

28 January 2021

[REDACTED]
By email: [REDACTED]
Ref: H202009196

Dear [REDACTED]

Response to your request for official information

Thank you for your request under the Official Information Act 1982 (the Act) on 11 December 2020 to the Ministry of Health (the Ministry) for:

- “1) Is it true that covid-19 is a disease caused by the sars-cov-2 virus? (that a disease and a virus, while related, are not the same thing)*
- 2) Is it true that the PCR test is a test for the genetic material of a virus (and as such, by itself, is not a rational test for the determination of a disease)?*
- 3) Is it true that you can contract a virus without developing a disease associated with the virus (such as you can have the sars-cov-2 virus without developing covid-19, or you can have the HIV virus without developing AIDS)?*
- 4) What data does the ministry of health have on the probability of someone who contracts the sars-cov-2 virus then developing the covid-19 disease?*
- 5) Has the ministry looked at data from the placebo portion of the covid-19 vaccine trials (such as the Pfizer trial) to assess the percentage chance of someone (who is not vaccinated) developing the covid-19 disease after being exposed to the sars-cov-2 virus? and*
- 5a) If the ministry has not looked at this data, why have they not? and*
- 5b) Will the ministry consider publicising this data so that our population can make an informed choice about vaccination in light of the real world probability of developing the covid-19 disease if they happen to be exposed to the sars-cov-2 virus? and*
- 5c) If the ministry will not consider informing the public of data about the probability of developing the disease when exposed to the virus, why not?”*

Information in response to each part of your request is outlined below.

- “1) Is it true that covid-19 is a disease caused by the sars-cov-2 virus? (that a disease and a virus, while related, are not the same thing)”*

SARS-CoV-2 is a pathogen or may also be referred to as an organism that can cause disease. Disease is an illness or sickness characterised by specific signs or symptoms. Infectious diseases are diseases caused by organisms, which may include bacteria, viruses, fungi, or parasites. COVID-19 is the name of the disease caused by the SARS-CoV-2 virus.

"2) Is it true that the PCR test is a test for the genetic material of a virus (and as such, by itself, is not a rational test for the determination of a disease)?"

All the reverse transcription polymerase chain reaction (RT-PCR) tests employed in New Zealand are specific for SARS-CoV-2. All laboratories who perform COVID-19 testing in New Zealand are International Accreditation New Zealand (IANZ) accredited which means they are required to perform local validation of the assays including specificity testing before employing it. PCR is highly specific by nature of its primer and probe designs which bind specifically to genomic areas which are unique to SARS-CoV-2. Gene targets used for primer and probe sets are optimised and validated for detecting SARS-CoV-2 by RT-PCR are primarily in the three main areas that have conserved regions in the SARS-CoV-2 genome, they are RdRp (RNA dependent RNA polymerase gene), N gene (nucleocapsid protein gene), E gene (envelope protein gene), ORF1ab region 1 and ORF1ab region 2 (open reading frames). These targets are highly specific for SARS-CoV-2 virus only. PCR alone will not detect disease, rather PCR in combination with observed signs and symptoms and patient history help to determine whether or not disease is present. For example, some patients will test positive to SARS-CoV-2 PCR months after recovering from COVID-19 infection and these are referred to as 'historic cases'.

"3) Is it true that you can contract a virus without developing a disease associated with the virus (such as you can have the sars-cov-2 virus without developing covid-19, or you can have the HIV virus without developing AIDS)?"

It is true that you can contract a virus without developing a disease associated with the virus and while the comparison to human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) seems sensible, it is not appropriate to apply this to COVID-19 for a number of reasons. Most significantly, HIV is a lifelong infection and humans are not yet known to develop their own antibodies to defend against it, whereas COVID-19 results in a usually short-lived infection as a result of those who survive it developing antibodies to fight against it. It is, however, correct to note that some may carry SARS-CoV-2 without showing overt symptoms of COVID-19, but again, these patients develop antibodies and become non-infectious after a short period, usually less than two weeks. Cases without symptoms of COVID-19 are referred to as asymptomatic.

"4) What data does the ministry of health have on the probability of someone who contracts the sars-cov-2 virus then developing the covid-19 disease?"

The probability of a patient having SARS-CoV-2 and being asymptomatic is not yet fully known as this is a relatively new virus. Epidemiological models typically look at approximately 30% patients being asymptomatic, but some studies have suggested that it could be higher or lower than this. For example, a systematic review suggests 17%, lower than previous literature. This review can be found at the following link:

<https://www1.racgp.org.au/newsgp/clinical/australian-study-determines-true-asymptomatic-covi>.

"5) Has the ministry looked at data from the placebo portion of the covid-19 vaccine trials (such as the Pfizer trial) to assess the percentage chance of someone (who is not vaccinated) developing the covid-19 disease after being exposed to the sars-cov-2 virus?"

The Ministry has not looked at this data.

"5a) If the ministry has not looked at this data, why have they not?"

There are sufficient other studies available more specifically exploring asymptomatic transmission, for example, the systematic review cited above. The trials are not designed for this type of analysis.

“5b) Will the ministry consider publicising this data so that our population can make an informed choice about vaccination in light of the real world probability of developing the covid-19 disease if they happen to be exposed to the sars-cov-2 virus?”

Asymptomatic transmission is a major cause of viral transmission and can lead to particularly high transmission to our vulnerable populations, leading to mortality among these populations and overwhelming our healthcare systems. The purpose of a vaccination campaign is not to protect the individual alone receiving the vaccine, rather it is to create an effect known as ‘herd immunity’ whereby a sufficient proportion of the population is vaccinated such that individuals cannot develop COVID-19 and the population as a whole becomes protected. There is ongoing research to understand how well the vaccines impact transmission of the virus as well as protection from developing the disease (COVID-19). There are, however, now a variety of studies published, which have been peer-reviewed, to demonstrate the short-term efficacy of the vaccine. The Ministry will be reporting more on this in coming months as part of the overall programme of vaccine implementation.

“5c) If the ministry will not consider informing the public of data about the probability of developing the disease when exposed to the virus, why not?”

Data regarding asymptomatic transmission is still not well known but best estimates are widely available in the published literature and on many information sites about COVID-19. While the Ministry has not re-shared any of these estimates, the Ministry does wholly accept that asymptomatic and presymptomatic transmission occurs and must be accounted for in any attempt to eliminate COVID-19. This is reflected throughout our elimination strategy, which can be found at the following link:

https://www.health.govt.nz/system/files/documents/pages/aotearoa-new_zealands_covid-19_elimination_strategy-_an_overview17may.pdf.

I trust this information fulfils your request. 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.

Please note that this response, with your personal details removed, may be published on the Ministry website at: www.health.govt.nz/about-ministry/information-releases/responses-official-information-act-requests.

Yours sincerely



Gill Hall
Group Manager, COVID-19 Science and Insights
COVID-19 Health System Response