

LETTER TO COLLEAGUES ABOUT MASKS

3 MARCH 2020

Dear Colleagues,

There is understandable concern about the availability of masks for healthcare workers and desire to wear these masks in situations not included in our current Infection Prevention and Control COVID-19 protocols. While we understand the concerns, we do not endorse this at this point in the outbreak. Below, we provide the rationale behind this position.

1. Do we have community transmission of COVID-19 in the greater Wellington region?

Despite performing over 4000 COVID-19 tests over the last few weeks from the greater Wellington region we still have no evidence of community transmission of COVID-19. Currently our lab performs over 400 tests daily and the overall positivity rate is <2%. For many weeks now, a large proportion of those tested have no known COVID-19 exposure which is a good way to pick up unexpected community transmission.

Despite this immense amount of testing only 1 case of possible community transmission was detected (in the Wairarapa) and that transmission event occurred more than 18 days ago with no evidence of any other transmission. Nationally only 1% of positive cases relate to community transmission. All other cases for which investigation has been completed have been linked to a known exposure (e.g. overseas travel, part of a cluster such as a wedding, or close contact with confirmed COVID-19 case).

Infection Services and Regional Public Health look at our testing data in detail every day. If there was any suggestion of community transmission then this would be communicated and used to reassess our processes and guidance, including any extra precautions health care staff need to undertake

As each day of lockdown passes it becomes less and less likely that there is undetected community transmission in our region, and even if there is it would likely be at very low numbers and contained.

2. What do people mean by 'asymptomatic transmission' and is it real?

The idea of asymptomatic transmission obviously creates a lot of anxiety as it suggests we could catch or spread COVID-19 from anyone at any time. The reality is very different and a little more complex. Whenever someone speaks about asymptomatic transmission it is essential to clarify exactly what they mean by this term as people use the term to mean different things. The 3 main ways the term is used are outlined here:

Minimally symptomatic or undocumented

Confusingly some studies classify patients with very mild symptoms as 'asymptomatic' and group them with patients who truly have no symptoms at all. Other studies focus on patients who did not seek healthcare and therefore never got assessed or tested (so called undocumented cases). One mathematical model based on many assumptions and using data from Wuhan estimated that these undocumented infections accounted for a large proportion of transmission in Wuhan. The model also found that these undocumented cases would be much less infectious than cases that were sick enough to come to the attention of the health system. Besides the many assumptions that were

made in this model, it should also be pointed out that patients in Wuhan were unlikely to be able to access healthcare easily given the increasingly overwhelmed health system.

Presymptomatic transmission

This term refers to patients who might be infectious for a brief time before their symptoms develop. Before symptoms develop patients might start having detectable virus in the respiratory tract. This is the reason why Public Health will find out who a confirmed COVID-19 case had contact with for up to 48 hours before symptoms developed. It is also hard for some people to pinpoint the exact time symptoms started and so this timeframe also provides a safety net for that.

Presymptomatic transmission would only account for a very small proportion of transmission of COVID-19. Presymptomatic patients likely have lower viral loads and are not coughing or sneezing or blowing their nose and therefore are far less likely to transmit, especially by direct droplet spread. If transmission does occur it is likely from contaminated hands. Therefore in the healthcare setting, transmission from presymptomatic patients is easily prevented by hand hygiene and cleaning of frequently touched surfaces.

Asymptomatic infection versus asymptomatic transmission

These two terms do not mean the same thing. Some media reports gives examples of people who had COVID-19 with possibly no symptoms and then imply they must have been infectious to others. It may be possible that some people get COVID-19 with no symptoms (although it may just be that they have very minimal symptoms). We will only know the true number of asymptomatic infections after serology tests are done on large numbers of people from COVID-19 affected areas. If true asymptomatic infection does occur then it is unknown if these people are ever infectious and even if they are infectious it is will be very low infectivity and easily prevented with hand hygiene. The most useful reason we would like to know if asymptomatic infection occurs would be to help estimate the number of people in COVID affected countries who might now be immune as this would be important for herd immunity.

3. Should all healthcare workers be wearing surgical masks at work?

Given that we have no evidence of community transmission, the risk of catching COVID-19 from an asymptomatic patient with no exposure history in New Zealand is close to zero and transmission would be prevented with good hand hygiene. It is hard to find any reason why universal masking would be of any benefit for us currently.

Implementing universal masking also has several very serious risks. Masks may provide a false sense of security or distract from interventions which are far more likely to keep healthcare workers safe. These interventions include hand hygiene, rigorous screening of all patients for symptoms and exposure risk, physical distancing when able, frequent cleaning, and rapid implementation of droplet precautions for patients who do have symptoms. Even in the setting of widespread community transmission many experts question the benefit of universal masking and point out that any small benefit is probably from preventing healthcare workers who contract COVID-19 in the community from spreading infection to patients and colleagues if they happened to have symptom onset while at work.

We are monitoring for community transmission in real-time, and if there is evidence for that then we will adapt our recommendations to include much wider use of masks for healthcare workers. Until we have that situation we are far better to concentrate on proven strategies and save our masks. We do have good stocks of surgical masks however to provide universal masking to all healthcare workers

would likely require many millions of masks *per week* so we should save them for when they might actually have some benefit.

As mentioned earlier, Infection Services and Regional Public Health review our testing data in great detail every day and would immediately communicate if there was any change in risk of COVID or change in IPC guidance.

4. Why do we need to be so careful with are stock of N95 masks?

For almost all clinical situations N95 masks do not give better protection against COVID-19 than a surgical mask. In fact, they may actually be less effective if they are not properly fitted or due to the fact they can be harder to safely remove. The *only* time when N95 masks are of benefit is with patients who have suspected or confirmed COVID-19 who are having an aerosolising generating procedures (e.g. during intubation). N95 masks are harder to make and therefore much harder to restock. Therefore we really must protect our N95 stocks and use them wisely so that they are available to keep our colleagues safe who are providing care during high risk, aerosol generating procedures in critically unwell patients.

This dashboard on the next page shows the activity for COVID-19 testing, inpatients and workforce across the 2DHB region on 2 April 2020.

The Infectious Diseases team is obviously taking taking the pandemic very seriously and the health of our workforce is always paramount. It would be easy to get distracted by news and opinions from areas heavily affected by COVID-19, however these are not always relevant to our current situation. We will endeavour to provide you with the best advice considering our local transmission data, the overall New Zealand situation and the most up to date evidence from here and overseas.

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Activity for COVID-19 testing, inpatients and workforce across the 2DHB region on 2 April 2020

