

Study: Life expectancy increased as world addressed major killers, though poor pandemic management slowed progress

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Global life expectancy increased by 6.2 years since 1990 according to a new study published in *The Lancet*. Over the past three decades,

reductions in death from leading killers have fueled this progress, including diarrhea and lower respiratory infections, as well as stroke and ischemic heart disease.

When the COVID-19 pandemic arrived in 2020, however, it derailed progress in many locations. This is the first study to compare deaths from COVID-19 to deaths from other causes globally.

Despite the challenges presented by the COVID-19 pandemic, the researchers found that the super-region of Southeast Asia, East Asia, and Oceania had the largest net gain in life expectancy between 1990 and 2021 (8.3 years), largely due to reductions in mortality from [chronic respiratory diseases](#), stroke, lower respiratory infections, and cancer.

The super-region's strong management of the COVID-19 pandemic helped preserve these gains. South Asia had the second-largest net increase in life expectancy among super-regions between 1990 and 2021 (7.8 years), primarily thanks to steep declines in deaths from [diarrheal diseases](#).

"Our study presents a nuanced picture of the world's health," said Dr. Liane Ong, co-first author of the study and a Lead Research Scientist at the Institute for Health Metrics and Evaluation (IHME). "On one hand, we see countries' monumental achievements in preventing deaths from diarrhea and stroke," she said. "At the same time, we see how much the COVID-19 pandemic has set us back."

The study also highlights how COVID-19 radically altered the top five causes of death for the first time in 30 years. COVID-19 displaced a long-dominant killer—stroke—to become the second-leading cause of death globally. The research presents updated estimates from the Global Burden of Disease Study (GBD) 2021.

The authors found that the super-regions where the COVID-19 pandemic hit hardest were Latin America and the Caribbean and sub-Saharan Africa, which lost the most years of life expectancy due to COVID-19 in 2021. While documenting the enormous loss of life caused by the COVID-19 pandemic, the researchers also pinpointed the reasons behind the improvements in life expectancy in every super-region.

Looking across different causes of death, the study reveals sharp drops in deaths from enteric diseases—a class of diseases that includes diarrhea and typhoid. These improvements increased life expectancy worldwide by 1.1 years between 1990 and 2021.

Reductions in deaths from lower respiratory infections added 0.9 years to global life expectancy during this period. Progress in preventing deaths from other causes also drove up life expectancy around the world, including stroke, neonatal disorders, [ischemic heart disease](#), and cancer. For each disease, reductions in deaths were most pronounced between 1990 and 2019.

At the regional level, Eastern sub-Saharan Africa experienced the largest increase in life expectancy, which jumped by 10.7 years between 1990 and 2021. Control of diarrheal diseases was the leading force behind improvements in this region. East Asia had the second-largest gain in life expectancy; the region's success in slashing deaths from [chronic obstructive pulmonary disease](#) played a key role.

The GBD 2021 study measures mortality by cause of death and years of life lost at global, regional, national, and subnational levels. The analysis links specific causes of death to changes in life expectancy.

The study illuminates not only the diseases that have driven increases and decreases in [life expectancy](#), but also looks at how patterns of

disease have shifted across locations over time, presenting, as the authors write, an "opportunity to deepen our understanding of mortality-reduction strategies...[which] might reveal areas where successful public health interventions have been implemented."

GBD 2021 highlights places that have made huge strides in preventing deaths from major diseases and injuries. It also emphasizes how some of the most burdensome diseases are now concentrated in certain locations, underscoring opportunities for intervention. For example, in 2021, deaths from enteric diseases were largely concentrated in sub-Saharan Africa and South Asia.

For another disease, malaria, the researchers found that 90% of deaths occurred in an area inhabited by just 12% of the world's population in a stretch of land ranging from Western sub-Saharan Africa through Central Africa to Mozambique.

"We already know how to save children from dying from enteric infections including diarrheal diseases, and progress in fighting this disease has been tremendous," said Professor Mohsen Naghavi, the study's co-first author and the Director of Subnational Burden of Disease Estimation at IHME.

"Now, we need to focus on preventing and treating these diseases, strengthening and expanding immunization programs, and developing brand-new vaccines against E. coli, norovirus, and Shigella," he added.

In addition to providing new insights on COVID-19, the study reveals growing threats from [non-communicable diseases](#), such as diabetes and kidney diseases, which are increasing in every country. The researchers also point to uneven progress against conditions such as ischemic heart disease, stroke, and cancer. High-income countries have driven down deaths from many types of non-communicable diseases, but many low-

income countries have not.

"The global community must ensure that the lifesaving tools that have cut deaths from ischemic heart disease, stroke, and other non-communicable diseases in most high-income countries are available to people in all countries, even where resources are limited," said Eve Wool, senior author of the study and a Senior Research Manager at IHME.

More information: Mohsen Naghavi et al, Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021, *The Lancet* (2024). DOI: 10.1016/S0140-6736(24)00367-2 , [www.thelancet.com/journals/lan ... \(24\)00367-2/fulltext](https://www.thelancet.com/journals/lan ... (24)00367-2/fulltext)

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