



## Mortality and life expectancy

- Recently the [Global Burden of Disease Study 2010](#) (GBD 2010), 'the largest ever systematic effort to describe the global distribution and causes of a wide array of major diseases, injuries, and health risk factors' was published by *The Lancet*. According to the GBD 2010, 'levels of mortality have been changing strikingly in the past 40 years and substantial progress has been made in reduction of the number of deaths in children younger than 5 years, postponing deaths to progressively older ages'. Global male life expectancy at birth increased by 11.1 years from 56.4 years in 1970 to 67.5 years in 2010, while global female life expectancy at birth increased by 12.1 years from 61.2 years to 73.3 years over the same period. Global life expectancy at birth increased by about 3-4 years every decade from 1970, apart from the 1990s, when smaller improvements were recorded largely because of the effect of HIV/AIDS in some sub-Saharan countries (such as South Africa) and deaths related to alcohol overconsumption in Eastern Europe and Central Asia. The study notes that 'substantial reductions in mortality occurred in eastern and southern sub-Saharan Africa since 2004, coinciding with increased coverage of antiretroviral therapy and preventive measures against malaria'. In 2010, there were 52.8m deaths globally, compared to 46.5m in 1990. At the most aggregate level, communicable, maternal, neonatal, and nutritional causes accounted for 13.2m (or 25%) of all deaths in 2010. Non-communicable causes accounted for 34.5m (or 65.3%) deaths, while injuries accounted for 5.1m (or 9.7%). 'The continued decrease in deaths from communicable, maternal, neonatal, and nutritional disorders is striking, if not surprising'. The number of deaths from these disorders declined by 2.7m (or 17%) from 15.9m in 1990 to 13.2m in 2010. The annual number of deaths from non-communicable diseases, by contrast, increased by just under 8m (or 30%) from 26.6m in 1990 to 34.5m in 2010, or two out of every three deaths in 2010. The leading causes of death in 2010 were ischaemic heart disease, stroke, chronic obstructive pulmonary disease, lower respiratory infections, lung cancer, and HIV/AIDS.
- The GBD 2010 has also released detailed interactive data for 187 individual countries. The [GBD profile of South Africa](#) indicates that in terms of the number of years of life lost (YLLs) due to premature death, HIV/AIDS, diarrheal diseases and interpersonal violence were the highest ranking causes of premature death in 2010. In 1990, diarrheal diseases, lower respiratory infections and tuberculosis were ranked highest, with HIV/AIDS only ranked 12<sup>th</sup>. The top five causes of years lived with disability (YLDs) in 2010 were HIV/AIDS, major depressive disorder, low back pain, iron-deficiency anaemia and chronic obstructive pulmonary disease. The top three causes of disability-adjusted life years (DALYs), which quantify both premature death (YLLs) and disability (YLDs) within a population, were HIV/AIDS, diarrheal diseases and interpersonal violence. The causes that were in the 10 leading causes of DALYs in 2010 and not in 1990 were HIV/AIDS, diabetes mellitus and major depressive disorder. Overall, the three risk factors that account for the highest disease burden in South Africa in 2010 were alcohol use, high body-mass index, and high blood pressure.

## Infectious diseases

- Polio (poliomyelitis), a highly infectious, incurable disease caused by a virus that mainly affects children under five years of age, is on the verge of eradication. As a result of the Global Eradication Initiative launched in 1988, the number of polio cases has declined by more than 99% from 350 000 cases reported in more than 125 endemic countries in 1988 to 223 cases reported in 2012. This year, 55 cases have been reported to date. India, long-regarded as the most difficult place to eradicate polio, was declared polio-free in Feb 2012, raising the urgency to stop transmission as soon as possible. However, over the past three years there has been a rise in new polio cases in the three remaining polio-endemic countries, *viz*, Afghanistan, Nigeria and Pakistan. Polio has also spread internationally from Nigeria and Pakistan, underscoring the risk that endemic poliovirus transmission continues to pose globally. According to the World Health Organisation (WHO), 'polio eradication is at a tipping point. If immunity is not raised in the three remaining countries to levels necessary to stop poliovirus transmission, polio eradication will fail. The consequences of failure are both immediate and long-term. Poliovirus will again spread rapidly from polio-affected countries, sparking large polio outbreaks in areas with weak immunity, potentially with high fatality rates. Within a decade, the disease could re-establish itself globally, paralysing over 200 000 children again every year and precluding financial benefits estimated at a minimum of US\$40-50 billion by 2035, for low-income countries alone.' Recently, the Scientific Declaration on Polio Eradication was launched by eminent scientists and public health experts from around the world, emphasising that an end to the paralysing disease was achievable, and a comprehensive new strategy, the Endgame Strategic Plan 2013-2018 to secure a lasting polio-free world by 2018 was endorsed. The South African Department of Health recently launched the national polio and measles immunisation campaign, which targets all children under the age of five.

- According to the *World Malaria Report 2012*, '[t]he past five years have seen an impressive increase in international funding for malaria prevention, control and elimination'. However, behind the statistics and graphs presented in the report, 'lies a great and needless tragedy: malaria – an entirely preventable and treatable disease – still takes the life of an African child every minute. The most vulnerable communities in the world continue to lack sufficient access to long-lasting insecticidal nets, indoor residual spraying, diagnostic testing, and artemisinin-based combination therapies.' The report also notes that resistance to artemisinins, the key compounds in artemisinin-based combination therapies, has been detected in four South-East Asian countries, while mosquito resistance to insecticides has been found in 64 countries around the world. 'While such resistance has not yet led to operational failure of malaria control programmes, urgent and intensified efforts are required to prevent a future public health disaster'. Just two years away from the target date set for the Millennium Development Goals, the report demonstrates that 50 countries are on track to reduce their malaria case incidence rates by 75%, in line with the World Health Assembly and Roll Back Malaria targets for 2015. However, these 50 countries account for only 3% (or 7m) of the total estimated malaria cases worldwide. 'International targets for malaria will not be attained unless considerable progress is made in the 14 highest burden countries [including South Africa], which account for an estimated 80% of malaria deaths'.
- Research by the *African Futures Project* on the possible impact of the elimination of malaria infection in Africa by 2025 has found that malaria eradication would contribute nearly US\$430b to Africa's economy by 2050, largely due to increases in production. However, it would also be an expensive investment. The WHO currently estimates that it will cost US\$5.1b each year from now until 2020 just to reach the malaria control targets. 'Economic costs and benefits aside, policymakers must consider the implications for African people. Eliminating the disease would prevent 12 million deaths and 50 million years of life lived with a disability by 2050. These humanitarian impacts should be reason enough to make malaria eradication a top priority.'

### Chronic diseases

- According to the GBD 2010, deaths from non-communicable (or chronic) diseases increased by approximately 8m between 1990 and 2010, accounting for two of every three deaths (or 34.5m) worldwide in 2010. 8m people died from cancer in 2010, 38% more than two decades ago – of these 1.5m (or 19%) died from trachea, bronchus, and lung cancer. Ischaemic heart disease and stroke collectively killed 12.9m people in 2010, or one in every four deaths worldwide, compared with one in every five in 1990; 1.3m deaths were due to diabetes, twice as many as in 1990. Neurological disorders (eg, Alzheimer's disease, Parkinson's disease and epilepsy) were responsible for 1.3m deaths in 2010, up from 0.6m in 1990, while mental and behavioural disorders (eg, schizophrenia, alcohol and drug use disorders) were responsible for 0.2m deaths in 2010, compared to 0.1m in 1990.

### Health financing

- Morocco, Chad and Mozambique have become the latest African countries to implement a financial transaction tax (FTT) and airplane levy to fund health services in developing countries. This is part of the UNITAID initiative, an innovative health financing initiative which began with a levy on plane tickets in 2006 in France and 13 other countries. According to Phillippe Douste-Blazy, board chairman of the international financing mechanism, the idea of innovative health financing 'is very simple: to take a micro, painless, tiny solidarity contribution from activities that benefit from globalization – that's mobile, internet, and financial transactions, plane tickets, etc. We proved that innovative financing can help achieve the Millennium Development Goals. In five years, we've raised US\$2 billion from the small levy or tax on plane tickets. We've treated eight out of 10 children with HIV, 322 million people with malaria and one million people with tuberculosis.'

### Health technology

- A new report, *E-learning in medical education in resource constrained low- and middle-income countries*, has proposed the scaling up of e-initiatives in an effort to boost medical education across Africa, bridge the health workforce gap and tackle the brain drain in the world's most health resource-limited communities. Besides suffering from more than 80% of the global burden of disease and mortality, the poorest communities of Africa, Asia and Latin America also have less than 10% of the world's trained health care workers. To address severe faculty shortages, medical schools in resource-constrained countries are looking to e-learning to improve access to medical education, the report indicated.
- According to a report by PricewaterhouseCoopers India, mobile health (mHealth) applications such as text messages could save more than 1m lives in sub-Saharan Africa over the next five years. 'Many of the deadly conditions are relatively simple to treat, prevent or contain. SMS reminders to check stock levels at health centres have shown promising results in reducing stock-outs of key combination therapy medication for malaria, TB and HIV. Delivering mobile-assisted awareness to pregnant mothers and traditional birth attendants could reduce prenatal and maternal mortality by up to 30%, while programmes that track mobile-usage patterns have been successful in predicting disease outbreaks and in reporting malaria reporting adherence'.