ESSENTIAL INTERVENTIONS, COMMODITIES AND GUIDELINES
for Reproductive, Maternal, Newborn and Child Health

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

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Photos:
ONE-PAGE SUMMARY OF ESSENTIAL INTERVENTIONS

EXECUTIVE SUMMARY

Why reproductive, maternal, newborn and child health?

Methodology

REPRODUCTIVE AND MATERNAL HEALTH INTERVENTIONS

NEWBORN CARE INTERVENTIONS

CHILD HEALTH INTERVENTIONS

CROSS-CUTTING COMMUNITY STRATEGIES

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## One-page summary of essential interventions

### Essential, evidence-based interventions to reduce reproductive, maternal, newboRn and CHild health

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<td><strong>Primary referral</strong></td>
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<td><strong>Referral</strong></td>
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<td><strong>Community strategies</strong></td>
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</table>

**Family planning (advice, hormonal and barrier methods)**

- Prevent and manage sexually transmitted infections, HIV
- Folic acid fortification/supplementation to prevent neural tube defects

**Screening for and treatment of syphilis**

- Low dose aspirin to prevent pre-eclampsia (high blood pressure)
- Antihypertensive drugs (to treat high blood pressure)
- Magnesium sulphate for pregnancy-induced eclampsia (high blood pressure)
- Antibiotics for preterm/prelabour rupture of membranes
- Corticosteroids to prevent respiratory distress syndrome in newborns
- Safe abortion, where legal
- Post abortion care

**Reduce malpresentation at term with External Cephalic Version (Align the baby for safe delivery)**

- Induction of labour to manage prelabour rupture of membranes at term (Initiate delivery)

**Prophylactic uterotonic to prevent postpartum haemorrhage (excessive bleeding after birth)**

- Management of postpartum haemorrhage using uterine massage and uterotonic
- Social support during childbirth

**Caesarean section for absolute maternal indication (to save the life of the mother)**

- Prophylactic antibiotic for caesarean section
- Induction of labour for prolonged pregnancy (Initiate labour)
- Management of post-partum haemorrhage (as above plus surgical procedures)

**Home visits for women and children across the continuum of care**

- Women’s groups
NEWBORN AND CHILD MORTALITY, AND PROMOTE REPRODUCTIVE HEALTH

<table>
<thead>
<tr>
<th>Postnatal (Mother)</th>
<th>Postnatal (Newborn)</th>
<th>Infancy &amp; Childhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Family planning advice and contraceptives</td>
<td>- Immediate thermal care (to keep the baby warm)</td>
<td>- Exclusive breastfeeding for 6 months</td>
</tr>
<tr>
<td>- Nutrition counselling</td>
<td>- Initiation of early breastfeeding (within the first hour)</td>
<td>- Continued breastfeeding and complementary feeding from 6 months.</td>
</tr>
<tr>
<td>- Treat maternal anaemia</td>
<td>- Hygienic cord and skin care</td>
<td>- Prevention and case management of childhood malaria</td>
</tr>
</tbody>
</table>

**Screen for and initiate or continue antiretroviral therapy for HIV (family planning advice, contraception)**

- 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)

**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

**Neonatal resuscitation**

- Management of newborns with jaundice (“yellow” newborns)
- Management of post-partum haemorrhage (excessive bleeding after birth)
- Active management of third stage of labour (to deliver the placenta)

**Case management of meningitis**

- Case management of meningitis
- Case management of childhood pneumonia
- Case management of diarrhoea

**Comprehensive care of children infected with or exposed to HIV infection**

- 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
WHO 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 and an estimated 7.6 million children die under the age of five. 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. 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.

Good maternal health and nutrition are important contributors to child survival; Maternal infections and other poor conditions often contribute to newborn adverse outcomes.

The highest maternal, neonatal and under-five mortality rates are in sub-Saharan Africa -and in Southern Asia. 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 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 of 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 MDG’s. Furthermore consensus is also needed on the level of evidence.

The foremost aim of this global review is to compile existing evidence of the impact of different maternal, newborn and child interventions on conditions linked to the main causes of maternal newborn and under-five deaths. The specific objectives of this review were to:

- Develop consensus on the content of RMNCH packages of interventions at each level of the health system across the continuum of care.
- Design an agreement plan on how to scale-up these interventions.
- Identify research gaps in the content of core packages of interventions.
- Build consensus on revised core RMNCH packages to be delivered at each level and agreement on how to scale up.

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A total of 142 RMNCH interventions were identified, assessed and selected for this review, 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 Pocketbook 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 (RCT’s), and PubMed. The reference lists of the 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.

Classification of interventions

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

### Box 1:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>EVIDENCE FOR INTERVENTION GRADE CATEGORIES</th>
<th>DELIVERY STRATEGIES</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Intervention evidence agreed</td>
<td>Delivery strategy agreed</td>
<td>Disseminate for rapid scale up</td>
</tr>
<tr>
<td>B</td>
<td>Intervention evidence agreed</td>
<td>Delivery strategy no consensus</td>
<td>Collate evidence and define gaps in evidence for delivery strategies – seek consensus</td>
</tr>
<tr>
<td>C</td>
<td>Intervention evidence still questioned</td>
<td>Delivery strategy no consensus</td>
<td>Further research required</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventions that are beneficial</td>
<td>Interventions likely to be beneficial</td>
<td>Interventions with a trade-off between beneficial and adverse effects</td>
<td>Interventions of unknown effect, including absence of reviews</td>
<td>Interventions likely to be ineffective or harmful</td>
</tr>
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</table>

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 “Providing Interventions”:

### (1) Community level/Home

Health care providers at this level includes 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 programs. These programs 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 behaviors 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 - Health care providers at this level of care includes 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 programs 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, diarrhea and prevention and treatment of major infectious diseases.

Referral level/district hospital - 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, counseling, and rehabilitation. District hospitals may also provide health information, training, and administrative and logistical support to primary and community health care programs. It concentrates skills and resources in one place for the delivery of interventions for conditions that are either uncommon or difficult to treat. It is 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.

Criteria for prioritization
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 1st referral level of health service provision.
### Priority Interventions

<table>
<thead>
<tr>
<th>Priority Interventions</th>
<th>Level of Care (Referral, Primary, Community)</th>
<th>Community or Professional Health Workers</th>
<th>Key Commodities (Supplemented by Annex)</th>
<th>Practice Guidelines and Training Manuals</th>
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<tr>
<td><strong>Preconception/Periconceptual Interventions</strong></td>
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</table>
| FAMILY PLANNING | Community | 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](http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf)  
| | Primary Referral | Community or 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 TRANSMISSON (PMTCT) OF HIV AND Syphilis | Community | ALL | • Materials for counselling  
• Condoms (male and female)  
• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice [http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf](http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf)  
| FOLIC ACID FORTIFICATION AND/OR SUPPLEMENTATION TO PREVENT NEURAL TUBE DEFECTS | Community | 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 [http://www.annals.org/content/150/9/626.abstract](http://www.annals.org/content/150/9/626.abstract) |
| **Pregnancy** | | | | |
| ANTENATAL CARE | Primary Referral | Community | • Iron and Folic acid  
• Guidelines for the use of iron supplements to prevent and treat iron deficiency anaemia [http://www.who.int/nutrition/publications/micronutrients/guidelines_for_Iron_supplementation.pdf](http://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](http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf)  
| IRON AND FOLIC ACID SUPPLEMENTATION DURING PREGNANCY | Primary Referral | Community | • Iron and Folic acid | |
• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice [http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf](http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf) |
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<th>Priority Interventions</th>
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<th>Key Commodities (supplemented by annex)</th>
<th>Practice Guidelines and Training Manuals</th>
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<tr>
<td>Prevention and management of malaria in pregnancy</td>
<td>Primary Referral</td>
<td>ALL</td>
<td>• Antimalarial drugs according to the situation/context</td>
<td>• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice <a href="http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf">http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf</a></td>
</tr>
<tr>
<td>a) Prophylactic antimalarial for preventing malaria in pregnancy14, 15</td>
<td>Community</td>
<td>ALL</td>
<td>• Insecticide Treated Nets</td>
<td>• Insecticide treated bednets: a WHO position statement <a href="http://www.who.int/malaria/publications/atoz/itnspospaperfinal.pdf">http://www.who.int/malaria/publications/atoz/itnspospaperfinal.pdf</a></td>
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<td>b) Provision and promotion of use of Insecticide Treated Nets for preventing malaria in pregnancy16</td>
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<td>• Materials for individual and group counselling and behavioural change interventions on smoking cessation</td>
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<td>Primary Referral</td>
<td>Professional Health workers</td>
<td>• Onsite tests and laboratory equipment</td>
<td>• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice <a href="http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf">http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf</a></td>
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<td></td>
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<td>• Penicillin</td>
<td>• The Prevention and management of congenital syphilis: an overview and recommendations <a href="http://www.who.int/bulletin/volumes/82/6/424.pdf">http://www.who.int/bulletin/volumes/82/6/424.pdf</a></td>
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<tr>
<td></td>
<td>Primary Referral</td>
<td></td>
<td>• Antiretroviral drugs</td>
<td>• Rapid advice: use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants <a href="http://www.who.int/hiv/pub/mct/advice/en/index.html">http://www.who.int/hiv/pub/mct/advice/en/index.html</a></td>
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<td></td>
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<td></td>
<td>• Cotrimoxazole</td>
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<td>• Counselling material</td>
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<tr>
<td>b) Low-dose Aspirin for the prevention of pre-eclampsia in high risk women25, 26</td>
<td>Referral</td>
<td>Professional Health workers</td>
<td>• Methyldopa, Hydralazine, Nifedipine</td>
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<td>c) Use of antihypertensive drugs for treating severe hypertension in pregnancy25, 27</td>
<td>Referral</td>
<td>Professional Health workers</td>
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<tr>
<td>d) Prevention and treatment of Eclampsia27, 28, 29</td>
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<td>Professional Health workers</td>
<td>• Magnesium Sulphate (Injection)</td>
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<tr>
<td>Priority Interventions</td>
<td>Level of Care (Referral, Primary, Community)</td>
<td>Community or Professional Health Workers</td>
<td>Key Commodities (Supplemented by Annex)</td>
<td>Practice Guidelines and Training Manuals</td>
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</table>
| a) Induction of labour for management of prelabour rupture of membranes at term.      | Referral                                    | Professional health workers             | • Uterotonics (Oxytocin and/or Misoprostol)  
• Partograph  
• Stethoscope                                                                 |                                                                                                                                                                                                                                                     |
• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf                                                                                                                                                                                                 |
• Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf                                                                                                                                                                                                 |
| a) availability and provision of safe abortion when indicated and legally permitted  |                                             |                                         |                                                                                                        |                                                                                                                                                                                                                                                     |
| b) Provision of post abortion care                                                  |                                             |                                         |                                                                                                        |                                                                                                                                                                                                                                                     |
| Social support during childbirth                                                     | Community Referral                          | ALL                                     |                                                                                                        | • Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice http://whqlibdoc.who.int/publications/2006/9241545879_eng.pdf  
• WHO recommendation for prevention of postpartum haemorrhage http://whqlibdoc.who.int/hq/2007/WHO_MPS_07.06_eng.pdf                                                                                                                                                                                                 |
| Caesarean section for absolute maternal indication (e.g. obstructed labour and central placenta previa) (established practice) | Referral                                    | Professional health workers             | • Surgical environment                                                                                   | • 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                                                                                                                                                                                                 |
| Prevention of postpartum haemorrhage                                                | Community Referral                          | ALL                                     | • Uterotonics (Oxytocin, Misoprostol)                                                                  |                                                                                                                                                                                                                                                     |
### B) Active management of third stage of labour to prevent postpartum haemorrhage

<table>
<thead>
<tr>
<th>Priority Interventions</th>
<th>Level of Care (Referral, Primary, Community)</th>
<th>Community or Professional Health Workers</th>
<th>Key Commodities (Supplemented by Annex)</th>
<th>Practice Guidelines and Training Manuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Active management of third stage of labour to prevent postpartum haemorrhage</td>
<td>Primary Referral</td>
<td>Professional health workers</td>
<td>Uterotonics (Oxytocin, Ergometrine)</td>
<td>Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice <a href="http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf">link</a></td>
</tr>
<tr>
<td>Management of post-partum haemorrhage e.g:</td>
<td>Community Primary Referral</td>
<td>Community health workers Primary and Referral</td>
<td>Uterotonics (Oxytocin, Ergometrine, Misoprostol)</td>
<td>Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors <a href="http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf">link</a></td>
</tr>
<tr>
<td>c) manual removal of placenta (only by professional health workers)</td>
<td>Primary Referral</td>
<td>Professional health workers</td>
<td>Uterotonics (Oxytocin, Ergometrine, Misoprostol)</td>
<td>WHO guidelines for the management of postpartum haemorrhage and retained placenta <a href="http://whqlibdoc.who.int/publications/2009/9789241598514_eng.pdf">link</a></td>
</tr>
</tbody>
</table>

### Postnatal - Mother

<table>
<thead>
<tr>
<th>Advice and provision of family planning</th>
<th>Community Primary Referral</th>
<th>ALL</th>
<th>Barrier methods (male and female condoms, diaphragm, gels, foams)</th>
<th>Medical eligibility criteria for contraceptive use <a href="http://whqlibdoc.who.int/publications/2010/9789241563888_eng.pdf">link</a></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary Referral</td>
<td>Professional Health Workers</td>
<td>All of the above plus implants</td>
<td>Family Planning: a global handbook for providers <a href="http://whqlibdoc.who.int/publications/2011/9780978856373_eng.pdf">link</a></td>
</tr>
<tr>
<td>Prevent, measure and treat maternal anaemia</td>
<td>Referral</td>
<td>Professional health workers</td>
<td>Ferrous Salt (liquid or tablet); Ferrous Salt+Folic Acid (tablet); Folic Acid (tablet); Hydroxycobalamine (Injection); Lab tests; Blood products</td>
<td>Pregnancy, Childbirth, Postpartum and Newborn Care: a guide to essential practice <a href="http://whqlibdoc.who.int/publications/2006/924159084X_eng.pdf">link</a></td>
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| Screening and initiation or continuation of Antiretroviral therapy for HIV 20 | Primary Referral | Professional health workers | Antiretroviral medicines  
### Immediate Essential Newborn Care (At the Time of Birth)

<table>
<thead>
<tr>
<th>Priority Interventions</th>
<th>Level of Care (Referral, Primary, Community)</th>
<th>Community or Professional Health Workers</th>
<th>Key Commodities (Supplemented by Annex)</th>
<th>Practice Guidelines and Training Manuals</th>
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<tbody>
<tr>
<td>Promotion and provision of thermal care for all newborns to prevent hypothermia (immediate drying, warming, skin to skin, delayed bathing)</td>
<td>Community</td>
<td>Primary Referral</td>
<td>• Materials for counselling, health education and health promotion</td>
<td>• WHO essential newborn care <a href="http://www.who.int/making_pregnancy_safety/documents/newborncare_course/en/index.html">http://www.who.int/making_pregnancy_safety/documents/newborncare_course/en/index.html</a></td>
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<td>Neonatal resuscitation with bag and mask for babies who do not breath at birth</td>
<td>Primary Referral</td>
<td>Professional health workers</td>
<td>• Training aids and devices to maintain competencies • Newborn resuscitation device (Ambu Bag, bag-mask and suction device)</td>
<td>• American Academy of Pediatrics Helping babies breathe - The Golden Minute <a href="http://www.helpingbabiesbreathe.org/mastertrainers.html">http://www.helpingbabiesbreathe.org/mastertrainers.html</a></td>
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<td>• Basic newborn resuscitation - (WHO) <a href="http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/MSM_98_1/en/index.html">http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/MSM_98_1/en/index.html</a></td>
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<tr>
<td>Newborn immunization</td>
<td>Primary Referral</td>
<td>Professional health workers</td>
<td>• Vaccines, syringes, safety boxes, cold chain equipment</td>
<td>• WHO Vaccine Position papers <a href="http://www.who.int/immunization/position_papers/en/">http://www.who.int/immunization/position_papers/en/</a></td>
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### Neonatal Infection Management

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</table>
| Case management of neonatal sepsis, meningitis and pneumonia.63-67                      | Primary Referral                             | Professional health workers              | • Materials for counselling, health education and health promotion  
• Thermometer / digital thermometer  
• Timer  
• Blood sugar sticks (disposable)  
• Nasogastric tube  
| INTERVENTIONS FOR SMALL AND ILL BABIES                                                                                           |                                             |                                           |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                       |
| Kangaroo mother care for preterm and for < 2000g babies.68, 69                   | Primary Referral                             | Professional health workers              | • Materials for counselling, health education and health promotion  
• Support Binder for KMC (KMC wrap)  
• Hat  
| Extra support for feeding the small and preterm baby.70                            | 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)  
| Prophylactic and therapeutic use of surfactant to prevent respiratory distress syndrome in pre-term babies 71-73               | Referral                                     | Professional health workers              | • Surfactant  
• Oxygen supply/concentrator  
| Continuous positive airway pressure (CPAP) to manage pre-term babies with respiratory distress syndrome 74-76                     | Referral                                     | Professional health workers              | • Standard CPAP or bubble CPAP  
• Oxygen supply/concentrator  
| Management of newborns with jaundice.77, 78                                         | Primary Referral                             | Professional health workers              | • Bilirubinometer  
• Phototherapy lamp  
• eye shade  
• IV fluids  
### INFANCY AND CHILDHOOD

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<tr>
<th>Priority Interventions</th>
<th>Level of Care</th>
<th>Community Level</th>
<th>Key Commodities (Supplemented by Annex)</th>
<th>Practice Guidelines and Training Manuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion and support for exclusive breastfeeding for 6 months 79, 80</td>
<td>Referral</td>
<td>Community</td>
<td>• Materials for counselling, health education and health promotion, including individual and group counselling</td>
<td>WHO. Exclusive Breastfeeding</td>
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<tr>
<td></td>
<td>Primary</td>
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<td><a href="http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/">http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/</a></td>
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<tr>
<td></td>
<td>Community</td>
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<td>WHO. Infant and young child feeding counselling: an integrated course (2006) - Training tool</td>
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<td>WHO. Community-based strategies for breastfeeding promotion and support in developing countries (2003) - Technical Review</td>
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<td>WHO. IMCI chart booklet (2008) - Technical Review</td>
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<tr>
<td>Promotion and support of continued breastfeeding and complementary feeding</td>
<td>Referral</td>
<td>Community</td>
<td>• Materials for counselling, health education and health promotion</td>
<td>WHO. Guiding principles for complementary feeding of the breastfed child (2003)</td>
</tr>
<tr>
<td>a) Continued breastfeeding up to 2 years and beyond80</td>
<td>Primary</td>
<td></td>
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<td><a href="http://www.hphilbdoc.who.int/paho/2003/a85622.pdf">http://www.hphilbdoc.who.int/paho/2003/a85622.pdf</a></td>
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<tr>
<td>b) Appropriate complementary feeding starting at 6 months 81, 82</td>
<td>Community</td>
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<td>WHO. Guiding principles for feeding non-breastfed children 6-24 months of age (2005)</td>
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<td>WHO. Pocket book of hospital care for children-guidelines for the management of common illnesses with limited resources being updated</td>
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<td>WHO. Emergency Triage Assessment and Treatment (ETAT) course at</td>
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| Comprehensive care of children infected or exposed to HIV infection.4, 85             | Referral                                    | Professional health workers             | • Antiretroviral drugs  
• HIV test kits  
• Cotrimoxazole  
• Psychosocial support  
| Promote and provide routine immunization plus *H. influenzae*, meningococcal, pneumococcal, and rotavirus vaccines 86, 87 | Community                                    | Primary                                | • Materials for counselling, health education and health promotion  
| Vitamin A supplementation from 6 months of age in Vitamin A deficient populations 88, 89 | Community                                    | Primary                                | • Vitamin A capsules  
| Management of severe acute malnutrition: 90, 91  
a) without complications (all levels)  
b) with complications (Referral)                                                      | Community                                    | Primary                                | • Appropriate ready-to-use therapeutic foods  
• Micronutrient supplements  
| 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                                | • Respiratory rate timers  
• Vitamin A capsules                                                                                   | • WHO. Manual for the Community Health Worker: Caring for the sick child in the community (Working Version)  
### Case management of diarrhoea:

- **a) Acute watery diarrhoea**
  - Referral
  - Community Primary Referral
  - Materials for counselling, health education and health promotion
  - Zinc (tablets / solution)
  - ORS
  - Appropriate antibiotics for dysentery according to guidelines

- **b) Dysentery**
  - Referral
  - Community Primary Referral
  - Materials for counselling, health education and health promotion
  - Zinc (tablets / solution)
  - ORS
  - Appropriate antibiotics for dysentery according to guidelines

### Case management of meningitis

- Referral
- Professional health workers
- Appropriate Antibiotics
- Supportive treatment

### Cross-cutting community strategies

**Preconception/Periconceptual interventions**

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<tr>
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<tr>
<td>Women’s groups</td>
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**WHO Guidelines on hand hygiene in health care (2009)**

**WHO. Guidelines for Drinking Water Safety (2011)**

**WHO. Guidelines for the safe use of wastewater, excreta and greywater (2006)**

**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)**

**WHO. IMCI chart booklet (2008) - Guideline**

**WHO. Pocket book of hospital care for children - Guideline**
20.


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• Family Care International
• Christian Medical College and Hospital, Vellore (India)
• Institute of Clinical Effectiveness and Health Policy (Argentina)
• International Confederation of Midwives
• Merck
• Saving Newborn Lives/Save the Children USA
• The Government of Australia (AusAID)
• The Government of Nigeria
• The Government of Norway (NORAD)
• The Government of Sweden (Sida)
• The Government of the United Kingdom (DFID)
• The World Bank
• University College, London
• UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction
• UNFPA
• UNICEF
• USAID
• WHO