

Delta a new challenge for herd immunity

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Credit: Justin Kilian from Pixabay

New modelling from James Cook University scientists shows Australia needs to vaccinate at least 85 percent of the population to achieve herd immunity.

Emma McBryde, Professor of Infectious Diseases Epidemiology and

Modelling at JCU's Australian Institute of Tropical Health and Medicine (AITHM) says the modelling has implications for the Federal Government's four-step plan to transition from suppression of COVID to a strategy of reopening and a return to normal life.

"The first hurdle is to vaccinate to achieve [herd](#) immunity, however herd immunity has become more difficult to achieve with the Delta variant, as it is both more infectious and less amenable to vaccination," said Professor McBryde.

She said the AITHM team are working with countries around our region to investigate herd immunity thresholds and optimise [vaccine distribution](#) around the world for the original Wuhan strain and have now repeated the exercise for the Delta variant.

"We show that assuming a reproduction number (the number of people infected by someone carrying the virus) for the Delta variant of 4, we would need to vaccinate 85% of the Australian population using the current strategy," said Professor McBryde.

She said if vaccine coverage was targeted to the most infectious ages Australia could achieve herd immunity by vaccinating 75% of the population. However this may not be realistic, because it would require nearly 100% uptake in the 20 to 60 year age groups.

"We have also shown that even without herd immunity, vaccinated people are protected against severe disease and much less likely to be hospitalised or die," said Professor McBryde.

She said the AITHM team concluded the Delta variant makes achieving herd immunity extremely challenging.

"But it's important to remember that both vaccinated people and

unvaccinated people will still have a reduced risk of infection and disease as Australia gets closer to [herd immunity](#)."

Provided by James Cook University

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