

CHRIS BATEMAN
news@citypress.co.za

With an embattled healthcare sector almost overwhelmed by the second Covid-19 surge, the full extent of how ill-prepared the country is for a massive, unprecedented vaccination campaign, let alone the initial healthcare worker immunisation, is now emerging.

With stories of helpless doctors and nurses able only to hold dying Covid-29 patients' hands due to insufficient oxygen in at least one hospital, the current state of the existing adult immunisation programme is causing belated and frantic logistical planning.

Professor Shabir Madhi, chairperson of the ministerial advisory committee on Covid-19, confirmed that South Africa has among the lowest vaccine coverage rates and that, despite having one of the most comprehensive inclusion of vaccines, it remains among the top 10 countries with the most under-immunised children globally.

"Even countries such as Uganda and Zimbabwe perform better than South Africa, according to World Health Organisation estimates," he added.

Quizzed on preparedness for immunisation on a historically unprecedented scale, Dr Leslie Bamford, co-chairperson of South Africa's national Covid-10 coordinating committee, confirmed that the committee had had its first national-provincial heads of health department cyber-meeting on January 8, "following a lot of preliminary discussions".

Normally in charge of the health department's national child, youth and school health programme, Bamford has been seconded to spearhead the vaccine roll-out. She promised to answer 25 detailed questions, sent by email on Monday, "as soon as possible", but declined further comment.

She failed to respond to follow-up calls and SMSes. Just four years ago, the SA Medical Journal debunked the country's expanded immunisation programme in its Izindaba news section, highlighting budgeting anomalies, operational dysfunction in vaccine vial monitoring, storage and cold chain distribution, plus a lack of data collection, monitoring and oversight.

OWED HUNDREDS OF MILLIONS

It also came to light this week that government's partner in vaccine manufacture and its historically preferred distributor, the Biovac Institute, is owed hundreds of millions of rands by provincial health departments.

This was confirmed by the institute's CEO, Dr Morena Makhoana, on Monday, when it emerged that the national health department had yet to finally sign for the 1 million healthcare worker immunisation doses from the Indian Serum Institute's AstraZeneca manufacturing plant.

According to sources within Treasury, only a broad "heads of terms" agreement had been signed by late last week, despite government assurances that the vaccines would arrive for distribution by month's end.

The Treasury sources, while not alluding to the hefty provincial Biovac debt, said the estimated R130 million for the initial Indian Covid-19 vaccine acquisition would be allocated to the national health department. The overall R8 billion to R10 billion costing model to achieve countrywide herd immunity would probably allocate funds on a 60% procurement basis to the national health department and a 40% distribution basis to provincial health departments, the source added.

North American and most European countries are nearly two-thirds behind their vaccination roll-out schedules, prompting deep scepticism over Health Minister Zweli Mkhize's stated ambition to achieve South African herd immunity by the end of the year. The scale of such a roll-out, given the country's child- and youth-oriented vaccination programme – a historically underfunded expanded programme on immunisation, plus known provincial government dysfunction – could prove impossible within such a time frame.

Madhi said inoculating two-thirds of the population (40 million people) by the end of next year (apart from not having procured the vaccine) was "not feasible by any stretch of the imagination".

He also pointed to the poll showing that only 53% of the population was willing to be inoculated, highlighting widespread calls for an urgent major "compliance and education" campaign.

SECOND-DOSE CHALLENGE

Top expanded programme on immunisation sources spoke of the logistical difficulties the two-dose AstraZeneca vaccination regime would pose, the historic lack of vaccine data, monitoring and evaluation, properly trained vaccinators, transport and proper cold chain storage challenges.

"That's before we even get to ensuring there are enough syringes, swabs and other ancillary vaccination requirements," they added.

The UK has put the second AstraZeneca dose on hold to enable a wider reach of first immunisation, even though this affords significantly less protection.

Biovac's Makhoana, whose distribution headquarters are in Gauteng, said his outfit, which was set up in 2003, was now capable of distributing 25 million doses of all vaccine products annually. He said there was thus far no signed Covid-19 vaccine distribution contract. Biovac is one of at least four major cold chain distributors that would compete for a government vaccine distribution tender. As a public-private entity, it has historically operated as a preferred provider, doing the bulk of South Africa's vaccine distribution.

Makhoana was confident of Biovac's capacity. "Even with the historically smaller adult vaccination programme, we'd easily reach 85% of all intended destinations," he said, adding that, some six years ago, due to provincial inefficiencies, Biovac stopped delivering vaccines to central provincial depots. Instead, it took over direct delivery to (for example) about 200 destinations in KwaZulu-Natal, instead of the previous single vaccine depot. This was repeated in all the other provinces, but with wide-ranging variations and individual onward distribution transport capacities.

CARRYING DEBT 'FOR THE CHILDREN'

Addressing Biovac's debt load, Makhoana, said: "We simply don't have the heart to stop child vaccination distribution because of nonpayment by provinces and, no, using Covid-19 as a bargaining tool wouldn't be right."

He said provincial payment patterns had been consistently ragged for the past 16 years.

"Come April when they have money, they either pay old debts or not. Then for the first six months we do okay, but then it goes haywire. It's a chronic way of working, but we're confident we'll ultimately get our money. One province's debt [payments] are now 12 months behind," he said.

"The total government vaccination budget has been about R2 billion – that gets split among the provinces. Some owe us hundreds of millions, some R30 million to R50 million. It's still a lot of money and we have an obligation to our suppliers to manage things quite tightly," he added.

Makhoana said Biovac was the largest supplier of vaccines to government and had worked with them on routine supplies and on several vaccination campaigns.

How effective are the Covid-19 vaccine candidates?

Estimated effectiveness at Covid-19 prevention based on interim data from late-stage clinical trials*

VACCINE	MANUFACTURER	COUNTRIES	DOSES	EFFECTIVENESS
mRNA-127	Moderna		2	95%
BNT162b23	Pfizer-BioNTech		2	94.5%
Gam-COVID-Vac Sputnik V	Gameleya Scientific Research Institute		2	92%
ChAdOx1 nCoV-2019	Oxford-AstraZeneca		2	70%
Sinovac	Sinovac Life Sciences		2	50.4%

*Some trials are ongoing and findings have not yet been peer-reviewed

Sources: The Lancet, BBC.com, The Wall Street Journal, CDC, Russian health ministry

THEUNS KRUGER, Graphics24

Global Covid-19 vaccine supply and administration

To date, more than 15.9 million doses of Covid-19 vaccines have been administered in 37 countries.

Almost half of all countries rely solely on the Covax facility for access to vaccines, and they may have to wait until 2022 for their shipment. We take a look at which vaccines have been dispensed, and where



Sources: DM, Reuters, Bloomberg, WHO

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SA IN VACCINE ROLL-OUT CRISIS

AS GOVERNMENT SENDS MIXED MESSAGES ABOUT WHEN SA WILL OBTAIN VACCINES, EXPERTS SAY THE PLAN IS FINANCIALLY AND LOGISTICALLY FLAWED

DOWNPLAYED CONTROVERSY

The Treasury source downplayed the controversy over South Africa's lack of advance payment for vaccines, based on potential efficacy.

"Never in the history of our country have we ordered unregistered medicine on this scale. The first Covid-19 vaccine registered worldwide was Pfizer on December 3 in the UK, which is where the AstraZeneca vaccine was registered only two weeks ago.

"Before November 28 2020, nowhere in world did we even have a completed phase 3 trial," he said.

He added that for the past two and a half months there had been no prediction of a second, deviant Covid-19 wave.

"Given all the uncertainly, what the South African government sensibly did was join the World Health Organisation's Covax. Yes, Covax has been slow to provide the vaccines, but I don't think it was a bad decision.

"Hindsight may be 20/20, but I don't buy all the current hype. Comparing us with first-world countries with trillion-dollar budgets when we're in a fiscal crisis is unfair," he added.

Makhoana said that India's Serum Institute wanted a 100% down payment, while other vaccine manufacturers had complicated deal conditions.

"For example, Johnson & Johnson won't deal with us unless we set up a no-fault public insurance fund to pay for those who may sue for adverse vaccine events," he added.

Dr Aslam Dasoo, convenor of the Progressive Health Forum, whose shocking report on the healthcare sector sparked the presidential health summit in June 2018, said poor stewardship of the public healthcare sector was contributing to the coronavirus death toll.

"Healthcare workers, hundreds of whom have died on the front line, have to deal with what's now an acute version of a slow-burning, degenerating situation," said Dasoo.

He called for an unprecedented joining of forces between government, the private sector, trade unions and civil society to help achieve vaccination compliance and an effective roll-out.

SA INCREASES THE NUMBER OF DOSES IT IS GOING TO GET

South Africa can expect to receive 12.25 million doses of Covid-19 vaccine from the 270 million provisional doses secured for African countries through the African Vaccine Acquisition Task Team (AVATT) – more than 2 million doses of which are anticipated to arrive between March and June.

This was confirmed to City Press this week by George Sibotshiwe, who speaks on behalf of Zimbabwean billionaire businessman Strive Masiyiwa, an African Union special envoy and member of AVATT – which was established by President Cyril Ramaphosa last year in his capacity as African Union chairperson.

This week, Ramaphosa announced that AVATT had secured the 270 million doses, with at least 50 million being available for the period between April and June next year.

The vaccines, said Ramaphosa, would be supplied by three multinational pharmaceutical companies whose vaccine candidates had shown high levels of safety and efficacy in trials – Pfizer, AstraZeneca

(through an independent licensee, Serum Institute of India) and Johnson & Johnson.

"Vaccines secured by AVATT are allocated to member states using a population formula [including the volume-buying capacity of the continent of R1.3 billion]. South Africa has a population of 59 million, so the calculation is 59/1 300, which equals 4.5% of all vaccines. In other words, 4.5% of 270 million [12.25 million doses]," Sibotshiwe explained.

"If countries decline or fail to take up their allocation, the vaccines are allocated to other countries that want them, using the same equitable formula. South Africa will be allocated 4.5% of the 50 million available for the period of March to June."

This comes as numerous calls and queries for clarity have been made by civil society organisations, health activists and the media (including this reporter) for clarity and transparency over South Africa's vaccine roll-out strategy, bilateral negotiations with vaccine manufacturers and exactly

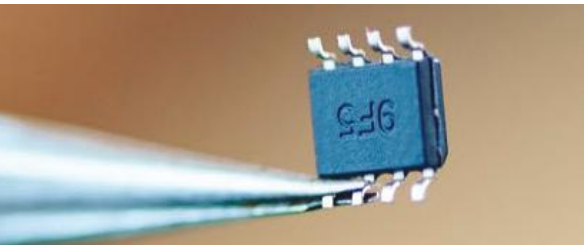
when the 20 million vaccine doses apparently secured for the country will come in, as well as the remainder to cover the adult population – and at what cost.

On Friday, in an interview with Eyewitness News, Ramaphosa reiterated that the 20 million doses of vaccine would be coming in from multiple suppliers – but said other doses were also being procured through the World Health Organisation's Covax facility (which would cover 10% of the population) and AVATT, as well through direct deals with suppliers.

South Africa's ambitious vaccine roll-out plan, as led by the national department of health, has set a target to vaccinate 67% of the population within the year – roughly 40 million adults – in an effort to achieve herd immunity.

This target has been criticised as unrealistic by some experts in vaccinology, and health and social systems who spoke to City Press recently – because, for starters, a recent Ipsos poll showed that only 53% of South Africans were agreeable to getting the

Vaccine conspiracy theories debunked



MYTH

There is a microchip in the vaccine

FACT

There is no microchip or tracking device in any vaccine. Vaccine manufacturers are required to declare their ingredients to the SA Health Products Regulatory Authority (Sahpra). If they did have such a microchip, they would not be authorised for use

MYTH

5G networks spread Covid-19



FACT

Viruses cannot travel on radio waves/mobile networks. Covid-19 is spread through respiratory droplets when a person coughs, sneezes or speaks. People can also be infected by touching a contaminated surface and then touching their eyes, mouth or nose

MYTH

We don't know what's in the vaccine



FACT

Vaccine manufacturers are required to declare their ingredients to Sahpra before a vaccine is authorised for use. Vaccines authorised by Sahpra have undergone rigorous studies to prove their efficacy and safety before use – these studies can be accessed publicly in medical and academic journals for all to see the methods and full findings

MYTH

You can test positive because of the vaccine

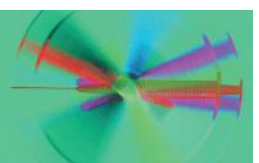


FACT

There is no live virus in the vaccines, so it cannot infect you. Vaccines work by stimulating the immune system to create antibodies, which fight the virus when it enters the body

MYTH

I've already had Covid-19, I will not benefit from taking the vaccine



FACT

You can still benefit. Much is still unknown about how long natural immunity to Covid-19 lasts. Right now, it seems that getting Covid-19 more than once is not common, but there are many questions that remain unanswered.

The Centre for Disease Control and Prevention recommends that those who have had Covid-19 get the vaccine

MYTH

Drinking methanol, ethanol or bleach will kill the virus in your body



FACT

Methanol, ethanol and bleach are poisons used in cleaning products to kill the virus on surfaces. Never drink them as they would not kill the virus in your body but would harm your internal organs, and could cause disability and death. For Covid-19 protection, use diluted bleach or alcohol to disinfect objects and surfaces, especially those you touch often. Clean your hands frequently and thoroughly, and avoid touching your eyes, mouth and nose

ISABELLA MAAKE, Graphics24



vaccine shots and, logistically, 150 000 people a day would need to be vaccinated over the next year.

Asked for the total number of vaccine doses currently secured by the country, department of health spokesperson Popo Maja said on Friday: "We're unable to confirm details at the moment because some the negotiations haven't yet been concluded."

Sibotshiwe added: "It's extremely important to realise the challenges of getting vaccines. Wealthy countries like the US and those in the EU, where most of the big manufacturers are based, have directed their companies not to export before they've met the needs of their own populations. China and India have done the same. This means that getting vaccines isn't just a question of paying suppliers. They're almost impossible to get at the moment.

"President Ramaphosa has had to personally call the CEOs of global companies in a bid to secure vaccines for South Africa and Africa," he added. – Vuyo Mkize