

Life expectancy and causes of death



Key points

- At the global level, life expectancy at birth increased by 5.5 years, from age 66.5 to age 72.0 (for both sexes combined) during the period 2000–2020.
- Boys born in 2020 will live, on average, to age 69.9 and girls to age 74.7, a difference of 4.8 years that has remained consistent over time.
- While the fastest rate of increase in life expectancy at birth is reported in sub-Saharan Africa, as of 2020, life expectancy in the region remains 12 years lower than the global average.
- The gender gap in life expectancy at birth ranges from less than 3 years in Central and Southern Asia (70.9 years for women versus 68.2 years for men) to 6.5 years in Latin America and the Caribbean (78.5 years for women versus 72 years for men): in general, the gap is greater in developed countries and smaller in developing ones.
- Causes of death vary by age and sex, and the patterns observed across regions and countries are closely linked to the development of health systems and the epidemiological transition from communicable to non-communicable diseases.
- Women have a longer life expectancy than men at all ages and death rates from almost all leading causes of death are higher among men than women.
- While young women are at risk of dying in childbirth and from related complications, young men are more likely to die as a result of road injuries and/or interpersonal violence.
- In all regions, men aged 15–49 are more prone than women to dying from injuries or external causes: in Latin America and the Caribbean, six and a half times more likely; in Northern America and Europe, four times more likely; and in Western Asia and Northern Africa, Australia and New Zealand, sub-Saharan Africa and Oceania (excluding Australia and New Zealand) at least three times more likely.
- As men age, they die in greater numbers than women from causes such as tuberculosis, HIV/AIDS, stroke and heart disease, lower respiratory infections and cancer.
- At older ages, however, women are more likely to die from rheumatic heart disease, Alzheimer's disease and other types of dementia.

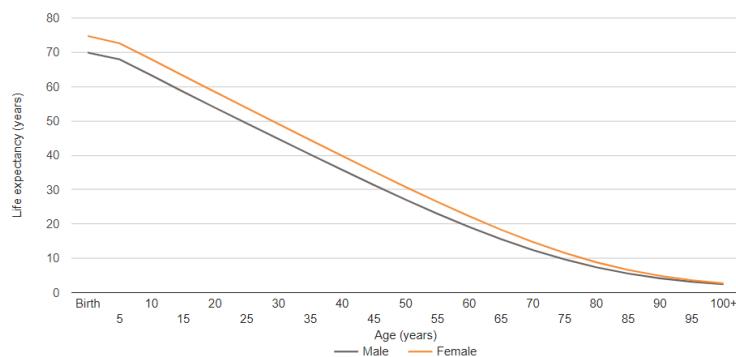
Background

Life expectancy is a key measure of a population's health; healthier populations live longer. Analysis of trends in life expectancy can reveal changes in health status over time. Analysis of differences in life expectancy between specific population groups, as well as between women and men, can uncover inequalities in health status that need to be addressed.

Current situation

Life expectancy for girls born in 2020, on average, age 74.7; for boys, on average, age 69.9 – a difference of 4.8 years

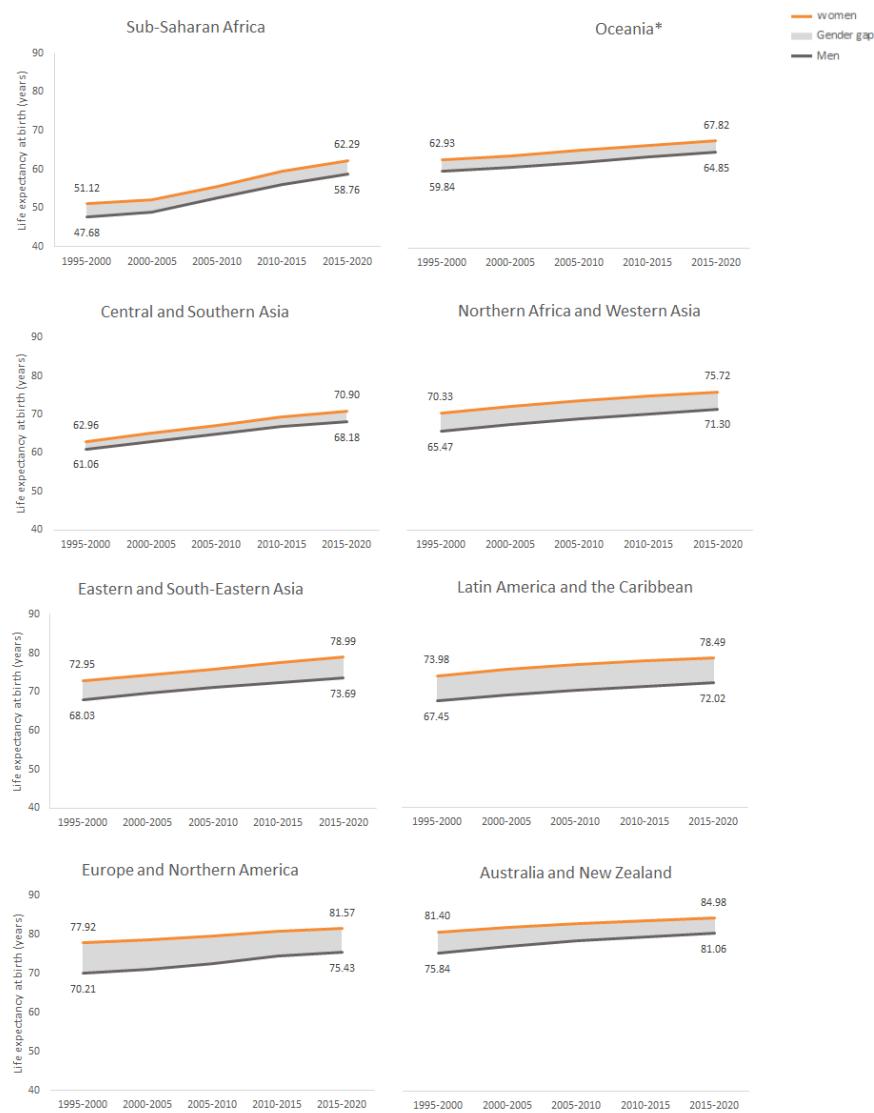
During the period 2000–2020, global life expectancy at birth increased by 5.5 years, from age 66.5 to age 72.0 (for both sexes combined): women continued to have a longer life expectancy than men at all ages (see figure I). While this difference is partly due to an inherent biological advantage, it also reflects behavioural differences between men and women, as well as gender differentials in the social determinants of health. Girls born in 2020 will live, on average to age 74.7, while boys will live, on average, to age 69.9 – a difference of 4.8 years that has remained more or less constant over the past 20 years.

Figure I: Global life expectancy by sex and age: 2015-2020

Source: United Nations Department of Economic and Social Affairs (UNDESA), Population Division, World Population Prospects 2019 (<https://population.un.org/wpp/>).

Over the period 2015–2020, the greatest increase in life expectancy at birth was in sub-Saharan Africa (see figure II), mainly due to improved quality and access of medical care, as well as the tapering off of HIV/AIDS infection in the region. Nevertheless, in 2020, life expectancy in sub-Saharan Africa remains 12 years lower than the global average, and the gender gap has remained constant, hovering at around 3.5 years (life expectancy for women is age 62.3 versus age 58.8 for men). There are significant regional differences in the gender gap in life expectancy, ranging from less than 3 years in Central and Southern Asia (life expectancy for women is age 70.9 versus age 68.2 for men) to 6.5 years in Latin America and the Caribbean (life expectancy for women is age 78.5 versus age 72 for men). In general, the gender gap is greater in developed countries and smaller in developing ones.

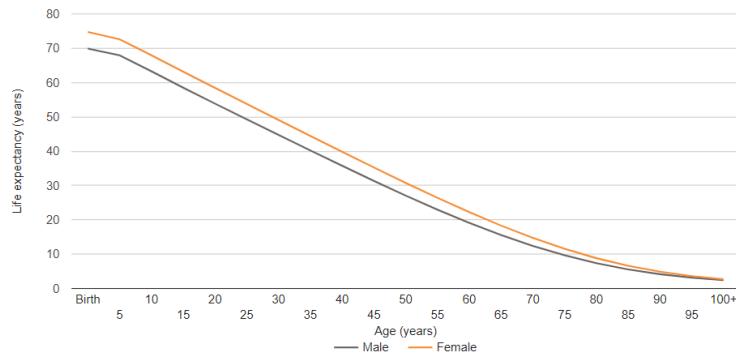
The life expectancy of women ranges from age 62.3 in sub-Saharan Africa, to almost age 85 in Australia and New Zealand. In 64 countries, most in Europe and Northern America and Eastern Asia, women's life expectancy is higher than age 80, while in 11 countries in sub-Saharan Africa it is below age 60.

Figure II: Life expectancy at birth by region and sex: 1995-2020

Source: United Nations Department of Economic and Social Affairs (UNDESA), Population Division, World Population Prospects 2019 (<https://population.un.org/wpp>).

Note: Oceania* (excluding Australia and New Zealand).

Life expectancy at age 65 is also higher for women than men: 18.3 versus 15.6 additional years, a gender gap of 2.7 years. The differences in life expectancy between men and women may be due to biology, including hormonal differences and/or gender (socially influenced roles and behaviours), as well as differences in social determinants of health, access to health care or level of exposure to risk factors. The exact contributions of biological differences and gender roles to health status vary geographically, however, and are often difficult to separate because they do not operate independently.

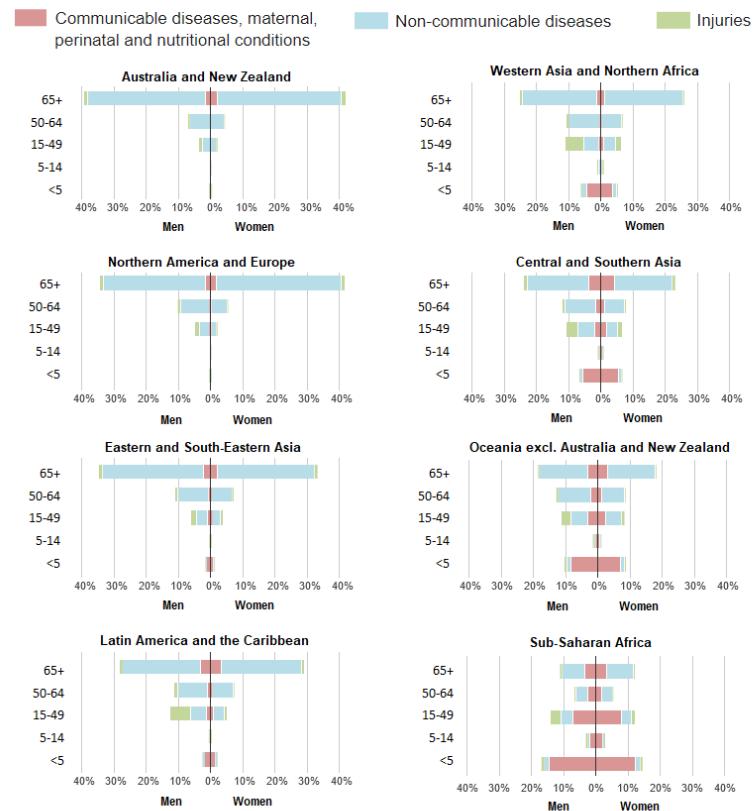
Figure I: Global life expectancy by sex and age: 2015-2020

Source: United Nations Department of Economic and Social Affairs (UNDESA), Population Division, World Population Prospects 2019 (<https://population.un.org/wpp/>).

There are markedly different patterns in the ages at and causes of death in developed and developing countries

While in developed countries, the majority of people who die are older than age 65, in countries in developing regions there are a significant number of deaths prior to age 5, relatively few deaths at ages 5–14, and an increase in the proportion of deaths in the cohorts aged 15–49 and aged 50–64 (see figure III). In Europe and Northern America more than 75% of deaths occur above age 65, but in sub-Saharan Africa the inverse is true (almost 75% of deaths occur below age 65) and almost one in three deaths are among children under 5 years of age.¹ The relatively low death rate among children aged 5–14, may be because, having survived the critical early years, they are still young enough to be under the protection of their parents and less likely to be exposed to risky behaviours or to work outside the home.

The most marked gender gap, which holds true in all regions, is linked to the fact that men aged 15–49 are significantly more likely than women to die from injuries or from external causes, including unintentional injuries, for example from road accidents, falls or drowning, as well as from intentional injuries, such as self-harm (suicide), interpersonal violence and collective violence. The largest gender gap in this cause of death among women and men in this age group is in Latin America and the Caribbean, where men are six and a half times more likely than women to die from one of these causes. In Northern America and Europe, men are four times as likely to die in this way, while in Western Asia and Northern Africa, Australia and New Zealand, sub-Saharan Africa and Oceania (excluding Australia and New Zealand) men are three times as likely as women to die in this manner (see figure III).

Figure III: Distribution of total deaths by age and sex by region: 2016 (Percentage)

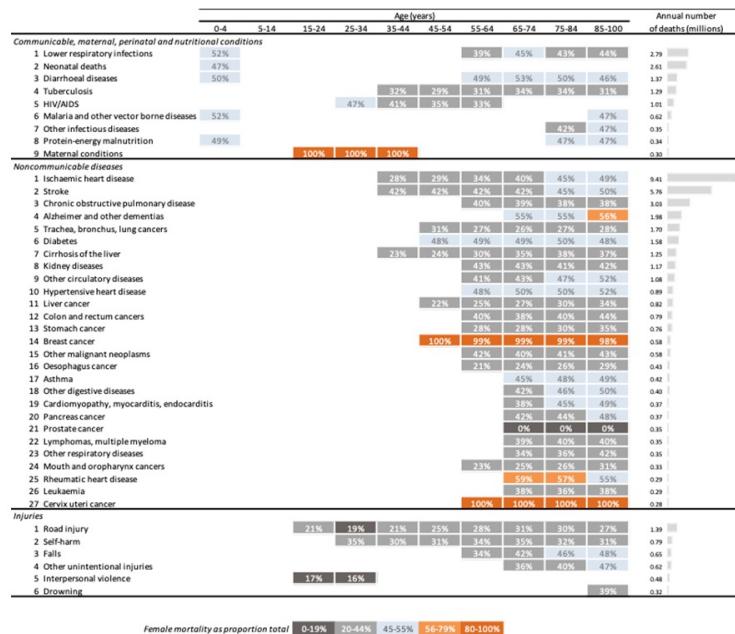
Source: WHO, Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en).

Note: Causes of death are classified under the WHO International Classification of Diseases into three groups: (a) communicable diseases, maternal, perinatal and nutritional conditions, (b) non-communicable diseases, and (c) injuries. Regions are in descending order of the percentage of deaths among people aged 65 and older.

With the exception of deaths due to maternal conditions, breast and cervical cancers and Alzheimer's and other types of dementia, over the course of life, death rates from leading causes of death are higher among men than women

Men's reduced life expectancy compared with women is not due to a single or a restricted number of causes² (see figure IV). Death rates from almost all leading causes of death are higher among men than women over the life course. Exceptions include death from **maternal conditions, breast cancer, Alzheimer's and different types of dementia and cervical cancer**. Causes of death vary by age and sex, and the patterns observed across regions and countries are closely linked to the development of health systems and the epidemiological transition from communicable to non-communicable diseases.

Figure IV: Female death rates as a percentage of total death rates by age and cause of death worldwide: 2016



Source: Source: WHO, Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en).

Note: Data are presented for the 42 leading causes of death in 2016 (where global number of deaths exceeded 280,000). These causes accounted for 89% of all deaths in 2016. The female death rate in relation to the combined male and female death rate is shown for cells where the age specific death rate from a cause, in either sex, exceeds 1,500 per 100,000.

In developing countries, life expectancy is reduced by causes that are frequently preventable or treatable through access to basic health services, notably deaths due to maternal conditions. Deaths from communicable diseases such as malaria, diarrhoea and tuberculosis are also higher in developing countries. This situation has drastically changed, however, since early 2020 due to the emergence of the Coronavirus-19 (COVID-19), a communicable disease that has affected developing and developed countries alike.

In developed countries, premature deaths³ due to non-communicable diseases are frequently associated with occupational risks or individual behaviours that are more common among men, including excessive drinking, and smoking, which results in higher deaths from lung cancer.

Throughout the life cycle, while young women are at risk of dying in childbirth and from related complications, young men are more likely to die from injuries and interpersonal violence; as men age, additional causes of death become more prominent compared to women, such as tuberculosis, HIV/AIDS, stroke and heart disease, lower respiratory infections and cancer; at older ages women are more likely than men to die from rheumatic heart disease, Alzheimer's and other types of dementia.

Although the differences in death rates between women and men are less noticeable in childhood than later in life, they are nevertheless significant. For example, girls account for more than half of deaths due to lower respiratory infections (52%) and malaria and other vector borne diseases (52%) in children from birth to age 4 (see figure IV). Differences become more noticeable after puberty, however, when physical and behavioural differences between men and women are more marked.

At ages 15–24, stark gender differences in causes of death appear: a significant proportion of young women die of maternal conditions, while young men tend to die of injuries, including road accidents (79% of deaths) and interpersonal violence (83% of deaths) (see figure IV). Deaths from maternal conditions among young women are almost entirely preventable when access is

provided to skilled health-care during pregnancy and birth; the death rate among young men resulting from injuries and/or interpersonal violence needs to be addressed through behavioural modification and other approaches.

In the population aged 25–44, there are a significant number of deaths from tuberculosis, which is more prevalent among men aged 35–44 (68%), and from HIV/AIDS, which is more prevalent in men above age 34, albeit with important regional differences in rates of HIV transmission. After age 34, deaths from non-communicable diseases increase, in particular deaths from heart disease and stroke. Stroke, a leading cause of death among this age cohort, both female and male, is more prevalent in men aged 35–44 (58% of global mortality), although with important regional differences (see figure IV).

Between ages 45–64, other causes of death become more noticeable, including death from lower respiratory infections, which are more common among men aged 55–64 (61% of mortality), and diarrhoeal diseases, which affect both women and men equally. Certain cancers (colon and rectum, stomach and liver), most of which occur after age 54, tend to be more common among men than women. The exceptions are breast cancers, which affect women almost exclusively. After age 44, maternal conditions are no longer a significant cause of death among women.

After age 64, other causes of death become more common, including Alzheimer's disease, asthma and certain cancers (including oesophageal, pancreatic and prostate). At older ages (ages 65–84) men are more likely than women to die from a range of diseases, with the exception of rheumatic heart disease, which is a cause of death for significant numbers of women aged 65–74 (59% of global mortality). After age 84, Alzheimer's and different types of dementia affect women more than men (56% at ages 85–100). In this latter, most aged group (85–100), women and men are equally likely to die from a broad range of causes, including stroke, ischaemic heart disease, cardiomyopathy, myocarditis, endocarditis or from falls.

Diabetes and hypertensive heart disease affect men and women of all ages at roughly equal rates, and some of these conditions are easier to prevent and treat than others. While to a certain extent some of these non-communicable diseases can be prevented or their effects reduced through the adoption of a healthy lifestyle, others, notably cancer, cannot. However, early detection and modern treatment can greatly reduce mortality for many forms of cancer. WHO estimates that about 30% to 50% of cancers can be prevented with lifestyle modifications, such as eliminating tobacco use, being physically active and reducing exposure to carcinogens in the environment.⁴

Classification of causes of death

Causes of death are generally classified into three groups: (1) communicable diseases, maternal, perinatal and nutritional conditions, (2) non-communicable diseases, and (3) injuries. Within each of these groups, causes of death are further separated into 123 causes and analysis can be undertaken by major causes of death throughout the life course.

Non-communicable diseases, the most common cause of death globally, were responsible for 70% of deaths in 2016. However, in sub-Saharan Africa, communicable diseases and maternal, perinatal and nutritional conditions are responsible for more than 50% of deaths. Injuries are prominent as a cause of death among youth and adults, particularly males aged 15–49.

Communicable (or infectious) diseases caused by micro-organisms, such as bacteria, viruses or parasites, can spread from person to person or animal to person: lower respiratory infections, HIV/AIDS and diarrhoeal diseases are three of the most prominent communicable diseases. Leading risk factors for such diseases include unsafe water and poor sanitation, poor hygiene, unsafe sex and inadequate health services. Maternal, neonatal and nutritional conditions are health conditions related to pregnancy and childbirth, the neonatal period or nutritional deficiencies, respectively. Communicable diseases, maternal, perinatal and nutritional conditions accounted in total for 20% of deaths in 2016.

Non-communicable diseases are diseases that are non-transmissible and often, but not always, of long duration and generally slow progression. The four main types of non-communicable diseases are: cardiovascular diseases (such as heart attacks and stroke); cancer; chronic respiratory diseases (mostly chronic obstructed pulmonary disease and asthma); and diabetes.

The third leading cause of death is injuries, including unintentional injuries, such as those resulting from road accidents, falls or drowning, along with intentional injuries, such as self-harm (suicide), interpersonal violence and collective violence.

About the data

Definitions

- **Life expectancy at birth** in a given year is the average number of years a newborn is expected to live if current mortality patterns remain constant in the future.
- **Proportion of deaths by leading cause of death** is the number of deaths in each age group, both female and male, by leading cause of death, expressed as a percentage of the total number of deaths.
- **Female death rate as a proportion of the total death rate by cause of death and by age** is the female death rate in relation to the combined male and female death rate.

Coverage

Data on life expectancy and cause of death are available for 201 countries and territories, classified by regional grouping under the Sustainable Development Goals (SDGs) indicators framework.⁵

Footnotes

1. World Health Organization (WHO), Global Health Estimates 2016 (deaths by cause, age, sex, by country and by region, 2000–2016; and life expectancy, 2000–2016), Geneva, 2018.
2. The International Classification of Diseases, developed by WHO, includes three major categories of causes of death: the first includes communicable diseases and maternal, neonatal and nutritional conditions; the other two categories are non-communicable diseases and injuries.
3. Premature deaths are deaths that occur before the average age of death in a certain population (see [link](#)). To allow for global comparison, they are generally defined by WHO as deaths occurring prior to age 70 (see [link](#)).
4. WHO, [Health Topics, Cancer prevention](#).
5. [Regional groupings under the Sustainable Development Goals indicators framework](#).

Gender and selected communicable diseases: HIV/AIDS and tuberculosis



Key points

- Globally, the incidence of HIV infection has declined by almost 50% since 2005, for both women and men.
- Sub-Saharan Africa remains the region most heavily affected by HIV, with a much higher incidence rate than the world average (4 times higher for men and 5 times higher for women), as well as the region where women are at higher risk of contracting HIV (58% of all new adult HIV infections), particularly young women, who run twice the risk of infection as young men.
- Globally, in 2017 men were less likely than women to take an HIV test (75% men versus 85% women), access antiretroviral therapy (55% men versus 68% women) or have suppressed their viral loads (47% men versus 59% women).
- Of an estimated 10 million cases of TB in 2018, 63% were among men and 37% among women.

Background

In developing countries, further gains in life expectancy are impeded by causes that are preventable or treatable through access to basic health services; in addition, economic, social and environmental determinants have impacts on health and wellbeing. While deaths from communicable diseases such as malaria, diarrhoea and TB are usually higher in developing countries, this situation changed drastically over the course of 2020 due to the emergence of the Coronavirus-19 (**COVID-19**) pandemic, a highly communicable disease that has affected developing and developed countries alike.

Current situation

Sub-Saharan Africa is the region most heavily affected by HIV and in 2018, 58% of all new adult HIV infections were among women

Globally, in 2018 there were an estimated 1.7 million new HIV infections, an incidence rate of 0.24 per 1,000 uninfected population among the total population, with a similar incidence among women and men. The rate represents a decline of almost 50% from the infection level of 0.47 recorded in 2005.

There are significant regional differences in HIV transmission. Sub-Saharan Africa is the most heavily affected region in the world, with an HIV incidence of 0.93 per 1,000 for men (almost 4 times the global average) and 1.3 per 1,000 for women (more than 5 times the global average). In addition, 58% of the all new adult HIV infections in sub-Saharan Africa were among women, and new infections among women aged 15–49 in sub-Saharan Africa contributed a third of total HIV infections globally.¹ Oceania (excluding Australia and New Zealand), the second most affected region, had an infection rate much closer to the global average, about 0.27 per 1,000 infections for women and 0.22 per 1,000 for men, with women accounting for more than half of new HIV infections (55%).

Countries in other parts of the world had lower rates of HIV infection, although national or regional data usually hide inequalities within, and the incidence was higher among men than women, particularly in Latin America and the Caribbean and in Europe and Northern America (at least 2.5 times higher) (see figure I), where HIV is predominantly transmitted through sex between men or intravenous drug use.² Men who have sex with men accounted for an estimated 17% of new HIV infections globally, accounting for more than half of new HIV infections in western and central Europe and Northern America and 40% of infections in Latin America.³

Early marriage, gender-based violence, unequal access to information, including **sexual health knowledge**, and a lack of negotiating power and economic autonomy are among a number of factors that put women and adolescent girls at increased risk of HIV infection and restrict their ability to protect themselves from infection. Research has also shown greater biological susceptibility to HIV infection in women, especially adolescent girls.⁴ Among the community of men and boys who have sex with members of the same sex, masculine norms that stigmatize homosexuality can lead to promiscuity and substance abuse,

increasing the risk of infection.⁵ More broadly, traditional masculine norms also typically equate risk-taking, aggression and stoicism with so-called manliness, and they stigmatize illness and prudence,⁶ which leads men to increased practice of unsafe sex, and decreased access to health services and adherence to treatment.

Progress in reducing rates of infection has been achieved in eastern and southern Africa, home to 54% of the global population living with HIV. During the period 2010–2018, AIDS-related mortality in these subregions declined by 44% and annual new HIV infections declined by 28%.

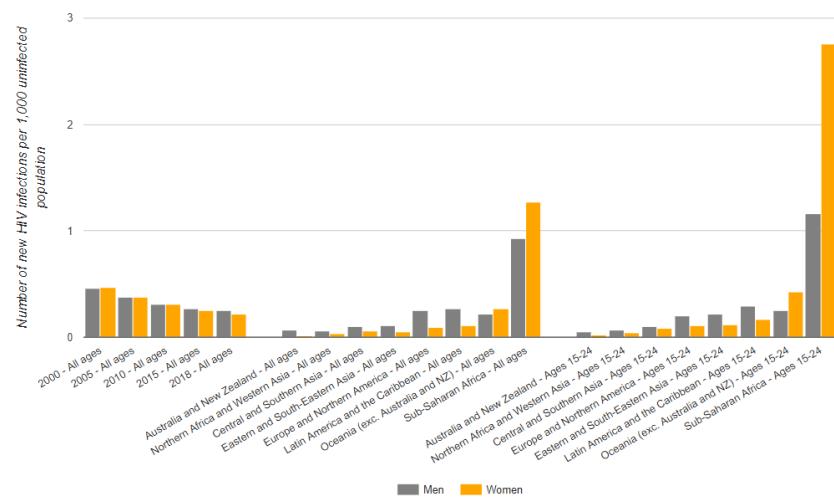
However, other regions have experienced an increase in HIV infection. Over the period 2010–2018, AIDS-related deaths in eastern Europe and central Asia increased by 5% and in Middle East and North Africa by 9%, and in three subregions the rate of HIV infection increased over the same time period: eastern Europe and central Asia (29% increase), the Middle East and North Africa (10% increase) and Latin America (7% increase).⁷

Globally, although new HIV infections among young women (aged 15–24) fell by 25% between 2010 and 2018, rates are significantly high in some regions

As reported in 2018, an alarming 7 in 10 young women in sub-Saharan Africa did not have comprehensive knowledge about HIV,⁸ and women overall were at higher risk of contracting HIV. Infection rates in young women aged 15–24 were almost 2.5 times as high as those of men of the same age (see figure I). A similar pattern has been reported in Oceania, excluding Australia and New Zealand, where adolescent girls and young women are particularly vulnerable and at increased risk of HIV infection.⁹ The pattern of high infection rates in young women reflects harmful gender norms that create unequal power dynamics in the home and wider society and deny young women control over their lives.¹⁰

Curbing HIV infections of girls and adolescents is particularly important in the prevention of mother-to-child transmission of HIV, since about 90% of HIV infections in infants and children are passed on from their mothers during pregnancy, delivery or breastfeeding, and half of all infants infected with HIV are likely to die before their second birthday if they do not receive treatment.¹¹ Persistent efforts to reach pregnant women living with HIV have resulted in a 44% decline in incidence among young children between 2010 and 2018 globally.¹²

Condom promotion remains a mainstay of prevention. However, according to UNAIDS,¹³ from a sample of 12 countries in West and Central Africa with recent data,¹⁴ more than half of young men (aged 15–24 years) in only 6 countries reported condom use at last incidence of high-risk sex. These data also show that condom use among young women was consistently lower.

Figure I: Estimated HIV incidence rate per 1,000 uninfected population: 2018

Source: Joint United Nations Programme on HIV/AIDS (UNAIDS).

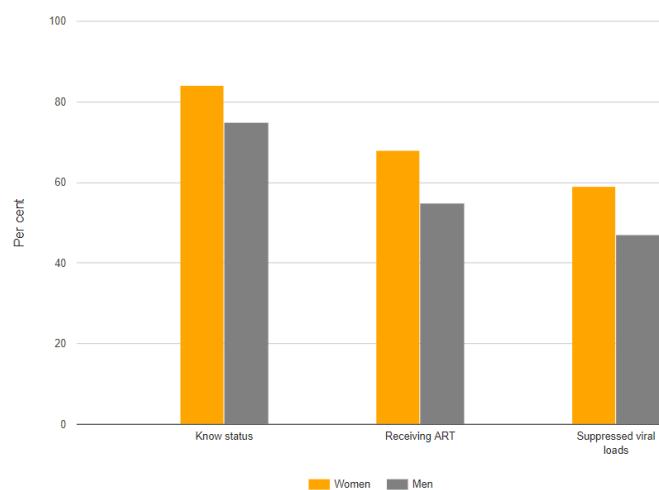
Note: Regional values are for 2018; regions are in ascending order of HIV incidence rate in females.

Globally, in 2017, men were less likely than women to take an HIV test, access antiretroviral therapy or have suppressed their viral loads.¹⁵

The uptake of testing and treatment can be low if such services are difficult to access. Fear of stigma and discrimination can also result in delays in seeking care, which can result in poor health outcomes.^{16 17 18} Men have reduced access to health-care services compared with women, who often access HIV services through maternal health services. Moreover, in general, men are less likely to seek health care,^{19 20} and are thus less likely to be diagnosed (75% men living with HIV/AIDS know their status versus 84% of women) and treated (55% among diagnosed men receive antiretroviral therapy versus 68% women) (see figure II). When men living with HIV are not diagnosed, do not start HIV treatment or fail to continue treatment, both their own health and the well-being and prospects of their partners, households, extended families and communities are jeopardized.

The intersections between infectious diseases, including HIV, and structural inequalities cannot be overstated.²¹ In light of the COVID-19 pandemic, efforts must be made to mitigate and overcome interruptions in health services and supplies in sub-Saharan Africa. Models show that if no action is taken, a six-month complete disruption in HIV services, including antiretroviral therapy, could lead to more than 500,000 additional deaths in the period 2020–2021 in sub-Saharan Africa from AIDS-related illnesses, including TB.²²

Figure II: Proportion of people living with HIV/AIDS who know their HIV status, are receiving treatment and have suppressed their viral loads: 2018



Source: UNAIDS, UNAIDS Data 2019, Geneva, 2019 (https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf).

People who are infected with HIV are 19 times more likely to develop active TB²³

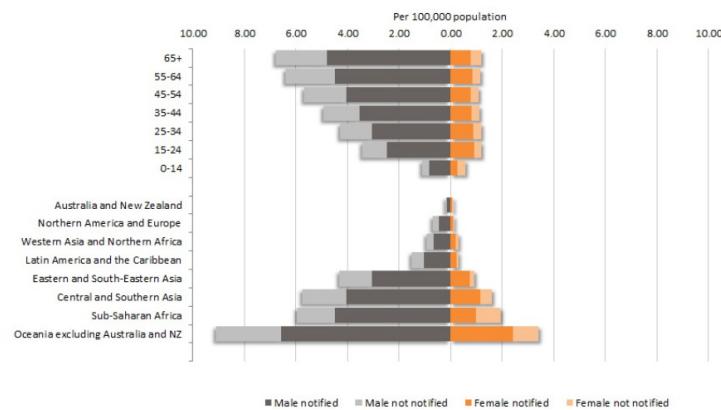
In 2018, it is estimated that there were 10 million cases of TB, 63% among men and 37% among women. While the incidence of TB appears to increase as men grow older, it remains relatively constant across age for women. Regional differences, with incidence among women consistently lower than men, were also significant (see figure III). Incidence was highest in Oceania (excluding Australia and New Zealand), with 6.5 new notified cases per 100,000 for men and 2.4 per 100,000 for women, followed by sub-Saharan Africa and Central and Southern Asia. Regional gender gaps in the incidence of TB also varied significantly, with the largest gender gap reported in Northern America and Europe, where men are 2.2 times more likely than women to be infected by TB, followed by Eastern and South-Eastern Asia and Latin America and the Caribbean, where men are almost twice as likely to be infected by TB as women.

The higher estimated incidence among men may be partly explained by men being more likely to smoke or drink.^{24 25} As reported by WHO, Oceania (excluding Australia and New Zealand) and Central and Southern Asia are the top three regions in terms of prevalence of **tobacco smoking** among men. The prevalence of smoking in adult men (aged over 15) is above 40% in 10 of the 30 countries with high incidence of TB.²⁶ Immunological reasons for an excess of TB infection in men have also been proposed.²⁷

Male TB patients appear to be less likely to seek care than female TB patients, as reflected in lower rates of case notification compared with the estimated total of cases (see figure III). As a consequence, male patients remain infectious in the community longer than female patients. There is a need for strategies to improve access to and use of health-care services among men, not only to address gender inequities but also to reduce infection to greatest extent possible. Potential strategies include the more active targeting of men with routine diagnostic and screening services.

Even though globally men are significantly more at risk of contracting and dying from TB than women, TB can have particularly severe consequences for women, especially during their reproductive years and during pregnancy. TB among mothers is associated with a six-fold increase in perinatal deaths and a two-fold risk of premature birth and low birth-weight; TB in pregnant women living with HIV increases the risk of maternal and infant mortality by almost 400%.²⁸

Modelling suggests that if the COVID-19 pandemic leads to a 25% global reduction in expected TB detection for three months, a realistic possibility given the levels of disruption being observed in multiple countries, a 13% rise in TB deaths might be expected. This would mean that global mortality rates from TB infection could return to those seen five years ago.²⁹

Figure III: Estimated incidence of notified and not notified cases of tuberculosis by sex: 2018

Source: WHO, Global Tuberculosis Report 2019, Geneva, 2019 (<https://apps.who.int/iris/bitstream/handle/10665/329368/9789241565714-eng.pdf?ua=1>).

Note: Regions are ordered according to estimated incidence of TB. Notified cases: the number of TB cases detected in a given year. The term "case detection", as used here, means that TB is diagnosed in a patient and is reported within the national surveillance system, and then to WHO. Not notified cases: gap between the number of new cases reported and the estimated.

About the data

Definitions

- **HIV incidence rate (SDG Indicator 3.3.1):** Number of new HIV infections per 1,000 uninfected population in a given period. The incidence rate provides a measure of progress towards preventing the onward transmission of HIV.
- **Proportion of the population living with HIV/AIDS who know their HIV status, are receiving treatment and have suppressed their viral loads:** Percentage of all people living with HIV who know their HIV status, are accessing treatment and have suppressed viral loads. This indicator belongs to the cascade of the 90-90-90 targets, called the "HIV testing and treatment cascade".
- **Tuberculosis incidence rate (SDG Indicator 3.3.2):** Estimated number of new cases and relapsed cases of tuberculosis (TB) (all forms of TB, including people living with HIV) arising in a given year, expressed as a rate per 100,000 population.
- **Notified TB cases:** The number of TB cases detected in a given year. The term "case detection", as used here, means that if TB is diagnosed in a patient it is reported within the national surveillance system and then to WHO.
- **Not notified TB cases:** Gap between the number of new cases reported and the estimated number of new cases.

Availability

- **HIV incidence rate (SDG Indicator 3.3.1):** Estimates published in 2019 by the Joint United Nations Programme on HIV/AIDS (UNAIDS)³⁰ and the World Health Organization³¹ are available for 170 countries. Estimates are not produced for 10 countries with very small HIV epidemics or those with populations lower than 250,000. Countries are organized by regional groupings under the Sustainable Development Goals (SDGs) indicator framework.³²
- **Tuberculosis incidence rate (SDG Indicator 3.3.2):** WHO produces an annual report with estimates for all countries.³³

Footnotes

1. United Nations, Report of the Secretary-General on progress towards the Sustainable Development Goals, April 2020 (E/2020/57).
2. UNDESA, Statistics Division, World's Women 2015: Trends and Statistics (chap. 2, p. 44) New York, 2015.
3. UNAIDS, Communities at the Centre – Defending rights – Breaking barriers – Reaching people with HIV services, Global AIDS update 2019.
4. UNAIDS, HIV prevention among adolescent girls and young women, 2016.
5. United Nations Children's Fund (UNICEF), Gender and HIV/AIDS, New York, July 2020.
6. UNAIDS, Blind spot – Reaching out to men and boys, 2017.
7. UNAIDS, Communities at the Centre – Defending rights – Breaking barriers – Reaching people with HIV services, Global AIDS update 2019.
8. Ibid.
9. WHO, Health Topics database, HIV/AIDS.
10. Garcia-Moreno, C., and Watts, C., "Violence against women: its importance for HIV/AIDS", AIDS, vol. 14, Suppl. 3, 2000.
11. UNICEF, Gender and HIV/AIDS, New York, July 2020.
12. UNDESA, Statistics Division, The Sustainable Development Goals Report 2020, New York, 2020.
13. UNAIDS, UNAIDS Data 2019, Geneva, 2019.
14. Population-based surveys, 2013–2017.
15. UNAIDS, Blind Spot: Reaching out to men and boys: addressing a blind spot in the response to HIV, Geneva, 2017.
16. Dlamini-Simelane, T.T.T., and Moyer E. "Lost to follow up": rethinking delayed and interrupted HIV treatment among married Swazi women", Health Policy and Planning, vol. 32, Issue 2, March 2017. (back to text)
17. Gamarel, K.E., Nelson, K.M., Stephenson, R., Santiago Rivera, O.J., Chiaramonte, D., and Miller, R.L., "Anticipated HIV stigma and delays in regular HIV testing behaviors among sexually-active young gay, bisexual, and other men who have sex with men and transgender women", AIDS and Behavior, vol. 22, January 2017.
18. Merten, S., Ntalasha, H., Musheke, M., "Non-uptake of HIV testing in children at risk in two urban and rural settings in Zambia: a mixed-methods study", PLOS ONE, June 2016.
19. Saikia, N., Moradhvaj, Bora, J.K., "Gender difference in health-care expenditure: evidence from India human development survey", PLOS ONE, 11(7), July 2016.
20. Thompson, A. et al. "The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study", BMC Family Practice, 17:38, 2016.
21. Small, E., Sharma, B.B., and Nikolova, S.P., "Covid-19 and Gender in LMICs: Potential Lessons from HIV Pandemic", AIDS and Behavior, vol. 24, May 2020.
22. UNDESA, Statistics Division, The Sustainable Development Goals Report 2020, New York, 2020.
23. WHO, Health Topics, Fact sheets, Tuberculosis .
24. Amere, G.A., Nayak, P., Salindri, A.D., Narayan, K.M.V., and Magee, M.J. "Contribution of Smoking to Tuberculosis Incidence and Mortality in High-Tuberculosis-Burden Countries", American Journal of Epidemiology, vol. 187, Issue 7, September 2018.
25. Narasimhan, P., Wood, J., Maclntyre, C.R., and Mathai, D., "Risk factors for tuberculosis", Journal of Pulmonary Medicine, vol. 2013, February 2013.
26. WHO, Global Tuberculosis Report 2019, Geneva, 2019.
27. Nhamoyebonde, S., and Leslie, A. "Biological differences between the sexes and susceptibility to tuberculosis", Journal of Infectious Diseases, vol. 209, Issue suppl. 3, July 2014.

World's Women 2020

28. [WHO, Tuberculosis in women, 2019](#) .
29. [UNDESA, Statistics Division, The Sustainable Development Goals Report 2020, New York, 2020](#) .
30. [Joint United Nations Programme on HIV/AIDS \(UNAIDS\), UNAIDS Data 2019, Geneva, 2019](#) .
31. [World Health Organization \(WHO\), Health Topics database, HIV/AIDS](#) .
32. [United Nations Department of Economic and Social Affairs \(UNDESA\), Statistical Division, regional groupings under the Sustainable Development Goals \(SDGs\) indicator framework](#) .
33. [WHO, Global Tuberculosis Report 2019, Geneva, 2019](#) .

Coronavirus-19, gender and health



Key points

- In 2020, COVID-19 became a global pandemic, with practically all countries and territories in the world affected: as of September 2020, approximately 32 million confirmed cases and almost 1 million deaths have been reported worldwide.
- Based on data from 38 countries and territories, there is a slightly larger proportion of boys and young men among cases of COVID-19 below the age of 20, (57% among boys aged 0–9 age and 53% among boys and young men aged 10–19). In age groups above 20 years, women account for a larger proportion of cases, for example, women represent 57% and 58% of cases in age brackets 40–49 and 50–59, respectively. Above the age of 80, women significantly outnumber men among those infected: for every single case of COVID-19 among men aged 80 and older there are 2 cases among women.
- COVID-19 has greatly increased mortality rates among men. Based on data for 38 countries and territories, men have a larger share of deaths across all age groups except among the population aged 80 and older. Between ages 20–80, men are significantly overrepresented among COVID-19 deaths: men represent above 60% of deaths in every age group, and 70% among the population aged 40–49.
- Although less likely to die from COVID-19, women face additional challenges related to the disease compared to men, including increased risk of domestic violence and abuse due to the isolation measures implemented by governments to curtail the virus spread. Women also comprise 69% of health professionals who are now on the front lines in the battle against the pandemic, facing a higher risk of infection than men in the workplace.
- A range of medications and vaccines are under development or undergoing clinical trials. Given the nature of the disease it will be important that such trials include both women and men, older people and those with comorbidities.

Background

Coronaviruses are a family of viruses that may cause illness in animals and humans. In humans, several coronaviruses are known to cause respiratory infections, which range from the common cold to more severe diseases such as Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS). The most recently discovered coronavirus disease, COVID-19, was unknown before an outbreak that began in Wuhan, China, in December 2019. The most common symptoms of COVID-19 are fever, dry cough and tiredness. Other less common symptoms include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhoea, loss of taste or smell, a skin rash or discolouration of fingers or toes.

COVID-19 has affected virtually all countries and territories, with about 32 million confirmed cases and almost 1 million deaths as of September 2020

Most people (about 80%) recover from the disease without needing hospital treatment. However, about 20% of people who contract COVID-19 become seriously ill and develop difficulty breathing. **Older people** and those

with underlying medical problems such as high blood pressure, heart and lung problems, diabetes or cancer, are at higher risk of developing serious illness.¹ Emerging studies also suggest that men are at higher risk for worse outcomes and death. ^{2 3 4 5}

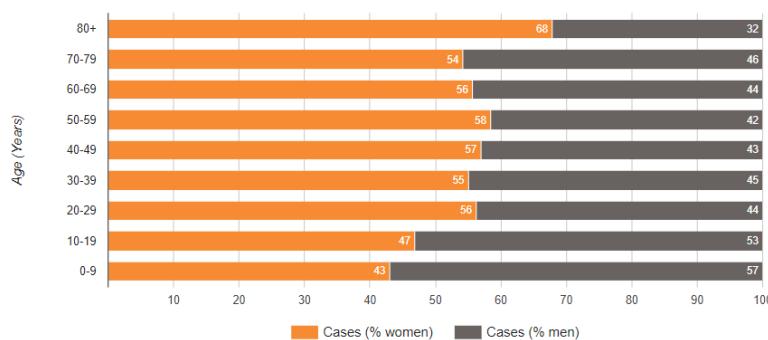
Recent data for 38 countries and territories suggest that while women above age 20 are more likely to be diagnosed with COVID-19, men in all age groups under age 80 are more likely than women to die from it

The limited availability of sex- and age-disaggregated data on COVID-19 infection and mortality hampers the analysis of the gendered implications of the disease in different age groups and the development of appropriate responses.⁶ As at 6 May 2020, only 40% of globally reported confirmed cases of COVID-19 had been reported to WHO with age and sex information.⁷ More recently available pooled data for 38 countries and territories (as of 15 September) suggest that boys and young men below age 20 account for a slightly larger share of cases of COVID-19 than women (on average, across countries with data, 57% of COVID-19 infections among those aged 0–9 are boys and 53% among those aged 10–19 are boys and young men), while between ages 20–80 women account for a slightly larger share, reaching as much as 58% of cases in the age bracket 50–59, followed by 57% in the age group 40–49 and, 56% among those aged 20–29, and 56%.

Above age 80, the share of women with COVID-19 is significantly larger: 68% of cases at age 80 and older are women and 32% are men, meaning that for every male case of COVID-19 in that age group there are more than 2 cases among women (see figure I).

It is too early to speculate as to the reasons for this age-sex pattern. The reduced share among young women could be due to their higher innate immunity or their tendency to take fewer risks than young men. The higher share of diagnosis among women later in life (after age 20), could stem from higher level of exposure among women-dominated occupations. Above age 80, larger shares are most likely due to the fact that women make up the majority of the population.

Figure I: Share of COVID-19 cases by sex and age group, 2020 (Percentage)



Source: Global Health 5050, African Population and Health Research Center and International Center for Research on Women: the COVID-19 Sex-Disaggregated Data Tracker (<https://globalhealth5050.org/>) includes data for 38 countries and territories (data obtained on 15 September 2020).

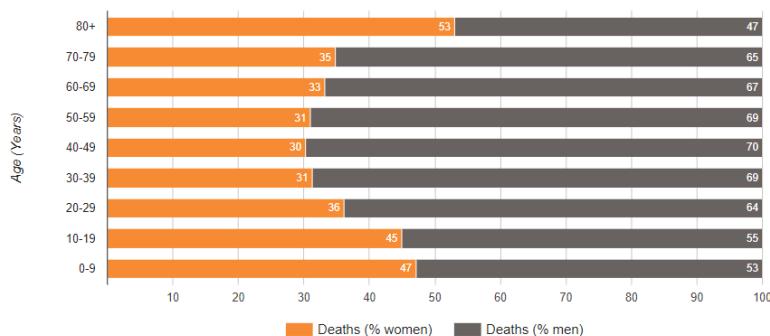
Recent data for 38 countries and territories also suggest that COVID-19 has greatly increased mortality rates among men. Men have a larger share of deaths across all age groups except among the population aged 80 and older.

Countries with large older populations are at greater risk of having [large numbers of deaths](#) due to COVID-19 relative to their population size. Men have a larger share of deaths across all age groups, except among the population aged 80 and older (see figure II). The share of men among deaths due to COVID-19, particularly between ages 20–80, is significantly higher than that among women (above 60% in each age group), reaching 70% for men aged 40–49, 69% for men aged 30–39 and 50–59, and 67% for men aged 60–69.

After age 80, women account for slightly more than half of deaths (53%), probably due to the smaller male population in that age group.

The higher shares of men among COVID-19 deaths are especially remarkable given that women account for larger shares among those diagnosed with COVID-19 across all age groups, except for the population under age 20 (see figure I). In other words, adult women are more affected than men by COVID-19 infections, but they are able to recover, while men are more likely to succumb to the disease. Poor health outcomes in both women and men have been linked to [underlying health conditions](#), such as pre-existing cardiovascular disease, diabetes, being on steroid therapy or being overweight. Traditional masculine norms which may inhibit men from seeking health care could be related to the poor outcomes observed in men. Improved outcomes in women have also been linked to enhanced immune responses.⁸

Figure II: Share of COVID-19 deaths by sex and age group, 2020 (Percentage)



Source: Global Health 5050, African Population and Health Research Center and International Center for Research on Women: the COVID-19 Sex-Disaggregated Data Tracker (<https://globalhealth5050.org/>) includes data for 38 countries and territories (data obtained on 15 September 2020).

The disruption to health services caused by COVID-19 has affected the utilization of health services and consequently outcomes for other health-related conditions.

Countries that have sufficiently sensitive and timely civil registration systems have noted an increase in the number of deaths from all causes. While a high proportion of excess deaths have been attributed to COVID-19, there also appears to be an increase in the number of deaths from other causes.^{9 10} A full accounting of lives lost during the pandemic will require an extensive analysis of excess deaths across the globe in order to identify

COVID-19 deaths not reported as such,¹¹ as well as deaths from other causes that may be indirectly attributable to the disease. The latter category includes excess deaths that occur because people do not seek or cannot obtain medical care when needed during the ongoing pandemic, whether for chronic diseases, injuries, complications of pregnancy or other conditions. The precise magnitude and patterns for this trend remain to be determined.

Access to sexual and reproductive health and reproductive rights for women and girls may be reduced during the pandemic

Governments and health-care facilities are making choices about prioritizing the provision of some health services and scaling back others.¹² Experience and evidence from previous outbreaks (including the Ebola epidemics in the Democratic Republic of the Congo, Guinea and Sierra Leone and the Zika virus disease) and other humanitarian emergencies indicate that **sexual and reproductive health services**, including pregnancy care, contraceptive services, sexual assault services and safe abortion, are likely to be scaled back.^{13 14 15} This can result in an increased risk of **maternal mortality**, unintended pregnancies and other adverse sexual and reproductive health outcomes among women and girls.¹⁶

Efforts to control COVID-19 have differing effects on women and men, but the emotional impact of the pandemic is disproportionately falling on women's shoulders.

Treatment for COVID-19 currently involves managing respiratory illness and other symptoms associated with the disease, with around 20% of diagnosed patients requiring intensive care. Women comprise the majority of the health-care workforce, especially nurses, and therefore have greater levels of exposure. Based on latest available data as of 2019 for 121 countries (excluding China and India), globally, women comprise 69% of health professionals, including medical doctors and nursing personnel.

Emerging evidence from the Asia-Pacific region¹⁷ highlights that, although data show that men are more likely to contract and die from the COVID-19, the emotional impact of the pandemic is disproportionately falling on women's shoulders in most countries. Increases in **unpaid care and domestic work, job and income loss** and the effects of the lockdown and the confinement at home, which has been associated with a potential increased risk on **intimate partner violence**, are among the factors that may be contributing to higher levels of stress and anxiety among women.

A range of medications and vaccines are under development or undergoing clinical trials. Given the gender component of the disease spread and related mortality, it will be important that such trials include both women and men, older people and those with comorbidities.¹⁸

About the data

Definitions

- **Share (%) of Coronavirus disease 2019 (COVID-19) cases by sex:** Share (%) of cases over total number of cases by age and sex.
- **Share (%) of Coronavirus disease 2019 (COVID-19) deaths by sex:** Share (%) of cases over total number of cases by age and sex.

Coverage

Women and men of all ages.

Availability

Data are available for 74 countries and territories by sex and for 38 countries and territories by sex and age group. The availability of data is critically limited; there is urgent need for more disaggregated data to facilitate gender analysis, in addition to sex and age, such as data on occupation, underlying conditions including pregnancy, testing and hospitalization.

Footnotes

1. World Health Organization (WHO), Health Topics, Q&A on coronaviruses (COVID-19), WHO, Health Topics, Coronavirus disease (COVID-19) pandemic.
2. Xie, J., Tong, Z., Guan, X., Du, B., and Qiu, H., "Clinical Characteristics of Patients Who Died of Coronavirus Disease 2019 in China", *JAMA Network Open*, 10 April 2020.
3. Guan, W.J., Ni, Z.Y., Hu, Y., et al., "Clinical Characteristics of Coronavirus Disease 2019 in China", *New England Journal of Medicine*, vol.382, 30 April 2020.
4. Banerjee, A., et al., "Estimating excess 1-year mortality associated with the COVID-19 pandemic according to underlying conditions and age: a population-based cohort study", *The Lancet*, 12 May 2020.
5. Nikpouraghdam, M., et al., « Epidemiological characteristics of coronavirus disease 2019 (COVID-19) patients in IRAN : a single center study », *Journal of Clinical Virology*, June 2020.
6. WHO, Gender and COVID-19, advocacy brief, 14 May 2020.
7. Ibid.
8. Zeng, F., et al., "A comparison study of SARS-CoV-2 IgG antibody between male and female COVID-19 patients: A possible reason underlying different outcome between sex", *Journal of Medical Virology*, vol. 92, Issue 10, May 2020.
9. Holmes, J.L., et al., "Emergency ambulance services for heart attack and stroke during UK's COVID-19 lockdown", *The Lancet*, vol. 395, No. 10237, 13 May 2020.
10. The Economist, Tracking covid-19 excess deaths across countries, 15 July 2020.
11. Reporting by individual countries of the percentage of COVID 19 cases and deaths that are being accurately identified and reported as such is varied. Preliminary studies indicate that COVID-19 deaths reported by some countries comprise no more than half of the "excess deaths" observed during March, April and May 2020, when the number of deaths was far above what would have been expected based on the average number of deaths in previous years
12. WHO, Gender and COVID-19, advocacy brief, 14 May 2020.
13. Smith, J., "Overcoming the 'tyranny of the urgent': integrating gender into disease outbreak preparedness and response", *Gender & Development*, vol. 27, Issue 2, June 2019.
14. McKay, G., Black, B., Mbambu Kahamba, S., Wheeler, E., Mearns, S., Janvrin, A., "Not all that bleeds Is Ebola: How has the DRC Ebola outbreak impacted Sexual and Reproductive Health in North-Kivu", International Rescue Committee, 2019.
15. Camara, B.S., Delamou, A., Diro, E., Béavogui, A.H., El Ayadi, A.M., Sidibé, S. et al., "Effect of the 2014/2015 Ebola outbreak on reproductive health services in a rural district of Guinea: an ecological study", *Transactions of the Royal Society of Tropical Medicine & Hygiene*, vol. 111, Issue 1, January 2017.
16. WHO, Gender and COVID-19, advocacy brief, 14 May 2020.
17. United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), "Surveys show that COVID-19 has gendered effects in Asia and the Pacific", April 2020.
18. Lithander, F.E., et al., "COVID-19 in older people: a rapid clinical review", *Age and Ageing*, vol. 49, Issue 4, July 2020.

Deaths among people aged 30-70 from
non-communicable diseases (premature mortality)



Key points

- In 2016, non-communicable diseases were the cause of 41 million deaths (21 million among men and 20 million among women), or 71% of global deaths, including 15 million premature deaths (people aged 30–70).
- The risk of dying prematurely from any of the four major non-communicable diseases (cardiovascular disease, cancer, diabetes; and chronic obstructive pulmonary disease) between ages 30–70 was 21% for men and 15% for women. The risk has decreased by 5 percentage points for men and by more than 3 percentage points for women since 2000. The risk of dying prematurely due to non-communicable diseases varies by region, with the highest rate reported in Oceania (excluding Australia and New Zealand), where it is as high as 33% among men and 25% among women, and the lowest level of risk in Australia and New Zealand, where it is around 10% for men and 7% for women.
- Gender differences in the risk of premature death due to non-communicable diseases also vary by region, with the largest gender gap in Europe and Northern America, where men are almost twice as likely to die prematurely as women, and the smallest in sub-Saharan Africa, where men and women have equal chances of dying prematurely from non-communicable diseases.
- While men are less likely to use health services due to stereotypical notions of masculinity and other factors,³ women may exhibit different, so-called "atypical", symptoms for certain non-communicable diseases than men, and consequently may have a delayed diagnosis and treatment.
- The Coronavirus-19 (COVID-19) pandemic has severely disrupted the delivery of prevention and treatment services for non-communicable diseases in many countries surveyed, notably for: hypertension in 53% of countries; diabetes and diabetes-related complications in 49% of countries; cancer in 42% of countries; and cardiovascular emergencies in 31% of countries.

Background

Non-communicable diseases, also known as chronic diseases, which tend to be of long duration, are the result of a combination of genetic, physiological, environmental and behavioural factors.² The disease burden from non-communicable diseases among adults, who are in the most economically productive age span, is rapidly increasing in developing countries due to ageing and health transitions.³

In developed countries, premature deaths due to non-communicable diseases are frequently associated with occupational risks or individual behaviours, including excessive alcohol consumption, obesity, and smoking, which leads to higher rates of death from lung cancer.

The incidence of some non-communicable diseases, such as diabetes and hypertensive heart disease, can be prevented or greatly reduced through the adoption of a healthy lifestyle, while other conditions, particularly cancers, cannot easily be prevented. However, early detection and modern treatment can greatly reduce mortality for many forms of cancer. WHO estimates that about 30% to 50% of cancers can be prevented with lifestyle modifications, such as eliminating tobacco use, being physically active and reducing exposure to carcinogens in the environment.⁴

Non-communicable diseases threaten progress towards the achievement of target 3.4 of the 2030 Agenda for Sustainable Development⁵ to reduce premature deaths from non-communicable diseases by one-third by 2030, as well as towards the overarching Goal of the 2030 Agenda, Goal 1, to end poverty in all its forms everywhere.

It is predicted that the rapid rise in non-communicable diseases will impede poverty reduction initiatives in developing countries (and even in some developed countries) owing to the associated high health-care costs, loss of employment and reduced income. With household savings drained to pay for often lengthy and expensive medical treatments, millions are forced into poverty annually.⁶

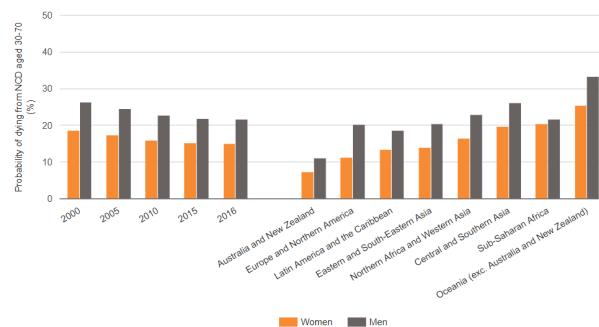
Current situation

In 2016, the probability of dying prematurely from any of the four major non-communicable diseases between ages 30–70 was 21.6% for men and 15% for women

In 2016, non-communicable diseases were the cause of 41 million deaths (21 million among men and 20 million among women), or 71% of global deaths,⁷ including 15 million premature deaths (deaths between ages 30–70). Globally, the probability of dying prematurely from any of the four major non-communicable diseases (cardiovascular disease, cancer, diabetes; and chronic obstructive pulmonary disease) between ages 30–70 was 21% for men and 15% for women. Compared to 2000, those rates represented a significant reduction in the global death rate of 5 percentage points for men and more than 3 percentage points for women, as well as a marginal decrease in the gender gap of 6.6 percentage points.

Progress in reducing premature deaths due to non-communicable diseases has slowed since 2010, partly due to a lack of success in addressing a number of *risk factors*. While tobacco use is steadily declining, obesity is on the rise, and global efforts to decrease alcohol consumption have stagnated and this harmful behaviour is increasing in some regions.⁸

Figure: Probability of dying from cardiovascular disease, cancer, diabetes or chronic respiratory disease between ages 30-70, by age: 2000-2016 (Percentage)



Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).

Note: Regional values are for 2016; regions are presented in ascending order of mortality rates in women aged 30-70.

The region with highest risk of premature death due to non-communicable diseases, both for women and men, was Oceania (excluding Australia and New Zealand), but the largest gender gap was recorded in Europe and Northern America

In 2016, the highest risk of premature death from non-communicable diseases was in countries in Oceania (excluding Australia and New Zealand), where this probability was 33% (one in three) among men and 25% (one in four) among women. The lowest risk was reported in Australia and New Zealand, where it was around 10% for men and 7% for women. The gender gap between women and men was least marked in sub-Saharan Africa, where the probability of premature death due was almost the same for both sexes (21% for men and 20% for women). The largest gender gap was in Europe and Northern America, where men were almost twice as likely as women to die between ages 30–70 from non-communicable diseases (20% for men and 11% for women) (see figure).

Multiple factors influence the risk of mortality from non-communicable diseases

Biological differences between men and women are contributing factors in variations in the mortality rates related to cancers of the reproductive organs (for example, cervical, breast, prostate and testicular cancers). Death rates may also be influenced by levels of access to diagnosis and treatment: cervical cancer rates are reported at higher rates in low-income countries with poor access to health services⁹ as well as by significant inequities in access to quality preventative services through primary health care.

Overall, premature mortality caused by non-communicable diseases continues to be disproportionately concentrated in the most socially disadvantaged countries, with fluctuations in premature mortality rates, in particular among women within and across regions (see figure).¹⁰

In many countries, owing to stereotypical ideas about masculinity and other factors, men are less likely to use health services. Women, however, who tend to use health-care services to a greater degree, may exhibit different symptoms for some non-communicable diseases than men and may experience delayed diagnosis and treatment. For example, symptoms for coronary heart disease reported among women, including back pain, nausea or fatigue, may be considered "atypical", leading to underdiagnosis and undertreatment.¹¹

For many non-communicable diseases, death rates are driven by exposure to major modifiable risk factors, including: tobacco use; the harmful use of alcohol; unhealthy diet; and physical inactivity, which increases the risk of obesity. All of these risky behaviours vary by sex, with men generally adopting unhealthier lifestyles and taking greater risks than women.

In a health emergency such as the COVID-19 pandemic, patients with pre-existing conditions such as hypertension and diabetes, have become more vulnerable and at higher risk of dying, not only because they are more susceptible to the virus, but because of the prioritization of medical resources directed towards caring for patients with the disease.

In a rapid assessment survey of service delivery for non-communicable diseases conducted by WHO in 2020, results confirmed that the prevention and treatment services have been severely disrupted by the pandemic.¹² More than half (53%) of the countries surveyed have partially or completely disrupted services for hypertension treatment; 49% for treatment for diabetes and diabetes-related complications; 42% for cancer treatment; and 31% for cardiovascular emergencies.¹³

Since people with underlying health conditions, in particular the four major non-communicable diseases, are at higher risk of contracting COVID-19, it is critical that efforts to address the burden of these diseases in the global community be reinforced¹⁴ and that these efforts are gender and culturally sensitive and targeted to at-risk populations.

About the data

Definitions

- **Premature mortality:** Probability of people aged 30–70 dying from the following four non-communicable diseases: cardiovascular disease; cancer; diabetes; or chronic respiratory disease. Measuring the risk of dying from these four major causes is important in the assessment of the extent of the socioeconomic burden from premature mortality due to non-communicable diseases in a population.

Coverage

- Women and men aged 30-70.

Availability

- Around 70 countries have consistent high-quality data and 40 countries have data of lower quality. All countries are classified according to regional groupings under the Sustainable Development Goals (SDGs) indicators framework.¹⁵ The World Health Organization (WHO) calculates estimates for all WHO member States with a population over 90,000 (184 countries).

Footnotes

1. World Health Organization (WHO), The men's health gap: men must be included in the global health equity agenda, WHO online bulletin, March 2014.
2. WHO, Non-communicable diseases fact sheet, June 2018.
3. WHO, Global Health Observatory, "Probability of dying between age 30 and exact age 70 from any of cardiovascular disease, cancer, diabetes, or chronic respiratory disease", World Health Data Platform.
4. WHO, Cancer prevention.
5. General Assembly resolution 70/1, "Transforming our World: The 2030 Agenda for Sustainable Development", adopted 25 September 2015.
6. WHO, Non-communicable diseases fact sheet, 1 June 2018.
7. WHO, Disease burden and mortality estimates, 2000–2016, Geneva, 2018.
8. WHO, World Health Statistics 2020: Monitoring Health for the SDGs, Geneva, 2020.
9. Denny, L., de Sanjose, S., Mutebi, M., Anderson, B.O., Kim, J., Jeronimo, J. et al., "Interventions to close the divide for women with breast and cervical cancer between low-income and middle-income countries and high-income countries", Lancet, February 2017.
10. WHO, World Health Statistics 2020: Monitoring Health for the SDGs, Geneva, 2020.
11. Mehta, L.S., Beckie, T.M., DeVon, H.A., Grines, C.L., Krumholz, H.M., Johnson, M.N. et al., "Acute myocardial infarction in women: a scientific statement from the American Heart Association", Circulation, March 2016.
12. WHO, The impact of the COVID-19 pandemic on noncommunicable disease resources and services: results of a rapid assessment, Geneva, 2020.
13. WHO, "COVID-19 significantly impacts health services for noncommunicable diseases", press release, 1 June 2020.
14. WHO, World Health Statistics 2020: Monitoring Health for the SDGs, Geneva, 2020.
15. Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Health risk factors



Key points

- Tobacco use kills more than 8 million people annually around the world: over 7 million people die from the first-hand use of tobacco and around 1.2 million non-smokers die from exposure to second-hand smoke.
- Globally, men are 4.5 times more likely to smoke than women: the gender difference is largest in Eastern and South-Eastern Asia, where men are almost 13 times more likely than women to use tobacco; the gender gap is smallest in Australia and New Zealand where the ratio is 1.3, closer to gender parity.
- Since 2000 there has been a decline in smoking rates among both sexes, although the decline has been less pronounced among men.
- In 2016, more than 3 million people died as a result of the harmful use of alcohol, representing 1 in 20 deaths worldwide: the vast majority, more than three quarters, of those deaths were among men.
- In 2018, men consumed more alcohol than women worldwide, an average of 9.8 litres per man versus 2.6 litres of alcohol per woman aged 15 and older.
- In 2016, 39% of adults aged 18 and older (39% of men and 40% of women) were overweight. About 13% of the world's adult population (11% of men and 15% of women) were obese. Women are more likely than men to be obese both as a result of biological and lifestyle factors, in particular lower rates of participation in physical activity and insufficient time for personal care and leisure.
- Emerging research shows that smoking may also be associated with a negative progression and adverse outcomes of the Coronavirus-19 (COVID-19) disease, which works to the disadvantage of men, who are more likely to smoke than women (4.5 times more likely, globally). Severe obesity has been also found to be associated with higher in-hospital mortality and, in general, worse in-hospital outcomes related to COVID-19.

Background

A health risk factor is anything that increases the likelihood of an individual developing a disease or injury. Risk factors can be demographic, social, economic, environmental, biological or behavioural in nature, although in most cases they are a combination of all of these factors.

The set of risk factors contributing most to the burden of disease is changing. In 1990, the leading risk factors for early death and disability were child wasting, short gestation for birth weight and low birth weight for gestation. In 2017, the leading factors were high blood pressure, smoking and high blood sugar.¹

There are significant differences in the prevailing risk factors affecting the health of people in developed and less developed regions. In developing regions, prominent risk factors include undernutrition, unimproved water and sanitation facilities, poor hygiene and indoor smoke from solid fuels. In developed regions, the harmful use of alcohol and tobacco, poor diet and lack of exercise contribute substantially to the burden of non-communicable diseases, although the effects of non-communicable diseases are on the rise in developing regions as well. Across regions, unsafe sex remains the main risk factor for sexually transmitted infections, and for HIV/AIDS in particular, while gender norms, ideals of masculinity and power relations fuel a relatively high level of unintentional injuries and interpersonal violence.

Morbidity and mortality rates for many diseases are aggravated by exposure to specific modifiable risk factors, including tobacco use, harmful use of alcohol, unhealthy diet, physical inactivity and polluted air.

Current situation

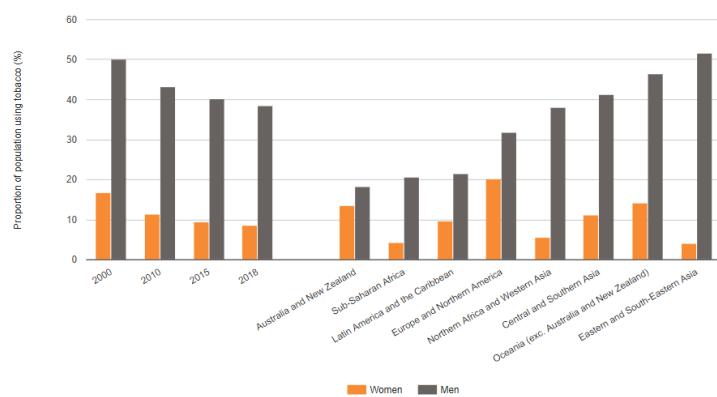
Tobacco use is a major contributor to illness and death from non-communicable diseases

Tobacco in any form kills and sickens millions of people every year: the use of tobacco is one of the biggest public health threats, killing more than 8 million people a year² around the world (up from more than 5 million deaths in 2010).³ More than 7 million of those deaths are the result of first-person tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke.⁴

Tobacco use is a major risk factor for chronic respiratory and **cardiovascular diseases**. Among women, smoking is also associated with breast cancer.⁵ In 2018, men were 4.5 more likely to use tobacco than women. Globally, in 2018, the prevalence of smoking among men 15 years and older was 38.6%, compared to 8.5% among women of the same age. A decline in smoking rates has been observed since 2000 for both sexes, but the decline has been slower among men (23%) than among women (49%).

During the period 2000–2018, the number of male tobacco users in the world increased each year, peaking in 2018 at 1,093 million.⁶ The number of users is projected to decrease, assuming countries maintain current efforts in tobacco control.⁷ Since 2000, the number of female tobacco users has been declining in all regions (244 million in 2018, an estimated 100 million fewer than in 2000).⁸

Figure I: Prevalence of tobacco smoking among persons aged 15 or over, by sex and by region: 2000–2018 (Percentage)



Source: WHO, Secretariat of the WHO Framework Convention on Tobacco Control (<https://www.who.int/fctc/en>).
Note: Regional values are for 2018: regions are ordered according to tobacco use among the male population.

The difference in smoking prevalence between women and men is reduced in higher income countries (see figure I). For instance, in Australia and New Zealand the gender gap is lower than 5 percentage points, and in Europe and Northern America the gender gap was measured at about 11 percentage points in 2018.

The gap may be associated with women having a greater control over their own resources in high-income countries and with the marketing strategies of the tobacco industry, which target women, especially young women.⁹

The gender difference is most marked in Eastern and South-Eastern Asia, where more than 50% of men smoke, compared to only 4% of women. In all regions it is vital to reduce the use of smokeless tobacco products, especially in countries where they enjoy great popularity, for example in South-Eastern Asia, where smokeless tobacco use among women is far more prevalent than smoked tobacco use (11.5% and 1.6%, respectively).¹⁰

Smoking has also been reported as a potential risk factor for **COVID-19** as it is harmful to the immune system and its ability to respond to infections, specifically, because of its effects in upregulating receptors in the airways.¹¹ In a recent review, it was reported that smoking may be associated with a negative progression and adverse outcomes of COVID-19.¹² The higher prevalence of male smokers of all ages in Italy, especially among the elderly,¹³ may explain their higher predisposition to COVID-19.¹⁴

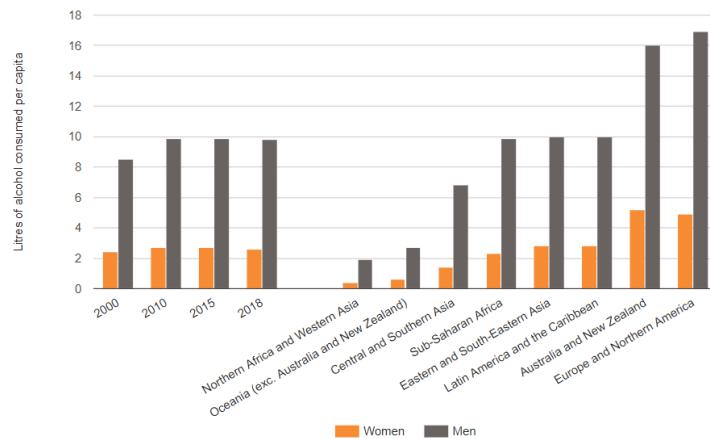
1 in 20 deaths result from harmful use of alcohol

Alcohol consumption can have an impact on the incidence of diseases, [injuries](#) and other health conditions, including their outcomes. The health and social harms from drinking alcohol occur through three main interrelated mechanisms: (a) toxic effects on organs and tissues (resulting, for instance, in liver disease, heart disease or cancer); (b) development of dependence, whereby the drinker's self-control over his or her drinking is impaired, often involving alcohol-induced mental disorders, such as depression or psychoses; and (c) through intoxication, that is, the psychoactive effects of alcohol in the hours after drinking.¹⁵

In 2016, more than 3 million people died as a result of harmful use of alcohol – 5% of global deaths for the year – and over 75% of those deaths were among men.¹⁶ For women, cardiovascular diseases are the most common cause of death connected to alcohol use (41.6% of all alcohol-related deaths among women), while for men, injuries (28.7%) and digestive diseases (21.3%) are the most common alcohol-related deaths.¹⁷ The differences between women and men are even greater when considering the burden of disease as expressed in disability-adjusted life years.¹⁸ Estimates for 2016 show that the number of years of life lost due to premature death and disability related to alcohol consumption is four times higher for men than for women (106.5 million years for men versus 26.1 million for women).¹⁹

In addition, the association of alcohol consumption with engagement in unprotected sex²⁰ has been shown to increase the risk of experiencing unintended pregnancy.²¹ Alcohol-attributable harms are underestimated, especially for women, as alcohol is a contributing factor to [intimate partner violence](#) perpetrated against women.²² The relationship between alcohol and intimate partner violence is a complex one and should be looked at within the context of broader gender inequalities and harmful gender norms and behaviours.

Figure II: Annual alcohol consumption per capita among people aged 15 and above, by sex and by region (in litres of pure alcohol): 2000-2018



Source: WHO, Global Health Observatory data platform, Global Information System on Alcohol and Health (<https://www.who.int/gho/alcohol/en/>)

Note: Regional values are for 2018: regions are ordered according to the level of alcohol consumption in the male population.

Worldwide, men consume almost four times more alcohol than women

In 2018, worldwide men consumed an average of 9.8 litres of pure alcohol per year compared to 2.6 litres among women, with no significant change observed over the last 10 years (see figure II). It is less common for women to be current²³ drinkers than men, and when they drink, they drink less than men.

Globally, the highest overall rate of alcohol consumption for both sexes is in Australia and New Zealand and Europe and Northern America, where men consume at least three times more alcohol than women (on average, 16 litres for men versus 5 litres for women) (see figure II). The lowest alcohol consumption is recorded in Northern Africa and Western Asia, where the gender difference between women and men is even more pronounced (almost five-fold).

The harmful use of alcohol not only increases the risk of one of the major non-communicable diseases, as described above,

but it also plays a role in suicide and road traffic accidents and is frequently associated with the higher mortality rates among men than women due to [these causes](#).²⁴

In terms of global prevalence, in 2016, it was estimated that 53.6% of men and 32.3% of women were current drinkers.²⁵ Worldwide, in 2016, the prevalence of drinking decreased among women (from 37.3% in 2000), although estimates of the absolute number of women who are current drinkers has increased.²⁶

Alcohol consumption among women has additional implications. For example, women who drink during pregnancy may increase the risk of preventable health conditions, both for themselves and their newborn children, including stillbirth, spontaneous abortion, premature birth, intrauterine growth retardation and low birth weight. Alcohol use also increases the risk of foetal exposure to alcohol due to drinking during pregnancy or delayed recognition of pregnancy.²⁷

Obesity, a significant risk factor in mortality and morbidity due to cardiovascular diseases, diabetes and cancer, is more prevalent among women

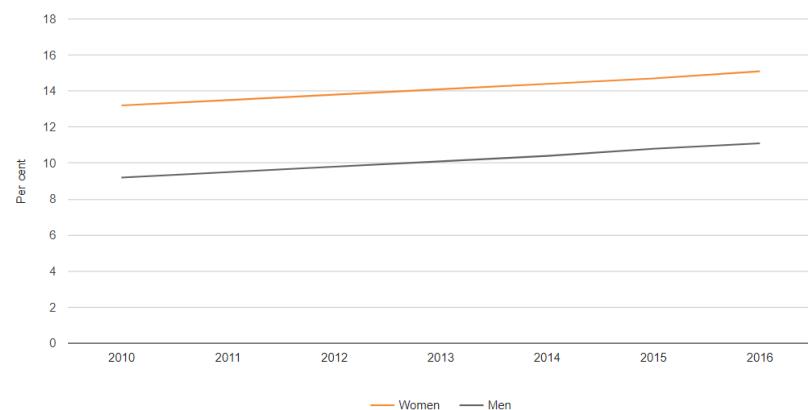
Globally, at least 2.8 million people die each year as a result of being overweight or obese.^{28,29} Excess body weight is a significant risk factor in mortality and morbidity due to cardiovascular diseases, diabetes and cancer (including breast [cancer](#)). Overweight and obesity are causes of increased blood pressure, high cholesterol and triglycerides levels and insulin resistance, which are themselves direct risk factors for several chronic diseases.³⁰

In 2016, 39% of adults aged 18 years and older (39% of men and 40% of women) were overweight, and about 13% of the world's adult population (11% of men and 15% of women) were obese.³¹ The prevalence of obesity is about 36% higher among women, and although the gender gap has remained steady since 2010, the trend for both women and men is moving upwards (see figure III). Based on data for the period 2001–2016, women are less likely than men to participate in physical activities (32% of women versus 23% of men).³²

In general, women have less access to [economic resources](#) and have an extra [household workload](#), making it difficult for them to allocate adequate resources and time to exercise³³ and lead a healthy diet. In addition, in many societies, men, as opposed to women, are expected to be physically strong, which could contribute to women's lower level of physical activity.³⁴ Lack of physical activity combined with sex-related biological factors, such as women's predisposition to store fat subcutaneously and lower metabolic rates, may contribute to the prevalence of obesity in women.³⁵

In a cohort of patients hospitalized with [COVID-19](#) in a minority-predominant population (African-American), men with severe obesity³⁶ in older ages were independently associated with higher in-hospital mortality and in general worse in-hospital outcomes.³⁷ In a study conducted in the United Kingdom of Great Britain and Northern Ireland, an unhealthy body mass index was strongly associated with testing positive for and risk of death related to COVID-19. The gradient of risk in relation to body mass index was steeper in those under age 70 in comparison with those aged 70 and older for COVID-19-related deaths. In addition, unhealthy body mass index was more strongly related to test positivity and death in non-whites (predominantly South Asians and Afro-Caribbeans) compared with whites.³⁸

Figure III: Prevalence of obesity among adults: body mass index greater than 30 (BMI ≥ 30) (age-standardized estimate): 2010 to 2016 (Percentage)



Source: WHO, Global Health Observatory data platform, Prevalence of obesity among adults ([https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-geq-30-\(age-standardized-estimate\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-geq-30-(age-standardized-estimate))) (accessed on 20 July 2020).

About the data

Definitions

- **Age-standardized prevalence of tobacco use among persons aged 15 and older:** Percentage of the population aged 15 and older who currently use tobacco products (smoked and/or smokeless tobacco), including: cigarettes, pipes, cigars, cigarillos, waterpipes (hookah/shisha), bidis, kretek, heated tobacco products and all forms of smokeless (oral and nasal) tobacco products. In this indicator, tobacco products exclude e-cigarettes (which do not contain tobacco), "e-cigars", "e-hookahs", JUUL and "e-pipes".
- **Total alcohol consumption per capita:** Total amount of alcohol consumed per adult (aged 15 and older) over a calendar year, in litres of pure alcohol³⁹ (adjusted for tourist consumption).
- **Prevalence of obesity:** Percentage of the population whose calculated body mass index is greater than or equal to 30 kg/m². Body mass index is a simple index of weight-to-height, commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his or her height in meters (kg/m²).

Availability

- **Age-standardized prevalence of tobacco use among persons aged 15 and older:** Data on the indicator are available from the World Health Organization (WHO) for all WHO member States for the period 2000–2020, according to the availability of empirical data for each country: countries are organized by regional groupings under the Sustainable Development Goals (SDGs) indicators framework.⁴⁰
- **Total alcohol consumption per capita:** Data are available for 190 member States of the World Health Organization (WHO).
- **Prevalence of obesity:** Data are available for 200 countries, tracking worldwide trends in body-mass index, underweight, overweight and obesity for the period 1975–2016.⁴¹

Footnotes

1. Institute for Health Metrics and Evaluation, Findings from the Global Burden of Disease Study 2017, Seattle, 2018.
2. World Health Organization (WHO), Fact sheets, Tobacco, May 2020.
3. WHO, 2010, 10 facts on gender and tobacco.
4. WHO, Fact sheet on tobacco, 2020.
5. Reynolds, P. et al, "Active smoking, household passive smoking, and breast cancer: evidence from the California Teachers Study", Journal of the National Cancer Institute, vol. 96, Issue 7, January 2004; Gaudet, M.M., et al, "Active smoking and breast cancer risk: original cohort data and meta-analysis", Journal of the National Cancer Institute, vol. 105, Issue 8, April 2013.
6. WHO, WHO global report on trends in prevalence of tobacco use 2000–2025, third edition, Geneva, 2019.
7. Ibid.
8. Ibid.
9. Hitchman, S.C., Fong, G.T., "Gender empowerment and female-to-male smoking prevalence ratios", Bulletin of the World Health Organization, vol. 89 (3), 2011.
10. WHO, WHO global report on trends in prevalence of tobacco use 2000–2025, third edition, Geneva, 2019.
11. Cai, H., "Sex difference and smoking predisposition in patients with Covid-19", Lancet Respiratory Medicine, vol.8, Issue 4, April 2020.
12. Vardavas, C.I., Nikitara, K., "Covid-19 and smoking: A systematic review of the evidence", Tobacco Induced Diseases, vol. 18, March 2020.
13. National Health Institute, La sorveglianza Passi d'Argento, I dati per l'Italia: abitudine al fumo. [The Italian behavioural risk factor surveillance system in the elderly population, data for Italy: smoking habit] (accessed on 24 April 2020) (Italian original).
14. Michelozzi, P. et al, "Mortality impacts of the coronavirus disease (Covid-19) outbreak by sex and age: rapid mortality surveillance system, Italy, 1 February to 18 April 2020", Eurosurveillance, vol. 25 (19), May 2020.
15. WHO, 2018, Global status report on alcohol and health 2018, Geneva, 2018; and Babor, T. et al., Alcohol: No Ordinary Commodity: Research and Public Policy, first edition, Oxford Scholarship Online, 2010.
16. Ibid.
17. Ibid.
18. Disability-adjusted life years (DALYs) measure the burden of disease, injury and death in a population. Alcohol-attributable DALYs may be interpreted as the number of years lost due to ill-health, disability or early death from the use of alcohol. Alcohol attributable DALYs are DALYs that would not have occurred if alcohol were not consumed in the population. (See WHO, Global status report on alcohol and health 2018, Geneva, 2018).
19. WHO, Global status report on alcohol and health 2018, Geneva, 2018.
20. Scott-Sheldon, L. et al, "Alcohol use predicts sexual decision-making: a systematic review and meta-analysis of the experimental literature", AIDS and Behavior, vol. 20, 19–39(2016).
21. Oulman, E. et al, "Prevalence and predictors of unintended pregnancy among women: an analysis of the Canadian Maternity Experiences Survey", BMC Pregnancy and Childbirth, vol. 15, 260 (2015); and Lundsberg, L. et al, "Is preconception substance use associated with unplanned or poorly timed pregnancy?", Journal of Addiction Medicine, vol. 12, Issue 4, July/August 2018. (back to text)
22. Cherpitel, C.J. et al, Prevention of alcohol-related injuries in the Americas: from evidence to policy action, Pan American Health Organization and WHO, Washington, D.C., 2013; and Graham, K. et al, "Alcohol may not cause partner violence but it seems to make it worse: a cross national comparison of the relationship between alcohol and severity of partner violence", Journal of Interpersonal Violence, vol. 26, Issue 8, 3 June 2010.
23. Current drinkers are defined as people who have consumed alcohol in the previous 12 months.
24. Pompili, M. et al, "Suicidal behavior and alcohol abuse", International Journal of Environmental Research and Public Health, vol. 7(4).

2010.

25. Current drinkers are defined as people who have consumed alcohol in the previous 12 months.
26. Ibid.
27. Connery, H.S., Albright, B.B. and Rodolico, J.M., "Adolescent substance use and unplanned pregnancy: strategies for risk reduction" *Obstetrics and Gynecology Clinics of North America*, vol. 41, Issue 2, June 2014.
28. WHO, Health Topics, Fact sheets, 10 facts on obesity.
29. According to WHO, a person with a body mass index of 25 or more is considered overweight, and a person with a body mass index of 30 or more is considered obese.
30. Finucane, M. et al, "National, regional, and global trends in body-mass index since 1980: systematic analysis of health examination surveys and epidemiological studies with 960 country-years and 9.1 million participants", *The Lancet*, vol. 377, Issue 9765, February 2011; WHO, *World Health Statistics 2011*, Geneva, 2011; WHO, *World Health Statistics 2009*, Geneva, 2009.
31. WHO, Health Topics, Fact sheets, Obesity and overweight. ([back to text](#))
32. Guthold, R., Stevens, G.A., Riley, L.M. and Bull, F.C., "Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016, a pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults", *The Lancet*, vol. 390, Issue 10113, 16 December 2017.
33. WHO, Health Topics, Fact sheets, Physical activity, Geneva, 2018.
34. University of Pittsburgh, Gender, Sexuality, & Women's Studies Program, "Unexpected social pressures from males".
35. Guthold, R., Stevens, G.A., Riley, L.M. and Bull, F.C., "Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016, a pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults", *The Lancet*, vol. 390, Issue 10113, 16 December 2017.
36. Severe obesity is classified as a body mass index of 35 or more.
37. Palaiodimos, L. et al, "Severe obesity, increasing age and male sex are independently associated with worse in-hospital outcomes, and higher in-hospital mortality, in a cohort of patients with Covid-19 in the Bronx, New York", *Metabolism: Clinical and Experimental*, vol., 108, July 2020.
38. Sattar, N. et al, "BMI and future risk for Covid-19 infection and death across sex, age and ethnicity: Preliminary findings from UK biobank", *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, vol. 14, Issue 5, September—October 2020.
39. In order to make the conversion into litres of pure alcohol, the alcohol content (% alcohol by volume) is considered to be as follows: Beer (barley beer 5%); Wine (grape wine 12%; must of grape 9%, vermouth 16%); Spirits (distilled spirits 40%; spirit-like 30%), and Other (sorghum, millet, maize beers 5%; cider 5%; fortified wine 17% and 18%; fermented wheat and fermented rice 9%; other fermented beverages 9%)
40. Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.
41. Data based on Guthold, R., Stevens, G.A., Riley, L.M. and Bull, F.C., "Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016, a pooled analysis of 2416 population-based measurement studies in 128.9 million children, adolescents, and adults", *The Lancet*, vol. 390, Issue 10113, 16 December 2017.

Deaths caused by injury



Key points

- Road injuries are the leading cause of injury death among both women and men, and the rate is almost three times higher for men.
- Road traffic injuries are the leading cause of death among children and young adults aged 5–29. About three quarters (73%) of all deaths from road traffic injuries occur among young men under age 25; young men under age 25 are almost 3 times as likely to be killed in a road traffic crash as young women.
- The risk of death from road injuries increases progressively after age 14 both for women and men, with deaths among men reported at consistently higher rates. Older persons (aged 65 and older) registered the highest rates in 2016, with death among older men at more than double the rates of older women (52.2 per 100,000 for men versus 23 per 100,000 for women).
- The global average suicide rate is 10.6 deaths per 100,000 population. Although suicide attempts are about two to four times more frequent among women, men are more likely to use lethal means, which results in higher suicide mortality rates among the male population (13.5 per 100,000 for men versus 7.7 per 100,000 for women).
- Suicide is the third leading cause of death in young people aged 15–19 and the second leading cause of death among people aged 15–29 globally.
- While men are four times more likely to be murdered than women, women are four times more likely to be murdered by their intimate partners.
- Worldwide some 200,000 homicides occur annually among youth aged 10–29, comprising 42% of the total of global homicides. Homicide is the fourth leading cause of death among people aged 10–29; in 84% of such homicides men are the victims.

Road injuries

Measuring the risk of dying from road injuries is important for the assessment of the burden of risk in the population.¹ Road injuries are the leading cause of injury death among both women and men, with about 1.4 million deaths occurring in 2016. On average, the crude death rate due to road injuries has remained stable at below 20 per 100,000 since 2000, although the absolute number of deaths has increased.

Globally, the risk of dying due to road injuries is almost 3 times higher among men than among women

For all age groups, the death rate due to road injuries is higher among men than among women. At the global level, the crude death rate due to road injuries among men (28 per 100,000) is 2.8 times higher than that among women (10 per 100,000), and among people aged 15–49 it is 3.8 times higher among men (see figure I). Road traffic injuries are the leading cause of death among children and young adults aged 5–29 and about three quarters (73%) of all road traffic deaths occur among young men under age of 25.² This gender gap may also be linked to difference in behaviours between the sexes, in particular **alcohol consumption** and driving under the influence of alcohol, and to possible differences in the absolute number of female and male drivers.

The risk of death from road injuries is lowest among young people aged 5–14, and increases progressively with age. Research³ as to why the road fatality rate rises with age suggests that while older persons are more likely to use seatbelts and not to drive under the influence of drugs or alcohol, they are more likely to have pre-existing **health conditions** and therefore more likely to die in road accidents.

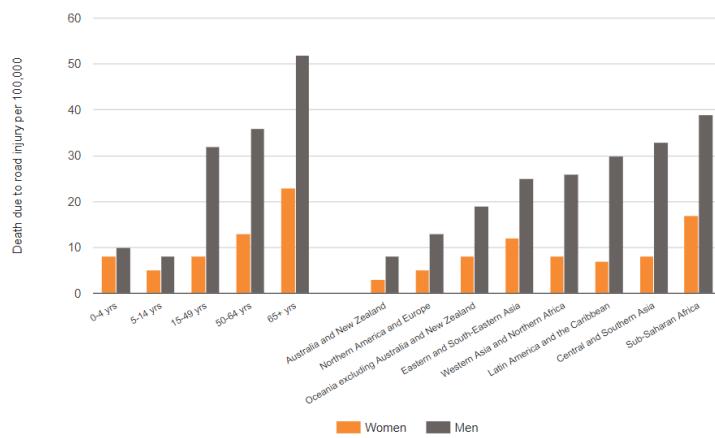
The vast majority (93%) of fatalities resulting from road traffic accidents occur in low-income and middle-income countries,⁴ with the risk of dying from road injuries being highest in sub-Saharan Africa (39 per 100,000 for men and 17 per 100,000 for women). Data show a rather flat trend in Africa between 2013 and 2016.⁵ The lowest risk of dying from road injuries is in

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Australia and New Zealand (8 per 100,000 for men and 3 per 100,000 for women) and Europe and Northern America (13 per 100,000 for men and 5 per 100,000 for women).

During the lockdown due to Coronavirus-19 (COVID-19), studies have shown a decline in traffic accidents and related injuries and fatalities. For example, in Turkey, in April 2020, traffic accidents dropped by approximately 60%, deaths declined by 43% and injuries declined by 64% compared to April 2019.⁶

Figure I: Deaths due to road injury per 100,000 population by age, sex and region: 2016

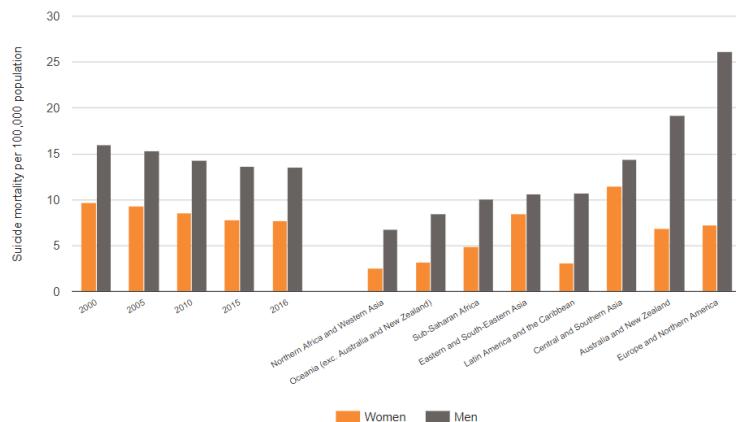


Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/)

Note: Regional values are for 2016; regions are organized in ascending order according to the mortality rate among the male population

Suicide

Measuring the risk of dying from suicide is important for the assessment of the burden from suicide in the population. In 2016, there were nearly 800,000 deaths from suicide globally, which corresponds to an average suicide rate of 10.6 deaths per 100,000 population worldwide. Although suicide attempts are about two to four times more frequent among women,^{7 8} death rates among men are nearly twice as high (1.8 male deaths for every female death). Men are more likely to use lethal means when attempting suicide,⁹ which partly explains the higher suicide mortality rates observed in men (13.5 per 100,000 versus 7.7 per 100,000 for women). Globally, during the period 2000–2016, crude suicide mortality rates dropped by 16% in men and 21% in women.

Figure II: Deaths due to suicide per 100,000 population by age, sex and region: 2016

Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/)

Note: Regional values are for 2016; regions are organized in ascending order according to the mortality rate in the male population.

Suicide rates among men are about 3.5 times higher than among women in both Europe and Northern America and in Latin America and the Caribbean: in contrast, gender differences in suicide rates are small in Central and Southern Asia and Eastern and South-Eastern Asia

Suicide is a global phenomenon, and for each suicide there are many suicide attempts. In 2016, 79% of suicides occurred in low-income and middle-income countries.¹⁰ In relative terms, developed regions are more affected, with particularly high suicide rates for men and, to a lesser extent, for women (see figure II). The highest suicide mortality rate is reported among men in Europe and Northern America (26 deaths per 100,000). Europe and Northern America is the region with the largest gender gap in the suicide mortality rate, with men being more than 3.5 times more likely to die due to suicide than women (7.2 deaths per 100,000 for women). The second highest suicide rate among men is in Australia and New Zealand (19.2 deaths per 100,000 for men and 6.9 deaths per 100,000 for women).

The highest suicide mortality rate among women is reported in Central and Southern Asia (11.5 deaths per 100,000 for women compared to 14.4 deaths per 100,000 for men), a region with one of the lowest gender gaps observed. The second highest suicide mortality rate among women is in Eastern and South-Eastern Asia (8.5 deaths per 100,000 for women and 10.6 per 100,000 for men), the region with the smallest overall gender gap in the suicide mortality rate. Worldwide, the lowest suicide mortality rates, for both men and women, are in Northern Africa and Western Asia, where the rate is 6.8 per 100,000 for men and 2.5 per 100,000 for women, revealing a sizable gender gap (men in Northern Africa and Western Asia are almost three times as likely to die from suicide than women).

While data seem to show an overall pattern where the male and, to a lesser extent, female suicide death rates are higher in regions with higher socioeconomic development, caution is advised against drawing strong conclusions. When looking at individual countries, there are exceptions to broad observations. For instance, Lesotho has the tenth highest suicide rate in the world, with 24.4 deaths per 100,000 for women, and 17.8 deaths per 100,000 for men. It is also the only country in the world where women have a higher suicide death rate than men. Research on individual country predictors and suicide rates reveal no clear overall patterns.¹¹

Suicide is a highly complex phenomenon, and difficult to understand; it occurs throughout the lifespan, and is the third leading cause of death among adolescents aged 15–19.¹² In 2016, among the global population aged 15–29, it was the second leading cause of death for women after **maternal conditions**, and the third leading cause of death for men after road injuries and interpersonal violence.¹³

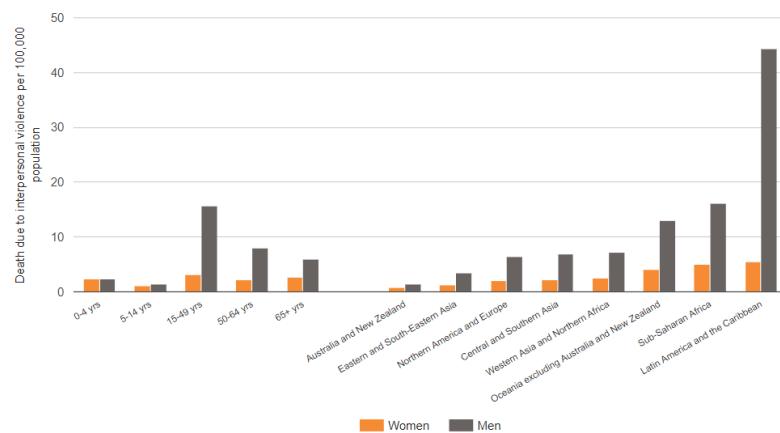
Interpersonal violence

Men are four times more likely to be murdered than women; however women are more than four times more likely to be murdered by their intimate partners

Measuring the risk of dying from interpersonal violence (homicide) is important for the assessment of the burden of risk in the population. In 2016, there were an estimated 475,000 deaths globally due to homicide, 380,000 men and 95,000 women. Rates were highest in Latin America and the Caribbean, where the homicide rate for men was over 8 times higher than that for women.

Globally, the highest interpersonal violence death rates are found among men aged 15–49 (almost 5 times higher than rates for women in the same age group) (see figure III). Worldwide, some 200,000 homicides occur annually among youth aged 10–29, comprising 42% of all homicides globally each year. Homicide is the fourth leading cause of death in people aged 10–29, and 84% of such deaths involve male victims.¹⁴

Figure III: Deaths due to interpersonal violence per 100,000 population by age, sex and region: 2016



Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/)

Note: Regional values are for 2016: regions are organized in ascending order according to the mortality rate among the male population.

In many cases, homicides are committed by intimate partners or family members, with women the majority of those killed. In 2017, an estimated 87,000 women were intentionally killed: more than half (58%) were killed by intimate partners or family members; and a third (34%) were killed by intimate partners (excluding other family members).¹⁵ In comparison, the estimated male rate of intimate partner homicide hovers in the range of 7% to 9% of all male killings, although data, being very scarce, are not robust.¹⁶

Put another way, almost two thirds (64%) of the victims of intimate partner/family-related homicide are women, in contrast to all cases of homicide, in which 20% of the victims are women.¹⁷ While the overall risk of suffering a violent death as a result of intentional homicide has been declining steadily for a quarter of a century, the killing of women by intimate partners or family members is on the rise, from 47% in 2012 to 58% in 2017.¹⁸

In addition to the death toll caused by violence against women, such violence places a heavy burden on the family and on society more broadly, including high levels of morbidity and ill health, both mental and physical. Preventing homicide and non-fatal violence requires a multisectoral approach that addresses underlying causes, such as: gender, social, ethnic and economic inequalities; cultural norms that support violence and make violence against women acceptable; easy access to and misuse of alcohol, drugs and firearms; as well as laws that are inadequate in protecting women against violence—and intimate partner violence in particular.

About the data

Definitions

- **Road traffic death rate:** Deaths per year due to road injuries per 100,000 population.
- **Suicide mortality rate:** Deaths due to self-harm (suicide) per 100,000 population, defined as the number of suicide deaths per year, divided by the population and multiplied by 100,000, often simply referred to as the "suicide rate".¹⁹
- **Interpersonal violence mortality rate:** Deaths per year due to interpersonal violence per 100,000 population.

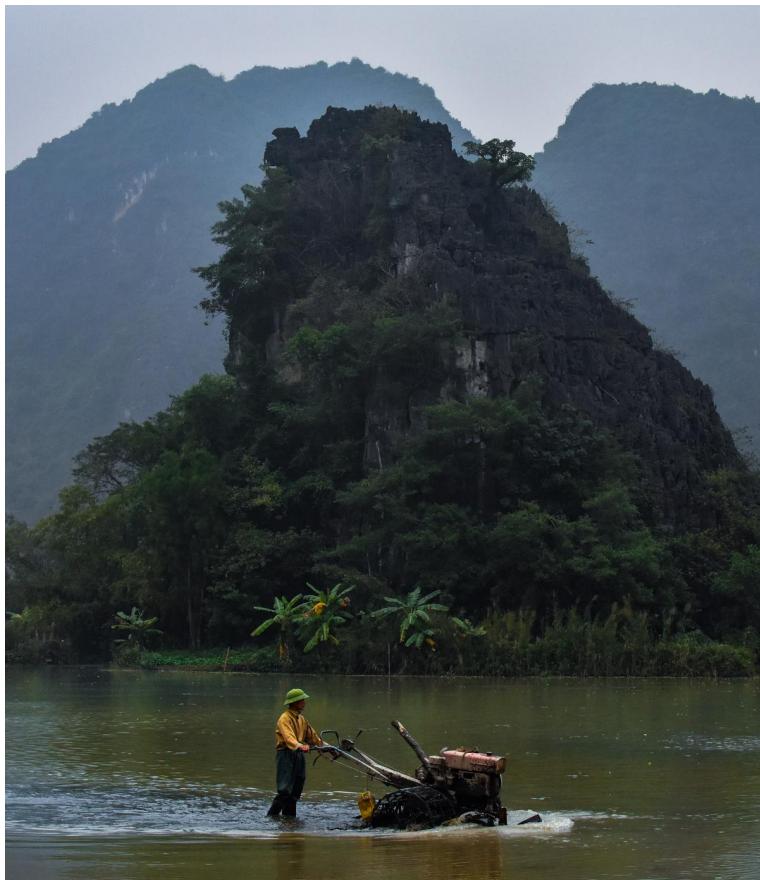
Coverage

The World Health Organization (WHO) calculates estimates for all WHO member States with a population of more than 90,000 (184 countries).

Footnotes

1. Causes of death are classified under the WHO International Classification of Diseases into three groups: (a) communicable diseases, maternal, perinatal and nutritional conditions, (b) non-communicable diseases, and (c) injuries.
2. WHO, Health Topics, Fact sheets, Road traffic injuries.
3. See Kent, R., and Henary, B., "On the Fatal Crash Experience of Older Drivers", Association for the Advancement of Automotive Medicine, vol. 49, 2005.
4. WHO, Health Topics, Fact sheets, Road traffic injuries.
5. WHO, Global status report on road safety 2018, Geneva, 2018.
6. Oguzoglu, U., "COVID-19 Lockdowns and Decline in Traffic Related Deaths and Injuries", IZA Institute of Labor Economics, May 2020.
7. Wolff, S., Puts, D. A., "Sex differences: summarizing more than a century of scientific research", Archives of Sexual Behaviour, vol. 38 (6), December 2009.
8. Miranda-Mendizabal, A. et al, "Gender differences in suicidal behavior in adolescents and young adults: systematic review and meta-analysis of longitudinal studies", International Journal of Public Health, vol. 64 (2), January 2019.
9. Wolff, S., Puts, D. A., "Sex differences: summarizing more than a century of scientific research", Archives of Sexual Behaviour, vol. 38 (6), December 2009.
10. WHO, Health Topics, Suicide prevention.
11. Case, A. and Deaton, A., "Suicide and Happiness", VoxDev, May 2017.
12. WHO, 2020, Suicide fact sheet.
13. WHO.
14. WHO, Health Topics, Fact sheets, Youth violence.
15. United Nations Office on Drugs and Crime (UNODC), Global Study on Homicide: Gender-related killing of women and girls, Vienna, 2018.
16. Computed by the United Nations Department of Economic and Social Affairs (UNDESA), Statistics Division, based on UNODC, Global Study on Homicide: Gender-related killing of women and girls, Vienna, 2018.
17. UNODC, Global Study on Homicide: Gender-related killing of women and girls, Vienna, 2018.
18. UNODC, Global Study on Homicide 2019, Executive summary.
19. World Health Organization (WHO), Global Health Observatory, Suicide mortality rate.

Women and the environment in Asia and the Pacific [UN Women]



Key points

- Women are not as prepared as men to cope with disasters and other environment-related challenges as they often own fewer assets and rely more heavily on natural resources for their livelihoods. More than half of the economically active women in 11 countries in the Asia-Pacific region are engaged in agriculture.
- Urban settings offer women economic opportunities but also place many, in particular slum dwellers, at heightened risk of poverty, violence and unsafe living conditions.
- There is a gender gap in the likelihood of women and men becoming slum dwellers: in five countries with available data, men living in urban areas were more likely to live in slums, while in four other countries women were more likely to be slum dwellers.
- Although the majority of people who lack access to basic drinking water sources live in rural areas, the urban poorest are also deprived in this regard. Since women and girls are disproportionately in charge of water collection, they are particularly affected. For example, the poorest women in urban settings are more likely to lack access to basic drinking water sources than men in Indonesia (10% more likely), Tajikistan (11% more likely), Afghanistan (14% more likely) and Myanmar (32% more likely).
- The average amount of time spent on water collection among slum dwellers in the Asia-Pacific region is 15 minutes, although some people spend as long as 6 hours each time they fetch water. In rural areas, people living in the most remote locations may spend up to 15 hours on this task.

Background

Just as women and men have unequal access to rights, resources and opportunities, they relate to and interact with the natural environment in different ways, face differing vulnerabilities and impacts, and have unique knowledge and adaptive capacity related to climate change, disasters and use of natural resources.¹ The lives of women in countries in the Asia and the Pacific region are intrinsically connected with the environment, with more than 50% of economically active women in 11 countries in the region engaged in [agriculture](#).² Furthermore, because of its many low-lying areas, densely populated coastal cities and frequent natural disasters, the region is highly vulnerable to the effects of climate change. In general, women are less well equipped to cope with disasters and other environment-related challenges as they often [own](#) fewer assets and rely more heavily on natural resources for their livelihoods. Moreover, a large share of women also engages in [informal employment](#) (56% of women in Eastern and South-Eastern Asia and 88% in Central and Southern Asia),³ which increases their vulnerability to external shocks.

Available data show gender differences in the likelihood of being a slum dweller: in Cambodia, Bangladesh, Indonesia, Myanmar and Thailand, men were more likely to live in slums, while in Afghanistan, India, Maldives and Nepal, women were more likely to be slum dwellers

Seven of 10 of the most populous cities in the world are in Asia.⁴ Although urban settings offer economic opportunities, they also put many women at heightened risk of experiencing poverty, violence and health hazards, particularly in slum settings. An analysis of sex-disaggregated data for 12 Asian countries for the period 2012–2017 indicates that a greater proportion of women than men live in slums (see figure I). While in five of the countries with available data men were more likely to live in slums, meaning that the proportion of men living in slums out of all men living in urban areas was higher than the corresponding figure for women, women were more likely to be slum dwellers in four other countries, Afghanistan, India, Maldives and Nepal.⁵

Figure I: Gender differences in the proportion of urban population living in slums: 2012–2017 (latest available)

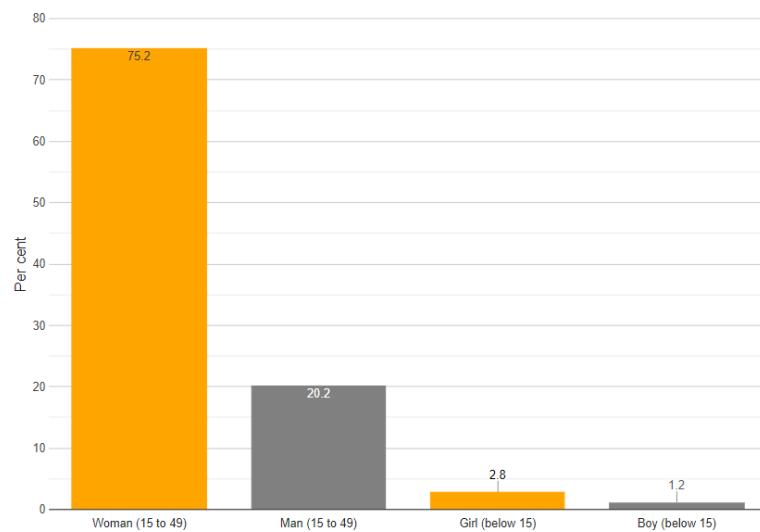


Source: United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), calculations based on Demographic and Health Surveys, Multiple Indicator Cluster Surveys and UNdata.

Note: Size of the bubble is proportional to the total urban population living in slums. The gender parity index (GPI) is calculated as the proportion of urban women living in slums, divided by the proportion of urban men living in slums. Values above 1 indicate women are more likely to be slum dwellers, while values below 1 indicate men are more likely to be slum dwellers.

People are classified as slum dwellers if they live in urban settings and lack improved water sources and improved sanitation facilities, live in overcrowded homes or in non-durable housing. An analysis of data for 15 Asian countries⁶ shows that, although the majority of people lacking access to basic⁷ drinking water sources live in rural areas,⁸ the urban poorest are also deprived in this regard. For instance, during the wet season in Cambodia, more than 75% of people living in the poorest urban households lack access to basic⁹ drinking water sources; this figure goes down during the dry season, but still remains above 60%.¹⁰ As women and girls are most often in charge of water collection,¹¹ the lack of basic drinking water sources affects them disproportionately. Among the Asian countries with available data, India alone compiles data on water collection roles,¹² revealing large gender differentials: in 75% of slum dwellings in India, women are responsible for fetching water¹³ (see figure II).

Figure II: Percentages of slum dwellers in India responsible for fetching water by sex and age: 2015—2016



Source: UN-Women, calculations based on Demographic and Health Survey, India, 2015—2016.

There is wide variation across countries in the region in time spent in fetching water

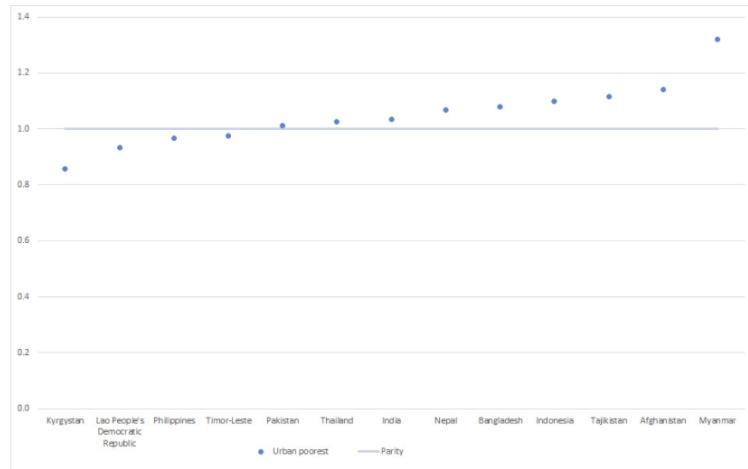
For women living in slums, the long distances that often need to be covered to fetch water adds a substantial burden to their daily workload. There is wide variation across countries in the amount of time taken to fetch water, from an average of less than seven minutes in Indonesia, to 88 minutes (about one hour and a half) in the Philippines. Although the median time for water collection stands at 15 minutes,¹⁴ households located furthest from water sources may spend as long as 6 hours on this essential task.

Gender gaps in access to water in urban and rural areas

There are gender differences in accessing basic drinking water sources among the poorest urban dwellers in many countries in the Asia-Pacific region: while women and girls in slum households are generally responsible for the time-consuming task of collecting water for drinking and cooking, there is not always enough water for their feminine hygiene needs. In Myanmar, for instance, women living in slum households are 10 percentage points¹⁵ likelier than men to live in households that lack basic drinking water; a gender gap in access also exists in Afghanistan.¹⁶ This may lead to a lack of proper sanitation, exposing women to health risks (see figure III).

In rural areas, where piped water is not as common, people often walk very long distances to collect water: in many rural and remote areas, people, most often women, can spend as long as 15 hours travelling to collect water. On average, rural dwellers spend from about 10 minutes in Indonesia in order to fetch water to 39 minutes in Timor-Leste and 38 minutes in Pakistan.

Figure III: Gender parity index among individuals aged 15–49 living in the poorest urban households without access to basic drinking water sources: 2012–2017



Source: UN Women, calculations based on Demographic and Health Surveys and Multiple Indicator Cluster Surveys.

Note: The gender parity index (GPI) is calculated as the proportion of women aged 15–49 who lack access to basic water sources, divided by the proportion of men aged 15–49 who lack access to basic water sources. Values above 1 mean women are more likely to lack access to basic water sources, while values below 1 indicate men are more likely to lack access to basic water sources.

About the data

Definitions

- **Proportion of urban population living in slums:** Proportion of the urban population lacking access to at least one of the following: clean water, improved sanitation facilities, durable housing or sufficient living space.¹⁷
- **Total number of people living in slums:** Proportion of people living in slums (United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) calculations based on Demographic and Health Surveys and Multiple Indicator Cluster Surveys) multiplied by the total number of people living in urban areas (UNdata).¹⁸
- **Gender parity index among slum dwellers:** Proportion of urban women living in slums, divided by the proportion of urban men living in slums. This indicator serves to measure the gender gap in the share of urban women and men living in slums, as well as the gap in their risk or likelihood of being slum dwellers.
- **Gender parity index among individuals aged 15–49 who lack access to basic drinking water sources, by wealth quintile:** Proportion of women aged 15–49 who lack access to basic drinking water sources, divided by the proportion of men aged 15–49 who lack access to basic drinking water sources, disaggregated by wealth quintile.
- **Proportion of slum dwellers in India responsible for fetching water by sex and age:** Proportion of slum dwellers who are primarily responsible for collecting water for their household: data available for women and men aged 15–49 and girls and boys aged 0–14.
- **Total amount of time (in minutes) spent by slum dwellers on fetching water:** Total time taken by slum dwellers for a single round trip to collect water from a drinking source.
- **Total amount of time (in minutes) spent by people living in rural areas on fetching water:** Total time taken by rural dwellers for a single round trip to collect water from a drinking source.

Coverage

Countries covered include all countries with available data from Multiple Indicator Cluster Surveys and/or Demographic and Health Surveys covered under the Regional Office of the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) for the Asia and the Pacific region.

Footnotes

1. Economic and Social Commission for Asia and the Pacific (ESCAP), Work of the Secretariat and partners on mainstreaming gender in environment statistics, July 2020 (ESCAP/CST/2020/INF/10).
2. Afghanistan, Bangladesh, Bhutan, India, Democratic People's Republic of Korea, Lao People's Democratic Republic, Nepal, Pakistan, Papua New Guinea, Tajikistan and Vanuatu; see International Labour Organization (ILO), Department of Statistics (ILOSTAT) database, Employment in agriculture (percentage of female employment) 2019 (data retrieved in March 2020).
3. See Global Sustainable Development Goals (SDG) Indicators Database and proportion of informal employment, by sector and sex (ILO harmonized) 2016 (data retrieved in April 2020).
4. See United Nations Department of Economic and Social Affairs (UNDESA), The World's Cities in 2018: Data Booklet.
5. These differences are significant at 99% confidence for India and Nepal. For Afghanistan and Maldives they are significant at 90% and 70% confidence, respectively.
6. A total of 15 countries with available Demographic and Health Surveys or Multiple Indicator Cluster Surveys were considered for this analysis.
7. For the identification of slum dwellers, the indicator methodology considers "improved water sources" only, however, for Sustainable Development Goal indicator 6.1.1.(proportion of population using safely managed drinking water services), all four criteria must be met. However, because information on availability and faecal contamination often does not exist, in practice "basic" is used instead (see SDG metadata for details).
8. In Asia, 40.20 % of the rural population, compared to 14.21 % of the urban dwellers: see Global SDG Indicator Database, proportion of population using safely managed drinking water services, by urban and rural, 2017 (data retrieved in April 2020).
9. Drinking water services are classified as basic if the water source is improved and within 30 minutes round-trip collection time.
10. Estimates calculated by UN-Women using 2014 Multiple Indicator Cluster Survey data for Cambodia: values stand at 75.74% during the wet season and 63% during the dry season.
11. UN-Women, Turning Promises into Action: Gender Equality in the 2030 Agenda for Sustainable Development, 2018.
12. India is the only country with large enough sample sizes for calculations on the living circumstances of slum dwellers.
13. Estimates calculated by UN-Women using the Demographic and Health Survey, India 2016 (for approximately 67,000 slum households without basic water).
14. For countries included in the analysis (all countries with available data from Demographic and Health Surveys or Multiple Indicator Cluster Surveys).
15. Among urban poorest women, 39.95% lack access to basic drinking water, compared to 30.23% of urban poorest men (UN-Women estimates, from data analysis of the 2016 Demographic and Health Study).
16. Among urban poorest women, 43.24% lack access to improved water sources, compared to 37.88% of urban poorest men.
17. United Nations, Sustainable Development Goals (SDGs) datasets.
18. UNdata.

Menstrual health and hygiene [UNICEF]



Key points

- During the period between 2017–2019, in the majority of the 19 countries with data, at least 10% of women and adolescent girls aged 15–49 did not participate in work, school or social activities during their menstrual period.
- In the 19 countries with data available for the period between 2017–2019, most women and adolescent girls (around 90%) used menstrual hygiene materials and had access to a private place to wash and change during their last menstrual period.
- In 2019, over one in three schools globally (37%) lacked basic sanitation services, affecting an estimated 698 million school-age children. Two out of five schools (43%) lacked handwashing facilities with water and soap, meaning that around 330 million girls went to primary and secondary schools without water and soap for washing their hands when changing sanitary pads or cloths.

Background

The ability of women and adolescent girls to safely manage their monthly menstrual cycle in privacy and with dignity is fundamental to their health, psychosocial well-being and mobility. Women and adolescent girls who lack access to adequate menstrual health and hygiene facilities and supplies may experience stigma and social exclusion and may not be able to take advantage of important educational, social and economic opportunities.¹

Although there is no dedicated target on menstrual health and hygiene in the 2030 Agenda for Sustainable Development,² it is closely related to the Sustainable Development Goals (SDGs), especially SDG 5 on the achievement of gender equality and the empowerment of women and girls, as well as to specific global targets. Notably, SDG target 6.2 (on water and sanitation for all) calls for access to adequate and equitable sanitation and hygiene, with special attention to the needs of women and girls, and SDG target 4.a (on inclusive and equitable quality education) calls for educational facilities that are gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

Current situation

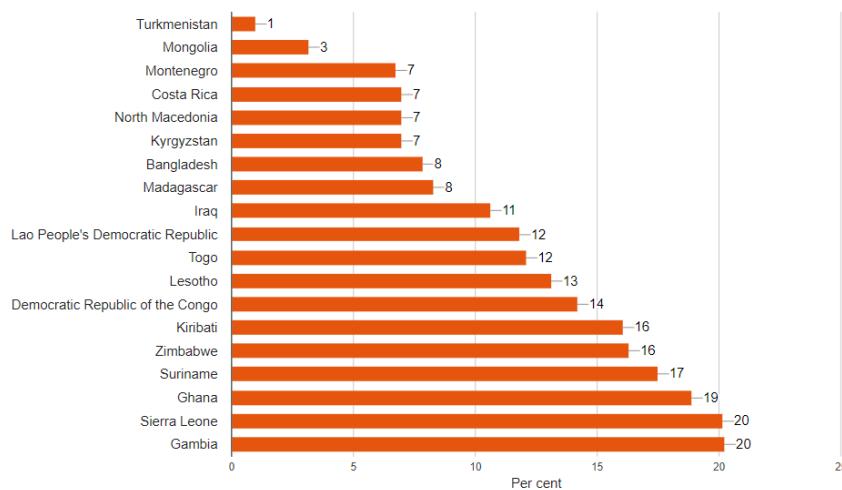
Emerging data suggest that many women and adolescent girls do not participate in school, work or social activities during menstruation

In 11 out of the 19 countries with data³ for the period 2017–2019, at least 10% of women and adolescent girls reported not participating in one or more of the following activities during their last menstrual period, school, work or social activities, with proportions ranging widely from 1% and 3% of women in Turkmenistan and Mongolia up to 20% in the Gambia and Sierra Leone (see figure I).

In most countries, non-participation tends to be higher for adolescent girls and younger women (aged 15–24) (for example, 30% for women and adolescent girls under 25 versus 13% for women aged 25–49 in the Gambia), but all age groups are affected. There are also large differences within geographic regions in several countries. For example, in the Democratic Republic of the Congo, non-participation rates range from 2% to 31%. There does not appear to be a consistent pattern in participation across wealth quintiles or between urban and rural areas.

While these data demonstrate that a proportion of women and adolescent girls do not participate in activities during their menstrual period, they do not explain why. In Mongolia, an additional question was asked of the 3% of women who reported not participating in activities: they attributed their absence from activities to feeling unwell or in pain (76%) or to heavy bleeding (19%), with a smaller number reporting other reasons (5%). Further investigation is required to understand the main reasons for non-participation in other country contexts, especially in countries such as the Gambia and Sierra Leone, where there were far greater proportions of non-participating women and adolescent girls.

Figure I: Proportion of women and adolescent girls (15–49) who did not participate in school, work or social activities during their last menstrual period by country: (2017–2019) (latest available) (Percentage)



Source: UNICEF Multiple Indicator Cluster Surveys database (mics.unicef.org/surveys/).

Note: Question asked of women and adolescent girls 15–49 who had menstrual periods in the last year.

Most women and adolescent girls used menstrual hygiene materials and had access to a private place to wash and change

In all but three countries with data (Lao People's Democratic Republic, Mongolia and Iraq), at least 90% of all women and adolescent girls aged 15–49 reported having access to a private place to wash and change during their menstrual period (see figure II), and in all countries with data, except the Lao People's Democratic Republic, over 90% of women and adolescent girls in the same age group reported the availability of menstrual hygiene materials.⁴

In the Lao People's Democratic Republic, where 82% of all women and adolescent girls reported using hygiene materials, the share was much lower among the poorest women (47% in the poorest versus 97% in the richest quintile), suggesting that affordability of hygiene materials plays an important role in determining access in some countries.

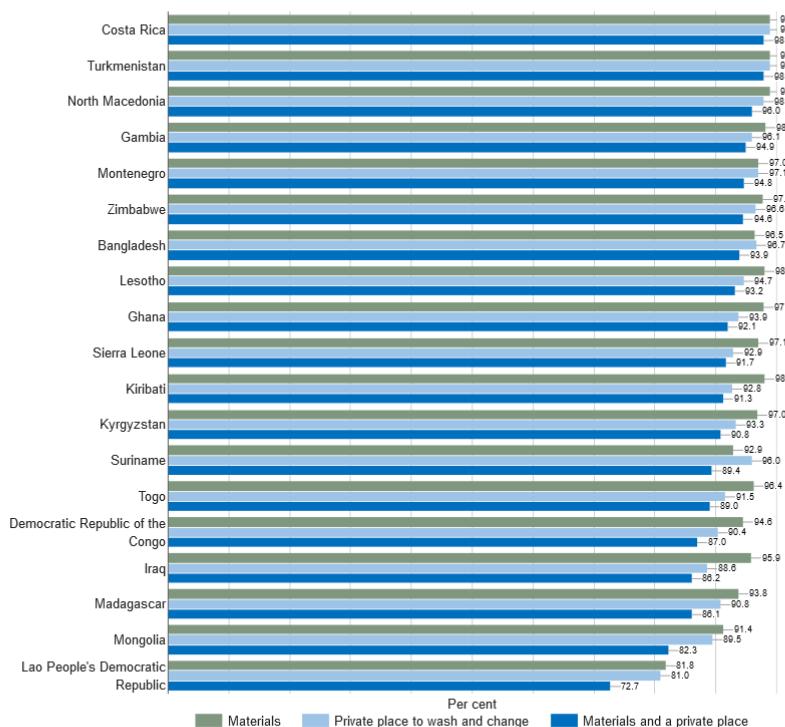
Overall, across the 19 countries with data, the share of women and adolescent girls aged 15–49 with menstrual hygiene materials and a private place to wash and change ranged from 73% (Lao People's Democratic Republic) to 98% (Costa Rica and Turkmenistan).

The type of materials used during menstruation varied, with implications regarding the extent to which they may meet menstrual health and hygiene needs. In Bangladesh and Zimbabwe additional questions were asked about the type of materials used by women and adolescent girls: in Bangladesh, 72% reported that they used cloth and

26% that they used sanitary napkins; in Zimbabwe the majority reported that they used sanitary pads (65%) and cloth (27%).

Very few women and girls in the two countries reported using tampons or menstrual cups. In addition, in all 19 countries with data, women and girls were asked whether menstrual materials were reused: reported rates varied considerably between countries, from less than 1% in North Macedonia and Turkmenistan to 78% in Madagascar.

Figure II: Proportion of women and adolescent girls (15-49) with access to a private place to wash, change and use menstrual hygiene materials by country : 2017-2019 (latest available) (Percentage)



Source: UNICEF Multiple Indicator Cluster Surveys database (mics.unicef.org/surveys/).

Note: Question asked of women and adolescent girls 15-49 who had menstrual periods in the last year.

Monitoring menstrual health and hygiene in schools and health-care facilities

The World Health Organization (WHO)/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene has expanded its monitoring of drinking water, sanitation and hygiene to include schools and health-care facilities. Baseline reports for these settings were published in 2018⁵ and 2019⁶ and estimates will be updated on a biennial basis. The following are key findings on menstrual health and hygiene from the latest estimates.

Schools:

In 2019, over one in three schools globally (37%) lacked basic sanitation services, affecting an estimated 698 million school-age children. One in five schools either had no sanitation facilities at all or lacked useable facilities,

whether improved and/or single-sex, and were thus unable to meet the menstrual hygiene needs of adolescent girls. Furthermore, two out of five schools (43%) lacked handwashing facilities with water and soap, meaning that around 330 million girls in primary and secondary schools lacked water and soap for washing their hands when changing sanitary pads or cloths.

The 2018 report of the WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene⁷ found that few countries had specific data on menstrual hygiene and that definitions varied greatly. The report highlighted the example set by countries such as Zambia, where new questions related to education on menstrual hygiene, the provision of sanitary pads and disposal facilities have been integrated into the national Education Management Information System survey. The 2016 survey found that less than half of schools provided education on menstrual hygiene and only one in four provided sanitary towels and receptacles for their disposal.

Health-care facilities:

In 2019, one in five health-care facilities had no sanitation services: insufficient data were available to estimate the proportion of hospitals or non-hospitals with basic sanitation services. Basic sanitation services in health-care facilities include specific provisions for menstrual hygiene (a receptacle with a lid for disposing of menstrual hygiene materials, and water and soap in a private space for washing). In the 2019 WHO/UNICEF baseline report on water, sanitation and hygiene in health-care facilities,⁸ just 10 countries were able to report this information. For example, Lebanon collected information on the proportion of health-care facilities that provided water and soap (47% of facilities), privacy (45%) and covered receptacles (35%) in women's toilets.

Additional criteria related to menstrual health and hygiene in Lebanon included the provision of painkillers (27%), emergency supplies (24%) and training on the disposal of menstrual hygiene materials (17%). The proportion of health-care facilities with improved sanitation facilities that met the menstrual health and hygiene criteria for basic services ranged from 2% (Comoros) to 100% (Azerbaijan, Kuwait and Montenegro).

Country in focus: Lao People's Democratic Republic

In the Lao People's Democratic Republic, disaggregated data show that women in the richest wealth quintile are over three times more likely to have access to menstrual hygiene materials and a private place to wash and change than women in the poorest quintile.

Related stories and further reading

- [Schools with access to single-sex basic sanitation](#)

About the data

Definitions

- **Hygienic materials and a private place to wash and change:** Percentage of women and adolescent girls aged 15–49 reporting menstruating in the last 12 months and using menstrual hygiene materials and with access to a private place to wash and change during their last menstruation.
- **Non-participation in activities during menstruation:** Percentage of women and adolescent girls aged 15–49 reporting menstruating in the last 12 months who did not participate in social activities, school or work due to their last menstruation.

Coverage

Women and adolescent girls aged 15–49 in 19 countries reporting menstruating in the last 12 months.

Availability

Available data from the United Nations Children's Fund (UNICEF) Multiple Indicator Cluster Surveys for 19 countries.⁹

National monitoring of whether the menstrual needs of women and adolescent girls are being met is challenging, given the breadth of factors that impact menstrual health and hygiene. A range of issues must be addressed, from raising awareness and changing social norms and practices to the provision of facilities and materials.

In the last few years, a number of indicators related to menstrual health and hygiene have been included in nationally representative household surveys, including the UNICEF Multiple Indicator Cluster Surveys¹⁰ and the 2020 Performance Monitoring and Accountability Surveys.¹¹ The next round of Demographic and Health Surveys will also include new questions covering access to menstrual hygiene materials and a private place to wash and change.¹²

Footnotes

1. Sommer, M., Sutherland, C. and Chandra-Mouli. V., "Putting menarche and girls into the global population health agenda", *Reproductive Health*, 12, No. 1, March 2015.
2. United Nations, Transforming our world: the 2030 Agenda for Sustainable Development (General Assembly resolution 70/1), adopted October 2015.
3. Based on emerging data from UNICEF Multiple Indicator Cluster Surveys in 16 countries in Eastern and South-Eastern Asia, Central Asia and Southern Asia, Western Asia, sub-Saharan Africa, Oceania (excluding Australia and New Zealand), the Caribbean, and Southern Europe. Questions focused on access to menstrual hygiene materials and to a private place to wash and change, as well as exclusion from social activities, education and work.
4. Menstrual hygiene materials include sanitary pads, tampons and cloth.
5. World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Programme for Water Supply, Sanitation and Hygiene, Drinking Water, Sanitation and Hygiene in Schools: Global Baseline Report 2018, Geneva, 2018.
6. WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene, WASH in health-care facilities: Global Baseline Report 2019, Geneva, 2019.
7. World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Programme for Water Supply, Sanitation and Hygiene, Drinking Water, Sanitation and Hygiene in Schools: Global Baseline Report 2018, Geneva, 2018.
8. WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene, WASH in health-care facilities: Global Baseline Report 2019, Geneva, 2019.
9. Data can be downloaded from the United Nations Children's Fund (UNICEF) Multiple Indicator Cluster Surveys database.
10. Khan, S.M. et al., Optimizing household survey methods to monitor the Sustainable Development Goals targets 6.1 and 6.2 on drinking water, sanitation and hygiene: A mixed-methods field-test in Belize, *PLOS ONE*, December 2017.
11. Menstrual hygiene briefs from Performance Monitoring and Accountability Surveys (by country).
12. Demographic and Health Surveys, Programme 8 , model woman's questionnaire.

Women's health in their reproductive years



Key points

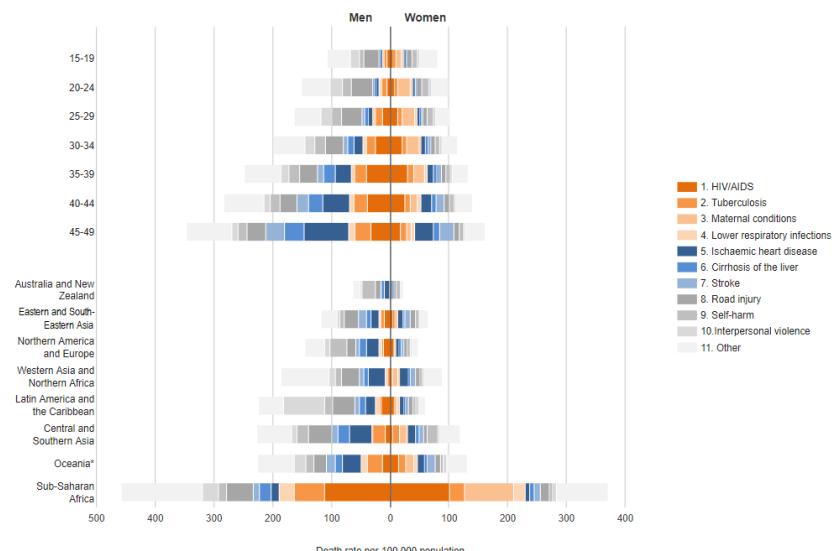
- In 2016, at the global level, maternal conditions were the leading cause of death among young women (aged 15–29); for young men in the same age bracket road injuries were the leading cause of death.
- The leading causes of death among women aged 15–49, both at the global level and in sub-Saharan Africa, are HIV/AIDS and maternal conditions. Within the same age group, men's causes of death are globally dominated by road injuries and ischaemic heart disease.
- In 2017, the life-time risk of dying from maternal causes in sub-Saharan Africa was 1 in 37; in Central and Southern Asia it was 1 in 260; and in Latin America and the Caribbean it was 1 in 630.
- During the period 2000–2017, the greatest overall reduction in maternal mortality was achieved in countries in Southern Asia, with a reduction of 59% in the number of deaths (from 384 to 157 maternal deaths per 100,000 live births).
- The risk of maternal death can be reduced through better access to modern methods of contraception, and by ensuring that women have access to high-quality care before, during and after childbirth, with an approach that is sensitive to cultural diversity. There has been significant improvement in reducing maternal mortality worldwide, with increased access to skilled care at delivery, the increase in contraceptive prevalence and the decline in fertility.
- There are marked regional disparities in access to modern contraceptive methods, as well as births attended by skilled personnel, with the lowest access to both being in Oceania (excluding Australia and New Zealand) and sub-Saharan Africa, which is also the region with the highest maternal mortality rate.
- Emerging research suggests that Coronavirus-19 (COVID-19)pandemic-related worries may influence how women feel about having children. Women may be changing their plansabout when and/or how many children to have.

Background

Women's reproductive years begin at puberty and the onset of menstruation and end with menopause, spanning, on average, ages 15–49. Women's health status during this period is dominated by issues related to their sexual and reproductive health. During this period, women and men are likely to form families and enter the labour force, and are considered, on average, too young to die. Nevertheless, all types of diseases affect the health of people in this age group.

As reported by the World Health Organization (WHO):¹ (a) maternal conditions (group 1) represent a leading cause of death for women aged 15–49, both at the global level and in developing regions; (b) the risk of death from communicable diseases (also in group 1) is highest among women and men at ages 35–39, when the global death rates from HIV/AIDS peak for both women and men; (c) mortality from non-communicable diseases (group 2) increases with age, and is higher among men; and (d) deaths due to injuries (group 3) are prominent among men aged 15–49, particularly road accidents, as are deaths from suicide and interpersonal violence.

Figure I: Deaths due to leading causes of death among people aged 15-49 per 100,000 population by sex, age group and region: 2016



Source: World Health Organization (WHO), Health Topics, Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).
Note: Oceania* means Oceania (excluding Australia and New Zealand); regions are organized in ascending order of the mortality rate among people aged 15-49.

Current situation

Central and Southern Asia are the only regions showing a gender difference in the top leading cause of death among people aged 15-49: self-harm for women and road injury for men

In 2016, among women aged 15-49, the leading causes of death at the global level and in sub-Saharan Africa were HIV/AIDS and maternal conditions. Within the same age group, at the global level men's causes of death were dominated by road injuries and ischaemic heart disease.

At the regional level, the top leading causes of death among people aged 15-49 were: self-harm (in Australia and New Zealand, and Northern America and Europe, for both women and men), road **injury** (in Eastern and South-Eastern Asia, for both women and men), and interpersonal violence (in Latin America and the Caribbean, for both women and men). Central and Southern Asia showed a gender difference in the top leading cause of death among people aged 15-49: self-harm for women and road injury for men.

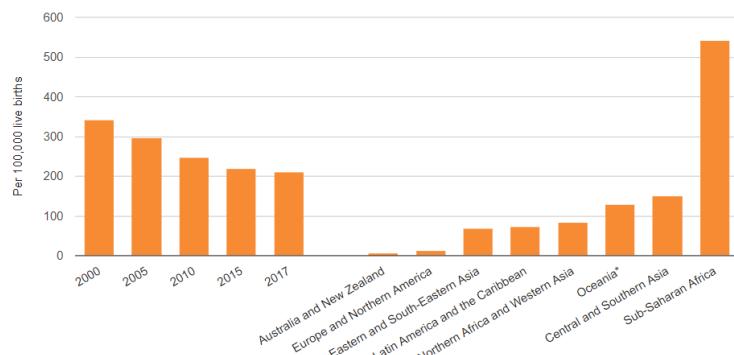
Globally, in 2017, an estimated 295,000 women died during pregnancy and childbirth

Worldwide, maternal conditions were the top cause of death among women aged 20–24 in 2016. The risk of dying from maternal causes is related to the risk of getting pregnant and to the obstetric risk of developing a complication and dying while pregnant, during childbirth or within 42 days postpartum. In resource-poor settings, fertility rates are higher and the risks of dying in labour are greater,² and thus the risk of dying from maternal causes is greatly amplified. In 2017, the lifetime risk of dying from maternal causes in sub-Saharan Africa was one in 37, in Central and Southern Asia it was one in 260, and in Latin America and the Caribbean it was one in 630 (see figure II).

Significant progress has been made in reducing maternal mortality since 2000. During the period 2000–2017, the global maternal mortality rate declined by 38% (from an estimated 342 to 210 maternal deaths per 100,000 live births). Over the same period, the greatest overall reduction in the rate was achieved in Southern Asia, with a reduction of 59% in the number of maternal deaths (from 384 to 157 maternal deaths per 100,000 live births). Four other regions roughly halved their maternal

mortality rates during this same period: Central Asia (by 52%), Eastern Asia (by 50%), Europe (by 53%) and Northern Africa (by 54%). All four regions, with the exception of Northern Africa, already had relatively low maternal mortality rates in 2000 (less than 100 per 100,000 live births).³ In 2017, sub-Saharan Africa and Southern Asia accounted for approximately 86% (254,000) of the estimated global maternal deaths, with sub-Saharan Africa alone accounting for roughly two-thirds (196,000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58,000).⁴ Despite its high maternal mortality rate in 2017, sub-Saharan Africa achieved a 40% reduction in maternal mortality in the years since 2000.

Figure II: Maternal mortality ratio by region: 2000-2017



Source: WHO, Trends in maternal mortality: 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division, Geneva, 2019 (https://www.unfpa.org/sites/default/files/pub-pdf/Maternal_mortality_report.pdf).

Note: Oceania* means Oceania (excluding Australia and New Zealand). Regional values are for 2017: regions are organized in ascending order by the maternal mortality ratio.

Wide variations in the maternal mortality ratio and lifetime risk suggest that most maternal deaths are preventable

Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and are preventable or treatable. Other complications may exist before pregnancy but worsen during pregnancy, especially if not managed as part of a woman's health care.⁵ The major complications, which account for nearly 75% of all maternal deaths, are severe bleeding, infections, high blood pressure during pregnancy, complications from delivery and unsafe abortions.⁶

In addition to the tragic loss of life, maternal deaths have negative effects on families, including on the physical and mental health of family members.^{7,8} Studies have shown greatly increased mortality among children whose mothers have died.^{9,10,11} Other documented effects are of an economic nature, including catastrophic expenditures (for example, health care and funeral expenses), reduced household income and crippling debt;^{12,13,14} thus, not only are the risks of maternal death elevated by poverty, such deaths may act to reinforce the cycle of poverty in poor communities from one generation to the next.

Maternal deaths are also influenced by other factors associated with poverty, such as poor nutrition, lack of freedom over reproductive health choices and lack of access to resources. Programmes to address upstream risk factors for maternal death, including by promoting women's economic empowerment and educational attainment, are also important for the well-being of women and their families.

The risk of maternal death can be reduced through better access to modern methods of contraception and by ensuring that women have access to high-quality care before, during and after childbirth

Family planning is one of the most important aspects of reproductive health, since the use of modern contraceptive methods allows women to avoid unintended pregnancies. An unintended or unwanted pregnancy may be a pregnancy too early in life, too soon after a previous pregnancy or after a family has been established at a desired size. Like any pregnancy, unwanted pregnancies carry the risk of disability or even death, but they also have added health risks due to the possibility that a woman

may choose to have an abortion, and that it might be unsafe. Unlike abortions carried out by skilled personnel in a medically safe environment, unsafe abortions carry a very high risk of complications.

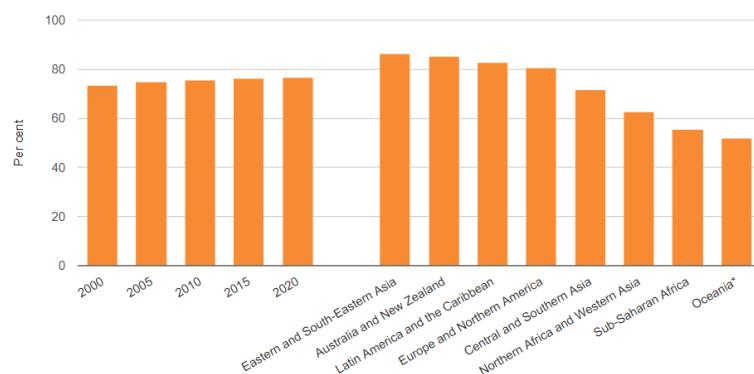
Between 2010–2014, on average, 56 million induced (safe and unsafe) abortions occurred worldwide each year,¹⁵ of which around 25 million were unsafe.¹⁶ Between 4.7% to 13.2% of maternal deaths can be attributed to unsafe abortion.¹⁷ Over half of all estimated unsafe abortions globally were in Asia. In Africa and Latin America, 3 out of 4 abortions were unsafe.¹⁸ In almost every case, death and disability could be prevented through sexuality education, use of effective contraception, provision of safe, legal, induced abortion and timely care for complications.¹⁹ A study estimated that if all women wanting to avoid pregnancy used a modern contraceptive method, the number of unintended pregnancies would drop by 70% and unsafe abortions by 74%.²⁰

At the global level, it is estimated that 76.8% of women of reproductive age had their family planning needs met with a modern contraceptive method in 2020 (see figure III). This proportion ranged from 86% in Eastern and South-Eastern Asia to about 52% in Oceania (excluding Australia and New Zealand) and 56% in sub-Saharan Africa, showing marked inequalities in women's access to modern contraception across regions. However, it is important to recognize that these figures are an improvement over historic percentages: in sub-Saharan Africa, 23.5% of women of reproductive age had their family planning needs met with a modern contraceptive method in 1990, and in 2010 that figure was 45.70%.²¹ In general, regions with lower levels of **fertility** have higher proportions of women using contraception.

Family planning and reproductive health services need to account for inequality and barriers that may limit access, such as cultural factors and ethnicity.²² Use and access to modern contraceptive methods depend, *inter alia*, on women's autonomy. Globally, only around 50% of women can make their own decisions on health care and contraceptive use, and can say no to sexual intercourse.

The **COVID-19** pandemic could leave significant numbers of women and couples without access to essential sexual and reproductive health care. The proportion of women of reproductive age (ages 15–49) that have their need for family planning satisfied with **modern contraceptive methods** could fall from 76.8% to 71%, resulting in around 60 million fewer users of modern contraception worldwide in 2020. It is estimated that the most impacted regions would be Latin America and the Caribbean and sub-Saharan Africa owing to their relatively greater reliance on short-term methods, such as injectables and pills, which require frequent contact with health-care providers.²³

Figure III: Proportion of women aged 15–49 who have their need for family planning satisfied with modern methods by region: 2000–2020 (Percentage)



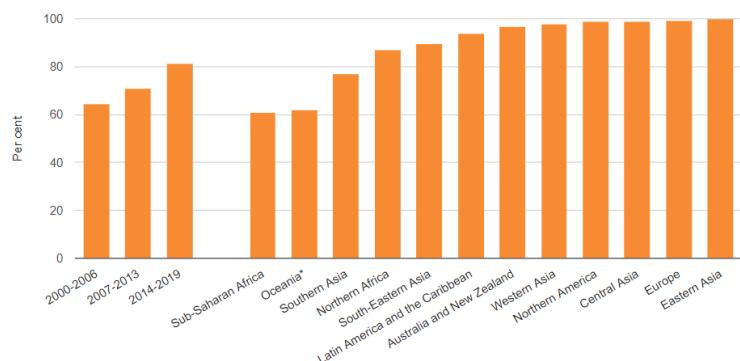
Source: UNDESA, Population Division, Estimates and Projections of Family Planning Indicators 2020, New York, 2020 (https://www.un.org/en/development/desa/population/theme/family-planning/cp_model.asp).

Note: Oceania* means Oceania (excluding Australia and New Zealand); regional values are for 2020; regions are organized in descending order of the need for family planning satisfied.

Globally, during the period 2014–2019, 81% of births took place with the assistance of a skilled birth attendant, up from 64% in the period 2000–2005; however, there are wide disparities across regions

Coverage of deliveries by skilled birth attendants ranges from 60% in sub-Saharan Africa to almost universal coverage in Europe and Northern America, Central Asia, Eastern Asia and Western Asia (see figure IV). In sub-Saharan Africa significant gains have been made since the turn of the century, with coverage ranging from 43% in the period 2000–2005 to 51% in the period 2007–2013. In-focus insight on the subject can be found in the story on skilled birth attendants in [Ghana](#).

Figure IV: Proportion of births attended by skilled personnel, by region: 2000-2019 (Percentage)



Source: Joint UNICEF/WHO global database on skilled attendants at birth, 2020 (<https://data.unicef.org/topic/maternal-health/delivery-care/>).

Note: Oceania* means Oceania (excluding Australia and New Zealand). Figures are based on the latest country-level data available for the periods 2000-2006, 2007-2013 and 2014-2019. Regional values are for 2014-2019: regions are organized in ascending order of births attended by skilled personnel.

Adolescent girls face higher risks of eclampsia, systemic infections and complications during childbirth than adult women

In 2018, there were an estimated 12.8 million births among adolescent girls aged 15–19, some 11% of all births worldwide.²⁴ The estimated global adolescent birth rate has declined from 56 births per 1,000 adolescent girls in 2000 to 41 births per 1,000 in 2020, representing a reduction of 27% in a 20-year span. At the regional level, adolescent birth rates are the lowest in developed regions (12 births per 1,000 adolescent girls in Australia and New Zealand, and 13 in Europe and Northern America) and the highest in sub-Saharan Africa (101 births per 1,000), followed by Latin America and the Caribbean (61 births per 1,000).

Early childbearing not only has a negative effect on the health of adolescents and their newborn children, evidence shows that adolescent mothers are at higher risks of eclampsia, systemic infections and complications during childbirth.²⁵ In addition, the stigma and stress adolescents experience may also make them less likely to complete schooling – reducing lifetime opportunities to achieve their full potential and weakening their control over resources and their future lives.^{26 27} A cause of unintended pregnancy is sexual violence, which is widespread with more than a third of girls in some countries reporting that their first sexual encounter was coerced.²⁸ Further insights about trends and levels of [adolescent fertility](#) are set out in the section on population and families.

COVID-19 may have an influence on how women feel about having children

Early evidence from a study in the United States of America²⁹ shows that pandemic-related worries about finances and job stability, as well as general unease about the future, may be having an effect on how women feel about having children. It is reported that more than 40% of women have declared having changed their plans about when to have children, or how many children to have, due to the [COVID-19 pandemic](#). Furthermore, black women (44%) and Hispanic women (48%) were more likely than white women (28%) to state that they wanted to have children later or wanted fewer children because of the pandemic.

About the data

Definitions

- **Death rate by leading causes of death among people aged 15–49:** Number of deaths due to a specific cause of death per 100,000 population aged 15–49.
- **Maternal mortality ratio (MMR):** Sustainable Development Goal (SDG) 3, indicator 3.1.1: Number of maternal deaths per 100,000 live births: the ratio captures the risk of death in a single live birth, including up to six weeks after pregnancy.
- **Proportion of births attended by skilled health personnel:** Sustainable Development Goal (SDG) 3, indicator 3.1.2: Number of births attended by skilled health personnel (doctors, nurses or midwives), divided by the total number of live births in a given time period. Having a skilled attendant at the time of childbirth is an important lifesaving intervention for both women and babies.
- **Proportion of women of reproductive age (ages 15–49) who have their need for family planning satisfied with modern methods:** Sustainable Development Goal (SDG) 3, indicator 3.1.2: Reported as a percentage of women of reproductive age who use any method of contraception or who have an unmet need for family planning. The numerator is the number of women (ages 15–49) who are currently using, or whose sexual partner is currently using, at least one modern method of contraception. The denominator is the total demand for family planning (the sum of the number of women who are using any method of contraception and those who are having an unmet need for family planning). Access to and use of an effective means to prevent pregnancy helps women and their partners to decide on the number and spacing of their children.
- **Adolescent birth rate per 1,000 women:** Sustainable Development Goal (SDG) 3, indicator 3.7.2: Adolescent birth rate is the annual number of births to women aged 15–19 per 1,000 women. Preventing births very early in a woman's life is an important measure to improve maternal health and reduce infant mortality and enhances a woman's opportunities for socioeconomic improvement.

Availability

- **Death rate by leading causes of death among people aged 15–49:** WHO calculates estimates for all its member States with a population of more than 90,000 (184 countries). Data on causes of death are sourced from WHO, Global Health Estimates 2016 and are classified by regional grouping under the Sustainable Development Goals (SDGs) indicators framework.
- **Maternal mortality ratio (MMR):** About one third of all countries/territories have reliable data on maternal mortality; and about half of countries have data that are adjusted for the purposes of comparability; for the remainder a statistical model has been employed. Countries are organized according to regional groupings under the Sustainable Development Goals (SDGs) indicators framework.
- **Proportion of births attended by skilled health personnel:** Data are available for over 170 countries. The main source of data is household surveys, which are conducted every 3 to 5 years; data from administrative sources may be annual. Countries are organized according to regional groupings under the Sustainable Development Goals (SDGs) indicators framework.
- **Proportion of women of reproductive age (ages 15–49) who have their need for family planning satisfied with modern methods:** Data are available for 170 countries. The main source of data is household surveys, which are conducted every 3 to 5 years; data from administrative sources may be annual. Countries are organized according to regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

with modern methods: Data are available for 130 countries or territories for the period 2000–2019. For 103 countries or territories, there are at least two available data points. Countries are organized according to the regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

- **Adolescent birth rate per 1,000 women:** Data are available for 221 countries or territories for the period 2000–2017; there are at least two data points for 217 countries or areas. Countries are organized according to regional groupings under the Sustainable Development Goals (SDGs) indicators framework.

Footnotes

1. World Health Organization (WHO), Health Topics, Fact sheets, The top 10 causes of death, May 2018.
2. Zimicki, S., "The Relationship between Fertility and Maternal Mortality", in Parnell, A. (ed.), *Contraceptive Use and Controlled Fertility: Health Issues for Women and Children* Background Papers, Washington, D.C., National Research Council, National Academies Press, 1989.
3. World Health Organization (WHO), Trends in Maternal Mortality: 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.
4. WHO, Fact sheets, Maternal mortality, September 2019.
5. Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A.B., Daniels, J.D., et al., "Global Causes of Maternal Death: A WHO Systematic Analysis", *The Lancet*, vol.2, Issue 6, June 2014.
6. Bergman, A.S., Axberg, U., Hanson, E., "When a parent dies – a systematic review of the effects of support programs for parentally bereaved children and their caregivers", *BMC Palliative Care*, vol. 16 (1), August 2017.
7. Zhou, H., Zhang, L., Ye, F., Wang, H.J., Huntington, D., Huang, Y. et al., "The effect of maternal death on the health of the husband and children in a rural area of China: a prospective cohort study", *PLOS ONE*, 9 June 2016 (accessed on 17 March 2019).
8. Finlay, J.E., Moucheraud, C., Goshev, S., Levira, F., Mrema, S., Canning, D. et al., "The effects of maternal mortality on infant and child survival in rural Tanzania: a cohort study", *Maternal Child Health Journal*, vol.19, Issue 11, November 2015.
9. Moucheraud, C., Worku, A., Molla, M., Finlay, J.E., Leaning and J., Yamin, A.E., "Consequences of maternal mortality on infant and child survival: a 25-year longitudinal analysis in Butajira Ethiopia (1987–2011)", *Reproductive Health*, vol. 2015.
10. Ronmans, C., Chowdhury, M.E., Dasgupta, S.K., Ahmed, A. and Koblinsky, M., "Effect of parent's death on child survival in rural Bangladesh: a cohort study", *The Lancet*, vol. 375, Issue 9730, June 2010 (accessed on 17 March 2019).
11. Kes, A., Ogwang, S., Pande, R.P., Douglas, Z., Karuga, R., Odhiambo, F.O. et al., "The economic burden of maternal mortality on households: evidence from three sub-counties in rural western Kenya", *Reproductive Health*, vol. 12, Supplement 1, May 2015.
12. Wang, H., Ye, F., Wang, Y. and Huntington, D., "Economic impact of maternal death on households in rural China: a prospective cohort study", *PLOS ONE*, 24 October 2013.
13. Ye, F., Wang, H., Huntington, D., Zhou, H., Li, Y., You, F. et al., "The immediate economic impact of maternal deaths on rural Chinese households", *PLOS ONE*, 6 June 2012.
14. WHO, Health Topics, Fact sheets, Preventing unsafe abortion fact sheet.
15. Ganatra, B., Gerdts, C., Rossier, C., Johnson Jr, B. R., Tuncalp, Ö., Assifi, A., Sedgh, G., Singh, S., Bankole, A., Popinchalk, A., Bearak, J., Kang, Z., Alkema, L., "Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model", *The Lancet*, vol. 390, Issue 10110, 25 November 2017.
16. Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A.B., Daniels, J., Gülmезоглу, A.M., Temmerman, M. and Alkema, L., "Global causes of maternal death: a WHO systematic analysis", *The Lancet*, vol. 2, Issue 6, 1 June 2014. (back to text)
17. WHO, Health Topics, Fact sheets, Preventing unsafe abortion, 2019.
18. Haddad, L., "Unsafe Abortion: Unnecessary Maternal Mortality", *Reviews in Obstetrics and Gynecology*, vol. 2 (2), Spring 2009.
19. Singh, S. et al., "The incidence of abortion and unintended pregnancy in India, 2015", *The Lancet*, vol.6, Issue 1, January 2018.
20. See United Nations Department of Economic and Social Development (UNDESA), Statistics Division, *The World's Women 2015: Trends and Statistics*, New York, 2015.
21. UNFPA, UN OHCHR and The Danish Institute for Human Rights, *Reproductive Rights are Human Rights*, 2014.
22. UNDESA, Population Division, *World Fertility and Family Planning 2020: Highlights*, New York, 2020.
23. WHO, Health Topics, Fact sheets, Adolescents: health risks and solutions.
24. Ganchimeg, T. et al., "Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry

study", BJOG: An International Journal of Obstetrics and Gynaecology, Supplement 1, March 2014.

26. United Nations Educational, Scientific and Cultural Organization (UNESCO), Early and unintended pregnancy and the education sector: evidence review and recommendations, Paris, 2007.

27. United Nations Population Fund (UNFPA), Motherhood in childhood: Facing the challenge of adolescent pregnancy, New York, 2013.

28. Raj A, Boehmer U. Girl child marriage and its association with national rates of HIV, maternal health, and infant mortality across 97 countries. Violence Against Women 2013.

29. Lindberg, L.D., Van de Vusse, A., Mueller, J. and Kirstein, M., "Early Impacts of the Covid-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences", Guttmacher Institute, June 2020.

Ghana: skilled health-care assistance in childbirth



Key points

- During the period from 1998 to 2014, there was a 30 percentage point increase in the proportion of deliveries at health facilities.
- In 1998, younger mothers were more likely than older mothers to deliver their babies with the assistance of skilled health personnel, while by 2014 little difference was recorded by age.
- Overall, wealthier and more educated women and women living in urban areas are more likely to access the services of skilled personnel while giving birth.

Background

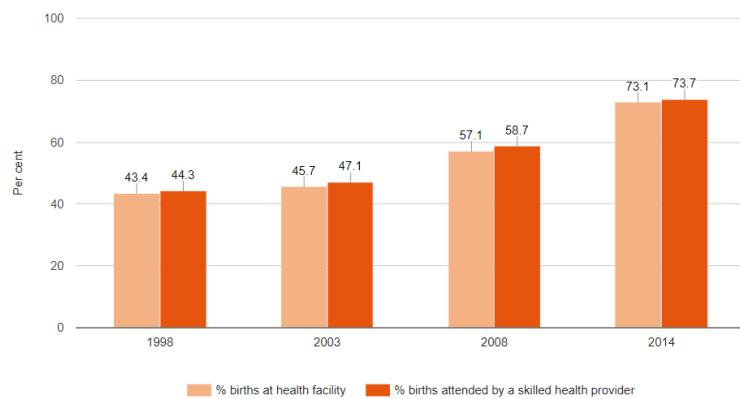
Women's access to skilled medical care, especially during childbirth, is a key strategy for the reduction of the maternal mortality ratio (MMR), which, in Ghana, still reaches 310 deaths per 100,000 live births.¹

The most dangerous time in a woman's pregnancy is during labour and delivery when the majority of maternal deaths occur. The presence of skilled medical attendants is essential for the timely management of complications that may arise during and after delivery: by providing important lifesaving intervention for both mothers and babies, skilled health personnel reduce the risk of maternal morbidity and long-lasting disability.

Current situation

Skilled medical assistance is essential to safe delivery. In Ghana, the proportion of pregnant women giving birth with the assistance of a skilled professional has increased, from 44% in 1998 to 74% in 2014 (see figure). Nevertheless, in 2014, 26% of women in the country delivered without such assistance.

During the period from 1998 to 2014, there was a 30 percentage point increase in the proportion of deliveries at health facilities as a result of improvements in the health sector brought about through the efforts of the Government and the Ghana Health Service.

Figure: Live births attended by a skilled professional and births at a health facility: 1998 to 2014

Source: Ghana Demographic and Health Surveys (1998 to 2014).

Note: The Ghana Demographic and Health Survey, which is conducted every five years by the Ghana Statistical Service, collects data on a range of maternal health issues, including antenatal care, type of assistance received during delivery of live births and postnatal care.

Despite the introduction of policies to address problems resulting from lack of access to skilled health personnel, some women are falling through the safety net; women who deliver their children at home are less likely to be able to obtain access to skilled care if complications occur [during childbirth](#).

Delivering at health facilities ensures skilled care during childbirth. According to the most recent survey, nearly 3 in 4 births occur at health facilities, primarily public sector health facilities: facility-based births are more common in urban settings (90%) than in rural areas (60%).³ In Ghana, more than a quarter of births occur at home: overall, almost 3 in 4 births are attended by a skilled professional.⁴

In 1998, younger mothers were more likely than older mothers to deliver their babies with the assistance of skilled health personnel, while by 2014 little difference was recorded by age. Data collected in 1998 show a marked difference in the proportion of births attended by skilled health personnel according to a woman's age, a difference that has decreased over time as more women have gained access to professional health care. By 2014, among women aged 15–49, the proportion of women giving birth with skilled medical assistance was above 70%, and the difference among age groups was negligible compared to previous years (see table 1).

Table 1: Percentage of births attended by skilled health personnel by women's age: 1998 to 2014

Age group	Year			
	1998	2003	2008	2014
<20	50.2	48.4	52.2	72.1
20–34	44.7	47.8	60.6	74.6
35–49	38.6	44.0	54.9	71.2

Source: Ghana Demographic and Health Surveys, (1998–2014).

Skilled assistance at birth is most common among highly educated women. Women with higher levels of education are consistently more likely to seek skilled assistance at childbirth (see table 2). The trend during the period 1998–2014 reveals that a large and growing majority of women with secondary education and higher give birth with the assistance of skilled health-care providers (from 86% in 1998 to 96% in 2014) and that women with middle school education are increasingly following suit (from 60% in 1998 to 83% in 2014). Data also show that double the proportion of women with no formal education, although less likely to use skilled health personnel, gave birth with skilled assistance (from 25% in 1998 to 52% in 2014).

Table 2: Percentage of live births attended by skilled health personnel by women's educational level: 1998 to 2014

Mother's Education	Year			
	1998	2003	2008	2014
No schooling	25.1	29.7	36.3	52.3
Primary	39.9	44.4	54.6	68.8
Lower secondary	60.6	64.3	74.4	83.3
Upper secondary and higher	85.9	89.4	92.4	96.2

Source: Ghana Demographic and Health Surveys (1998-2014).

Overall, wealthier and more educated women and women living in urban areas are more likely to access the services of skilled personnel while giving birth.

In 2014, a large majority of pregnant women giving birth in urban areas (90%) received skilled care, as compared to women in rural areas (60%) (see table 3), an increase from 84% in urban areas and 43% in rural areas as reported in 2008. The difference between rural and urban rates is largely because of the greater concentration of health-care facilities in urban areas and because pregnant women in rural areas must travel long distances to access health facilities with skilled medical personnel.

Table 3: Percentage of live births attended to by skilled health personnel by women's place of residence: 1998 to 2014

Residence	Year			
	1998	2003	2008	2014
Urban	76.3	79.7	84.3	90.1
Rural	34.1	30.9	43.0	60.2

Source: Ghana Demographic and Health Surveys (1998-2014).

According to available data, pregnant women in the highest wealth quintile, who can most easily pay hospital charges, are also the most likely to seek the assistance of skilled health personnel at the time of delivery. In terms of access to health care, differences according to levels of wealth are marked and persistent over time (see table 4). In 2003, only 2 in 10 women in the lowest wealth quintile had access to skilled health personnel at the time of delivery, compared to 9 in 10 women in the highest quintile. By 2014, the proportion of women in the lowest quintile with access to skilled assistance had more than doubled (47%), although it was still far from equal. Overall, by 2014, more than 90% of women in the two highest wealth quintiles had access to skilled health personnel during childbirth.

Table 4: Percentage of live births attended by skilled health personnel by women's wealth: 1998 to 2014

Wealth quintile	Year			
	1998	2003	2008	2014
Lowest	20.6	24.2	46.9	
Second	31.9	50.1	60.7	
Middle	43.3	64.9	77.2	
Fourth	73.1	81.8	93.6	
Highest	90.4	94.6	96.7	

Source: Ghana Demographic and Health Surveys (1998-2014).

Note: There is no data available on wealth quintiles for 1998.

Based on available data, Ghana has made a significant improvement in the lives of women: the majority of women visit health-care facilities for childbirth and have access to the assistance of skilled personnel at the time of delivery.

In 2003, Ghana introduced a delivery fee exemption policy for women giving birth (rolled out to all regions in April 2005), and in

World's Women 2020

2008 the Government introduced free national health insurance for pregnant women. Furthermore, free maternal health care services have been provided in Ghana since 2008 and community health-based planning services have been established at the district level all over the country. Additional evidence is needed, however, to confirm that free maternal health care has increased the overall use of skilled delivery providers by pregnant women.

More needs to be done to improve awareness of the availability of free maternal health care, so that every pregnant woman, irrespective of wealth, education, place of residence or traditional norms and beliefs, will be aware of her ability to visit the hospital or health-care facility for antenatal care and to receive skilled medical assistance there at the time of her delivery.

About the data

Coverage

Women aged 15–49.

Definitions

- Percentage of live births attended by skilled health personnel during a specified time period: Number of births attended by skilled health personnel divided by the number of live births in the five-year period preceding a given survey. Skilled health personnel comprise doctors, nurses and midwives trained in providing lifesaving obstetric care, including: supervision, care and advice to women during pregnancy, labour and the post-partum period, the independent conduct of deliveries and the care of newborns. Traditional birth attendants, even if they receive a short training course, are not included in this category of personnel.
- Percentage of live births delivered in a health facility: Calculated as the number of births at a health facility (public or private) divided by the number of live births in the five-year period preceding a given survey.

References

- Ghana Statistical Service, Ghana Demographic and Health Survey 1998, Accra, 1999.
- Ghana Statistical Service, Ghana Demographic and Health Survey 2003, Accra, 2004.
- Ghana Statistical Service, Ghana Health Service, Ghana Maternal Health Survey 2007, Accra, 2009.
- Ghana Statistical Service, Ghana Health Service and International Community Foundation, Ghana Demographic and Health Survey 2008, Accra, 2009.
- Ghana Statistical Service, Ghana Health Service and International Community Foundation, Ghana Demographic and Health Survey 2014, Accra, 2015.
- Ghana Statistical Service, Ghana Health Service and International Community Foundation, Ghana Maternal Health Survey 2017, Accra, 2017.

Footnotes

1. [Ghana Statistical Service, Ghana Health Service and International Community Foundation, Ghana Maternal Health Survey 2017, Accra, 2017.](#)
2. The Ghana Demographic and Health Survey, which is conducted every five years by the Ghana Statistical Service, collects data on a range of maternal health issues, including antenatal care, type of assistance received during delivery of live births and postnatal care.
3. Skilled assistance at birth is most common in greater Accra (92%), the capital of Ghana.
4. For the seven-year period before the issuance of the Ghana Maternal Health Survey 2017, data are from the [2014 Ghana Demographic and Health Survey: Key Findings](#).

Women's decision-making on and equal access to sexual and reproductive health [UNFPA]



Key points

- Based on data from 57 countries, around only 50% of women make their own decisions on health care and contraceptive use and can say no to sexual intercourse.
- There are large disparities among regions, from less than 40% of women making their own decisions in Middle Africa and Western Africa, to nearly 80% in some countries in Europe, South-Eastern Asia and Latin America and the Caribbean.
- Older women, more educated women, women living in urban areas and women from wealthier households are more likely to make their own decisions. Higher levels of education, in particular, have the greatest effect on women's ability to make their own decisions on sexual and reproductive health and reproductive rights.
- Most women (91%) seem to have autonomy over the decision to use contraception, but only 75% of women can decide on their own health care or say no to sex.
- While there are many countries with enabling laws on sexual and reproductive health and reproductive rights, there are also many legal barriers that prevent women and adolescents from having equal access to these services and information. Such barriers are most prevalent in the case of legal access to abortion.
- On average, countries have 73% of the laws and regulations needed to guarantee full and equal access to sexual and reproductive health and reproductive rights.
- The findings are particularly encouraging when it comes to HIV: on average, countries have enacted 87% of enabling laws and regulations for HIV counselling and test services; 91% for HIV treatment and care services; and 96% for HIV confidentiality.
- The lowest level of achievement is in the provision by countries of sexuality education curricula: on average, countries have 57% of enabling laws, regulations or national policies needed to make sexuality education a mandatory component of the national school curriculum.

Background

Women's ability to make decisions on their reproductive health, contraceptive use and sexual relations is pivotal to gender equality and universal access to sexual and reproductive health and reproductive rights. While a wide range of contraceptives must be made available and staff trained to provide sexuality education, all access depends on autonomy. Too often women are not able to exercise their autonomy on these issues due to harmful and discriminatory social norms and practices and their lack of agency and financial resources.

Current situation

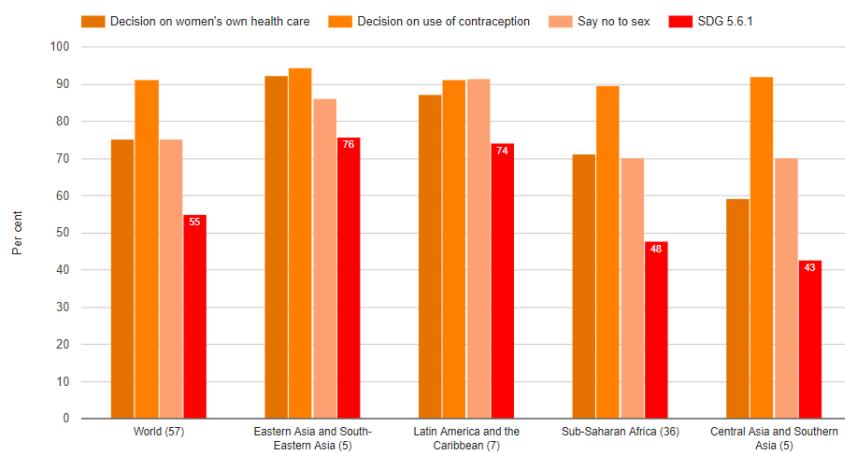
Only around 50% women can make their own decisions on health care and contraceptive use and can say no to sexual intercourse

Based on data from 57 countries, only 55% of married or in-union women aged 15–49 make their own decisions

regarding sexual and **reproductive health** and rights (see figure I). Data reveal large disparities among regions, from less than 40% of women in Middle Africa and Western Africa to nearly 80% in some countries in Europe, South-Eastern Asia and Latin America and the Caribbean. Analysis of the three sub-indicators shows that while 91% of women would seem to have autonomy in deciding to use **contraception**, only three in four women (75%) can decide on their own health care or say no to sex. Overall, gaps still exist in women's autonomy, even where high levels of individual decision-making are observed in some areas.

Levels of women's autonomy in decision-making regarding their sexual and reproductive health care also vary greatly across countries and regions. Among 57 countries with data, women in Ecuador have the highest level of autonomy, at 87%, followed by the Philippines and Ukraine, where 81% of married or in-union women have the power to take their own decisions on sexual and reproductive health care. In Mali, Niger and Senegal, countries with the lowest levels, less than 10% of married or in-union women can make their own decisions on sexual and reproductive health care.

Figure I: Proportion of women aged 15-49 who can make their own decisions regarding sexual and reproductive health and reproductive rights: 2007-2018 (latest available)



Source: United Nations Population Fund (UNFPA), global databases, 2020 (<https://www.unfpa.org/data>)

Note: The number of countries with comparable survey data included in the regional aggregations is presented in parentheses. Based on the Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys conducted in the 2007-2018 period. Decisions regarding sexual and reproductive health and reproductive rights include: deciding on their own health care, deciding on the use of contraception, and can say no to sex.

Education has the greatest effect on women's decision-making on sexual and reproductive health and reproductive rights

Overall, older women, more educated women, women living in urban areas and women living in wealthier households are more likely to make their own decisions over their sexual and reproductive health and reproductive rights.

Age at first marriage, education level, wealth, exposure to the media, place of residence and region of the world all play a role in a woman's ability to make her own decisions on sexual relations, the use of contraception and health care. Above all other factors, **education** has the greatest effect on women's decision-making on sexual and reproductive health and reproductive rights. Receiving at least some primary education provides a boost to women's autonomy; women who have some primary education are 38% more likely to meet SDG indicator 5.6.1

criteria than those who receive no education at all.

In general, as women get older, they are more empowered to make their own decisions. The greatest gains are seen among women aged 20–34; after age 35, while women still are much more likely than those aged 15–19 to achieve autonomy, the effect appears to level off.

Higher levels of wealth has an effect on women's autonomy, although not to the same extent as education, while between the two poorest wealth quintiles there was no significant difference in the level of women's autonomy. First marriage at age 18 or older had a slight but significant effect on women's autonomy, compared with women who were married before age 18: women who married after age 18 were 6% more likely to make their own decisions. In addition, weekly media exposure to newspapers, television or radio had a positive effect on women's empowerment: women with media exposure were 12% more likely to make their own decisions.

Country in focus: Uganda

In Uganda there has been consistent progress in women's decision-making ability in all three aspects of SDG indicator 5.6.1

In Uganda, during the period 2006–2016, women's autonomy in decision-making on sexual relations increased by 4.6 percentage points; on contraceptive use by 2.6 percentage points; and on reproductive health care by 12.6 percentage points. This trend was supported by better education and income levels, as well as by interventions such as the abolition of user fees and the introduction of vouchers or conditional cash transfers. The activities of SASA!,¹ a prevention programme on HIV infection and violence against women, led to lower social acceptance of **intimate partner violence** and violence against women and greater acceptance of women's right to refuse sex. Couples have improved their communication and levels of joint decision-making. SASA! engages health workers and trains community activists who work door-to-door to raise awareness levels through discussions, training, public events, films and performances by soap opera groups.

National laws and regulations on sexual and reproductive health and reproductive rights

Legal barriers still prevent access of women and adolescents to reproductive health-care services and information

Among 75 countries with data, on average, 73% of the laws and regulations needed to guarantee full and equal access to sexual and reproductive health and reproductive rights are in place (see figure II). With this access guaranteed in laws and regulations in many countries, the future focus must be on ensuring that policies, budgets and actions that can translate the laws into practice.

In national actions on **HIV, in particular**, on average, countries have enacted 87% of enabling laws and regulations for HIV counselling and test services; 91% for HIV treatment and care services; and 96% of laws needed for ensuring HIV confidentiality. In addition, countries have 79% of relevant enabling laws and regulations that stipulate full, free and informed consent of individuals before they receive contraceptive services, including sterilization (see figure II). This data indicate that there is a broadly supportive framework protecting women from coerced or forced practices.

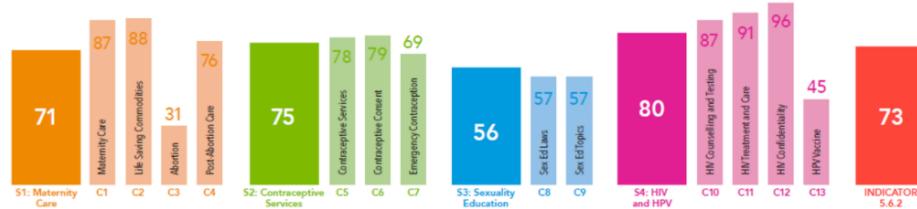
In terms of laws and regulations on sexuality education, on average, countries have only 57% of the enabling

laws, regulations or national policies needed to make a **sexuality education** a mandatory component of the national school curriculum (see figure II). In countries with those laws and regulations in place, 75% of such frameworks include all key concepts recommended by international norms and standards for sexuality education. In 90%, all but two concepts, relationships, and sexuality and sexual behaviour, are included.

In many countries, there are legal barriers to full and equal access to sexual and reproductive health and reproductive rights, the most prevalent in blocking legal access to abortion. Although abortion is legal on some or all grounds in 93% of reporting countries, in 28% of those countries a husband's consent is required in order for married women to access abortion services. Moreover, women may be criminally charged for having an illegal abortion in more than 50% of the 107 reporting countries.

Although there are laws and regulations guaranteeing access to **maternity care** in almost all countries with data (95%), 9% of those countries have restrictions based on marital status and 10% have restrictions based on age. Access to contraceptive services is also restricted in some countries. In 21% of countries, third party authorization (consent by parent, spouse, judge or medical committee) is required to access contraceptive services. Moreover, 20% of countries have multiple legal systems, for example at the state level, some of which can contradict some or all of the national laws and regulations on sexual and reproductive health and reproductive rights in the country.

Figure II: Percentage of laws and regulations guaranteeing full and equal access to women and men aged 15 and older to sexual and reproductive health care, information and education that have been enacted by countries: 2019



Source: United Nations Population Fund (UNFPA), global databases, 2020 (<https://www.unfpa.org/data>)

Note: Based on official responses to the United Nations Twelfth Inquiry among Governments on Population and Development. Data for SDG 5.6.2 are based on 75 countries with complete data. Data for the sections are as follows: 79 countries for section 1, Maternity Care, 104 countries for section 2, Contraceptive Services, 98 countries for section 3, Sexuality Education, and 101 countries for section 4, HIV and human papillomavirus infection (HPV).

About the data

Definitions

- **Proportion of women aged 15–49 who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care (Sustainable Development Goal (SDG) 5, indicator 5.6.1)**: Proportion of women aged 15–49 (married or in a union) who make their own decisions on: (a) health care; (b) use of contraception; and (c) saying no to sexual intercourse with their husband or partner if they do not want. Only women providing a "yes" answer to all three components are considered to be women who make their own decisions regarding sexual and reproductive health.²

- **Extent to which countries have laws and regulations that guarantee full and equal access to women and men aged 15 and older to sexual and reproductive health care, information and education (SDG Goal 5, indicator 5.6.2)**: The indicator is a percentage (%), on a scale of 0 to 100 (extent of national laws and regulations to guarantee full and equal access), of a country's status and progress in instituting national laws and regulations guaranteeing women such rights and levels of access. Indicator 5.6.2 measures only the existence of laws and regulations, it does not measure their implementation. Indicator 5.6.2 seeks to provide the first comprehensive global assessment of legal and regulatory frameworks on access to sexual and reproductive health and reproductive rights.

The indicator measures the legal and regulatory environment across four broad sections of sexual and reproductive health and reproductive rights: (a) maternity care; (b) contraception and family planning; (c) comprehensive sexuality education and information; and (d) sexual health and well-being. These four sections are broken down into 13 components. The total indicator score is the arithmetic mean of 13 component scores and the four section scores are the arithmetic mean of constituent component scores.³

Coverage and Availability

- **For women making their own decisions**: Married or in union women aged 15–49. As of early 2020, a total of 57 countries, the majority in sub-Saharan Africa, had at least one survey with data on all three questions necessary for calculating SDG indicator 5.6.1. Efforts to increase data coverage are under way. Current data on the indicator are derived from Demographic and Health Surveys, Multiple Indicator Cluster Surveys and other national surveys conducted during the period 2007–2018.
- **For laws on equal access**: Data are reported by national Governments, including national statistics authorities and line ministries. In 2019, data from 107 countries, covering 75% of the world's population, were collected through the United Nations Twelfth Inquiry among

Governments on Population and Development.⁴ Of those 107 countries, 75 reported complete data, which allowed for the calculation of SDG indicator 5.6.2. For the 32 countries that reported partial data, data for components and sections have been calculated where possible.

Footnotes

1. SASA! is a non-governmental organization working on the prevention of violence against women and children.
2. More information on the methodology can be found at the United Nations Population Fund (UNFPA) site on concepts and definitions used in determining the indicator and UNFPA, Ensure universal access to sexual and reproductive health and reproductive rights, measuring SDG target 5.6, February 2020.
3. More information on the methodology can be found at the United Nations Population Fund (UNFPA) site on concepts and definitions used in determining the indicator and UNFPA, Ensure universal access to sexual and reproductive health and reproductive rights, measuring SDG target 5.6, February 2020.
4. United Nations Twelfth Inquiry among Governments on Population and Development, Module II, Fertility, Family Planning and Reproductive Health .

Leading causes of death among women and men aged 50 and older



OrlyWiner

Key points

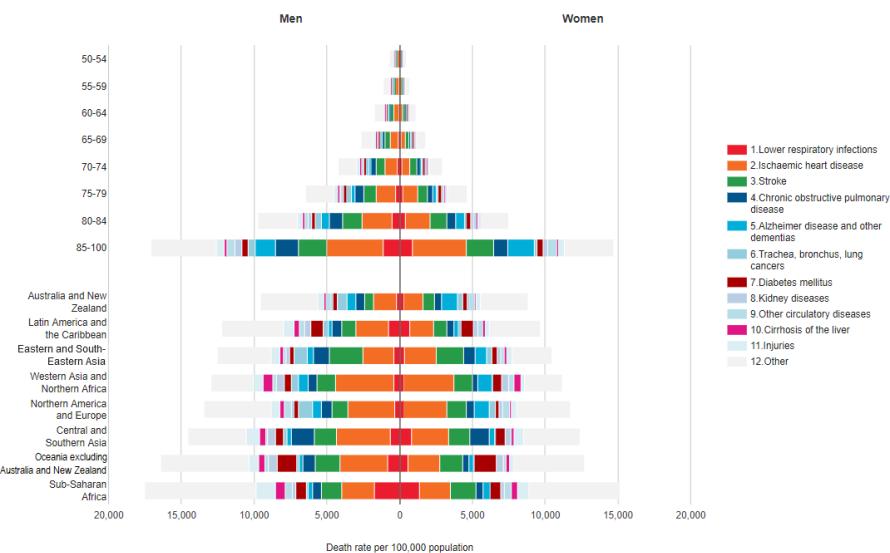
- One in five cancer deaths among women over age 50 are from breast and cervical cancer, with significant regional differences, particularly for cervical cancer. The death rate from cervical cancer is the highest in sub-Saharan Africa, and the lowest in Australia and New Zealand.
- Mortality rates from cancers among people aged 50 or older are generally higher in men than women. After age 50, mortality rates from cancer of the trachea, bronchia, lung, oesophagus, liver, stomach and bladder are at least twice as high in men as in women.
- Globally, men over age 50 are significantly more likely than women to die from ischaemic heart disease or cirrhosis of the liver: at ages 50–59 they are at least twice as likely to die from ischaemic heart disease, and at ages 50–69 they have the same gap in chances of dying from cirrhosis of the liver.
- After age 70, women are between 20% and 30% more likely than men to die from Alzheimer's disease and other types of dementia: 1 in 12 deaths among women over the age of 70 are due to this cause, compared to 1 in 20 deaths among men of the same age. The principal risk factor for Alzheimer's disease is age, with death rates in both sexes more than doubling with each 5 years over age 70. In coping with Alzheimer's disease, women face a double burden: they are both at higher risk of dementia as they grow older as well as of being the main caregivers for members of their families.

90% of women and men aged 50 and older die from non-communicable diseases

In 2016, [non-communicable diseases](#) (group 2), including Alzheimer's disease, other types of dementia and cancer, accounted for 90% of deaths in the population aged 50 and older (see figure).¹ Lower respiratory infections (group 1) were also common causes of death, while [injuries](#) (group 3) were not among the 10 leading causes of death for this age cohort. While the risk of death is higher for men at all ages, gender differences in death rates are less marked as men and women grow older.

Taken together, cardiovascular diseases² were the number one cause of death in 2016, representing 31% of all deaths worldwide.³ Men aged 50 and older were at higher risk than women of dying from ischaemic heart disease, and at ages 50–54 more than twice as likely to die from the disease. While the gender gap decreases with age, men are still more likely to die from the disease well into their early 80s. After age 85, however, both sexes are at equal risk of dying from ischaemic heart disease, with virtually no gender gap at very old ages.

Figure I: Death rates from leading causes of death at ages 50 and over per 100,000 population by sex and region: 2016



Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).
Note: Regions are listed in ascending order relative to the mortality rate at ages 50 and older.

At the regional level, men were 51% more likely to die of ischaemic heart disease in Oceania (excluding Australia and New Zealand) and 44% more likely in Central and Southern Asia, although no gender difference was noticeable in Eastern and South-Eastern Asia and sub-Saharan Africa.

In Australia and New Zealand, Northern America and Europe and sub-Saharan Africa, women aged 50 and older were more likely than men in the same age bracket to die of stroke (41%, 23% and 21%, respectively), while in Latin America and the Caribbean and Eastern and South-Eastern Asia men were at greater risk of stroke.

In 2016, the risk of dying from cirrhosis of the liver⁴ was higher for men than women aged 50 and older at the global level and in all regions of the world. Men aged 50–54 were almost three times as likely as women to die from this cause, and at least twice as likely, until age 70. Although the gender gap decreases with age, globally men remain at higher risk of dying from liver disease over the life course.

While reported at lower rates in comparison to the death rate from ischaemic heart disease and cirrhosis of the liver, in 2016 men over age 50 were also more likely than women to die from chronic obstructive pulmonary disease.⁵ The gender gap was consistent across all geographic regions and was the largest in Oceania (excluding Australia and New Zealand), where men were almost twice as likely to die of chronic obstructive pulmonary disease than women.

In 2016, in most regions, no significant differences in mortality rates due to diabetes mellitus⁶ were reported between women and men aged 50 and older. The two regions with the lowest death rates due to diabetes mellitus were exceptions: in Australia and New Zealand, men were at higher risk (19% more likely than women), and in Eastern and South-Eastern Asia, women were at higher risk (30% more likely than men).

Lower respiratory infections are a prominent cause of death for women and men at age 70 and older worldwide; and in sub-Saharan Africa at age 50 and older

For decades, acute lower respiratory infections have been among the top three causes of death and disability worldwide, although substantial progress has been made to reduce their spread. In 2016, lower respiratory infections were the cause of approximately one million deaths in adults aged 70 and older and 2.38 million deaths among people of all ages worldwide,⁷ with a particularly high death rate reported in developing regions.

Overall, *streptococcus pneumoniae* was the leading cause of illness and death from lower respiratory infections globally—the cause of more deaths than all other aetiologies combined.⁸ The most prominent risk factors for such infections include: old age, crowded living conditions, malnutrition, HIV infection, lack of immunization, chronic health conditions and exposure to tobacco smoke or indoor air pollutants.⁹

Men aged 50 and older were at higher risk of dying from lower respiratory infections than women, and men aged 50–59 were about 58% more likely than women to die from lower respiratory infections. While the gender gap in the death rate from respiratory infections decreases slightly with age, men remain at a disadvantage over the life course (see figure I).

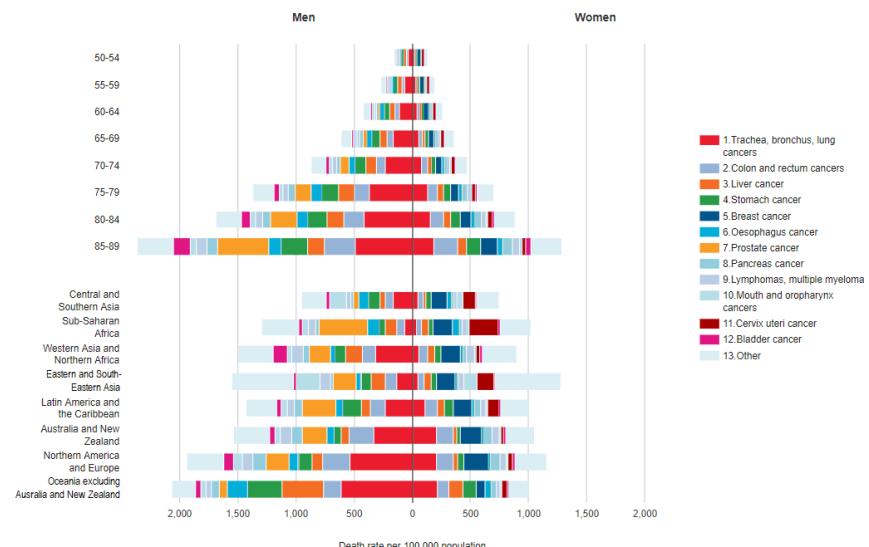
At the regional level, for both women and men, death rates due to lower respiratory infections were highest in sub-Saharan Africa; followed by Oceania (excluding Australia and New Zealand) for men; and Central and Southern Asia for women. The degree of the gender gap differed, depending on the region: in Australia and New Zealand and in Central and Southern Asia women aged 50 and older were more likely than men in the same age bracket to die from lower respiratory infections (29% and 21%, respectively), while in all other regions men aged 50 and older were more likely to die from such infections.

Mortality due to cancer at age 50 and older

At age 50 and older, men are at a higher risk of dying from cancer than women

In 2016, mortality rates from cancer¹⁰ were generally higher in men than women aged 50 and older, in particular cancer of the trachea, bronchia, lung, oesophagus, liver, stomach, prostate and bladder, for which death rates were at least twice as high among men than women (see figure II). The reported exception was breast cancer, which was extremely rare among men. Behavioural and dietary risks, including [tobacco use and alcohol consumption](#), responsible for most of these types of cancers, are more prevalent in men than in women.

Among the population aged 50 and older, the gender gap in mortality due to cancer, to the disadvantage of men, is found in all regions. The gender difference is largest in Eastern and South-Eastern Asia, the region with the highest standardized death rates, where men aged 50 and older are twice as likely as women to die from cancer. These trends coincide with the incidence of tobacco smoking: the highest rates of tobacco smoking among men are in Eastern and South-Eastern Asia. The smallest gender difference in mortality is in Oceania (excluding Australia and New Zealand), where men are only about 20% more likely to die of cancer than women. It is notable that women in Oceania (excluding Australia and New Zealand) have the highest mortality rate due to cancer compared to women in other regions.

Figure II: Deaths due to cancer per 100,000 population aged 50 and older by sex and region: 2016

Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).

Note: Regions are listed in order of ascending mortality rate in females.

Breast cancer remains among the most common cancer and cause of death among women aged 50 and older.

Globally, one in five cancer deaths among women aged 50 and older are from breast and cervical cancer, with some significant regional differences, particularly for cervical cancer. In low-income countries, where access to health services is poor, and which have lower standardized cancer rates for other cancers, death rates from cervical cancer are high.

The death rate from cervical cancer is the highest in sub-Saharan Africa (247 deaths per 100,000 women over age 50), followed by Oceania (excluding Australia and New Zealand) (148 deaths per 100,000). The death rate is the lowest in Australia and New Zealand (20 deaths per 100,000), followed by Western Asia and Northern Africa (29 deaths per 100,000). Regional variations in the death rate from breast cancer are smaller. Countries in Eastern and South-Eastern Asia have the lowest death rate from breast cancer for women aged 50 and older (80 deaths per 100,000), while the death rate from breast cancer in other regions of the world ranges from 135 deaths per 100,000 in Central and Southern Asia to 208 deaths per 100,000 in Northern America and Europe.

Death rates from cancer increase with age for both women and men. The death rate for cervical cancer among women aged 50–54 stands at 17 deaths per 100,000, increases to about 29 deaths per 100,000 at ages 70–74 and reaches 34 deaths per 100,000 among women aged 85–89. In the case of prostate cancer, the upward trend in death rates among men as they age is striking: at ages 50–54, there are 14 deaths per 100,000, by ages 70–74 the death rate increases to 74 per 100,000 and by ages 85–90 it is as high as 441 deaths per 100,000.

Coronavirus-19 (COVID-19), cancer and gender

Emerging data in the United Kingdom of Great Britain and Northern Ireland¹¹ indicate that cancer patients with COVID-19 are significantly more likely to be male. Patients with breast cancer or malignancies of the female genital tract appear to be at a much lower risk of contracting or dying from COVID-19. In multivariable analysis, this protection was attributed to the patients being women rather than to any inherently lower risk associated with these types of tumours.

Alzheimer's disease and dementia

Older age is usually characterized by an increasing and general impairment of physiological functioning, resulting in the growing risk of disease and death. More common among people later in life, Alzheimer's disease is a chronic neurodegenerative disease with an average life expectancy following diagnosis of between three to nine years.^{12, 13} Among other effects, degenerative changes in the brain lead to deterioration in memory, thinking, behaviour and the ability to perform everyday activities. The result is a loss of the skills that enable people to live independently. Worldwide, around 50 million people suffer from Alzheimer's or other types of dementia, with nearly 60% of that population living in low-income and middle-income countries. By 2030, the total number of people with dementia is projected to reach 82 million.

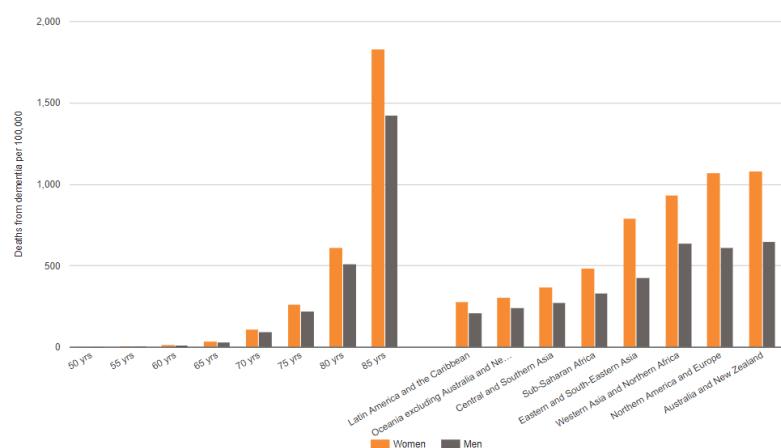
Women are more likely than men to be affected by dementia

Alzheimer's disease and other dementias account for 1 in 12 deaths among women aged 70 and older,¹⁴ compared to 1 in 20 deaths among men of the same age. The principal risk factor for Alzheimer's disease is age: death rates in both sexes double with each additional 5 years of life. The lifetime risk for Alzheimer's disease is greater among women than men, partly because more women survive to ages at which the onset of the disease is most common.¹⁵ Little is yet known about risk factors for the disease except age itself, although evidence points to risk factors that are shared with cardiovascular disease. Smoking, obesity, diabetes, high cholesterol and hypertension may increase the risk of dementia, while physical activity, a healthy diet, social activities and education may have a protective effect. There is some evidence that certain genetic factors may increase an individual's risk of having dementia.¹⁶

Of the leading causes of death among people aged 50 and older (see figure I), the single cause of death that significantly affects women more than men is Alzheimer's disease and other types of dementia. Globally, at every age bracket, women are at least 20% more likely than men to die from these causes (see figure III), and gender disparities to women's disadvantage are more marked in some regions: in Eastern and South-Eastern Asia, women aged 50 and older are 85% more likely than men to die from Alzheimer's and other types of dementia, and in Northern America and Europe women are 76% more likely than men to die from this cause.

The smallest gender gap in mortality due to Alzheimer's and other dementias is found in Oceania (excluding Australia and New Zealand) (24% to the disadvantage of women). These trends match the gender differences in life expectancy at older ages: among those aged 80 and older this gap is high in Eastern and South-Eastern Asia, where women outlive men by about two years, while there is practically no gap in Oceania (excluding Australia and New Zealand).

Figure III: Deaths due to Alzheimer's disease and other types of dementia per 100,000 population aged 50 and older by sex and region: 2016



Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).

Note: Regions are presented in ascending order of mortality rate in females.

The quality of life of those suffering from Alzheimer's disease and their carers, most commonly female family members, can be severely impaired. Women experience a double burden: they are at higher risk of dementia as they grow older and they are also likely to be the main caregivers as partners, daughters and daughters-in-law.

Informal care of individuals with dementia is common, not only in most low-income and middle-income countries, where professional or institutional care is often not available, but is also frequent in developed countries. For instance, in the United States of America, two-thirds of primary unpaid caregivers of those with Alzheimer's disease are women, and over one-third are daughters. Alzheimer's disease takes a devastating toll: compared with caregivers of people without dementia, twice as many caregivers of those with dementia report substantial emotional, financial and physical difficulties.¹⁷

Mortality in older age: causes show marked gender differences

Even in older ages, the death rate from injuries, in particular road accidents and self-harm injuries, continues to show a distinct gendered pattern, with men aged 65 and older representing about 70% of total deaths under this category (see figure IV). At ages 65–74, men are more likely than women to die as the result of falling (58% of deaths), however, as women and men grow older (ages 75–84 and ages 85–100) the death rate from falls is approximately equal between the sexes.

Among the older population, tuberculosis takes a greater toll among older men: 66% of deaths at ages 65–74 and 69% of deaths at ages 85–100 from tuberculosis occur among men. Women at older ages continue to die from breast and cervical cancer, and they die at higher rates than men from rheumatic heart disease (see figure IV). At ages 65–74, women account for 59% of global mortality from rheumatic heart disease, and represent 57% of global mortality at ages 75–84. After age 84, deaths due to Alzheimer's disease and other types of dementia are more common among women than men — 56% of female mortality at ages 85–100. Among the oldest age group (ages 85–100), mortality due to stroke, ischaemic heart disease, cardiomyopathy, myocarditis, endocarditis and falls are equally common among women and men.

Figure IV: Female death rates worldwide as a proportion of total death rates by age and cause of death:
2016 (Percentages)

	Age (years)		
	65-74	75-84	85-100
<i>Communicable, maternal, perinatal and nutritional conditions</i>			
1 Lower respiratory infections	45%	43%	44%
2 Neonatal deaths			
3 Diarrhoeal diseases	53%	50%	46%
4 Tuberculosis	34%	34%	31%
5 HIV/AIDS			
6 Malaria and other vector borne diseases			47%
7 Other infectious diseases		42%	47%
8 Protein-energy malnutrition		47%	47%
9 Maternal conditions			
<i>Noncommunicable diseases</i>			
1 Ischaemic heart disease	40%	45%	49%
2 Stroke	42%	45%	50%
3 Chronic obstructive pulmonary disease	39%	38%	38%
4 Alzheimer and other dementias	55%	55%	56%
5 Trachea, bronchus, lung cancers	26%	27%	28%
6 Diabetes	49%	50%	48%
7 Cirrhosis of the liver	35%	38%	37%
8 Kidney diseases	43%	41%	42%
9 Other circulatory diseases	43%	47%	52%
10 Hypertensive heart disease	50%	50%	52%
11 Liver cancer	27%	30%	34%
12 Colon and rectum cancers	38%	40%	44%
13 Stomach cancer	28%	30%	35%
14 Breast cancer	99%	99%	98%
15 Other malignant neoplasms	40%	41%	43%
16 Oesophagus cancer	24%	26%	29%
17 Asthma	45%	48%	49%
18 Other digestive diseases	42%	46%	50%
19 Cardiomyopathy, myocarditis, endocarditis	38%	45%	49%
20 Pancreas cancer	42%	44%	48%
21 Prostate cancer	0%	0%	0%
22 Lymphomas, multiple myeloma	39%	40%	40%
23 Other respiratory diseases	34%	36%	42%
24 Mouth and oropharynx cancers	25%	26%	31%
25 Rheumatic heart disease	59%	57%	55%
26 Leukaemia	38%	36%	38%
27 Cervix uteri cancer	100%	100%	100%
<i>Injuries</i>			
1 Road injury	31%	30%	27%
2 Self-harm	35%	32%	31%
3 Falls	42%	46%	48%
4 Other unintentional injuries	36%	40%	47%
5 Interpersonal violence			
6 Drowning			39%
<i>Female mortality as proportion total</i>			
	0-19%	20-44%	45-55%

Source: World Health Organization (WHO), Global Health Estimates 2016 (https://www.who.int/healthinfo/global_burden_disease/en/).

Note: Data are presented for the 42 leading causes of death in 2016 (where the global number of deaths exceeded 280,000). These causes accounted for 89% of all deaths in 2016. The female death rate in relation to the combined male and female death rate is shown for cells where the age-specific death rate from a cause, in either sex, exceeds 1,500 per 100,000.

About the data

Definitions

- **Deaths by leading causes of death in the population aged 50 and older:** Number of deaths due to a specific cause of death per 100,000 population aged 50 and older.

- **Deaths due to Alzheimer's disease and other types of dementia per 100,000 population aged 50 and older:** Measuring the risk of dying from dementia is important in assessment of the burden of these diseases in a population. Number of deaths due to Alzheimer's disease and other dementias per 100,000 population aged 50 and older.

- **Age-standardized death rates from the 12 leading causes of cancer in the population aged 50 and older:** Measuring the risk of dying from cancer is important in assessment of the disease burden from cancer in a population. Age-standardized rates are adjusted for differences in the age distribution of a population by applying observed age-specific rates for each population to a standard population. The age-standardized rate is a weighted average of the age-specific rates per 100,000 population, where the weights are the proportions of persons in the corresponding age groups of the standard population as defined by the World Health Organization (WHO).

Coverage

WHO calculates estimates for all WHO member States with a population of more than 90,000 (184 countries).

While age 65 is generally used for statistical purposes to identify older persons, most indicators in this story refer broadly to an older population aged 50 and over.

Availability

Data on individual countries are derived from WHO Global Health Estimates for United Nations Member States organized by regional groupings under the Sustainable Development Goals (SDGs) indicators framework.¹⁸

Footnotes

1. In 2016, non-communicable diseases accounted for 71% of global deaths among people of all ages (41 million deaths (21 million deaths among men and 20 million among women)).
2. Cardiovascular diseases are a group of disorders of the heart and blood vessels, including ischaemic heart disease, cerebrovascular disease, rheumatic heart disease and other related conditions.
3. WHO, *Cardiovascular diseases (CVDs)*.
4. Cirrhosis of the liver refers to the replacement of normal liver tissue with non-living scar tissue, which can result in irrevocable liver failure. It is most commonly caused by Hepatitis C and prolonged excessive alcohol consumption.
5. Chronic obstructive pulmonary disease (COPD) is a progressive life-threatening lung disease that causes breathlessness. The disease develops slowly and usually becomes apparent after age 50.
6. Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin (a hormone that regulates blood sugar) or when the body cannot effectively use the insulin it produces.
7. The Global Burden of Diseases, Injuries, and Risk Factors Study 2016, Lower Respiratory Infections Collaborators, "Estimates of the global, regional, and national morbidity, mortality, and aetiologies of lower respiratory infections in 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016", *The Lancet*, vol. 18, Issue 11, November 2018.
8. Ibid.
9. Forum of International Respiratory Societies, *The Global Impact of Respiratory Disease*, second edition, Sheffield, European Respiratory Society, 2017.
10. Cancers are a group of diseases characterized by uncontrolled growth and spread of abnormal cells (metastasis): they comprise a complex group of diseases and have a variety of causes, usually modified by an individual's genetic make-up. WHO estimates that about 30%-50% of cancers may be prevented with lifestyle modifications, such as eliminating tobacco use, being physically active, and reducing access to carcinogens in the environment.
11. Lee, Lennard, Y.W., Cazier, Jean-Baptiste, Starkey, Thomas, Briggs, Sarah E.W., Arnold, Roland, Bisht, Vartika et al, "COVID-19 prevalence and mortality in patients with cancer and the effect of primary tumour subtype and patient demographics: a prospective cohort study", *The Lancet Oncology*, August 2020 (online).
12. Querfurth, H.W. and LaFerla, F.M., "Mechanisms of disease: Alzheimer's disease", *The New England Journal of Medicine*, vol. 362, No. 4, January 2010.
13. Todd, S., Barr, S., Roberts, M., Passmore, A.P., "Survival in dementia and predictors of mortality: a review", *International Journal of Geriatric Psychiatry*, vol. 28 (11).
14. Death rates from Alzheimer's disease before age 70 are practically negligible.
15. Mielke, M.M., Ferretti, M.T., Iulita, M.F., Hayden, K., Khachaturian, A.S., "Sex and gender in Alzheimer's disease – does it matter?", *Alzheimer's & Dementia*. 2018;14(9):1101.
16. Barnes, Deborah, E. and others, "Development and validation of a brief dementia screening indicator for primary care", *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, vol. 10 (6), February 2014.
17. Alzheimer's Association, 2020: *Alzheimer's Disease: Facts and Figures*.
18. Regional groupings under the Sustainable Development Goals (SDGs) indicators framework.