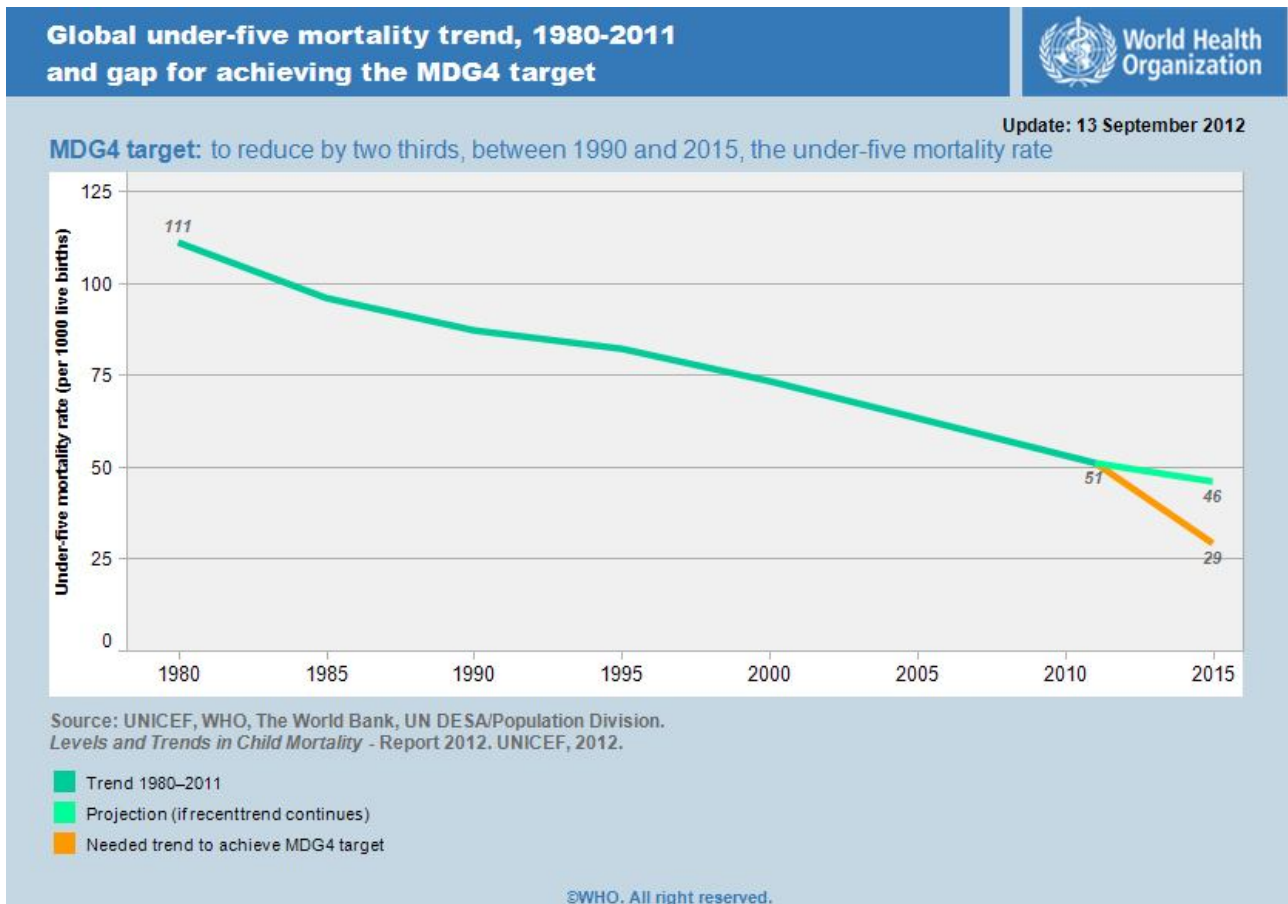


# Reducing child mortality to achieve MDG 4



## Infant mortality

### Situation and trends

The proportion of under-five deaths that occur within the first month of life (the neonatal period) has increased from 36% in 1990 to 43% in 2011. More than 30% of neonatal deaths occur in India. Sub-Saharan Africa has the highest risk of death in the first month of life and is among the regions showing the least progress.

In 2011, nearly 3 million deaths (43% of all under-five deaths) occurred during the first month of life and almost 5 million (72% of all under-five deaths) within the first year of life.

The risk of a child dying before completing the first year of age was highest in the WHO African region (68 per 1000 live births), about six times higher than that in the WHO European region (11 per 1000 live births).

Globally, the infant mortality rate has decreased from an estimated rate of 61 deaths per 1000 live births in 1990 to 37 deaths per 1000 live births in 2011. Annual infant deaths have declined from 8.4 million in 1990 to 5 million in 2011.

# Under-five mortality

## Situation

Just under 7 million under-five children died in 2011; nearly 800 children every hour.

The risk of a child dying before completing five years of age was highest in the WHO African Region (106 per 1000 live births), about 8 times higher than that in the WHO European Region (13 per 1000 live births). Some 80% of the world's under-five deaths in 2011 occurred in only 25 countries, and about half in only five countries: India, Nigeria, Democratic Republic of the Congo, Pakistan and China. India (24%) and Nigeria (11%) together account for more than a third of under-five deaths worldwide.

## Trends

Overall, substantial progress has been made towards achieving MDG4. About 14 000 fewer children died every day in 2011 than in 1990, the baseline year for measuring progress.

Improvement in child survival is evident in all regions. The number of countries with under-five mortality rates of 100 deaths per 1000 live births or higher has been more than halved from 53 in 1990 to 24 in 2011. In addition, no country had an under-five mortality rate above 200 deaths per 1000 live births in 2011, compared with 13 in 1990.

Globally, under-five mortality has decreased by 41%, from an estimated rate of 87 deaths per 1000 live births in 1990 to 51 deaths per 1000 live births in 2011. This decline translates into an average annual decrease in child mortality of 2.5%, which remains insufficient to achieve the MDG4 target of reducing under-five mortality rates by two-thirds between 1990 and 2015. Numbers of under-five deaths have declined from nearly 12 million in 1990 to 6.9 million in 2011. While progress has been made, it is unequally distributed. At the regional level, the decline in under-five mortality rates between 1990 and 2011 were 60% or higher in two regions: the Americas and the Western Pacific. The highest observed average annual rates of reduction were seen in the Western Pacific Region (5.2%), over two times higher than the rates observed in the African (2.4%) and in the Eastern Mediterranean (2.5%) regions.

As under-five mortality rates have fallen more sharply in richer developing regions, the disparity between Sub-Saharan Africa and other regions has grown. In 1990, a child born in Sub-Saharan Africa faced a probability of dying before age 5 that was 1.5 times higher than in Southern Asia, 3.4 times higher than in Latin America and the Caribbean, 3.7 times higher than in Eastern Asia and 12.1 times higher than in developed regions. By 2011 that probability was 1.8 times higher than in Southern Asia, 5.7 times higher than in Latin America and the Caribbean, 7.4 times higher than in Eastern Asia and 16.5 times higher than in developed regions. The disparity between Southern Asia and richer regions has also grown, though not as much.

# Causes of child mortality for the year 2010

## Situation

Globally, the four major killers of children under age five were pneumonia (18%), prematurity (16%: 14% during the neonatal period and 2% in the post-neonatal period), diarrhoeal diseases (11%), and birth asphyxia (10%: 9% during the neonatal period and 1% in the post-neonatal period). Malaria was still a major killer in Sub-Saharan Africa, causing about 15 percent of under-five deaths in the region.

Of the total 7.6 million children who died before 5 years of age, 4.4 million (58%) died of infectious diseases. Of all infections, pneumonia (1.4 million), diarrhoea (800 000) and malaria (563 000) were the leading causes of death, accounting together for 36% of all under-five deaths worldwide. The majority of these deaths can be prevented by known, simple, affordable and low cost interventions such as exclusive breastfeeding up to 6 months of age, immunization, appropriate use of antibiotics, oral rehydration therapy and zinc, insecticide treated bednets, and anti-malarials.

About 40% of deaths in children younger than 5 years occurred before 28 days of life – the neonatal period. The most important cause of death was preterm birth complications. Birth asphyxia and sepsis were the second and third major causes of death in this early period of life, responsible together for 1.2 million deaths. The risk of dying from these conditions can be mitigated with quality care during pregnancy, safe and clean delivery by a skilled attendant, and immediate postnatal care, including neonatal resuscitation, extra care of low birth weight babies, attention to baby warmth, treatment of neonatal sepsis and early initiation of breastfeeding.

## Distribution

Patterns of the distribution of causes of child deaths vary widely between regions. The lowest proportion of neonatal deaths (30%) occurred in the African Region. On the other hand 96% of all under-five deaths due to malaria and 89% of all deaths due to HIV/AIDS worldwide happened in the African Region. In the remaining five WHO regions, high proportions of under-five child deaths occurred during the neonatal period, ranging from 42% in the Eastern Mediterranean Region to 54% in the Western Pacific Region. The proportion of deaths from pneumonia is lowest in the Americas and Europe. Deaths due to diarrhoeal diseases were responsible for only 4% of deaths in these same regions.

## Trends

The number of under-five deaths worldwide dropped from 12 million in 1990 to 9.6 million in the year 2000 to 7.6 in 2010. Nearly 60% of the 2 million lives saved in the past decade were due to reductions of deaths caused by pneumonia (455 000 fewer deaths), measles (363 000 fewer deaths), and diarrhoea (361 000 fewer deaths). India, Nigeria, Democratic Republic of the Congo, Pakistan, and China contributed to half the mortality attributable to infections and more than half due to neonatal causes worldwide.

# PREVENTING CHILD DEATHS

## Care seeking for pneumonia

### Situation and trends

Pneumonia is responsible for the deaths of about 1.4 million children under-five annually. Addressing the major risk factors for the illness (malnutrition and indoor air pollution), along with vaccination, is essential for preventing the occurrence of the disease. For deaths to be averted, good quality care is crucial. Vital treatment tools for pneumonia include antibiotics and oxygen.

Appropriate care of the sick child is defined as providers that can correctly diagnose and treat pneumonia. Recent surveys indicate that, worldwide, 78% of children under-five with symptoms of pneumonia are taken to an appropriate provider; in low-income countries, this coverage is 43%. Antibiotics have an essential role in reducing deaths due to pneumonia. In low-income countries, less than one-third (29%) of under-five children with symptoms of pneumonia receive this treatment. Although some 451 000 lives have been saved in the last decade due to the pneumonia deaths averted, estimates suggest that the number of lives saved could reach almost 1 million if both prevention and treatment interventions to reduce pneumonia were universally delivered. Children living in rural areas, poor children, and children with poorly educated mothers are less likely to be taken to appropriate care, as compared to children from urban areas, wealthier families, and those with more educated caregivers.

Some progress has been made in care seeking for pneumonia in recent years. However, accelerated and more aggressive efforts should be taken to scale up effective interventions. It is estimated that only 29% of children with pneumonia in low-income countries receive antibiotics for treatment. In some of these countries, coverage is as low as 10%. Nevertheless, progress is possible – countries such as Egypt and Colombia have been able to significantly increase antibiotic coverage in a relatively short period of time.

## Diarrhoea treatment

### Situation and trends

Diarrhoeal disease is one of the most common causes of child deaths worldwide, accounting for approximately 800 000 deaths annually. Nearly three-quarters of these deaths occur in just 15 countries. Water, sanitation and hygiene, adequate nutrition, immunization and exclusive breastfeeding help to prevent diarrhoeal disease among children. Treatment of sick children with Oral Rehydration Therapy (ORT) and zinc supplements saves lives and is safe and cost-effective. Worldwide, ORT has prevented more than 50 million child deaths in the last 25 years. It remains, however, that only 44% of children in low-income countries with diarrhoea symptoms receive this recommended treatment. Within countries, poor children and those living in rural areas are less likely to receive the recommended treatment.

# Early initiation and exclusive breastfeeding

## Situation and trends

Breast milk gives infants all the nutrients they need, is safe, and contains antibodies that help protect infants from common childhood illnesses. Early initiation and exclusive breastfeeding up to six months of age prevent deaths from pneumonia, diarrhoea and neonatal sepsis. Initiation of breastfeeding within the first hour of birth has been estimated to prevent 22% of neonatal deaths, while exclusive breastfeeding has been estimated to avert about 13% of all under-five deaths.

Exclusive breastfeeding among infants less than six months of age shows global coverage as low as 37%. Coverage is particularly low in Africa, where only one out of three infants less than six months old is exclusively breastfed.

Promotion of both early initiation and exclusive breastfeeding of infants for six months has the potential to make a major contribution to the achievement of the child survival Millennium Development Goal.

Breastfeeding promotion programmes should emphasize early initiation as well as exclusive breastfeeding. This has particular relevance for sub-Saharan Africa, where neonatal and infant mortality rates are highest.

# Measles immunization coverage

## Situation

Measles immunization helps to reduce under-five deaths in two ways: by directly preventing infections with the measles virus and therefore reducing the incidence of the disease, and by preventing co-infections that can lead to complications of the disease and death particularly in undernourished children. For example, pneumonia and diarrhoea, two of the most common causes of child death, are both associated with measles infection worldwide. In 2010, 85% of one year old children had been immunized for measles; however, several regions – notably the African region (76%) and South Asia (79%) – had much lower coverage.

## Trends

Measles immunization coverage is one of the indicators for progress towards Millennium Development Goal 4. Globally, measles immunization coverage has increased from 72% in 2000 to 85% in 2010.