

# Flaws in US study on Covid-19 reinfection posing higher risk: Experts

Study involving American veterans gave little information on underlying conditions

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An American study suggesting that people who are infected with Covid-19 for a second time are at higher risk of organ failure and death is questionable, with inherent limitations and overstated conclusions,

say local experts.

The retrospective study by the Washington University School of Medicine and the Veterans Affairs (VA) St Louis Health Care System looked at nearly 41,000 VA patients who had two or more documented infections and 444,000 who were infected for the first time, out of a patient population of 5.8 million.

Using statistical modelling, the

researchers concluded that patients with reinfections were twice as likely to die and three times more likely to be hospitalised than those infected for the first time.

Professor Ooi Eng Eong, an expert in emerging infectious diseases at Duke-NUS Medical School in Singapore, said he was "appalled at how this study got through peer review" and was published in the *Nature Medicine* journal last week.

The study said those reinfected were 3.5 times more likely to develop lung problems and three times more likely to suffer heart condi-

tions. Prof Ooi pointed out that the study gave "very little information on what chronic diseases the cases with reinfection had".

Nor did it look at patients who had other respiratory infections to find out if the higher risk was Covid-19-specific or if any viral infection exacerbated their underlying chronic diseases.

Agreeing, Professor Paul Tambyah, a senior infectious diseases consultant at National University Hospital (NUH) and president-elect of the International Society for Infectious Diseases, said the study had major problems.

The reinfection and first-time-infected groups were very different. From the study data, those in the reinfected group were "three times more likely to be immunocompromised and nine times more likely to be in long-term care", he pointed out.

The absolute number who were reinfected was also very small – 41,000 out of 5.8 million veterans.

Prof Tambyah said: "It is hard to interpret the data and not possible to draw meaningful conclusions for any population outside of the VA."

He added that Singapore's experience is different. Health Minister Ong Ye Kung said in October that with the XBB wave, the reinfection rate here hit as high as 18 per cent.

Dr Shawn Vasoo, clinical director

of the National Centre for Infectious Diseases, said local data from October to mid-November "does not suggest worsened clinical outcomes in reinfections compared with first-time infections".

The percentage of people who suffer from severe illness – requiring oxygen, in intensive care or dying – was 0.2 per cent for patients previously infected and 0.3 per cent for those getting an infection for the first time, he added.

Dr Vasoo said the patients in the VA study tended to be older male patients, with more who smoked or had serious medical problems, so the results might not apply to the general population.

Professor Dale Fisher, a senior infectious diseases consultant at National University Hospital who also chairs the World Health Organisation's Global Outbreak Alert and Response Network steering committee, said the paper confuses association with causation.

He was referring to the statement that "the findings show that reinfection further increases risks of all-cause mortality and adverse health outcomes in both the acute and post-acute phases of reinfection".

He said: "People with disadvantage due to their socio-economic status inflicting health inequities are more likely to have risk factors and poor control of those risks.

They are also less likely to be able to avoid repeat infections. Because of their underlying health... they are more likely to die in the next six months, but it doesn't mean it is because of Covid-19."

But Prof Fisher also said the study sends a timely reminder that even at this stage of the pandemic, there is good reason to avoid Covid-19 infection.

Dr Vasoo said: "Vaccination protects against serious illness, for first and subsequent bouts of Covid-19. Reinfections are generally mild if you are vaccinated and remain up to date with your vaccinations."

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