

## Must-reads

## THE BIG STORY

## Finding the true global toll of the pandemic

Covid-19 deaths across the globe have crossed the 4.4 million mark – officially, at least. But a recent study that pegged the excess deaths in India at 4.9 million – more than 10 times the toll published by the government – has cast doubt on the efficacy of the methods being employed by governments to assess the true extent of the pandemic. **A4**



## THE BIG STORY

## Area cordoned off after parts of building's roof fall

JTC Corporation has cordoned off the area around a building at 3013 Bedok Industrial Park E after parts of decorative features on a concrete roof came crashing to the ground. The Singapore Civil Defence Force found that a block of concrete about 40m long had fallen from four storeys high yesterday morning. No one was injured. **A5**



## China in a spot after US' Afghanistan pullout

The US withdrawal from Afghanistan now leaves China in a difficult position. China correspondent Danson Cheong looks at how Beijing will have to deal with an unstable situation that could lead to conflict in its own backyard and also with a United States no longer encumbered by an intractable war. **A12**



Residents of a Housing Board block in Sumang Walk in Punggol waiting to be tested for Covid-19 in June, after coronavirus cases from a number of households in the block were detected. ST PHOTO: KEVIN LIM

# Delta less forgiving of breaches: Expert

## FROM A1

higher viral loads, and vaccines do not work as well against the variant, though they do still give fairly high levels of protection.

Professor Teo Yik Ying, dean of the National University of Singapore's Saw Swee Hock School of Public Health, said: "The surge in deaths is because more people are getting infected in Singapore, given the outbreaks we had in July that regrettably happened in community locations, such as wet markets, that are frequented by seniors."

Professor Dale Fisher, a senior infectious diseases consultant at the National University Hospital (NUH), said: "This is the situation we will now have to live with: silent spreading with severe disease mostly limited to the unvaccinated." The deaths have occurred among the unvaccinated or partially vaccinated, except for one elderly individual.

Associate Professor Alex Cook, vice-dean of research at the Saw Swee Hock School of Public Health, said that if Singapore had been hit by the Delta variant before the population had been vaccinated, "it would have been terrible."

"I doubt we could have controlled it, unless we effectively shut down society. Probably thousands of deaths would have happened."

Dr Asok Kurup, who chairs the Academy of Medicine's Chapter of Infectious Disease Physicians, agreed, saying: "We would have been seeing way more deaths among the elderly and those with comorbidities."

He said it does not take much for the Delta variant to spread, and it is less forgiving of any breaches of measures than the earlier variants.

With such a highly transmissible variant – according to the United States, its transmission rate is comparable with chickenpox, where one infected person can spread the virus to 8½ others – "we can't expect the measures to work as well", Prof Cook added.

That is why countries like Thailand and Vietnam that had successfully controlled the ancestral

strain are now struggling because of Delta.

## EFFECTS OF DELTA VARIANT

Delta spreads more easily both in people who have been vaccinated and those who are not vaccinated, though those who have been fully vaccinated are less likely to suffer from severe illness.

Professor Leo Yee Sin, executive director of the National Centre for Infectious Diseases (NCID), said that striking features of the Delta variant include the speed and scale of transmission. This was what caused "a very rapid exponential growth of cases and in large numbers".

Dr Kurup said studies have shown that it takes only four days from exposure for Delta viral loads to reach detectable levels, compared with six days with the original virus strain.

Associate Professor David Lye, director at NCID's Infectious Disease Research and Training Office, said that increasingly, in the age of the Delta variant, the viral load of a vaccinated person is found to be similar to that of an unvaccinated person in the early part of illness.

A Singapore study preprint (not yet officially published or peer-reviewed) found that while all patients had similarly high viral loads for the first five days, this declined more rapidly in patients who had been vaccinated.

The study of 218 patients infected with the Delta strain – who were warded at NCID or one of four public hospitals – was conducted between April and last month.

Dr Barnaby Young, the lead author, who is also head of NCID's Singapore Infectious Disease Clinical Research Network, said it took eight to nine days for vaccinated people to clear their viral load to a point where it could not be picked up, compared with two weeks in those not vaccinated.

Patients who had been vaccinated also tended to be less sick.

The data shows a higher median age of 56 years among those vaccinated, versus 39½ years in

patients who were not vaccinated. Yet, despite their generally younger age, 26.2 per cent of the unvaccinated patients needed oxygen or intensive care, against 2.8 per cent of vaccinated patients.

The paper said: "Despite significantly older age in the vaccine-breakthrough group, the odds of severe Covid-19 requiring oxygen supplementation was significantly lower following vaccination."

The team also found that vaccine-breakthrough patients were far more likely to be asymptomatic – 28.2 per cent versus 9.2 per cent among those not vaccinated.

Associate Professor Ren Ee Chee, principal investigator at the Singapore Immunology Network at the Agency for Science, Technology and Research, explained that a vaccine trains the body's immune system, specifically the B and T

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cells, to eliminate a virus. "Memory B cells will be triggered by an infection to produce large amounts of antibodies rapidly, while T cells directly destroy virus-infected tissues. This dampens the impact of infection, hampering the virus from overwhelming the lungs and other vital organs."

"Thus, a fully vaccinated individual who becomes seriously ill would have a better chance of full recovery as compared with an unvaccinated person."

Some experts also posit that a high viral load in a fully vaccinated patient may not pose the same risk of spreading the disease as it would in someone who is unvaccinated, although this has not been conclusively shown.

Professor Ooi Eng Eong, an expert in emerging infectious diseases at the Duke-NUS Medical School, said: "Vaccinated individuals could have antibodies that would bind these viral particles. Some of them could have been rendered uninfected by the antibodies."

Prof Lye said the NCID study also shows that vaccinated patients are more likely to be asymptomatic or have milder versions of the symptoms that make transmission easier, such as a cough and runny nose.

"So while the initial viral load may be similar, vaccinated patients may theoretically be less likely to pass it on to others," he said.

## AS MEASURES EASE

Despite 12 Covid-19 deaths this month alone, Singapore is going ahead with the easing of measures and opening its borders.

The Republic will allow visitors to come for short breaks with no need for quarantine. This applies to travellers from Brunei and Germany if they have been fully vaccinated, as well as travellers from "safe" countries and regions like New Zealand, Taiwan and most parts of China.

The experts say this is fine, with the high vaccine rate today. By next month, 82 per cent of the population would be fully vaccinated.

Among those aged 60 years and older who face higher risk of severe illness, 89 per cent would have received both jabs some time next month.

Prof Fisher said the high vaccination rate here has "made the disease very mild or even asymptomatic in most of our population".

Nevertheless, Prof Cook said: "We can expect to continue seeing substantial breakthrough infections, though the numbers will probably fall as we relax contact tracing, since the generally milder symptoms will be less likely to be identified."

"Deaths will be concentrated among those who did not get vaccinated, though as we saw this week, some vaccinated people will still pass away, especially the most elderly."

Professor Paul Tambyah, also a senior infectious diseases consultant at NUH, said the messenger ribonucleic acid vaccines used here have a limited role in reducing transmission, as seen in the United States and Israel, where large numbers of people have been vaccinated.

"Their role is in prevention of severe illness and death," he said, adding that he expects to see "more cases and fewer deaths over time, especially if the virus continues its trajectory, as all other viruses, towards greater adaptation to the human host".

He pointed to a release by Public Health England this month that showed lower mortality in people infected with the Delta variant compared with the Alpha variant. Out of 226,446 people in Britain who had Alpha, 4,284 – or 1.9 per cent – had died. Against this, out of 300,117 who were infected with Delta, 743 – or 0.25 per cent – have died.

## THE FUTURE

Prof Leo said the coronavirus "has proven to be a very fit virus and, with ongoing evolution, will likely get fitter".

She said: "Moving forward, it is important for the healthcare system to be prepared, flexible and scal-

able, and continue to build up our knowledge about the virus and how it impacts every facet of our lives."

On whether booster shots for the population are on the cards, Prof Tambyah said it is still too early to say if they will be needed.

He noted that some early data published recently "suggests that an extended separation two-dose regimen, or at most a three-dose regimen, will provide broad long-lasting immunity".

It would be important to find out if "changing the dosing interval or adding late booster shots, perhaps of a different vaccine, will have an impact on transmission", he said.

Prof Cook said he would not be surprised if Singapore starts doing booster shots later this year, noting that the US will start giving booster shots next month. The key questions are when to do these and what vaccines to use, he said.

The multi-ministry task force on Covid-19 has said there are plans to give booster shots to people who are immunocompromised, such as people with a transplanted organ or who had been undergoing treatment for cancer when they received their jabs – as their level of antibodies is low. A third shot for them has been shown to push up antibody levels significantly.

Prof Teo feels that booster shots will also be essential, "especially for those in the vulnerable groups such as seniors and anyone with underlying medical conditions".

But more study is needed on when and how often such boosters are needed for different people, he said.

Prof Fisher also feels there is not enough data yet to indicate the need for boosters. "It is probably likely eventually, but it is wrong to add a booster merely because of increasing case numbers as this is expected."

Looking at what is happening in other countries, most spikes in cases and deaths are largely in unvaccinated people, he said. So, Singapore should pump more effort into "vaccinating more people, not further vaccinating the same ones".

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