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17 February 2023

s 9(2)(a)

By email: s 9(2)(a)
Ref: H2023019427

Tēnā koe s 9(2)(a)

Response to your request for official information

Thank you for your correspondence to Manatū Hauora (the Ministry of Health) on 19 January 2023 regarding COVID-19 reinfection.

Please note the majority of the information you are seeking are not requests for official information. While the Official Information Act (the Act) allows people to ask for information from Ministers, government agencies and Crown entities, there is no obligation under the Act for agencies to create new information, compile information they do not hold, provide, or prove an opinion; however, in preference to refusing your request under section 18(g) of the Act, information is being provided to you in accordance with section 13 of the Act.

“Firstly, can the ministry quantify the risk to a person of contracting covid again? Is it a simple case of doubling your risk of adverse reaction or is the risk non linear as in does reinfection pose a greater risk than additional infection?

Secondly why are some people being reinfected within 3 months? Is this a novelty for a respiratory infection? I don't recall ever catching the flu twice in 3 months.

Thirdly, is the ministry aware of the vaccine mediated shift in immune response to SARS COV 2 from IgG3 to IgG4? If so, is the ministry concerned that non sterilizing antibody response akin to tolerance of an allergen could be problematic given in this case the 'allergen' is replicating mRNA?

Is it feasible that 'mild' symptoms in a vaccinated individual does not mean that that person is clearing the virus quickly, and could indicate that vaccinated people are likely to be asymptomatic carriers and spreaders which in healthcare settings could pose some risks? And finally what happens to people who don't effectively clear a viral infection? What does an overload of SARS COV 2 do to the body?”

Manatū Hauora cannot quantify the risk of a person of contracting COVID-19 again, however it is possible to be reinfected within a three month period. Information on COVID reinfection can be found below:

- <https://covid19.govt.nz/testing-and-isolation/if-you-have-covid-19/after-you-have-had-covid-19>
- www.health.govt.nz/news-media/news-items/covid-19-reinfection-advice-updated
- <https://www.health.govt.nz/covid-19-novel-coronavirus/covid-19-data-and-statistics/covid-19-current-cases>

New Zealand data cannot be used to directly infer infection severity. This is for a number of reasons. One reason is that people who are in worse health are likely to interact more frequently with the health system (including being hospitalised), therefore, their COVID infections are more likely to be detected and reported than those who have more mild symptoms and/or are at less risk of adverse outcomes. Another factor is that second infections may be less severe due to immunity acquired from previous infections. This could cause the symptoms for the second infection to be less intense (or the infection could be asymptomatic), which reduces the chances that a person will notice their COVID infection. This means that we may only be picking up the most severe reinfections in the data, and therefore any calculations of severity on the basis of reported cases and hospitalisations are likely to be distorted. We would not recommend using this to determine reinfection severity.

Some international studies that may be relevant are below:

“Comparison of the symptomatology between initial infection and reinfection episode for each individual showed that most individuals were asymptomatic during both episodes (n=486, 35.7%), while 265 (19.5%) individuals were symptomatic during both episodes. Reinfection disease severity was mild and differed across the cohort (X 2 test p=0.003) with vaccinated patients less likely to have symptomatic reinfection (OR 0.71, p=0.004). Only 89 (6.6%) reinfection cases required hospitalization and there were no deaths (Poisson exact, 97.5% CI 2.7 per 1000). Conclusion: Vaccine induced immunity and prior infection with or without vaccination were effective in reducing disease severity of reinfection episodes. [17] While it is recognised that previous infection may not prevent against re-infection with a new variant, the protection against hospitalisation appears to be maintained irrespective of the previous variant. [4]

Altarawneh, H.N., et al., Protection against the Omicron Variant from Previous SARS-CoV-2 Infection. New England Journal of Medicine, 2022.

AlMadhi, M., et al., Epidemiological Assessment of Sars-Cov-2 Reinfection. Research Square, 2022.”

<https://www.medrxiv.org/content/10.1101/2022.10.02.22280610v2>

Regarding your question on the spread of COVID-19 for vaccinated versus unvaccinated individuals, a pre-print study analysing surveillance data of 22,000 confirmed cases of COVID-19 from 35 California prisons, found that people who received at least one COVID-19 vaccination, were 24% less likely to infect close contacts compared to unvaccinated prisoners. Furthermore, they found a dose-dependent relationship in the reduction of transmission, with each vaccine dose a person received reducing the risk of transmitting to close contacts by a further 12% on average. People who had been previously infected by Omicron were 21% less likely to infect others compared to those who had not been previously infected and those that were both vaccinated and previously infected, had a 41% reduction in transmission of COVID-19 to close contacts. This suggests that although vaccinated and/or previously infected individuals remain infectious upon SARS-CoV-2 Omicron infection, their infectiousness is reduced compared to individuals without any history of vaccination or infection. Please refer to this article for further information: www.medrxiv.org/content/10.1101/2022.08.08.22278547v1.

In response to your third point, this information is known to the advisors at Manatū Hauora. The implications of these data are being monitored. Booster doses of COVID-19 vaccine have been shown to decrease the risk of severe disease and have undergone and continue to undergo stringent safety trials which have not identified concerns. Therefore, the benefits

of boosters continue to outweigh the risk of severe disease, especially in vulnerable populations.

For further information regarding immunisation, you may wish to submit a request under the Act to the National Immunisation Programme at Te Whatu Ora – Health New Zealand: hnzoia@health.govt.nz

Under section 28(3) of the Act, you have the right to ask the Ombudsman to review any decisions made under this request. The Ombudsman may be contacted by email at: info@ombudsman.parliament.nz or by calling 0800 802 602.

Nāku noa, nā

A handwritten signature in black ink that reads "L Karageorge". The signature is written in a cursive, flowing style.

Louise Karageorge
Group Manager, Intelligence, Surveillance and Knowledge
Public Health Agency | Te Pou Hauora Tūmatanui