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How Africa has tackled covid-19

Five months since its first covid-19 infection, Africa seems to have been spared the brunt of the pandemic. But with weak healthcare systems, strategies are fuelled by constant vigilance and fear, writes **Bibi-Aisha Wadvalla**

Bibi-Aisha Wadvalla *freelance journalist*

It took 90 days for Africa, with 54 countries, to reach 100 000 cases, but just 19 more days to double to 200 000 cases, and another 12 days to reach 300 000. By 8 July it rose to 500 000 and 12 000 deaths. Though the number of cases on the continent is rising rapidly at an average of 11 000 per day, the figures belie a story of ongoing anxiety but also relief.

The World Health Organization says that cases have more than doubled in 22 countries in the region over the past month, but case numbers are lower than predicted and there is no indication that severe infections and deaths are being missed.

Algeria, Egypt, Ghana, Nigeria, and South Africa make up 71% of covid-19 cases, with South Africa alone accounting for 43% of the continent's total cases (see box).

Matshidiso Moeti, WHO's regional director for Africa, warned that "the pace of the spread is quickening. Swift and early action by African countries has helped to keep the numbers low, but constant vigilance is needed to stop covid-19 from overwhelming health facilities."

Capacity lacking

For decades, African governments have failed to prioritise health systems, something keenly felt during epidemics like Ebola, and now covid-19.

In April, WHO reported that there were just 2000 ventilators across 41 African countries and 5000 intensive care beds across 43. A June report by Africa Centres for Disease Control and Prevention (Africa CDC) also warned that "most countries face a catastrophic shortage of medical professionals." The sub-Saharan region has 0.2 doctors for every 1000 people according to World Bank data—well below the global average of 1.6 (North America has 2.6 and the European Union has 3.7).

Even with only nine countries recording over 10 000 cases, chronic underfunding has taken a toll. Africa CDC director John Nkengasong told *The BMJ* there is a need to expand services. "As the pandemic gathers speed, we anticipate scenarios where hospitals are overwhelmed, as seen in Egypt and South Africa—but it's not catastrophic yet," he said.

Zimbabwean health workers have periodically been on strike since March over a lack of personal protective equipment (PPE), salary cuts, and conditions. "The situation in hospitals is now dire," the Zimbabwe Senior Hospital Doctors Association said in a statement. "There is no care available as healthcare workers cannot afford to come to work."

SARS-CoV-2 infections among healthcare workers in Africa have risen by 203% since May, according to WHO, because of a spike in community transmission and limited PPE.

In Kenya, with over 10 000 recorded cases, local news reported that hospitals have run out of intensive care beds. And where there are beds, there's a shortage of staff. The Kenyatta University Teaching, Referral and Research Hospital, with 24 intensive care beds, can only admit eight patients at a time because of a nurse shortage.

Egypt's medical unions have warned that years of neglect have led to a collapsing health system, with a shortage of intensive care units, ventilators, PPE, and healthcare workers. Hospitals have struggled to cope with both the large numbers of patients with covid-19 and infections among medical staff. Egyptians have taken to social media to try and find beds.

South Africa's poorest province, the Eastern Cape, long plagued by health maladministration and corruption, buckled under the strain of 838 health workers testing positive. So far 24 have died. The health superintendent general Thobile Mbengashe said they desperately need 3000 intensive care beds by September.

In the country's new epicentre Gauteng (70 000 active cases), the National Education, Health, and Allied Workers Union and doctors have claimed the province is fast running out of beds and protective gear. Gauteng has 8301 beds for covid-19 patients in private and public hospitals, while the main field hospital can take 470 patients with mild symptoms.

Plans are in place to add 100 more beds with oxygen and local authorities insist they have capacity to deal with an expected peak in covid-19 infections. The health minister Zweli Mkhize told parliament on 7 July that "planned hospital beds, public and private, in the Eastern Cape and Gauteng, are projected to be insufficient in the next four weeks."

In comments on 12 July, South African president Cyril Ramaphosa said the country faced a "serious" shortage of more than 12 000 healthcare workers, including nurses, doctors, and physiotherapists.

Test, test, test

Human Rights Watch said that "while many African countries have responded swiftly, many lack the capacity to test, isolate confirmed or suspected cases, trace contacts, and treat those with severe illness."

Data from the Africa CDC for 9 July reveals that 5.7 million tests have been carried out on the continent, or 4317 per 1 million population, with a positivity rate of 8.9%. With such a low number of tests, the actual number of cases is expected to be far higher. Moreover, 10 countries—Egypt, Ethiopia, Ghana, Kenya, Mauritius, Morocco, Nigeria, Rwanda, South Africa, and Uganda—are doing 80% of the tests, with South Africa leading with over two million tests.

Nkengasong has urged other countries to ramp up testing aggressively. But to test more, countries need diagnostic kits, which they don't have because of the global shortage. "One of the biggest challenges we face is the availability of supplies, specifically test kits, because of the disruptions to the global supply chain," Moeti said in a press briefing, adding that more than eight million tests and 200 million pieces of PPE were in the pipeline to be delivered to African countries. Yet this is still far short of the estimated 20 million test kits the continent needs by August, says Nkengasong. Health workers in several countries have gone on strike to protest the lack of PPE.

Concerned by this, and the inability of some countries to obtain supplies at a fair price, African Union countries banded together to create the Africa Medical Supplies Platform, a non-profit online store overseen by Africa CDC, the UN Economic Commission for Africa, and Africa Export-Import Bank.

Speaking at the launch on 19 June, Ramaphosa said the platform "will tackle shortages and security of supply, ensure price competitiveness and transparency in procurement, reduce logistical delays, simplify payment processes, and provide a common platform where governments can access services from certified suppliers."

"We, as a collective working with the private sector, reached out to multiple suppliers in Europe and China. Some 90 million tests will arrive in the next six months and will be distributed according to population size and prevalence rate of the coronavirus," Nkengasong said in a press briefing.

The platform sells everything from test kits to ventilators, oxygen, and PPE. Member states can shop for diagnostics and commodities at fixed, fair prices. For instance, at the start of the pandemic, global demand drove up the price of an N95 mask to \$30 (£24; €26) but this will cost \$2 on the platform. The Africa Export-Import Bank will handle payments and provide loans to member states to purchase equipment, while logistics partners including African national carriers and global freight companies will run delivery.

Moeti has said it's likely the virus will "smoulder in African hotspots for years." Nkengasong says no African country will be safe if one country still has the virus. The key, he says, is cooperation. "When the African Union met in February, we all agreed to collaborate, coordinate, and communicate," he said. "We strive on good evidence and good data."

South Africa's sobering second wave

Despite early success¹ and strong public health prevention measures, South Africa remains the leader in covid-19 cases, becoming the first African country to cross the 100 000 case threshold and currently accounting for almost half of the continent's burden.

Since partially reopening schools on 9 June, 1300 children and 2400 teachers have tested positive. On 12 July, the country reinstated its night time curfew and ban on alcohol sales, having initially lifted it in June.

South Africa was the first to conduct large scale community screening and testing but faced criticism over massive backlogs and a two week turnaround time for results.

In a statement, Kami Chetty, head of the National Health Laboratory Service, said, "This was because of a global shortage of kits, logistical

problems such as interruptions with production, flights cancellations, customs delays, and closure of services during public holidays."

This has had a dire knock-on effect on the country's containment strategy. "The number of people that needed contact tracing grew so large that we were unable to trace and manage all patients," Marc Mendelson, professor of infectious diseases at Groote Schuur Hospital, told *The BMJ*. "At the same time, this increasing turnaround time meant that hospitalised patients suspected of having covid-19 also grew to such an extent that more and more wards needed to be opened to accommodate them, slowing patient flow, increasing PPE usage, and providing sub-optimal management."

Responding to the criticisms, Health Minister Zweli Mkhize said the backlog has since been cleared, and mass screening had identified hotspot areas. On 23 June he announced a new testing strategy prioritising "persons under investigation who are in hospital, those with comorbidities, the elderly, and healthcare workers."

North Africa at the crest of the wave

North Africa was the first region on the continent to be hit by covid-19. Egypt reported its first case in February but delayed imposing a lockdown until the end of May, after the Eid holiday. Since then, Egypt and Algeria have seen a sharp rise in cases, while Tunisia and Morocco have contained the spread of the virus thanks to early measures including isolation of cases and stay-at-home orders. Tunisia opened its borders on 27 June. Travellers from countries with low prevalence of SARS-CoV-2 can enter without restriction, while travellers from medium prevalence countries must test negative three days prior to travel.

Egypt has 84 000 cases, the second highest number after South Africa (298 000), and the most deaths on the continent, but testing has been low. Islam Anan, chief executive of Accsight Healthcare, a research consultancy in Egypt, told *The BMJ* that "tests were limited to those with noticeable respiratory symptoms, and not their contacts, because the Ministry of Health limits tests to 4000 per day."

The minister of higher education and scientific research, Khaled Abdel Ghaffar, has said the true scale of infection could be four times higher. In a press statement on 8 July, WHO said there are "signs of progress as cases in Egypt have declined over the past week."

Initially, there was poor adherence to protection measures, especially during Ramadan, but behaviour has changed, influenced by legal penalties. After hitting more than 1000 recorded cases daily, the general public is now more aware of the crisis and more adherent to social distancing measures, said Anan, particularly after an 8 pm to 6 am curfew was imposed at the end of May plus fines (£15-£200) for not wearing masks. The curfew was lifted on 27 June and the country's coastal towns welcomed foreign tourists from 3 July.

West Africa worries

Nigeria, Africa's most populous nation with 196 million people, has 340 000 cases and 700 deaths, the highest in the region.

The country has been criticised for its low testing capacity. "At the beginning, we were carrying out two tests per 10 000 of our population," said Oyewale Tomori, professor of virology at Redeemer's University and an adviser to WHO. That has since improved to 5.6 tests per 10 000 of the population.

Contact tracing is a major problem. Some 70% of people who test positive don't know where they got infected. "This means quite a large number of positive cases may have gone undetected, making it difficult to conduct efficient contact tracing," said Tomori.

Nigeria eased a five week lockdown in three states, prematurely in Tomori's opinion. "Add to this poor compliance with the guidelines put in place to limit spread, and there's momentum for a massive surge."

Neighbouring Ghana was the first African country to lift its three week lockdown and attributed its success to an emphasis on behavioural prevention measures: hand washing, social distancing, and wearing of masks. Over 100 people have died from the virus, while case numbers are around 25 000. President Nana Akufo-Addo went into isolation on 5

July after a close associate tested positive. According to the Ghana Health Service, 22 patients are in intensive care and six on ventilators.

Ghana has used drones to transport testing kits to remote areas with no testing facilities, and test samples taken by health workers to labs in cities. To conserve testing kits it also deployed “pool testing,” with samples from several people tested together—only if the pool result is positive are samples followed up individually.

East Africa’s differing approaches

On 8 June, Tanzania president John Magufuli declared his country covid-19 free “due to the grace of God,” but without any empirical evidence. Its borders have remained open, and Tanzanian truck drivers have been accused of importing the virus into Kenyan and Zambian border towns.

Nakonde is Zambia’s hotspot, accounting for half of the country’s 1600 cases. Kenya, the region’s economic powerhouse, saw cases spike to 5000 over May and responded by closing its borders with Tanzania and Somalia, citing imported cases.

Rwanda and Uganda acted faster, imposing lockdown, banning gatherings, suspending international and domestic travel, and establishing public handwashing stations as early as March. Both have around 1000 cases, with no deaths in Uganda and two in Rwanda.

Half of Uganda’s cases are linked to truck drivers. Despite the low prevalence, schools, places of worship, and markets remain closed. On 22 June, President Yoweri Museveni said “they’re high risk contamination areas where outbreaks would pose a difficulty in contact tracing.”

Jane Aceng, Uganda’s minister of health says it was well equipped to deal with covid-19 because of its experience with Ebola that included contact tracing capacity. Despite an average of eight daily cases, Uganda plans on turning the national soccer stadium into a field hospital with 1200 beds for patients with mild cases. Aceng credits risk communication and community engagement using print, radio, television, online media, and door-to-door messaging to promote good health practices.

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Competing interests: I have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

¹ Wadvalla BA. Covid-19: decisive action is the hallmark of South Africa’s early success against coronavirus. *BMJ* 2020;369:m1623. doi: 10.1136/bmj.m1623 pmid: 32332021

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