

Ms. Robyn Kruk AO
Chair, Independent Panel
Commonwealth Government COVID-19 Response Inquiry
Department of Prime Minister and Cabinet

Dear Ms Kruk,

Submission to the Independent Panel Commonwealth Government COVID-19 Response Inquiry

Thank you for the opportunity to provide a submission to the Independent Panel conducting the Commonwealth Government COVID-19 Response Inquiry¹. As the CEO, Guidelines and Economists Network International (GENI) I will address two key areas of the Inquiry's terms of reference concerning governance and mechanisms to better target future responses to the needs of particular populations.

Background

GENI is an international association that enables health economists, epidemiologists, clinicians, medical and health policy experts world-wide to work with prominent international bodies, health services, governments, and Parliaments. GENI's agenda is to facilitate the effective integration of Clinical Practice Guidelines, economic and clinical evidence into national decision making and clinical practice in the health sector. GENI aims to forge linkages with bodies that set the standards for appropriate treatment under different conditions that may link to contracts or regulatory processes such as insurers and national government funding systems. The association aims to achieve both clinical and cost effectiveness in health care delivery and equity in related national funding and regulation.^{2 3} My submission embraces a whole-of government view to effectively address the wide-ranging impacts of COVID-19 across portfolios and the community.

I will address your Inquiry's terms of reference concerning governance and mechanisms to better target future responses to the needs of particular populations. Issue 1 below addresses improved governance through providing and discussing my submission to the Senate Select Committee on COVID-19⁴ which examined the Australian Government's health and economic response to the pandemic. Issue 2 updates issues in that submission by discussing crucial economic evaluation techniques to better target responses to the needs of particular populations during future pandemics. This will facilitate the Commonwealth's governance and use of a whole-of government view to effectively evaluate the wide-ranging impacts of COVID-19 across portfolios and the community. My views have been published in the 2023 edition of the 'Journal of Public Health' (Antioch, 2023).⁵ This is a peer reviewed international journal.

Issues

Issue 1: *Governance including the role of the Commonwealth Government, responsibilities of state and territory governments, national governance mechanisms (such as National Cabinet, the National Coordination Mechanism, and the Australian Health Protection Principal Committee) and advisory bodies supporting responses to COVID-19.*

In addressing this issue, I hereby provide and discuss my submission to the Senate Select Committee on COVID-19 which examined the Australian Government's health and economic response to the pandemic (Antioch, 2020⁶). (see Attachment 1, which was published by Parliament). The recommendations in my Senate submission are outlined below. These were developed following my review of international governance approaches to addressing the pandemic by governments in Australia, UK, Germany, Denmark, Japan, Taiwan, South Korea, Canada, USA, and NZ⁷. Further information concerning the international review and rationale for my recommendations is in the attached submission. This is pertinent to your Inquiry⁸.

My senate submission recommends the establishment of an *Australian Pandemic and Health Protection Agency (APHPA)* to advise the Australian Government on actions to anticipate and mitigate the social, health and economic effects of global pandemics and disease emergencies. This includes a virtual *Australian Centre of Disease Control (ACDC)* in its operations

¹ <https://www.pmc.gov.au/covid-19-response-inquiry/consultation>

² Antioch KM Drummond M and Niessen L et al (2017) 'International Lessons in New Methods for Grading and Integrating Cost Effectiveness Evidence into Clinical Practice Guidelines' Cost Effectiveness and Resource Allocation Journal. 15:1 pages 1-15
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5303215/pdf/12962_2017_Article_63.pdf

³ <https://geni-econ.org/>

⁴ Antioch, KM (2020) 'Submission to the Senate Select Committee on COVID-19 Inquiry into the' Australian Government's Response to the COVID-19 Pandemic' Submission number 511. <https://www.aph.gov.au/DocumentStore.ashx?id=a62cb654-ee16-4638-b82d-5ec49ce86738&subId=698467>

⁵ Antioch, K.M. The economics of the COVID-19 pandemic: economic evaluation of government mitigation and suppression policies, health system innovations, and models of care. *J Public Health (Berl.)* (2023). <https://doi.org/10.1007/s10389-023-01919-z>

⁶ <https://www.aph.gov.au/DocumentStore.ashx?id=a62cb654-ee16-4638-b82d-5ec49ce86738&subId=698467>

⁷ *ibid*

⁸ My recent research identified similar equivalent organisations in Europe (European Centre for Disease Prevention), France (French Public Health Agency), Switzerland (Federal Office of Public Health), which further reinforce the desirability of establishing an APHPA with links to the ACDC.

with multiple hubs across all Australian states and territories – regional and metro, covering all aspects of infectious disease control from genetics to public policy and legislation.

The APHPA would assist the Government to ensure all resources are marshalled in a cost-effective and co-ordinated manner. It would also facilitate the mobilization of a whole-of-society and whole-of-economy effort to enable success in health crises.

My recommendation to establish an ACDC was subsequently recommended by the Senate Select Committee on COVID-19 and is being implemented by the Commonwealth Government. My additional recommendations to that Senate Select Committee concerning, inter alia, the APHPA warrant further consideration by your Inquiry and are outlined below.

“Recommendation 1: To consolidate and maintain Australia’s successful economic and health response to the pandemic it is recommended that the Federal Government:

Establish an Australian Pandemic and Health Protection Agency (APHPA) in Canberra as a non-corporate Commonwealth Entity under Acts and Regulations. The Statutory Agency should be established under an Act of Parliament in the Portfolio of the Department of Prime Minister and Cabinet during 2021 as a high priority to:

- advise the Australian Government on actions to anticipate and mitigate the social, health and economic effects of global pandemics and disease emergencies.
- work in tandem with the Chief Medical Officer (CMO) and Department of Health, who will lead the Commonwealth’s health response in pandemics and public health emergencies.
- include a *virtual Australian Centre of Disease Control (ACDC)* in its operations with multiple hubs across all Australian states and territories – regional and metro, covering all aspects of infectious disease control from genetics to public policy and legislation. This could facilitate research collaborations between universities and businesses, with the aim of driving innovation and supporting pandemics. The *virtual Australian CDC* would, from 2025, forge strong links with the proposed new Australian Institute of Infectious Diseases (AIID) in Melbourne which will be the largest infectious diseases centre in the Indo-Pacific region. This Institute aims to accelerate research into the prevention of future pandemics and rapidly develop treatments and will involve the Burnet Institute and be located next to the Doherty Institute. It will involve experts from the Walter and Eliza Hall Institute for Medical Research, the Murdoch Children’s Research Institute, the University of Melbourne, and Melbourne-headquartered global biotechnology company CSL.⁹ The ACDC would collaborate with the new large vaccine factory at the Melbourne airport expected to be operational by 2026^{10 11} The Virtual ACDC would be multi-disciplinary as outlined in Recommendation 3 below.
- facilitate cooperation across public-to-private and private-to-private networks to unlock resources, remove bottlenecks and rectify problems to support Australian families, communities, and businesses.
- facilitate cost effective national co-ordination mechanisms for non-health and health aspects of the pandemic and in collaboration with the bodies and processes in recommendation 2 below.
- ensure a governing board that can advise on both health and non-health aspects of the pandemic response including leaders across NFP, governments and private sectors. The Board should comprise strong expertise in commerce, health, medicine, finance, pandemics, law, governance, public policy, research, and economics.

Recommendation 2: To facilitate the effective integration of the APHPA with current national, state and territory pandemic initiatives it is recommended that the:

- APHPA work with the National COVID 19 Commission Advisory Board on non-health issues.
- Virtual Australian Centre for Disease Control, working in close collaboration with the Department of Health and, from 2025, the Australian Institute of Infectious Diseases and the new vaccine factory at Melbourne Airport will ensure governments’ actions are guided by the best medical advice, while ensuring the economic and social wellbeing of all Australians is central to the response.
- National Cabinet, comprising the Prime Minister, State Premiers and Territory Chief Ministers will continue to lead future pandemic national response at a government level.
- Australian Government’s National Security Committee of Cabinet’s COVID-19 Taskforce and the Expenditure Review Committee of Cabinet¹² will continue to make decisions that determine the Commonwealth’s response to global pandemics.

⁹ Jack Paynter, NCA News Wire *Victoria to build Australian Institute of Infectious Disease in Melbourne November 13 2020* <https://amp.news.com.au/technology/science/human-body/victoria-to-build-australian-institute-of-infectious-diseases-in-melbourne/news-story/e48230f2744b4d16a3f89b30f4120dfb>

¹⁰ Stuart Marsh *Nine News PM touches down in Victoria to announce \$800 million vaccine factory at Melbourne Airport* <https://amp.9news.com.au/article/b15d03ee-eba7-46f1-81a3-58cc96155e94>

¹¹ Sky News *Melbourne vaccine plant to secure the health of the nation and 520 construction jobs* 16 November 2020 https://www.skynews.com.au/details/_6209946388001

¹² <https://www.pm.gov.au/media/national-covid-19-coordination-commission>

- National Coordination Mechanism based in the Department of Home Affairs, which coordinates the cross jurisdictional response to non-health aspects of the pandemic¹³, will work closely with the APHPA. The current Coronavirus Business Liaison Unit, Treasury Department will also work with the Agency.

Recommendation 3: To facilitate global leadership in discoveries to mitigate pandemics and other public health emergencies, it is recommended that the APHPA will ensure that:

- the virtual Australian CDC in recommendation 1 will be multi-disciplinary and include experts in epidemiology, public health, genetics, statistics, outbreak management, communications, community management, health economics, quantum computing,^{14 15} artificial intelligence¹⁶ and biophysics.^{17 18} Translational, clinical, and basic sciences researchers could facilitate taking discoveries from the lab to clinics.¹⁹
- international experts in fields in short supply in Australia to be included in the Virtual ACDC.

Recommendation 4: To ensure the best health, community, and economic outcomes it is recommended that the APHPA will

- assist the Government to ensure all resources are marshalled in a cost-effective and co-ordinated manner.
- facilitate the mobilization of a whole-of-society and whole-of-economy effort to enable success in such health crises.
- liaise with stakeholders in Australia and internationally to identify health, medical, biophysics, legal, economic, AI, quantum computing, economics, and policy advice.”²⁰

The APHPA and ACDC could work with the Australian Protection Principal Committee, its sub-committees, and Advisory Committees to enable a One Health, ‘all hazards’ approach for communicable and non-communicable diseases with data linkage, nationally consistent analysis, advice, data security, guidelines, and an adequate National Medical Stockpile.

Issue 2: Mechanisms to better target future responses to the needs of particular populations (including across genders, age groups, socio-economic status, geographic location, people with disability, First Nations peoples and communities and people from culturally and linguistically diverse communities).

Novel economic evaluation techniques to better target responses to the needs of particular populations during future pandemics are outlined below. This can assist public health and budget decisions by the Australian Commonwealth and State governments and globally. In accordance with recommendation 4 above, this would facilitate the work of the APHPA and ACDC to assist the Government to ensure all resources are marshalled in a *cost-effective* and *co-ordinated manner*.

My views on these evaluation techniques are published in the ‘Journal of Public Health’²¹ (See Attachment 2). The economic evaluation techniques address a *whole-of-government view* in recognition of the wide-ranging impacts of COVID-19 across portfolios and the community. An in-depth analysis of the methodologies and evaluations undertaken are included in my attached journal article entitled ‘The economics of the COVID-19 pandemic: economic evaluation of government mitigation and suppression policies, health system innovations, and models of care’. *J Public Health (Berl.)* (Antioch, 2023). A brief overview of my internationally peer reviewed journal article is provided below.

The COVID-19 pandemic has impacted the scope of health economics literature, which will increasingly examine value beyond health care interventions such as government policy and broad health system innovations. Economic evaluations and methodologies evaluating government policies suppressing or mitigating transmission and reducing COVID-19, broad health system innovations, and models of care are identified. This can facilitate future economic evaluations and assist government and public health policy decisions during pandemics²². The study found that cost utility analysis (CUA) and cost benefit analysis (CBA) analysing mortality, morbidity, quality adjusted life year (QALY) gained, national income

¹³ ibid

¹⁴ Ramon Szmuk *Quantum computing will (eventually) help us discover vaccines in days* May 16, 2020 <https://venturebeat.com/2020/05/16/quantum-computing-will-eventually-help-us-discover-vaccines-in-days/>

¹⁵ Julian van Velzen *Can quantum technology assist in the next COVID crises? Part 1*, July 21, 2020. <https://www.capgemini.com/2020/07/can-quantum-technology-assist-in-the-next-covid-crisis-part-1/>

¹⁶ Arash Keshavarzi Arshadi et al *Artificial Intelligence for COVID-19 drug discovery and vaccine development* 18 August 2020. <https://www.frontiersin.org/articles/10.3389/frai.2020.00065/full>

¹⁷ King J et al Biophysical Society BPS Blog *Coronavirus structure, vaccine and therapy development* <https://www.biophysics.org/blog/coronavirus-structure-vaccine-and-therapy-development>

¹⁸ Biophysical Society *What is biophysics?* accessed 15 November 2020 <https://www.biophysics.org/what-is-biophysics>

¹⁹ Sophia Zoungas *Australian Financial Review Time for an Australian Centres for Disease Control* November 9 2020 <https://www.afr.com/work-and-careers/education/time-for-an-australian-centers-for-disease-control-20201102-p56auo>

²⁰ Antioch, KM (2020) ‘Submission to the Senate Select Committee on COVID-19 Inquiry into the’ Australian Government’s Response to the COVID-19 Pandemic’ Pg 3-5, Sub No 511 <https://www.aph.gov.au/DocumentStore.ashx?id=a62cb654-ee16-4638-b82d-5ec49ce86738&subId=698467>

²¹ Antioch, K.M. The economics of the COVID-19 pandemic: economic evaluation of government mitigation and suppression policies, health system innovations, and models of care. *J Public Health (Berl.)* (2023). <https://doi.org/10.1007/s10389-023-01919-z>

²² ibid

loss, and value of production effectively evaluate government policies suppressing or mitigating COVID-19 transmission, disease, and impacting national income loss. The WHO's pandemic economic framework facilitates economic evaluations of social and movement restrictions. Social return on investment (SROI) links benefits to health and broader social improvements. Multi-criteria decision analysis (MCDA) can facilitate vaccine prioritization, equitable health access, and technology evaluation. Social welfare function (SWF) can account for social inequalities and population-wide policy impact.

SWF is a generalization of CBA, and operationally, it is equal to an equity-weighted CBA. It can provide governments with a guideline for achieving the optimal distribution of income, which is vital during pandemics.

Economic evaluations of broad health system innovations and care models addressing COVID-19 effectively use cost effectiveness analysis (CEA) that utilize decision trees and Monte Carlo models, and CUAs that effectively utilize decision trees and Markov models, respectively. *Several methodologies are therefore very instructive for governments, in addition to their current use of cost benefit analysis and the Value of a Statistical Life analytical tool.* CUA and CBA effectively evaluate government policies suppressing or mitigating COVID-19 transmission, disease, and impacts on national income loss. CEA and CUA effectively evaluate broad health system innovations and care models addressing COVID-19. The WHO's framework, SROI, MCDA, and SWF can also facilitate government decision-making during pandemics²³.

Recent developments: Establishment of an Australian CDC

An ACDC is being established by the Department of Health and Aged Care (DHAC) to improve Australia's response and preparedness for public health emergencies. It will ensure pandemic preparedness, lead national responses to health emergencies, and facilitate prevention and control of non-communicable and communicable diseases. DHAC is working with governments, health and aged care stakeholders, academics, researchers, and international counterparts. The 2023-24 May Budget allocated \$90.9m to establish an interim ACDC within DHAC led by the CMO from 1 January 2024. The funding will assist in finalising ACDC functions. It will support establishment of a standalone ACDC, passage of legislation and consultation²⁴. The interim ACDC will initially focus on pandemic preparedness and preventing communicable diseases. It will provide national leadership in prevention across communicable and non-communicable diseases. A phased approach will establish the ACDC, with further work in 2023 on a standalone ACDC. The October 2022-23 Budget allocated \$3.2m to establish the ACDC²⁵. Stakeholders explored roles during 2022, culminating in a CDC stakeholder consultation report²⁶ to advise government on the scope and functions of an ACDC. It was developed in response to the DHAC consultation paper which states that *"While the CDC will be part of the Australian Government in some form, no other firm decisions have been made relating to its structure or governance"*²⁷ (pg 6). There is currently an excellent opportunity to consider implementation options for APHHA and its relationship with an ACDC.

Recommendations:

Recommendation 1: That you consider my submission to the Senate Select Committee on COVID-19, including its recommendations, to establish an APHPA and ACDC to enable the Government to marshal resources in a *cost-effective* and co-ordinated manner, mobilizing a *whole-of-society* and *whole-of-economy* effort during health crises.

Recommendation 2: That you consider my journal article concerning 'The economics of the COVID-19 pandemic: economic evaluation of government mitigation and suppression policies, health system innovations, and models of care'. Commonwealth and State governments can use the economic evaluation techniques analysed in the article to better target responses to the needs of particular populations during future pandemics. This information updates my recommendations to the Senate Select Committee on COVID-19 with methodologies that can be utilized by the APHPA and ACDC to achieve the outcomes identified in foregoing recommendation 1 .

Recommendation 3: The APHPA and ACDC be implemented to enable a One Health, 'all hazards' approach for communicable and non-communicable diseases with data linkage, nationally consistent analysis, advice, data security, guidelines, and an adequate National Medical Stockpile.

I trust this information will assist you to make recommendations to improve response measures in future pandemics. They embrace a whole-of-government view in recognition of the wide-ranging impacts of COVID-19 across portfolios and the community. I would welcome the opportunity to participate in stakeholder meetings during 2024.

Kind Regards,



²³ ibid

²⁴ <https://www.health.gov.au/our-work/Australian-CDC>

²⁵ ibid

²⁶ <https://www.health.gov.au/sites/default/files/2023-03/centre-for-disease-control-stakeholder-consultation-report.pdf>

²⁷ https://www.health.gov.au/sites/default/files/documents/2022/11/role-and-functions-of-an-australian-centre-for-disease-control_0.pdf pg 6


Dr Kathryn Antioch GAICD, PhD (Health Economics), MSc, BA (Hons) AFCHSM, CHM
Chief Executive Officer, Guidelines and Economists Network International (GENI)
Principal Management Consultant, Health Economics and Funding Reforms
Adjunct Senior Lecturer, DEPM
School of Public Health and Preventive Medicine Monash University
Adjunct Instructor, Department of Pharmacotherapy, College of Pharmacy, University of Utah, USA
<http://geni-econ.org> phone  19 November 2023