





# World Mortality 2007

**Introduction.** The potential to live a long and healthy life is a fundamental aspect of human development. In recent decades, enormous progress has been achieved in health and survival around the world. Life expectancy at birth for the world population rose from 46 years in 1950-1955 to 66 years in 2000-2005. However, wide disparities remain in levels of mortality across countries and regions. These differentials reflect inequalities in access to food, water, sanitation, medical care and other basic human needs. They also reflect risk factors, behavioural choices and societal contexts that affect the survival of individuals. The reduction of mortality, particularly child and maternal mortality, is a core target in the internationally agreed development goals, such as those contained in the Programme of Action of the International Conference on Population and Development and in the United Nations Millennium Declaration. This wall chart presents key indicators of mortality at the global, regional and country levels for the period 2000-2005.

**Annual deaths.** Worldwide, an estimated 55 million deaths occurred each year in 2000-2005. Of these, 12 million deaths occurred in the more developed regions and 43 million occurred in the less developed regions. India experienced the highest number of annual deaths (9.5 million) and was followed by China with 8.6 million deaths every year.

**Crude death rate.** The crude death rate (CDR) is a measure of the overall frequency of deaths in a population and is expressed as the average annual number of deaths per 1,000 population. Worldwide, the CDR in 2000-2005 was estimated at 8.8 deaths per 1,000 population. Sierra Leone had the highest CDR in the world at 23.5 deaths per 1,000 population, while the United Arab Emirates had the lowest, at 1.4 deaths per 1,000 population. The more developed regions had a CDR of 10.2 deaths per 1,000 population, compared to 8.4 deaths per 1,000 population in the less developed regions. The CDR is higher in developed countries than in developing countries despite the fact that overall mortality levels are lower

in developed countries than in developing countries because the population of developed countries has an older age structure and relatively more people at advanced ages, where the risks of death are high, than developing countries.

**Life expectancy at birth.** The life expectancy at birth is a measure of the average length of life a hypothetical population would have if it were subject during all its life to the mortality risks prevalent during a given period. In 2000-2005, life expectancy at birth was 66 years for the world as a whole. With a life expectancy of 53 years, the least developed countries were the most disadvantaged in terms of survival prospects. The rest of the developing countries had an average life expectancy of 67 years whereas in developed countries, life expectancy had reached 76 years. At the country level, life expectancy at birth ranged from a low of 39 years in Zambia, a country highly affected by the HIV/AIDS epidemic, to a high of 82 years in Japan. In most countries, women have higher life expectancy at birth than men. At the world level, average female life expectancy was 68 years compared to 64 years for males in 2000-2005.

**Infant and under-five mortality.** The United Nations Millennium Declaration identified the reduction of child mortality as a critical challenge for the twenty-first century. Every year millions of young children die of preventable causes. Mortality in childhood is highest in the least developed countries, where infant mortality averaged 95 deaths per 1,000 live births in 2000-2005. In the least developed countries, 153 children out of every 1,000 born alive were expected to die before age five over that period. Among the world's major areas, Africa had the highest level of under-five mortality in 2000-2005, 154 deaths per 1,000 births, and has experienced a slower decline in child mortality than other developing regions. The survival chances of young children reflect major inequalities among countries in terms of health and development. Under-five mortality was highest in Sierra Leone, where 290 children out of every 1,000 born alive died before age 5 in 2000-2005. In sharp con-

trast, in countries with the lowest under-five mortality — Japan, Iceland, Sweden and Singapore — only 4 children out of every 1,000 born alive died before their fifth birthday.

**Survival probabilities.** Mortality across different parts of the age range can be characterized by the probability of survival between selected ages, expressed per 1,000 individuals alive at the first age. The probability of survival from birth to age 15 expresses the likelihood of surviving through the vulnerable period of childhood. In Western Europe, 993 children out of every 1,000 born alive would survive to age 15 given the mortality rates prevalent during 2000-2005, while in Middle Africa only 752 children out of every 1,000 born alive would survive to age 15. The probability of survival from age 15 to age 60 reflects the level of mortality among adults of working age. In the Russian Federation, the probability of surviving from birth to age 15 is relatively high (974 per 1,000) while that of surviving from age 15 to age 60 is remarkably low (694 per 1,000). For developed countries as a whole, the probability of surviving from age 15 to age 60 was 863 per 1,000 in 2000-2005, while that for developing countries was 797 per 1,000. The probability of surviving through adulthood was particularly low in countries highly affected by the HIV/AIDS epidemic because the disease affects adults disproportionately. In Zimbabwe, for instance, the probability of surviving from age 15 to age 60 in 2000-2005 was 230 per 1,000. The probability of survival from birth to age 60 reflects the cumulative impact of the risks of death from birth to age 60. In countries with low mortality, the great majority of people survive to their sixtieth birthday. In Iceland, where the probability of survival to age 60 was highest, 941 out of every 1,000 children born alive would reach age 60 given the mortality risks prevalent during 2000-2005. In contrast, in Sub-Saharan Africa the probability of survival to age 60 was a low 460 per 1,000.

**Distribution of deaths by cause.** As countries undergo the transition from high to low mortality, they experience a shift in the major causes of death. When mortality is high, large proportions of deaths are caused by communicable diseases, as well as by maternal, perinatal and nutritional causes (collectively called Group I causes), while lower percentages of deaths are caused by noncommunicable diseases, which include cardiovascular diseases and cancers (collectively called Group II causes). In countries

where mortality has fallen to low levels, the majority of deaths occur because of Group II causes. The change in the distribution of causes of death is striking when comparing the least developed countries with the developed countries. In the least developed countries, where mortality remains high, 67 per cent of deaths were the result of Group I causes in 2002, while 26 per cent were from Group II causes. In contrast, in developed countries, 6 per cent of deaths were due to Group I causes and 86 per cent to Group II causes. A third major group of causes includes injuries from accidents, homicide or suicide. This group caused 9 per cent of deaths worldwide, with its share ranging from 2 per cent to 24 per cent among countries.

**HIV prevalence.** The Millennium Declaration called for halting and reversing the spread of HIV by 2015. Despite recent downward revisions of HIV prevalence estimates in a number of countries, the number of people living with HIV continues to increase in all regions of the world. In 2007, over 33 million people around the world were living with HIV, including nearly 31 million people aged 15 or over and more than two million children under age 15. Adult HIV prevalence, measured as the percentage of HIV-positive persons among those aged 15 to 49, varied widely across regions and countries. At the end of 2005, Southern Africa had the highest HIV prevalence of any world region, with 22 per cent of adults infected. Sub-Saharan Africa as a whole had an adult HIV prevalence of 6 per cent. Outside of Africa, the region with the highest HIV prevalence was the Caribbean (1.6 per cent).

**AIDS deaths.** The annual number of deaths caused by AIDS increased steadily throughout the 1990s and until 2005. The most recent estimates from UNAIDS indicate that AIDS caused 2.1 million deaths in 2007, a slight decline since 2005 that is partly attributable to the scaling up of antiretroviral treatment services. More than three-quarters of AIDS deaths in 2007 occurred in sub-Saharan Africa. AIDS remains a major cause of death worldwide and is the leading cause of death in sub-Saharan Africa, where the provision of treatment services will remain an immense challenge in coming years.

**Maternal mortality.** The Millennium Declaration urged the international community to strive for a dramatic reduction in maternal

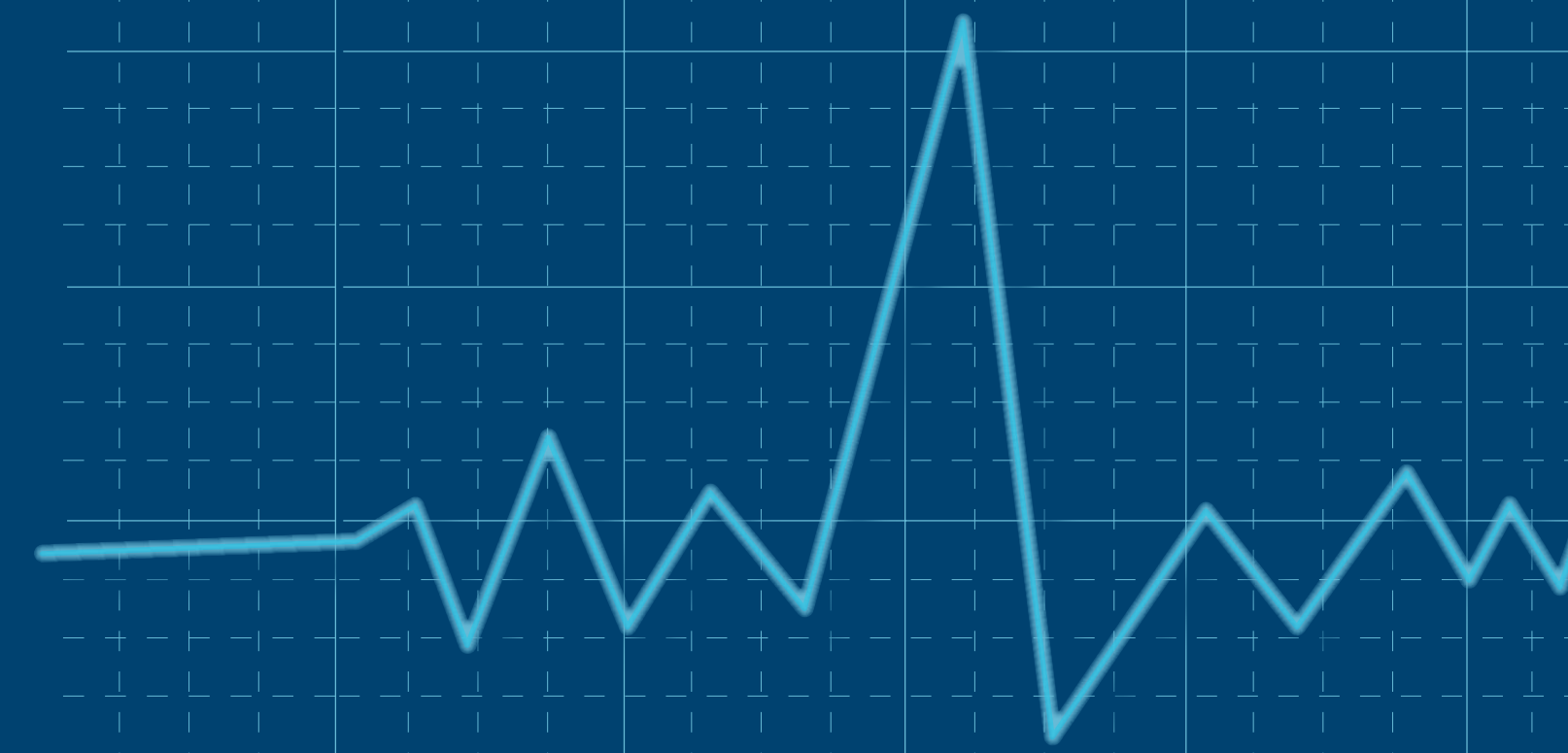
mortality. The World Health Organization defines maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes" (WHO and others, 2007; see the source of column (16) for a full reference). The level of maternal mortality is usually expressed using the maternal mortality ratio (MMR), defined as the number of maternal deaths per 100,000 live births. In 2005, an estimated 536 thousand women worldwide died of maternal causes, resulting in a MMR of 400 maternal deaths per 100,000 live births. In developing countries as a whole, the MMR was estimated at 450 maternal deaths per 100,000 live births, while in developed countries it averaged 11 maternal deaths per 100,000 live births. Mothers in the least developed countries faced the highest risk of death, with 870 maternal deaths occurring for every 100,000 live births. Efforts to reduce maternal mortality must be targeted to these most disadvantaged populations.

**A note on the data:** The quality of data available for estimating mortality varies widely from country to country. Data for countries with high-quality vital registration systems are the most reliable. For other countries, estimates of overall mortality are most often based on data gathered via special questions on mortality included in sample surveys or population censuses. Such sources can produce robust estimates of child mortality but are less successful in producing adequate estimates of adult mortality. Therefore, estimates for these countries are frequently based on model mortality schedules that permit extrapolating the estimated mortality in childhood to other ages. Data on causes of death, including HIV/AIDS and maternal causes, are less commonly available than data on overall mortality and reported causes of death are more prone to error than reports on the occurrence of deaths even in countries with good vital registration coverage. Readers are encouraged to consult the references for the data in columns (11) to (16) for detailed documentation on data quality and the uncertainty associated with the estimates of deaths by cause, prevalence of HIV, deaths caused by AIDS, and maternal mortality presented in this chart.



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