PRESS RELEASE

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Covid-19

Life Expectancy Mostly Continued to Decline in 2021

Rostock, Germany. *Globally, life expectancy did not recover last year after the mortality shock due to the 2020 pandemic. At the same time, differences between countries are widening. A historical comparison of data, however, offers hope for rapid improvement. Those are the findings of a new study by MPIDR Researcher Jonas Schöley and his colleagues at* Oxford University's Leverhulme Centre for Demographic Science *that examined changes in life expectancy in 29 countries, published in the journal "Nature Human Behaviour".*

Most countries in the study, including the United States, Chile, and 27 countries in Europe, saw period life expectancy decline for a second year in a row. "The United States is a particularly tragic example; in 2021 the country managed to normalize mortality among those over 80 to pre-pandemic levels, but mortality among those under 80 increased," said Jonas Schöley, a Researcher at the Max Planck Institute for Demographic Research (MPIDR) in Rostock, Germany. As a result, period life expectancy in the USA fell for two years in a row, in 2020 by 25.5 months and in 2021 by another 2.7 months.

Life expectancy returned to pre-pandemic levels in only a few countries in Western Europe – France, Belgium, Switzerland, and Sweden. In these countries, period life expectancy dropped significantly in 2020. In 2021, however, the mortality of the population both over and under 60 years old returned to the pre-pandemic numbers.

Differences between Eastern and Western Europe widen again

While Western European countries managed to converge back to pre-COVID period life expectancy in 2021, the mortality crisis worsened from 2020 to 2021 in much of Eastern Europe. "This is particularly evident in Bulgaria. In 2021, period life expectancy was 3.6 years below pre-pandemic levels," says Jonas Schöley. This loss of life expectancy is not explained solely by the deaths of the very old - more than 25 percent of the drop in period life expectancy is due to increased mortality for those between 40 and 60 years old.

"A notable shift between 2020 and 2021 was that the age patterns of excess mortality shifted in 2021 towards younger age groups, as vaccines began to protect the old," says Ridhi Kashyap, a study co-author from Oxford.

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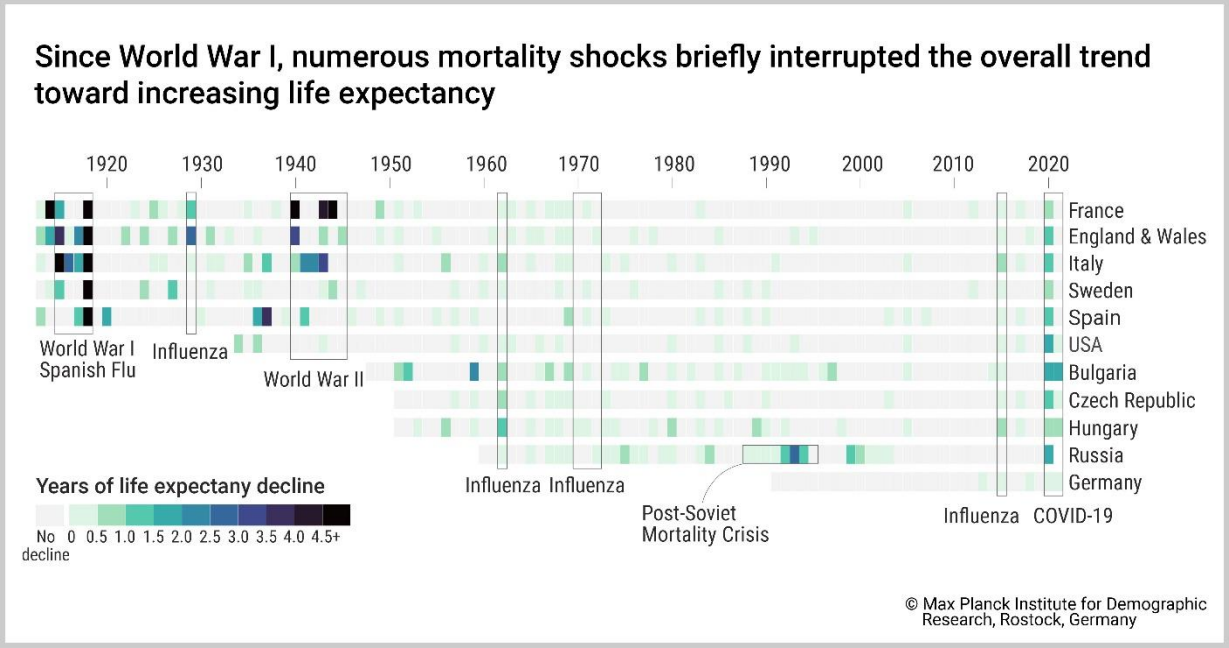
While Bulgaria had the lowest vaccination rate by the fall of 2021 of all countries studied, that alone does not explain the recent disparities in life expectancy between Eastern and Western Europe. Differences in the healthcare systems and general living conditions also play a role.

Do not lose sight of the population under 60 in pandemic measures

In Germany, losses in period life expectancy in both 2020 and 2021 were moderate by international standards, totaling 5.7 months. However, the loss increased more in 2021, with 3.1 months, than the 2.6 months in 2020. Norway was the only country in the study to record an overall increase in period life expectancy of 1.7 months despite the pandemic.

“With our study, we mainly wanted to find out whether and how populations recover from a mortality shock,” says Jonas Schöley. To this, the team of researchers from the Universities of Oxford, Tallinn, Southern Denmark, and the MPIDR found two answers: first, mortality in the older population group must normalize and deaths must not shift to younger age groups. Second, and unsurprisingly, vaccination helps.



In the past, events such as the two world wars and influenza epidemics also caused period life expectancy to plummet. It fell most sharply at the end of World War I and during the Spanish flu epidemic in 1918. In contrast, previous global epidemics have seen fairly rapid ‘bounce backs’ to life expectancy levels. However, the scale and magnitude of COVID-19 on mortality confounds claims it has had no more impact than a flu-like illness. Life expectancy losses during recurring flu epidemics over the second-half of the 20th century have been much smaller and less widespread than those seen in the pandemic.

In their historical comparison, the researchers also show that even severe losses of over five years in period life expectancy, such as in 1918, were recovered in only a few subsequent calendar years. Since the end of World War II, the frequency of mortality shocks also dropped significantly.

“COVID-19 has triggered one of the most severe mortality crises worldwide in the past 100 years. Past crises, however, only temporarily interrupted the trend of increasing life expectancy. Our data for 2021 shows that the current mortality shock is being experienced highly unevenly, for example deepening the life expectancy gap between Eastern and Western Europe,” says Jonas Schöley.

Background Info

Period Life Expectancy

Period life expectancy shows the risk of death to which a population was exposed to within a year. If the risk of dying in a year increases, for example due to a heat wave or a COVID-19 infection, life expectancy decreases. If, on the other hand, the risk of dying decreases, for example due to improved health care or vaccinations, life expectancy increases.

“Period life expectancy is particularly suitable as a measure in the pandemic to compare different countries,” says Jonas Schöley. This is because it is not influenced by the age structure and size of the population.

“Even though it is called “life expectancy”, no conclusions can be drawn from these values about the impact of the pandemic on the average lifespan of children born in 2020 or 2021,” says Jonas Schöley. It only tells us something about how life expectancy would develop if the conditions of the year being studied continued to exist.

Data used

The researchers used data from the MPIDR's Short-term Mortality Fluctuations Database (STMF, www.mortality.org/) along with data from the United Nations World Population Prospects and calculated the change in period life expectancy.

The team also used data from MPIDR's COVerAGE database (www.coverage-db.org) on registered COVID-19 deaths and vaccinations broken down by age to show how COVID related deaths altered period life expectancy, and to show the association between high vaccination rates and lower life expectancy deficits.

About the MPIDR

The Max Planck Institute for Demographic Research (MPIDR) in Rostock investigates the structure and dynamics of populations. The Institute's researchers explore issues of political relevance, such as demographic change, aging, fertility, and the redistribution of work over the life course, as well as digitization and the use of new data sources for the estimation of migration flows. The MPIDR is one of the largest demographic research bodies in Europe and is a worldwide leader in the study of populations. The Institute is part of the Max Planck Society, the internationally renowned German research organization.

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This press release can be downloaded at www.demogr.mpg.de/go/Covid19-lifeexpectancy-2021

Original Publication

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