

What is life going to look like once we hit 70% vaccination?

September 7 2021, by Amalie Dyda



Credit: Pixabay/CC0 Public Domain

Many Australians are looking forward to the time when 70% of over-16s are fully vaccinated, and the freedoms this will bring.

This number is being touted by the government based on modeling from the now famous [Doherty Institute report](#).

But how "normal" is life really going to be once we hit this target?

There's a lot the modeling doesn't tell us specifically. But one thing is certain, while hitting 70% [vaccination coverage](#) may provide some additional freedoms, it will unfortunately not return life to "normal."

A lot depends on testing and contact tracing

As with any modeling, there are limitations. The modeling is based on the premise of a single national epidemic, which doesn't account for the many geographical and population differences across Australia.

This, and other assumptions, may not hold up in the current context of case numbers in Australia.

But let's, for a moment, ignore these flaws. Let's think about what life will look like if [restrictions](#) are lifted based on the recommendations set forth in the report.

Victoria has passed 60% on first doses for the 16+ population

16+ first dose coverage growth today (percentage points):

ACT: +0.55%

NSW: +0.92%

NT: +0.24%

QLD: +0.38%

SA: +0.39%

TAS: +0.49%

VIC: +0.57%

WA: +0.45% pic.twitter.com/XfZPLVEnDD

— casey briggs (@CaseyBriggs) [September 5, 2021](#)

We're being told lockdowns won't be needed often, and they won't need to go for long. But it's hard to say specifically what they will look like, as much of this is dependent on the public health workforce's ability to test, trace, isolate and quarantine.

This is a [measure of the public health response](#) which involves testing to identify people with COVID-19, isolating those infected to limit the spread, and effective and timely contact tracing and quarantining of people in contact with those testing positive.

This test, trace, isolate and quarantine factor underpins a lot of the modeling, and outcomes vary depending on how effective this strategy is.

For example, assuming our system of test, trace, isolate and quarantine is "optimally effective," then low level restrictions are likely to be effective the majority of the time.

However, if case numbers increase and test, trace, isolate and quarantine becomes only partially effective due to pressure on the public health workforce, medium to strict social restrictions will be required the majority of the time. This is despite more than 70% of over-16s being fully vaccinated.

What's most likely is fluctuations, with lower levels of restrictions generally and tighter restrictions imposed as case numbers rise, in order to maintain the effectiveness of test, trace, isolate and quarantine. The level of lockdown required would also likely vary over time depending on localized outbreaks and the spread of infections in specific areas.

Our best chance of reducing the need for severe or moderate lockdowns is having an effective test, trace, isolate and quarantine system.

What kind of restrictions would we still need?

The specific public health measures required both in and out of lockdown are less clear. The report doesn't tell us how many cases would necessitate a lockdown and how long it would need to go for.

It also doesn't specify who will need to isolate and under what circumstances, or if masks will be required.

What the report does tell us is that while restrictions will ease, some measures will need to remain in place.

The 80% assumes fully effective TTIQ—that means a contact tracing and quarantine system / hospital system that is not already overwhelmed. It also means ongoing restrictions and interventions like masks and gathering limits. It's not a 'get on the beers' number. <https://t.co/BJLrZmYsbr>

— Jason Thompson (@DrJ_Thompson) [August 19, 2021](#)

Low-level restrictions will likely include masks, although this isn't explicitly stated. This level of restriction may allow socially distanced recreational activities with capacity limits in place and visitors allowed at home.

Medium restrictions may include things like stay-at-home orders with exceptions for work, study and essential purposes, or encouraging working from home, with capacity limits for workplaces. These measures may also include up to five visitors to a home.

High-level restrictions would involve lockdowns requiring individuals to stay at home except for essential purposes with no visitors allowed, as those in Victoria and New South Wales are now used to.

As freedoms increase, what level of cases will we accept?

No matter what the restrictions look like, with more freedoms we'll need to accept a baseline level of infections circulating in the community.

How many cases we can expect will differ depending on a few key factors, according to the report. If we assume only partially effective test, trace, isolate and quarantine, the report suggests at the end of six months we can expect 385,983 symptomatic infections, 2,733 ICU admissions and 1,457 deaths.

In a simple breakdown, this may translate into 2,144 symptomatic infections per day and approximately eight deaths per day. Although, it's more likely to start with smaller numbers with increases and fluctuations over time.

It's hard to know whether numbers like these will overwhelm hospitals. We don't know for sure because they have surge capacity to care for larger numbers of patients at short notice. But it would certainly place a lot of pressure on them.

The report also breaks down expected case numbers, hospitalisations and deaths by vaccination status. Unsurprisingly, all three will affect the unvaccinated population more.

The Doherty report projects this will also differ by age group. The highest case numbers are expected in unvaccinated children under 16 year olds, and the highest number of deaths in those aged over 60 years who aren't vaccinated. The risk of easing restrictions isn't equally distributed in the population, with some of those most vulnerable at the highest risk.

Again, these scenarios are all based on the effectiveness of test, trace, isolate and quarantine, which varies depending on case numbers and across jurisdictions. If this capacity is overwhelmed, then case numbers, hospitalisations and restrictions required would likely look very different.

However, as vaccination rates increase, the population at risk declines. This means the likelihood of this capacity being overwhelmed decreases. So, easing restrictions at 70% may be feasible, but it's important we remain vigilant and listen to ongoing public health advice.

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