



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)**

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 (<i>as above plus controlled cord traction</i>) - Management of postpartum haemorrhage (<i>as above plus manual removal of placenta</i>) - 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 (<i>as above plus surgical procedures</i>)
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 <i>H.influenzae</i>, 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		

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 year¹ 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).

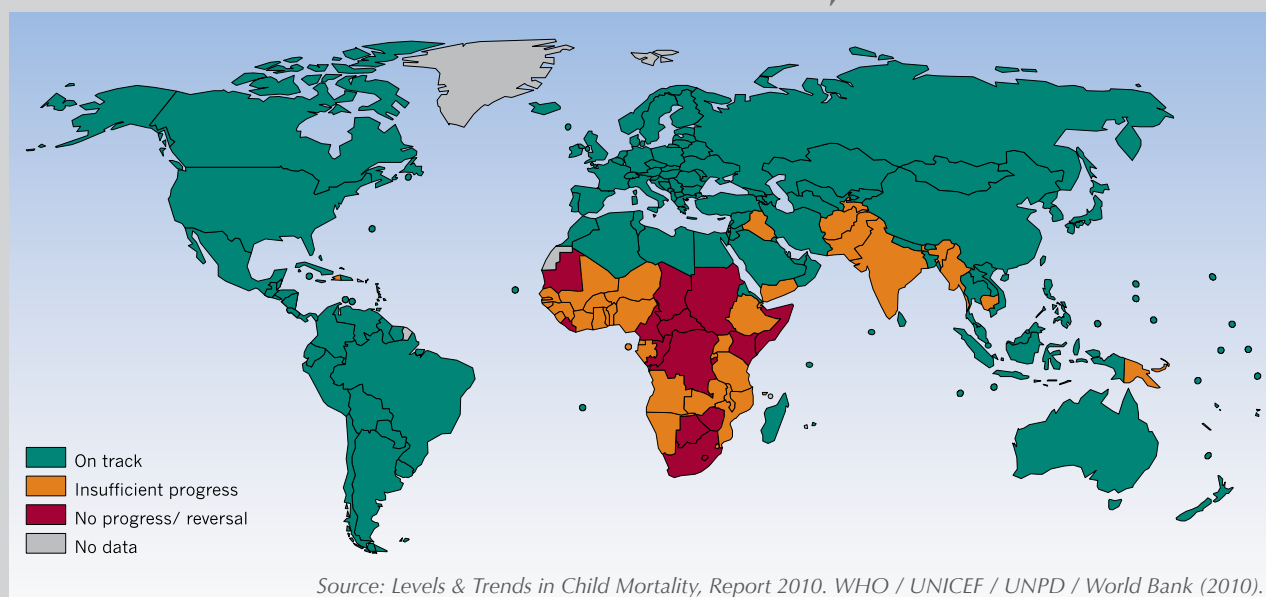
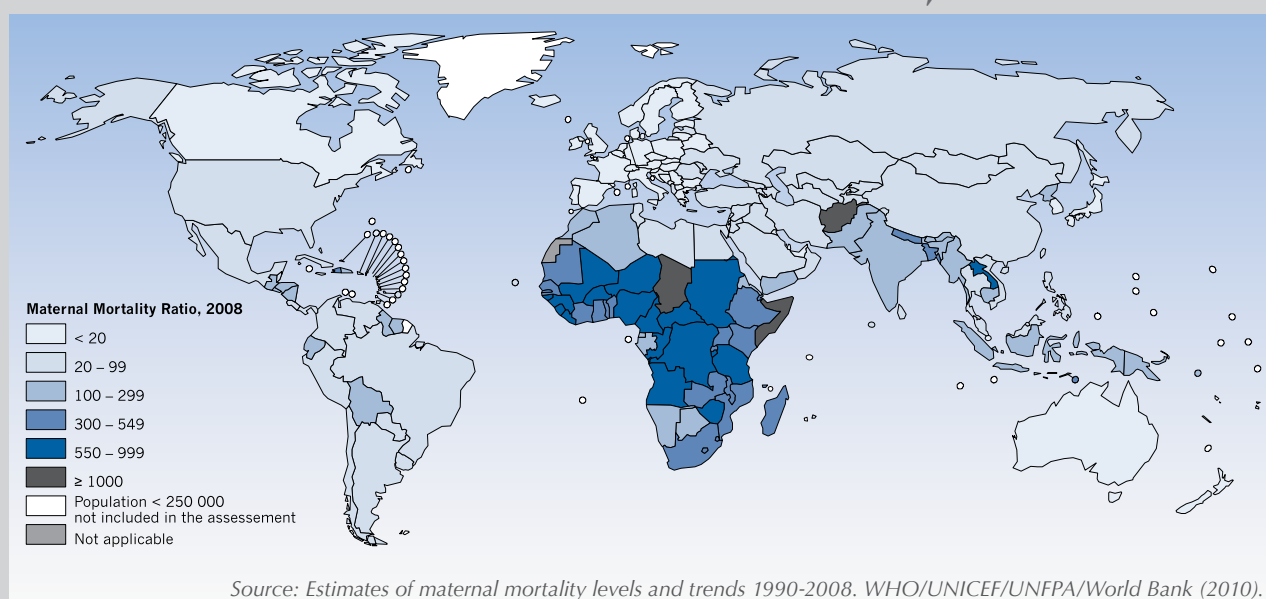
The highest maternal, neonatal and under-five mortality rates are in sub-Saharan Africa and in Southern Asia.² Although substantial progress has been made towards achieving the Millennium Development Goals (MDGs) 4 and 5, the rates of decline in maternal, newborn and under-five mortality remain insufficient 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****MDG 5: TRENDS IN MATERNAL MORTALITY RATIOS, 2008****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

The classification of the effect of interventions according to the evidence available was done based on that used by the Cochrane group, as follows:

A	B	C	D	E
Interventions that are beneficial	Interventions likely to be beneficial	Interventions with a trade-off between beneficial and adverse effects	Interventions of unknown effect, including absence of reviews	Interventions likely to be ineffective or harmful

This classification benefited from being broadly known, recognized and accepted since it is the classification used by the Cochrane systematic review process that has guided this exercise from the beginning. The “evidence” was restricted to published systematic reviews; not including single studies.

The origin of evidence included the following three different levels of delivery of interventions and these were defined in the publication by the World Bank “Priorities in Health”:⁴

COMMUNITY LEVEL/HOME



(1) COMMUNITY LEVEL/HOME - Health care providers at this level include community health workers and outreach workers. It utilizes resources such as volunteers’ time, local knowledge and community confidence and trust as channels for delivery of interventions generally related to safe motherhood, nutrition and simple prevention and treatments. Many countries have attempted to construct links between community-based health care resources and

households for a range of health programmes. These programmes do not substitute for a health system, but provide a channel for reaching families with information and resources. Community health workers (CHWs) not only promote healthy behaviours and preventive action but can mobilize demand for appropriate services at other levels. The success of community health efforts depends critically on the context, including level of development of infrastructure, services and socioeconomic resources.

FIRST LEVEL/OUTREACH



(2) FIRST LEVEL/OUTREACH - Health care providers at this level of care include professionals, outreach workers as well as the community health workers. It includes a range of initiatives that are associated with the Alma Ata Declaration on Primary Health Care approved by WHO in 1978. More recently, the WHO Commission on Macroeconomics and Health described the need for developing services that are close to the client. The basic notion is a common one:

recognition that a certain range of health care services must act as an interface between families and community programmes on the one hand, and hospitals and national health policies on the other. There has been substantial convergence in the content of general first level primary care over time: maternity related care (for instance, prenatal care, skilled birth attendance and family planning), interventions to address childhood diseases (such as vaccine preventable diseases, acute respiratory infections, diarrhoea) and prevention and treatment of major infectious diseases.

REFERRAL LEVEL/DISTRICT HOSPITAL



(3) REFERRAL LEVEL - This level of delivery of interventions refers to hospitals in general. These can be either district hospitals or referral hospitals. The health care providers at this level are professionals.

District hospitals - Generally designed to serve people with services that are more sophisticated, technically demanding and specialized than those available at a primary care facility/first level care, but not as specialized

as those provided by referral hospitals. Their range of services includes diagnostics, treatment, care, counselling and rehabilitation. District hospitals may also provide health information, training and administrative and logistical support to primary and community health care programmes. They concentrate skills and resources in one place for the delivery of interventions for conditions that are either uncommon or difficult to treat. They are also a repository of knowledge and diagnostic tools for assessing whether referral to an even more specialized facility is indicated.

Referral hospitals - Referral hospitals provide complex clinical care interventions to patients referred from the community, primary/first, or district hospital levels. Referral hospitals need to provide many forms of support, including advice on which patients to refer, proper post discharge care and long-term management of chronic conditions. Referral hospitals can also provide important managerial and administrative support to other facilities, serving as gateways for drugs and medical supplies, laboratory testing services, general procurement, data collection from health information systems and epidemiological surveillance. They are also the vehicle for disseminating technologies by training new staff and providing continuing professional education for existing staff at different facilities.

EVIDENCE-BASED FINDINGS

The following table lists the interventions classified as “A” based on the criteria defined in Box 1.

CLASSIFICATION OF INTERVENTIONS ACCORDING TO THE LEVEL OF HEALTH CARE DELIVERY

Intervention	Referral level	1 st level	Community
Adolescents & Pre-Pregnancy			
Family planning	✓	✓	✓
Prevent and manage Sexually Transmitted illnesses including Mother-to-Child Transmission of HIV and syphilis	✓	✓	✓
Folic acid fortification and/or supplementation for preventing Neural Tube Defects	✓	✓	✓
Pregnancy			
Management of unintended pregnancy			
▪ Availability and provision of safe abortion care when indicated	✓	-	-
▪ Provision of post abortion care	✓	✓	-
Appropriate antenatal care package:	✓	✓	-
▪ Screening for maternal illnesses			
▪ Screening for hypertensive disorders of pregnancy			
▪ Screening for anaemia			
▪ Iron and folic acid to prevent maternal anaemia			
▪ Tetanus immunization			
▪ Counselling on family planning, birth and emergency preparedness			
▪ Prevention and management of HIV, including with antiretrovirals			
▪ Prevent and manage malaria with insecticide treated nets and antimalarial medicine			
▪ Smoking cessation			
Reduce malpresentation at term with External Cephalic Version	✓	-	-
Prevention of pre-eclampsia			
▪ Calcium to prevent hypertension	✓	✓	-
▪ Low dose aspirin to prevent hypertension	✓	-	-
Magnesium Sulphate for eclampsia	✓	✓	-
Induction of labour to manage prelabour rupture of membranes at term	✓	-	-
Antibiotics for preterm prelabour rupture of membranes	✓	✓	-
Corticosteroids to prevent respiratory distress syndrome in newborns	✓	-	-

Intervention	Referral level	1 st level	Community
Childbirth			
Induction of labour for prolonged pregnancy	✓	-	-
Prophylactic uterotonics to prevent postpartum haemorrhage	✓	✓	✓
Active management of third stage of labour to prevent postpartum haemorrhage	✓	✓	-
Management of postpartum haemorrhage (e.g. uterotonics, uterine massage)	✓	✓	✓
Caesarean section for maternal/foetal indication	✓	-	-
Prophylactic antibiotics for caesarean section	✓	-	-
Postnatal (mother)			
Family planning	✓	✓	✓
Prevent and treat maternal anaemia	✓	✓	-
Detect and manage postpartum sepsis	✓	✓	-
Screen and initiate or continue antiretroviral therapy for HIV	✓	✓	-
Postnatal (newborn)			
Immediate thermal care	✓	✓	✓
Initiation of exclusive breastfeeding (within first hour)	✓	✓	✓
Hygienic cord and skin care	✓	✓	✓
Neonatal resuscitation with bag and mask (professional health worker)	✓	✓	-
Case management of neonatal sepsis, meningitis and pneumonia	✓	✓	-
Kangaroo mother care for preterm and for less than 2000g babies	✓	✓	-
Management of newborns with jaundice	✓	✓	-
Surfactant to prevent respiratory distress syndrome in preterm babies	✓	-	-
Continuous positive airway pressure (CPAP) to manage babies with respiratory distress syndrome	✓	-	-
Extra support for feeding small and preterm babies	✓	✓	-
Presumptive antibiotic therapy for newborns at risk of bacterial infections	✓	-	-
Infancy and Childhood			
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	✓	✓	✓
Comprehensive care of children infected with or exposed to HIV	✓	✓	-
Routine immunization and <i>H. influenzae</i> , meningococcal, pneumococcal and rotavirus vaccines	✓	✓	✓
Management of severe acute malnutrition	✓	✓	-
Case management of childhood pneumonia	✓	✓	✓
Case management of diarrhoea	✓	✓	✓
Cross-cutting community strategies			
Home visits for women and children across the continuum of care	-	-	✓

REPRODUCTIVE AND MATERNAL HEALTH INTERVENTIONS

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
PRECONCEPTION/PERICONCEPTUAL INTERVENTIONS				
Family planning ⁵⁻⁷	Community Primary Referral	ALL	- Barrier methods (male and female condoms, diaphragm, gels, foams) - Oral contraceptives (progestin only and combined) - Emergency contraceptives and hormonal injections	- Medical eligibility criteria for contraceptive use http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf - Family Planning: a global handbook for providers http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf - Surgical Care at the District Hospital www.who.int/surgery/publications/scdh_manual/en/index.html pgs 9-8, 11-19
	Primary Referral	Professional health workers	- All of the above plus implants - Long acting reversible contraceptives (implants) - Intrauterine devices - Surgical contraception	
Prevention and management of Sexually Transmitted Infections (STIs), including HIV for Prevention of Mother-to-Child Transmission (PMTCT) of HIV and syphilis ^{8, 9}	Community Primary Referral	ALL	- Materials for counselling - Condoms (male and female) - Antibiotics in line with essential medicine guidelines	- Sexually transmitted and other reproductive tract infections: a guide to essential practice http://whqlibdoc.who.int/publications/2005/9241592656.pdf - Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Rapid advice: use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants www.who.int/hiv/pub/mctc/advice/en/index.html
	Primary Referral	Professional health workers	- Materials for counselling - Condoms (male and female) - Antibiotics in line with essential medicine guidelines - Laboratory test kits for STI/HIV - Antiretroviral medicines (refer to the essential list of medicines)	
Folic acid fortification and/or supplementation to prevent Neural Tube Defects ^{10, 11}	Community Primary Referral	ALL	- Folic acid fortification of staple food e.g. flour - Folic acid tablets	Folic Acid for the Prevention of Neural Tube Defects: U.S. Preventive Services Task Force Recommendation Statement www.annals.org/content/150/9/626.abstract
PREGNANCY				
Antenatal Care ¹² Essential Package	Primary Referral	Professional health workers	- Fetal stethoscope - Scale - Sphygmomanometer - Haemoglobinometer	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - WHO Antenatal Care Randomized Trial: Manual for the implementation of the new model http://whqlibdoc.who.int/hq/2001/WHO_RHR_01.30.pdf
Iron and folic acid supplementation during pregnancy ¹³⁻¹⁵	Community Primary Referral	ALL	Iron and folic acid	- Guidelines for the use of iron supplements to prevent and treat iron deficiency anaemia www.who.int/nutrition/publications/micronutrients/guidelines_for_iron_supplementation.pdf - Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf
Tetanus immunization in pregnancy for preventing neonatal tetanus ^{16, 17}	Community Primary Referral	ALL	Vaccine (TT vaccine)	- Neonatal tetanus www.who.int/immunization_monitoring/diseases/neonatal_tetanus/en/index.html - Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
Prevention and management of malaria in pregnancy a) Prophylactic antimalarial for preventing malaria in pregnancy ^{18, 19} b) Provision and promotion of use of Insecticide Treated Nets for preventing malaria in pregnancy ²⁰	Community Primary Referral	ALL	- Antimalarial drugs according to the situation/context - Insecticide Treated Nets	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Insecticide treated bednets: a WHO position statement www.who.int/malaria/publications/atoz/itnspopaperfinal.pdf
Interventions for smoking cessation during pregnancy for improving birth outcomes ²¹	Community Primary Referral	ALL	Materials for individual and group counselling and behavioural change interventions on smoking cessation	Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf
Screening and treatment of Syphilis ^{22, 23}	Primary Referral	Professional health workers	- Onsite tests and laboratory equipment - Penicillin - Counselling material	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - The Prevention and management of congenital syphilis: an overview and recommendations www.who.int/bulletin/volumes/82/6/424.pdf
Prevention and management of HIV and Prevention of Mother-to-Child Transmission in Pregnancy ^{8, 24, 25}	Community Primary Referral	ALL	- HIV test kits - Antiretroviral drugs - Cotrimoxazole - Counselling material	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Rapid advice: use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants www.who.int/hiv/pub/mtct/advice/en/index.html
Prevention and management of hypertension in pregnancy: a) Calcium supplementation in pregnancy ²⁶⁻²⁸	a) Community Primary Referral	a) ALL	a) Calcium	- WHO recommendations for the prevention and treatment of pre-eclampsia and eclampsia http://whqlibdoc.who.int/publications/2011/9789241548335_eng.pdf - Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
b) Low-dose Aspirin for the prevention of pre-eclampsia in high risk women ^{28, 29}	b) Primary Referral	b) Professional health workers	b) Low dose Aspirin	
c) Use of antihypertensive drugs for treating severe hypertension in pregnancy ^{28, 30}	c) Primary Referral	c) Professional health workers	c) Methyldopa, Hydralazine, Nifedipine	
d) Prevention and treatment of Eclampsia ^{28, 31, 32}	d) Primary Referral	d) Professional health workers	d) Magnesium Sulphate (Injection)	
Reduce malpresentation at term using External Cephalic Version (> 36 weeks) ³³⁻³⁵	Referral	Professional health workers	Stethoscope	Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
Management of prelabour rupture of membranes and preterm labour:				
a) Induction of labour for management of prelabour rupture of membranes at term ³⁶	Referral	Professional health workers	• Uterotonic (Oxytocin and/or Misoprostol) • Partograph • Stethoscope • Sphygmomanometer	• Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf • WHO recommendations for induction of labour http://whqlibdoc.who.int/publications/2011/9789241501156_eng.pdf
b) Antibiotics for management of preterm rupture of membranes ³⁷	Primary Referral	Professional health workers	• Antibiotic (Erythromycin)	• Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf • Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf
c) Corticosteroids for prevention of neonatal respiratory distress syndrome ^{38, 39}	Primary Referral	Professional health workers	• Corticosteroids (Betamethasone, Dexamethasone)	• Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
Management of unintended pregnancy: ⁴⁰	Primary Referral	Professional health workers	• Materials for counselling, health education and health promotion • Medications for induced abortion (Mifepristone, Misoprostol) • Vacuum aspiration equipment • Uterotonics (Misoprostol, Oxytocin) • Antibiotics in line with essential medicine guidelines • Surgical procedures when required • Sphygmomanometer	• Safe abortion: technical and policy guidance for health systems. Geneva, World Health Organization, 2003 http://whqlibdoc.who.int/publications/2003/9241590343.pdf • World Health Organization: Clinical practice handbook for safe abortion care. World Health Organization. Geneva. 2011. In Press • Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
CHILDBIRTH				
Social support during childbirth ⁴¹	Community Primary Referral	ALL		• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf
Prophylactic antibiotic for caesarean section ⁴²	Referral	Professional health workers	• Antibiotics (Ampicillin or Cefazolin)	• Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
Caesarean section for maternal/foetal indication (e.g. obstructed labour and central placenta previa) (established practice)	Referral	Professional health workers	• Surgical environment • Sphygmomanometer	• Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
Prevention of postpartum haemorrhage				
a) Prophylactic uterotonic to prevent postpartum haemorrhage ^{43, 44}	Community Primary Referral	ALL	• Uterotonics (Oxytocin, Misoprostol)	• WHO recommendation for prevention of postpartum haemorrhage http://whqlibdoc.who.int/hq/2007/WHO_MPS_07.06_eng.pdf

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
b) Active management of third stage of labour to prevent postpartum haemorrhage ⁴⁵⁻⁴⁹	Primary Referral	Professional health workers	Uterotonics (Oxytocin, Ergometrine)	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf - WHO recommendation for prevention of postpartum haemorrhage http://whqlibdoc.who.int/hq/2007/WHO_MPS_07.06_eng.pdf
Induction of labour for prolonged pregnancy ⁵⁰	Referral	Professional health workers	Uterotonics (Oxytocin, Misoprostol)	- Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf - Managing prolonged and obstructed labour www.who.int/making_pregnancy_safer/documents/3_9241546662/en/index.html - WHO recommendations for induction of labour http://whqlibdoc.who.int/publications/2011/9789241501156_eng.pdf
Management of postpartum haemorrhage e.g. a) uterine massage b) uterotonics ^{48, 51}	Community Primary Referral	Community health workers Primary and Referral	Uterotonics (Oxytocin, Ergometrine, Misoprostol)	- Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf - WHO guidelines for the management of postpartum haemorrhage and retained placenta http://whqlibdoc.who.int/publications/2009/9789241598514_eng.pdf
c) manual removal of placenta (only by professional health workers)	Primary Referral	Professional health workers	- Uterotonics (Oxytocin, Ergometrine, Misoprostol) - IV fluids - Blood transfusion - Surgical facilities	
Initiation or continuation of HIV therapy for HIV positive women	Primary Referral	Professional health workers	HIV testing kit + ARVs	Rapid Advice: Use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants http://whqlibdoc.who.int/publications/2009/9789241598934_eng.pdf
POSTNATAL - MOTHER				
Advice and provision of family planning ⁵²	Community Primary Referral	ALL	- Barrier methods (male and female condoms, diaphragm, gels, foams) - Oral contraceptives (progestin only and combined) - Emergency contraception and hormonal injections	- Medical eligibility criteria for contraceptive use http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf - Family Planning: a global handbook for providers http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf - Surgical Care at the District Hospital www.who.int/surgery/publications/scdh_manual/en/index.html pgs 9-8, 11-19
	Primary Referral	Professional health workers	- All of the above plus implants - Long acting reversible contraceptives (implants) - Intrauterine devices - Surgical contraception	
Prevent, measure and treat maternal anaemia ⁵³	Referral	Professional health workers	- Ferrous Salt (liquid or tablet) - Ferrous Salt+Folic Acid (tablet) - Folic Acid (tablet) - Hydroxycobalamine (injection) - Lab tests - Blood products	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
Detection and management of postpartum sepsis ⁵⁴	Referral	Professional health workers	Antibiotics (Ampicillin, Gentamicin, Metronidazole)	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf
Screening and initiation or continuation of antiretroviral therapy for HIV ⁸	Primary Referral	Professional health workers	- Antiretroviral medicines - HIV test kits	- Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf - Rapid advice: use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants www.who.int/hiv/pub/mtct/advice/en/index.html



NEWBORN CARE INTERVENTIONS - BIRTH AND POSTNATAL

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
IMMEDIATE ESSENTIAL NEWBORN CARE (AT THE TIME OF BIRTH)				
Promotion and provision of thermal care for all newborns to prevent hypothermia (immediate drying, warming, skin to skin, delayed bathing) ⁵⁵	Community Primary Referral	ALL	Materials for counselling, health education and health promotion	- WHO essential newborn care www.who.int/making_pregnancy_safer/documents/newborncare_course/en/index.html - WHO. Thermal protection of the newborn: a practical guide (Part of training material) http://www.who.int/making_pregnancy_safer/documents/ws42097th/en/ - WHO. IMCI chart booklet (2008) www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html
Promotion and support for early initiation and exclusive breastfeeding (within the first hour) ⁵⁶⁻⁵⁹	Community Primary Referral	ALL	Materials for counselling, health education and health promotion	- WHO. Infant and Young child feeding - Programming Guide www.who.int/child_adolescent_health/documents/9241591218/en/index.html - WHO. IMCI chart booklet (2008) www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - Infant young child feeding counselling: An integrated course (Part of training material) www.who.int/nutrition/publications/infantfeeding/9789241594745/en/index.html
Promotion and provision of hygienic cord and skin care ⁶⁰	Community Primary Referral	ALL	- Cord clamp and scissors - Clean birth kit for health facilities	- WHO Essential newborn care www.who.int/making_pregnancy_safer/documents/newborncare_course/en/index.html - WHO. IMCI chart booklet (2008) www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - WHO. IMPAC - Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice (2006) www.who.int/making_pregnancy_safer/documents/924159084x/en/index.html
Neonatal resuscitation with bag and mask for babies who do not breathe at birth ⁶¹⁻⁶³	Primary Referral	Professional health workers	- Training aids and devices to maintain competencies - Newborn resuscitation device (Ambu Bag, bag-mask and suction device)	- American Academy of Pediatrics Helping babies breathe - The Golden Minute www.helpingbabiesbreathe.org/masterTrainers.html - WHO Essential newborn care www.who.int/making_pregnancy_safer/documents/newborncare_course/en/index.html
Newborn immunization	Primary Referral	Professional health workers	Vaccines, syringes, safety boxes, cold chain equipment	WHO Vaccine Position papers www.who.int/immunization/position_papers/en/
NEONATAL INFECTION MANAGEMENT				
Presumptive antibiotic therapy for the newborns at risk of bacterial infection ⁶⁴	Referral	Professional health workers	Antibiotics (ampicillin and gentamicin or penicillin)	- WHO. Managing newborn problems - a guide for doctors, nurses and midwives www.who.int/making_pregnancy_safer/documents/9241546220/en/index.html - WHO. IMPAC - Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice (2006) www.who.int/making_pregnancy_safer/documents/924159084x/en/index.html
Case management of neonatal sepsis, meningitis and pneumonia ⁶⁵⁻⁶⁹	Primary Referral	Professional health workers	- Materials for counselling, health education and health promotion - Thermometer / digital thermometer - Timer - Blood sugar sticks (disposable) - Nasogastric tube - Antibiotics (oral and injectable)	- WHO. IMCI chart booklet (2008) www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - WHO. Pocket book of hospital care for children (2005) www.who.int/child_adolescent_health/documents/9241546700/en/index.html
Initiation of ART in babies born to HIV infected mother	Primary Referral	Professional health workers	HIV testing kit + ARVs	Rapid Advice: Use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants http://whqlibdoc.who.int/publications/2009/9789241598934_eng.pdf

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
INTERVENTIONS FOR SMALL AND ILL BABIES				
Kangaroo mother care (KMC) for preterm and for < 2000g babies ^{70, 71}	Primary Referral	Professional health workers	- Materials for counselling, health education and health promotion - Support Binder for KMC (KMC wrap) - Hat - Nasogastric tube	- WHO Kangaroo mother care: a practical guide www.who.int/making_pregnancy_safer/documents/9241590351/en/ - WHO. Essential newborn care course (2010) - Training Tool www.who.int/making_pregnancy_safer/documents/newborncare_course/en/
Extra support for feeding the small and preterm baby ⁷²	Primary Referral	Professional health workers	- Nasogastric tubes - Feeding cups - Breast pump - Syringe drivers - Blood sugar testing sticks - Materials for counselling	- WHO guide for feeding preterm and LBW babies (forthcoming in the web) - WHO. Essential newborn care course (2010) - Training Tool www.who.int/making_pregnancy_safer/documents/newborncare_course/en/
Prophylactic and therapeutic use of surfactant to prevent respiratory distress syndrome in pre-term babies ⁷³	Referral	Professional health workers	- Surfactant - Oxygen supply/concentrator - Pulse oximeter	WHO. IMPAC - Managing newborn problems: a guide for doctors, nurses and midwives (2003) - Guideline www.who.int/making_pregnancy_safer/documents/9241546220/en/index.html
Continuous positive airway pressure (CPAP) to manage pre-term babies with respiratory distress syndrome ^{74, 75}	Referral	Professional health workers	- Standard CPAP or bubble CPAP - Oxygen supply/concentrator - Pulse oximeter	WHO. IMPAC - Managing newborn problems: a guide for doctors, nurses and midwives (2003) www.who.int/making_pregnancy_safer/documents/9241546220/en/index.html
Management of newborns with jaundice ^{76, 77}	Primary Referral	Professional health workers	- Bilirubinometer - Phototherapy lamp - eye shade - IV fluids - Exchange transfusion kit	- WHO. Pocket book of hospital care for children (2005) www.who.int/child_adolescent_health/documents/9241546700/en/index.html - WHO. IMPAC - Managing newborn problems: a guide for doctors, nurses and midwives (2003) www.who.int/making_pregnancy_safer/documents/9241546220/en/index.html



CHILD HEALTH INTERVENTIONS

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
INFANCY AND CHILDHOOD				
Promotion and support for exclusive breastfeeding for 6 months ^{78, 79}	Community Primary Referral	ALL	Materials for counselling, health education and health promotion, including individual and group counselling	- WHO. Exclusive Breastfeeding www.who.int/nutrition/topics/exclusive_breastfeeding/en/ - WHO. Infant and young child feeding counselling: an integrated course (2006) - Training tool www.who.int/nutrition/publications/infantfeeding/9789241594745/en/index.html - WHO. Community-based strategies for breastfeeding promotion and support in developing countries (2003) - Technical Review www.who.int/child_adolescent_health/documents/9241591218/en/index.html - WHO. IMCI chart booklet (2008) www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html
Promotion and support of continued breastfeeding and complementary feeding - Continued breastfeeding up to 2 years and beyond⁷⁹ - Appropriate complementary feeding starting at 6 months^{80, 81}	Community Primary Referral	ALL	Materials for counselling, health education and health promotion	- WHO. Guiding principles for complementary feeding of the breastfed child (2003) http://whqlibdoc.who.int/paho/2003/a85622.pdf - WHO. Guiding principles for feeding non-breastfed children 6-24 months of age (2005) www.who.int/child_adolescent_health/documents/9241593431/en/index.html
Prevention and management of childhood malaria - Provision and promotion of use of insecticide treated bed nets for children^{82, 83} - Case management of childhood malaria⁸⁴	Community Primary Referral	ALL	- Materials for counselling, health education and health promotion - Insecticide treated nets - Rapid diagnostic tests - Antimalarial drugs according to guidelines	- WHO. Insecticide-treated mosquito nets: a position statement (2007) www.who.int/malaria/publications/atoz/itnspospaperfinal/en/index.html - WHO. Guidelines for the treatment of malaria (2010) http://whqlibdoc.who.int/publications/2010/9789241547925_eng.pdf - WHO. IMCI chart booklet being updated at www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - WHO. Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources (being updated) www.who.int/child_adolescent_health/documents/9241546700/en/index.html - WHO. Emergency Triage Assessment and Treatment (ETAT) course at www.who.int/child_adolescent_health/documents/9241546875/en/index.html

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
Comprehensive care of children infected with or exposed to HIV ^{8, 85}	Primary Referral	Professional health workers	- Antiretroviral drugs - HIV test kits - Cotrimoxazole - Psychosocial support - Nutritional support	- WHO. Guidelines on HIV and infant feeding 2010 www.who.int/nutrition/publications/hiv_aids/9789241599535/en/index.html - WHO. Manual on paediatric HIV care and treatment for district hospitals www.who.int/child_adolescent_health/documents/9789241501026/en/index.html - WHO recommendations on the management of diarrhoea and pneumonia in HIV-infected infants and children www.who.int/child_adolescent_health/documents/9789241548083/en/index.html - WHO. IMCI chart booklet for high HIV settings www.who.int/child_adolescent_health/documents/9789241597388/en/index.html - WHO. Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources www.who.int/child_adolescent_health/documents/9241546700/en/index.html
Promote and provide routine immunization plus <i>H.influenzae</i> , meningococcal, pneumococcal, and rotavirus vaccines ^{86, 87}	Community Primary Referral	ALL	- Materials for counselling, health education and health promotion - Vaccines, syringes, safety boxes, cold chain equipment	WHO. IMCI chart booklet (2008) - Guideline www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html
Vitamin A supplementation from 6 months of age in Vitamin A deficient populations ^{88, 89}	Community Primary Referral	ALL	- Vitamin A capsules - Material for counselling on Vitamin A rich foods	WHO Guideline: Vitamin A supplementation in infants and children 6-59 months of age (2011) www.who.int/nutrition/publications/micronutrients/guidelines/vas_6to59_months/en/index.html
Management of severe acute malnutrition: ^{90, 91} a) without complications (all levels) b) with complications (Referral)	Community Primary Referral	ALL	Community level - Appropriate ready-to-use therapeutic foods - Micronutrient supplements - Vitamin A capsules Health Facility level - Antibiotics - Therapeutic food formulations (F75/100)	- WHO. Management of severe malnutrition: a manual for physicians and other senior health workers (1999) www.who.int/nutrition/publications/severemalnutrition/en/manage_severe_malnutrition_eng.pdf - WHO. Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources www.who.int/child_adolescent_health/documents/9241546700/en/index.html
Case management of childhood pneumonia ⁹² a) Vitamin A as part of treatment for measles-associated pneumonia for children above 6 months ^{93, 94} b) Vitamin A as part of treatment for non-measles-associated pneumonia for children above 6 months ^{92, 95-98}	Community Primary Referral	ALL	Community and Health Facility level - Respiratory rate timers - Vitamin A capsules - Appropriate antibiotics Referral level - Oxygen for severe pneumonia - Pulse oximeter	- WHO. Manual for the Community Health Worker: Caring for the sick child in the community (Working Version) - WHO and UNICEF. Management of Sick Children by Community Health Worker (2006) www.unicef.org/publications/files/Management_of_Sick_Children_by_Community_Health_Workers.pdf - WHO. IMCI chart booklet (2008) - Guideline www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - WHO. Pocket book of hospital care for children - Guideline www.who.int/child_adolescent_health/documents/9241546700/en/index.html

PRIORITY INTERVENTIONS	LEVEL OF CARE (COMMUNITY, PRIMARY, REFERRAL)	COMMUNITY OR PROFESSIONAL HEALTH WORKERS	KEY COMMODITIES (SUPPLEMENTED BY ANNEX)	PRACTICE GUIDELINES AND TRAINING MANUALS
Case management of diarrhoea: a) Acute watery diarrhoea ⁹⁹⁻¹⁰⁵ b) Dysentery ^{106, 107}	Community Primary Referral	ALL	- Materials for counselling, health education and health promotion - Zinc (tablets / solution) - Oral Rehydration Solution (ORS) - Appropriate antibiotics for dysentery according to guidelines	- WHO Guidelines on hand hygiene in health care (2009) http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf - WHO. Guidelines for Drinking Water Safety (2011) www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html - WHO. Guidelines for the safe use of wastewater, excreta and greywater (2006) www.who.int/water_sanitation_health/wastewater/gsuww/en/index.html - WHO. Manual for the Community Health Worker: Caring for the sick child in the community (Working Version) - WHO. Management of Sick Children by Community Health Worker (2006) www.unicef.org/publications/files/Management_of_Sick_Children_by_Community_Health_Workers.pdf - WHO. IMCI chart booklet (2008) - Guideline www.who.int/child_adolescent_health/documents/IMCI_chartbooklet/en/index.html - WHO. Pocket book of hospital care for children - Guideline www.who.int/child_adolescent_health/documents/9241546700/en/index.html
Case management of meningitis	Referral	Professional health workers	- Appropriate antibiotics - Supportive treatment	WHO. Pocket book of hospital care for children - Guideline www.who.int/child_adolescent_health/documents/9241546700/en/index.html



CROSS-CUTTING COMMUNITY STRATEGIES

There are several cross-cutting community strategies across the continuum of care e.g. home visits^{59, 108}, participation of women's groups, conditional cash transfers etc. The strategies can be used for demand creation, empowerment, service delivery etc. These will be reviewed at a later date and recommendations arising from the review will be published in a complementary document.



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