



***Queensland University of Technology
response to the
the consultation paper for
an Australian Centre for Disease Control***

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Executive Summary (i.e., General Comments Section)

QUT supports the establishment of an Australian Centre for Disease Control (CDC). Australia is currently the only OECD country without a national multidisciplinary body focused on disease prevention, investigation and control. Examples of other such entities exist, such as the [Centres for Disease Control and Prevention USA](#), and the [European Centre for Disease Prevention and Control](#). These entities collect, integrate, analyse and share data regarding both chronic and infectious diseases to enable timely and evidence-based responses to emerging health risks. Although Australia's response to COVID-19 was exemplary, the pandemic has highlighted the need for better national co-ordination of health policy and implementation of public health and clinical responses to emerging infectious as well as non-communicable chronic diseases. Australia is a climatically and culturally diverse country which poses challenges to effective disease surveillance. Therefore, the establishment of a National CDC is an opportunity to improve the health of Australians through the adoption of a more interdisciplinary, coordinated and evidence-based approach to health policy with a focus on [One Health](#), improved environmental monitoring, disease surveillance and data sharing.

QUT is well placed to advise and support an Australian CDC. As one of Australia's leading Universities, [QUT](#) educates the next generation workforce who will play a critical role in national health policy and disease surveillance within, and in partnership with, a CDC. QUT has strong education programs in Nursing, Paramedicine and Pharmacy to educate first responders; Data Science, Public Health and Epidemiology and Health Economics to educate future policy makers, and Biomedical Science and Medical Laboratory Science to develop a workforce in pathology, diagnostic and therapeutic advances. In addition to education, QUT has strong [Research Centres](#) focused on cutting-edge technologies and developments in infectious disease and infection control, environmental bioaerosol monitoring, eHealth, data analytics, and healthcare transformation. QUT experts in environmental law have been included in the United Nations IPBES panel addressing biodiversity and pandemics and worked with the Federal Government on One Health approaches to environmental methods of pandemic prevention. The ideas, data and evidence-based solutions generated through these research centres will both inform and be informed by an Australian CDC to improve the health of Australians. A key strength QUT can offer is its capacity for inter-sector partnerships that underpin our interdisciplinary approaches to solve complex real-world health challenges.

Consultation Paper Questions

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?*

Decisions regarding national and state health policy and action plans need to remain the remit of the state Health Departments, Chief Health Officers, and Chief Medical Officers. The role of the national CDC would be to provide real-time expert advice and data-based evidence for best practice to all government parties regarding national and state health service delivery for both chronic health concerns and in response to emerging / epidemic disease events. This would align with the draft purpose of the CDC to guide and communicate, gather and share data, and strengthen national cooperation and collaboration amongst field experts.

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?*

The current scope of the proposed Australian CDC is large and encompasses pandemic preparedness, response to emerging infectious diseases, control of all communicable diseases in addition to monitoring, advising and improving chronic health conditions of all Australians. This is commendable, as the function of the CDC should be to monitor all diseases, including non-communicable diseases, at a national level. As a nation, we need to establish systems of real-time communication, coordination,

integration and sharing of multiple data sources to be more agile and rapid in our response to emerging environmental and infectious health threats.

The CDC would provide a coordination mechanism to enable more efficient data and information sharing amongst Australia's extensive network of expert advisory groups and committees. The CDC would interact with global health counterparts, including the WHO and other international CDC, to ensure global disease surveillance and rapid global responses.

A One Health framework can be promoted and coordinated by a CDC through the facilitation of data sharing across sectors and across state and national departments within Health, Agriculture and the Environment. The CDC would break down silos and establish linked data repositories nationally accessible between states, foundational networks of experts and cross-disciplinary health surveillance programs, to enable sectors to work together to inform policy and decision making that has a positive effect on human health, the environment and agriculture.

Of particular concern are emergent and current consequences of climate change; drought, flooding, bushfire smoke, increased ambient temperatures, bioaerosol loads (i.e., fungal spores and pollen) on human health. Consistent with the One Health objective, a CDC might partner with other agencies (The Department of Climate Change, Energy, the Environment and Water, Bureau of Meteorology) to both advise and advocate for national standardized monitoring, forecasting and reporting of bioaerosols ([Recommendation 14](#), Royal Commission on Natural Disaster Arrangements Report of 2020).

A national CDC should take on a coordinating role with respect to all three realms of One Health: environmental, animal and public health. Currently, in Australia, public health and biosecurity responses to emerging infectious diseases largely focus on controlling cross-border pathogen transfer and community outbreaks, rather than addressing the ecological sources from which the threats emerge. A CDC that is driven by One Health should sit in the Federal Government, but across Departments, not solely within the [Department of Health and Aged Care](#), and be designed and steered by a cross-sectoral and transdisciplinary group. There are currently several research and policy groups around Australia, outside of government, which have prioritised a One Health approach and that would be complementary to a nationally integrated system. A nationally integrated governance body should seek to connect the dots between these initiatives and policies by ensuring the inclusion of deep prevention research and policy.

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 would function best as a bipartisan organisation free of political influence that does not shift with changes in governing parties. In this way, the CDC can maintain long-term support and coordination to achieve priorities and goals. Political independence would also ensure public trust in advice given by the CDC. Decisions regarding national health priorities and strategies for response to emerging health threats need to be evidence-based and free of political interference or influence of other agendas. This will require legislation to allow for data sharing and coordination across all states and territories. Therefore, all states and territories will require balanced representation within the governance structure to ensure the level of coordination that will be required for success. Equity of representation of members from all states and territories will be important to allow for the agency for CDC recommendations at local level, to draw from wide expertise and to consider diverse types of health threats that may be associated with particular climatic and biogeographical regions of the continent. The main seat of the CDC should be in Canberra as a federal entity, although the "wheel and

spoke” approach should be considered with equal involvement of regional, state and territorial parties. The Director of the CDC should be a bipartisan appointment of an eminent, independent researcher, clinician or public health practitioner.

Why do we need a CDC?

A Coordinated and National Approach to Public Health

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?*

Success in rapid, agile and evidence-based policy and action plans will rely upon rapid collation, sharing and analysis of data. Effective collaboration and information exchange will require development of sophisticated and integrated databank infrastructure, and a network of key people / positions within institutions (i.e., University, Government and Industry) who are enabled to freely communicate and exchange information, policies and response strategies. This will enable both the rapid detection and interpretation surveillance signals, and allow for a coordinated response to emerging health threats. Whilst the motivation to consider formation of a CDC prompted by review of the Australia’s lived experience of the current pandemic response, there may be tendency to focus on future infectious pandemic preparedness, as well as surveillance and stewardship of related and major infectious health threats; antimicrobial resistance. There will need to be parallel streams within the CDC that provide for a continuous sustained surveillance and response to chronic non-communicable diseases, and other environmental and client related health threats. This approach will also require these positions / people to meet and communicate regularly via symposia to ensure this exchange of information is effective.

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?*

The pandemic in Australia highlighted gaps in efficiency regarding national data sharing. Australia currently functions in data silos in which different states, and in some cases different hospitals and healthcare providers, maintain data on different systems that do not enable compilation and comparison. A current lesson we are learning from the re-emergence of Japanese encephalitis virus is that state governments are not coordinating their response even now, with sero-surveys being conducted in different states, and state health governments responding differently regarding vaccination policies and public communication. A National CDC would enable better inter-state uniformity on response and data and information sharing by providing a “go-to” body for coordinated responses. However, as well as system and data platform barriers, differences in state privacy legislation are also barriers to sharing of data, particularly health data, between states.

The pandemic also highlighted the importance of developing a mechanism to support a scalable and sustained emergency response and public health surveillance workforce. This needs to be maintained during non-pandemic periods to ensure rapid responses to new pandemics and epidemics. It is important to ensure that this workforce can be up and downscaled without significantly affecting non-emergency health services to ensure continuity of care that is not related to a disease emergency.

Linkages:

An important partner in a National CDC would be the [Victorian Infectious Disease Reference Laboratory](#) and WHO Regional (Asia-Pacific) Reference Laboratories. Although based in Melbourne, Victoria,

these Centres collate data on notifiable infectious diseases throughout Australia and also our near neighbours in the Pacific (e.g., Polio and Tuberculosis in Papua New Guinea).

The pandemic highlighted the need for clarity in the role of government entities in the response to a health crisis. Every state currently reports on notifiable diseases through the National Notifiable Diseases Surveillance System (NNDSS); however, this requires the cooperation of the states as they are not legally required to complete this reporting. The NNDSS is currently the responsibility of the [Department of Health and Aged Care](#), although making it the responsibility of the Australian CDC would help to ensure collaboration from state governments and the private sector. A system for surveillance and reporting of zoonotic diseases, similarly under the control of the Australian CDC, would facilitate a more holistic view and potentially encourage greater engagement from the private sector.

Health system connections:

Another issue that became more apparent during the COVID-19 pandemic was the health systems challenge of clarity of roles of primary health care networks and ways of partnering with public tertiary hospital and health services. We also saw the recognition of importance and reliance on health prevention, and for funding to be provided not only for front line health workers and service delivery, but also to public health, data analysts and epidemiologists. A rounded health system balance and interagency partnerships, including public-private pathology and clinical services, are essential for effective disease surveillance and response planning.

A Data Revolution: A National System and Improved Linkages

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

A principal barrier is a lack of uniformity in data platforms. For notifiable diseases, the data goes from private providers (e.g., pathology laboratories) to state health department to NNDSS. If data could be simultaneously uploaded by providers to both state databases and NNDSS then the timeliness and consistency of data collation and sharing could be improved. This relies on use of a common data platform and data transfer pathways that can cope with increasing data complexity and data volumes.

Different state policies indirectly impact the accuracy of the data from each state. For instance, at one point during the COVID-19 pandemic, different states had different reporting requirements for infected individuals, which impacts the consistency of the data related to numbers infected and incidence (e.g., apps where you only report if you are positive vs. apps where you report the result [positive or negative] whenever you self-test vs. no app to report self-testing at all).

Many health clinics in remote areas still rely on paper-based collection of clinical data, which will continue to be a challenge for timely data transcription, integration and sharing. Remote areas, particularly in Northern Australia, are also some of our most vulnerable ports of entry for exotic diseases. Enabling digital clinical, animal health and environmental data collection in remote areas will be essential for early detection of health risks.

Privacy laws including commonwealth and state acts also pose a barrier to data integration and sharing that will need care consideration so that the legislation is consistent with community expectations for appropriate government planning and preparedness, with ethical considerations and social license for government to acquire, store and share personal, so as to incorporate social determinants of health, and health data. Furthermore, there are valid concerns about data sovereignty and data security.

Health equity is impacted by the representation in integrated health data sets relied on to monitor and evaluate health threats. It will be important that due consideration is given to capture relevant information of not only of regional, rural and remote communities, but most importantly of our First Nations peoples, as well as culturally and linguistically diverse and migrant communities.

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?*

Currently, data is collected more frequently for positive disease notifications. However, it would be useful to also enable collation of the absolute number of tests for each disease. This would assist the understanding of patterns in disease notifications. For example, understanding if zero cases of disease identified in a region was related to the absence of testing, or conversely if a spike in notifications was due to a rapid increase in testing rather than an emerging disease. Acute Rheumatic Fever (ARF) is reportable by clinicians in some states and territories (i.e., NT, QLD, WA, SA, NSW, TAS) but not Victoria. These types of registries, biobanks and data repositories are state based, so having a national registry, and sharable biorepositories, would allow better patient surveillance and larger datasets for monitoring of emerging trends, and research to verify, inform and explain disease mechanisms.

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

Emerging risks regarding infectious disease for Australia specifically are most likely to enter from the Topical North, especially Papua New Guinea and the Torres Strait Islands where diseases such as malaria, dengue and tuberculosis are endemic. Surveillance and notification systems established in North Queensland will be key to early warning emergence of these diseases. [The Australian Institute of Tropical Health and Medicine](#) is based at James Cook University and would be a key partner in surveillance of both human, animal and vector disease status in the Tropical North of Australia. Establishing partnerships with Key Pacific Island Nations will also be important for developing early warning systems within Australia. A strong network and communication between CDCs (or equivalent) in key countries such as USA, China, UK, and India will also be essential.

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

A national data plan is critical for any rapid national response, in addition to being able to enable state or regional-level responses for disease threats that are more restricted when first identified. An evidence-based health monitoring framework is essential. However, the evidence needs to be robust and available in real-time. Review and revision of relevant legislation and deep engagement with health consumers will also be essential. With Centres such as Australian Health Service Innovation (AusHSI) which used implementation science frameworks to evaluate change in practice, Centre for Behavioural Economics Society and Technology (BEST), and Australian Centre for Health Law Research, QUT is well positioned to contribute to these framework planning and monitoring.

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

National oversight is required to ensure equal state health department data collation and sharing, in addition to coordination with national government bodies and the university sector.

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

This consideration links to workforce planning. The university sector would be instrumental in tailoring courses to ensure the technical skills required for data analysis, policy development and disease response are developed in the current and future workforce. The CDC would benefit from partnering with universities to develop longer courses such as Masters and Graduate Diplomas / Certificates and also shorter, more targeted micro-credentialled courses for specific technical skills of current health practitioners and health administrators that are required for the CDC to fulfil its purpose.

Approaches should be developed that allow many individuals to utilise the data with minimal

involvement of CDC technical staff. An investment in mathematical and deep neural network modeling, as well as visualisation tools and spatial mapping using dashboards and algorithms, could allow staff to flag emerging trends to be investigated more fully by individuals with relevant technical skills.

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?

The first step would be to liaise with community elders from various First Nations across the country, as well as with the National Aboriginal Community Controlled Health Organisation, state based Aboriginal and Torres Strait Islander Community Controlled Health Organisations, and to consult with experts in aboriginal health and genomic data sovereignty to establish trust and partnerships. First Nations health clinic directors would be required. The ability for First Nations communities and Aboriginal Medical Services to contribute to and benefit from national health surveillance and preparedness will be dependent on the willingness to establish a pipeline of data regarding disease and infection notifications that would start with local / regional health clinics, General Practitioners and Hospitals. A national unified data collection / reporting framework that was easy to use and accessible through local digital networks that are available in remote locations and respectful of First Nations as well as other community groups, would be essential. A clear data conduit framework leading to a central collation point would be essential. An appreciation of the complexities of community sensitivities to who collects, stores and shares personal and health data on Indigenous peoples past and living would underpin participation, access and benefits of data surveillance by CDD to achieve health equity.

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 and state and territory health departments?*

The CDC would be the primary source of evidence-based advice for policy development at the state and local level. Communications would be to relevant Chief Health Officers and Directors-General, who would then provide expert advice to health ministers for policy decisions. However, it would also be important that the public develops trust in the CDC by having access to real-time situation reports and web-based data that is understandable to the general public. Bipartisan governance will also be important in ensuring public trust in the information and advice provided by the CDC.

- What could the CDCs broader role be in increasing health literacy to support sustained improvements in health outcomes?*

There is currently a wealth of resources, although of varying quality, across state and national government websites. Having a unified source of consistent information would be extremely useful and allow state governments to directly link to the one website, rather than create and maintain vast amounts of health information across multiple platforms. The CDC may also look to play an educational role using interactive online tools to increase health literacy for the general public.

12. To what extent should the CDC lead health promotion, communication and outreach activities?

It is not the CDC's role to lead health promotion activities, this should be state based. However, working in partnership with state governments to ensure relevant health outreach activities are supported would

be important to improve regionally relevant health risks. Communication from the CDC regarding emerging trends and/or latest evidence would provide evidence for state-based health promotion and outreach activities. The exception may be if there are specific targeted national campaigns (e.g., engaging First Nations people in specific outreach activities).

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?*

One Health should be incorporated into land-use and development planning documents. Environmental Impact Assessments (EIAs) can incorporate Health Impact Assessment in most jurisdictions. However, health criteria in EIAs should be made more explicit. Zoonotic disease risk should also be a defined factor for consideration from both an environmental and health impact assessment perspective. To enable this, EIAs should consider not only direct environmental impacts but also the indirect and cumulative effects of proposed development projects. This is vital as we now know that the spillover of Hendra virus is directly linked to bat habitat loss and climate change.

In addition to international partnerships, any CDC needs to be aware of, and in collaboration with national organisations such as Animal Health Australia, Plant Health Australia, Wildlife Health Australia, CSIRO's Infectious Disease Resilience Mission, the Indo-Pacific Centre for Health Security, the Australian Centre for International Agricultural Research, the Murdoch University Centre for Biosecurity and One Health, and those involved with the One Health Master Action Plan for Australia's National Antimicrobial Resistance Strategy. Existing One Health structures within government, need to be integrated and support through a national One Health program. Additionally, regard needs to be had to other domestic stakeholders such as the agricultural industry, landholders, environmental organisations, the trade sector and port operators.

Stakeholders in industry as well as private health service provides and other government agencies who monitor environmental factors such as Department of Climate Change, Energy, the Environment and Water, and Bureau of Meteorology, are able to contribute to CDC objectives.

National Medical Stockpile for the Future

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?

No comment provided (i.e., this is not a matter that the University is positioned to comment on).

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?

The CDC would collaborate with universities to ensure courses are tailored to deliver skills and knowledge required for both the current and future workforce. Micro-credentialling would ensure the workforce is up to date with response policy, skills in data management and analysis, disease pathogenesis and emergency responses. Emergency training and situation-based simulations would be key to ensuring preparedness. Regional and culturally tailored training would be required to ensure a response to an emergency is effective.

The CDC could develop panels of experts who would be on call and rapidly convened to address emerging issues. These panels would comprise a range of expertise in advance of any need. This

would also highlight where there is a deficiency of expertise, and help focus training activities.

Exchange of ideas, skills and workforce with international CDCs would create a global workforce network that can share expertise in unique situations. This would be supported by international exchange programs to educate our first responders and policy makers by assisting other countries during times of need, thus building their experience and training.

16. How could the CDC support and retain the public health workforce in reducing the burden of non-communicable disease?

As indicated above, non-communicable chronic disease involving cardiovascular, respiratory (e.g., allergy, asthma, COPD) and metabolic disorders (e.g., obesity, diabetes) form a high proportion of current disease burden in terms of morbidity, mortality and impact on quality of life, wellbeing and life expectancy. The CDC can play an essential core role in collating and report trends in non-communicable diseases. This might be in association with and complementary to the Australian Institute of Health and Welfare.

The CDC can provide internships and scholarships for training public health, epidemiology and digital health experts. The CDC itself would provide a place of employment for graduates skilled in diverse disciplines required for sophisticated real-time health surveillance.

Within the CDC there will be a need for appreciation of the synergy and balance between 'big data' digital health approaches with data scientist who apply neural network mining of large integrated real-time datasets to detect early warning data signals, and epidemiologist and biostatisticians who work with well curated datasets to provide targeted and controlled analysis and reporting.

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?

A coordinated and much larger national effort to monitor threats from environmental sources, such as vector and reservoir host migration, is needed. The CDC would enable a coordinated data collection and sharing approach by linking Environmental and Animal Health agencies with human health agencies.

Collaboration and consolidation are required between existing One Health policies. For example, reports of animal disease outbreaks are collected primarily to mitigate adverse impacts on trade. In practice, the requirement for certain zoonoses to be monitored and reported differs across jurisdictions. Accordingly, there is a disparity between human and animal health surveillance and reporting systems in Australia, with progress much slower in animal health and food production in comparison to biosecurity and public health surveillance. These deficiencies in Australia's zoonotic disease monitoring indicate a need for a centrally coordinated, systematic and ongoing surveillance system, with concurrent human, animal and environmental research, to better understand emerging infectious disease threats. The need for a multi-sectoral One Health surveillance system is endorsed by Australia's National Antimicrobial Resistance Strategy, which recommends sustainably funding evidence-based surveillance of human, animal, food and environmental usage and resistance data. A coordinated and multi-sectoral One Health surveillance system is an example of a policy centring systems-level and long-term thinking, to prevent spillovers at the human-animal-environment interface.

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?*

A national public health emergency operations centre would need to be agile and scalable to stand up or down workforce depending on needs. One of the challenges highlighted by the pandemic has been the ability to deliver healthcare vaccines and other equipment required for a rapid response across large distance and into remote areas lacking infrastructure and logistics systems. An entity dedicated to public health emergency operations would address this issue by maintaining continuous engagement and coordination amongst state and territory emergency response entities to enable rapid and timely responses.

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?*

Australia is an affluent economy in the West Pacific region and a unique island continent spanning tropical to temperate latitudes. We should be a key nation contributing to the surveillance of infectious diseases within this region to enable global early warning of the emergence of infectious diseases with pandemic potential. However, with dispersed and coastally located urban population centres concentrated on the eastern and southern regions, health and environmental surveillance can be sparse. Such examples would be the spread and emergence of mosquito-borne viruses, avian influenza, poliovirus and extreme drug resistance tuberculosis. We already fulfill this role to some extent through WHO collaborative centres based in Australia, however, could expand on this expertise.

Scenario mapping of future disease incursions would be extremely useful. Currently, we scramble to determine the best containment measures (e.g., close schools, mask wearing, complete lockdown) with little evidence. Developing detailed network modelling of communities is required to adequately explore impacts of interventions for communicable diseases with different characteristics. This would allow government responses to be evidence-based, pre-planned and tailored to the specific type of disease.

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, or other issues?)*
- *How can the CDC be utilised to strengthen pandemic preparedness internationally?*

Capacity building for the public health workforce would be enabled through an exchange program with other similar CDCs or secondments of workers in times of need. A timely surveillance system would flag changes in disease occurrences in international travelers or visitors, allowing the CDC to alert the relevant country. This would be exceptionally useful for countries who do not have real-time monitoring or disease surveillance. The Australian CDC should be our interface with other international CDCs and lead our international engagement.

Australia already has a strong partnership with the [World Organisation for Animal Health](#) (WOAH, formerly known as the OIE), and this partnership is a strength of Australia's zoonotic disease surveillance system. Additional outreach needs to occur with other One Health – related organisations outside of the WHO, such as UNEP, IUCN and the FAO. Additionally, Australia could provide great assistance to our regional neighbours by engaging with international programs such as UNEP's [Nature 4 Health program](#), which is focused on assisting Low-Income and Developing Countries with pandemic prevention by focusing on the environmental drivers of pandemics. Specifically, we note that Australia cannot prevent pandemics through nationally coordinated approaches alone. Due to global trade routes and tourism, as well as migratory species and other transnational zoonotic disease risks, Australia must

also collaborate with its Indo-Pacific partners to promote regional resilience. Additional collaborations with Indo-Pacific researchers and communities, considering local knowledges, cultures, social norms, political and power structures, and ways of being, is critical to sustainable and embedded One Health transformations. This may include developing robust and green COVID-19 recovery plans and funding arrangements, to ensure vulnerable communities in the region can identify and address gaps in their biosecurity systems.

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?

By providing accurate data, including spatial data, the CDC can provide evidence of the need for targeted health promotion activities and monitor changes in human behavior and/or disease trends over time which will help evaluate programs. Being able to report the results of the full cycle of activities allows different areas of the workforce to see the various impacts and fosters their continued involvement.

As the most populated and one of the largest geographical states, with multiple world class universities, Queensland is well placed to contribute particularly to tropical disease threat surveillance. Moreover, with the early roll out of integrated electronic medical records in two thirds of public hospitals, Queensland invested in disease prevention during the COVID-19 pandemic and was agile and innovative in its digital health and precision health agenda. The CDC would be well placed to learn from and draw on Queensland expertise and experiences of diverse climatic zones, the wide range latitudinal range, dispersed largely rural, regional and remote population, high percentage of people who identify as Aboriginal and Torres Strait Islander.

22. What role could the CDC have in implementing the goals of the National Preventive Health Strategy?

The CDC could take a lead partner role in guiding the strategies and implementation plans for the National Preventive Health Strategy.

23. Should the CDC have a role in assessing the efficacy of preventive health measures?

No comment provided.

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 a disability and older Australians, to ensure their voices are included in policy development?

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

The draft CDC functions in scope for consultation do not meet the needs of Indigenous peoples. It is unrealistic for the CDC to meet the intent of 'Closing the Gap' without considering Indigenous perspectives of health – that is, holistic health that goes beyond the absence of disease and considers the social and cultural determinants of health. The draft CDC functions note the 'possibility' of including a number of policies for guidance and communication, however, then does not focus on other aspects that work to prevent good health in communities such as food sovereignty, family and community relationships, mental health, isolation and remoteness, and intergenerational trauma. Climate change and the associated impacts on Indigenous health also need to be a priority.

The CDC would need to support increased training of health sector staff, particularly a grassroots level workforce, increasing the number of Indigenous health professionals as a priority who can then lead

from the ground up. This should be based on true engagement and discussion with Indigenous peoples and communities and Indigenous experts in the field who often have strategic plans and ideas to address health. Whilst a National Aboriginal and Torres Strait Island Health Plan exists, a more focused committee should be established that considers holistic health and has decision-making power to provide more than advice on health protection matters.

From a One Health perspective, the lack of engagement with First Nations communities is a major gap in Australian policy. Indigenous people hold around 40% of Australia's landmass and are responsible for many 'on the ground' One Health related strategies. Indigenous land and sea management practices are associated with improved biosecurity, weed and non-native animal control, general conservation of threatened species, improved fire management and lower greenhouse gas emissions. Indigenous communities are integral to an effective One Health system and need to be included in its leadership, governance, design, implementation and monitoring.

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

Please note that this should be decided in consultation with the relevant groups. They are best placed to inform how health information could be disseminated to achieve maximum engagement with their specific populations. It is well known that consultation with Indigenous peoples and communities is imperative, however, 'consultation' seems to rarely be instigated in culturally safe or responsive ways that ensure the needs of Indigenous peoples are addressed. Indigenous peoples on the above suggested committees need to provide on-ground information to communities. Face to face communication and consultation (i.e., whole of community information delivery and consultation) is strongly encouraged to ensure Indigenous peoples and communities have the ability to be involved in decisions regarding personal health. Provision of written and/or artistic educational information in Indigenous and other languages should be provided for communities where English is not first language and are tailored to meet specific community needs.

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)?

As stated above the social and cultural determinants of health are imperative to include. An Indigenous specific committee targeting Indigenous policy initiatives, education and strategies to deliver Indigenous specific policy is required. Refugee communities are also important regarding engagement and health surveillance and so the CDC would need to liaise with healthcare providers within these communities.

Research Prioritisation

27. Should the CDC have a role in advising on (or directly administering) funding or prioritisation of public health and medical research?

The CDC would be the key organisation nationally that would provide evidence of what Australia's priority health concerns are at any time. This evidence should be used to inform priorities in health research to ensure research funding is spent where it will have the most positive impact on our population. This expert advice would inform public health research regarding policy development, best practices for health delivery, and education. It would also inform medical research regarding needs for improved diagnostics and disease biomarkers, technology platforms for vaccine and drug development, and gaps in basic research regarding emerging pathogens and diseases that have been overlooked or critical to specific communities.

Supporting interdisciplinary One Health research could be a priority within the CDC to fill existing gaps in zoonotic risks identification in Australian wildlife, livestock and companion animals, as well as invasive species. Further research is also required on the environmental drivers of disease spillover

such as climate change and deforestation. From a social science perspective, research is required on consumer behaviour, communication methods and benefits of existing and proposed One Health policies.

The CDC should not be directly involved in administering funding as a way of preserving its independence and remaining external to political interference.

The CDC Project

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

The success of the CDC could be measured by the health of the population (e.g., a reduction in hospital admissions for the Australian population; a reduction in drug prescriptions for chronic conditions), indicators of quality of life, wellbeing of the population, and health economic benefits on the health system. Evaluation of success should also include some measure of reputation amongst the community, such as recognition in the general public that the CDC exists, knowledge of what it does, and the level of trust in the information produced. Furthermore, additional measures could include timely warnings of emerging diseases and/or outbreaks which allowed for successful containment or control of a disease outbreak, as well as the use of CDC produced evidence in research and policy.