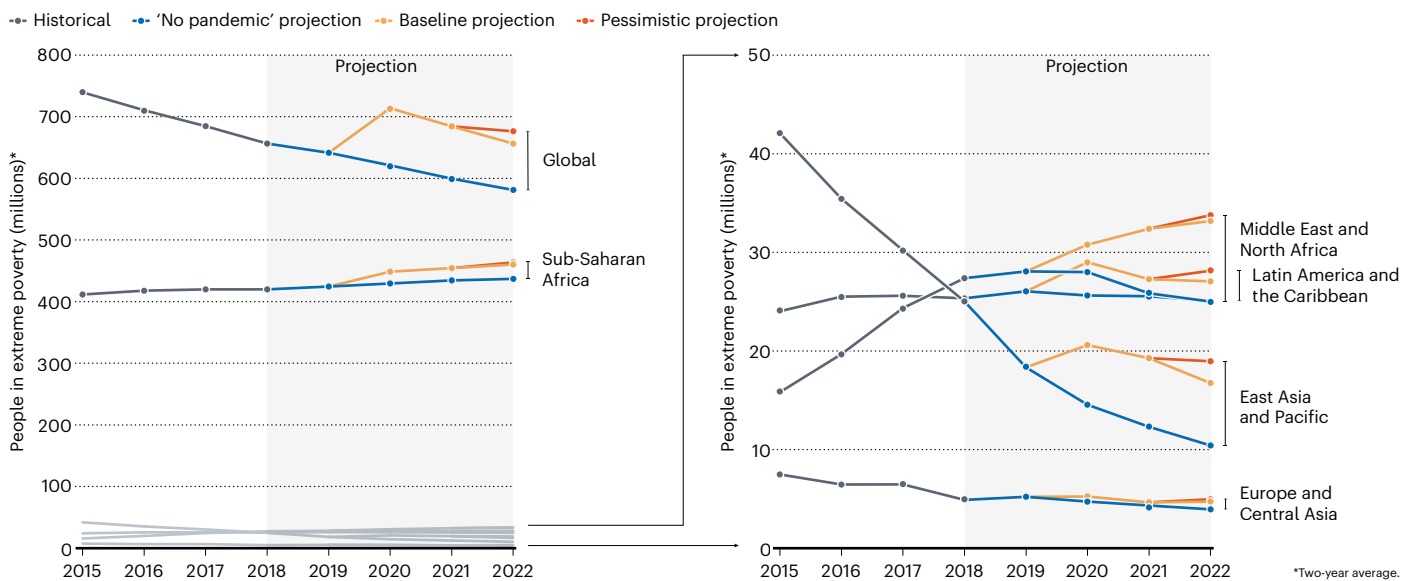


HOW COVID HAS DEEPENED INEQUALITY — IN SIX STARK GRAPHICS

Troubling data show the unequal toll of the COVID-19 pandemic, which is pushing tens of millions of people into poverty and imposing the biggest burden on already-disadvantaged groups. **By Saima May Sidik**

1 In 2022, up to 677 million people could be living in extreme poverty — almost 100 million more than without the combined crises of the pandemic, inflation and the war in Ukraine



The shock waves of the COVID-19 pandemic have reverberated throughout the world. But the latest data reveal that the burden of COVID and its aftermath does not rest equally.

In six graphics, *Nature* details how the pandemic has worsened existing inequalities and exposed others in terms of income, health, safety and more.

The global picture

The past two years have been particularly challenging for the world's poorest people, and this is just the beginning. By the end of this year, at least 75 million more people will have been pushed into poverty (living on less than US\$1.90 a day) than was expected before the pandemic. The war in Ukraine and rising inflation have exacerbated the effects of the pandemic, as prices for food, fuel and nearly everything else have skyrocketed.

Researchers at the World Bank have estimated how the number of people in poverty has changed over the past few years, assuming that everyone's income rose and fell in proportion with the variation in income of an average person in their country. 'Baseline' estimates assume that inflation affects all demographics equally, whereas the pessimistic projections reflect the expectation that inflation will affect the lowest earners most (see graphic 1).

Another data set from the World Bank reveals how the people with the lowest incomes have had the largest financial losses. Using changes in gross domestic product as a proxy, researchers estimated how much income people have lost and how much they've recovered, compared with what they would have earned had there been no pandemic. The results show that although people at all income levels lost money, the highest earners regained more than half their losses between

2020 and 2021, whereas the lowest earners have not recouped their losses compared with expected increases in earnings (see graphic 2).

Uneven tolls

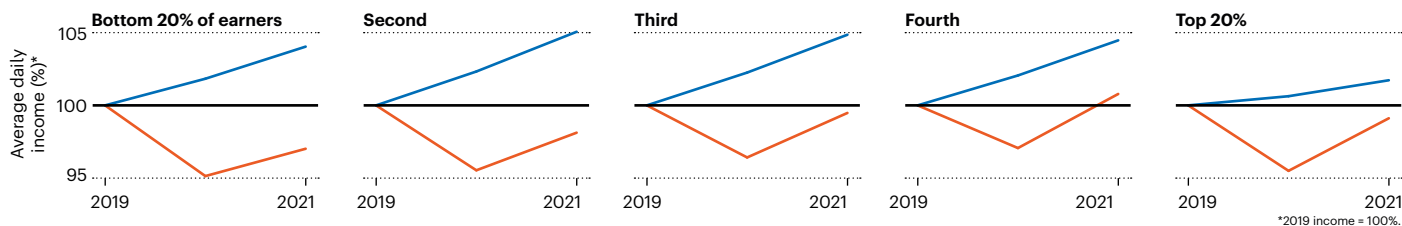
In addition to causing economic shocks, COVID-19 has had unequal effects on people's health. Data from the US Centers for Disease Control and Prevention show that death rates in the United States have been particularly high in Indigenous people: the rate is about 108% higher than that for white people and about 180% more than that for people of Asian descent. These data are age-adjusted, a statistical correction that allows for fair comparisons between demographics with different age distributions (see graphic 3).

The state of an individual's health often correlates with factors such as employment and housing. People living in areas that lack basic necessities such as adequate housing

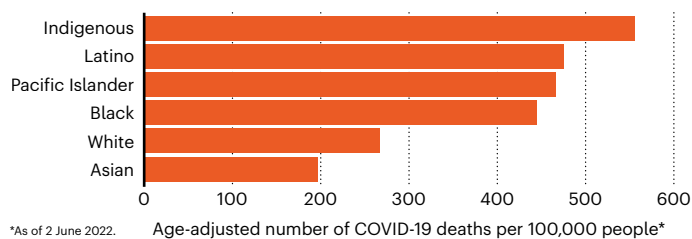
SOURCE: WORLD BANK

2 The world's poorest people are taking the longest to recover income losses caused by the pandemic

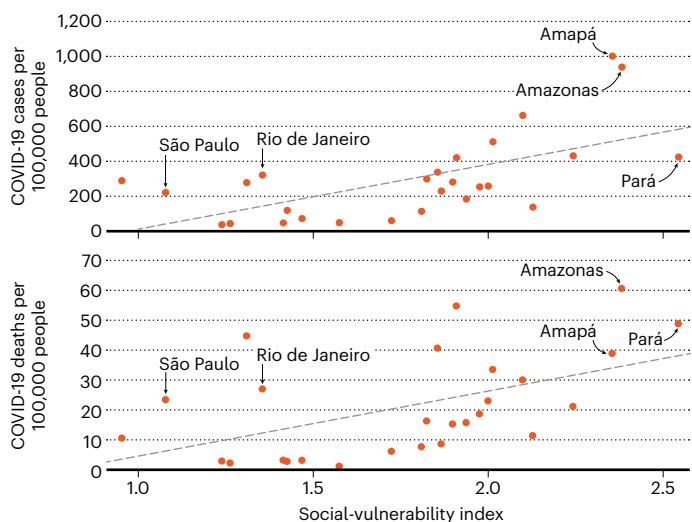
Income had COVID-19 not happened (blue line) | Income since COVID-19 (orange line)



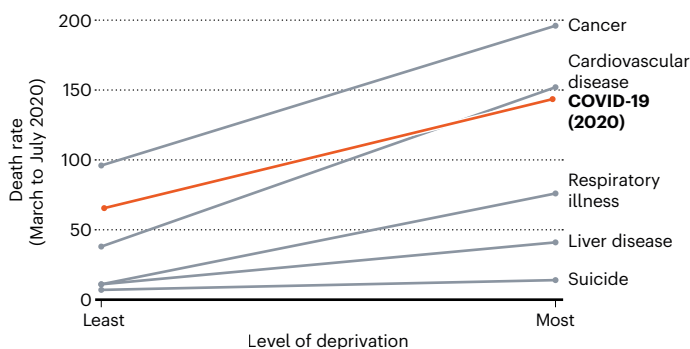
3 US data show that people from minority racial or ethnic groups die of COVID-19 at higher rates than do white people



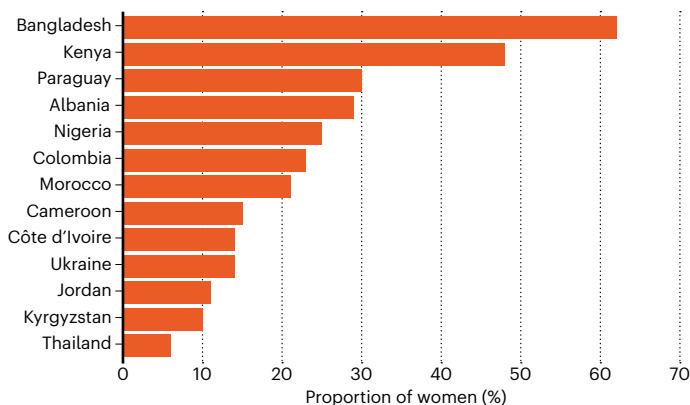
5 In Brazil in 2020, the risk of catching and dying from COVID-19 correlated with a social risk score based on factors influencing ability to socially distance



4 In the most deprived areas of England, death rates for many causes are double those in the most affluent areas



6 A survey of women in 13 low- and middle-income countries suggests that violence against women has increased in many places during the pandemic



or education often have worse health than do those living in regions that have these essentials. The same relationship holds true for COVID-19, as a UK analysis shows. Epidemiologist William Palmer at the UK health think tank Nuffield Trust in London used data from the Office for National Statistics and the Office for Health Improvement and Disparities to compare death rates from COVID-19 and other health conditions against the Indices of Multiple Deprivation, which measure how deprived an area is on the basis of factors such as average income, employment rate, education level and crime rate.

At the peak of the first wave of COVID-19, between March and July 2020, the death rate in areas of England that scored highest for deprivation was double that of the least-deprived regions. Similar degrees of disparity were seen for some other conditions (see graphic 4).

Researchers in various countries have

devised other ways to measure the risk of disease in different groups. Looking at Brazil, economist Luiza Nassif Pires at the Levy Economics Institute of Bard College in Annandale-on-Hudson, New York, and her colleagues assigned each state (indicated by a dot in graphic 5) a social risk factor based on metrics such as how many people own cars – alleviating the need to use public transportation – and how many live in crowded conditions. Residents of states with higher risk factors were less able to socially distance themselves. Just before the peak of the pandemic's first wave in 2020. The team found that people in areas with higher risk factors contracted and died from COVID-19 at higher rates than did those in areas with lower scores.

The pandemic has also had an unequal effect on other public-health problems, exacerbating violence against women, for instance.

Across 13 low- and middle-income countries,

45% of women surveyed by the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) say that they or a woman they know has experienced violence during the pandemic. Violence can be physical, such as hitting or throwing an object at someone; verbal, such as yelling; and it can involve denying basic needs such as food or health care; or involve sexual harassment.

Graphic 6 shows the proportion of women who think that violence against women has increased in their community since the pandemic began. The researchers surveyed at least 1,200 women in each country using phone interviews. Because they were not able to travel or have direct contact while doing the surveys, the researchers cannot compare their results directly with studies done before the pandemic.

Saima May Sidik is a science journalist based in Somerville, Massachusetts.