facilities as well as hospitals to manage newborn infections by incorporating necessary preparations into the region's humanitarian response plan, including equipment, medicines and referral plans for household to health facility transfers.

BOX 3.6. Signs of Serious Bacterial Infection in Neonates

The following danger signs can be used by formally trained medical staff to induce treatment of neonatal infection. See Box 3.3 for danger signs for use by CHWs and family members.

Critical Illness: no movement/unconscious, history of convulsions, unable to feed, severe bleeding, or bulging fontanelle

Clinically severe infection: Fever (temperature greater than or equal to 38°C), hypothermia (temperature less than 35.5°C), poor feeding, reduced movement, severe chest in-drawing

Isolated fast breathing: Respiratory rate >60 breaths per minute

For more information, see *Pocket Book of Hospital Care for Children*, World Health Organization, 2013. www.who.int/maternal_child_adolescent/documents/9241546700/en/

At the peripheral health facility and hospital levels, train staff to be especially vigilant in investigating clinical indications of infections in newborns, giving special attention to malaria, pneumonia, meningitis and sepsis:

- **Malaria:** In a malaria-endemic area, test for malaria prior to performing a lumbar puncture. Use a malaria smear as a rapid diagnostic test; the HRP-2 protein may be transmitted from a malaria-infected mother to her baby during pregnancy.
- **Sepsis, meningitis, and pneumonia:** The most common infections in the newborn are sepsis, meningitis, and pneumonia. Signs of these infections, which may be bacterial, require

treatment with antibiotics. These infections present as critical illness, clinically severe infection, or isolated rapid breathing.

Sepsis, meningitis, and pneumonia in neonates can be difficult to detect in crisis settings, where diagnosis is typically clinical. I laboratory diagnosis and x-ray are available, blood culture, blood count and differential, and lumbar puncture may help in the diagnosis of sepsis and meningitis. X-ray may help in the diagnosis of pneumonia. However, in most settings, diagnosis is based on clinical signs (*Box 3.6*) that can be used to differentiate critical illness (eg meningitis), clinically severe infections (eg sepsis), and isolated rapid breathing (eg pneumonia).

The recommendations below provide guidance on infection prevention and treatment based on clinical diagnosis.

3.4.a Managing infections at the household level

During the pregnancy/antenatal period: Implement ENC per *Section 3.2*. In malaria endemic areas, distribute ITN to pregnant women for use during pregnancy and after birth, and educate women and families how to use the ITNs (e.g., after delivery, the newborn sleeps with the mother under the ITN provide TT vaccination and treatment for STIs including Syphilis.).

During delivery: Implement ENC clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface).

During the immediate postnatal period (within the first hour of delivery): Implement ENC. Perform a complete physical examination within two hours of birth. Weigh the newborn baby and record birth weight appropriately. Continue to look for signs of serious bacterial infections (*Box 3.6.*). If any signs are detected, immediately refer and facilitate transfer to the nearest hospital for advanced care. Where hospitalization is not possible, recent guidelines from WHO provide recommendations for antibiotic regimens provided by trained health care providers in outpatient settings at a peripheral health facility. Note that critical illness should always be treated in hospital and not outpatient facilities. If families refuse hospitalization or referral is not possible, the following recommendations should be considered by trained health provider to provide an outpatient treatment of infection.

- For infants with isolated fast breathing, treat at home with oral amoxicillin, 50 mg/kg per dose twice daily for 7 days, by an appropriately trained health worker.
- For infants with clinical severe infection, provide one of two regimens:

BOX 3.7. CHX for Clean Cord Care at Home

Application of 7.1% chlorhexidine digluconate (CHX) to the umbilical cord, especially on the day of birth, is a low-cost intervention that has been shown to reduce newborn mortality. Use CHX as a standard part of ENC to prevent newborn morbidity and mortality related to infections and sepsis.

Chlorhexidine has an excellent safety record and is an acceptable, feasible, and cost-effective intervention. It can be easily administered by health professionals, including community health workers, as well as family members.

CHX was added to the 2013 WHO List of Essential Medicines for Children, specifically for umbilical cord care. In January 2014, WHO issued a new recommendation for umbilical cord care that prioritized daily CHX application to the umbilical cord stump during the first week of life for newborns born at home in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births.

- Clean, dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of CHX in these situations may be considered only to replace application of a harmful traditional substance (cow dung, to the cord stump).

Adapted from: *Chlorhexidine for umbilical cord care: A new, low-cost intervention to reduce newborn mortality.* PATH, February 2014. Available at: http://www.path.org/publications/detail.php?i=1556

- Intramuscular gentamicin 5-7.5 mg/kg once daily for seven days and twice daily oral amoxicillin, 50 mg/kg per dose for seven days. Close follow-up is essential.
- Intramuscular gentamicin 5-7.5 mg/kg once daily for two days and twice daily oral amoxicillin, 50 mg/kg per dose

However, national guidelines for implementation in individual settings should be followed.[28] While these new indications provide recommendations for treatment at home, treatment in a health facility should always been encouraged.

During the first week after delivery (second hour following delivery up to seven days): Continue to implement ENC. Provide tetracycline eye ointment. Promote vaccination against hepatitis B, oral polio and BCG vaccines. Continue to look for danger signs and indications of sepsis, pneumonia and other infections *(Box 3.6)*. If problems are detected, assist the family to seek advanced care for the newborn in the nearest peripheral health facility or hospital. Encourage HIV-positive mothers to access HIV testing and other care for their newborns.

3.4.b Managing infections in peripheral health facilities

During the pregnancy/antenatal period: Where feasible, test and treat women for syphilis. Vaccinate pregnant women against tetanus. In malaria endemic areas or for mothers who are arriving from a malaria endemic area, provide intermittent preventive therapy (IPTp) to prevent malaria. For women from high HIV prevalence countries, determine HIV status. Follow prevention of mother-to-child transmission guidelines for women who are HIV positive.[29] Identify and treat urinary tract infections.

28 World Health Organization. *Managing possible serious bacterial infection in young infants when referral is not feasible*. Geneva, Switzerland: WHO, 2015. Available at: www.who.int/maternal_child_adolescent/documents/bacterial-infection-infants/en/

29 Medicines and medical commodities for HIV are not included in the newborn care kits. Access HIV care kits through UNFPA. See the *Inter-Agency Reproductive Health Kits for Crisis Situations*, 2011. www.unfpa.org/webdav/site/global/shared/procurement/06_for_customers/02_gccp-erhkits/RH%20Kits%20Manual%202011.pdf

At delivery: Provide standard care as described in section 3.2.b. Administer antibiotics to newborns that are born with the following risks (even if no signs of clinical infection): the mother has or had a uterine infection or fever any time from the onset of labor to three days after birth; mother had premature rupture of membranes for more than 18 hours before birth and/or foul smelling amniotic fluid. Duration of antibiotics should be at least 48 hours if laboratory studies and exam are normal. Longer treatment duration is required if laboratory results suggest infection or if clinical signs are present.

During the immediate postnatal period (within the first hour of delivery): If danger signs *(Box 3.3.)* or indicators of neonatal infection *(Box 3.6.)* are present, immediately administer an initial dose of antibiotics, provide respiratory support or anti-convulsant (phenobarbital) if needed, and refer mother and baby to the nearest hospital for advanced care.[30] Provide tetracycline eye ointment and administer

30 WHO. Pocket book of hospital care for children: Guidelines for the management of Common Childhood Illness. Second edition, 2013. Geneva, Switzerland: World Health Organization. www.who.int/maternal_child_adolescent/documents/child_hospital_care/en/

hepatitis B, polio and BCG vaccine. Antibiotic doses should be given as follows:

- In the first week of life: ampicillin (IV/IM) 50/mg/kg/day divided every 12 hours if and gentamycin (IV/IM) 3 mg/kg/dose daily for low birth weight babies or 5 mg/kg/dose daily for normal birth weight babies
- For weeks 2-4 of life: ampicillin (IV/IM) 50/mg/kg/day divided every 8 hours and gentamycin 7.5 mg/kg/dose once daily

During the first week after delivery (second hour following delivery up to seven days): Continue to monitor for danger signs and indicators of infection. For babies born to HIV-positive mothers, initiate anti-retroviral therapy (ART). Additional medicines for facility level care include:

1. acyclovir eye drops for newborns whose mothers have active genital herpes lesions
2. artesunate rectal suppositories (50mg - pre-referral)
3. paracetamol oral liquid (125 mg/5 ml)
4. phenobarbital (oral liquid, 15mg/5ml or 5.4%, 1 mg/drop, oral solution, 30 ml, bot)
5. niverapin (in HIV high-burden countries)

Supplies at the facility level should include an infant weighing scale and digital thermometer for infants. For a complete list of supply kit contents to prevent and treat infections at the facility level, including medicines, medical commodities and laboratory supplies, see *Annex 2B*.

3.4.c Managing infections in hospitals

During the pregnancy/antenatal period: Follow recommendations as given in 3.4.b.

At delivery: Follow recommendations as given in 3.3.b. and 3.4.b.

During the immediate postnatal period (within the first hour of delivery): As above, if danger signs *(Box 3.3.)* or indicators of neonatal infection *(Box 3.6.)* are present, immediately administer an initial dose of antibiotics (IM/IV). Provide tetracycline eye ointment and administer hepatitis B, polio and BCG vaccine.

During the first week after delivery (second hour following delivery up to seven days): In additions to guidance in 3.4.b., provide case management of neonatal infections including sepsis, meningitis and pneumonia. For pneumonia and sepsis, continue the regimen recommended in 3.4.b for 10 days. If meningitis is suspected or diagnosed, continue antibiotic treatment for 21 days. In addition to antibiotics, management includes:

1. If cyanosed or in severe respiratory distress, administer oxygen by nasal prongs or nasal catheter, and monitor oxygen levels
2. If respiratory distress syndrome is diagnosed, provide CPAP early and monitor oxygen levels[31]
3. Administer IV/IM ampicillin and gentamicin dosage based on weight of baby for 7-10 days
4. If drowsy, unconscious or convulsing, check blood glucose:
    - If glucose <20mg/100ml, give IV glucose; if ≥20mg/100ml, feed immediately and increase feeding frequency
    - If the blood glucose level cannot be checked, assume hypoglycemia and treat with IV glucose and initiate feeding
5. If convulsions are present, administer phenobarbital (loading dose for phenobarbital 20 mg/kg IV. If convulsions persist, give further doses of phenobarbital 10 mg/kg up to a maximum of 40 mg/kg. If needed, continue phenobarbital at a maintenance dose of 5 mg/kg per day)
6. Continue to provide supportive care, reinforce hygienic practice, and closely monitor
7. Administer Vitamin K

See *Annex 2C* for a complete list of medicines, medical commodities and laboratory supplies to include in the supply kit for managing infections at the hospital level.

If ampicillin is not available, benzyl-penicillin can be used. If meningitis is suspected, or the baby is not improving on the initial ATB, consider using a broader spectrum cephalosporin such as ceftriaxone or

31 WHO recommendations on interventions to improve preterm birth outcomes. 2015.

cloxacillin. Cloxacillin is also indicated if there is a high suspicion for staphylococcus infection.

3.5 Intrapartum Complications

- ***See Annex 1D*** *for a summary table of newborn health services (including ENC and services to prevent and treat prematurity, infections and intrapartum birth complications), presented by level of care.*
- ***See Annex 2*** *for a summary table of newborn supply kit components, by level of care.*

Intrapartum complications occur during the time of labor and delivery and cannot always be predicted, though much can be done to prevent them. Ensuring quality antenatal care and skilled care at delivery with timely action when needed are much more effective in preventing intrapartum complications than known strategies for management. All delivery areas should be prepared to provide management of intrapartum complications, such as breathing support. Supplies should be prepared and available before a delivery occurs so that safe and timely treatment can be given if the baby is born not breathing or in distress.

If this is not possible, encourage referral for any woman that has prolonged labor, as there is a higher risk for fetal distress. In most cases, if a baby is born not breathing, respiration can be stimulated with tactile stimulation (rubbing the back, drying the baby). These interventions should be performed initiate and sustain breathing within the "golden minute" after birth. However, within this first minute after birth, for a baby who is not breathing and does not respond to tactile stimulation, assist the baby to breathe with a bag and mask. For more guidance, refer to *Helping Babies Breathe* (*HBB*), a program that offers guidelines for responding to respiratory problems in low-resource settings *(Box 3.8, Figure 3.2)*.

3.5.a Managing intrapartum complications at the household level

At delivery: All women at risk of intrapartum complications should deliver at a health facility with a skilled attendant. If a birth occurs at home, there is clear amniotic fluid, and the baby starts breathing on their own, do not bulb suction the mouth and nose. In the presence of meconium-stained amniotic fluid, intrapartum suctioning of the mouth and nose at the delivery of the head is not recommended. For babies that don't start spontaneous breathing, immediately start tactile stimulation by rubbing the back and drying. Refer to Helping Babies Breathe (HBB) program for more guidance on warming, stimulating and resuscitating the newborn *(Box 3.8)*.

BOX 3.8. Helping Babies Breathe (HBB)

Helping Babies Breathe (HBB) promotes the timely delivery of essential interventions to manage babies not breathing at birth within the first "golden minute" of life: clearing the airway, stimulating breathing, and using bag and mask ventilation where necessary.

HBB was developed by the American Academy of Pediatrics (AAP), in collaboration with WHO, the United States Agency for International Development (USAID), Saving Newborn Lives, the National Institute of Child Health and Development and a number of other global health organizations. Particularly in humanitarian settings, HBB is a useful complement to RMNCH services, providing evidence-based neonatal resuscitation techniques tailored to the needs of low-resource environments.

See Figure 3.2. below for an HBB action plan and guide. Consult the HBB website for training materials and techniques
www.helpingbabiesbreathe.org
www.helpingbabiesbreathe.org/implementationguide.html

During the immediate postnatal period (within the first hour of delivery): Transfer newborns with any evidence of complications, including breathing difficulties, for more advanced care as soon as logistically feasible. If CHWs or other cadres are trained to assist in home deliveries, they should have knowledge of the referral system and where advanced care is available nearest to the household before the delivery, in case complications arise *(see Chapter 4, Section 4.2. Developing a Referral System)*. Also, if danger signs *(Box 3.3.)*, *(Box 3.6.)* are present, refer mother and baby to the nearest hospital for advanced care.

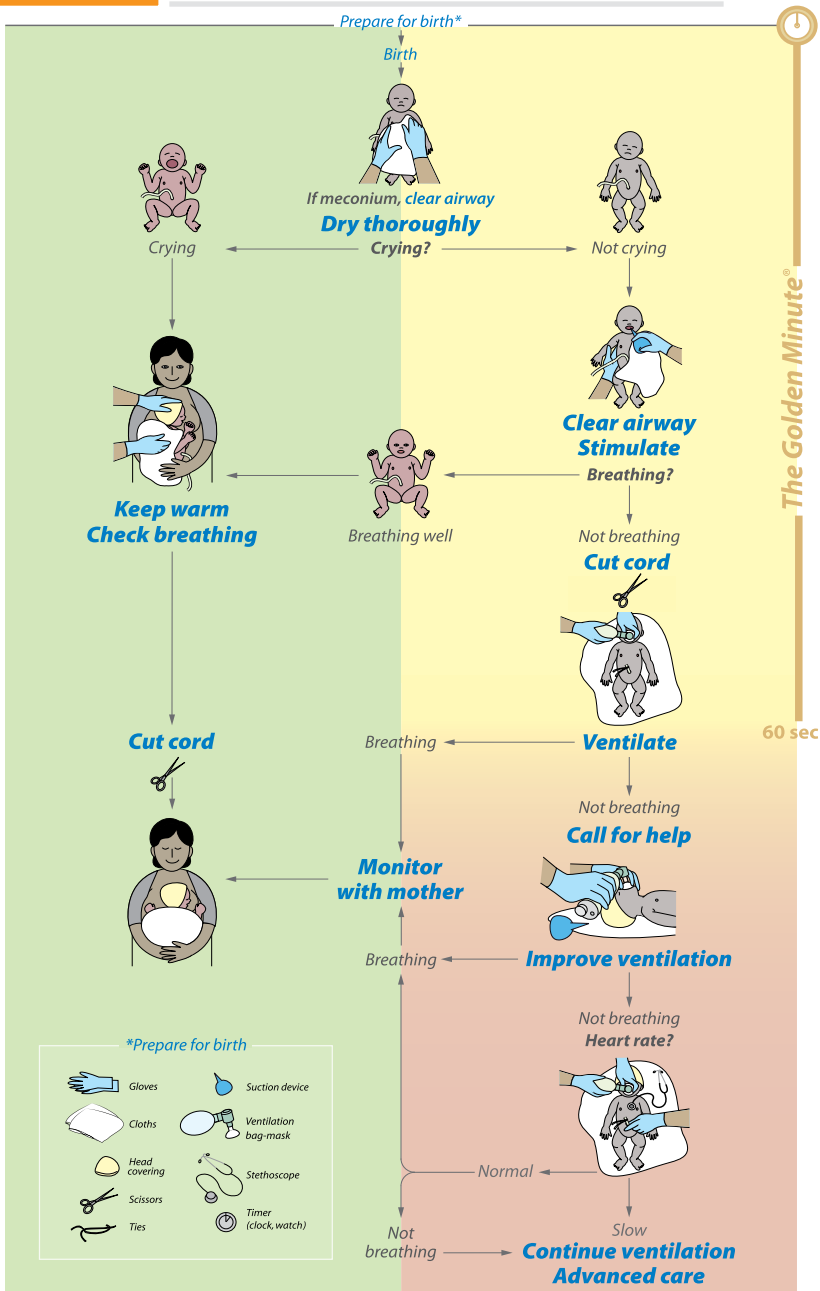
During the immediate postnatal period (within the first hour of delivery): If danger signs (*Box 3.3.*) or additional signs of sepsis (*Box 3.6.*) are present, refer mother and baby to the nearest hospital for advanced care.

3.5.b Managing intrapartum-related complications in peripheral health facilities

Intrapartum care (labor): Use the partograph to monitor labour including assessing the fetal heartrate at least every half hour. If maternal or fetal distress is recognized, identify an ambulance/vehicle and use established referral systems to get the woman to a health facility that has Basic or Comprehensive Emergency Obstetric and Newborn Care (BEmOC or CEmOC).

At delivery: Follow the HBB flow chart (Figure 3.2) for immediate action steps at birth. For newborns that do not start breathing within one minute after birth despite thorough drying, cleaning of the airway and additional stimulation, initiate ventilation using a self-inflating bag (Ambu bag, pediatric) and face mask (sizes 0,1). Assess adequacy of ventilation by observing chest rise and fall. If normal breathing has not started, use the bag and mask for oxygen administration and monitor oxygen levels with a battery-operated pulse oximeter with probes for neonates. In addition, have a mucus trap (HBB Penguin) available for suction, or a suction machine. If continued oxygen administration is needed, use nasal prongs. See Annex 2B for a list of supply kit contents for peripheral health facilities.

Figure 3.2. Helping Babies Breathe (HBB) Action Plan



Source: American Academy of Pediatrics, Helping Babies Breath. www.helpingbabiesbreathe.org

3.5.c Managing intrapartum-related complications in hospitals

Intrapartum care (labor): Use the partograph to monitor labour including assessing the fetal heartrate at least every half hour. If there are signs of maternal or fetal distress, follow guidelines for providing BEmOC or CEmOC services.

At delivery: If the newborn does not start breathing spontaneously, follow the steps of HBB and outlined above until breathing is established.

During the immediate postnatal period (within the first hour of delivery): Provide advanced care for respiratory distress syndrome such as CPAP support available with ability to monitor oxygen saturation levels. Continue to assess for danger signs. In additional to respiratory issues, the newborn may have other complications such as convulsions or hypoglycemia. Convulsions can be due to perinatal asphyxia, hypoglycemia, or infection. If the newborn is convulsing, provide IV phenobarbital[30]. Check glucose for hypoglycemia (<45 mg/dl or 2.5 mmol/l) and treat with glucose by IV or nasogastric tube in indicated[32]. See *Annex 2C* for a complete list of supply kit contents. ■

32 WHO. Pocket book of hospital care for children: Guidelines for the management of Common Childhood Illness. Second edition, 2013. Geneva, Switzerland: World Health Organization. www.who.int/maternal_child_adolescent/documents/child_hospital_care/en/

Key resources to accompany Chapter 3

Planning newborn health services:

- *2010 Inter-agency Field Manual on Reproductive Health in Humanitarian Settings*. Inter-agency Working Group on Reproductive Health In Crisis, 2012. www.iawg.net/resources/field_manual.html
- *Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health (RMNCH).* Partnership for Maternal, Newborn & Child Health, 2011. www.who.int/pmnch/knowledge/publications/201112_essential_interventions/en/
- *Every newborn: an action plan to end preventable deaths* (draft). WHO, 2014. www.who.int/maternal_child_adolescent/topics/newborn/enap_consultation/en/

Key resources to accompany Chapter 3 (cont'd)

- *Helping Babies Breathe.* AAP. www.helpingbabiesbreathe.org
- *Kangaroo Mother Care.* WHO. www.who.int/maternal_child_adolescent/documents/9241590351/en/
- *Newborn Health Guidelines approved by the WHO Guidelines Review Committee 2009-2012.* WHO, 2012. www.mchip.net/node/1191
- *Pocket Book of Hospital Care for Children,* WHO, Geneva 2013. www.who.int/maternal_child_adolescent/documents/9241546700/en/
- *Recommendations on Postnatal Care of the Mother and Newborn.* WHO, 2014. http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649_eng.pdf
- Recommendations on interventions to improve preterm birth outcomes. WHO, 2015. www.who.int/reproductivehealth/publications/maternal_perinatal_health/preterm-birth-guidelines/en/
- Managing possible serious bacterial infection in young infants when referral is not feasible. WHO, 2015. www.who.int/maternal_child_adolescent/documents/bacterial-infection-infants/en/

Essential medicines and medical supply kits:

- *Essential Medicines and Medical Supplies Policy and Guidance 2013,* UNHCR. www.unhcr.org/527baab09.html
- *Inter-agency Reproductive Health Kits for Crisis Situations, 5th edition.* UNFPA. www.unfpa.org
- *Inter-agency Emergency Health Kit 2006: Medicines and medical devices needed to treat 10,000 people for approximately 3 months – an interagency document.* WHO, 2006. http://apps.who.int/medicinedocs/en/d/Js13486e/
- *UNICEF Midwifery Kit.* www.unicef.org/supply/files/Midwifery_Kit.pdf
- *WHO Essential Medicines List – Adults (18th edition) and Children (4th edition),* 2013. (www.who.int/medicines/publications/essentialmedicines/en/)
- *Sources and Prices of Selected Medicines for Children.* UNICEF/WHO. Geneva, April 2010. www.unicef.org/supply/files/SOURCES_AND_PRICES_2010(2).pdf
- *Priority life-saving medicines for women and children 2012: Improving health and saving lives by ensuring access to priority medicines.* WHO, Geneva, May 2012. www.who.int/medicines/publications/emp_mar2012.1/en/index.html

4 PROGRAM IMPLEMENTATION CONSIDERATION

To effectively deliver the newborn health services described in *Chapter 3* at the local level, a number of support activities must be carried out in the community. This chapter outlines key components of field-based program development and implementation to improve newborn care in humanitarian settings.

4.1 Developing and Disseminating Key Messages/Behavior Change Communication (BCC) Materials

During a crisis, the affected population may not consider the need to seek MNH care, particularly as increased numbers of injuries and new epidemics may impact the adult and child populations and mobility is constrained. In this context, communicating essential information about and offering quality services for pregnancy, delivery and basic postnatal care is critical to saving maternal and newborn lives. At a minimum, pregnant women need to know

where and when health services are available, and must be given basic information about the appropriate care of newborns, including the identification of danger signs that indicate the need to seek care.

Work with local staff from the affected population to formulate clear, evidence-based, culturally relevant messages to the affected population at the outset of the crisis response. Incorporate messages communicating critical facts about ENC, danger signs and the need to safeguard babies' lives within all trainings, communication materials and policy development, and function as tools to promote MNH care within the crisis setting.

Without formal healthcare services operating at full capacity in an emergency, families may be more likely to rely on traditional practices. Support those practices that are beneficial (such as increased family support and household support for the mother), and address those with potentially harmful effects (e.g. cow dung or other substances applied to the cord).

In more protracted humanitarian situations, work with affected populations to foster community ownership for the design and implementation of BCC materials and community mobilization strategies. Once the immediate emergency response phase has concluded, adapt BCC materials to incorporate culturally relevant examples of recommended practices; add or change illustrations based on the context of the population served; and suggest specific alternatives to known harmful practices.[33]

A list of resources to support the development of BCC materials and two sample tools are included in *Annex 4*.

33 World Health Organization. *Caring for newborns and children in the community: caring for the newborn at home*. Geneva, Switzerland: WHO; 2012. www.who.int/maternal_child_adolescent/documents/caring_for_newborn/en/ See *Mother and Baby Card*.

4.2 Developing a Referral System

While the majority of newborns need basic care and support to thrive, sick and small newborns require additional services provided at formal health facilities. Newborns are vulnerable and need prompt, responsive care quickly to survive. A well-organized and functional referral system includes protocols, procedures and practical guidance to facilitate the transfer of newborns to the appropriate level of care when danger signs are detected (Box 4.1).

Even in stable environments, transferring newborns in danger is one of the most challenging aspects of delivering newborn health services. During humanitarian crises, this challenge becomes particularly complex. Avoiding delays in the management of serious newborn illnesses is essential; thus, the referral system must responsive and able to adapt to any emerging changes in the security and/or logistical status of various health facilities providing RMNCAH care.

To facilitate the implementation of an efficient, safe, effective referral system, immediately establish relationships with local health facilities and local groups active in the region. This is a particular concern when a conflict or disaster has obstructed essential roadways or transport corridors. Collaborate with local health officials and facility staff. Use the inventory of services and the map of functional facilities developed as part

BOX 4.1. The Newborn Care Referral System in a Crisis Setting: Principles

- Every newborn should have access to care with the potential for safe and timely referral if needed
- Priority must be given to newborns exhibiting any one of the danger signs so that they receive timely care
- Referral criteria and protocols should be established at every level of care
- A triage system should be in place to address the most severe danger signs especially in small babies
- Transport should be organized for referral from facilities that are not easily accessed.

of the planning process to determine which facilities are prepared to manage sick newborns, and to identify additional resources that may be needed to support referrals. In some settings, basic support, such as personnel to manage the sick newborn during a transfer, or usage of a standardized transfer note, may need to be established. *Annex 5* contains simple tools to support the development of a referral system: *Annex 5A* is a job aid for transferring sick newborns and *Annex 5B* is a sample referral note. In some cases, however, more advanced inputs may be needed; for instance, transport and/or communication systems may need to be developed or re-established.

Humanitarian health staff working in temporary clinics and in refugee/IDP camps, and local health personnel working as non-facility based staff (e.g., outreach workers, CHWs) are most likely to need up-to-date information about the facility:

- In camp settings, where the capacity to care for mothers and their newborns may be limited or non-existent, transfer women and their babies to a peripheral health facility or district hospital whenever possible. Be sure that health workers have up-to-date information about the availability of RMNCAH services at these potential referral sites before women and their babies are transferred, in order to avoid unnecessary delays in care delivery. Use the camp's emergency transport vehicles to move the mother and her newborn to higher-level health facilities.
- In village and other local (non-camp) settings where women and families are served by CHWs or outreach workers through home visits, up-to-date information about MNH service and supply availability is essential. Ensure dissemination of guidelines to local heath providers on a regular, timely basis.

4.3 Home Visits for Mothers and Babies

Delivery and immediate postnatal care in a health facility or hospital is recommended for all women and their babies, in all situations – including humanitarian settings. However, during and immediately following a crisis, women may not be able to leave their residences to access care in health facilities, due to the risk of bodily harm from

security threats or because of logistical problems such as unreliable transport. In addition, many cultures advocate a seclusion period where mothers and newborns do not go outdoors. This can range from 7-40 days, making seeking care outside the home a difficult negotiation. CHWs and other field staff can be trained to provide postnatal care at the household level in these settings, ensuring that linkages to the formal health system (whether through the local system, camp-based services or those established as part of the humanitarian response) are maintained through an effective referral network (*Box 4.2*).

An annotated bibliography of training resources for various levels of health care staff is included in *Annex 7*. Train CHWs and other field-based staff to advise women to seek care at a facility as soon as possible following a home birth through the referral network, while simultaneously preparing field staff for the possibility that women will need care in their homes throughout the immediate and longer-term postnatal periods. WHO and UNICEF recommend at least two home visits for all home births. Develop a CHW home visiting deployment plan that includes a first visit during the

BOX 4.2. Postnatal care for mothers and their newborns

In crisis settings, women who give birth outside of a health care facility without skilled care, and in areas where continuous professional care cannot be assured, face an increased risk of newborn morbidity and mortality.

Home visits in the first week of life are a proven strategy to reduce newborn deaths in high mortality settings, and link women and their babies to ongoing services. Especially in settings where women cannot access health care due to logistical or security reasons, deploy trained CHWs or other skilled health staff to provide postnatal care through home visits. Promote a return to the health facility for a well-baby postnatal visit within the first week as services, security and local customs allow.

World Health Organization/UNICEF Joint Statement, *Home visits for the newborn child: a strategy to improve survival,* Geneva, 2009.

24 hours following birth, and the second visit on the third day following birth. If possible, schedule a third visit before the end of the first week of life (day 7).[34] Train all staff present at deliveries in HBB techniques (*Box 3.8*), and to use birth registers to track pregnancies, births (in facilities and in households), postnatal care and referrals within the population segment to which they are assigned. Sample birth registers for use by CHWs and by health facilities are included in *Annex 8A* and *8B*.

4.4 Procuring Newborn Care Supply Kits

Newborn care supply kits include the medicines, medical commodities and support items to support safe births and newborn survival in the immediate postnatal period. Annex 2 details the contents of supply kits that are recommended for ENC as well as for the prevention and management of the three top causes of newborn mortality discussed in Chapter 3: prematurity, severe infections and intrapartum complications.

To compile the kits, coordinate with government agencies and INGOs/NGOs leading humanitarian response efforts to assess necessary quantities of supplies needed. See *Chapter 5: Strategic Considerations* for more information about coordinating with governmental and development partners.

4.5 Newborn deaths in crisis settings[35]

When a baby dies as a stillbirth in labour, or in the days and weeks after birth, care and support for the mother and family are needed; but in a crisis setting, professional counseling options for women will be limited, if not nonexistent. Train health workers

34 WHO/Department of Maternal, *Newborn, Child and Adolescent Health, Newborn Health Guidelines approved by the WHO Guidelines Review Committee 2009-2012.* Geneva, Switzerland: WHO; 2012.

35 Extracted from *Neonatal Guidelines: Kangaroo Mother Care.* Kwazulu-Natal, South Africa: Province of Kwazulu-Natal Health Services, Department of Pediatrics; 2007. www.kznhealth.gov.za/chrp/documents/Guidelines/Guidelines%20Neonates/KMC/KMC%20CHeRP%202007.pdf

to provide culturally acceptable, appropriate support. Some tips for counseling mothers, fathers, and families dealing with stillbirth and neonatal death:

- Behave and speak with sensitivity;
- If possible, ask if the mother and/or father want to hold their baby
- Find out what the mother/family wishes to do with the baby's body;
- Explain to the mother/family
    - The mother will need rest, support and good nutrition
    - The mother should not return to a full workload too early
    - The mother's breasts will fill with milk, beginning the 2nd or 3rd day postpartum
        - Bind the mother's breasts with a tight bra or cloth until no milk remains
        - Do not express breast milk or stimulate the breasts;
- Educate the mother and family about the normal changes in a woman's hormones after pregnancy, which can make her feel sad, worried or irritable. Normally, postpartum women are extremely emotional, and may cry often. Given the baby's death and the compounded stress of the crisis situation, these feelings of sadness may be intense;
- Ensure that the mother knows she did not cause the baby's death. Provide information, when available, to the mother/family about the cause of the baby's death;
- Encourage the mother to use a family planning method to avoid a subsequent pregnancy and to resist having a 'replacement' child for the one that was lost;
- Link the mother to available reproductive health and family planning services; and
- Link the mother to grief counselling services. Although specific services to support women facing the death of newborns may not be available, grief counselling for victims of humanitarian crises will likely be available in camp, Temporary or Mobile clinic and hospital settings. ■

Key resources to accompany Chapter 4

Humanitarian Settings:

- *Caring for newborns and children in the community: caring for the newborn at home.* World Health Organization, 2012. www.who.int/maternal_child_adolescent/documents/caring_for_newborn/en/
- *Home visits for the newborn child: a strategy to improve survival (WHO/UNICEF Joint Statement).* World Health Organization, 2009. www.unicef.org/spanish/health/files/WHO_FCH_CAH_09.02_eng.pdf
- *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings.* IASC, 2007. www.who.int/mental_health/emergencies/guidelines_iasc_mental_health_psychosocial_june_2007.pdf
- *K4 Health Essential Knowledge Toolkits.* www.k4health.org/toolkits/htsp/essential-knowledge
- *Taking Care of a Baby at Home After Birth: What Families Need to Do.* CORE Group et al., 2011. www.healthynewbornnetwork.org/sites/default/files/resources/CORE%20ENC%2011-08-2011.pdf

5 STRATEGIC CONSIDERATIONS

Integrating newborn health care into a humanitarian response plan requires prioritization, planning and persistence on the part of the national government and health and development agencies. This chapter describes the issues and questions to be considered at the national level (or, where appropriate, the inter-country level) to support the effective development, implementation, monitoring and evaluation of newborn health services in humanitarian settings. Ideally, incorporating newborn health services into a humanitarian response plan should begin prior to a crisis. However, the steps outlined below may be implemented at any point during the humanitarian response (before, during or immediately following a crisis).

5.1 Developing a Working Group[36]

Working with governmental and other development partners in productive, cooperative partnerships is critical to designing a practical and comprehensive humanitarian response plan that integrates RMNCAH services alongside urgent care, and avoids duplication of efforts.

36 For more information on developing a working group, see http://iawg.net/resources2013/misp-implementation/

Determine which government ministries, UN agencies, INGOs and local NGOs are working in RMNCAH care: these agencies and staff will be essential partners to advocate for and integrate newborn health services within the humanitarian response to any crisis. Be sure to account for government programs and international initiatives that pre-date the crisis, as well as humanitarian agencies that enter at the onset of, or immediately after, a crisis. Note that one of the key objectives in the *Minimum Initial Services Package (MISP)*, a standard of care in humanitarian emergencies, calls for the identification of a lead agency and focal point to establish a RMNCAH working group.

It is recommended that newborn care issues are prioritized on the agenda of the RMNCAH working group rather than establishing a parallel working group for newborn health. Task the working group with identifying priority newborn health services, and coordinating with the broader group of governmental and humanitarian responders in the country to ensure that MNH services are integrated into the humanitarian response plan. Whenever possible, work with the government as the convener of the working group; and develop a formal plan for meetings, and for coordination with the wider humanitarian response group.

5.2 Conducting a Situation Analysis

5.2.a Review national policies and protocols

Carefully examine the existing national policies and protocols related to RMNCAH care, including PMTCT. Avoid reinventing programs and protocols that already exist, or developing new recommendations that may conflict with current standards. These findings will inform the adaptation of existing newborn health services, and/or the introduction of new services, within the humanitarian response plan.

If national policies related to newborn care are lacking, use international standards as a starting point. Be sure to consult and collaborate with the government throughout this process. In countries where communication between the government and INGOs/NGOs is challenging, invite UN organizations, such as WHO, to initiate and facilitate dialogue with appropriate government ministries or agencies that will lead to an alignment of national policies with international standards for RMNCAH care.

5.2.b Review existing clinical guidelines, key messages/BCC materials, tools and training materials

Similarly, review the clinical guidelines currently in place for newborn care within the country's health facilities to ensure that they are up to date, and review the BCC materials used to communicate with women, families and communities about ENC and newborn danger signs. Also, assess the availability and appropriateness of tools and training available for health personnel. Update these clinical resources as needed, and prioritize dissemination to humanitarian response partners, including governmental ministries, UN organizations, INGOs and local NGOs. Be sure to respect and work within national health policies.

5.2.c Incorporate questions about newborn health services within a rapid health assessment

A rapid health assessment (RHA) is conducted at the outset of the humanitarian response planning process. In addition to assessing service availability, an RHA provides an estimation of the population needing services, thus forming the basis for service development and implementation. For this reason, integrating questions into the RHA about newborn health care and about the population requiring newborn health services is critical (*Box 5.1*).

Work with the government agency or other partner responsible for completing the RHA to ensure that the assessment includes these questions and basic population estimates. For example, ensure that MNH-related figures included in the RHA comprise: the total population prior to the crisis; the total number of the affected population; the number of women of childbearing age, pregnant women and newborns within this population; and the number of deliveries per month. Also demographic indicators about the MNH status of the affected population prior to the crisis such as the maternal mortality ratio (MMR), the total fertility rate (TFR); crude birth rate (CBR), contraceptive prevalence rate (CPR), and percentage of births with a skilled attendant and/or facility-based births should be included [37].

In addition, review the RHA to ensure that the assessment process is gender- sensitive, involving men and women from the affected

37 Inter-agency Working Group on Reproductive Health in Crises. Inter-agency *Field Manual on Reproductive Health in Humanitarian Settings*: 2010 Revision for Field Testing. IAWG; 2012. (p. 126).

community as assessors and translators whenever possible. This ensures that information collected is accurate, up to date, and actionable, and that acceptance and ownership of the assessment results are maximized. See *Annex 6A* for a list of sample RHA outputs.

BOX 5.1. Plan and deliver coordinated health services

Avoid creating "silos" of health care, in which information is collected through separate entities rather than a unified system. Ideally, information about newborn health services will be collected in coordination with reproductive or broader health assessments to maximize the coordination of health care services.

5.2.d Assess resource availability: facilities, supplies and staff

Use the Health Facility Assessment (HFA) tool *(Annex 6B)* to survey service, supply and personnel availability in the affected region. First, identify existing/functioning health facilities, highlighting which facilities deliver newborn health services, and which ones require additional inputs as part of a newborn health service expansion plan. If the affected region contains multiple communities, or an entire country, assess facility and service availability for each locality based on national or traditional community divisions. If feasible, map the existing facilities and/or programs, to form part of the basis for service planning, and examine community access to and utilization of these available health services.

Once a clear picture of the facilities has been established, use the comprehensive newborn supply kit checklist included in *Annex 6B* to assess the availability of medicines and medical supplies within each facility. Take note of facilities that appear particularly well equipped to provide RMNCH care and could serve as effective referral sites for newborns in danger. Conversely, if facilities lack essential supplies, help staff to procure the needed medicines, medical commodities and laboratory supplies.

Finally, assess staff availability and competencies at the facility or community level. Assess the number and type of skilled health care providers available in each locality, and to identify where they work

– within a mobile clinic, as outreach workers, within an existing HC or in a temporary clinic set up by an NGO to respond to the crisis. Once an estimate of the number of providers has been established, evaluate provider competencies to deliver RMNCAH care. Providers of all backgrounds – physicians, nurses, CHWs, etc. – must be assessed. Ensure that staff are prepared to provide ANC and PNC for newborns, and to transition babies and their mothers into MCH care following the neonatal period. The information gathered during this process will not only contribute to a comprehensive picture of available RMNCAH care in the affected region, but will also inform the development of training programs for health workers and professional medical staff.

Annex 9A provides a list of indicators to be collected through routine data systems. *Annex 9B* presents a list of indicators and questions to measure facility capacity to provide ENC and key interventions to address the major causes of newborn deaths. It also shows which ones are included in two standard facility assessment tools: the Service Provision Assessment (SPA), developed and administered by MEASURE DHS, and WHO's Service Availability and Readiness Assessment (SARA). Use the HFA tool *(Annex 6B)* to conduct on-site assessments of providers, and conduct interviews to complement these observations.[38]

Once these components of the healthcare landscape have been assessed and recorded, a comprehensive map of newborn health service availability will begin to emerge. This will serve as the basis for the newborn referral network (see Chapter 4, Section 4.2). Include the following:

- Distances from each affected community to various types of local health facilities that offer ENC (existing/permanent clinics and hospitals, mobile clinics, temporary clinics);
- Distances from peripheral health facilities of various types to district hospitals with more advanced newborn care capabilities, including EmONC;
- Feasible transport options to cover these distances that are accessible to pregnant and postnatal women;

38 Newborn Indicators Technical Working Group. *Newborn Services Rapid Health Facility Assessment*. Washington, D.C.: TWG;2012. www.healthynewbornnetwork.org/sites/default/files/resources/Newborn%20Services%20Rapid%20HFA_HNN_25June2012.pdf

- Functioning communication systems, including cell phone coverage;
- Staff to patient ratios (e.g., numbers of physicians, nurses, etc., per sick newborn) functioning facilities;
- Availability of protocols for managing newborn referrals at the facility level, and
- Security risks and safety issues that may impact travel and service delivery for pregnant and postnatal women.

5.3 Developing a Response Strategy

Use findings from the situation analysis to inform the development of a unified strategy and response plan to deliver newborn health services. Summarize key findings from the assessment, identify services to be developed and implemented in response to those findings, and designate government and/or international partner leads for types of services and geographic zones of delivery. Once finalized and approved by the interagency working group, the strategy document will serve as an internal guide for the working group partners, as well as a tool for external advocacy, which the lead agency may use in working with the broader humanitarian response group.

5.3.a. Prioritizing newborn interventions

Based on the situational analysis and available local capacity and resources, it may be necessary to prioritize which newborn health interventions to implement during the acute response phase.

The 2014 Lancet Evern Newborn Series described interventions that showed substantial evidence to be effective in reducing neonatal mortality such as essential newborn care, neonatal resuscitation, kangaroo mother care for LBW babies, and infection management for sick babies.[39]

39 Cite Bhutta ZA, Das JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar JM, Blencowe H, Rizvi A, Chou VB *et al*: **Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost?** Lancet 2014, 26;384:347-70.

It is recommended that at the initial phase, these interventions are prioritized for implementation, and that other interventions to complete the newborn package can be added in later phases based on the local context.

5.3.b Develop proposals to secure additional funding

Additional funding may be needed to support the activities that form components of the response plan, such as training, material development and procurement of medicines and supplies.

Because timeframes for developing, submitting, and receiving funds can be protracted, identifying funding needs and potential donors as early as possible in the response process is critical. Utilize experienced grant writers and other staff whenever feasible to prepare and submit proposals.

5.3.c Identify and train staff

Using the results of the staff assessment (Section 5.2.d.), develop, implement and evaluate training for health staff. Develop training content based on the competencies expected for each type of provider (CHWs/ lay health workers, nurses/mid-level staff, physicians) at each level of care (household, peripheral health facilities, hospitals) and the identified gaps

BOX 5.2. **Plan and deliver coordinated health services**
Work with local providers and systems

Employ Local Health Providers
If the situation allows, identify and train local health care providers. Avoid recruiting providers from outside the region. Local providers have the advantage of being familiar with the culture and language of the affected community, increasing the likelihood that MNH services will be delivered effectively, efficiently and successfully.

Coordinate with Government Efforts
Work with the host country government to design and deliver training programs. Ministry of Health staff will know what curricula and other training materials are available in country, and can often assign trainers to deliver the training content, as well as managers to support the training and supervision of trainees.

in those competencies. Incorporate approved national and/or community-level MNH key messages, referral system protocols and other foundational information into training, as appropriate. Consult *Annex 7* for a list of training resources.

In crisis settings, training courses must be practical. Most situations will require the condensation of extensive information and education into brief trainings that health staff can complete within the restrictions of their work schedules and of the crisis situations surrounding them. Types of training may include on-the-job sessions, practical or theoretical lessons in a classroom-type setting, structured training courses addressing a specific task or need, and refresher courses for longer-term/experienced staff (Box 5.2).

Where possible, integrate newborn health service delivery training into other established medical/health training program topics, per national policy. Examples of such topics include safe motherhood, maternal health, the Integrated Management of Childhood Illnesses (IMCI) and Integrated Community Case Management (ICCM). Integration of these topics requires a high level of coordination with various organizations within the country. However, this approach is recommended because it maximizes available training resources, including training personnel, funds and the time health professionals have available to participate in training courses.

Finally, review and evaluate trainees to ensure that new knowledge and skills are being applied in practice in household, camp and clinical settings. Although challenging to implement and sustain within crisis settings, supervision and evaluation of provider practices is essential to the delivery of high-quality MNH services. Engage supervisors from the local health system early on and invite their input to develop a plan for conducting timely follow-up visits with trainees. Assessments may include visits to observe, coach and solve problems with trainees, as well as to gather data and identify gaps in performance to strengthen providers' skills on the job. Provide transport and other material support for local supervisors to ensure their active engagement in the supervisory process over time. When logistical challenges arise, such as impassable roads or security alerts that prevent local visits, on-site supervision may be suspended, but must resume as soon as feasible.

For an outline of the assessment process and sample tools see Jhpiego's *Guidelines for Assessment of Skilled Providers After Training in Maternal and Newborn Healthcare* (www.jhpiego.org/files/GdlnsSkillProvEN.pdf).

5.3.d Procure essential medicines and supplies

Consult the supply kit contents in *Annex 2* for a list of essential items to distribute to health facilities and non-facility based local health staff (e.g., CHWs, outreach workers and camp or camp-like settings).

5.3.e Print and distribute clinical guidelines and protocols

Use findings from the Situation Analysis *(Section 5.2.)* to inform the selection and dissemination of key training materials, including clinical guidelines.

5.3.f Distribute supply kits

Clearly define the process for distributing medicines, medical commodities and supplies to support newborn care. To effectively distribute kits, up-to-date, accurate information about the supply chain will be essential. Utilize information gathered as part of the RHA and the resource assessment process *(Section 5.2.d.)* to coordinate the distribution of supply kits. Document the distribution process and monitor needs regularly.

5.4 Developing and Implementing a Monitoring and Evaluation (M&E) Plan

From among the RMNCAH working group, work with the government identify a partner with expertise in M&E. Task that partner with developing an overall M&E plan for the delivery of MNH services throughout the affected region that utilizes standardized methods of data collection, reporting for assessments and ongoing monitoring. In some cases, this agency may be the MNH lead agency.

Tracking program progress and outcomes requires data from a variety of sources, including pre-crisis mortality and morbidity statistics, facility-related data and process and outcomes data related to health program implementation. Use standardized indicators to collect population-level data to the extent possible; *Annex 9A* presents a list of health indicators, how to calculate them, and how to use them in program M&E. The indicators are organized into four domains: service readiness (supplies), outcomes, service utilization and intervention coverage, and quality of care. These indicators are based on demographic data typically

collected through national and sub-national systems that are routinely aggregated from agency/field level up to the national level, and published in governmental reports.

Use indicators to inform health managers at the local, regional and national levels about the extent of MNH service coverage and the quality of services being provided. Require program managers to review and apply the information to identify gaps in service provision and define necessary program modifications. If managers do not possess adequate data analysis skills to carry out data review, then consult the agency designated as the monitoring and evaluation lead for MNH working group for help with staff training support or tools, as needed.

BOX 5.3. Using standard health indicators in a crisis setting

Always adapt suggested health indicators to the local context. Depending on the crisis situation, some indicators may be inappropriate, and others may need to be adapted or added. depending on the context.

BOX 5.4. Tracking Vital Statistics Through Local Monitoring Efforts

During humanitarian crises, many births and deaths occur outside of health facilities. As a result, standard data collection systems and analysis methods may not be effective. Furthermore, during protracted humanitarian situations, standard survey and data review processes may be compromised, and vital records may be lost or damaged at both community and national levels.

To compensate for these challenges, employ the following tactics:

- Implement local maternal and perinatal mortality audits, using methods such as mortality surveillance, or verbal and social autopsy;
- Track numbers and causes of deaths in the community/at the household level;
- Extrapolate lessons from preventable deaths to improve future practices;
- Where possible, share results with communities and the health workers serving them.

As, routine information systems and data flow may be compromised during a crisis. Develop a reduced set of critical indicators to aggregate and route upwards from the agency or community level to regional or national program managers. However, continue to capture additional indicators at lower levels to allow for quality assurance and service improvement. If possible, aggregate agency-level data in an overall M&E process. In addition to identifying gaps in service, highlight success stories to share with staff. These successes encourage persistence under difficult circumstances. Furthermore, sharing successful strategies and encouraging their uptake from one health worker or health facility to the next will contribute to improved processes and outcomes. ■

Key resources to accompany Chapter 5

- *Global Health Media Project.* http://globalhealthmedia.org/
- *Health Cluster Guide.* WHO, 2011. www.who.int/hac/global_health_cluster/guide/en/
- *Household-to-Hospital Continuum of Maternal and Newborn Care.* Jhpiego, USAID/The Access Program, 2005.
- *Guidelines for Assessment of Skilled Providers After Training in Maternal and Newborn Healthcare.* Jhpiego, 2004. www.jhpiego.org/files/GdlnsSkillProvEN.pdf
- *Newborn Services Rapid Health Facility Assessment.* Newborn Indicators Technical Working Group, 2012. www.healthynewbornnetwork.org/sites/default/files/resources/Newborn%20Services%20Rapid%20HFA_HNN_25June2012.pdf
- *Rapid health assessment of refugee or displaced populations* (3rd edition). Médecins Sans Frontières, 2006. http://refbooks.msf.org/msf_docs/en/rapid_health/rapid_health_en.pdf
- *Site Assessment and Strengthening for Maternal and Newborn Health Programs.* Jhpiego, USAID/Maternal & Neonatal Health Program, 2004. www.jhpiego.org/files/SiteAssessMNH.pdf
- WHO Health Resource Availability Mapping System (HeRAMS) www.who.int/hac/global_health_cluster/guide/tools/en/

Humanitarian Settings (Chapter 2)

Bigot A, Blok L, Boelaert, et al. *Refugee Health: An approach to emergency situations*. Médecins Sans Frontières, 1997. Available at: http://refbooks.msf.org/msf_docs/en/refugee_health/rh.pdf

United Nations High Commissioner for Refugees. 2012. *Global Trends 2012—Displacement: The New 21st Century Challenge*. Geneva, Switzerland: UNHCR. Available at: www.unhcr.org/51bacb0f9.html

United Nations High Commissioner for Refugees. 2007. *Handbook for Emergencies* (3rd edition). Geneva, Switzerland: UNHCR. Available at: www.unhcr.org/472af2972.html

United Nations High Commissioner for Refugees. 2013. *Statistical Yearbook 2011: Trends in Displacement, Protection and Solutions* (11th edition). Geneva, Switzerland: UNHCR. Available at: www.unhcr.org/516282cf5.html

United Nations High Commissioner for Refugees. 2012. *Statistical Yearbook 2012 (12th edition)*. Geneva, Switzerland: UNHCR. Available at: http://www.unhcr.org/52a7213b9.html

United States Agency for International Development. 2012. *Building Resilience to Recurrent Crisis, USAID Policy and Program Guidance*. Washington, DC: USAID, 2012. Available at: www.usaid.gov/sites/default/files/documents/1870/USAIDResiliencePolicyGuidanceDocument.pdf

World Health Organization, *Essentials for Emergencies*. Geneva, Switzerland: WHO. Available at: www.searo.who.int/entity/emergencies/documents/WHO_Emergency_Essentials.pdf

Newborn Health Epidemiology (Chapter 2)

Katz J, Lee AC, Kozuki N, et al. Mortality risk in preterm and small-for-gestational-age infants in low-income and middle-income countries: a pooled country analysis. *Lancet*. Aug 3 2013;382(9890):417-425. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3796350/

Lawn J, Shibuya K, Stein C. No cry at birth: global estimates of intrapartum stillbirths and intrapartum-related neonatal deaths. *Bull World Health Organ*. 2005; 83:409-417. Available at: www.who.int/bulletin/volumes/83/6/409.pdf

Lawn JE, Bhutta ZA, Darmstadt GL, et al. 2014. *Every Newborn: An executive summary for The Lancet's series*. Available at: http://download.thelancet.com/flatcontentassets/pdfs/everynewborn_exec_summ.pdf

Liu L, Johnson HL, Cousens S, et al. Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. Lancet 2012 ;379(9832):2151-2161.

March of Dimes, The Partnership for Maternal, Newborn & Child Health, Save the Children, World Health Organization. 2012. *Born Too Soon—The Global Action Report on Preterm Birth*, Geneva, Switzerland: WHO. Available at: http://whqlibdoc.who.int/publications/2012/9789241503433_eng.pdf

Save the Children. 2013. *Surviving the First Day: State of the World's Mothers 2013*. Available at: www.savethechildren.org/atf/cf/%7B9def2ebe-10ae-432c-9bd0-df91d2eba74a%7D/SOWM-FULL-REPORT_2013.PDF

Spector JM, Daga S. Preventing those so-called stillbirths. *Bull World Health Organ*. 2008;86(4):315-316. Available at: www.who.int/bulletin/volumes/86/4/07-049924/en/

United Nations Children's Fund. *State of the World's Children, 2012*. New York City, NY: UNICEF, 2012. Available at: www.unicef.org/sowc2012/pdfs/UNDER-FIVE-MORTALITY-RANKINGS.pdf

United States Agency for International Development, MCHIP, Save the Children. *Causes of Newborn Death: Complications During Childbirth*. Washington, DC: USAID. Available at: www.healthynewbornnetwork.org/sites/default/files/resources/Complications_Briefer_STC.pdf

World Health Organization. *Children: Reducing Mortality (Fact Sheet No. 178)*. Geneva, Switzerland: WHO, September 2013. Available at: www.who.int/mediacentre/factsheets/fs178/en/index.html.

World Health Organization. 2008. *Manual for the health care of children in humanitarian emergencies.* Geneva, Switzerland: WHO. Available at: http://whqlibdoc.who.int/publications/2008/9789241596879_eng.pdf

World Health Organization. *Newborns: Reducing Mortality (Fact Sheet No. 333)*. Geneva, Switzerland: WHO, May 2012. Available at: www.whro.int/mediacentre/factsheets/fs333/en/index.html

World Health Organization. *Preterm Birth (Fact Sheet No. 363)*. Geneva, Switzerland: WHO, November 2013. Available at: www.who.int/mediacentre/factsheets/fs363/en/

World Health Organization. 1996. *Mother-Baby Package: Implementing Safe Motherhood in Countries (WHO/FHE/MSM/94.1.)* Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/documents/who_dhe_msm_9411/en/

Planning Newborn Health Services (Chapter 3)

American Academy of Pediatrics. *Helping Babies Breathe: The Golden Minute – Resources*. Available at: www.helpingbabiesbreathe.org/resources.html

Inter-agency Working Group on Reproductive Health in Crises. 2012. *Inter-agency Field Manual on Reproductive Health in Humanitarian Settings: 2010 Revision for Field Review.* IAWG. Available at: www.iawg.net/resources/field_manual.html#download

Inter-agency Working Group on Reproductive Health in Crises. 2012. *Technical Brief: Newborn Care for Syrian Crisis*. IAWG. Available at: file:///Users/vishal/Downloads/SyriaCrisisNewbornTechnicalBrief2012%20(1).pdf

The Partnership for Maternal, Newborn & Child Health. 2011. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva, Switzerland: PMNCH. Available at: www.healthynewbornnetwork.org/sites/default/files/resources/essentialinterventions14_12_2011low.pdf

Women's Commission for Refugee Women and Children. 2011. *Minimum Initial Service Package (MISP) for Reproductive Health in crisis Situations: A Distance Learning Module*. New York City, NY: UNFPA. Available at: www.unfpa.org/emergencies/manual/2.htm

World Health Organization. 2012. *Guidelines on Basic Newborn Resuscitation.* Geneva, Switzerland: WHO. Available at: http://apps.who.int/iris/bitstream/10665/75157/1/9789241503693_eng.pdf

World Health Organization. 2011. *Guidelines on Optimal feeding of low birth-weight Infants in low- and middle-income countries*. Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/documents/9789241548366.pdf

World Health Organization. 2003. *Kangaroo mother care: a practical guide*. Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/documents/9241590351/en/

World Health Organization, United Nations Childrens Fund. 2008. *Integrated Management of Childhood Illness Chart Booklet*. Geneva, Switzerland: WHO. Available at: http://whqlibdoc.who.int/publications/2008/9789241597289_eng.pdf

World Health Organization. *Management of newborn illness and complications*. Available at: www.who.int/maternal_child_adolescent/topics/newborn/management_illness_complications/en/

World Health Organization. 2012. *Newborn Health Guidelines approved by the WHO Guidelines Review Committee 2009-2012*. Geneva, Switzerland: WHO. Available at: www.mchip.net/node/1191

World Health Organization. 2013. *Recommendations on Postnatal Care of the Mother and Newborn*, Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/documents/postnatal-care-recommendations/en/

Essential Medicines and Supply Kits (Chapter 3)

John Snow, Inc./DELIVER in collaboration with the World Health Organization. 2003. *Guidelines for the Storage of Essential Medicines and Other Health Commodities.* Arlington, VA: John Snow/DELIVER, for USAID. Available at: http://deliver.jsi.com/dlvr_content/resources/allpubs/guidelines/GuidStorEsse_Pock.pdf

United Nations Childrens Fund, World Health Organization. 2008. *UNICEF Midwifery Kit (Technical Bulletin No. 4, Revision No. 1)*. New York City, NY: UNICEF. Available at: www.unicef.org/supply/files/Midwifery_Kit.pdf

United Nations Childrens Fund. 2010. *Sources and Prices of Selected Medicines for Children (2nd edition).* New York City, NY: UNICEF. Available at:

United Nations Population Fund. 2010. *Inter-Agency Reproductive Health Kits for Crisis Situations (5th edition)*. New York City, NY: UNFPA. Available at: www.unfpa.org/webdav/site/global/shared/procurement/06_for_customers/02_gccp-erhkits/RH%20Kits%20Manual%202011.pdf

United Nations High Commissioner for Refugees. 2013. *UNHCR's Essential Medicines and Medical Supplies: Policy and Guidance 2013*. Geneva, Switzerland: UNHCR. www.unhcr.org/527baab09.html

World Health Organization. 2012. Priority life-saving medicines for women and children, 2012. Geneva, Switzerland: WHO. Available at: www.who.int/medicines/publications/emp_mar2012.1/en/

World Health Organization. 2013. *Essential Medicines List – Adults (18th edition) and Children (4th edition)*. Geneva, Switzerland: WHO. Available at: www.who.int/medicines/publications/essentialmedicines/en/

World Health Organization, Ecumenical Pharmaceutical Network, International Committee of the Red Cross, et al. 2006. *The Interagency Emergency Health Kit 2006: Medicines and Medical Devices for 10,000 People for Approximately 3 Months - An Interagency Document.* Geneva, Switzerland: WHO. Available at: http://whqlibdoc.who.int/hq/2006/WHO_PSM_PAR_2006.4_eng.pdf

Program Planning: Local-level Support and National-Level Strategies (Chapters 4-5)

Blouse A (ed.). 2004. *Guidelines for Assessment of Skilled Providers After Training in Maternal and Newborn Healthcare*. Baltimore, MD: Jhpiego. Available at: www.jhpiego.org/files/GdlnsSkillProvEN.pdf

Blouse A, Gomez P, Kinzie B (eds.). 2004. *Site Assessment and Strengthening for Maternal and Newborn Health Program*. Baltimore, MD: Jhpiego. Available at: www.jhpiego.org/files/SiteAssessMNH.pdf

CORE Group, Save the Children, The American College of Nurse-Midwives' Department of Global Outreach, USAID MCHIP. 2011. *Taking Care of a Baby at Home After Birth: What Families Need to Do.* Washington D.C.: CORE Group. Available at: www.healthynewbornnetwork.org/sites/default/files/resources/CORE%20ENC%2011-08-2011.pdf

De Graft-Johnson J, Daly P, Otchere S, Russell N, Bell R. 2005. *Household-to-Hospital Continuum of Maternal and Newborn Care*. Baltimore, MD: Jhpiego. Available at: http://pdf.usaid.gov/pdf_docs/PNADE623.pdf

Deportere E, Brown V. 2006. *Rapid health assessment of refugee or displaced populations (3rd edition)*. Médecins Sans Frontières. Available at: http://refbooks.msf.org/msf_docs/en/rapid_health/rapid_health_en.pdf

Inter-agency Standing Committee, Global Health Cluster. 2009. *Health Cluster Guide*. Geneva, Switzerland: WHO. Available at: www.who.int/hac/network/global_health_cluster/chapter1.pdf

Newborn Indicators Technical Working Group. 2012. *Newborn Services Rapid Health Facility Assessment*. Available at: www.healthynewbornnetwork.org/sites/default/files/resources/Newborn%20Services%20Rapid%20HFA_HNN_25June2012.pdf

World Health Organization (WHO). 2012. *Community Health Worker Register*. Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/news/events/2012/CHW_Register.pdf

World Health Organization, United Nations Children's Fund. 2009. *Home visits for the newborn child: a strategy to improve survival* – WHO/UNICEF Joint Statement. Geneva, Switzerland: WHO. Available at: www.unicef.org/spanish/health/files/WHO_FCH_CAH_09.02_eng.pdf

World Health Organization. 2012. *Caring for newborns and children in the community: caring for the newborn at home*. Geneva, Switzerland: WHO. www.who.int/maternal_child_adolescent/documents/caring_for_newborn/en/

ANNEX 1

Newborn Health Services Summary Tables, by Level of Care

Annex 1 is divided into four sections, presenting the following critical services:

- **1A:** Essential Newborn Care (ENC) Services for all Newborns
- **1B:** Services to Prevent and Manage Prematurity
- **1C:** Services to Prevent and Manage Newborn Infections and Sepsis
- **1D:** Services to Prevent and Manage Intrapartum Complications

Within each section, tables are separated by level of care to facilitate easy reference:

- **TABLE 1:** Household-level care delivery
- **TABLE 2:** Peripheral facility-level care delivery
- **TABLE 3:** Hospital-level care delivery

TABLE 1: ENC for all Newborns

HOUSEHOLD LEVEL

Typically delivered by CHWs

PREGNANCY	Identify pregnant women in refugee, IDP and crisis affected populations Provide pregnant women and families (or others in the community) with information regarding the nearest health facility for skilled care. Encourage women/families to give birth at the health facility. If women are unable to go to a health facility for antenatal care and/or labor/delivery: • Provide education on danger signs, need for referral, and referral pathways • Provide family with a clean delivery kit and information about safe birth practices and newborn care • If home delivery occurs, encourage women and caretakers to visit a health facility as soon as possible after birth to examine mother/baby • Distribute newborn care supplies as listed in **Annex 2 (Newborn Care Supply Kit)** In settings with high HIV prevalence, encourage women to get tested and seek care at a health facility for themselves before delivery, and for their newborns after birth.
LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, sterile cutting instrument and clean cutting surface) Thoroughly dry the baby Stimulate babies who are not breathing by drying and rubbing the back vigorously 2 -3 times For term newborns who do not require resuscitation, do not clamp the cord for at least 1 minute after birth

TABLE 1: ENC for all Newborns (cont'd)

HOUSEHOLD LEVEL

Typically delivered by CHWs

IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Place baby skin-to-skin on the mother's chest, cover with a blanket or cloth and delay bathing for at least 24 hours to prevent heat loss and hypothermia Initiate exclusive breastfeeding as soon as possible after delivery, or at least within 1 hour after birth Provide hygienic umbilical cord and skin care Provide CHX for cord care for home delivered newborns in settings where neonatal mortality rate is higher than 30 per 1000 live births. Provide eye care: single-dose tetracycline eye ointment Assess for danger signs and counsel on prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions) Identify and support newborns who need additional care (e.g., LBW, sick, mother is HIV-infected).
LATER POSTNATAL	Distribute newborn care kit (see **Annex 2A)** Promote basic newborn care, including: • Exclusive breastfeeding • Keeping the baby warm • Hand washing for people handling the baby • Hygienic cord and skin care For home visits on days 1, 3 and 7, examine the newborn for danger signs of sepsis or pneumonia (or other illnesses): • **Critical Illness:** no movement/unconscious, history of convulsions, unable to feed, severe bleeding, or bulging fontanelle • **Clinically severe infection:** Fever (temperature greater than or equal to 38°C), hypothermia (temperature less than 35.5°C), poor feeding, reduced movement, severe chest in-drawing • **Isolated fast breathing:** Respiratory rate >60 breaths per minute Encourage HIV-positive mothers to access testing and care for their newborns. Promote exclusive breastfeeding and observe newborns for danger signs. Assist families of newborns identified with danger signs or severe illness at home visits to seek peripheral/hospital care immediately. Promote week 6 visit for immunizations

TABLE 2: ENC for all Newborns

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

PREGNANCY	Identify pregnant women in crisis affected populations Provide pregnant women and families (or others in the community) with information regarding the nearest health facility for skilled care. Encourage women/families to give birth at the health facility. If women are unable to go to a health facility for antenatal care and/or labor/delivery: • Provide education on danger signs, need for referral, and referral pathways • Provide family with a clean delivery kit and information about safe birth practices and newborn care • If home delivery occurs, encourage women and caretakers to visit a health facility as soon as possible after birth to examine mother/baby • Distribute newborn care supplies as listed in **Annex 2 (Newborn Care Supply Kit)** In settings with high HIV prevalence, encourage women to get tested and seek care at a health facility for themselves before delivery, and for their newborns after birth.Provide ANC including counseling on birth preparedness and complication readiness In malaria endemic areas, distribute insecticide-treated bed nets (ITN) to pregnant women for their use during pregnancy and after pregnancy (with the newborn baby). Provide the following: • Tetanus toxoid immunization (minimum 2 doses at recommended interval) • Iron and Folate supplementation • Syphilis screening and treatment • Screening and treatment for urinary tract infections • Screening and treatment of hypertension, diabetes mellitus, and other chronic conditions If multiple pregnancy, prepare for possible preterm labor by educating the mother, providing advice on health facility delivery and possible ASC Encourage women/families to complete 4 ANC visits: the 1st during the first trimester, andlast during the final weeks of pregnancy

TABLE 2: ENC for all Newborns (cont'd)

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, sterile cutting instrument and clean cutting surface) and ensure a hygienic environment Monitor/manage labor with the use of the partogram Monitor fetal heart beat to detect fetal distress. If distress detected, prepare for referral Keep labor room warm Thoroughly dry the baby Stimulate babies who are not breathing by drying and rubbing the back vigorously 2 -3 times For term newborns who do not require resuscitation, do not clamp the cord for at least 1 minute after birth
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Place baby skin-to-skin on the mother's chest, cover with a blanket or cloth and delay bathing for at least 24 hours to prevent heat loss and hypothermia Initiate exclusive breastfeeding as soon as possible after delivery, or at least within 1 hour after birth Provide hygienic umbilical cord and skin care Provide eye care: single-dose tetracycline eye ointment Assess for danger signs and counsel on prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions) Identify and support newborns needing additional care (e.g., LBW, sick, mother is HIV-infected) Provide 1 mg of vitamin K IM within the first hour of birth Provide vaccination according to national protocol. Give first dose of hepatitis B vaccine as soon after birth as possible, at least within the first hour (especially in areas of high hepatitis B endemicity). Administer polio and BCG as soon as possible after birth[1] Provide BCG vaccination immediately after birth in countries where BCG is part of the national protocol. Weigh the baby Provide birth certificate or record of birth according to national guide

1 Newborn vaccinations such as oral polio, Hepatits B and BCG are NOT included in the newborn care kit as they are typically procured through UNICEF as part of the child health response. Close collaboration with organizations working with child health and the procurement of and management of vaccinations is essential to ensure the provision of vaccinations in the postnatal period.

TABLE 2: ENC for all Newborns (cont'd)

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

LATER POSTNATAL	Distribute newborn care kit (see **Annex 2)** Promote basic newborn care, including: • Exclusive breastfeeding • Keeping the baby warm • Hand washing for people handling the baby • Hygienic cord and skin care Assess mother and baby for problems before discharge. If no problems: • Release mother/baby to return home • Give the mother/family a specific date to return to the facility (even if everything is going well) OR organize a first home visit with mothers/families as soon as possible after the baby is home • Advise mother/baby to return immediately if they notice any danger signs • Remaining visits should follow the same schedule as home births. For home visits on days 1, 3 and 7, examine the newborn for danger signs of illness • **Critical Illness:** no movement/unconscious, history of convulsions, unable to feed, severe bleeding, or bulging fontanelle • **Clinically severe infection:** Fever (temperature greater than or equal to 38°C), hypothermia (temperature less than 35.5°C), poor feeding, reduced movement, severe chest in-drawing • **Isolated fast breathing:** Respiratory rate >60 breaths per minute Promote week 6 visit for immunizations For HIV-positive mothers: • Encourage mothers to access HIV testing and other care for their newborns • Promote exclusive breastfeeding and observe newborns for danger signs as they are particularly vulnerable to infections • Initiate ART in babies if possible

TABLE 3: ENC for all Newborns

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

PREGNANCY

Identify pregnant women in crisis-affected populations

Provide pregnant women and families (or others in the community) with information regarding the nearest health facility for skilled care. Encourage women/families to give birth at the health facility.

If women are unable to go to a health facility for antenatal care and/or labor/delivery:

- Provide education on danger signs, need for referral, and referral pathways
- Provide family with a clean delivery kit and information about safe birth practices and newborn care
- If home delivery occurs, encourage women and caretakers to visit a health facility as soon as possible after birth to examine mother/baby
- Distribute newborn care supplies as listed in **Annex 2 (Newborn Care Supply Kit)**

In settings with high HIV prevalence, encourage women to get tested and seek care at a health facility for themselves before delivery, and for their newborns after birth. Provide ANC including counseling on birth preparedness and complication readiness

In malaria endemic areas, distribute insecticide-treated bed nets (ITN) to pregnant women for their use during pregnancy and after pregnancy (with the newborn baby).

Provide the following:

- Ultrasound in the first trimester to accurately estimate gestational age
- Tetanus toxoid immunization (minimum 2 doses at recommended interval)
- Iron and Folate supplementation
- Syphilis screening and treatment
- Screening and treatment for urinary tract infections
- Screening and treatment of hypertension, diabetes mellitus, and other chronic conditions

If multiple pregnancy, prepare for possible preterm labor by educating the mother, providing advice on health facility delivery and provide advice to seek care early if preterm labor

Encourage women/families to complete 4 ANC visits: the 1st during the first trimester, and last during the final weeks of pregnancy

TABLE 3: ENC for all Newborns (cont'd)

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, sterile cutting instrument and clean cutting surface) and ensure a hygienic environment Monitor/manage labor with the use of the partogram Monitor fetal heart beat to detect fetal distress. If distress detected, prepare for provision of BEmOC or CEmOC services Keep labor room warm Thoroughly dry the baby Stimulate babies who are not breathing by drying and rubbing the back vigorously 2 -3 times For term newborns who do not require resuscitation, do not clamp the cord for at least 1 minute after birth
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Place baby skin-to-skin on the mother's chest, cover with a blanket or cloth and delay bathing for at least 24 hours to prevent heat loss and hypothermia Initiate exclusive breastfeeding as soon as possible after delivery, or at least within 1 hour after birth Provide hygienic umbilical cord and skin care Provide single-dose tetracycline eye ointment Assess for danger signs and counsel on prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions) Identify and support newborns needing additional care (e.g., LBW, sick, mother is HIV-infected) Provide 1 mg of vitamin K IM within the first hour of birth Provide first dose of hepatitis B vaccine as soon after birth as possible, at least within the first hour (especially in areas of high hepatitis B endemicity) Administer polio and BCG as soon as possible after birth[2] Weigh the baby Provide birth certificate or record of birth according to national guide Identify and manage newborns with danger signs needing advanced postnatal care

2 Newborn vaccinations such as oral polio and Hepatitis B and BCG are NOT included in the newborn care kit as they are typically procured through UNICEF as part of the child health response. Close collaboration with organizations working with child health and the procurement of and management of vaccinations is essential to ensure the provision of vaccinations in the postnatal period.

TABLE 3: ENC for all Newborns (cont'd)

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

LATER POSTNATAL	Distribute newborn care kit (see **Annex 2)** Promote basic newborn care, including: • Exclusive breastfeeding • Keeping the baby warm • Hand washing for people handling the baby • Hygienic cord and skin care Assess mother and baby for problems before discharge. If no problems: • Release mother/baby to return home • Give the mother/family a specific date to return to the facility (even if everything is going well) OR organize a first home visit with mothers/families as soon as possible after the baby is home • Advise mother/baby to return immediately if they notice any danger sig4ns OR organize a first home visit with mothers/families as soon as possible after the baby is home • Remaining visits should follow the same schedule as home births. For home visits on days 1, 3 and 7, examine the newborn for danger signs of sepsis or pneumonia (or other illnesses): • **Critical Illness:** no movement/unconscious, history of convulsions, unable to feed, severe bleeding, or bulging fontanelle • **Clinically severe infection:** Fever (temperature greater than or equal to 38°C), hypothermia (temperature less than 35.5°C), poor feeding, reduced movement, severe chest in-drawing • **Isolated fast breathing:** Respiratory rate >60 breaths per minute Promote week 6 visit for immunizations For HIV-positive mothers: • Encourage mothers to access HIV testing and other care for their newborns • Promote exclusive breastfeeding and observe newborns for danger signs as they are particularly vulnerable to infections • Initiate ART in babies if possible For sick newborns, consult **Annex 1B, 1C and 1D** for interventions and service for intrapartum-related complications, prematurity and infections. Provide palliative care for newborns with congenital abnormalities

ANNEX 1B

TABLE 1: Prematurity/LBW Care

HOUSEHOLD LEVEL

Typically delivered by CHWs

PREGNANCY	Provide ENC (see **Annex 1A**) During ANC, counsel the mother on good nutrition during pregnancy and breastfeeding Encourage immediate and exclusive breastfeeding for the newborn for the first 6 months Provide education on prematurity, preterm labor and care for preterm babies
LABOR / DELIVERY	Identify women in preterm labor and refer to nearest health facility for care Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface)
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Refer all LBW or pre-term newborns (babies less than 2500g or born before 37 weeks gestation) to more advanced care for a physical examination and for KMC
LATER POSTNATAL	Follow small babies who are home very carefully during the postnatal period; provide support for KMC and breastfeeding, and monitor weight gain For newborns showing any danger signs (see **Annex 1A** above), ensure immediate referral to facility-based care

ANNEX 1B

TABLE 2: Prematurity/LBW Care

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

PREGNANCY	Provide ENC (see **Annex 1A**) During ANC, counsel the mother on good nutrition during pregnancy and breastfeeding Encourage immediate and exclusive breastfeeding for the newborn for the first 6 months Provide education on prematurity, preterm labor and care for preterm babies For malaria endemic areas or for refugees or IDPs from malaria endemic areas, treat pregnant women for malaria using IPTp Provide treatment of other infections including syphilis, HIV/AIDS and other STIs Screen and treat for asymptomatic bacteriuria
LABOR / DELIVERY	Identify women in preterm labor and refer to nearest health facility for care For women who are less than 34 completed weeks of pregnancy with one of the four conditions associated with preterm delivery (preterm labor, preterm pre-labor rupture of membranes, antepartum hemorrhage, severe pre-eclampsia), assess eligibility for ACS. If it is certain that the gestational age of the fetus is less than 34 completed weeks consider administraton of ACS and tocolytics. Arrange for immediate referral to a hospital. Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface) and maintain hygienic environment For newborns that do not start breathing on their own within 1 minute after birth after tactile stimulation, provide basic newborn resuscitation (ambu bag and suction device)

TABLE 2: Prematurity/LBW Care (cont'd)

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Complete physical examination performed within two hours of birth Extra thermal care for preterm/LBW babies through KMC including hat, blanket or cloth Provide immediate treatment of hypoglycemia if identified Provide extra infection-prevention measures Provide support for feeding (cup and spoon) if unable to breastfeed
LATER POSTNATAL	Observe and monitor vital signs of at risk newborns for a minimum of 24 hours. Monitor for danger signs and refer if necessary Continue KMC for preterm babies with careful monitoring of feeding, weight gain and signs of illness For newborns that are having difficulty breastfeeding (and where battery powered breast pumps are not available) ensure mother is comfortable hand expressing breast milk for her newborn baby; emphasize the importance of hand washing before expressing breast milk and keeping all feeding cups and utensils clean Provide antibiotic prophylaxis for newborns at risk of infection due to pPROM or meconium

ANNEX 1B

TABLE 3: Prematurity/LBW Care

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

PREGNANCY	Provide ENC (see **Annex 1A**) During ANC, counsel the mother on good nutrition during pregnancy and breastfeeding Encourage immediate and exclusive breastfeeding for the newborn for the first 6 months Provide education on prematurity, preterm labor and care for preterm babies For malaria endemic areas or for refugees or IDPs from malaria endemic areas, treat pregnant women for malaria using IPTp Provide treatment of other infections including syphilis, HIV/AIDS and other STIs Screen and treat for asymptomatic bacteriuria
LABOR / DELIVERY	For women who are less than 34 completed weeks of pregnancy with one of the four conditions associated with preterm delivery (preterm labor, preterm pre-labor rupture of membranes, antepartum hemorrhage, severe pre-eclampsia), assess eligibility for ACS, assess if there is a way to measure gestational age accurately. If it is certain that the gestational age of the fetus is less than 34 completed weeks consider administraton of ACS and tocolytics. For women in preterm labor, provide subsequent doses of ACS for preterm lung maturation and monitor labor Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface) and maintain hygienic environment For newborns that do not start breathing on their own within 1 minute after birth, provide basic newborn resuscitation (ambu bag and suction device)
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Complete physical examination performed within two hours of birth Provide extra care for preterm babies through provision of KMC; hat, blanket or cloth; extra infection-prevention measures; and support for feeding cup and spoon, or nasogastric tube feeding Immediate treatment of hypoglycemia if identified

TABLE 3: Prematurity/LBW Care (cont'd)

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

LATER POSTNATAL	Observation and monitoring vital signs of at risk newborns for a minimum of 24 hours, and appropriate treatment of babies with danger signs Continue KMC for preterm babies with careful monitoring of feeding, weight gain and signs of illness For newborns that are having difficulty breastfeeding (and where battery powered breast pumps are not available) ensure mother is comfortable hand expressing breast milk for her newborn baby; emphasize the importance of hand washing before expressing breast milk and keeping all feeding cups and utensils clean Provide antibiotic prophylaxis for newborns at risk of infection due to pPROM or meconium Provide blood glucose measurement before each feeding. • If not yet feeding, provide blood glucose at least every 3 hours until blood glucose remains stable and treat accordingly. Measure temperature every 4 hours Weigh the newborn at least 1x/day (ideally, 2x/day) Continue extra care for preterm babies and special feedings Continue monitoring temperature and weight Consider incubator care for preterm babies not yet stable enough for KMC Provide advanced care for respiratory distress: • Provide prophylactic and therapeutic use of surfactant to prevent respiratory distress syndrome in preterm babies with respiratory distress syndrome • Apply continuous positive airway pressure (CPAP) and monitor oxygen levels • Prevent and treat prematurity apnea Manage newborns with jaundice

ANNEX 1C

TABLE 1: Newborn Infections

HOUSEHOLD LEVEL

Typically delivered by CHWs

PREGNANCY	Provide ENC as described in **Annex 1A** In malaria endemic areas, distribute insecticide-treated bed nets (ITN) to pregnant women for use during and after pregnancy. Advise mothers/family that newborn also sleeps under ITN.
LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface)
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Initiate exclusive breastfeeding as soon as possible after delivery or at least within 1 hour after birth Employ hygienic skin care and umbilical cord care (including CHX, see **Annex 1A**) Provide eye care (single dose tetracycline eye ointment) Assess for danger signs and counsel on their prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions) *If any signs of sepsis are present, immediately refer women/babies to hospital*

TABLE 1: Newborn Infections (cont'd)

HOUSEHOLD LEVEL

Typically delivered by CHWs

LATER POSTNATAL	Promote ENC per **Annex 1A** including: • Exclusive breastfeeding • Drying and keeping the baby warm • Hand washing before handling the baby • Hygienic cord and skin care Examine the newborn for danger signs of sepsis or pneumonia (or other illnesses): • Not feeding well • Fits or convulsions • Reduced activity or lack of movement • Fast breathing (more than 60 breaths per minute) • Severe chest indrawing • Temperature above 37.5 degrees C • Temperature below 35.5 degrees C • Very small size at birth (<2.5 kg) *If danger signs or severe illness detected during home visits, assist mothers/families to seek peripheral or hospital care immediately.* Encourage HIV-positive mothers to access testing and care for their newborns. Promote exclusive breastfeeding and observe newborns for danger signs.

ANNEX 1C

TABLE 2: Newborn Infections

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

PREGNANCY	Provide ENC as described in **Annex 1A** (**Table 1**) In malaria endemic areas, distribute insecticide-treated bed nets (ITN) to pregnant women for use during and after pregnancy. Advise mothers/family that newborn also sleeps under ITN. Where feasible, test and treat women for syphilis Vaccinate pregnant women against tetanus In malaria endemic areas or for displaced populations coming from endemic areas, treat mothers for malaria using IPT For women from high HIV prevalence countries, determine their HIV status. Follow prevention of mother-to-child transmission guidelines for women who are HIV positive.[1]
LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface) Provide antibiotics for management of pPROM
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Initiate exclusive breastfeeding as soon as possible after delivery or at least within 1 hour after birth Employ hygienic skin care and umbilical cord care (see **Annex 1A**) Provide eye care (single dose tetracycline eye ointment) Assess for danger signs and counsel on their prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions) *If any signs of sepsis are present, immediately refer women/babies to hospital. If referral is not possible, provide treatment for fast breathing and severe infection as per the latest WHO recommendation. See Section 3.4a*

1 Medicines and medical commodities for HIV are not included in the newborn care kits. These are prepackaged and are procured through UNFPA. See the *Inter-Agency Reproductive Health Kits for Crisis Situations*, 2011.

TABLE 2: Newborn Infections (cont'd)

FACILITY LEVEL (Camp, Temporary or Mobile clinics and Local Health Services)

Delivered by Auxiliary Nurse Midwives, Nurses, Clinical Officers

LATER POSTNATAL	Promote ENC per **Annex 1A** including: • Exclusive breastfeeding • Drying and keeping the baby warm • Hand washing before handling the baby • Hygienic cord and skin care Examine the newborn for danger signs of sepsis or pneumonia (or other illnesses): • Not feeding well • Fits or convulsions • Reduced activity or lack of movement • Fast breathing (more than • 60 breaths per minute) • Severe chest indrawing • Temperature above 37.5 degrees C • Temperature below 35.5 degrees C • Very small size at birth (<2.5 kg) *If danger signs or severe illness detected during home visits, assist mothers/families to seek peripheral or hospital care immediately.* Encourage HIV-positive mothers to access testing and care for their newborns. Promote exclusive breastfeeding and observe newborns for danger signs. Initiate ART for babies born to HIV positive mothers. Provide presumptive antibiotic therapy for newborns at risk of bacterial infection due to pPROM or meconium aspiration Observe and monitor vital signs of at-risk newborns for a minimum of 24 hours

ANNEX 1C

TABLE 3: Newborn Infections

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

PREGNANCY	Provide ENC as described in **Annex 1A** (**Table 1**) In malaria endemic areas, or for displaced populations coming from endemic areas, treat mothers for malaria using IPTp, and distribute insecticide-treated bed nets (ITN) to pregnant women for use during and after pregnancy. Advise mothers/family that newborn also sleeps under ITN Where feasible, test and treat women for syphilis Vaccinate pregnant women against tetanus For women from high HIV prevalence countries, determine their HIV status. Follow prevention of mother-to-child transmission guidelines for women who are HIV positive.[2]
LABOR / DELIVERY	Employ clean birth practices (clean hands, clean perineum, clean surface, clean cord and tying instruments, clean cutting instrument and clean cutting surface) Provide antibiotics for management of pPROM
IMMEDIATE POSTNATAL (within the 1st hour of delivery)	Initiate exclusive breastfeeding as soon as possible after delivery or at least within 1 hour after birth Employ hygienic skin care and umbilical cord care (see **Annex 1A**) Provide eye care (single dose tetracycline eye ointment) Assess for danger signs and counsel on their prompt recognition and care-seeking by the family (not feeding well, reduced activity, difficult breathing, fever or feels cold, fits or convulsions)

2 Medicines and medical commodities for HIV are not included in the newborn care kits. These are prepackaged and are procured through UNFPA. See the *Inter-Agency Reproductive Health Kits for Crisis Situations*, 2011.

TABLE 3: Newborn Infections/Sepsis (cont'd)

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

LATER POSTNATAL	Promote ENC per **Annex 1A** including: • Exclusive breastfeeding • Drying and keeping the baby warm • Hand washing before handling the baby • Hygienic cord and skin care Examine the newborn for danger signs of sepsis or pneumonia (or other illnesses): • Not feeding well • Fits or convulsions • Reduced activity or lack ofmovement • Fast breathing (more than 60 breaths per minute) • Severe chest indrawing • Temperature above 37.5 degrees C • Temperature below 35.5 degrees C • Very small size at birth (<2.5 kg) Encourage HIV-positive mothers to access testing and care for their newborns. Promote exclusive breastfeeding and observe newborns for danger signs. Initiate ART for babies born to HIV positive mothers. Provide presumptive antibiotic therapy for newborns at risk of bacterial infection due to pPROM or meconium aspiration Observe and monitor vital signs of at-risk newborns for a minimum of 24 hours. Provide case management for neonatal infections including sepsis, meningitis and pneumonia. Provide antibiotic (ATB) first line treatment to newborns under 2 months of age:

TABLE 3: Newborn Infections (cont'd)

HOSPITAL LEVEL (Referral Care)

Delivered by Nurses, Clinical Officers, Nurse-Midwives, Doctors

LATER POSTNATAL	• In the first week of life: ampicillin (IV/IM) 50/mg/kg/day divided every 12 hours if and gentamycin (IV/IM) 3 mg/kg/dose daily for low birth weight babies or 5 mg/kg/dose daily for normal birth weight babies • For weeks 2-4 of life: ampicillin (IV/IM) 50/mg/kg/day divided every 8 hours and gentamycin 7.5 mg/kg/dose once daily For suspected sepsis or pneumonia, treat for 10 days. If meningitis is suspected, treat for 21 day. Consider benzyl-penicillin as an alternative for ampicillin if necessary; cloxacillin and cetriaxone may be used for braoder coverage in case of skin infection or meningitis, respectively. If cyanosed or in severe respiratory distress, administer oxygen by nasal prongs or nasal catheter If respiratory distress syndrome is diagnosed, provide CPAP, and monitor oxygen levels If drowsy, unconscious or convulsing, check blood glucose and provide care for hypoglycemia as needed If convulsions are present, administer phenobarbital

ANNEX 2

Newborn Care Supply Kits For Humanitrian Settings

Annex 2 is divided into three sections, presenting the following components of newborn supply kits:

2A: Household/Community Level Supply Kit

2B: Primary Health Facility Level Supply Kit

2C: Hospital Level Supply Kit

To order Newborn Care Supply Kits:

- Order kits along with the reproductive health kit for emergencies (available at www.rhrc.org/resources/rhrkit.pdf) Kits described in Annexes A, B and C correspond to Block 1, Block 2 and Block 3 respectively.
- Assemble the household/community level kit locally with procurement of Chlorhexidine through the UNICEF supply chain system (consult www.unicef.org/supply/)
- Procure the primary health facility and hospital level kit contents through IMRES (www.imres.nl), IDA (www.ida.nl) or UNICEF (www.unicef.org/supply/)

ANNEX 2A

Newborn Supply Kit – Household/Community Level

CATEGORY	ITEM
Educational Materials (for health care workers)	Early and exclusive breastfeeding (including breastfeeding for HIV)
	Thermal Care (warming, skin-to-skin contact, immediate drying, delayed bathing)
	Newborn hygiene: Clean cord and skin care
	Recognition of newborn danger signs and transferring to higher level of care
Medicines	7.1% Chlorhexidinedigluconate gel or liquid[1]
	Tetracycline HCL 1% eye ointment 5g
	Zinc Oxide, cream, 100 ml tube (nappy rash cream)
Medical Devices	Clean Delivery Kit[2] (UNFPA – subkit 2A)
	Clamp of Barr or Ligature
	Gloves
	Infant weighing scale
	Tape measure
	Thermometer (digital)
	Timer (RR)

1 Chlorhexidine for cord care in countries and contexts that meet the WHO criteria
- Neonatal mortality rate >30/1000 live births
- home delivery
- there is an educated provider, that can educate mothers on how to appropriately apply CHX

2 Refer to clean delivery kit (sub-kit 2) of the RH kits

Newborn Supply Kit – Household/Community Level (cont'd)

CATEGORY	ITEM
Newborn Care Supplies	Baby blanket, 300 gms, 75 x 50 cm
	Baby swaddler
	Baby vest, cotton
	Bath towel, child, cotton 340 gms, 30 x 50 cm
	Hat, wool or cotton, extra small
	Insecticide treated bed net (ITN)[2]
	Safety pins, small size, nickel free, for nappies
	Soap, baby, 100g bar, hypoallergenic
	Socks, cotton, extra small
	Towel, 100% cotton, 60 x 80 cm, 300 gms
	Washable baby diaper, 100% cotton, 30 x 15 cm (non-disposable)

2 ITNs, when available, can be distributed at the community level in malaria endemic areas.

Newborn Supply Kit – Primary Health Facility Level

CATEGORY	ITEM
Educational Materials (for health care workers)	Early and exclusive breastfeeding (including breastfeeding for HIV)
	Newborn hygiene: Clean cord and skin care
	Recognition of newborn danger signs and transferring to higher level of care
	Staff training materials (HBB, ENC, etc.)
	Thermal Care (warming, skin-to-skin contact, immediate drying, delayed bathing)
Medicines	**ORAL**
	Amoxicillin, dispersible scored tablets 250mg
	Amoxicillin, suspension 125mg/5ml
	Paracetamol Oral liquid 125 mg/5 ml
	Phenobarbital, oral liquid, 15mg/5ml or 5.4%, 1 mg/drop, oral solution, 30 ml, bot
	INJECTABLES
	IV/IM Ampicillin powder for injection 250mg vial
	IV/IM Gentamicin, 40mg/ml[1]
	Benzathine penicillin G 1.2 M I.U.
	Phenobarbital sodium, injection 200mg/ml
	Sterile water for injections that require dilution
	Vitamin K, injectable, pediatrics vial 2mg/0.2ml
	EXTERNAL AND RECTAL
	Acyclovir eye drops
	Artesunate suppositories, 50mg (for pre-referral)
	Paracetamol suppositories 100 mg
	Tetracycline HCL 1% eye ointment 5g
	Zinc Oxide, cream, 100 ml tube (nappy rash cream)

1 Gentamicin sulphate: 40 mg base/ml comes in a 2 ml ampoule. To reach a 20mg concentration for use in neonates, 1 ml can be easily drawn with a syringe and needle.

Newborn Supply Kit – Primary Health Facility Level (cont'd)

CATEGORY	ITEM
Medical Devices	Breast pump (battery powered)
	Clean Delivery Kit[2] (UNFPA – subkit 2A)
	Clamp of Barr or Ligature
	Digital infant weighing scale
	Digital infant thermometer
	Feeding cups
	Gloves
	Infusion set, burette 100-150ml, sterile, single use
	Intravenous cannula 22, 25G
	Mobile examination lamp
	Mucus trap (HBB Penguin) for suction or suction machine
	Neonatal and premature nasal prongs for oxygen administration
	Phototherapy lamp and fluorescent tubes
	Pulse oximeter with probes for neonate (battery operated)
	Pump suction, portable, 1 bottle with accessories
	Self-inflating bag (Ambu bag pediatric) + Face masks (sizes 0, 1)
	Syringes 2, 5, 10 cc & Needles 16, 18 to prepare injections
	Syringe drivers
	Tape measure
	Tape, medical, 2.5cm x 5m roll X
	Timer (RR)
	Umbilical clamp, sterile, single use

2 Refer to clean delivery kit (sub-kit 2) of the RH kits

Newborn Supply Kit – Primary Health Facility Level (cont'd)

CATEGORY	ITEM
Laboratory Supplies	Heel lancets
	Rapid diagnostic test for malaria (RDT)
	Rapid blood sugar testing strips and blood glucose meter
	Urine dipsticks: pH, proteins, glucose, ketones, blood nitrites, leucocytes (these are the indicated tests that should be measured)
Newborn Care Supplies	Baby blanket, 300 gms, 75 x 50 cm
	Baby swaddler
	Baby vest, cotton
	Bath towel, child, cotton 340 gms, 30 x 50 cm
	Hat, wool or cotton, extra small
	Safety pins, small size, nickel free, for nappies
	Soap, baby, 100g bar, hypoallergenic
	Socks, cotton, extra small
	Towel, 100% cotton, 60 x 80 cm, 300 gms
	Washable baby diaper, 100% cotton, 30 x 15 cm (non-disposable)
	Insecticide treated bed net (ITN)[3]

3 ITNs, when available, can be distributed at the community level in malaria endemic areas.

ANNEX 2C

Newborn Supply Kit – Hospital Level

CATEGORY	ITEM[1]
Educational Materials (for health workers)	Early and exclusive breastfeeding (including breastfeeding for HIV)
	Newborn hygiene: Clean cord and skin care
	Recognition of newborn danger signs and transferring to higher level of care
	Staff training materials (HBB, ENC, etc.)
	Thermal Care (warming, skin-to-skin contact, immediate drying, delayed bathing)
Medicines	**ORAL**
	Amoxicillin, dispersible scored tablets 250mg
	Amoxicillin, suspension 125mg/5ml
	Caffeine citrate, 20mg/ml oral solution
	Cloxacillin, dispersible tablet 250mg/tablet
	Paracetamol Oral liquid 125 mg/5 ml
	Phenobarbital, oral liquid, 15mg/5ml or 5.4%, 1 mg/drop, oral solution, 30 ml, bot
	INJECTABLES
	IV/IM Ampicillin powder for injection 250mg vial
	Artesunate IM Powder for injection 60mg of anhydrous artesunate in 1 ml ampoule
	Benzylpenicillin, Injectable 5 million IU/vial
	Caffeine citrate, 20 mg/ml injectable solution
	Cefotaxime, injectable 125mg/vial
	IV/IM Ceftriaxone, injectable 250mg/vial
	Cloxacillin, dispersible tablet 250mg/tablet
	Cloxacillin, injectable 250mg/vial

1 Vaccines including polio, Hepatitis B and BCG are not included in the list as these items can usually be optioned through the vaccination system in country. If not available in country, please include in your procurement order

Newborn Supply Kit – Hospital Level (cont'd)

CATEGORY	ITEM[1]
Medicines	Diazepam, injectable 5mg/ml
	Epinephrine 1:10000 solution: 1 mg/ml, vial 1 ml
	IV/IM Gentamicin, 40mg/ml[2]
	Glucose Hyper, 50%, 50ml, vial
	IV Aqueous Crystalline Penicillin G, 100 000-150 000 units/kg/day in 3 doses or IM
	IV/IM Phenobarbital Sodium, injection 200g/ml, vial 1 ml
	Procaine penicillin 50 000 units/kg/day in 1 dose for 10 days
	5% Sodium Bicarbonate in 0.6ml ampoule
	Sterile water for injections that require dilution
	Vitamin K, injectable, pediatrics vial 2mg/0.2ml
	EXTERNAL AND RECTAL
	Acyclovir eye drops
	Artesunate suppositories, 50mg (for pre-referral)
	Paracetamol suppositories 100 mg
	Tetracycline HCL 1% eye ointment 5g
	Zinc Oxide, cream, 100 ml tube (nappy rash cream)
Medical Devices	Breast pump (battery powered)
	Butterfly 22, 23, 25G
	IV cannula 22 G
	IV cannula 24 G
	IV cannula 25 G
	IV cannula 28 G
	Clean Delivery Kit[3] (UNFPA – subkit 2A)
	Clamp of Barr or Ligature

2 Gentamicin sulphate: 40 mg base/ml comes in a 2 ml ampoule. To reach a 20mg concentration for use in neonates, 1 ml can be easily drawn with a syringe and needle.

3 Refer to clean delivery kit (sub-kit 2) of the RH kits.

Newborn Supply Kit – Hospital Level (cont'd)

CATEGORY	ITEM[1]
Medical Devices	Digital infant weighing scale
	Digital infant thermometer
	Endotracheal tubes sizes 2.5, 3.0, 3.5
	Feeding cups
	Fetal heart rate monitor (Doppler or Pinard)
	Gloves
	Infusion set, burette 100-150ml, sterile, single use
	IV 19 and/or IO 18G (for IO)
	Laryngoscope (0, 1blades)
	Laryngoscope light bulb
	Microdropper & IV tubing/IV poles
	Mobile examination lamp
	Mucus trap (HBB Penguin) for suction or suction machine
	Nasogastric feeding tubes 6, 8, 10
	Nasogastric suction tubes 8, 10, 12, 14
	Neonatal and premature nasal prongs for oxygen administration
	Oxygen supply/concentrator
	Phototherapy lamp and fluorescent tubes
	Pulse oximeter with probes for neonate (battery operated)
	Pump suction, portable, 1 bottle with accessories
	Resuscitation table with heat source
	Self-inflating bag (Ambu bag pediatric) + Face masks (sizes 0, 1)
	Standard CPAP or bubble CPAP
	Sterile water for injections that require dilution
	Stopcocks 2 or 3 way
	Syringes 2, 5, 10 cc & Needles 16, 18 to prepare injections
	Syringe drivers

Newborn Supply Kit – Hospital Level (cont'd)

CATEGORY	ITEM[1]
Medical Devices	Tape, medical, 2.5cm x 5m roll X
	Tape measure
	Timer (RR)
	Umbilical clamp, sterile, single use
	Wrap or cloth to be used for Kangaroo Mother Care
Laboratory Supplies	Heel lancets
	Microcuvettes for Hemoglobin Photometer
	PCV centrifuge and capillary tubes
	Portable Hemoglobin photometer (battery operated)
	Rapid diagnostic test for malaria (RDT)
	Test SD Bioline Syphilis 3.0
	Urine dipsticks: pH, proteins, glucose, ketones, blood nitrites, leucocytes (these are the indicated tests that should be measured)
	Rapid blood sugar testing strips and blood glucose meter
Infusions	Potassium chloride 10% vials 10 ml
	Dextrose 5% in 0.9% Sodium Chloride
	Sodium Chloride 0.9% intravenous infusion, 500 ml
	Dextrose 10% intravenous infusion, 500 ml
	Calcium Gluconate 10% vials 10 ml
	Ringer's Lactate Injection, 500 ml solution
	0.9% Sodium Chloride vials 10 ml

Newborn Supply Kit – Hospital Level (cont'd)

CATEGORY	ITEM[1]
Newborn Care Supplies	Baby blanket, 300 gms, 75 x 50 cm
	Baby swaddler
	Baby vest, cotton
	Bath towel, child, cotton 340 gms, 30 x 50 cm
	Hat, wool or cotton, extra small
	Safety pins, small size, nickel free, for nappies
	Soap, baby, 100g bar, hypoallergenic
	Socks, cotton, extra small
	Towel, 100% cotton, 60 x 80 cm, 300 gms
	Washable baby diaper, 100% cotton, 30 x 15 cm (non-disposable)
	Insecticide treated bed net (ITN)[4]

4 ITNs, when available, can be distributed at the community level in malaria endemic areas.

Foot Size Card to Assess Low Birth Weight (LBW) in Premature Newborns (Uganda)

ANNEX 4

List of BCC Resources and Sample Tools

Consult the following resources for guidance to support effective communication with mothers, families and communities about newborn care.

Caring for Newborns and Children in the Community, Caring for the Newborn at Home: Mother and Baby Card

Author: World Health Organization/Department of Maternal, Newborn, Child and Adolescent Health

***Target audience*:** Pregnant and post-partum women with low literacy and/or poor access to health services

Purpose: For use by health workers in community settings to educate women about antenatal and newborn danger signs

Format: 2-page tool, available at: www.who.int/maternal_child_adolescent/documents/caring_for_newborn/en (select "Mother and Baby Card")

Summary: This tool contains two mother and baby cards. One is for use during pregnancy, documenting ANC information for the women and displaying images of danger signs during pregnancy that should alert the woman to seek care. There is also a second card for post-partum women, documenting follow up visit information and displaying images of danger signs in the immediate post-partum period that should alert women to seek care.

Kangaroo Mother Care Made Easy

Author: Gauteng Department of Health, Directorate of Public Health (South Africa).

***Target audience*:** Pregnant women and their families with low literacy and/or poor access to health services

Purpose: For use in community settings, facilities or hospitals to educate women and families about how to provide KMC.

Format: Poster, available at: www.healthynewbornnetwork.org/sites/default/files/resources/a.%20J%26J%20KMC%20made%20easy%20poster.pdf

***Summary*:** Images and messages display the correct way to deliver each component of KMC (position, feeding, support).

Newborn Care Videos

Author: Global Health Media Project

***Target audience*:** Pregnant women and their families with low literacy and/or poor access to health services

Purpose: For use in community settings, facilities or hospitals to educate women and families about newborn care best practices

Format: Videos, available at: http://globalhealthmedia.org/newborn/videos/

***Summary*:** Twenty videos are currently available, including topics such as *Sepsis, The Home Visit, Breathing Problems* and *The Cold Baby*. Content of all videos is based on international standards of care and has been reviewed by global medical experts and field-tested among frontline health workers in developing countries. The videos are free to download for offline use.

Taking Care of a Baby at Home After Birth: What Families Need to Do

Author: CORE Group, Saving Newborn Lives, Save the Children, USAID's Maternal and Child Health Integrated Program (MCHIP), the American College of Nurse-Midwives (ACNM).

***Target audience*:** Pregnant women and their families with low literacy and/or poor access to health services

Purpose: For use by CHWs during outreach in community settings to educate women and families about newborn care

Format: Flipbook, available at: www.healthynewbornnetwork.org/sites/default/files/resources/CORE%20ENC%2011-08-2011.pdf

Summary*:** Presents key messages for planning newborn care at home immediately following birth, focusing on essential actions families can take both to prevent newborn death and illness and to promote health newborn development. It is important to test the material with outreach workers and community members to be sure the messages are understood and acceptable. ***For guidance on adapting or testing this material, please email contact@coregroupdc.org.

Sample Tool: Danger Signs Job Aid

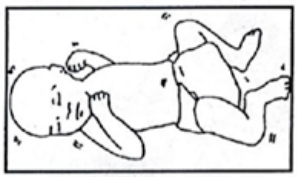
UNFPA
FNUAP

WATCH FOR DANGER SIGNS
ATTENTION AUX SIGNES DE DANGER
PONGA ATENCION A LAS SENALES QUE INDIQUEN PELIGRO

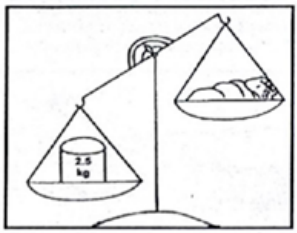
Fever / Difficult Breathing
Fievre / Difficulté à respirer
Fiebre / Dificultad al respirar

Stops feeding
Refuse de manger
No quiere comer

Feels Cold / Looks Pale / Weak
Peau Froide / Pâle / Faible
Cuerpo frio / Piel pálida / Débil

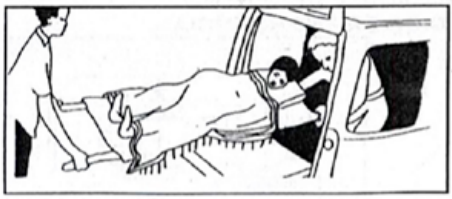


Convulsions / Fits
Convulsions / Mouvements Désordonnés
Convulsiones / Calambres

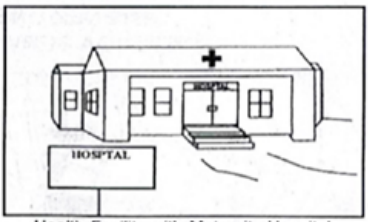


Too Small / Born Too Early
Petit Poids / Né trop Tot
Muy pequeno(a) / Nacido(a) prematuramente

GET EMERGENCY MEDICAL CARE
OBTENEZ UNE AIDE MÉDICALE URGENTE
OBTENGA SERVICIO MÉDICO DE EMERGENCIA



Keep Baby Warm and with mother/Get Transport to
Gardez la Bébé au chaud près de sa mère/Trouvez un transport vers
Mantenga al recién nacido(a) bien abrigado(a) junto a su madre/
Obtenga un medio de transporte a



Health Facility with Maternity Hospital
Maternité
Centro de Salud con facilidades maternidad

Drawings adapted from, Healthy Women, Healthy Mothers: An Information Guide Family Care International, New York, 1995 Where Women have No Doctor: A Health Guide For Women Hesperian Foundation, Berkeley, CA, 1997. and Essential Care Practice Guides for Pregnancy and Childbirth World Health Organization, Geneva, 2000 (in preparation)

Developed by UNFPA.

Sample Tool: Respectful Maternity Care Job Aid

I Treat Patients and Their Families in the Way I Would Like to be Treated!

1. By Using Communication Techniques That Show Respect and Care

- I introduce myself and address the patient by her name
- I smile!
- I look into the patient's eyes when speaking
- I use understandable language
- I use a calm, respectful tone of voice
- I keep body height at same level when talking together (if patient is lying down, I sit in chair beside the bed)
- I pay attention when the patient talks
- I include the patient and family in discussions about the patient's situation when doing bedside rounds—a good way to educate and show respect at same time!

2. By Assuring Privacy/Confidentiality

- I do not discuss personal details about the patient in public
- During examinations:
  - I draw curtains between beds if possible
  - I do appropriate exposure during examinations:
  - Carefully expose part of body to be examine
  - Cover parts of body not being examined
  - Ask family to help provide privacy by holding up cloth during examination

3. By Supporting Patient's Emotional Needs

- I look for signs of fear, anger, stress, fatigue, and pain
- I allow the patient to express her feelings
- I show empathy to the patient by being kind
- I PRAISE and REASSURE patient's efforts!

4. By Respecting a Patient's Dignity

- I always explain what I am doing before touching, such as for a vaginal or breast exam, injection, or abdominal exam (I avoid touching sensitive areas, e.g., clitoris)
- I tell the patient my findings during an examination

5. By Providing Guidance

- I explain what to expect during labor and birth, etc.
- I explain what the patient and family can do to help the patient and her labor (positions for labor and birth, drink lots of fluids, empty bladder often, exercises for labor, how to stay cool during labor)

Developed by the American College of Nurse Midwives
Available at: www.midwife.org/ACNM/files/ccLibraryFiles/Filename/000000003238/RMC%20Patient%20Care.pdf

ANNEX 5

Tools to Support Referrals

To ensure the safe, efficient transfer of pregnant women and of mothers and their newborns in a humanitarian setting, use these simple tools:

5A: Job Aid for Transferring the Sick Newborn

5B: Sample Referral Note

Job Aid for Transferring the Sick Newborn

On the way to the hospital

If the baby is able to breastfeed, feed the baby at least every two hours. Give only breast milk.

Keep the baby warm. Keeping the baby skin-to-skin is best. The baby is:

- Naked except for a nappy, hat and socks
- Placed between the mother's breasts with the baby's legs along her ribs and the head turned to the side
- Secured with a cloth

If skin-to-skin care is not possible, wrap the baby well and keep him or her close to the mother.

Sample Referral Note

CHW Referral Note

Name of woman/baby: _____

Age of baby when referred: (Day) _____

Address: _____

Date referred: _____

Reason referred (tick below):

MOTHER has:

❑ Heavy bleeding

❑ Fever

❑ Other problems: _____

BABY has/is:

❑ Not able to breastfeed or stopped breastfeeding

❑ Convulsions

❑ Chest in-drawing

❑ Temperature 37.5°C or more

❑ Signs of local infection

❑ Fast breathing

❑ Temperature 35.4°C or less

❑ Yellow soles of feet

❑ Weight in red zone

❑ Movement only on stimulation or no movement even on stimulation

Name of CHW: _____

_____

To be filled by health facility worker

Comments: _____

Seen at facility by: _____

ANNEX 6

Rapid Health Assessment Tools

6A: Sample Rapid Health Assessment (RHA) Outputs Related to Newborn Health Care

6B: Sample Health Facility Assessment (HFA) Tools

- Essential Supply Checklist
- HFA Questionnaire: Facility Manager
- HFA Questionnaire: Health Provider Interview – Example 1
- HFA Questionnaire: Health Provider Interview – Example 2
- HFA Questionnaire: Health Provider Interview – Example 3

ANNEX 6A

Sample RHA Outputs Related to Newborn Care[1]

Newborn health status and risks	• Number of pregnancies, births and outcomes expected and observed • Cultural beliefs, attitudes or practices that are potentially harmful to the newborn • Epidemics such as meningitis, polio and the presence of other diseases such as malaria • Community access to information regarding maternal and newborn services, newborn danger signs and the availability of health services
Available health resources	• Levels of care • Types, numbers and location of available facilities • Health facility capacity including: 1. Available human resources 2. Provider competencies 3. Availability of newborn supplies, equipment and medicines • Types of providers working at the community and household level and their linkages to the formal health system
Health system performance	• Referral system capacity • Access to and use of maternal and/or newborn health services • Policies and guidelines that frame the delivery of MNH services (including for crisis-affected populations) in the host country • Host country monitoring and supervision of health services

Recommendations

- Gaps in available health services
- System needs/requirements for effective response
- Contextual factors that affect health status, health services and possibilities for humanitarian action
- Prioritization for immediate, medium- and long-term action including:
  - The procurement of medical supplies, equipment and medicines,
  - Health provider training, supervision and ongoing mentorship
  - Inputs to the referral system,
  - The design and dissemination of behavior change messages and information
- Recommendations for follow-up, monitoring and more detailed assessments or surveys

1 Adapted from WHO, *Health Cluster Guide*, Geneva, 2009, p. 81.

ANNEX 6B

Sample Health Facility Assessment Tools[1]

1 Essential Supply Checklist

		Essential Drug List (Y/N/DN)	Appropriate for the Level (Y/N/DN)	Staff are trained & can use the item appropriately (Y/N/DN)
Module Community: Community Level (CHWs, Dispensary)				
Educational materials	Early and exclusive breastfeeding			
	Thermal Care (warming, skin-to-skin contact, immediate drying/delayed bathing)			
	Newborn hygiene, cord care			
	Recognition of danger signs for immediate and appropriate care seeking			
Medicines	Amoxicillin, dispersible tablets 250mg			
	Ampicillin powder for injection 500mg			
	Gentamicin injection 20mg/ml			
	7.1% Chlorhexidine gel			
	Tetracycline HCL 1% eye ointment 5g			
	Artesunate suppositories, 50mg[1]			
Medical supplies	Baby blanket, 300 gsm, 75 x 50 cm			
	Thermometer			
	Timer			
	Soap, baby, 100g bar, hypoallergenic			
	Tape measure			
	Infant weighing scale			
	Blood sugar strips			

1 Cremonini L, Tomczyk B, Papowitz H, et. al. Neonatal Health Services in Humanitarian Settings: Needs Assessment, Study Protocol, July 2013.

Module BHU: primary health facilities/mobile medical team				
Medicines	Amoxicillin, suspension 125mg/5ml			
	Amoxicillin, dispersible scored tablets 250mg			
	Artesunate suppositories , 50mg			
	Paracetamol Suppository 100 mg			
	Ampicillin powder for injection 500mg vial			
	Benzathine benzylpenicillin 1.2 million IU/5ml			
	Ceftriaxone, injectable 250mg/vial			
	Gentamicin, injectable 40mg/ml or 20mg/ml			
	Paracetamol Oral liquid 125 mg/5 ml			
	Phenobarbital sodium, injection 20mg/ml			
	Phenobarbital, oral liquid, 15mg/5ml			
	7.1% Chlorhexidine gel or liquid			
	Tetracycline HCL 1% eye ointment 5g			
	Glucose 10%			
	Artemether, injection 20mg/ml			
Medical Devices	Thermometer			
	Timer			
	Self-inflating bag & mask, pediatric			
	Mucus trap for suction or suction machine			
	KMC wrap			
	NG tube			
	Infant weighing scale			
	Blood sugar strips			

Module Hospital: health center or hospital level				
Medicines	Amoxicillin, suspension 125mg/ml			
	Artesunate: rectal and IM 50-200mg			
	Caffeine citrate, 20mg/ml oral solution			
	Cloxacillin, dispersible tablet 250mg			
	Diazepam			
	Ampicillin powder for injection 500mg vial			
	Artesunate: rectal and IM 50-200mg			
	Benzylpenicillin, Injectable 5million IU/vial			
	Caffeine citrate, injection 20mg/ml			
	Ceftriaxone, injectable 250mg/vial			
	Cloxacillin, injectable 250mg/vial			
	Dexamethasone, injectable 4mg/ml			
	Diazepam, injectable 5mg/ml			
	Gentamicin, injectable 40mg/ml or 20mg/ml			
	Penobarbital injection			
	Vitamin K, injectable, 1mg/vial			
	7.1% Chlorhexidine gel or liquid			
	Tetracycline HCL 1% eye ointment 5g			
Medical Devices	Digital infant weighing scale			
	Digital thermometer (infant)			
	Doppler			
	Nasogastric feeding tubes			
	Laryngoscope & Laryngoscope light bulb			
	Resuscitation table with heat source			
	Nasal prongs for oxygen administration			
	Pulse oximeter			
	Endotracheal tubes sizes 2.5			
	Fluorescent tubes for phototherapy			
Laboratory Supplies	PCV centrifuge and capillary tubes			
	Icterometer (bilirubin level)			
	Rapid test or Thick smear for malaria			
	Blood sugar testing sticks			
Infusions	Dextrose saline			
	Glucose 10% solution			
	Sodium Chloride			

2 HFA QUESTIONNAIRE: FACILITY MANAGER

ASK THE FOLLOWING QUESTIONS TO THE PERSON IN CHARGE OF THE FACILITY

1	Does this facility offer normal delivery and/or newborn care?	YES .....1 NO .....2 ■ End interview
2	Delivery services offered: ❑ ■ continue Delivery services not offered ❑ ■ skip to question 6	

Ask to be shown the location in the facility where normal delivery services are provided. Find the person most knowledgeable about delivery services. Introduce yourself, explain the purpose of the survey and ask the following questions.

3	Is a person skilled in conducting deliveries present at the facility or on call at all times (24 hours a day), including weekends, to provider delivery care? If yes, ask to see a duty roster/call list or schedule for 24-hour staff assignment	Yes, present, schedule observed.....1 Yes, present, schedule reported not seen...2 Yes, on call, duty schedule observed.....3 Yes, on call, duty schedule reported not seen.....4 Resident health worker duty schedule not maintained.....5 No 24-hour coverage.....6

4	Please tell me if the facility is currently able to provide any of the following services; if any of the following services have ever been carried out by providers as part of their work in this facility; and, if ever done, whether the intervention has been carried out at least once during the past 3 months	(a) able to provide			(b) ever provided in facility			(c) provided in past 3 months		
		Y	N	Dk	Y	N	DK	Y	N	DK
	01 Parenteral administration of antibiotics (iv or im)	1	2	8	1■C	2	8	1	2	8
	02 Parenteral administration of oxytocic (iv or im)	1	2	8	1■C	2	8	1	2	8
	03 Parenteral administration of anticonvultant for hypertensive disorders of pregnancy (iv or im)	1	2	8	1■C	2	8	1	2	8
	04 Assisted vaginal delivery	1	2	8	1■C	2	8	1	2	8
	05 Manual removal of placenta	1	2	8	1■C	2	8	1	2	8
	06 Removal of retained products after delivery	1	2	8	1■C	2	8	1	2	8
	07 Neonatal resuscitation	1	2	8	1■C	2	8	1	2	8
	08 Dexamethasone for women in preterm labor	1	2	8	1■C	2	8	1	2	8

5	I would like to know if the following items are available ***in the delivery area*** and are functioning	(a) Available			(b) Functioning		
		Observed[1]	Reported not seen	Not available	Yes	No	DK
	01 Newborn bag & mask	1■B	2■B	3	1	2	8
	02 Resuscitation table with heat source	1■B	2■B	3	1	2	8
	03 Infant scale	1■B	2■B	3	1	2	8
	04 Soap or hand disinfectant	1	2	3			
	05 Towel for drying babies	1	2	3			

6	Does the facility have a separate space (apart from the delivery room) for mothers and newborns together or for newborns only (a partpartum or postnatal area/ward)?	Yes, mothers/newborns together…..1 Yes, for newborns only…..…….2 No……..……3 ■Skip to 8

Ask to be shown the postpartum or postnatal area/ward.

		(a) Available			(b) Functioning		
7	I would like to know if the following items are available ***in the postpartum or postnatal area/ward*** and are functioning	Observed[1]	Reported not seen	Not available	Yes	No	DK
	01 Newborn bag & mask	1 ■B	2 ■B	3	1	2	8
	02 Resuscitation table with heat source	1 ■B	2 ■B	3	1	2	8
	03 Infant scale	1 ■B	2 ■B	3	1	2	8
	04 Soap or hand disinfectant	1	2	3			

8	Does this facility practice kangaroo mother care for low birth weight babies? Kangaroo mother care is the early, prolonged, and continuous skin-to-skin contact between the mother (or substitute) and her baby with support for positioning, exclusive breastfeeding or breastmilk feeding, and prevention and management of infections.	Yes ……..……1 No……..……2 ■Skip to 10
9	Is there a separate room or space for kangaroo mother care or it is integrated into another space (eg, postnatal ward)?	Yes, separate room…….....……1 Yes, integrated……..……2

		Observed available		Not observed		
10	Please tell me if any of the following medicines are available at this service site today. I would like to see them. *Check to see if at least one is valid (not expired)*	At least one valid	Available none valid	Reported available not seen	Not available today/dk	No, or never available
	01 Injectable gentamicin	1	2	3	4	5
	02 Nevirapine or other drug for pmtct	1	2	3	4	5
	03 Dexamethasone or betamethasone	1	2	3	4	5
	04 Injectable uterotonic (e.G., Oxytocin)	1	2	3	4	5
	05 Magnesium sulfate	1	2	3	4	5

11	Do you have guidelines or protocols on referral of sick newborns? *If yes, ask to see the guidelines. Acceptable if part of another guideline.*	Yes, observed……..……1 Yes, reported, not seen……..……2 No guidline available……..……3
12	**Check question 2** Delivery services offered: ❑ ■continue Delivery services not offered: ❑ ■end health facility assessment	
13	Do you have the national guidelines for comprehensive emergency obstetric care (cemoc)? If yes, ask to see the guidelines.	Yes, observed……..……1 Yes, reported, not seen……..……2 No guidline available……..……3

14	How many births are usually attended in this facility each month?	Number of births per month: ❑
15	Is there a register where client information from attended births is recorded, i.E., A delivery register? *If yes, ask to see the register*	Yes, observed.......................................1 Yes, reported, not seen No
16	Scan the register for the past 10 births and indicate if birth outcome for infant and birth weight recorded.	Birth outcome for the infant and birth Weight recorded for the past 10 birth.........A One or more of the past 10 births missing Birth outcome and/or birth weight.............B
17	Indicate the most recent day, month, and year when a delivery was attended in this facility	Day. ❑❑ Month. ❑❑ Year. ❑❑ Dk.......98
18	Is there any evidence of use of data? If yes, ask to see any reports, wall graphs or charts that show service data has been reviewed. *Circle all relvant type of reports observed.*	Observed written report/minutes..............A Observed wall chart/graph.......................B Other___________________ ....X No observed evidence............................Y
19	Does the facility participate in regular reviews of newborn deaths or "near-misses"?	Yes ....1 No 2

3 HFA QUESTIONNAIRE: HEALTH PROVIDER INTERVIEW EXAMPLE 1

ASK THE FOLLOWING QUESTIONS TO ALL AVAILABLE PROVIDERS OF DELIVERY AND/OR NEWBORN SERVICES

101	Record Number Of Providers Of Delivery And/Or Newborn Services At Facility Today	No. ________		
102	Have You Received Any Training Or Updates Either On Or Off-Site in Any Of The Following Topics [Read Topic] **If Yes, Ask:** Was The Training Within The Past 12 Months Or More Than 12 Months Ago?	Yes, Within Past 12 Months	Yes, Over 12 Months Ago	No Training or Updates
	01 Neonatal Resuscitation Using Bag And Mask	1	2	3
	02 Breastfeeding (Early And Exclusive)	1	2	3
	03 Newborn Infection Management (Including Injectable Antibiotics)	1	2	3
	04 Thermal Care (Including Immediate Drying And Skin-To-Skin Care)	1	2	3
	05 Sterile Cord Cutting And Appropriate Cord Care	1	2	3
	06 KMC For Low Birth Weight Babies	1	2	3
	07 Pregnancy And Delivery Care For Preventing Mother-To-Child Transmission Of HIV	1	2	3
	08 Use Of Corticosteroids For Preterm Labor	1	2	3
	09 Postnatal Care For Newborns	1	2	3
103	Now I Would Like To Ask You Some Questions About Supervision You Have Personally Received. This Supervision May Have Been From A Supervisor Either At This Facility, Or From Outside The Facility. Do You Receive Technical Support Or Supervision In Your Work? **If Yes, Ask:** When Was The Most Recent Time?	Yes, In The Past 3 Months.......1 Yes, In The Past 4-6 Month.......2 Yes, In The Past 7-12 Months...3 Yes, More Than 12 Months Ago..4 No 5		
104	Did That Supervision Include Observation Of You Providing Newborn Care?	Yes...1 No 2		

4 HFA QUESTIONNAIRE: HEALTH PROVIDER INTERVIEW EXAMPLE 2

ASK THE FOLLOWING QUESTIONS TO ALL AVAILABLE PROVIDERS OF DELIVERY AND/OR NEWBORN SERVICES

A	Health provider knolwedge	Yes	No	Don't Know
	Have you had training on newborn health care in the last 12months?			
	Define preterm birth?			
	Define low birth weight?			
	Define neonatal period?			
	List 3 interventions for basic newborn care			
	Case definition and management of birth asphyxia			
B	**Health Provider Perceptions**	**Agree**	**Disagree**	**No Comment**
	Level of Health Care			
	Newborn resuscitation with bag & mask can be done at health post level			
	Newborn resuscitation with bag & mask can be done at health center level			
	Newborn resuscitation with bag & mask can be done at the hospital level			
	Newborn sepsis can be diagnosed & treated at health post (HP) level			
	Newborn sepsis can be diagnosed and treated at health center level			
	Newborn sepsis can be diagnosed and treated at hospital level			
	LBW & preterm babies with no complications can be carried for at HP level			
	LBW & preterm babies with no complications can be carried for at HC			
	LBW & preterm babies with no complications can be carried for at Hosp			
	Level of Health Staff			
	Nurses with adequate training can do newborn resuscitation			
	Nurses with adequate training can diagnose & treat newborn sepsis			
	Comfort Level			
	Have you ever administered an injection to a newborn baby?			
	Have you ever resuscitated a newborn baby?			
	Have you ever treated (any illness) a newborn baby?			
	Priority			
	If you had to prioritize health care needs of your community 1-5, where would you rank newborn care?			
	If you had to prioritize the top five main causes of under 5yr mortality, where would you rank newborn death?			

5 HFA QUESTIONNAIRE: HEALTH PROVIDER INTERVIEW EXAMPLE 3

ASK THE FOLLOWING QUESTIONS TO ALL AVAILABLE PROVIDERS OF DELIVERY AND/OR NEWBORN SERVICES.

101	Record number of providers of delivery and/or newborn services at facility today	No. _____		
102	Record number of providers of delivery and/or newborn services interviewed	No. _____		
103	Have you received any training or updates either on or off-site in any of the following topics **[read topic]** If yes, ask: was the training within the past 12 months or more than 12 months ago?	Yes, within past 12 months	Yes, over 12 months ago	No training or updates
	01 Neonatal resuscitation using bag and mask	1	2	3
	02 Breastfeeding (early and exclusive)	1	2	3
	03 Newborn infection management (including injectable antibiotics)	1	2	3
	04 Thermal care (including immediate drying and skin-to-skin care)	1	2	3
	05 Sterile cord cutting and appropriate cord care	1	2	3
	06 Kmc for low birth weight babies	1	2	3
	07 Special delivery care practices for preventing mother-to-child transmission of hiv	1	2	3
	08 Use of corticosteroids for preterm labor	1	2	3
104	Now i would like to ask you some questions about supervision you have personally received. This supervision may have been from a supervisor either at this facility, or from outside the facility. Do you receive technical support or supervision in your work? If yes, ask: when was the most recent time?	Yes, in the past 3 months.....1 Yes, in the past 4-6 months .....2 Yes, in the past 7-12 months .....3 Yes, more than 12 months ago.....4 No.....5		

ADDITIONAL OPTIONAL QUESTION

105	Did that supervision include observation of you providing newborn care?	Yes.....1 No 2

ANNEX 7

Annotated Bibliography of In-Service Training Courses, Manuals and Guidelines

Training Resources to Support the Provision of Newborn Care

Basic Maternal and Newborn Care: A Guide for Skilled Providers

Author: Jhpiego, USAID/Maternal & Neonatal Health Program

Date: 2004

Audience/Level of Care: Skilled providers (including midwives, doctors, and nurses) who care for women and newborns in low-resource settings (peripheral health facility and hospital levels).

Purpose: Covers an entire range of healthcare services that all childbearing women and newborns should receive. Healthcare systems often focus their resources on caring for women and newborns who have complications, not recognizing that providing quality basic care services to all women and newborns can support and help maintain normal processes, as well as prevent many complications and/or identify and treat them before they become life-threatening. Also emphasizes the importance of providing health messages and counseling to women and their families to empower them to become active participants in their own healthcare.

Available at: www.jhpiego.org/files/BMNCrevmanEN.pdf

Caring for the Newborn at Home: A Training Course for Community Health Workers

Author: UNICEF, WHO

Date: 2012

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level

Purpose: To train health workers to effectively conduct pre- and postnatal home visits. This manual is a follow-up to the WHO/UNICEF Joint Statement on Home visits for the newborn child: a strategy to improved survival (2009).

Available at: www.who.int/maternal_child_adolescent/news/events/2012/CHW_Manual.pdf

Counseling for Maternal and Newborn Health Care: A Handbook for Building Skills

Author: WHO/Department of Maternal, Newborn, Child and Adolescent Health

Date: 2009 (updated 2013)

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level

Purpose: To strengthen health workers' skills to counsel and communicate with women, their partners and their families about maternal and newborn health.

Available at: www.who.int/maternal_child_adolescent/documents/9789241547628/en/index.html

Emergency Triage Assessment and Treatment (ETAT), Manual for Participants

Author: WHO/Department of Child and Adolescent Health and Development

Date: 2005

Audience/Level of Care: Nurses, nurse midwives, general practitioners, pediatricians at the hospital level

Purpose: Broader in scope, this training course addresses triage for all sick children when they arrive at a health facility, focusing on assessing and managing the following: airway and breathing; circulation and level of consciousness; shock, coma and convulsions; and severe dehydration. The manual also include program implementation guidance for hospital-level staff. Relevant information for newborns is under the section "tiny baby," i.e., infants under 2 months of age. The manual was developed for participants in the 3.5 day ETAT training, and includes a facilitator's guide as well. A training CD is available on request from WHO.

Available at: http://whqlibdoc.who.int/publications/2005/9241546875_eng.pdf

Five Key Messages of Essential Newborn Care

Author: Government of Nepal, Ministry of Health and Population

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level

Purpose: A 1-page tear-out presenting images and key messages for newborn care, intended for training CHWs and other health staff. The "five key messages" poster is included within a larger training manual/job aid: see p. 15 of the 7.1% Chlorhexidine Digluconate w/v Training Manual.

Available at: www.healthynewbornnetwork.org/sites/default/files/resources/Nepal_Chlorhexidine%20Training%20Manual2.pdf

Guide for Implementation of Helping Babies Breathe (HBB): Strengthening neonatal resuscitation in sustainable programs of essential newborn care

Author: USAID et al.

Date: 2011

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level; clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: To train health workers to implement the HBB methodology – simple steps to take to effectively resuscitate the majority of infants not breathing at birth.

Available at: www.helpingbabiesbreathe.org/docs/ig_pdfs/implementationguide10nov_2.pdf

Home Based Life Saving Skills

Author: American College of Nurse Midwives

Date: 2010

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level

Purpose: This curriculum consists of the Home Based Life Saving Skills (HBLSS) manual, large picture cards and a Take Action Care booklet. In addition, the planning and implementation book, Guidelines for Decision Makers and Trainers, can be used to support program activities. The HBLSS Manual contains three books: Basic Information, Woman Information and Baby Information. Each book outlines the process to use when conducting a community meeting to teach HBLSS. Picture cards are available for community meetings and are an important resource to help people learn when they do not read or do not read very well. The Take Action Card Booklet is a reference for use at home and in the community. The front of the card shows a drawing of a problem and the back of the card has six boxes showing the actions to respond to the problem.

Available at: www.midwife.org/ACNM-Publications

Integrated Management of Childhood Illness: Caring for Newborns and Children in the Community

Author: WHO

Date: 2011

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level

Purpose: The course Caring for the Sick Child in the Community is designed to help CHWs support families to provide good care to their children. It is part of the IMCI strategy. In the course, CHWs will learn to identify signs of illness in a sick child, age 2 months up to 5 years.

Available at: http://whqlibdoc.who.int/publications/2011/9789241548045_Manual_eng.pdf

Integrated Management of Childhood Illness Chart Booklet

Author: WHO, UNICEF

Date: 2008

Audience/Level of Care: Clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: This chart booklet is a job-aid to be used by health workers mostly at first-level health facilities. This revised version of the chart booklet includes new sections on the management of illness in the first week of a child's life. In addition, the young infant module for IMCI training has been revised accordingly and can be shared on request. Because there is great demand for including assessment and care of HIV-exposed and HIV-infected children, the chart booklet has been revised separately for high-HIV settings (link at bottom of page). This chart booklet is for use in places where there is not a high prevalence of HIV.

Available at: http://whqlibdoc.who.int/publications/2008/9789241597289_eng.pdf

Integrated Management of Pregnancy and Childbirth (IMPAC): Managing Newborn Problems: A guide for doctors, nurses and midwives

Author: WHO et al.

Date: 2003

Audience/Level of Care: Nurses, nurse midwives, general practitioners, pediatricians at hospital level

Purpose: Arranged by clinical signs/findings, the guide facilitates early identification of maternal and newborn illness, and provides up-to-date guidelines for clinical management.

Available at: http://whqlibdoc.who.int/publications/2003/9241546220.pdf

Kangaroo Mother Care Toolkit

Author: Save the Children, University of Pretoria, South African Medical Research Council

Date: None

Audience/Level of Care: CHWs and auxiliary health workers at the community/household level; clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: The KMC Toolkit includes visual materials (posters and power point presentations) as well as an implementation guide (including workbooks), training materials, KMC practice and KMC monitoring and evaluation. There is also a section on community KMC.

Available at: www.healthynewbornnetwork.org/page/kangaroo-mother-care-toolkit

Kangaroo Mother Care Implementation Guide

Author: USAID Maternal Child Health Integrated Program (MCHIP)

Date: 2012

Audience/Level of Care: National level policy makers and managers of maternal and newborn health programs

Purpose: Provides pertinent guidelines for the implementation of KMC. Chapters detail key steps in the development, implementation and expansion of sustainable, facility-based KMC services in developing countries.

Available at: www.mchip.net/sites/default/files/MCHIP%20KMC%20Guide_English.pdf

Kangaroo Mother Care Learning Portal

Author: Fundacíon Canguro

Date: None

Audience/Level of Care: All health care workers who have been certified in the KMC method

Purpose: A train-the-trainer site pitched at KMC-certified health care workers, providing the educational tools and support they need to train their colleagues.

Available at: http://fundacioncanguro.co/KMCT/en/

Manual for the Health Care of Children in Humanitarian Emergencies

Author: WHO

Date: 2008

Audience/Level of Care: Clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: These guidelines are designed to serve as a reference manual for the evaluation and management of children in emergencies, and as the basis for the training of health care workers. The target audience is first level health workers who provide care to children under the age of 5 years. These guidelines focus on care provided during the acute and chronic phases of an emergency. They are designed for the care of children where no inpatient hospital facilities are available. It assumes that some injectable (intramuscular) and intravenous medicines can be given. If referral or hospital facilities are available, some of the treatment options in these guidelines may not be appropriate and the child with severe illness is best referred to hospital.

Available at: http://whqlibdoc.who.int/publications/2008/9789241596879_eng.pdf

Pocket Book of Hospital Care for Children, Guidelines for the Management of Common Illnesses with Limited Resources

Author: WHO

Date: 2005

Audience/Level of Care: Physicians, senior nurses and other senior health workers who are responsible for the care of young children at the first referral level in developing countries

Purpose: Presents up-to-date clinical guidelines which are based on a review of the available published evidence by subject experts, for both inpatient and outpatient care in small hospitals where basic laboratory facilities and essential drugs and inexpensive medicines are available. In some settings, these guidelines can be used in the larger health centers where a small number of sick children can be admitted for inpatient care.

Available at: http://whqlibdoc.who.int/publications/2005/9241546700.pdf

Pregnancy, Childbirth, Postpartum and Newborn Care: A Guide for Essential Practice

Author: WHO

Date: 2006

Audience/Level of Care: Nurses, nurse midwives, general practitioners, pediatricians at hospital level

Purpose: A guide for clinical decision-making, which facilitates the collection, analysis, classification and use of relevant information by suggesting key questions, essential observations and/or examinations, and by recommending appropriate research-based interventions. It supports the early detection of complications and the initiation of early and appropriate treatment, including timely referral, if necessary.

Available at: www.who.int/reproductivehealth/publications/maternal_perinatal_health/924159084X/en/

The Essential Newborn Care Course

Author: World Health Organization

Date: 2010

Audience/Level of Care: Clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: Gives health workers the skills and knowledge to provide appropriate newborn care according to WHO's Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice (the PCPNC Guide) – and particularly the sections concerned with newborn care. The course is intended for 12-24 health workers already working or intending to work a primary-level health facility with mothers and babies. The ENCC takes 4-5 days to complete (a minimum of four days to cover the core topics) and is designed to be flexible; it can be scheduled to suit the needs of either the course organizers or the participants. The course should be delivered close to 1 or more health facilities with a minimum of 20-30 deliveries/day; easy access to postnatal wards; a special care baby unit; a pediatric outpatient clinic and/or health center with a baby clinic; a baby friendly hospital initiative (BFHI) status.

Available at: www.who.int/maternal_child_adolescent/documents/newborncare_course/en/

Post-Training Assessment Tools

Guidelines for the Assessment of Skilled Providers after Training in Maternal and Newborn Healthcare

Author: Jhpiego, Maternal & Neonatal Health Program

Date: 2004

Audience/Level of Care: Program managers and supervisors

Purpose: Present a step-wise approach to conducting follow up assessments for newly trained providers. Using all of the tools in the document will provide a comprehensive assessment of skills and service delivery in maternal and newborn care. Each tool may be used separately or combined with others to create a document appropriate for the content of a specific maternal and newborn health- training course.

Available at: www.jhpiego.org/files/GdInsSkillProvEN.pdf

Guidelines for Programmatic Integration of Newborn Care

Distance Learning Module for the Minimum Initial Service Package

Author: Inter-agency Working Group on Reproductive Health in Crises

Date: 2011

Audience/Level of Care: Humanitarian workers operating in health, camp design and management, community services, protection and other sectors

Purpose: The MISP for reproductive health (RH) is a coordinated set of priority activities designed to prevent and manage the consequences of sexual violence; reduce HIV transmission; prevent excess maternal and newborn morbidity and mortality; and plan for comprehensive RH services. Additional priority activities of the MISP include making contraceptives available to meet demand, syndromic treatment for sexually transmitted infections (STIs) and ensuring antiretrovirals (ARVs) for continuing users. The MISP distance learning module aims to increase humanitarian actors' knowledge of these priority RH services to initiate at the onset of a crisis and to scale up for equitable coverage throughout protracted crises and recovery, while planning for comprehensive RH services and implementing them as soon as possible. The MISP module is particularly useful for members of emergency response teams and other humanitarian first responders in crisis settings as it focuses on populations displaced by crises, such as armed conflict and natural disasters.

Available at: http://misp.iawg.net/

Guidelines on Basic Newborn Resuscitation

Author: WHO/Department for Maternal, Newborn, Child and Adolescent Health

Date: 2012

Audience/Level of Care: Program managers

Purpose: The objective for these guidelines is to ensure that newborns in resource-limited settings who require resuscitation are effectively resuscitated. These guidelines will inform WHO training and reference materials such as Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice; Essential newborn care course; Managing newborn problems: a guide for essential practice; and Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources.

Available at: http://apps.who.int/iris/bitstream/10665/75157/1/9789241503693_eng.pdf?ua=1

Guidelines on Optimal Feeding of Low Birth-weight Infants in Low- and Middle-income Countries

Author: WHO ***Date:*** 2011

Audience/Level of Care: Researchers, policy makers and program planners; also clinical officers, nurses, nurse midwives, auxiliary health workers at the peripheral health facility level

Purpose: The Department of Child and Adolescent Health has developed guidelines on optimal feeding of low birth weight infants in low- and middle-income countries. These guidelines include recommendations on what to feed low-birth weight infants, when to start feeding, how to feed, how often and how much to feed. The guidelines were developed using the process described in the WHO Handbook for Development of Guidelines. Systematic reviews were conducted to answer 18 priority questions identified by the guidelines development group. The population of interest is low-birth weight infants, and the critical outcomes include mortality, severe morbidity, growth and development. The implementation of these guidelines in low- and middle-income countries is expected to improve care and survival of low birth weight infants.

Available at: www.who.int/maternal_child_adolescent/documents/9789241548366.pdf

Inter-agency Field Manual on Reproductive Health in Humanitarian Settings: 2010 Revision for Field Testing

Author: IAWG

Date: 2010

Audience/Level of Care: RH officers and RH program managers in humanitarian settings are the audience for the Field Manual. RH service providers will find useful information although the Field Manual does not contain detailed clinical guidance.

Purpose: The 2010 Inter-agency Field Manual is an update of the 1999 Reproductive Health in Refugee Situations: An Inter-agency Field Manual, the authoritative guidance on reproductive health interventions in humanitarian settings. The 2010 version provides guidance on how to implement the Minimum Initial Service Package (MISP) for Reproductive Health, a minimum standard of care in humanitarian response.

Available at: www.iawg.net/resources/field_manual.html

ANNEX 8

Birth and Death Registration

8A: Sample Birth Register for CHWs

8B: Sample Neonatal Health Information System Tools
(see Excel sheet to Insert)

SAMPLE BIRTH REGISTER FOR CHWS

Adapted from World Health Organization (WHO). 2012. Community Health Worker Register. Geneva, Switzerland: WHO. Available at: www.who.int/maternal_child_adolescent/news/events/2012/CHW_Register.pdf

COMMUNITY HEALTH WORKER REGISTER

THIS REGISTER BELONGS TO:

_____

(Name of Community Health Worker)

_____

IF FOUND, PLEASE RETURN TO:

_____

(Address)

_____

SECTION 1: List of Pregnant Women And Home Visit Record

No.	Name of Pregnant Woman	Age	Address	Expected date of birth (if not known, no. of months pregnant at first visit)

**If information not available, write unknown. Do not leave blank.*

Date of home visits during pregnancy		Pregnancy outcome (1 =miscarriage, 2= stillbirth 3=live birth)	Date of pregnancy outcome	Place of birth (1 = home 2= health facility 3=other)	Birth attendant (1=doctor, nurse or midwife, 2=TBA 3=other)
1st visit	2nd visit				

SECTION 2: List of Mothers and Babies and Home Visit Record

No.	Name of mother and baby	Address	Date of birth (baby)	Sex of baby	Birth weight (in kg)

**If information not available, write unknown. Do not leave blank.*

Date of home visits after birth			Date of extra home visits for small babies		Status of mother at last visit (1=alive, 2=dead, 3=not known)
1st visit	2nd visit	3rd visit	1st extra visit	2nd extra visit	

SECTION 3: List of Referred Pregnant Women/Mothers

No.	Name of woman (and serial number if available)	Date referred	Number of months pregnant/number of days after birth	Reason for referral	
				Bleeding	Severe abdominal pain

**If information not available, write unknown. Do not leave blank.*

Fits / convulsions	Severe headache	Fever	Fast or difficult breathing	Other	Woman taken to health facility? (Y=yes N=no)

SECTION 4: List of Referred Babies

No.	Name of baby/ mother (and serial number from list of mothers and babies)	Age in days when referred	Reason for referral			
			Not able to feed	Fits / Convulsions	Fast breathing	Chest in-drawing

If information not available, write unknown. Do not leave blank.

High temperature	Very low temperature	Yellow soles	Movement only on stimulation	Local infection	Weight loss/weight in red zone	Other	Follow up visit done (Y/N)	Baby taken to health facility (Y/N)

Admission and Separations Register Instructions:

General:

1. Write the date at the top of each page!
2. Use a new page for each day. If there are too many admissions/ discharges for one page use a second page but clearly write the DATE and CONTINUED on the new page.
3. Enter the patient's sequential number from the Tracking register (NB The tracking register and the admissions /separations register must be completed for each new admission or separation

Admissions:

4. Mark every admission as an admission under 1 year and less than 28days or greater than 28 days
5. Mark every transfer in as a transfer in under 1 year and less than 28 days or greater than 28 days
6. Day Patients are patients that do not stay overnight or stay less than 12 hrs. If a patient is ticked as an admission and a day patient -cross out the admission tick
7. Tick any applicable reasons for admission.

For an editable version of this template, click here 

Separations:

8. Mark every transfer out as a transfer out under 1 year and less than 28 days or greater than 28 days
9. Mark every discharge as a discharge under 1 year and early or late according to weight
10. Tick all applicable diagnoses
11. If Congenital abnormailty is ticked ensure the Congenital Abnormality Notification Form has been completed and sent
12. Tick all applicable interventions.

Neonatal Admission Register

Month _____ **Hospital** _____

No.	Demographic info		
	Infant Surname	Mom Surname	Address
	Infant Name	Mom Name	
	Infant Folder No.	Moms Number	

Age			Admit from				Birth Weight					Reason for admission (Tick any applicable)					
Date of Birth dd/mm/yy	Date of Admission dd/mm/yy	Age in days	From Labour ward / Theatre	From Postnatal	Transfer from home or clinic	From Hospital _____	<1000g	1000-1499g	1500-1999g	2000-2499g	>2500g	Well Newborn	KMC	Sick	Premature	Abandoned / lodger	Other

Neonatal Admission Register (cont'd)

Month _____ **Hospital** _____

Admission Weight						HIV status				Discharge diagnosis							
Adm Weight in kg	< 999g	1000 - 1499g	1500 - 1999g	2000 - 2499g	> 2500g	HIV exposed	HIV AZT and NVP given	HIV negative	HIV unkown	Discharge/ Death / Transfer Date dd/mm/yy	Length of stay	Neonatal Encephalopathy	Infection	Jaundice	For observation	Con abnormality	Respiratory distress

						Pretern	
						Baby received CPAP	
						Discharge weight	
						Alive	Outcome
						Died	
						Transfer to _____	
						Immaturity	Cause of Death
						Hypoxia	
						Infection	
						Congenital abnormality	
						Other	
						Unkown	
						Trauma	
						Follow up date	Follow up
						Follow up place	

ANNEX 8B

Monthly Death Summary

Month ______________________ **Hospital** ______________________________

No.	Demographic info		Age			Place of death				Birth		
	Infant Folder No.	Moms Number	Date of Birth dd/mm/yy	Date of Death dd/mm/yy	Age in days	Labour ward / Theatre	Postnatal	Neonatal Unit	Casualty	Paediatric Ward	< 999g	1000 - 1499g

weight			HIV status			Reason for admission								Cause of Death							
1500 - 1999g	2000 - 2499g	> 2500g	HIV exposed	HIV negative	HIV unkown	Neonatal Encephalopathy	Infection	Jaundice	For observation	Con abnormality	Respiratory distress	Pretern	Baby received CPAP	Died	Immaturity	Hypoxia	Infection	Congenital abnormality	Other	Unkown	Trauma	Comment

Monthly / Quarterly / Annual Neonatal Admission Data

Hospital _____ **Time Period** _____

Total Births in Hospital		**Neonatal admission**	
Total Births in feeding clinics		**% Admissions**	
Total Births Sub- district		**No transfers out (%)**	

Admission and Death by place of birth, birthweight, HIV status and cause of death. Calcucalte CFR and % of admissions.

Admissions	Admission to neonatal unit	Deaths in Neonatal unit	Case Fatality rates	% of admissions
1. From Labour ward or Postnatal				
2. From Clinic or Home				
3. Referred from other hospital				
4. Back from referral hospital				
5. Total Admissions:				
Admission Weights				
6. < 999				
7. 1000 – 1499 g				
8. 1500 – 1999 g				
9. 2000 – 2499g				
10. > 2500 g				
HIV exposure				
10. HIV Exposed				
11. HIV Negative				
12. HIV unknown				
No HIV Prophylaxis		% prophylaxis		

Main problem requiring baby to be admitted				
13. NE / HIE / Low apgars				
14. Infection				
15. Jaundice				
16. For Observation				
17. Cong Abnormality				
18. Resp Distress(not HMD)				
19. Other				
20. LBW or prematurity				
Cause of death in neonatal unit				
Immaturity		%		
Hypoxia		%		
Infection		%		
Congenital Abnormality		%		
Other		%		
Unknown		%		

Neonatal death not in neonatal unit		Comment
# deaths labour ward		
# deaths in theatre		
# deaths in postnatal ward		
# deaths in casualty		
Total deaths outside the neonatal unit		

Monthly / Quarterly / Annual Neonatal Ward Report

Reporting Period _____ **Hospital** _____

1. Births and admissions

_____ babies were born alive in hospital and _____ in clinic, for a total of _____babies born alive in the subdistrict of _____

_____% of babies were admitted to the neonatal unit. Of these _____ (_____%) were referred to _____ _____

2. HIV status of babies born:

_____ (_____%) of babies were known to be HIV exposed. _____women did not know their HIV status on admission. We tested _____% of these babies. _____ of HIV-positive babies received NVP prophylaxis

3. The three main reasons for admission (and the case fatality rate for each one) are as follows

1. _____
2. _____
3. _____

4. The three leading causes of death for babies in the neonatal unit are:

1. _____

2. _____

3. _____

_____babies were admitted with HIE or low apgar scores
The reason for the HIE in these babies is as follows

1. _____

2. _____

3. _____

5. There were _____ neonatal deaths outside of the neonatal unit. The three leading causes of these deaths were:

1. _____

2. _____

3. _____

6. There were _____ babies born with a major congenital abnormality
Document the problems, referral and outcome.

1. _____

2. _____

3. _____

ANNEX 8B

Perinatal Mortality Statistics (Mortality Audit Data)

Year: _____

	Births (total)	Live births	Stillbirths	
			Fresh	Macerated
500 – 999				
1000 – 1499				
1500 – 1999				
2000 –2499				
> 2500				
Total				

LBW %		SB / NND	
SB Rate /1000		CS Rate %	
PNMR /1000		PCI	
PNMR / 1000 (BW > 999g)		ENND / 1000 (BW 1000 – 1499g)	
ENNDR /1000 (BW 2500g +)		ENND / 1000 (BW 1500 – 1999g)	

Primary Obstetric cause of death (top 7)	Number	%
Spontaneous preterm labour		
Intrapartum hypoxia		
Unexplained intrauterine death		
Infection		
Antepartum haemorrhage		
Intrauterine growth restriction		
Hypertensive disease		

Avoidable factors (top 10)	Number	%

Neonatal deaths		
ENND	**LNND**	**NND**

ENND / 1000	
LNND / 1000	
NND / 1000	
ENND / 1000 (BW > 999g)	
ENND / 1000 (BW 1000 – 1999g)	

Final neonatal cause of death (top 4)	Number	%
Immaturity		
Hypoxia		
Infection		
Congenital abnormality		

ANNEX 9

Indicators and Measurement

9A: List of Indicators Collected through Routine Data Systems

9B: List of Indicators and Questions to Measure Facility Capacity to Provide Newborn Health Services

List of Indicators Collected through Routine Data Systems

Introduction

This list of indicators was developed by the Inter-agency Newborn Indicators Technical Working Group convened by Save the Children's *Saving Newborn Lives* program. Use the country's policies and standards to inform adoption of these indicators for each level of care to develop national level reporting requirements (note that these recommended indicators are not all the indicators needed for service monitoring at the point of care). Integrate maternal and newborn indicators within data collection tools and reports to support data analysis and use.

Several indicators require projected numbers as the denominator. For these calculations, use the most recent population level data available, from household surveys, census, or vital statistics registration. By including an accurate count in the numerator, this proportion will allow for estimation of health system caseload and tracking of trends.

Note that this list includes indicators to measure both maternal and newborn health. Although indicators that primarily affect women's health are equally important to capture, they are not listed here; please refer to the IAFM for additional maternal health indicators.

Newborn Health Indicators for Routine Data Systems

*Incorporate key indicators (marked with a *) into national reporting systems. Other indicators are suggested to provide additional information, where feasible.*

Indicator	Numerator
Service Readiness	
* % of facilities with delivery services with no stock-outs in the past 3 months[2] of: • Dexamethasone (corticosteroid) • Magnesium sulfate (anticonvulsant) • Bag & mask (newborn size) • Antiseptic solution for use on cord (including CHX if policy exists) • Antibiotic for PROM	# of facilities with delivery services with no stock-outs in the past 3 months of: • Dexamethasone • Magnesium sulfate • Bag & mask • Antiseptic solution • Antibiotic for PROM
* % of facilities with ANC services with no stock-outs in the past 3 months[2] of: • Iron/Folate • Sulfadoxine-Pyrimethamine (IPTp-SP if policy) • Chlorhexidine (CHX) if policy exists to distribute during ANC • Tetanus Toxoid Vaccine • Antibiotic for UTI/Syphilis	# of facilities with ANC services with no stock-outs in the past 3 months of: • Iron/Folate • IPTp-SP • CHX • Tetanus Toxoid Vaccine • Antibiotic for UTI/Syphilis
* % of facilities with newborn care services with no stock-outs in the past 3 months[2] of injectable: • Gentamicin • X-Penicillin (or procaine penicillin) • Ampicillin	# of facilities with newborn care services with no stock-outs in the past 3 months of injectable: • Gentamicin • X-Penicillin • Ampicillin

Denominator	Utility and limitations of indicators
Total # of health facilities	Provides information on whether commodities are available, but not if they are used as intended or if commodities are functional/ unexpired. A **stock-out** is defined as the complete absence of a commodity or supply at a delivery point for at least one day during the reporting period. Data should be extracted from the national logistics management information system (LMIS) if the system provides details on pharmacy supply availability at the health facility level. Key commodities may vary by country; adapt indicators based on national essential drug/commodity lists.
Total # of health facilities	
Total # of health facilities	

ANNEX 9A

Indicator	Numerator
Outcomes	
* Neonatal mortality rate	# of deaths in the first month of life recorded at a facility, disaggregated by early neonatal (<7 days after birth), late neonatal death
* % of newborn deaths due to: • Complications from preterm birth • Intrapartum-related complications • Infections (including tetanus, sepsis/ meningitis, pneumonia) • Congenital • Other	# of newborn deaths due to: • Preterm birth • Intrapartum complications • Infections • Congenital • Other
* Stillbirth rate	# of late fetal deaths (≥1000g birthweight or ≥28 completed weeks gestation) recorded at a facility
% of live births at a facility where the newborn had trouble breathing at birth (or was not breathing at birth)	# of live births at a facility where the newborn had trouble breathing at birth (or was not breathing at birth)
Ratio of neonatal possible serious bacterial infection(PSBI) deaths to cases of neonatal PSBI brought in for treatment, disaggregated by place of birth (at that facility, other site)	# of neonatal PSBI deaths
* % of live births at a facility where newborn was: • Moderate to late preterm (32 to <37 weeks) • Very preterm (28 to <32 weeks) • Extremely preterm (<28 weeks)	# of live births at a facility where newborn was: • Moderate to late preterm • Very preterm • Extremely preterm

Denominator	Utility and limitations of indicators
1,000 live births[3]	Reports should indicate whether deaths that occur in the community are recorded at a facility.
# of newborn deaths recorded at a facility	This indicator is not meant to be interpreted as a case fatality rate but rather provides information on cause of death among known, reported deaths. Reports should indicate whether causes of deaths that occur in the community are recorded at a facility.
1,000 total births[3]	Reports should indicate whether stillbirths that occur in the community are recorded at a facility.
# of live births at a facility	This indicator serves as the denominator for % of newborns having trouble breathing at birth (or was not breathing at birth) where resuscitation techniques were used (see below) **Interpret this indicator with extreme caution.** If non-breathing babies are often misclassified as stillbirths, introduction of a resuscitation program and training may lead to the apparent increase in the number of babies not breathing at birth. At the same time, high numbers of non-breathing newborns can indicate poor quality of intrapartum care. Interpret this indicator in relation to the number of stillbirths and other intrapartum care data.
# of cases of neonatal PSBI brought to a health facility for treatment	This indicator provides a measure of appropriate and timely diagnosis of PSBI, along with early treatment. It does not serve as a case fatality rate.
# of live births at a facility	If gestational age for births outside a facility is recorded at the facility, the denominator can be changed to all live births. Gestational age is often obtained by asking the pregnant woman for the date of LMP rather than by clinical measurement, and is therefore subject to reliability issues.

ANNEX 9A

Indicator	Numerator
Service utilization, coverage and quality of care	
% of total births where the woman attended 1st ANC visit before 4 months gestation	# of total births where the woman attended 1st ANC visit before 4 months gestation
* % of total births delivered at a facility	# of expected total births delivered at a facility
* % of live births at a facility delivered by cesarean section	# of live births at a facility delivered by cesarean section
% of newborns having trouble breathing at birth (or was not breathing at birth) where resuscitation techniques were used	# of newborns having trouble breathing at birth (or was not breathing at birth) where resuscitation techniques were used
% of newborns with chlorhexidine (CHX) applied on the cord on day of birth[5]	# of newborns with chlorhexidine applied on the cord on day of birth
Ratio of the # of pregnant women in preterm labor at facilities who received at least one dose of antenatal corticosteroids to the number of total births at a facility	# of pregnant women in preterm labor at facilities who received at least one dose of antenatal corticosteroids
Ratio of the # of Kangaroo Mother Care7 (KMC) admissions to the number of live births	# of eligible preterm or low birthweight (LBW) admitted to KMC

Denominator	Utility and limitations of indicators
# of total births[3]	Marker for women having contact with a provider early enough in pregnancy to permit delivery of essential pregnancy services and early identification of problems that can be addressed to improve outcomes for women and newborns.
# of total births[3]	Marker of how many women and newborns had access to skilled birth attendance and services that can prevent or address newborn complications.
# of live births at a facility	Marker of comprehensive emergency obstetric care. Large numbers can mean use on non-indicated cesarean sections. Could be disaggregated by urban/rural and/or private versus public sector to capture inequities as well as inappropriate use.[4]
# of live births at a facility where the newborn had trouble breathing at birth (or was not breathing at birth)	While important to monitor implementation of resuscitation programs, this indicator needs to be interpreted with extreme caution. See notes above for the indicator % of live births at a facility where the newborn had trouble breathing at birth (or was not breathing at birth).
# of live births	A measure of CHX use for clean cord care, as prevention of infection. In some countries, such as in Latin America, where other antiseptics are used according to standard guidelines or as routine clinical practice, the indicator may be modified to capture the antiseptic being used. *National policy must inform definition, numerator, and denominator for this indicator – see footnote.*
# of total births at a facility	The total number of pregnant women meeting eligibility criteria for antenatal corticosteroids is difficult to determine, so this indicator uses a ratio of the number of women who received corticosteroids to the number of total births at a facility. Other information (causes of newborn death, special studies, etc) should be used in conjunction with this indicator to estimate whether most preterm births are receiving corticosteroids at facilities.
# of live births[3]	Does not measure the quality of KMC services or whether the newborn received KMC for a sufficient length of time. The total number of preterm or LBW babies is difficult to determine, so this indicator uses a ratio of the number of KMC admissions to the number of live births country/region/district. Other information (causes of newborn death, special studies, etc) should be used in conjunction with this indicator to estimate whether most preterm/ LBW births are receiving KMC at facilities. The KMC eligibility criteria for the country should also be considered as it will affect how many newborns should be admitted.

ANNEX 9A

Indicator	Numerator
% of live births at a facility where newborn died before discharge	# of early newborn deaths (deaths before discharge)
* % of total births at a facility where the outcome was fresh stillbirth	# of total births at a facility where the outcome was fresh stillbirth
% of pregnant women attending ANC who received: • 2+ tetanus injections (TT2+) or a lifetime 5+ doses • 2+ doses of intermittent preventive therapy (IPTp2+), where policy • Syphilis screening & treatment • HIV testing	# of pregnant women attending ANC who received: • TT2+ • IPTp2+ • Syphilis screening & treatment • HIV testing
% of pregnant women with intra-partum antibiotics administered at any time in labor or immediately preceding labor	# of total births at a facility wherewhere pregnant woman was administered intra-partum antibiotics
% of neonatal PSBI cases completing treatment	# of neonatal PSBI cases completing treatment

1 The interventions are: 1) Management of preterm birth; 2) Skilled care at birth; 3) Basic Emergency Obstetric Care; 4) Comprehensive Emergency Obstetric Care; 5) Basic Newborn Care; 6) Neonatal resuscitation; 7) Kangaroo mother care; 8) Treatment of severe infections; and 9) Inpatient supportive care for sick and small newborns

2 The time period can be modified and commodities should be reported separately.

Denominator	Utility and limitations of indicators
# of live births at a facility	Marker for quality of care around the time of birth.
# of total births at a facility	Marker for quality of care around the time of birth. In some settings it is possible to track intrapartum deaths (i.e. fetal heart rate detected on admission but dead at birth) rather than "fresh still-births." Macerated SBs should also be tracked
# of pregnant women attending ANC	Tracking the number of ANC visits is insufficient – this indicator measures whether important components are delivered, many of which can prevent newborn deaths. Longitudinal registers are preferred for tracking these indicators.
# of total births at a facility	This is an intra-partum intervention demonstrated to reduce incidence of early onset neonatal infections acquired through vertical transmission from mother to neonate (before onset of labor or during labor).[8] It is one of 29 priority interventions on WHO Safe Childbirth Checklist (developed by expert international consultation).
# of newborn (<28 days old) with possible severe bacterial infection (PSBI) cases initiating treatment at a health facility	Measure of quality of care because newborns with PSBI must complete treatment (based on national guidelines) to maximize chance of survival. Does not include newborn cases initiating treatment in community settings; denominator could be adapted to national treatment policy if sepsis treatment initiation at community level is included. Best used at local level to monitor and improve quality of care.

List of Indicators and Questions to Measure Facility Capacity to Provide Key Newborn Health Services

Adapted from Newborn Indicators Working Group, Newborn Services Rapid Health Facility Assessment, June 2012.

Indicator	Numerator
Service Availability	
24/7 Skilled birth attendance	# of facilities with delivery services with a provider skilled in conducting deliveries present at the facility or on call at all times (24 hours a day, 7 days per week) and schedule observed
Basic EmOC	# of facilities with delivery services that are able to provide all the following services: • parenteral administration of antibiotics • parenteral administration of oxytocic • parenteral administration of anticonvulsants • assisted vaginal delivery • manual removal of placenta • removal of retained products after delivery
Neonatal Resuscitation	# of facilities with delivery services that are able to provide neonatal resuscitation
Corticosteroids (ACS) for preterm labor	# of facilities with delivery services that are able to provide corticosteroids for preterm labor
Kangaroo mother care	# of facilities that provide kangaroo mother care* (KMC)

Denominator	Disaggregate by	Source
# of visited facilities with delivery services	Type of facility (e.g, hospital versus health center)	Audit Q3
# of visited facilities with delivery services	Type of facility Type of service Facility caseload (e.g., facilities with <10 births per month versus facilities with ≥10)	Audit Q4_01a- Q4_06a
# of visited facilities with delivery services	Type of facility	Audit Q4_07a
# of visited facilities with delivery services	Type of facility	Audit Q4_08a
# of visited facilities	Type of facility	Audit Q8

Equipment and Supplies	
Newborn bag & mask	# of facilities with delivery services with newborn bag & mask available and functioning in delivery area (observed)
Resuscitation table	# of facilities with delivery services with resuscitation table with a heat source available and functioning in delivery area (observed)
Infant scale	# of facilities with delivery services with infant scale available and functioning in delivery area (observed)
Soap or hand disinfectant	# of facilities with delivery services with soap or hand disinfectant in delivery area (observed)
Towel for drying	# of facilities with delivery services with towels for drying babies in delivery area (observed)
Injectable gentimicin	# of facilities with injectable gentimicin available (observed and at least one dose valid)
PMTCT drug	# of facilities with nevirapine (or other drug recommended for PMTCT) available (observed and at least one dose valid)
ACS	# of facilities with corticosteroids available (observed and at least one dose valid)
Injectable uterotonic	# of facilities with delivery services and injectable uterotonic available (observed and at least one dose valid)
Magnesium sulfate	Number of facilities with delivery services and magnesium sulfate available (observed and at least one dose valid)
Protocols or guidelines	# of facilities with each of the following protocols or guidelines available (observed): • Integrated management of pregnancy and childbirth (all facilities) • Referral of sick newborns (all facilities) • Comprehensive emergency obstetric care (facilities with delivery services) • Management of preterm labor (facilities with delivery services)

# of visited facilities with delivery services	Type of facility	Audit Q5_01
# of visited facilities with delivery services	Type of facility	Audit Q5_02
# of visited facilities with delivery services	Type of facility	Audit Q5_03
# of visited facilities with delivery services	Type of facility	Audit Q5_04
# of visited facilities with delivery services	Type of facility	Auzdit Q5_05
# of visited facilities	Type of facility	Audit Q10_01
# of visited facilities	Type of facility	Audit Q10_02
# of visited facilities	Type of facility	Audit Q10_03
# of visited facilities with delivery services	Type of facility	Audit Q10_04
# of visited facilities with delivery services	Type of facility	Audit Q10_05
# of visited facilities (with delivery services)	Type of facility	Audit Q11-12, 14-15

Documentation	
Up-to-date delivery register	# of facilities with delivery services with up- to-date delivery register (birth outcome for the infant and birth weight recorded for the last 10 births) (observed)
Training	
Trained providers	# of interviewed providers of delivery/newborn services trained in the past 12 months in each of the following areas: • Neonatal resuscitation using bag and mask • Breastfeeding (early and exclusive) • Newborn infection management (including injectable antibiotics) • Thermal care (including immediate drying and skin-to-skin care) • Sterile cord cutting and appropriate cord care • KMC for low birth weight babies • Special delivery care practices for PMTCT of HIV • Use of ACS for preterm labor
Facilities with trained providers	# of facilities with at least half of interviewed providers ** trained in the past 12 months in each of the following areas: • Neonatal resuscitation using bag and mask • Breastfeeding (early and exclusive) • Newborn infection management (including injectable antibiotics) • Thermal care (including immediate drying and skin-to-skin care) • Sterile cord cutting and appropriate cord care) • KMC for low birth weight babies • Special delivery care practices for PMTCT of HIV • Use of corticosteroids for preterm labor

# of visited facilities with delivery services	Type of facility	Audit Q18
# of interviewed providers of delivery/newborn services	Type of facility	Health Worker Interview Q103
# of facilities with interviewed providers of delivery/newborn services	Type of facility	Health Worker Interview Q103

Supervision	
Facilities with routine personal supervision	# of facilities with routine personal supervision (at least half of interviewed providers reported being personally supervised at least once during the 6 months preceding the survey.)
Monitoring postnatal care	# of facilities with documentation of monitoring*** of postnatal care for newborns
Review deaths or near misses	# of facilities with delivery services with facility reviews of stillbirth and newborn (perinatal) deaths or near misses

* Kangaroo Mother Care (KMC) is early, prolonged and continuous skin-to-skin contact between the mother (or substitute) and her baby, both in hospital and after early discharge, with support for positioning, feeding (ideally, exclusive breastfeeding), and prevention and management of infections and breathing difficulties.

** If only one provider interviewed at a facility, then criteria met if that provider was trained in each area.

*** Observed register, report, wall chart/ graph or other documentation of monitoring service data.

# of facilities with interviewed providers of delivery/newborn services	Type of facility	Health Worker Interview Q104
# of visited facilities	Type of facility	Audit Q20
# of facilities visited with delivery services	Type of facility	Q22

Photo Credits:

Cover: © UNICEF/NYHQ2010-1269crop/Ramo

Page 6: © UNICEF/PAKA2009-4178/Ramoneda

Page 10: © UNICEF/UNI181196/Sevenier

Page 13: © UNICEF/NYHQ2010-1355/Ramoneda

Page 14: © UNICEF/UNI181326/Crumb

Page 16: © UNICEF/UKLA2014-04618/Schermb

Page 24: © UNICEF/INDA2011-00040/Crouch

Page 27: © UNICEF/BANA2014-00767/Mawa

Page 28: © UNICEF/PFPG2015-2022/Mrazikov

Page 30: © UNICEF/MLWB2009-00039/Pirozzi

Page 43: © Genna Naccache/Save the Children

Page 44: © UNICEF/NYHQ2010-0266/Noorani

Page 54: © UNICEF/SUDA2014-XX938/Noorani

Page 59: © UNICEF/NYHQ2011-1628/Pirozzi

Page 64: © UNICEF/MLWB2011-00287/Noorani

Page 71: © UNICEF/UGDA201300588/Sibiloni

Page 72: © UNICEF/NYHQ2014-1932/Anmar

Page 81: © UNICEF/UKLA2013-00850/Schermb

Page 82: © UNICEF/NYHQ2015-0097/van de M

International Medical Core (IMC)

Medecins Sans Frontieres (MSF)

United Nations High Commissioner for Refugees (UNHCR)

United Nations Population Fund (UNFPA)

United Nations Children's Fund (UNICEF)

World Health Organization (WHO)

U.S. Centers for Disease Control and Prevention (CDC)

Women's Refugee Commission (WRC)

World Vision International (WVI)

© United Nations Children's Fund and Save the Children, April 2015