ESSENTIAL INTERVENTIONS, COMMODITIES AND GUIDELINES

for Reproductive, Maternal, Newborn and Child Health

A GLOBAL REVIEW OF THE KEY INTERVENTIONS RELATED TO REPRODUCTIVE, MATERNAL, NEWBORN AND CHILD HEALTH (RMNCH)

World Health Organization

THE AGA KHAN UNIVERSITY

The Partnership for Maternal, Newborn & Child Health

This document is designed for an audience of policy-makers who seek information on the specific health interventions to address the main causes of maternal, newborn and child deaths.

It is the result of collaborative work among many partners. The process was led by the World Health Organization, Switzerland, and the Aga Khan University, Pakistan. Experts in maternal, newborn and child health participated in meetings in Geneva in April 2010 and September 2011 and provided inputs to the development and finalization of this document. The contributions of the World Health Organization, the Aga Khan University, invited experts and partners are gratefully acknowledged.

This publication, and related advocacy material, will be distributed to over 430 PMNCH partners, and other stakeholders, primarily via the PMNCH website and knowledge portal. In addition, it will be distributed, and discussed, at selected RMNCH advocacy events.

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One-page summary of essential interventions

Essential, evidence-based interventions to reduce reproductive, maternal,

Continuum of care	Adolescence & pre-pregnancy	Pregnancy (Antenatal)	Childbirth
All levels: **Community** **Primary** **Referral**	▪ Family planning (advice, hormonal and barrier methods) ▪ Prevent and manage sexually transmitted infections, HIV ▪ Folic acid fortification/ supplementation to prevent neural tube defects	▪ Iron and folic acid supplementation ▪ Tetanus vaccination ▪ Prevention and management of malaria with insecticide treated nets and antimalarial medicines ▪ Prevention and management of sexually transmitted infections and HIV, including with antiretroviral medicines ▪ Calcium supplementation to prevent hypertension (high blood pressure) ▪ Interventions for cessation of smoking	▪ Prophylactic uterotonics to prevent postpartum haemorrhage (excessive bleeding after birth) ▪ Manage postpartum haemorrhage using uterine massage and uterotonics ▪ Social support during childbirth
Primary and referral	▪ Family planning (hormonal, barrier and selected surgical methods)	▪ Screening for and treatment of syphilis ▪ Low dose aspirin to prevent pre-eclampsia ▪ Antihypertensive drugs (to treat high blood pressure) ▪ Magnesium sulphate for eclampsia ▪ Antibiotics for preterm prelabour rupture of membranes ▪ Corticosteroids to prevent respiratory distress syndrome in preterm babies ▪ Safe abortion ▪ Post abortion care	▪ Active management of third stage of labour (to deliver the placenta) to prevent postpartum haemorrhage *(as above plus controlled cord traction)* ▪ Management of postpartum haemorrhage *(as above plus manual removal of placenta)* ▪ Screen and manage HIV (if not already tested)
Referral*	▪ Family planning (surgical methods)	▪ Reduce malpresentation at term with External Cephalic Version ▪ Induction of labour to manage prelabour rupture of membranes at term (initiate labour)	▪ Caesarean section for maternal/foetal indication (to save the life of the mother/baby) ▪ Prophylactic antibiotic for caesarean section ▪ Induction of labour for prolonged pregnancy (initiate labour) ▪ Management of postpartum haemorrhage *(as above plus surgical procedures)*
Community strategies	▪ Home visits for women and children across the continuum of care ▪ Women's groups		

NEWBORN AND CHILD MORTALITY, AND PROMOTE REPRODUCTIVE HEALTH

Postnatal (mother)	Postnatal (newborn)	Infancy & childhood
▪ Family planning advice and contraceptives ▪ Nutrition counselling	▪ Immediate thermal care (to keep the baby warm) ▪ Initiation of early breastfeeding (within the first hour) ▪ Hygienic cord and skin care	▪ Exclusive breastfeeding for 6 months ▪ Continued breastfeeding and complementary feeding from 6 months ▪ Prevention and case management of childhood malaria ▪ Vitamin A supplementation from 6 months of age ▪ Routine immunization plus *H.influenzae*, meningococcal, pneumococcal and rotavirus vaccines ▪ Management of severe acute malnutrition ▪ Case management of childhood pneumonia ▪ Case management of diarrhoea
▪ Screen for and initiate or continue antiretroviral therapy for HIV ▪ Treat maternal anaemia	▪ Neonatal resuscitation with bag and mask (by professional health workers for babies who do not breathe at birth) ▪ Kangaroo mother care for preterm (premature) and for less than 2000g babies ▪ Extra support for feeding small and preterm babies ▪ Management of newborns with jaundice ("yellow" newborns) ▪ Initiate prophylactic antiretroviral therapy for babies exposed to HIV	▪ Comprehensive care of children infected with, or exposed to, HIV
▪ Detect and manage postpartum sepsis (serious infections after birth)	▪ Presumptive antibiotic therapy for newborns at risk of bacterial infection ▪ Use of surfactant (respiratory medication) to prevent respiratory distress syndrome in preterm babies ▪ Continuous positive airway pressure (CPAP) to manage babies with respiratory distress syndrome ▪ Case management of neonatal sepsis, meningitis and pneumonia	▪ Case management of meningitis
* Family planning interventions at Referral level include those provided at the Primary level		

Executive Summary

Why reproductive, maternal, newborn and child health?

Poor maternal, newborn and child health remains a significant problem in developing countries. Worldwide, 358 000 women die during pregnancy and childbirth every year[1] and an estimated 7.6 million children die under the age of five.[2] The majority of maternal deaths occur during or immediately after childbirth. The common medical causes for maternal death include bleeding, high blood pressure, prolonged and obstructed labour, infections and unsafe abortions. A child's risk of dying is highest during the first 28 days of life when about 40% of under-five deaths take place, translating into three million deaths.[2] Up to one half of all newborn deaths occur within the first 24 hours of life and 75% occur in the first week. Globally, the main causes of neonatal death are preterm birth, severe infections and asphyxia. Children in low-income countries are nearly 18 times more likely to die before the age of five than children in high-income countries.[2]

Good maternal health and nutrition are important contributors to child survival. The lack of essential interventions to address these and other health conditions often contribute to indices of neonatal morbidity and mortality (including stillbirths, neonatal deaths and other adverse clinical outcomes).

The highest maternal, neonatal and under-five mortality rates are in sub-Saharan Africa and in Southern Asia.[2] Although substantial progress has been made towards achieving the Millennium Development Goals (MDGs) 4 and 5, the rates of decline in maternal, newborn and under-five mortality remain insufficient to achieve these goals by 2015. Interventions and strategies for improving reproductive, maternal, newborn and child health and survival are closely related and must be provided through a continuum of care approach. When linked together and included as integrated programmes, these interventions can lower costs, promote greater efficiencies and reduce duplication of resources. However, few efforts have been made to identify synergies and integrate these interventions across the continuum of care. Despite the existing plethora of knowledge, there is a lack of consensus on how best to move forward in a coordinated manner so as to achieve progress towards the MDGs. Furthermore, consensus is also needed on the level of evidence.

The foremost aim of this global review is to compile existing evidence on the impact of different interventions on the main causes of maternal, newborn and child deaths. The specific objectives of this review were to serve as a first step towards:

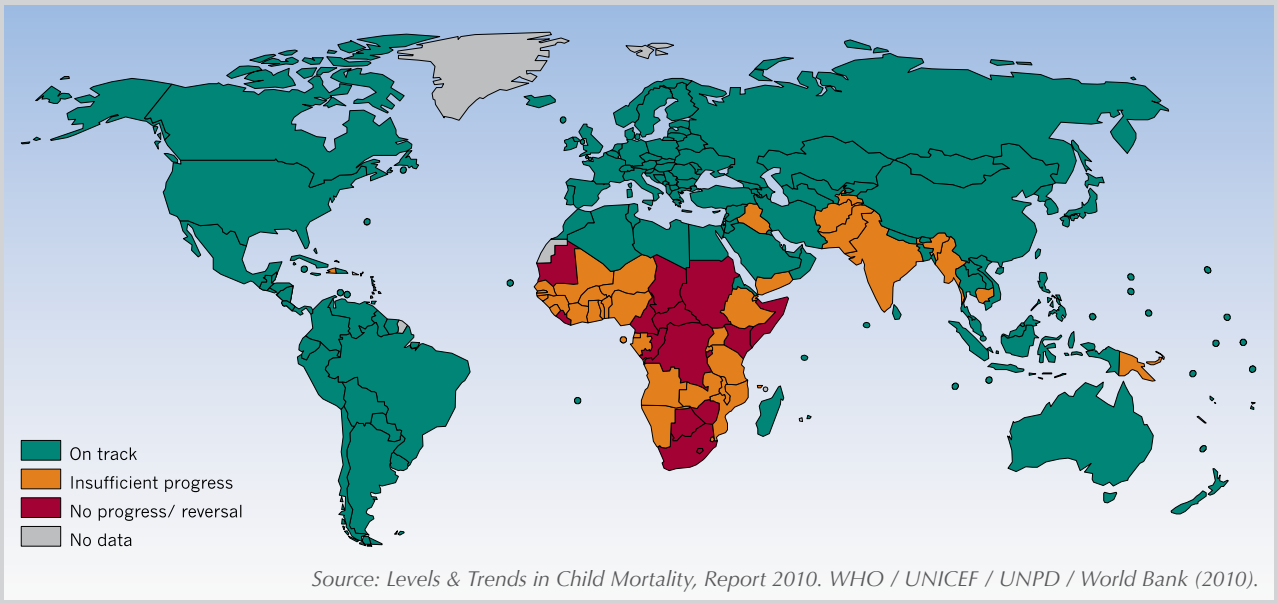
- Developing consensus on the content of RMNCH packages of interventions at each level of the health system across the continuum of care.
- Facilitating the scaling-up of these interventions.
- Identifying research gaps in the content of core packages of interventions.

Policy and regulatory environment

Policy and regulations are crucial to the implementation of any interventions. The recommended list of interventions should be reviewed in light of the existing national policy and regulatory environment. All interventions provided should comply with the laws and policies of the country. When required, these laws and policies may be reviewed and updated to ensure that priority life saving interventions are delivered.

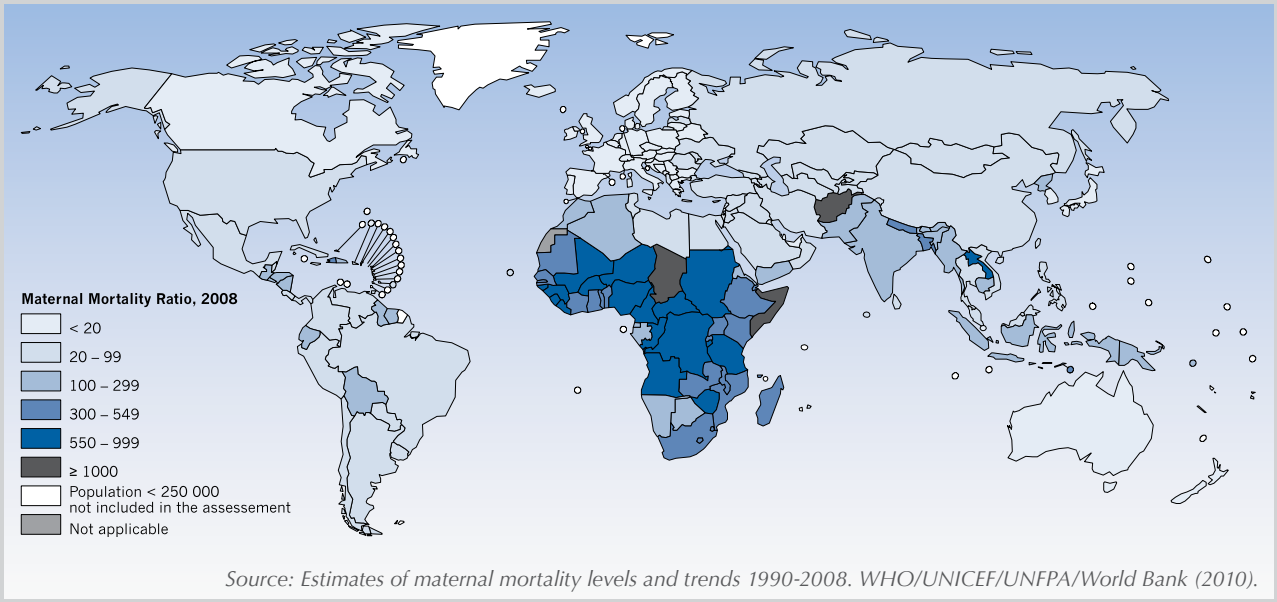
FIGURE 1:

MDG 4: TRENDS IN UNDER-FIVE MORTALITY, 1990 - 2007



Source: Levels & Trends in Child Mortality, Report 2010. WHO / UNICEF / UNPD / World Bank (2010).

MDG 5: TRENDS IN MATERNAL MORTALITY RATIOS, 2008



Source: Estimates of maternal mortality levels and trends 1990-2008. WHO/UNICEF/UNFPA/World Bank (2010).

METHODOLOGY

Search strategy

A total of 142 RMNCH interventions were identified, assessed and selected for this review (there is a 700 page compilation of the evidence which underpins this short summary available at the PMNCH),[3] based on current WHO recommendations contained in the following publications: Guidelines on HIV and Infant Feeding (2010); Integrated Management of Childhood Illness (2008); Integrated Management of Childhood Illness for high HIV settings (2008); the Pocket Book on Hospital Care for Children (2005); Integrated Management of Pregnancy and Childbirth Clinical Guidelines (2007); Recommended Interventions for Improving Maternal and Newborn Health - Integrated Management of Pregnancy and Childbirth (2007). Interventions published in the Child and Neonatal Lancet Series (2003 and 2005, respectively) as well as in the WHO Recommended Interventions for Improving Maternal and Newborn health (2010).

Inclusion criteria comprised the following: (i) the intervention has an alleged impact on reducing maternal, neonatal and child mortality; (ii) the intervention is suitable for delivery in low- and middle-income countries, and/or settings where minimal essential care is generally available; and (iii) the intervention is delivered through the health sector (community level up to the referral level of health care).

Relevant reviews for each intervention were identified from the following electronic databases: the Cochrane database of systematic reviews, the Cochrane database of abstract reviews of effectiveness (DARE), the Cochrane database of systematic reviews of randomized control trials (RCTs), and PubMed. The reference lists of reviews and recommendations from experts in the field were also used as sources to obtain additional publications. The principal focus was on the existing systematic reviews and meta-analysis.

Selection on interventions

The interventions were prioritized according to the following criteria:

- Interventions expected to have a **significant impact on maternal, newborn and child survival**, addressing the main causes of maternal, newborn and child mortality.
- Interventions suitable for implementation in **low- and middle-income countries**; minimal essential care.
- Interventions delivered through the **health sector**, from the community up to the first referral level of health service provision.

Classification of interventions

The interventions were classified into categories A, B and C, according to the framework provided in **Box 1.**

Box 1:

Category	Evidence for intervention categories	Delivery strategies	Action
A	Intervention evidence agreed	Delivery strategy agreed	Disseminate for rapid scale-up
B	Intervention evidence agreed	Delivery strategy no consensus	Collate evidence and define gaps in evidence for delivery strategies – seek consensus
C	Intervention evidence still questioned	Delivery strategy no consensus	Further research required