



About APPRISE:

APPRISE is a national multi-disciplinary network which aims to provide the interface between Australia's research expertise in infectious diseases and the national and jurisdictional governments charged with ensuring effective responses to emerging health threats. APPRISE was established in 2016 with funding by the NHMRC to establish a Centre for Research Excellence. In 2023-2025, APPRISE is funded by the Commonwealth Department of Health and Aged Care with a work program focused on four areas: (1) Privileging First Nations Voices, (2) Long COVID, (3) antiviral utilisation, and (4) APPRISE network & platform support.

The APPRISE network core operating principles include equity, distributed leadership, multi-jurisdictional participation, and close engagement with both state and federal public health agencies.

1. Enhance the role of community engagement and social science in responses.

Relevant Terms of Reference: Governance, Key health response measures, targeting future responses to needs of key populations.

The issue: Pandemic risk is not uniform across the Australian population, differing by geography, service access, language, income level and other factors. Research to support public health responses is therefore most effective when community informed and where governance is shared and co-led with affected communities. Public health responses, research and communication can then be tailored to address these differences. COVID-19 response measures were often implemented without sufficient community involvement, leading to inequitable impacts and gaps in access to support and protective measures. Qualitative measures to understand the impact of the pandemic and implemented response measures are also critical, including for understanding and promoting both pharmaceutical (e.g. vaccines, antivirals) and non-pharmaceutical interventions (e.g. masks, physical distancing) and for determining effective infection prevention and control measures. Community engagement and involvement is also critical to counter the surge of dis- and misinformation occurring in the pandemic context, building trusted relationships for the development and distribution of useful and appropriate public health information.

Proposed solutions:

- To ensure equity in outcomes, strategic co-ordination of research to support public health responses
 must have leadership and continuous involvement from diverse communities. This includes First Nations
 researchers and communities, people living with disability, people of diverse genders and ages, and
 people from geographically, culturally and linguistically diverse communities, as well as researchers and
 decision-makers who may also be drawn from these populations.
- During COVID, a donation from the Paul Ramsay Foundation was granted to APPRISE for First Nations COVID-19 research. A First Nations-led governance arrangement was established to administer the donation, resulting in funding for ten diverse projects led by First Nations researchers. These projects addressed community needs, leading (amongst other things) to insights into appropriate services, resources and protective factors that informed responses to COVID-19 and planning for future pandemics and infectious disease challenges (see https://www.apprise.org.au/project/first-nations-led-projects-funded-for-covid-19-research/ for details). This governance model could be adopted and extended for future pandemic research.
- Planning and funding for pandemic research should support and enable community engagement and
 explicitly foster capabilities in social and behavioural science, and in scientific and public health
 communication.

2. Implement a research strategy with adaptable and co-ordinated funding mechanisms.

Relevant Terms of Reference: Governance, targeting future responses to needs of key populations.

The issue: The pipeline of basic research (including new vaccine technologies, treatments, pathogen genomics and host responses); translational and implementation research (including diagnostics development and evaluation), clinical, and social research, drives best practice in both public health and clinical care. Research is traditionally funded through multiple avenues including Commonwealth and

jurisdictional government instrumentalities (e.g. NHMRC, ARC, MRFF), industry, and philanthropy. This diversity of sources was problematic throughout the COVID-19 response as there was little strategic coordination of research funding and therefore of the research undertaken at both a national and local level, and particularly of research required to inform public health responses.

Rapid research initiatives (including those led by State governments) were a welcome addition to the traditional research funding pool for COVID-19, but resulted in some duplication and, for clinical trials, failed to generate studies of sufficient size (and representation) to draw meaningful conclusions.

Proposed solutions:

- We recommend developing and implementing a national health and medical research strategy to underpin research processes for pandemic response. The strategy should explicitly identify approaches to be used in the event of an emerging infection, including alignment with international efforts such as the WHO Global Research Roadmap developed for COVID-19
 (https://www.who.int/publications/m/item/a-coordinated-global-research-roadmap). This should include a process to implement strategic funding for large-scale national projects in the event of an emerging infection, in key domains including clinical trials and behavioural and social science studies. The funding model for large scale studies in the UK is a good example, where proposed studies were designated with Urgent Public Health status (e.g. RECOVERY, PANORAMIC, OCTAVE), enabling large-scale national recruitment and impact.
- Equity should be prioritised as a key principle for identifying and funding research priorities in public
 health emergencies such as pandemics. Focusing on populations who may experience systemic
 discrimination, have more barriers to accessing healthcare and who are more likely to experience
 poorer health outcomes will contribute to a more level playing field and produce evidence and
 solutions leading to more effective responses overall.
- Engagement and research with key population groups who may have different disease risks including First Nations people is especially important to support implementation of response measures (see point 1 above).
- Early national priority setting with an ongoing engagement forum for researchers, lead public health officials, key affected communities, and research funders, including philanthropists, should be considered to facilitate these large national studies. Such studies should complement and, where possible, harmonise with international efforts. Jurisdiction-based funding may more usefully be allocated to address locally relevant needs.
- Industry engagement is key to the development of diagnostics, therapeutics and vaccines. Incentives and opportunities for industry-academic collaboration is needed in both interpandemic and pandemic periods. Rapid mobilisation of key industry partnerships, including funding, is greatly strengthened when the partnership is established in 'peacetime'.

3. Recognise the crucial partnership between research and public health response.

Relevant Terms of Reference: Governance, targeting future responses to needs of key populations.

The issue: During a pandemic response, there is considerable overlap between the processes of disease surveillance, evaluation of public health responses (see point 4) and research. The establishment of an Australian Centre for Disease Control (ACDC) is likely to be a pivotal development for public health in Australia, but its framing explicitly excludes research and research funding. In the setup and consideration of the goals and functions of the ACDC there needs to be explicit consideration of the changing interface between public health response and research. This will ensure that research can inform responses, and responses are appropriate for the community and context. Sharing of data between jurisdictions and more broadly with academics is a major barrier to understanding disease patterns and generating solutions. Many decisions were made in the pandemic that relied on the interpretation of complex data sets that would have benefited from engagement and collaboration with the research community.

Proposed solutions:

- The ACDC should establish clear mechanisms for engagement with the research community. These mechanisms should specifically address the context of pandemic response which may differ from 'peacetime' engagement. The agreements should navigate the issues of data sharing in the time of an emergency.
- ACDC structures should incorporate a First Nations team to embed First Nations-focussed governance and ensure equity in both 'peacetime' and pandemic activities and responses.
- Defined relationships between the ACDC and the research community will also assist with surge workforce activation in the event of an infectious disease emergency.

4. Build real-time evaluation into responses.

Relevant Terms of Reference: Key health response measures.

The issue: During COVID, many novel public health response measures implemented rapidly, yet did not have strong accompanying mechanisms for planned evaluation to support optimisation and planning for future outbreaks and pandemics This meant that many of these measures could never be evaluated because the relevant data were not collected at the time.

Proposed solutions:

• The funding and implementation of public health response measures should include mechanisms for evaluation of impact in as close to real time as possible. This will require the identification of data and indicators that should be measured and tracked over time and would enable evidence from local response measures to be included in evidence synthesis (see point 5 below). This would ideally be done systematically at a national level (e.g. through the ACDC) and include engagement with key populations and communities as emphasised in point 1 above.

5. Establish clear, inclusive and transparent processes for evidence evaluation.

Relevant Terms of Reference: Governance, Key health response measures, targeting future responses to needs of key populations.

The issue:

Transparency and independence in the processes for evidence evaluation, synthesis and dissemination are important to build and maintain trust with both the scientific and broader community. Recognising that legislative, administrative, financial, and political factors also play a role in government decision-making, it is important to maintain a clear separation between scientific evidence generation and the subsequent use of evidence by government.

Australia established several high-level mechanisms to compile and synthesise the barrage of rapidly evolving evidence during the COVID-19 pandemic. These included the Rapid Research Information Forum led by the Australian Academies of Science and Health and Medical Science and the National COVID-19 Health and Research Advisory Committee (NCHRAC) to advise Australia's Chief Medical Officer. Both committees provided evidence synthesis and briefing to government at high levels, but there were sensitivities about making even the existence of these reports known to other government sectors, let alone the public. State and territory governments also commissioned their own confidential evidence syntheses, with little or no reference to that undertaken at a national level. Further ad-hoc evidence syntheses were offered by academic experts in their own capacity, sometimes through peer-reviewed mechanisms and sometimes direct to the media. On a positive note, the National COVID-19 Clinical Evidence Taskforce was rapidly established and funded by the NHMRC and philanthropy and provided essential and cohesive, highly valued and publicly available guidance to clinicians using real-time evidence review.

Proposed solutions:

• Co-ordinated, transparent, and independent processes for evidence review should be implemented in key areas of need. Publicly available information should include the topics being reviewed, the timelines for review and any reports resulting from the review. This would minimise duplication of effort and promote the principles of transparency and independence. Resourcing for these processes may be included as a key function of the ACDC, in consultation with relevant experts.