

Life expectancy climbs globally but more time spent living with illness and disability

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Credit: Francisco Farias Jr/public domain

People around the world are living longer, even in some of the poorest

countries, but a complex mix of fatal and nonfatal ailments causes a tremendous amount of health loss, according to a new analysis of all major diseases and injuries in 188 countries.

Thanks to marked declines in death and illness caused by HIV/AIDS and malaria in the past decade and significant advances made in addressing communicable, maternal, neonatal, and nutritional disorders, health has improved significantly around the world. Global [life expectancy](#) at birth for both sexes rose by 6.2 years (from 65.3 in 1990 to 71.5 in 2013), while healthy life expectancy, or HALE, at birth rose by 5.4 years (from 56.9 in 1990 to 62.3 in 2013).

Healthy life expectancy takes into account not just mortality but also the impact of nonfatal conditions and summarizes years lived with disability and years lost due to premature mortality. The increase in healthy life expectancy has not been as dramatic as the growth of life expectancy, and as a result, people are living more years with illness and disability.

"Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 [countries](#), 1990-2013: quantifying the epidemiological transition" examines fatal and nonfatal health loss across countries. Published in *The Lancet* on August 27, the study was conducted by an international consortium of researchers working on the Global Burden of Disease study and led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington.

"The world has made great progress in health, but now the challenge is to invest in finding more effective ways of preventing or treating the major causes of illness and disability," said Professor Theo Vos of IHME, the study's lead author.

For most countries, changes in healthy life expectancy for males and

females between 1990 and 2013 were significant and positive, but in dozens of countries including Botswana, Belize, and Syria healthy life expectancy in 2013 was not significantly higher than in 1990. In some of those countries, including South Africa, Paraguay, and Belarus, healthy life expectancy has actually dropped since 1990. People born in Lesotho and Swaziland in 2013 could expect to live at least 10 fewer years in [good health](#) than people born in those countries two decades earlier. People in countries such as Nicaragua and Cambodia have experienced dramatic increases in healthy life expectancy since 1990, 14.7 years and 13.9 years, respectively. The reverse was true for people in Botswana and Belize, which saw declines of 2 years and 1.3 years, respectively.

The differences between countries with the highest and lowest healthy life expectancies is stark. In 2013, Lesotho had the lowest, at 42 years, and Japan had the highest globally, at 73.4 years. Even regionally, there is significant variation. Cambodians and Laotians born in 2013 would have healthy life expectancies of only 57.5 years and 58.1 years, respectively, but people born in nearby Thailand and Vietnam could live nearly 67 years in good health.

As both life expectancy and healthy life expectancy increase, changes in rates of health loss become increasingly crucial. The study's researchers use DALYs, or disability-adjusted life years, to compare the health of different populations and health conditions across time. One DALY equals one lost year of healthy life and is measured by the sum of years of life lost to early death and years lived with disability. The leading global causes of health loss, as measured by DALYs, in 2013 were [ischemic heart disease](#), lower respiratory infections, stroke, low back and neck pain, and road injuries. These causes differed by gender: for males, road injuries were a top-five cause of health loss, but these were not in the top 10 for females, who lose substantially more health to depressive disorders than their male counterparts.

Ethiopia is one of several countries that have been rising to the challenge to ensure that people live lives that are both longer and healthier. In 1990, Ethiopians could expect to live 40.8 healthy years. But by 2013, the country saw an increase in healthy life expectancy of 13.5 years, more than double the global average, to 54.3 years.

"Ethiopia has made impressive gains in health over the past two decades, with significant decreases in rates of diarrheal disease, lower respiratory infection, and neonatal disorders," said Dr. Tariku Jibat Beyene of Addis Ababa University. "But ailments such as heart disease, COPD, and stroke are causing an increasing amount of health loss. We must remain vigilant in addressing this new reality of Ethiopian health."

The fastest-growing global cause of health loss between 1990 and 2013 was HIV/AIDS, which increased by 341.5%. But this dramatic rise masks progress in recent years; since 2005, health loss due to HIV/AIDS has diminished by 23.9% because of global focus on the disease. Ischemic heart disease, stroke, low back and neck pain, road injuries, and COPD have also caused an increasing amount of health loss since 1990. The impact of other ailments, such as diarrheal diseases, neonatal preterm birth complications, and lower respiratory infections, has significantly declined.

Across countries, patterns of health loss vary widely. The countries with the highest rates of DALYs are among the poorest in the world, and include several in sub-Saharan Africa: Lesotho, Swaziland, Central African Republic, Guinea-Bissau, and Zimbabwe. Countries with the lowest rates of health loss include Italy, Spain, Norway, Switzerland, and Israel.

Country-level variation also plays an important role in the changing disease burden, particularly for non-communicable diseases. For communicable, maternal, neonatal, and nutritional disorders, global

DALY numbers and age-standardized rates declined between 1990 and 2013. While the number of DALYs for non-communicable diseases have increased during this period, age-standardized rates have declined.

The number of DALYs due to communicable, maternal, neonatal, and nutritional disorders has declined steadily, from 1.19 billion in 1990 to 769.3 million in 2013, while DALYs from non-communicable diseases have increased steadily, rising from 1.08 billion to 1.43 billion over the same period.

The study also examines the role that socio-demographic status - a combination of per capita income, population age, fertility rates, and years of schooling - plays in determining health loss. Researchers' findings underscore that this accounts for more than half of the differences seen across countries and over time for certain leading causes of DALYs, including maternal and neonatal disorders. But the study notes that socio-demographic status is much less responsible for the variation seen for ailments including cardiovascular disease and diabetes.

"Factors including income and education have an important impact on health but don't tell the full story," said IHME Director Dr. Christopher Murray. "Looking at [healthy life](#) expectancy and health loss at the country level can help guide policies to ensure that people everywhere can have long and healthy lives no matter where they live."

Countries with highest healthy life expectancy, both sexes, 2013

1 Japan

2 Singapore

3 Andorra

4 Iceland

5 Cyprus

6 Israel

7 France

8 Italy

9 South Korea 10 Canada

Countries with lowest healthy life expectancy, both sexes, 2013

1 Lesotho

2 Swaziland

3 Central African Republic

4 Guinea-Bissau

5 Zimbabwe

6 Mozambique

7 Afghanistan

8 Chad

9 South Sudan

10 Zambia

Leading causes of DALYs or health loss globally for both sexes, 2013

1 Ischemic heart disease

2 Lower respiratory infection

3 Stroke

4 Low back and neck pain

5 Road injuries

6 Diarrheal diseases

7 Chronic obstructive pulmonary disease

8 Neonatal preterm birth complications

9 HIV/AIDS

10 Malaria

More information: [www.healthdata.org/research-ar ... e-188-countries-2013](http://www.healthdata.org/research-article/leading-causes-of-daly-or-health-loss-globally-for-both-sexes-2013)

[www.thelancet.com/journals/lan ... \(15\)61340-X/abstract](http://www.thelancet.com/journals/lan/article/S0140-6736(15)61340-X/abstract)

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