

# Seminar

## Supporting the Australian COVID-19 response with mathematical and statistical models

### David Price

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A key element of epidemic decision-making is situational awareness — that is, knowing the current and potential future status of the epidemic. Outputs from mathematical and statistical models have provided enhanced situational awareness to governments throughout the course of the COVID-19 pandemic. Key analyses include estimation of the effective reproduction number ( $R_{eff}$ ) and forecasting of epidemic activity. Accurate and timely estimation of  $R_{eff}$  enables the tracking and planning of progress towards the control of outbreaks. Short-term forecasts of daily case incidence and hospital bed occupancy provide information on future health system requirements, which supports both clinical and public health planning.

In this talk, I will describe Australia's situational awareness modelling program for COVID-19. I will provide an overview of the modelling outputs reported to key government decision-making committees on a weekly basis (at least) since April 2020, and how this work provided a foundation for the national reopening modelling conducted through August–November 2021.

**Dr David Price** is a Senior Research Fellow at the Doherty Institute for Infection & Immunity, and the Centre for Epidemiology & Biostatistics, Melbourne School of Population & Global Health at the University of Melbourne. He received his PhD in Statistics from the University of Adelaide in 2015, followed by a post-doctoral appointment in the Disease Dynamics Unit at the Department of Veterinary Medicine, University of Cambridge. David splits his time between methodological research, infectious diseases modelling, and leading a team of biostatisticians to provide collaborative statistical expertise to a broad range of infectious diseases research at the Doherty Institute. Since March 2020, he has been part of a team providing model-based evidence for response planning, quarantine risk assessment, and situational assessment of the COVID-19 pandemic in Australia.

**Thursday 25th November**  
**9:30-10:30am AEDT**

This event will be streamed via Zoom.

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