

Study finds COVID-19 had greater impact on life expectancy than previously believed

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A new [study](#) published in *The Lancet* reveals never-before-seen details about staggeringly high mortality from the COVID-19 pandemic within and across countries. Places such as Mexico City, Peru, and Bolivia had some of the largest drops in life expectancy from 2019 to 2021.

The research, which presents updated estimates from the Global Burden of Disease Study (GBD) 2021, provides the most comprehensive look at the pandemic's toll on human health to date, indicating that global life expectancy dropped by 1.6 years from 2019 to 2021, a sharp reversal from past increases.

Among GBD's other key findings, child mortality continued to drop amid the COVID-19 pandemic, with half a million fewer deaths among children under 5 years old in 2021 compared to 2019. Mortality rates among children under 5 decreased by 7% from 2019 to 2021.

"For adults worldwide, the COVID-19 pandemic has had a more profound impact than any event seen in half a century, including conflicts and natural disasters," says co-first author Dr. Austin E. Schumacher, Acting Assistant Professor of Health Metrics Sciences at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington.

"Life expectancy declined in 84% of countries and territories during this pandemic, demonstrating the devastating potential impacts of novel pathogens."

Researchers from IHME identified high mortality during the COVID-19 pandemic in places that were previously less recognized and/or reported. For example, the study reveals that after accounting for the age of the population, countries such as Jordan and Nicaragua had high excess

mortality due to the COVID-19 pandemic that was not apparent in previous all-age excess mortality estimates.

In analyzing subnational locations not previously investigated, the South African provinces of KwaZulu-Natal and Limpopo had among the highest age-adjusted excess mortality rates and largest life expectancy declines during the pandemic in the world. Conversely, the places with some of the lowest age-adjusted excess mortality from the pandemic during this period included Barbados, New Zealand, and Antigua and Barbuda.

During the COVID-19 pandemic, mortality among older people worldwide rose in ways unseen in the previous 70 years. While the pandemic was devastating, killing approximately 16 million people around the globe in 2020 and 2021 combined, it did not completely erase historic progress—life expectancy at birth rose by nearly 23 years between 1950 and 2021.

GBD 2021 analyzes past and current demographic trends at global, regional, national, and subnational levels. The study provides globally comparable measures of excess mortality and is one of the first studies to fully evaluate demographic trends in the context of the first two years of the COVID-19 pandemic.

In estimating excess deaths due to the pandemic, the authors accounted for deaths from the virus that causes COVID-19, SARS-CoV-2, as well as deaths associated with indirect effects of the pandemic, such as delays in seeking health care.

Employing innovative methods to measure mortality, excess mortality from the COVID-19 pandemic, life expectancy, and population, the study authors estimate that the pandemic caused global mortality to jump among people over age 15, rising by 22% for males and 17% for females

from 2019 to 2021.

GBD 2021 goes beyond assessing the impact of the first two years of the COVID-19 pandemic. As the authors note, it also offers "implications for the future of health-care systems, economies, and societies and ... a valuable foundation for policy evaluation, development, and implementation around the world."

GBD 2021 indicates that, despite early warnings that COVID-19 could threaten the gains that the world had made in saving children's lives, these improvements continued during the pandemic, albeit at a slower pace. Still, stark differences in child mortality persist between regions. In 2021, one out of every four children who died worldwide lived in South Asia, while two out of every four children who died lived in sub-Saharan Africa.

"Our study suggests that, even after taking stock of the terrible loss of lives the world experienced due to the pandemic, we have made incredible progress over 72 years since 1950, with child mortality continuing to drop globally," said co-first author Dr. Hmwe Hmwe Kyu, Associate Professor of Health Metrics Sciences at IHME at the University of Washington.

"Now, continuing to build on our successes, while preparing for the next pandemic and addressing the vast disparities in health across countries, should be our greatest focuses."

The GBD 2021 study also assessed population trends. Beginning in 2017, the rate of global population growth began to drop following years of stagnation. Then, during the COVID-19 pandemic, these declines accelerated. As of 2021, 56 countries have reached peak population.

Now, these countries are seeing their populations shrink. However, rapid

population growth has continued in many lower-income countries. In addition, populations around the world are aging. Between 2000 and 2021, the number of people who were 65 and older grew faster than the number of people under age 15 in 188 countries and territories.

"Slowing population growth and aging populations, along with the concentration of future population growth shifting to poorer locations with worse health outcomes, will bring about unprecedented social, economic, and political challenges, such as labor shortages in areas where younger populations are shrinking and resource scarcity in places where population size continues to expand rapidly," says Dr. Schumacher.

"This is worth restating, as these issues will require significant policy forethought to address in the affected regions. As one example, nations around the world will need to cooperate on voluntary emigration, for which one source of useful guidance is the UN's [Global Compact for Safe, Orderly and Regular Migration](#)."

More information: Austin E Schumacher et al, Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: a comprehensive demographic analysis for the Global Burden of Disease Study 2021, *The Lancet* (2024). [DOI: 10.1016/S0140-6736\(24\)00476-8](https://doi.org/10.1016/S0140-6736(24)00476-8)

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