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Page: 9

PANDEMIC

Book draws on Covid lessons

POST REPORTER

SALIM S Abdool Karim's book *Standing Up for Science: A Voice of Reason* was published this week.

Abdool Karim, a Fellow of the Royal Society and a clinical infectious diseases epidemiologist, is recognised for his scientific contributions to Aids and Covid-19.

He serves as a special adviser on pandemics to the director-general of the World Health Organization.

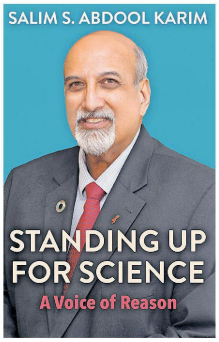
Karim is also director of the Centre for the Aids Programme of Research in South Africa (Caprisa) and Caprisa Professor of Global Health at Columbia University.

Early in the Covid-19 pandemic, he was catapulted into a prominent position in the media and on television as the face of South African science in the country's response to the pandemic.

Up to that point, his groundbreaking research on Aids had garnered many awards, leading to his recognition as one of the world's leading epidemiologists, making him ideally positioned to take the scientific lead in the Covid-19 response.

Standing Up for Science is Karim's personal, behind-the-scenes account of the first three years of the Covid-19 pandemic.

It sheds light on the difficulties in providing scientific advice and on



the international co-operation that was integral to responding to the pandemic.

It also gives insight to some of the controversies in the science-to-policy process, and draws lessons from Covid-19 to prepare for future pandemics.

Beyond the recent events in which the story is grounded, the book is an ode to the value of science and its power to help us tackle some of the world's biggest problems.

◆ ***Standing Up for Science: A Voice of Reason*** *is published by Pan Macmillan South Africa. It is available at all good bookstores nationwide and online. It will be launched at Exclusive Books in Hyde Park, Joburg, on July 6. Caprisa will host a private event, strictly by invitation.*

This is an extract from Chapter 4 which is titled 'Building while Sailing'

THE plan at the beginning was, quite simply, to 'flatten the curve'. This refrain reverberated around the world as countries started to grapple with their epidemic curves.

Flattening the curve is a public health strategy that involves slowing the spread of a virus so that the number of people needing health care is delayed and those seeking health care services are spread over a longer period.

It is aimed at protecting vulnerable members of the population in particular, giving the health system critical time to prepare, and carving out more time for the development of a possible vaccine and other treatment options.

Although it is on the same continuum, and involves the same mitigation strategies, it is a less ambitious strategy than containment or elimination; the latter was the goal adopted by some countries like New Zealand, Taiwan and Australia …

For us, however, there was general consensus that 'flattening the curve' was the best option to follow, as elimination was not a realistic goal for South Africa.

The consensus was that this approach would be a more practical one for the country to take and not because, as one newspaper columnist tried to suggest in a political viewpoint article, the government had embraced a defeatist approach in order to absolve itself of ultimate responsibility for the outcome, whatever it might be.

There were several factors to be considered. A major problem was South Africa's leaky land borders.

There was also the issue of living conditions: large swathes of the South African population live in impoverished and overcrowded conditions that are not conducive to elimination or containment.

Another consideration was the high economic costs to implement the kind of restrictions needed for viral elimination. Not only would economic activity be negatively affected, but social security costs would also soar. Additionally, more resources and infrastructure would be required to scale up contact tracing and testing – requiring levels of testing that were not feasible when South Africa could not secure an adequate supply of test kits in the context of huge global demand.

All of these factors, together with what we knew thus far about the high transmissibility of the virus, led us to believe it was unlikely that we could contain the virus.

It is not unusual to be criticised. The process of arriving at an appropriate approach, when providing advice, is complex and factors in many variables, including an understanding of the virus, medical care needs, efficacy of individual prevention interventions and prospects of adherence to prevention measures, among others.

It would be challenging to grapple with these multiple dimensions of evidence and uncertainty, expecting that everyone would have all this information or, if they did, would arrive at the same conclusion.

In fact, criticism, even when misinformed, is important to guide reflection and helps to revisit advice provided and decisions made.

With the Covid-19 pandemic, a major challenge was criticism that was not intended to be constructive or helpful but was rather driven by the need to feel important or by 'know-it-alls'. As scientists, we deal with this, even from fellow scientists, all the time and so this was to be expected.

Flattening the curve relies heavily on measures aimed at minimising the spread of the virus through testing, quarantine and contact tracing, handwashing and social distancing. Most of these measures had been in place since the first case of the virus was reported on 5 March.

At that stage, face masks were not yet an official part of the prevention toolkit.

Given what we had seen of the rapid spread of the virus in the UK, we knew that we needed to intensify our mitigation strategy beyond hand hygiene and social distancing, particularly because both of these measures were difficult and even impossible for some sectors of South Africa's poorer population to implement.

We needed to reduce human mobility and interaction to reduce human-to-human contact so that any infected individuals would not be able to infect others beyond their immediate confines. We knew we could not rely on voluntary behaviour change as this takes a long time to achieve.

Flattening the curve is a recognised public health strategy, but I had no direct experience of such a rapidly spreading epidemic.

Up to that point, I had never come across a disease that was able to overwhelm health-care facilities in developed countries in the way that Sars-CoV-2 was doing in Europe and the US.

Every year, South Africa sees a spike in hospitalisations for influenza, but nothing on the scale that we were witnessing for Sars-CoV-2 in other countries. I had some understanding of the impact of Ebola, which had overwhelmed health-care systems in West Africa, largely because it was the health-care workers that fell to the disease, but in Covid-19 we anticipated a much greater challenge in terms of patient numbers.

On this basis, flattening the curve was not only our best option, but it was also a necessary step in anticipation of a rapidly growing pandemic that puts enormous pressure on hospitals. And as pressure on hospitals increases, the deaths rise.

MAC (Ministerial Advisory Committee) members were supportive of this approach when Pillay (Dr Yogan Pillay, deputy DG in the Department of Health) presented it to the MAC. So, we proceeded on that basis, asking the next question: how far do we need to flatten the curve? It then became obvious that our primary national goal had no quantitative dimensions.

We had no idea what our curve would look like without intervention; without a benchmark, it was impossible to attach any precise goals to our plan. I suggested we focus on two key issues: pushing back the peak – if the peak came in April, health-care systems would likely not be ready – and lowering the peak.

When I look back with hindsight, we achieved both of these goals during South Africa's first surge in a way that served us well: we delayed the peak by about six to eight weeks, pushing it from April/May to July, and we also managed to dampen the peak to the extent that field hospitals in Cape Town, Johannesburg and Pietermaritzburg that were set up in preparation for the surge were never actually filled to capacity.