Doherty Institute

THE UNIVERSITY OF MELBOURNE

The Royal Melbourne Hospital

A joint venture between The University of Melbourne and The Royal Melbourne Hospital

Australia-Brazil Virtual Research Collaboration 2021 Edition on COVID-19 related research

Health system responses and public policies

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Overview of research

Public Health physician, epidemiologist, modeler

Policy relevant research in UK, Australia, Asia-Pacific region

- **Vaccine preventable diseases**
- **Emerging infectious diseases**
- **Neglected tropical diseases**

Leadership of national modelling networks supporting H1N1 and COVID-19 response

- **Health, PM&C, Treasury, DFAT**
- **National advisory committees**

The Doherty Institute modelling indicates that vaccinating around 70% of the population aged 16+ may allow Australia to transition to Phase B of Australia's National COVID-19 Response

Vaccination coverage is a continuum, with every increase reducing transmission and negative health outcomes.

Younger adults are peak transmitters of COVID-19, while older adults experience the most severe health impacts.

As supply allows, extending eligibility to all adults (16+) offers the greatest potential to slow down transmission.

Once around 70% of the population aged 16 and over is vaccinated, Australia may be able to move to Phase B of the National Plan without exceeding health system capacity, so long as this is **combined with effective test, trace, isolate and quarantine** and **low-levels of ongoing restrictions and public health measures**, including:

Maintaining effective track and trace, isolation and quarantine

Social distancing and capacity limits in commercial settings and workplaces

2sqm social distancing (or density restrictions)

Record keeping and COVID-safe plans

In Phase B, **lockdowns are unlikely** with low levels of ongoing restrictions.

Overview

On 6 August 2021, the National Cabinet commissioned the Doherty Institute to undertake a second tranche of COVID-19 modelling to further inform decisions on the staged reopening of Australian jurisdictions.

The second tranche comprised three work packages:

Public health response

High risk settings
Indigenous Communities
Local Government Areas
Schools

International arrivals and quarantine

Doherty's latest modelling incorporates updated parameters and recent evidence, and again confirms the previous recommendations regarding the 70% and 80% thresholds for moving to Phases B and C of the National Plan to transition Australia's National COVID-19 Response remain robust.

Benefits of collaboration

Rapid information sharing through formal and informal WHO networks

Methods and approaches readily available through preprints, code repositories

Focused discussions with modelers engaged in supporting policy decision making

Learning from experience of countries with established epidemics and systems

- **Virus characteristics**
- **Natural immunity**
- **Vaccine effectiveness**
- **Subpopulation impacts**
- **Public health and social response strategies**

Contributions to regional and global response and vaccine strategy (WHO)

medRxiv
THE PREPRINT SERVER FOR HEALTH SCIENCES
CSH Cold Spring Harbor Laboratory BMJ Yale

Comment on this paper

Inferred resolution through herd immmunity of first COVID-19 wave in Manaus, Brazilian Amazon

Thomas A. A. Prowse, T. Purcell, Djane C. Baía-da-Silva, V. Sampaio, Wuelton M. Monteiro, James Wood, I. Mueller, Jodie McVernon, Marcus V. G. Lacerda, Joshua V. Ross

doi: https://doi.org/10.1101/2020.09.25.20201939

Models based on public data underestimated the first wave substantially (<10% AR)

Estimates based on death certificate, hospitalization data were ~65% AR or higher

Local knowledge and context essential for accurate interpretation

Confirmed by seroprevalence studies