

News in focus



A police commissioner in Lagos, Nigeria, talks to bus passengers about the spread of COVID-19, before measures were made more restrictive.

HOW POORER COUNTRIES ARE SCRAMBLING TO PREVENT A CORONAVIRUS DISASTER

Snapshots from four nations struggling to curtail deaths faster than the United States and other wealthy countries.

By Amy Maxmen

Epidemiologist Chikwe Ihekweazu drove through the empty streets of Wuhan in February, observing the Chinese city at war with the novel coronavirus. “It was incredible,” recalls the director-general of the Nigeria Centre for Disease Control (NCDC) in Abuja. “This huge city looked empty, but behind every window were families supplied with food, medicine, everything they need to survive,” he says.

Ihekweazu’s thoughts drifted to Lagos, a chaotic Nigerian city where roughly two-thirds of the 21 million people live in informal shelters without electricity or running water.

“The challenge to switching off society would be exponentially more than in China, Europe or the US,” he says. But the authorities are now trying. On 30 March, they banned domestic travel in or out of some states, by air or road, and closed businesses.

Like many low- and middle-income countries that are now seeing the arrival of the pandemic, Nigeria is facing grim decisions. Its health systems are much too weak to handle an explosion of COVID-19, the disease caused by the new coronavirus, named SARS-CoV-2. At the peak of its epidemic, Wuhan required 2.6 beds in an intensive care unit (ICU) for every 10,000 adults. But some low-income countries have just one ICU bed per million people. Without

intensive care, many more people could die than in places hit hardest so far.

Without the luxury of well-funded hospital systems, Nigeria and other low- and middle-income countries began ramping up measures to keep COVID-19 from spreading as soon as they confirmed their first cases – in some cases, even before. That includes shutting down most activities with the threat of arrest, quickly rolling out tests to detect genetic sequences from the virus, and a willingness to deploy rapid, easy-to-use tests – even if they are not as accurate as the PCR tests that detect genetic sequences, which require more laboratory capacity.

However, these countries face exponentially

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more constraints in funding, capacity and infrastructure than wealthier nations. They cannot simply follow the playbook of South Korea and Singapore, which curtailed their outbreaks rapidly.

Snapshots of four countries provide a look at the next phase in the pandemic, as it moves to low- and middle-income nations. “We need to push,” Ihekweazu says. “I’m exhausted like never before.”

Nigeria

Ihekweazu’s team was battling an outbreak of the deadly disease Lassa fever when COVID-19 exploded in China. Seeing the potential for the coronavirus infections to spread, he asked his team to obtain diagnostic tests. On 3 February, his laboratory received supplies for PCR tests from the World Health Organization (WHO).

Soon after, Ihekweazu travelled on a WHO mission to China, and he was still in quarantine in Abuja after his return when Nigeria confirmed its first case, on 27 February. One of the NCDC’s collaborating labs in Lagos sent some of the sample halfway across the country to Christian Happi, a microbiologist at Redeemer’s University in Ede. Happi’s team sequenced the genome of the coronavirus within three days, then made it available online. It was the first SARS-CoV-2 genome sequenced on the African continent.

When the number of cases in Nigeria rose to 8 on 18 March, authorities banned the arrival of people from countries with more than 1,000 cases, including China, Italy and the United States. Three days later, they banned gatherings of more than 20 people in Lagos and Abuja, and asked non-essential businesses to close. On 29 March, as cases approached 100, President Muhammadu Buhari announced that domestic flights were suspended, and that checkpoints would block roads to prevent non-essential travel between states. Nigeria restricted travel at a much earlier stage than did the United States and Europe.

Yet despite the head start on social distancing and testing, the NCDC is now backed up because labs don’t have enough capacity. And at a national lab in Lagos, WHO technical officer Dhamari Naidoo is trying to obtain more tests for Nigeria. But travel bans across Africa have made flights scarce, slowing deliveries of lab and medical cargo, and some components of the PCR tests currently in use have become scarce.

Peru

Peru announced strict social-distancing measures soon after it confirmed its first case of local transmission. On 15 March, at around 70 cases, the country closed its borders and schools, told residents to stay indoors except for essential errands during the day and announced a country-wide curfew of 8 p.m. – which has since been brought forward to

4 p.m. in some places. “These measures are important, because Peru is a country with 32 million inhabitants with a poor health system,” says Alejandro Llanos-Cuentas, an infectious-disease scientist at Cayetano Heredia University in Lima.

What’s more, Peruvian authorities are enforcing those rules. At a press briefing, President Martín Vizcarra told reporters that police have already arrested 21,000 citizens for violating the laws. Police register the offenders in a database and send violators home. The government is also adopting measures to support people who have lost their income owing to the restrictions, such as cash payments and food distributions, Llanos-Cuentas says.

Yet as case numbers climb, the need to test people grows ever more urgent. Only two labs in Peru – both in Lima – have the resources to conduct the PCR tests. To expand testing outside the capital, the government has asked for one million rapid-diagnostic tests produced by China and South Korea, says Leonid Lecca, director of the Peru branch of the international health-care organization Partners in Health.

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K. J. Seung, a doctor with Partners in Health based in Boston, Massachusetts, says the tests might help hospitals to gauge how many health workers have been infected – and whether they are now immune to the virus.

Kenya

Abigail Arunga, a journalist in Nairobi, has been hearing police helicopters flying overhead. On 25 March – with 25 confirmed cases – Kenya imposed a curfew of 7 p.m., and announced that people should leave home only for essential duties. “They’ve been enforcing it very violently,” she says. Kenyan police have beaten and tear-gassed people even before the curfew starts, drawing condemnation from Human Rights Watch, a non-profit organization in New York City. On 31 March, a teenager was shot by police enforcing the curfew in the street, according to media reports.

Police abuse is not new in Kenya, says Arunga. But the tactics could backfire if communities protest, especially if people can’t get access to necessities. “If the government doesn’t have a database for how to administer food, people can’t eat, and that’s a recipe for a riot,” says Arunga. Evans Amukoye, a paediatric pulmonary researcher at the Kenya Medical Research Institute in Nairobi, says that convincing the public to take COVID-19 seriously is difficult, because relatively few cases have



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Arrests in El Salvador for curfew violations.

been confirmed so far. Authorities decided to impose social-distancing restrictions preemptively, he says, because Kenyan researchers felt that places that took such measures early in their outbreaks, such as Beijing, fared better.

But like Nigeria and Peru, Kenya is struggling to ramp up testing, facing shipment delays and expecting that the equipment and reagents they need may be absorbed by the United States – which now has an outbreak twice the size of China’s.

El Salvador

El Salvador was among the fastest in the world to implement COVID-19 responses, says Luis Romero Pineda, deputy project coordinator at Médicines sans Frontières (MSF, also known as Doctors without Borders) in San Salvador. With only around 100 ICU beds in the entire country, El Salvador faces a potential disaster if COVID-19 numbers surge.

Even before any cases appeared, on 13 March, officials suspended classes, sports events and gatherings of more than 20 people. Four days later, they banned travel from several countries with outbreaks. The following day, the government confirmed the first case. A few days later, authorities declared that everyone must stay inside, except for essential duties. To compensate, the government said it would provide households below the poverty line with US\$300 per month. They also imposed a curfew that has been strictly enforced.

As the number of cases slowly rises in El Salvador and other low- and middle-income countries, cracks are beginning to show. “This may be a lose-lose situation,” says Kalipso Chalkidou, a health-policy analyst at the Center for Global Development in London.

In Nigeria, Ihekweazu is trying to maintain hope. “We are resilient,” he says. “We will find a way to survive.”

Additional reporting by Abdullahi Tsanni in Nigeria and Neil Brandvold in El Salvador.