Overview

While SDG 3 is the main SDG with an explicit focus on health, at least 10 other goals are also concerned with health issues. In total, more than 50 SDG indicators have been agreed upon internationally to measure health outcomes, proximal determinants of health or health-service provision (1). These health-related indicators may be grouped into the following seven thematic areas:

- reproductive, maternal, newborn and child health
- infectious diseases
- noncommunicable diseases (NCDs) and mental health
- injuries and violence
- universal health coverage (UHC) and health systems
- environmental risks
- health risks and disease outbreaks.

Despite all the progress made during the Millennium Development Goal (MDG) era, major challenges persist in the MDG priority areas. These challenges will need to be addressed if further progress is to be made in reducing maternal and child mortality, improving nutrition, and combating communicable diseases such as HIV/AIDS, tuberculosis (TB), and malaria. Furthermore, the crucial importance of addressing NCDs and their risk factors – such as tobacco use, harmful use of alcohol and environmental conditions – within the sustainable development agenda is becoming ever clearer. However, in many countries, weak health systems remain an obstacle to progress and lead to shortages in coverage of even the most basic health services, as well as poor preparedness for health emergencies. Based on the latest available data, the global and regional situations in relation to the above seven thematic areas are summarized below. Where available, country-specific data for health-related SDG indicators are presented graphically in Annex A and in tabular form in Annex B.

2.1 Reproductive, maternal, newborn and child health

Far too many women still suffer – and die from – serious health issues during pregnancy and childbirth. In 2015, an estimated 303,000 women worldwide died due to maternal causes. Almost all of these deaths (99%) occurred in low- and middle-income countries (LMIC), with almost two thirds (64%) occurring in the WHO African Region (2). Reducing maternal mortality crucially depends upon ensuring that women have access to quality care before, during and after childbirth. WHO recommends that pregnant women initiate first antenatal care contact in the first trimester of
pregnancy – referred to as early antenatal care. Such care enables the early management of conditions which may adversely impact upon pregnancy, thus potentially reducing the risk of complications for women and newborns during and after delivery. However, globally, it is estimated that more than 40% of all pregnant women were not receiving early antenatal care in 2013 (3). Latest available data suggest that while in most high-income and upper-middle-income countries more than 90% of all births benefited from the presence of a trained midwife, doctor or nurse, less than half of all births in several low-income and lower-middle-income countries were assisted by such skilled health personnel (4).

An estimated 77% of women of reproductive age who are married or in-union have their family planning needs met with a modern contraceptive method – leaving nearly 208 million women with unmet need (5). Latest estimates indicate that that there are 12.8 million births among adolescent girls aged 15–19 years every year, representing 44 births per 1000 adolescent girls in this age group (6). Early childbearing can increase risks for newborns as well as for the young mothers.

The world has made remarkable progress in reducing child mortality, with the global under-five mortality rate dropping from 93 per 1000 live births in 1990 to 41 per 1000 live births in 2016. Nonetheless, every day in 2016, 15 000 children died before reaching their fifth birthday. Children face the highest risk of dying in their first month of life, with 2.6 million newborns dying in 2016 – the majority of these deaths occurring in the first week of life (7). Prematurity, intrapartum-related events such as birth asphyxia and birth trauma, and neonatal sepsis accounted for almost three quarters of all neonatal deaths. Among children aged 1–59 months, acute respiratory infections, diarrhoea and malaria were the leading causes of death in 2016 (8) (Fig. 2.1). With more young children now surviving, improving the survival of older children (aged 5–14 years) is an increasing area of focus. In 2016, about 1 million such children died, mainly from preventable causes (7).

Globally in 2017, 151 million children under the age of five (22%) were stunted (too short for their age), with three quarters of such children living in the WHO South-East Asia Region or WHO African Region. High levels of stunting negatively impact on the development of countries due to its association with childhood morbidity and mortality risks, learning capacity and NCDs later in life. In 2017, 51 million children under the age of five (7.5%) were wasted (too light for their height), while 38 million (5.6%) were overweight (too heavy for their height). Wasting and overweight may coexist in a population at levels considered medium to high – the so-called “double burden of malnutrition” – as observed in the WHO Eastern Mediterranean Region (Fig. 2.2) (9).

### 2.2 Infectious diseases

Globally, HIV incidence has declined from 0.40 per 1000 uninfected population in 2005 to 0.26 per 1000 uninfected population in 2016 (10). The WHO African Region remained the most heavily impacted by HIV, with an incidence rate of 1.24 per 1000 uninfected population in 2016 (11). In 2016, an estimated 1 million people died of HIV-related illnesses – 120 000 of whom were children under 15 years of age. The global scale-up of antiretroviral therapy (ART) has been the main driver of the 48% decline in HIV-related deaths from a peak of 1.9 million in 2005. By mid-2017, approximately 20.9 million people were receiving ART. However, ART only reached 53% of people living with HIV at the end of 2016, and a rapid acceleration of responses is needed to increase treatment coverage, along with other interventions along the continuum of services, including prevention, diagnosis and chronic care (12).
After unprecedented global gains in malaria control, progress has stalled. Globally, an estimated 216 million cases of malaria occurred in 2016, compared with 237 million cases in 2010, and 210 million cases in 2013. Malaria claimed the lives of approximately 445,000 people in 2016— a similar number to the previous year. The main challenge that countries face in tackling malaria is a lack of sustainable and predictable funding. Other challenges impeding the ability of countries to control and eliminate malaria include the risks posed by conflict in malaria endemic zones, anomalous climate patterns and mosquito resistance to insecticides, particularly those used for indoor residual spraying (13).

TB remains a high-burden disease and progress in fighting it, although impressive, is still not fast enough to close persistent gaps. Globally, TB incidence declined from 173 new and relapse cases per 100,000 population in 2000 to 140 per 100,000 population in 2016—a 19% decline over the 16-year period. The TB mortality rate among HIV-negative people fell by 39% during the same period. In 2016, an estimated 10.4 million people fell ill with TB, of whom 90% were adults, 65% were male and 10% were people living with HIV. In that same year, there were an estimated 1.3 million TB deaths among HIV-negative people and an additional 374,000 deaths among HIV-positive people. While millions of people are diagnosed and successfully treated for TB each year, large gaps in case notification persist (Fig. 2.3). In addition, drug-resistant TB is a continuing threat. In 2016, there were 600,000 new cases of TB resistant to rifampicin (the most effective first-line drug) of which 490,000 were multidrug resistant (14).

Neglected tropical diseases (NTDs)² are a group of diseases characterized by their proliferation in tropical environments where multiple infections in a single individual are common, and by their association with poverty (16). A reported 1.5 billion people required mass or individual treatment and care for NTDs in 2016—down from 2 billion people in 2010. Progress has been driven by the elimination of diseases at country level in 2016, including the elimination of lymphatic filariasis in Cambodia, onchocerciasis (river blindness) in Guatemala and trachoma in Morocco. In the same year, more than a quarter of all those who required interventions against NTDs (27% equating to 409 million people) lived in low-income countries that are home to only about 9% of the world’s population. This reflects the disproportionate burden borne by these countries. At the same time, the fact that over 1 billion people living in middle- and high-income countries still required treatment and care for NTDs indicates the presence of poverty and inequality worldwide (17).

Fig. 2.3
Estimated, notified and successfully treated new and TB relapse cases, 2000–2016

Fig. 2.4
Estimated global prevalence of hepatitis B, by age, pre-vaccine era and 2015

Note: Vertical lines represent 95% confidence intervals.

1 Depending on the year of vaccine introduction, this can range from the 1980s to the early 2000s.

2 The NTDs focused on by WHO are: Buruli ulcer; Chagas disease; dengue and chikungunya; dracunculiasis (guinea-worm disease); echinococcosis; foodborne trematodiases; human African trypanosomiasis (sleeping sickness); leishmaniasis; leprosy (Hansen’s disease); lymphatic filariasis; mycetoma; chromoblastomycosis and other deep mycoses; onchocerciasis (river blindness); rabies; scabies and other ectoparasitoses; schistosomiasis; soil-transmitted helminthiases; snake-bite envenoming; taeniasis/cysticercosis; trachoma; and yaws (endemic treponematoses). See: http://www.who.int/neglected_diseases/diseases/en/.
2.3 Noncommunicable diseases and mental health

In 2016, an estimated 41 million deaths occurred due to noncommunicable diseases (NCDs), accounting for 71% of the overall total of 57 million deaths. The majority of such deaths were caused by the four main NCDs, namely: cardiovascular disease (17.9 million deaths; accounting for 44% of all NCD deaths); cancer (9.0 million deaths; 22%); chronic respiratory disease (3.8 million deaths; 9%); and diabetes (1.6 million deaths; 4%). In 2016, a 30-year-old man had a higher risk of dying before reaching the age of 70 from one of the four main NCDs than a 30-year-old woman (22% compared to 15% respectively). Adults in low- and lower-middle-income countries faced the highest risks (21% and 23% respectively) – almost double the rate for adults in high-income countries (12%). Globally, the risk of dying from any one of the four main NCDs between ages 30 and 70 decreased from 22% in 2000 to 18% in 2016 (18). Meeting the SDG target of reducing premature NCD mortality by one third by 2030 will require the acceleration of progress, including action to reduce key risk factors such as tobacco use, air pollution, unhealthy diet, physical inactivity and harmful use of alcohol – as well as improved disease detection and treatment.

The worldwide level of alcohol consumption in 2016 was 6.4 litres of pure alcohol per person aged 15 years or older, a level that remained stable since 2010. Consumption levels and trends vary across WHO regions. Consumption in the WHO South-East Asia Region increased by almost 30% since 2010, while that of the WHO European Region decreased by 12%, but remaining the highest in the world in 2016 at 9.8 litres of pure alcohol per person aged 15 years or older (Fig. 2.5) (19). Available data indicate that treatment coverage for alcohol and drug-use disorders is inadequate, though further work is needed to improve the measurement of such coverage.

Fig. 2.5
Trends in alcohol consumption among people aged 15 years or older, by WHO region and globally, 2010–2016

Tobacco use is a major risk factor for cardiovascular disease (CVD), cancers and chronic respiratory disease (CRD), and has negative social, environmental and economic consequences. In 2016, globally more than 11 billion people aged 15 years or older smoked tobacco (34% of all males and 6% of all females in this age group) (20). To date, the WHO Framework Convention on Tobacco Control (WHO FCTC) (21) has been ratified by 181 Parties, representing over 90% of the global population. During the period 2015–2016, over half (98) of WHO Member States strengthened their implementation of the WHO FCTC through various measures, such as introducing or strengthening legislation requiring health warnings to appear on tobacco product packaging (92 countries) and improving the national monitoring of tobacco use (14 countries). Although 146 countries are currently monitoring the smoking behaviour of their populations, only 109 are monitoring the use of all types of tobacco products.

Almost 800 000 deaths by suicide occurred in 2016 (18). Men are 75% more likely than women to die as a result of suicide. Suicides deaths occur in adolescents and adults of all ages (Fig. 2.6).

Fig. 2.6
Global suicide deaths by age and sex, 2016

2.4 Injuries and violence

Road traffic crashes killed 1.25 million people worldwide in 2013 and injured up to 50 million more. The death rate due to road traffic injuries was 2.6 times higher in low-income countries (24.1 deaths per 100 000 population) than in high-income countries (9.2 deaths per 100 000 population), despite lower rates of vehicle ownership in low-income countries (22).

Latest estimates indicate that globally almost one quarter of adults (23%) suffered physical abuse as a child (23) and about one third (35%) of women experienced either physical and/or sexual intimate partner violence or non-partner sexual violence at some point in their life (24).
Violence against children has lifelong impacts on the health and well-being of children, families, communities and nations. Violence against women results in serious short-and long-term physical, mental, sexual and reproductive health problems, affects their children, and leads to high social and economic costs for women, their families and societies.

Over the period 2012–2016, on average there were 11 000 deaths globally each year due to natural disasters, equating to 0.15 deaths per 100 000 population \((18)\). Low- and lower-middle-income countries typically have higher mortality rates and struggle to meet financial, logistical and humanitarian needs for recovery from disasters.

An estimated 477 000 murders occurred globally in 2016, with four fifths of all homicide victims being male (Fig. 2.7). Men in the WHO Region of the Americas suffered the highest rate of homicide deaths at 31.8 per 100 000 population – down from 33.5 per 100 000 population in 2000 \((18)\).

Fig. 2.7 Homicide numbers and rates per 100 000 population, by sex and by WHO region, 2016

It is estimated that in 2016, 180 000 people were killed in wars and conflicts, not including deaths due to the indirect effects of war and conflict such as the spread of diseases, poor nutrition and collapse of health services. The average death rate due to conflicts in the past five years (2012–2016), at 2.5 deaths per 100 000 population, was more than double the average rate in the preceding five-year period (2007–2011) \((18)\).

2.5 **UHC and health systems**

Globally, the average national percentage of total government expenditure devoted to health was 11.7% in 2014, ranging from 8.8% in the WHO Eastern Mediterranean Region to 13.6% in the WHO Region of the Americas.\(^2\) This measure indicates the level of government spending on health within the total expenditure for public sector operations in a country, and could constitute part of SDG indicator 1.a.2 on the proportion of total government spending on essential services (education, health and social protection).

SDG Target 3.8 on achieving UHC has two indicators: 3.8.1 on coverage of essential health services and 3.8.2 on the proportion of a country’s population with large household expenditures on health relative to their total household expenditure. Both of these aspects must be measured together in order to obtain a clear picture of those who are unable to access health care and those who face financial hardship due to health-care spending. The UHC service coverage index is a single indicator computed from tracer indicators of the coverage of essential services in the areas of reproductive, maternal, newborn and child health (RMNCH), infectious disease control, NCDs and service capacity and access.

As measured by this index, the levels of service coverage varied widely across countries in 2015 – from 22 to 86 (out of a maximum index score of 100). At least half of the world’s population do not have full coverage of essential health services. Among those who were able to access needed services, many suffered undue financial hardship. In 2010, an estimated 808 million people – 11.7% of the world’s population – spent at least 10% of their household budget (total household expenditure or income) paying out of their own pocket for health services. For 179 million of these people such payments exceeded a quarter of their household budget. An estimated 97 million people – 1.4% of the world’s population – were impoverished by out-of-pocket health-care spending in 2010 (at the 2011 poverty line of PPP $1.90 a day) \((25)\).

Functioning health systems require a qualified health workforce that is available, equitably distributed and accessible by the population. According to the latest available data for the period 2007–2016, 76 countries reported having less than one physician per 1000 population, and 87 countries reporting having fewer than three nursing and midwifery personnel per 1000 population. In many countries, nurses and midwives constitute more than half of the national health workforce \((26)\).

In addition to a qualified and accessible health workforce, health system functioning also relies crucially on access to affordable essential medicines of assured quality that are available at all times in adequate amounts and in the appropriate dosage forms. The term “essential medicines” covers a wide range of medicines, including those needed for pain management and palliative care. Data from health-facility surveys conducted nationally in 29 countries during the period 2007–2017 indicate that 64% of public-sector facilities surveyed in low-income countries and 58% of public-sector facilities surveyed in lower-middle-income countries...
stocked medicines for pain management and palliative care. Less than 10% of the public-sector health facilities surveyed in low-income countries stocked opioid analgesics such as morphine, buprenorphine, codeine, methadone and tramadol – essential medications for treating the pain associated with many advanced progressive conditions (27, 28).

Latest estimates indicate that in 2016, one in 10 children worldwide did not receive even the first dose of diphtheria-tetanus-pertussis (DTP1) vaccine. In the same year, the global coverage of three doses of DTP (DTP3) vaccine among children was 86% (Fig. 2.8). As shown in Fig. 2.8, this level has essentially remained unchanged since 2010. During this same period, coverage of a second dose of measles-containing vaccine (MCV2) increased from 39% to 64% but this is still insufficient to prevent measles outbreaks and avoid preventable deaths. Global coverage levels of more recently recommended vaccines such as rotavirus vaccine and pneumococcal-conjugated vaccine (PCV) are still under 50%. By the end of 2016, PCV had been introduced in 135 countries with global coverage of the third dose (PCV3) reaching 42%. Middle-income countries are lagging behind in the introduction of such new vaccines as their health budgets are insufficient to cover the costs and there may be a lack of external support (29, 30).

Each year, billions of dollars are spent on research and development into new or improved health products and processes, ranging from medicines to vaccines to diagnostics. But the way these funds are distributed and spent is often poorly aligned with global public health needs. Countries with comparable levels of income and health needs receive different levels of official development assistance for medical research and for basic health sectors. Of grant recipients by income group, low-income countries received only 0.3% of all direct grants (31).

In terms of monitoring health status, WHO estimates that about half of its 194 Member States register at least 80% of deaths of population aged 15 years and older, with associated information provided on cause of death (18). In addition, data-quality problems further limit the use of such information.

### 2.6 Environmental risks

Access to clean fuels and technologies for cooking has marginally improved and in 2016 reached 59% globally – an increase of 10 percentage points since 2000. However, coverage levels vary greatly between countries (Fig. 2.9)
and population growth continues to outpace the transition to clean fuels and technologies in many countries, leaving over 3 billion people still cooking with polluting stove and fuel combinations (32). The resulting household air pollution is estimated to have caused 3.8 million deaths from NCDs (including heart disease, stroke and cancer) and acute lower respiratory infections in 2016 (18, 32).

In 2016, 91% of the world’s population did not breathe clean air, and more than half of urban population were exposed to outdoor air pollution levels at least 2.5 times above the safety standard set by WHO. It has been estimated that in 2016 outdoor air pollution in both cities and rural areas caused 4.2 million deaths worldwide. Taken together, indoor and outdoor air pollution caused an estimated 7 million deaths – one in eight deaths – globally in 2016 (18, 32).

Unsafe drinking water, unsafe sanitation and lack of hygiene also remain important causes of death, with an estimated 870,000 associated deaths occurring in 2016 (18).¹ The WHO African Region suffered a disproportionate burden from such deaths, with a mortality rate four times the global rate. Available data from fewer than 100 countries indicate that safely managed drinking-water services – that is, located on premises, available when needed and free from contamination – were enjoyed by only 71% of the global population (5.2 billion people) in 2015, whereas safely managed sanitation services – with excreta safely disposed of in situ or treated off site – were available to only 39% of the global population (2.9 billion people) (Fig. 2.10) (33).

¹ Includes deaths from diarrhoea, intestinal nematode infections and protein-energy malnutrition attributable to lack of access to WASH services.

Unintentional poisonings were responsible for over 100,000 deaths in 2016. Although the number of deaths from unintentional poisonings has steadily declined since 2000, mortality rates continue to be relatively high in low-income countries (18). Unintentional poisoning can be caused by household chemicals, pesticides, kerosene, carbon monoxide and medicines, or can be the result of environmental contamination or occupational chemical exposure.

### 2.7 Health risks and disease outbreaks

Under the International Health Regulations (2005), all States Parties are required to have or to develop minimum core public health capacities to implement the IHR (2005) effectively. Until 2017, the monitoring process involved the use of a self-assessment questionnaire sent to States Parties to assess the implementation status of 13 core capacities. In 2017, 167 States Parties (85% of all States Parties) responded to the monitoring questionnaire, up from 129 States Parties (66% of all States Parties) in 2016. All 196 States Parties have responded to the monitoring questionnaire at least once since 2010. The average core capacity score of all reporting countries in 2017 was 72% (34, 35).
References


MONITORING HEALTH FOR THE SDGs


