



# Priority medicines for mothers and children 2011

Improving maternal and child health is a global priority. An estimated 8.1 million children under the age of five die every year and an estimated 1 000 women – most of them in developing countries – die every day due to complications during pregnancy or childbirth.

Many of these deaths are due to conditions that could be prevented or treated with access to simple, affordable medicines. However, the availability of medicines at public-health facilities is often poor.

This list of Priority Medicines for Mothers and Children was developed by the World Health Organization UNFPA and UNICEF to help countries and partners select and make available those medicines that will have the biggest impact on reducing maternal, newborn and child morbidity and mortality.

ENSURING  
ACCESS TO  
PRIORITY  
MEDICINES  
FOR MOTHERS  
AND CHILDREN  
IMPROVES  
HEALTH AND  
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# Priority medicines for mothers

## for major causes of reproductive and sexual health mortality and morbidity

### Post-partum haemorrhage <sup>1,2,3</sup>

Obstetric haemorrhage is the world's leading cause of maternal mortality causing an estimated 127 000 maternal deaths annually. Postpartum haemorrhage is the most common type and studies suggest that it may cause up to 50% percent of all maternal deaths in developing countries.

**Oxytocin:** 10 IU in 1-ml ampoule  
**Sodium chloride:** injectable solution 0.9% isotonic *or* Sodium lactate compound solution – injectable (Ringer's lactate)

### Severe pre-eclampsia and eclampsia <sup>4,5</sup>

Pre-eclampsia and eclampsia are major health problems in developing countries. Every year, eclampsia is associated with an estimated 50 000 maternal deaths worldwide.

**Calcium gluconate injection (for treatment of magnesium toxicity):** 100 mg/ml in a 10-ml ampoule  
**Magnesium sulfate:** injection 500 mg/ml in a 2-ml ampoule, 500 mg/ml in a 10-ml ampoule

### Maternal sepsis <sup>3,4,6,7</sup>

Infection can follow an abortion or childbirth and is a major cause of death. Sepsis that is not related to unsafe abortion accounts for up to 15% of maternal deaths in developing countries. The majority of unsafe abortions take place in developing countries.

**Ampicillin:** powder for injection 500 mg; 1 g (as a sodium salt) in vial  
**Gentamicin:** injection 10 mg; 40 mg /ml in a 2-ml vial  
**Metronidazole:** injection 500 mg in a 100-ml vial  
**Misoprostol:** tablet 200 µg

### Sexually transmitted infections <sup>8-11</sup>

Nearly a million people acquire a sexually transmitted infection, including the human immunodeficiency virus (HIV), every day. After pregnancy-related causes, sexually transmitted infections are the second most important cause of healthy life lost in women. The results of infection include acute symptoms, chronic infection, and serious delayed consequences such as infertility, ectopic pregnancy, cervical cancer, and the untimely deaths of infants and adults. Many sexually transmitted infections affect the outcome of pregnancy and some are passed to unborn and newborn babies.

**Uncomplicated genital chlamydial infections:**  
**Azithromycin:** capsule 250 mg; 500 mg or oral liquid 200 mg/5 ml

**Gonococcal infection – uncomplicated anogenital infection:**  
**Cefixime:** capsule 400 mg

**Syphilis:**  
**Benzathine benzylpenicillin:** powder for injection 900 mg benzylpenicillin in a 5-ml vial; 1.44 g benzylpenicillin in a 5-ml vial

### Preterm birth <sup>4,12-15</sup>

The incidence of preterm birth is approximately 6-7% of all births. Preterm birth is the leading cause of neonatal mortality both in developed and developing countries, accounting for an estimated 24% of neonatal deaths.

**Betamethasone:** injection 5.7 mg/ml as betamethasone sodium phosphate 3.9 mg (in solution) or betamethasone acetate 3 mg (in suspension) in an aqueous vehicle *or* Dexamethasone – injection 4 mg dexamethasone phosphate (as disodium salt) in 1-ml ampoule  
**Nifedipine:** immediate release capsule 10 mg

### Maternal HIV/AIDS and malaria

See WHO guidelines<sup>16,17</sup>

#### Note

The medicines on this list were chosen according to 1) the global burden of disease; 2) the evidence of efficacy and safety for preventing or treating major causes of sexual and reproductive, maternal, newborn and child mortality and morbidity. In addition, medicines were included for the prevention of pre-term birth and palliative care. All of the medicines listed are included in the current versions of the WHO Model List of Essential Medicines, the WHO Model List of Essential Medicines for Children 2009<sup>18</sup> and WHO treatment guidelines. All medicines on the priority lists are or may be available in countries with the exception of those which require further research and development.

# Priority medicines for children under five years of age

for major causes of mortality<sup>19</sup> and morbidity, palliative care and child survival

## Pneumonia<sup>20–22</sup>

Pneumonia is the single biggest cause of death in children, killing an estimated 1.6 million children under the age of five years annually and accounting for 18% of all deaths of children under five years old worldwide.

**Amoxicillin:** dispersible, scored tablets 250 mg and 500 mg or equivalent flexible oral solid dosage form, in blister packs of 10

**Ampicillin:** powder for injection 500 mg and 1 g

**Ceftriaxone:** powder for injection 250 mg and 1 g

**Gentamicin:** injection 20 mg/ml

**Oxygen:** medicinal gas

**Procaine benzylpenicillin:** powder for injection 1 g and 3 g

## Diarrhoea<sup>23,24</sup>

Diarrhoeal disease is the second leading cause of death and a leading cause of malnutrition in children under five years old, killing more than 1.3 million children every year.

**Oral Rehydration Salts (ORS):** sachets of 200 ml; 500 ml and 1 litre, appropriate flavour

**Zinc:** 20 mg scored dispersible tablet or equivalent flexible oral solid dosage form

## Malaria<sup>16</sup>

Every 45 seconds a child dies of malaria in Africa. In 2008, there were 247 million cases of malaria and nearly one million deaths – mostly among children living in Africa.

**Artemisinin combination therapy (ACT):** strengths and combinations according to WHO treatment guidelines 2010, dispersible tablet or flexible oral solid dosage form and dose optimized

**Artesunate:** rectal and injection dosage forms 50–200 mg

## Neonatal sepsis<sup>20</sup>

One quarter of the estimated 3.6 million neonatal deaths around the world each year are caused by severe infections, and around 528 000 of those are due to neonatal sepsis alone.

**Ceftriaxone:** powder for injection 250 mg and 1 g

**Gentamicin:** injection 20 mg/ml

**Procaine benzylpenicillin:** powder for injection 1 g and 3 g

## HIV<sup>25–27</sup>

An estimated 2.1 million children were living with HIV at the end of 2008, 1.8 million of them in sub-Saharan Africa. Most infections are the result of transmission from mother to child. Without effective treatment, an estimated one third of infected infants will have died by one year of age, and about half will have died by two years of age.

**Standard regimen for first-line anti-retroviral treatment:**

1 non-nucleoside reverse transcriptase inhibitor plus 2 nucleoside reverse transcriptase inhibitors such as the fixed dose combination of lamivudine + nevirapine + zidovudine - tablet 30 mg + 50 mg + 60 mg; 150 mg + 200 mg + 300 mg

For treatment of specific populations, see the latest WHO treatment guidelines

## Vitamin A deficiency<sup>28</sup>

Vitamin A deficiency is a recognized risk factor for severe measles. An estimated 164 000 people died from measles in 2008 – mostly children under the age of five.

**Vitamin A:** capsule 100 000 IU strength; 200 000 IU strength

## Palliative care and pain<sup>29</sup>

Although means to relieve severe pain are widely available, their use in children is often limited.

**Morphine:** granules 20 mg, 30 mg, 60 mg, 100 mg, 200 mg, injection 10 mg/ml, oral liquid 10 mg/5 ml, variable flexible oral solid dosage forms

**Paracetamol:** variable flexible oral solid dosage forms

# Priority medicines required for child health and survival, but for which further research and development is needed

## Tuberculosis

Development of a product that will deliver these doses when given in 0.5 to 2.0 'tablets' per day over the weight range 5-30kg. For example, a fixed dose combination containing rifampicin 250 mg, isoniazid 150 mg, pyrazinamide 400 mg and ethambutol 250 mg.

**Ethambutol:** 20 mg/kg/day (15 mg to 25 mg/kg/day)  
**Rifampicin:** 15 mg/kg/day (10 to 20 mg/kg/day)  
**Isoniazid:** 10 mg/kg/day (10 to 15 mg/kg/day)  
**Pyrazinamide:** 35 mg/kg/day (30 to 40 mg/kg/day)

## HIV, TB prophylaxis, *Pneumocystis carinii* pneumonia

Development of a fixed dose combination product of appropriate strength.

**Isoniazid/co-trimoxazole**

## Neonatal care

### Apnoea

Availability of a fully commercialized quality product in more countries; determination of the regulatory pathway; and dissemination of information on use.

**Caffeine citrate:** liquid 20mg/ml

### Cord care

Availability of a fully commercialized quality product in more countries; determination of the regulatory pathway; establishment of optimal product types.

**Chlorhexidine digluconate:** solution, 4%

## Vitamin K deficiency

Identification of optimal dose and strength of injection.

**Vitamin K**



make medicines **child size**

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