World Health Organization

Leading causes of death and disability

WHO's Global Health Estimates (GHE) provide the latest available data on death and disability globally, by region and country, and by age, sex and cause. They provide key insights on mortality and morbidity trends to support informed decision-making on health policy and resource allocation.

These estimates are produced using data from multiple sources including national vital registration data, latest estimates from WHO technical programmes, United Nations partners and inter-agency groups, as well as the Global Burden of Disease and other scientific studies. Before publishing, the GHE are reviewed by WHO Member States through consultation with national focal points and WHO country and regional offices.

New data presented here reflects global and regional trends from 2000 to 2019.

Zaatari refugee camp, Syria. A healthcare worker with the Jordan Health Aid Society (JHAS) holds a malnourished boy while his brother points at a whiteboard. Credit: WHO.

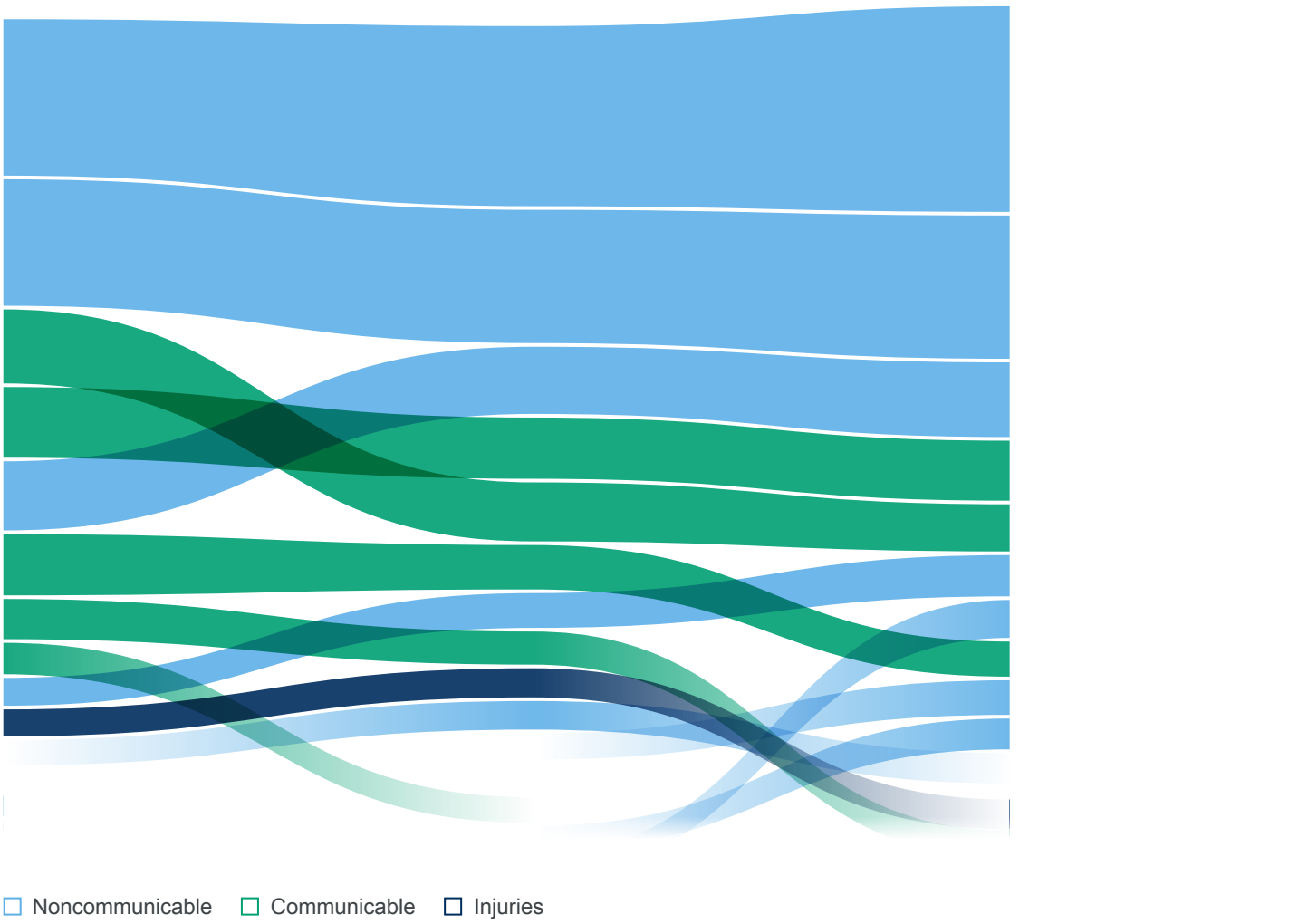
Leading causes of death globally

Summary findings

- **Noncommunicable diseases have become more prominent with Alzheimer's disease and other dementias as well as diabetes entering the top 10 in 2019, whereas communicable diseases are on the decline with both HIV/AIDS and tuberculosis dropping out of the top 10.**
- **Ischaemic heart disease was the top cause of death in both 2000 and 2019, and is now killing more people than ever before.**
- **Lower respiratory infections were responsible for the most deaths in the communicable disease category in both 2000 and 2019, although the total number of deaths from lower respiratory infections has decreased.**

The detail

Leading causes of death globally



The top global causes of death[1], in order of total number of lives lost, are associated with three broad topics: **cardiovascular** (ischaemic heart disease, stroke), **respiratory** (chronic obstructive pulmonary disease, lower respiratory infections) and **neonatal conditions** – which includes birth asphyxia and birth trauma, neonatal sepsis and infections, and preterm birth complications.

Ischaemic heart disease caused the most deaths and was responsible for 16% of total deaths. Since 2000, it has seen the largest increase in deaths, rising by more than 2 million to nearly 9 million deaths in 2019.

Lower respiratory infections accounted for the highest number of deaths in the communicable disease category. This has not changed since 2000. Lower respiratory infections were the fourth leading cause of death in 2019. However, the number of deaths decreased from 3.0 million in 2000, to 2.6 million in 2019.

HIV/AIDS dropped from the 8th leading cause of death in 2000 to the 19th in 2019, reflecting the success of timely diagnosis and effective treatment and control. **Tuberculosis** has also dropped from the 7th place in 2000 to 13th in 2019, with a 30% reduction in global deaths. Yet it remains among the top 10 causes of death in the African and South-East Asia regions and Africa has seen a slight increase in deaths since 2000 followed by decline that only started in recent years.

Among the top 10 causes of deaths in 2000, deaths from neonatal conditions and diarrhoeal diseases have seen the greatest global decrease in absolute number, each falling by more than 1 million since 2000.

Progress in preventing and treating communicable diseases (especially those that tend to kill younger people) has seen them decline relative to noncommunicable diseases and injuries. This progress has led to an ageing global population – a trend that will continue as more people live longer. **At the global level, 7 of the top 10 causes of death in 2019 are noncommunicable diseases.** This is an increase from 4 of the top 10 causes in 2000.

As populations age, policies and programmes to ensure that older people can continue to be mobile and get where they want to go, are important. Credit: WHO.

Leading causes of disability globally

Mortality alone does not give a complete picture of the overall burden of disease. This is calculated using the disability-adjusted life year (DALY)[2], a time-based measure that combines years of life lost due to premature mortality (YLLs) and years of life lost due to time lived in states of less than full health, or years of healthy life lost due to disability (YLDs).

Summary findings

- **DALYs due to communicable diseases such as HIV/AIDS and diarrhoeal diseases have dropped by 50% since 2000.**
- **DALYs from diabetes increased by more than 80% between 2000 and 2019.**
- **DALYs from Alzheimer's disease and other forms of dementia have nearly doubled between 2000 and 2019.**

The detail

Leading causes of DALYs globally

2000 2010 2019

In 2019, there were 55.4 million deaths and 2.5 billion healthy years of life lost worldwide. **And over 30 million – or nearly 3 in 5 people – died of the same 10 causes.**

Globally, age-standardized[3] rates of deaths and DALYs decreased across all three cause categories between 2000 to 2019. This trend is underscored by the dramatic decline in communicable diseases, most significantly in Africa and South East Asia as well as in low- and middle- income countries. In these two regions, age-standardized mortality rates for communicable diseases dropped by over 50%, at least double the decline in NCDs and injuries.

While DALYs due to communicable diseases have dropped by 40% since 2000, the top 5 noncommunicable diseases and injuries[4] alone added nearly 100 million years to global DALYs from 2000-2019. Of note is diabetes, for which DALYs have increased by over 80%.

Despite the overall decline in DALYs, the number of years the global population lived with disability (YLDs) increased by 210 million years in 2019 compared to 2000, partly offsetting the decrease of over 360 million years lost due to premature death (YLLs). Diabetes, chronic obstructive pulmonary disease, stroke, road injuries, Alzheimer's disease and other dementias, ischaemic heart disease and cancers are major contributors to this increase, as well as to global causes of death.

Both cause of death and DALYs due to Alzheimer's disease and other dementias are on the rise. DALYs for these conditions have also doubled in nearly all regions and income groups.

Lima, Peru. Samir Gustavo Rosales Lopez wears his new glasses as he walks home from the Ramiro Prialè Educational Institution with his mother. Credit: WHO.

Causes of death by WHO region

Leading causes of death by region

Choose region: Africa

2000 2010 2019

African Region

Six of the top 10 leading causes of death in Africa in 2019 are communicable diseases. Africa is the only region in which HIV/AIDS and malaria remain in the top 10.

Encouragingly, **Africa has seen HIV/AIDS deaths fall by more than half, dropping from over 1 million in 2000 to 435 000 in 2019.** It is now the region's 4th leading cause of death. In 2000, the disease was responsible for the greatest number of lives lost in Africa. Deaths from malaria are also falling, with 6.7 million in 2000 compared to 3.9 million in 2019. However, recent WHO reports indicate a slow-down or plateauing of progress against infectious diseases.

Neonatal conditions and lower respiratory infections remained the leading cause of DALYs in 2019 for the region and have now moved up to become the 1st and 2nd leading cause of death. Despite significant decreases in total numbers, diseases such as diarrhoea and malaria remain high contributors to both death and DALYs. In contrast, both deaths and DALYs for tuberculosis have risen by over 7% since 2000.

In terms of injuries, there has been a significant rise in road traffic injuries for the African Region, with a 51% rise in deaths and a 45% rise in DALYs. Deaths and DALYs for diabetes have also increased by 48% and 59%, respectively.

Region of the Americas

The rise of diabetes in the Region of the Americas has disproportionately contributed to DALYs through disability relative to other causes. We can see this when comparing it to ischaemic heart disease, which has been the number one cause of deaths and DALYs in the region since 2000. In 2019, for every four deaths due to ischaemic heart disease, there was one death from diabetes. Yet for every life-year lost due to disability from ischaemic heart disease, there were 10 years lost due to diabetes. In 2019, diabetes became the second greatest contributor to the regional DALYs.

Compared to other regions, the Region of the Americas is also marked by high mortality from interpersonal violence, and it is the only region where this cause ranked in the top 10 causes of death for 2019.

Similarly, the Americas is the only region where drug use disorder is a top 10 contributor to YLDs. In all other regions, drug use does not make the top 25. There has been nearly a threefold increase in deaths from drug use disorders and an increase of more than 150% in DALYs between 2000 and 2019.

While Alzheimer's disease and other dementias are on the rise in many parts of the world, in the Americas and Europe they account for one of the most primary causes of deaths, these conditions are now the 3rd leading cause of death in the Americas and Europe.

Eastern Mediterranean Region

In the Eastern Mediterranean Region, deaths and DALYs from diabetes have more than doubled compared to 2000 - the greatest percentage increase in deaths and DALYs due to the disease across all regions.

The greatest decrease among the top 10 causes of death over the period has been for diarrhoeal diseases, for which deaths have fallen by 90 000, or 38%.

In line with a global increase in disability and death due to road traffic injuries, we see a similar but slightly smaller increase (at around 40%) for the Eastern Mediterranean Region. Gender-wise, 70% of these deaths in the region are men, close to the global average of 75%.

European Region

The European Region stands out for the relative decline in ischemic heart disease compared with other regions of the world, falling by 15% in deaths and 25% in DALYs, although the disease remained the top cause of deaths and DALYs.

The region has also seen a decline in suicide and road injuries, with both out of the top 10 lists of death and disability. From 2000 to 2019, deaths from suicide in Europe dropped from the 7th leading cause of death to the 17th.

Europe is the only region where accidental falls is among the top 10 causes of DALYs. Only one communicable disease (lower respiratory infections) features in Europe's top 10 causes of death.

South-East Asia Region

In the South-East Asia Region, diarrhoea accounted for the largest number of deaths and second largest number of DALYs (following neonatal conditions) in 2000. In 2019, it has dropped by 45% and 60% – to 4th and 5th place – respectively. Similarly, death and disability from neonatal conditions has declined by more than 50% in the last two decades.

However, deaths from ischaemic heart disease have dramatically increased from 1.2 million in 2000 to 2.1 million in 2019. Similar to the African Region, we also see a rise in road traffic injuries for the South-East Asia Region, which is now among the top 10 leading causes of death and disability.

Western Pacific Region

Unlike many other regions, the leading cause of death and DALYs in the Western Pacific Region is stroke rather than ischaemic heart disease (IHD). However, deaths from IHD in the region have doubled, with more than a million additional fatalities in 2019 (2.3 million) compared to 2000 (1.1 million).

Three cancers – lung, stomach and colorectal – ranked in the top 10 causes of death in 2019. In particular, deaths for lung and colorectal cancers have increased by 80% and 100%, respectively, since 2000. We see similar trends for DALYs, with increases of 65% and 85% respectively.

Mumbai, India. Patients being treated for diabetes perform their exercises early in the morning at public grounds. Credit: WHO.

Causes of death by sex

For death and disability disaggregated by sex, annual global deaths and DALYs among women were around 15% lower than for men. However, women collectively spent about 20% more years living with disability (YLDs).

In the past two decades, the greatest increase in female deaths has been from Alzheimer's disease and other dementias, with nearly a threefold increase. These neurological disorders kill more females than males, with about 80% more deaths and 70% more DALYs for women than for men.

Additionally, much of this century's progress on HIV/AIDS has been due to a 55% decline in deaths from this disease among women since 2000. And the gender gap is widening. In 2000, HIV/AIDS killed 38 000 fewer women than men. In 2019, it killed 90 000 fewer.

In comparison, men were disproportionately impacted, in terms of absolute number of deaths, by preventable diseases such as tuberculosis, lung cancer, alcohol use disorder and road injuries. Here the male to female ratio of total number of deaths and DALYs ranges from approximately 1.5 for tuberculosis (DALYs) to 4.9 for alcohol use disorder (deaths). However, while there was a larger increase in road traffic injuries among men, there was a larger percentage increase in lung cancer deaths among women (67%) than men (40%) between 2000 and 2019.

Leading causes of death globally by sex, 2019

Male	Female
Rank	Rank

Noncommunicable Communicable Injuries

Conclusion

Globally, life expectancy has increased by more than 6 years between 2000 and 2019 – from 66.8 years in 2000 to 73.4 years in 2019. While healthy life expectancy (HALE) has also increased by 8% from 58.3 in 2000 to 63.7, in 2019, this was mostly due to declining mortality rather than reduced years lived with disability. In other words, the increase in HALE (5.4 years) has not kept pace with the increase in life expectancy (6.6 years).

To help guide the allocation of resources for health research and health services, mortality and morbidity data disaggregated by age, sex and geographic location is vital. Yet too often such data is still critically absent. And the available data could be regularly under-reported, especially in lower-income countries.

Decision-makers worldwide depend on timely, reliable data – including for cause-of-death and disability – to respond effectively to changing epidemiological circumstances. This has been especially true during the COVID-19 global pandemic when such data has been vital for assessing the impact on public health.

All-cause and cause-specific mortality was updated through 2019, just prior to the COVID-19 outbreak. As such, these estimates provide an important comparison point for the leading causes of mortality and morbidity before the onset of COVID-19.

While it is important to know why people die, it is equally important to know how people live. Monitoring how many people die each year – and how many years of healthy life were lost due to disability – helps to assess the effectiveness of health systems and support timely and effective decision-making.

Furthermore, such data can help focus the responses of multiple sectors: from transportation (to address road traffic injuries) to food and agriculture (in tackling the rise in diabetes prevalence and other illnesses related to nutrition) and mental health support (for early detection of mental health conditions and increased access to treatment and care).

The next update to these estimates will include an assessment of the direct and indirect impact of the COVID-19 pandemic on mortality and morbidity.

Footnotes

[1] Causes of death and disability can be grouped into three large categories: communicable (infectious diseases, along with maternal, perinatal and nutritional conditions), noncommunicable (chronic diseases) and injuries.

[2] One DALY represents the loss of the equivalent of one year of full health. DALYs for a disease or health condition are the sum of YLLs and YLDs due to prevalent cases of the disease or health condition in a population.

[3] The age-standardized mortality rate is a weighted average of the age-specific mortality rates per 100 000 persons, where the weights are the proportions of persons in the corresponding age groups of the WHO standard population. It enables comparison of indicator values across countries and over time with different age structures of the population.

[4] Ischaemic heart disease, stroke, road injuries, chronic obstructive pulmonary disease and diabetes.

Global Health Estimates

The top 10 causes of death

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