

University of Sydney Infectious Diseases Institute (Sydney ID) response to Call for submissions and evidence to the COVID-19 Response Inquiry

Sydney ID (<https://www.sydney.edu.au/infectious-diseases-institute/>), conducts research that improves understanding of the complex interactions that fuel the emergence and spread of infectious diseases, especially in the Indo-Pacific region. We aspire to mitigate the health and socioeconomic impacts of these infections, by providing novel insight and practical solutions. We support basic, translational and implementation research and encourage a comprehensive, multidisciplinary approach to infection, immunity, and biosecurity - linking pathogens, humans, and animal hosts, engineered systems and the natural environment in a One World, One Health framework.

In 2021, Sydney ID brought together groups of discipline experts to articulate key lessons learned during the COVID-19 pandemic response and to encourage constructive national discussion in Australia and regionally. This led to a publication ([Key lessons from the COVID-19 public health response in Australia.](#)) and a report by the Open Society and Sydney Policy Lab (The Great Australian renovation; attached) both in the public domain.

Key lessons identified were:

- 1) Border closures and lockdowns worked as a crisis measure, but we need a better understanding of when and how these measures should be deployed to maximise their protective effect and minimise adverse impacts.
- 2) Disease modelling was valuable to assist decision-making and public understanding of risk, but its limitations should be adequately communicated, and transparency is key.
- 3) At a national level, comprehensive data were not readily available to guide decision making, which requires careful assessment of optimal disease surveillance and response structures.
- 4) The pandemic demonstrated the utility of advanced pathogen genomics and novel vaccine technology, raising the bar for future disease surveillance and response.
- 5) Timely, clear, and open communication, combined with decision making that is evidence-informed and as consultative as possible, is essential to maintain population cooperation and trust.
- 6) Existing preparedness plans were insufficient and major system weaknesses were exposed in the Australian residential aged-care sector.
- 7) Effective Infection Prevention and Control (IPC) measures were important to keep health-care workers safe and to limit population transmission.
- 8) The interests of children and young people were at times compromised and it is important to ensure adequate representation of their best interests in decision making processes.
- 9) Epidemic risk should be recognised as a standing threat with ongoing investment in workforce development and research.
- 10) Nationalistic pandemic responses demonstrated the need for stronger global solidarity and regional engagement.

Australia was lucky to avoid the worst effects of the COVID-19 pandemic, but as a society we experienced many negative impacts. This submission focuses on key lessons 1 and 4-10 from our Lancet paper. Points 2 and 3 were covered in our submission to the Australian CDC consultation.

Border closures and lockdowns worked as a crisis measure, but we need a better understanding of when and how these measures should be deployed to maximise their protective effect and minimise adverse impacts.

As an island nation Australia delayed SARS-CoV-2 importation by closing its international borders, which bought time to develop and deploy effective protective measures, primarily vaccines. However, once the SARS-CoV-2 virus was globally established, and given incomplete vaccine protection against virus transmission, it became clear that the pursuit of a zero COVID policy was unattainable and that despite its benefits, strict border closures and lockdowns generated a multitude of adverse health, social and

economic impacts. These were not always adequately considered at the time. Within Australia, the closure of internal State borders was a natural extension of the national zero COVID approach, but created economic disruption and public confusion, as well as emotional hardship for those unable to travel to be with loved ones in times of distress, to return home or in the case of populous border regions, for workers and workplaces to provide essential services when their employment was located across the state border. Given that the legal responsibility for health protection resides at State/Territory level in Australia, some variation in practice depending on the local risk calculus was inevitable, however, the appropriateness of such variations must be judged against their adverse impacts.

The pandemic demonstrated the utility of advanced pathogen genomics and novel vaccine technology, raising the bar for future disease surveillance and response.

Advanced pathogen genomics provided key insights into the origin, evolution and spread of the pandemic. Its recognised value in outbreak identification, transmission tracking and better targeted public health control measures requires infrastructure investment and urgent workforce upskilling for us to benefit from these new developments. Effective implementation of COVID-19 vaccine programmes was the most important and most effective public health intervention. The pandemic identified the use of new vaccine technology and partnerships with industry to ensure local production capacity, as crucial health security investments.

Timely, clear and open communication, combined with decision making that is evidence-informed and as consultative as possible, is essential to maintain population trust.

Communication with specific at-risk populations was often lacking in the early phases of community lockdowns and vaccine rollout. It took time to organise appropriate messages and communication channels to reach culturally and linguistically diverse communities, First Nations people, those living with a disability and other groups at risk of severe disease. Some response measures were deemed to be inequitable, leading to mistrust in government. Building and preserving public trust requires decision-making that is evidence-informed, transparent, and consultative in process. It requires community partnership, consideration of the social determinants of health, health systems that are functional and accessible, and communication that is culturally appropriate and inclusive. Communication should be multidirectional and involve systematic avenues for listening to communities and stakeholders in different sectors, along with informing them. To support behaviour change, messaging should inform and educate in a way that considers health literacy, makes information easy to access, and engages trusted spokespeople.

Existing preparedness plans were insufficient and major system weaknesses were exposed in an under-resourced Australian residential aged-care sector.

State and Territory pandemic preparedness plans were mostly modelled on influenza (H5N1 and then H1N1), but regular revision and simulation of these plans dropped off in the years leading up to the COVID-19 pandemic. Intra-pandemic, critical workforce and supply chain interruptions emphasised the importance of whole of government planning and national self-sufficiency during a global crisis. Major age-specific variability in disease virulence complicated response efforts. Children and young people experienced a relatively low risk of severe disease, with a dramatic increase in the disease risk and burden among older individuals. As highlighted by the recent Royal Commission into Aged Care Quality and Safety, the pandemic exposed major system weaknesses in the Australian residential aged-care sector. Delays in vaccination, poor infection control practices, inadequate planning for staffing disruptions and failure to meet the social and emotional needs of residents and families during times of loneliness and end of life care were particularly distressing.

The interests of children and young people were at times compromised and it is important to ensure adequate representation of their best interests in decision making.

Fortunately, young people experienced a low incidence of severe disease. Unfortunately, messages from paediatric health care professionals to reduce unwarranted fear and emotional distress in children and their parents/carers were at times actively suppressed. Decision makers did not adequately consider the

detrimental impacts of school or playground closures on their education, emotional and physical development, and mental health, as well as the unequal effect of these measures on children from disadvantaged backgrounds. Going forward, an Australian national mitigation and recovery plan is needed to ensure that in future outbreaks, equal education access is prioritised and that the damage done to physical and mental health is addressed. Schools should be classified as providing an essential service, with school staff vaccinated as a priority group and remote learning only considered as a last resort.

Epidemic risk should be recognised as a standing threat, with ongoing investment in workforce development and research.

Typically, pandemic research receives a funding boost after a major disease outbreak, but interest dwindles quickly once the epidemic recedes. General priority areas for pandemic research include improved understanding of pathogen evolution and spread, as well as disease surveillance, prevention, pandemic preparedness and response, health system resilience, human behaviour and effective risk communication. The One Health dimension of infections that emerge at the human-animal interface, including the effects of climate change, reduced ecosystem services and biodiversity collapse, are complex problems that require integrated cross-disciplinary approaches.

The pandemic demonstrated the need for stronger global solidarity and regional engagement.

COVID-19 put global inequities into stark relief and high-income countries (including Australia) did not always demonstrate strong global solidarity. The fact that Australia's decision to caution against AstraZeneca vaccine use affected vaccine confidence in the region should be carefully considered in Australia's public health communication response and emphasises the need to assist countries with evidence-informed decision making that is appropriate for their specific context. At a time when society faces major existential threats, it is more important than ever for all countries to embrace regional and global solidarity. It is also the only way to effectively manage an evolving global health threat and to prevent and prepare for similar future challenges.

The Open Society/Sydney Policy Lab report made 12 recommendations with a strong focus on young people, who experienced the greatest setback from the COVID-19 pandemic, despite being at minimal risk for severe disease. It recommended strengthening the integrity and accountability of our public institutions to rebuild trust in government. Priorities included the establishment of a national office for multicultural affairs and re-establishment of multiculturalism as a priority, together with a national anti-racism strategy to ensure equality, respect, and cooperation between all Australians. Programs to strengthen both communications by our public health officials and the scientific community, and the 'scientific literacy' of the Australian people, should allow people to better understand how diseases spread and how scientists generate and use evidence to inform judgements. They should also provide the knowledge needed to filter out disinformation and identify trusted sources. Critically, there must be strong bilateral engagement with respective communities to better understand their priorities and concerns and together develop tailored, culturally appropriate programs that take into account variations in health literacy.