

## GLOBAL HEALTH

## Trying to Solve a Covid Mystery: Africa's Low Death Rates

The coronavirus was expected to devastate the continent, but higher-income and better-prepared countries appear to have fared far worse.



By Stephanie Nolen

March 23, 2022

KAMAKWIE, Sierra Leone — There are no Covid fears here.

The district's Covid-19 response center has registered just 11 cases since the start of the pandemic, and no deaths. At the regional hospital, the wards are packed — with malaria patients. The door to the Covid isolation ward is bolted shut and overgrown with weeds. People cram together for weddings, soccer matches, concerts, with no masks in sight.

Sierra Leone, a nation of eight million on the coast of Western Africa, feels like a land inexplicably spared as a plague passed overhead. What has happened — or hasn't happened — here and in much of sub-Saharan Africa is a great mystery of the pandemic.

The low rate of coronavirus infections, hospitalizations and deaths in West and Central Africa is the focus of a debate that has divided scientists on the continent and beyond. Have the sick or dead simply not been counted? If Covid has in fact done less damage here, why is that? If it has been just as vicious, how have we missed it?

The answers “are relevant not just to us, but have implications for the greater public good,” said Austin Demby, Sierra Leone's health minister, in an interview in Freetown, the capital.

The assertion that Covid isn't as big a threat in Africa has sparked debate about whether the African Union's push to vaccinate 70 percent of Africans against the virus this year is the best use of health care resources, given that the devastation from other pathogens, such as malaria, appears to be much higher.

In the first months of the pandemic, there was fear that Covid might eviscerate Africa, tearing through countries with health systems as weak as Sierra Leone's, where there are just three doctors for every 100,000 people, according to the World Health Organization. The high prevalence of malaria, H.I.V., tuberculosis and malnutrition was seen as kindling for disaster.

That has not happened. The first iteration of the virus that raced around the world had comparatively minimal impact here. The Beta variant ravaged South Africa, as did Delta and Omicron, yet much of the rest of the continent did not record similar death tolls.

Into Year Three of the pandemic, new research shows there is no longer any question of whether Covid has spread widely in Africa. It has.

Studies that tested blood samples for antibodies to SARS-CoV-2, the official name for the virus that causes Covid, show that about two-thirds of the population in most sub-Saharan countries do indeed have those antibodies. Since only 14 percent of the population has received any kind of Covid vaccination, the antibodies are overwhelmingly from infection.



A busy morning at the fish market at Man of War Bay in Freetown, Sierra Leone's capital. Finbarr O'Reilly for The New York Times



Fudia Kamara, 25, sat with her son Kabba Kargbo, 3, in the hospital in Kamakwie, Sierra Leone. Like nearly all the children in the pediatric ward, he had malaria. Finbarr O'Reilly for The New York Times

A new W.H.O.-led analysis, not yet peer-reviewed, synthesized surveys from across the continent and found that 65 percent of Africans had been infected by the third quarter of 2021, higher than the rate in many parts of the world. Just 4 percent of Africans had been vaccinated when these data were gathered.

So the virus is in Africa. Is it killing fewer people?

Some speculation has focused on the relative youth of Africans. Their median age is 19 years, compared with 43 in Europe and 38 in the United States. Nearly two-thirds of the population in sub-Saharan Africa is under 25, and only 3 percent is 65 or older. That means far fewer people, comparatively, have lived long enough to develop the health issues (cardiovascular disease, diabetes, chronic respiratory disease and cancer) that can sharply increase the risk of severe disease and death from Covid. Young people infected by the coronavirus are often asymptomatic, which could account for the low number of reported cases.

Plenty of other hypotheses have been floated. High temperatures and the fact that much of life is spent outdoors could be preventing spread. Or the low population density in many areas, or limited public transportation infrastructure. Perhaps exposure to other pathogens, including coronaviruses and deadly infections such as Lassa fever and Ebola, has somehow offered protection.

Since Covid tore through South and Southeast Asia last year, it has become harder to accept these theories. After all, the population of India is young, too (with a median age of 28), and temperatures in the country are also relatively high. But researchers have found that the Delta variant caused millions of deaths in India, far more than the 400,000 officially reported. And rates of infection with malaria and other coronaviruses are high in places, including India, that have also seen high Covid fatality rates.

So are Covid deaths in Africa simply not counted?

Most global Covid trackers register no cases in Sierra Leone because testing for the virus here is effectively nonexistent. With no testing, there are no cases to report. A research project at Njala University in Sierra Leone has found that 78 percent of people have antibodies for this coronavirus. Yet Sierra Leone has reported only 125 Covid deaths since the start of the pandemic.

Most people die in their homes, not in hospitals, either because they can't reach a medical facility or because their families take them home to die. Many deaths are never registered with civil authorities.

This pattern is common across sub-Saharan Africa. A recent survey by the United Nations Economic Commission for Africa found that official registration systems captured only one in three deaths.



Nurses at a hospital in Neave, South Africa, moved a patient who died of Covid to a temporary morgue in November 2020. South Africa is the only country in sub-Saharan Africa to record high Covid infection and death rates. Samantha Reinders for The New York Times



Preparing a Covid vaccine in the town of Kathantha Yimbo in Sierra Leone. The lack of reported Covid cases in the country is raising questions about whether resources should be directed at more urgent problems. Finbarr O'Reilly for The New York Times

The one sub-Saharan country where almost every death is counted is South Africa. And it's clear from the data that Covid has killed a great many people in that country, far more than the reported virus deaths. Excess mortality data show that between May 2020 and September 2021, some 250,000 more people died from natural causes than was predicted for that time period, based on the pattern in previous years. Surges in death rates match those in Covid cases, suggesting the virus was the culprit.

Dr. Lawrence Mwananyanda, a Boston University epidemiologist and special adviser to the president of Zambia, said he had no doubt that the impact in Zambia had been just as severe as in South Africa, but that Zambian deaths simply had not been captured by a much weaker registration system. Zambia, a country of more than 18 million people, has reported 4,000 Covid-19 deaths.

"If that is happening in South Africa, why should it be different here?" he said. In fact, he added, South Africa has a much stronger health system, which ought to mean a lower death rate, rather than a higher one.

A research team he led found that during Zambia's Delta wave, 87 percent of bodies in hospital morgues were infected with Covid. "The morgue was full. Nothing else is different — what is different is that we just have very poor data."

The Economist, which has been tracking excess deaths throughout the pandemic, shows similar rates of death across Africa. Sondre Solstad, who runs the Africa model, said that there had been between one million and 2.9 million excess deaths on the continent during the pandemic.

"It would be beautiful if Africans were spared, but they aren't," he said.

But many scientists tracking the pandemic on the ground disagree. It's not possible that hundreds of thousands or even millions of Covid deaths could have gone unnoticed, they say.

"We have not seen massive burials in Africa. If that had happened, we'd have seen it," said Dr. Thierno Baldé, who runs the W.H.O.'s Covid emergency response in Africa.

“A death in Africa never goes unrecorded, as much as we are poor at record-keeping,” said Dr. Abdhalah Ziraba, an epidemiologist at the African Population and Health Research Center in Nairobi, Kenya. “There is a funeral, an announcement: A burial is never done within a week because it is a big event. For someone sitting in New York hypothesizing that they were unrecorded — well, we may not have the accurate numbers, but the perception is palpable. In the media, in your social circle, you know if there are deaths.”

Dr. Demby, the Sierra Leone health minister, who is an epidemiologist by training, agreed. “We haven’t had overflowing hospitals. We haven’t,” he said. “There is no evidence that excess deaths are occurring.”

Which could be keeping the death rate lower?



Abu Kamara tended to his mother, Ramatu Sesay, in the hospital at Kamakwie, Sierra Leone. The hospital wards contain cancer and malaria patients, but none with Covid. Finbarr O'Reilly for The New York Times



A path leading to the community graveyard in Mabin. Many Sierra Leoneans who die are laid to rest in small village burial grounds and not included in official records. Finbarr O'Reilly for The New York Times

While health surveillance is weak, he acknowledged, Sierra Leoneans have the recent, terrible experience of Ebola, which killed 4,000 people here in 2014-16. Since then, he said, citizens have been on alert for an infectious agent that could be killing people in their communities. They would not continue to pack into events if that were the case, he said.

Dr. Salim Abdool Karim, who is on the African Centers for Disease Control and Prevention Covid task force and who was part of the research team tracking excess deaths in South Africa, believes the death toll continentwide is probably consistent with that of his country. There is simply no reason that Gambians or Ethiopians would be less vulnerable to Covid than South Africans, he said.

But he also said it was clear that large numbers of people were not turning up in the hospital with respiratory distress. The young population is clearly a key factor, he said, while some older people who die of strokes and other Covid-induced causes are not being identified as coronavirus deaths. Many are not making it to the hospital at all, and their deaths are not registered. But others are not falling ill at rates seen elsewhere, and that's a mystery that needs unraveling.

"It's hugely relevant to things as basic as vaccine development and treatment," said Dr. Prabhat Jha, who heads the Centre for Global Health Research in Toronto and is leading work to analyze causes of death in Sierra Leone.

Researchers working with Dr. Jha are using novel methods — such as looking for any increase in revenue from obituaries at radio stations in Sierra Leonean towns over the past two years — to try to see if deaths could have risen unnoticed, but he said it was clear there had been no tide of desperately sick people.

Some organizations working on the Covid vaccination effort say the lower rates of illness and death should be driving a rethinking of policy. John Johnson, vaccination adviser for Doctors Without Borders, said that vaccinating 70 percent of Africans made sense a year ago when it seemed like vaccines might provide long-term immunity and make it possible to end Covid-19 transmission. But now that it's clear that protection wanes, collective immunity no longer looks achievable. And so an immunization strategy that focuses on protecting just the most vulnerable would arguably be a better use of resources in a place such as Sierra Leone.

“Is this the most important thing to try to carry out in countries where there are much bigger problems with malaria, with polio, with measles, with cholera, with meningitis, with malnutrition? Is this what we want to spend our resources on in those countries?” he asked. “Because at this point, it’s not for those people: It’s to try to prevent new variants.”

And new variants of Covid pose the greatest risk in places with older populations and high levels of comorbidities such as obesity, he said.

Other experts cautioned that the virus remained an unpredictable foe and that scaling back efforts to vaccinate sub-Saharan Africans could yet lead to tragedy.

“We can’t get complacent and assume Africa can’t go the way of India,” Dr. Jha said.

A new variant as infectious as Omicron but more lethal than Delta could yet emerge, he warned, leaving Africans vulnerable unless vaccination rates increased significantly.

“We should really avoid the hubris that all Africa is safe,” he said.