



Submission on the discussion paper of the role and functions of an Australian Centre for Disease Control

9th December 2022

Thank you for the opportunity to comment of the consultation paper of the *Role and Function of an Australian Centre for Disease Control*.

Introduction

The Australian Veterinary Association (AVA) is the peak organisation representing veterinarians in Australia. Our members come from all fields within the veterinary profession and work for the health (including welfare, production, and biodiversity) of all animals (companion animals, production animals and wildlife) and their shared communities.

We support an integrated and collaborative approach to health as exemplified by the One Health framework. One Health acknowledges that the health of humans, animals, plants, and the wider environment are closely linked and interdependent, requiring a trans-disciplinary, multisectoral and community-based response to health management. This means that the action in one sector has synergistic reactions in the other sectors. Recognition of this interdependence is of particular importance in mitigating risk and managing emerging and re-emerging diseases (particularly zoonotic origin), antimicrobial resistance and food security. These risks and diseases can all be adversely impacted by disease or disruption to our ecosystem. Beyond expanding capacity for addressing emerging and re-emerging disease at the human-animal-environmental interface, One Health initiatives can also support strategies to address non-communicable disease through translational and comparative medicine approaches, such as with cancer development and aging, and sentinel surveillance for infectious disease and environmental exposure.

We also acknowledge that First Nations Australians traditional knowledge has preceded this concept of One Health and has always recognised and respected interconnectedness and the importance of stewardship. We acknowledge First Nations Australians custodianship of their traditional lands and the rights of First Nations People to their cultures, spiritual traditions, and histories without appropriation by non-Indigenous People.

Embedding One Health into the Australian CDC through equitable representation across human, animal, and environmental health sectors is essential to achieving the remit of the Australian CDC - that is to ensure ongoing pandemic preparedness, leading the federal response to future infectious disease outbreaks, and working to prevent non-communicable (chronic) and communicable (infectious) diseases.

Key Recommendations

- The CDC should embed a One Health framework throughout its platform – involvement of the animal health (veterinary) and environmental health sectors, in addition to the human health sector, is essential to the transdisciplinary approach.
- The CDC should adopt a modern risk management approach, ensuring preparedness for the worst-case scenario
- The CDC should lead to enhanced capacity rather than a net loss across its agreed functions.
- The CDC should be an independent body with stable and assured funding.
- The CDC should aim to support inter-operable data systems with a One Health framework including wildlife and companion animals.
- Scoping and expansion of the public health workforce needs to include broad disciplines, including the veterinary public health discipline.



Functions of the CDC

1. What decision-making responsibilities, if any, should the CDC have?

- Should the CDC directly take on any existing responsibilities, or provide a coordinating and/or advisory function only? And if so, would that be sufficient for responding to health emergencies?

2. What functions should be in and out of scope of the CDC?

- What should the role of the CDC be in promoting or coordinating a One Health framework?

There are currently no One Health frameworks in federal or state jurisdictions in Australia. Formation of the Australian CDC provides a unique opportunity to create a national platform embedding a One Health approach. This would more effectively achieve the proposed aims of the CDC, that is to ensure ongoing pandemic preparedness, lead the federal response to future infectious disease outbreaks and work to prevent non-communicable (chronic) and communicable (infectious) diseases.

One Health provides an integrated and unified approach to health, unlike our current arrangements where management of disease outbreaks, particularly of zoonotic origin, is dependent on both formal and informal relationships and protocols between health, animal health and environmental departments. Currently, these departments come together as needed in emergency situations such as a zoonotic disease outbreak. A One Health operational framework would provide a holistic approach in these situations, facilitated by a trans-disciplinary team which has developed structures and relationships to enable collaborative, cooperative and coordinated preparedness and response. To be effective, these structures and relationships need to be established and developed in peace time, not in the face of a crisis. Once in place, this framework will allow for more efficient and effective responses.

The AVA considers that operationalisation of One Health within the CDC is essential to achieve its stated aims. Optimising human health and wellbeing requires recognition of the inter-relationship which exists between human, animal, and environmental health. Therefore, a diverse range of perspectives with expertise beyond human health professions is required to address complex problems such as disease emergence and antimicrobial resistance (AMR). This requires involvement of a range of disciplines from human health, animal health, ecological health, social science as well as engineers, economists, and others.

The establishment of a CDC should enhance the capacity of functions within scope of the CDC and not lead to a net loss by diverting funding away from existing Commonwealth and jurisdictional departments, agencies, and organisations. As noted in the consultation paper, the CDC should aim to fill current gaps and improve coordination of existing functions rather than taking over the functions already successfully in place elsewhere.

Recommendation: The CDC should embed a One Health framework throughout its platform – involvement of the animal health (veterinary) and environmental health sectors, in addition to the human health sector, is essential to the transdisciplinary approach.

3. What governance arrangements should be implemented to ensure public confidence in the CDC?

- How can the CDC balance the need for the CDC to be responsive and accountable to governments, while also providing trusted, authoritative, and evidence-based advice?
- What aspects of independence do you believe are important to the successful function of the Australian CDC?



- *How should the CDC be organisationally structured to best meet the needs of Australia's federated society?*

The CDC should be an independent body that liaises with other Commonwealth and jurisdictional departments, agencies, and organisations. Funding for the agreed scope of the CDC should be assured to protect (as much as possible) from changes in existing government priority and commitment. Established networks between agencies should allow for the engagement of specific disciplinary experts, when required. People with training and experience across multiple disciplines such as veterinarians with public health training or public health officers working in environmental health can act as knowledge brokers to enable a trans-disciplinary approach without duplicating existing work.

Local representation across states and territories will be important to align with Australia's federation but also to ensure that the diverse geographical and social needs of different areas are included. Public health needs vary throughout the country, as do those of animal populations (both domestic and wildlife), environments, and ecosystems. Acknowledging this in the structure of the CDC will result in a more holistic foundation.

Recommendation: The CDC should be an independent body with stable and assured funding.

4. How can the CDC best support national coordination of the Australian public health sector?

- *How can the CDC ensure effective collaboration and exchange of information with relevant stakeholders, including engagement with the private sector?*

5. What lessons could be learned from Australia's pandemic response?

- *How can the CDC best ensure linkages with all sectors relevant for preparedness and response – including primary care and the animal and environmental health sectors?*
- *Are there any national, state and territory or international reviews that would be of assistance in designing the CDC?*

A One Health framework will ensure linkages between the CDC and sectors by providing a platform for collaboration and integration. Engagement with sectors, including the private sector, is maximised by incorporating a variety of disciplines and their approaches. This will enhance communication and result in more efficient and effective preparedness and response activities.

Different sectors currently engage with industry and the private sector in different ways. Many animal health systems in Australia are market focused, differing significantly from public health systems. Given varying underlying motivations, current engagement strategies present challenges for operationalising a broader One Health framework. As a collaborative and unifying body, with a holistic health focus the CDC could act to strengthen inter-sectoral collaboration, working alongside and strengthening existing structures without impinging on them.

COVID-19 exemplifies the need for One Health approaches to surveillance and preparedness. Although COVID-19 is a zoonotic disease, which very likely arose from an original spillover event from wildlife into humans, the risk of significant ongoing zoonotic transmission has fortunately not been realised. While animals can be infected and there has been documented zoonotic transmission, animals have not been a significant driver of transmission. This has been extremely fortunate as response capabilities between sectors in Australia would not have coped due to lack of collaborative frameworks and capacity.



The veterinary and animal health sectors provided important expertise and surge capacity during the COVID-19 pandemic both in Australia and globally. ([WOAH, 2020](#), [Steele et al, 2021](#)). In Australia, animal disease laboratory capacity was used for testing and workforce skilled in veterinary epidemiology, data modelling and emergency management were employed throughout Australian response teams. There was, however, a lack of strategic engagement across sectors. Having formal structures and networks in place before a time of crisis is an important part of an all-hazards approach for risk management. It allows planning for the worst-case scenario and is important to enable smooth integration of diverse surge capacity in a coordinated way.

Animal and human health and welfare were impacted by the response to COVID-19 in direct and indirect ways. Uncertainty regarding the status of veterinary services as essential caused concern about animal welfare with flow-on effects on human well-being. The strong advocacy undertaken by the AVA ensured that veterinarians were able to continue providing important care to their communities. Animal welfare and food security were similarly threatened due to border restrictions, abattoir outbreaks and outbreak response measures. A well-designed CDC that provides interdisciplinary leadership and advises across sectors would have mitigated these issues.

Recommendation: The CDC should adopt a modern risk management approach, ensuring preparedness for the worst-case scenario

A data revolution

6. What are the barriers to achieving timely, consistent and accurate national data?

State and territory jurisdictions vary in their data collection, surveillance systems used and technical capacity. This is further complicated when considering other non-government organisations that provide important health data such as research institutes, universities, private enterprises (companies, clinics, hospitals), and industry bodies.

There are currently no formal One Health data frameworks in Australia. This presents governance challenges when approaching effective data sharing, especially if identifiable or sensitive data are required for response work or data linkage. Differences in how data are collected, case definitions and managed may result in incompatible datasets or uncertainty.

Some sectors have also been significantly underfunded, such as monitoring for zoonotic or toxin-related diseases in wildlife. Japanese Encephalitis (JE), for example, is a viral disease carried by waterbirds and pigs and is transmitted by mosquitoes. There are no current surveillance activities to monitor JE in waterbirds, which are the natural hosts and carriers for the virus, thus the target animal to monitor. As wildlife are part of the functional ecosystem, these diseases have a broad impact on not only human health, but environmental health and health of domestic animals as well. Therefore, funding for timely and effective data collection for zoonotic or toxin-related diseases in wildlife is vital. Wildlife Health Australia is currently strengthening surveillance in targeted wildlife species and an important collaborator for the new CDC. It is paramount to fund prevention of zoonotic spillover at source as recommended by the World Bank and Quadripartite and the most cost-effective method to prevent future pandemics ([Bernstein et al 2022](#)).

The COVID-19 pandemic response has led to an increased appetite for disaggregated data and real-time reporting from the states and territories with aggregated data. This poses difficulties for datasets that have historically only been made available monthly or quarterly. Introducing complexity into the Australian national data landscape by building a One Health framework would need to carefully assess the timeliness required. A priority is to fund an Information Management System within the CDC with legislative changes to enable sharing of information between sectors.



7. What existing data sources are important for informing the work of the CDC, and how could existing data bodies (national, state and territory) be utilised and/or influenced by the CDC?

- *Is there data currently not collected in Australia which should be considered?*

Surveillance data for antimicrobial use, antimicrobial resistance, healthcare-acquired infections and zoonotic diseases of companion animals (for example, dogs, cats, horses, rabbits, guinea pigs and, some reptiles) are not currently integrated into national data surveillance and collection databases. There is not necessarily a requirement to share privately-held data. Given the increasing trend for people to be in close contact with their companion animals, this lack of integration demonstrates a significant weakness in current system.

A One Health Master Action Plan to support Australia's National Antimicrobial Resistance Strategy has been released, however, this scope should be extended to include not only antibiotics, but also antifungals, antivirals, antiparasitics and antiprotozoals over time. At present, a lack of high-quality antimicrobial resistance and antimicrobial use data is impacting stewardship programs across the animal health sector. Another concern is that there is even more limited data available for environmental use of antimicrobials and resistance levels.

There is a global lack of wildlife surveillance data for both pathogens and the geographical range of wildlife species and trade. The emergence of JE in southeastern Australia highlights the effect that climate events can have on infectious diseases carried by wildlife through the movement of wild birds and mosquitoes. The failure of all surveillance systems to detect JE before it was established demonstrates the need to approach surveillance in an integrated fashion that is agile to the changing requirements brought by climate change. The global movement of Highly Pathogenic Avian Influenza with spillover into backyard chickens and waterways requires Australia to be proactive with integrated surveillance systems and locating hotspots of transmission.

Collection of surveillance data for companion animals and wildlife should be focus on syndromic and sentinel surveillance in order to optimise detection of emergent and unusual disease occurrences.

Given the cultural diversity in Australia, data systems also need to acknowledge and respect differences in culture and tradition in Australian communities into data collection and information management systems. More broadly, existing data collection systems provide limited capacity for understanding and evaluating the social and cultural determinants of health, which are of particular importance for addressing health disparities.

- *What else is needed to ensure that Australia is able to identify emerging risks to public health in a timely way?*

Efficient integration of intelligence across jurisdictions and sectors through interoperable data systems would enhance risk assessments and early identification of hazards affecting humans, animals and ecosystems ([FAO 2022](#)). At present, data sharing between sectors is extremely difficult due to privacy and the lack of structured processes and supporting legislation. Real-time interoperability of systems is required to support collaborative analysis and timely communication of results. This would enable early responses to emerging diseases such as zoonoses. Any new systems should be set-up with a One Health framework in mind.

Over the past decades there has been expansion of the human population, urban sprawl, destruction of habitats, and increased regional living which increases the proximity of human settlement to wildlife and areas not previously exposed to human activity. This expanded interface between humans,



domestic animals, livestock and wildlife, increasing the risk of spillover (pathogens transferred from animals to humans or other animals) events and zoonotic disease transmission, necessitating more effective surveillance strategies to detect disease emergence from source. World Bank promotes proactive, rather than reactive, surveillance system across human and animal sectors such as sentinel monitoring. This proactive surveillance can provide information about AMR and surges in zoonotic disease that helps to prevent spill over events before they occur. ([World Bank, 2018](#))

There is currently no national database in Australia which collects and links information on human, animal, and plant diseases. There is a very siloed approach to disease data collection in Australia as surveillance systems (for example, National Animal Health Information System (NAHIS) and National Notifiable Disease Surveillance System (NNDSS)) only collect data on one sector. Cross sectoral surveillance and diagnostic systems are likely to be more efficient and cost effective ([Stephen, 2011](#)). Information sharing across human and animal sectors is in line with Manhattan Principle no. 9 and Berlin principles on OH:

‘Increase investment in the global human and animal health infrastructure commensurate with the serious nature of emerging and resurging disease threats to people, domestic animals and wildlife. Enhanced capacity for global human and animal health surveillance and for clear, timely information-sharing (that takes language barriers into account) can only help improve coordination of responses among governmental and nongovernmental agencies, public and animal health institutions, vaccine / pharmaceutical manufacturers, and other stakeholders.’ ([Wildlife conservation society, 2005](#))

Recommendation: The CDC should aim to support inter-operable data systems with a One Health framework including wildlife and companion animals.

- *Would the development of a national data plan with an agreed scope and/or an evidence-based health monitoring framework be useful?*

Yes. A One Health data framework requires careful, evidence-based planning with a clear scope and aims.

8. What governance needs to be in place to ensure the appropriate collection, management and security of data?

To effectively address health issues in a One Health platform, an integrated approach is required. Governance arrangements should take into account the requirements of different sectors, including commercial sensitivities where industry data is collected. All contributors should have access to useable and useful outcomes from any national data plan/framework. Of importance, is the inclusion and operationalisation of principles of Indigenous Data Sovereignty to ensure culturally appropriate collection, use and management of data pertaining to Australia’s Aboriginal and Torres Strait Islander people.

9. How do we ensure the CDC has the technical capability to analyse this data and develop timely guidance?

One Health data systems require a shared understanding of the data. Analysis needs to be approached in a trans-disciplinary manner with teams collaborating across human, animal and environment disciplines. Contextual knowledge is vital for the accurate analysis of complex data, and it is important that the expertise from different sectors is included. For example, in the Netherlands a cross-sector understanding of Q-Fever was necessary to eventually the control the large outbreak in



peri-urban areas. Existing expertise and training capacity within sectors should be utilised and enhanced to ensure long-term sustainable technical capacity.

10. How can the CDC ensure collaboration with affected populations to ensure access to, and the capability to use, locally relevant data and information, particularly as it relates to First Nations people?

Effective collaboration with Aboriginal and Torres Strait Islander communities should support a more holistic concept of health that acknowledges the close connection between physical, mental, cultural, environmental, and spiritual health of Aboriginal and Torres Strait Islander people and communities. To ensure respectful, culturally informed policy and practice that reflects community priorities, Aboriginal and Torres Strait Islander leadership and decision making must be embedded into all aspects of data collection, analysis, use and interpretation. The CDC should work to maximise community benefit from research and data by developing and expanding partnerships across existing Aboriginal and Torres Strait Islander One Health and research frameworks, including the National Indigenous Health Leadership Forum, the University of Melbourne's Indigenous Data Network, the National Health and Medical Research Council (NHMRC) National Network for Aboriginal and Torres Strait Islander Health Researchers, and community controlled research organisations Aboriginal Community Controlled Health Services sector.

While it is well-established that high quality health data is essential in implementing effective place-based health interventions, the collection and use of Aboriginal and Torres Strait Islander data should respect and operationalise the principles of Indigenous Data Sovereignty (IDS), (for example, see [Trudgett et al. 2022](#)), and ensuring alignment with the principles outlined in the [National Agreement \(Priority Reform 4\)](#), the [Australian Indigenous Data Governance Protocols and Principles](#), and [Mayi Kuwayu: The National Study of Aboriginal and Torres Strait Islander Wellbeing](#). Aboriginal and Torres Strait Islander communities should retain ownership, access, and control over their data, with a focus building local capacity and facilitating self-determination to empower and support communities utilise data to effectively address community priorities and make informed decisions on programs and policies that address local need.

National, consistent and comprehensive guidelines and communications

11. How can the CDC establish itself as a leading and trusted national body that provides guidance to governments based on the best available evidence, and participates in generating that evidence?

- *To what extent should the CDC engage with the media, public messaging and health communications directly or via other existing structures such as Australian Government and state and territory health departments?*
- *What could the CDCs broader role be in increasing health literacy to support sustained improvements in health outcomes?*

Effective health communication from a trusted organisation is vital for effective management of public health emergencies. In consultation and agreement with the states and territories, the CDC should establish itself as the trusted organisation for direct health communication especially during times of crisis. To achieve this goal the CDC will need to establish its credibility during “peace time” to earn the trust of individuals and organisations.

The CDC should play an important role in health literacy to ensure all individuals can readily access, understand and use health information to make good health-related decisions for themselves and



others. A One Health approach should be utilised to enhance health literacy, particularly among people living in close proximity to animals or in rural areas, those working in the agricultural industries and those living with or near companion animals and wildlife. Organisations such as Animal Management in Rural and Remote Indigenous Communities (AMRRIC) are already doing this very successfully in Australia. The expertise of the agricultural and animal health sectors will play a key role in developing health literacy to improve safety and promote prevention of zoonoses, farm accidents, and harm caused by both wildlife, feral animals, and domestic species.

13. Are there stakeholders outside of health structures that can be included in the formulation of advice?

- *What kind of mechanisms could be developed to support broader consultation on decisions when needed?*

Incorporating One Health will require wide consultation outside the health sector. The CDC should strive to build relationships between animal, human, environmental and ecosystem health stakeholders as well as in the social sciences to be able to consult on a broad range of issues holistically.

National Medical Stockpile

14. What has your experience, if any, been of accessing supplies from the National Medical Stockpile (either before or during COVID-19), and can you identify any areas on which the CDC could expand or improve?

Access to the national medical stockpile needs to take into consideration needs of professions beyond human health where poor availability of personal protective equipment (PPE) creates significant human health risks to other professionals. During the initial stages of the COVID pandemic, the AVA was required to advocate on behalf of veterinarians who were unable to obtain the level of PPE required to perform exclusion tests for highly pathogenic zoonotic diseases such as Hendra virus and Anthrax.

The National Medical Stockpile needs to plan for the important PPE requirements across sectors including in environmental and animal health settings to ensure health protection in the face of local or global shortages.

World-class workforce

15. How could a CDC work to ensure that our public health workforce is prepared for future emergencies, both in Australia and abroad?

Workforce planning undertaken by the CDC should recognise the importance of disciplinary diversity rather than focusing only on medico-centric public health. Enhancing the available public health workforce in Australia through the development of public health officer pathways and expanding the Master of Applied Epidemiology is needed, however a wider skillset and experience is necessary to prepare for future emergencies. One Health competencies should be incorporated into public health training, in line with the WHO-ASPHER Competency Framework for the Public Health Framework in the European Region. ([WHO-ASPHER, 2020](#)). This will prepare graduates for work in inter-disciplinary teams and meet the challenges of public health threats which are increasingly from zoonoses, impact of climate change and chronic disease.

Non-public health and medical workforce issues have important effects on the health and well-being of our communities, animals, and environments. There is a current gap in the post-graduate veterinary



epidemiology and public health degrees available in Australia, causing risks to future biosecurity, food security, preparedness, and response. More broadly, there is a shortage of veterinarians in Australia. This has direct flow on risks to food security and safety, biosecurity, animal health and welfare. Veterinarians are vital to ensuring the health and well-being of our communities through zoonotic disease management, food safety and the health and wellness benefits that healthy animals have for individuals and their communities. An analysis of the existing training and accreditation pathways available in Australia should be undertaken to inform next steps in workforce planning. The AVA, Australian and New Zealand College of Veterinary Scientists and Veterinary Schools of Australia and New Zealand are organisations that can assist with this.

Recommendation: Scoping and expansion of public health workforce needs to include broad disciplines, including the veterinary public health discipline.

Rapid response to health threats

17. What role could the CDC play in greater national and international collaboration on One Health issues, including threat detection?

The recent formation of a global Quadripartite recognises the need to manage global threats to health using a trans-disciplinary, multisectoral and community-based approach as is central to One Health. In 2021 the G7 Ministers of Health also recognised this in a communiqué, specifically highlighting ‘improving integration, by strengthening a One Health approach across all aspects of pandemic prevention and preparedness, recognizing the critical links between human and animal health and the environment.’

With an established One Health platform, the CDC will be aligned with overseas bodies such as the United States’ CDC and the Quadripartite with this capacity. Currently our lack of One Health structures leaves us less equipped for effective engagement in this arena.

Taking the opportunity to develop an independent, transdisciplinary platform for One Health in the CDC will enable us to be a leader in this area, particularly in the Indo-Pacific region. One Health is seen as central to the work of current organisations such as the Indo-Pacific Centre for health security, Asia Pacific Consortium of Veterinary Epidemiology (APCOVE) and the involvement of veterinary schools in capacity building for FAO and WOA. H.

18. What are the gaps in Australia’s preparedness and response capabilities?

- *Could the role of the National Incident Centre be modified or enhanced?*
- *What functions should a national public health emergency operations centre deliver to strengthen Australia’s coordination of health emergencies?*

As well as the need to expand the available surge workforce across disciplines, there has been a lack of cross-sectoral training and capacity building activities. Australia’s veterinary and biosecurity sectors have had a long history of remaining free of significant diseases such as Foot and Mouth Disease and successfully eradicating them when they have occurred (for example, Equine Influenza). The veterinary emergency response plans ([AUSVETPLAN](#)) guide emergency responses and could be further used to drive intersectoral cooperation and planning. If they are supported by scenario and response testing (simulations) then there is the added benefit of developing workforces that can work across the cultures of the different sectors to respond to outbreaks and future pandemics.

Australia’s veterinary and biosecurity sectors have had a long history of remaining free of significant diseases (for example, foot and mouth disease) and successfully eradicating them (for example,



bovine tuberculosis in 1997 and equine influenza in 2007). This success can be partly attributed to the mock outbreak scenarios used to regularly test emergency response processes.

19. How can the CDC position Australia, mindful of global, regional and local expertise, to be better prepared for future pandemics, health emergencies, and other public health threats?

- *What could our contribution to global preparedness look like?*

Improving Australia's ongoing response and preparedness for current and emerging public health emergencies requires an integrated and unified approach. Over 60 percent of emerging infectious diseases are zoonotic, including SARS-CoV-2, resulting from disease spill-over from animals. Globally, disease emergence is becoming a more frequent event with 30 new human pathogens detected over the past three decades, which is driven by stresses at the interface of humans, animals, and the environment as a consequence of human activity such as land use changes, pollution and climate change. Recent Australian experiences with emerging zoonotic and animal-related diseases such as JE, Mpox, Hendra Virus and Avian Influenza demonstrate these challenges.

Risk mitigation of zoonotic disease needs to occur at all parts of the human-animal-ecosystem interface with an understanding of how anthropogenic factors and climate change are affecting these interactions. For example, human impact on habitat and environmental factors causing stress are linked to spill-over events of viral diseases in bats such as Hendra virus ([Eby et al, 2020](#)). This presents an opportunity for prevention at source to be explored or interventions with important health protection outcomes to be developed.

International partnerships

20. What role should the CDC undertake in international engagement and support internationally, regionally or domestically?

- *International engagement, coordination and intelligence sharing are central to the role of all international CDCs. What additional objectives should the CDC include? (for example, leadership, technical engagement and capacity building)?*
- *How can the CDC be utilised to strengthen pandemic preparedness internationally?*

Threats from emerging and re-emerging disease and the development of antimicrobial resistance extend beyond Australia's national borders. Effective management of these risks requires a collaborative, transdisciplinary approach that works at the local, state and territory, national and global level to understand, prevent, detect and respond to both Australian and global health threats. This would require the CDC to establish partnerships across national governments, international agencies such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the UN Environment Program (UNEP) and the World Organization for Animal Health (WOAH), and international NGOs across the relevant health sectors (for example, Red Cross, Vets Without Borders, Doctors without Borders). Existing One Health partnerships such as those through the Indo-Pacific Centre for health security and APCOVE should be explored and used as models for further work.

Leadership on preventive health

21. How can the CDC foster a holistic approach across public health, including the domains of health protection and promotion and disease prevention and control?

An effective and holistic approach to preventative health and health promotion requires an expanded focus beyond public health, building on strong relationships across all health disciplines including



human, animal and ecosystem health, as well as across government, academia and all parts of Australian society. Similar broad representation from professionals across diverse disciplines within the CDC will further enhance the CDC's capacity to implement a multidisciplinary and unified approach to identify priorities for preventative healthcare systems. CDC and nationally there is a need to draw on broader expertise with equal standing of all players in order to bring a diverse range of perspectives to complex problems like disease emergence and AMR, as well as to embed collaborative preventative health strategies across the human-animal-ecosystem interface.

Beyond the importance of One Health in addressing emerging and re-emerging diseases, comparative medicine and translational research using animal models for human health issues has the potential to expand the knowledge base for non-communicable disease, and sentinel surveillance for non-communicable diseases in other animal species has important applications in identifying environmental hazards before human populations are affected ([Natterson-Horowitz et al. 2022](#)).

Wider determinants of health

24. How could the CDC work in partnership with at-risk populations and associated health sectors, including First Nations people, people with disability and older Australians, to ensure their voices are included in policy development?

Partnerships must acknowledge Australian First Nations custodianship and prioritise the voices of Australian First Nations People in determining how best to work together. The CDC should align with the principles and priorities of the [NACCHO Core Services Framework and Outcomes Framework](#) and National Aboriginal and Torres Strait Islander Health Plan 2021-2031 to ensure that policy development is community led, and guided by community culture, priorities and needs. Development of partnerships with Aboriginal Community Controlled Health Services (ACCHS) and relevant peak bodies including the National Indigenous Health Leadership Forum and the Partnership for Justice in Health will be important to develop, plan and coordinate holistic, strengths based, place-based, culturally safe, and responsive health programs.

While Aboriginal Community Controlled Health Services (ACCHS) and representative peak bodies have been established in the human health care field, similar representation is not well-established for other One Health disciplines, including animal health, environmental health, and ecosystem health. The CDC should focus on building relationships with community-based organisations such as Indigenous ranger groups, animal health and environmental health workers to improve Aboriginal and Torres Strait Islander representation in other One Health sectors. AMRRIC and veterinary service providers working in Aboriginal and Torres Strait Islander communities are examples of organisations embodying these principles.

Similar frameworks can be established with other organisations and peak bodies representing at risk populations and other health sectors.

- *How could the CDC meet the intent of Closing the Gap?*

Genuinely closing the gap will require commitment to acknowledging and transforming power relationships between Australian First Nations People and non-Indigenous People ([Bond 2020](#)) as well as focussing on a strength-based approach with the centring of cultural determinants of health ([Lowitja Institute 2020](#)).

Effectively closing the gap in health inequity requires a framework that mandates the CDC and its partners to be responsive and accountable to the needs of Aboriginal and Torres Strait Islander people and their communities, focusing on a holistic view of health, building local capacity and infrastructure, and strengthening the role of ACCHS and community-based organisations in other health sectors to



delivery and coordinate culturally safe and responsive programs. Particularly in rural and remote environments, social determinants of health have contributed significantly to the disadvantage and health inequalities experienced by Aboriginal and Torres Strait Islander people, particularly for chronic disease conditions which are a substantial contributor to gap in disease burden between Aboriginal and Torres Strait Islanders and non-Indigenous Australians ([AIHW, 2018](#)). Furthermore, there is both contemporary and historical evidence that Aboriginal and Torres Strait Islanders are disproportionately affected by pandemics ([Dudgeon et al. 2021](#); [Crooks et al. 2020](#), [Dudgeon et al. 2014](#), [Flint et al. 2010](#)) Implementing the cultural determinants of health will work towards dismantling structural inequality by empowering Australian First Nations communities ([Lowitja 2020](#)).

25. How can the CDC best deliver timely, appropriate, and evidence-based health information to culturally diverse and/or at-risk populations?

26. How should the CDC engage across sectors outside its immediate remit (including portfolios with policy responsibility for wider determinants of health, culture, and disability)?

The CDC should adopt a model of unified, collaborative and multisectoral collaboration as a fundamental component of its strategy and design, which allows the CDC to develop and expand its partnerships with government, research, industry groups, academia, and community-based organisations across the human, animal and environmental health sectors. Broad collaboration is essential in addressing determinants of health arising outside the scope of the human health sector.

The CDC Project

28. How could the success of a CDC be measured and evaluated?

Effective monitoring and evaluation of the impacts of the CDC would require high-quality, timely and objective methods of assessment focusing on systemic evaluation of priority impacts and performance indicators across human, animal, and environmental health disciplines. [Baum et al. 2017](#), provide examples of potential outcome metrics that can be used to evaluate One Health interventions.

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