

Role and Functions of an Australian Centre for Disease Control

Joint submission from the Epidemiology and Veterinary Public Health Chapters of the Australian and New Zealand College of Veterinary Scientists

About us

The **Australian and New Zealand College of Veterinary Scientists (ANZCVS)**¹ is a membership based, not-for-profit organisation, that is committed to the pursuit of excellence in Veterinary Science through our Membership and Fellowship examination system. We are driven by the values of professionalism, ethical practice, collegiality, transparency, evidence-based practice, and fairness.

The College is proud to support over 2500 professionals across Australia, New Zealand and beyond, who pursue the advancement of the veterinary profession. Through its members the College shapes the standards of professional excellence within the veterinary profession. ANZCVS is comprised of 29 Chapters representing different specialist interests. This submission has been developed jointly by the Epidemiology and Veterinary Public Health Chapters of the College.

Members of the **Epidemiology Chapter**² are trained and accomplished in the discipline of epidemiology. Chapter members apply their skills in diverse areas, including disease, health and production of livestock, companion and aquatic species, as well as the epidemiology of disease and health in human populations.

The **Veterinary Public Health (VPH) Chapter**³ of the ANZCVS is dedicated to improving the physical, mental and social well-being of humans by utilising expertise in veterinary science. Chapter members use knowledge and skills in diagnostics, surveillance and epidemiology to control, prevent and eliminate zoonoses, monitor and promote food safety, protect the environment, promote animal welfare and understand the social and behavioural aspects of inter-human and human-animal relationships.

Both Chapters include veterinarians employed in private practice, Australian and international private consultancy, academia and research and government departments, including agricultural, food and health portfolios.

¹ <https://www.anzcvcs.org.au/>

² <https://www.anzcvcs.org.au/chapters/epidemiology+chapter>

³ <https://www.anzcvcs.org.au/chapters/veterinary+public+health+chapter>

Introduction

The Epidemiology and VPH Chapters of the ANZCVS thank the Australian Government Department of Health and Aged Care (DoHAC) for the opportunity to provide input into shaping the roles and functions of a future Australian Centre for Disease Control (CDC). We are pleased that veterinarians are recognised as important stakeholders in realising the goals of the CDC; namely to:

- ensure ongoing pandemic preparedness
- lead the federal response to future infectious disease outbreaks
- work to prevent non-communicable (chronic) and communicable (infectious) diseases.

These goals are shared across the animal, environmental and human health sectors. For example, the Australian Government recently boosted funding for Australia's biosecurity system⁴, with a focus on initiatives to enhance pest and disease preparedness and prevention. All these sectors are facing challenges of disease emergence and transboundary spread of significant pests and diseases, with many shared drivers for disease emergence and spread.

With shared challenges being experienced across the animal, human and environmental health sectors, the commitment to develop an Australian CDC presents a unique opportunity to reimagine the traditional approach of discipline-specific health sectors, and embrace instead a genuinely collaborative approach to operationalising the concept of One Health in Australia.

In Australia, recent responses to COVID-19 and Japanese encephalitis provide examples of cross-disciplinary collaboration, utilising a One Health approach. However, these examples tend to be either small in scale, localised to a specific region or organisation, or short-term in nature. We urge DoHAC to go beyond motherhood statements of One Health that appear throughout the Discussion Paper and consider a vision for how a One Health system might be realised, with the Australian CDC as an important part of its operationalisation. On the following pages, we elaborate on our vision for the CDC through responses to specific guiding questions from the Discussion Paper.

We thank you again for the opportunity to provide input into shaping the roles and functions of an Australia CDC. We would be pleased to remain engaged as the process of operationalising this commitment progresses.

Sincerely, on behalf of our respective Chapters⁵,

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⁴ <https://minister.agriculture.gov.au/watt/media-releases/biosecurity-budget-funding>

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Response to selected guiding questions from the Discussion Paper

Functions of the CDC

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 CDC should be developed using a One Health framework and should function as a One Health organisation – most diseases, particularly zoonotic infectious diseases, would be addressed most effectively working within a One Health paradigm. The CDC should be central to promoting and coordinating such a framework in general and should support One Health solutions to all issues/situations where collaborative efforts are indicated. The functionality of the CDC should have One Health at its heart, which does not mean consulting across siloes when it is deemed required, but rather having structures in place to allow collaborative engagement and response from the outset. Strong representation of all sectors is required within the CDC and efforts made to ensure that they are weighted appropriately, with their capacity, function and benefit understood by all.

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?**

Effective stakeholder engagement will be key. Ensuring that stakeholders have a clear understanding of the vision and goals of the CDC (which will need to be refined and defined early on) and that they can see the benefit of the organisation to their specific area will be essential. An understanding of the different needs and dynamic levels of engagement of different stakeholders will allow targeted and nuanced engagement tactics, an example of which is outlined in Mendelow's matrix⁶, as recommended by the One Health European Joint Program⁷ for stakeholder analysis

5. What lessons can 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?**

⁶ Mendelow, A.L (1991) 'Environmental scanning: The impact of the stakeholder concept'. Proceedings from the second international conference on information systems 407 – 418. Cambridge, MA. And discussed in <https://blog.oxfordcollegeofmarketing.com/2018/04/23/what-is-mendelows-matrix-and-how-is-it-useful/>

⁷ <https://onehealthjep.eu/>

Linkages will need to be made with the animal and environmental health sectors, for the development of the CDC, if it is to sit within a One Health framework. These linkages should be made with a clear capacity for communication with the animal health sector, both at the level of regulatory and peak bodies, and at the level of the clinical workforce independently. While existing governance structures for human, animal and environmental health will need to be maintained to fulfill existing functions within their respective remits, the CDC could fulfil the role of a One Health governance structure, fostering communication and collaboration across sectors. An understanding of the roles of organisations such as the Australian and New Zealand College of Veterinary Scientists, the Veterinary Schools of Australia and New Zealand (VSANZ) and the Australian Veterinary Association will be important for this.

The expertise that exists in animal health around outbreak response, epidemiology and public health was largely overlooked in the COVID-19 pandemic response. This was a missed opportunity to engage across sectors and to learn from a sector that has had considerable experience with outbreak response and population level disease control. Similarly, at the practitioner level, there is a ready workforce with capacity for engagement around medical response (within reason – vaccination, technical support of medical practitioners), in the situation in which a medical workforce is severely affected. This should not be called on unless in extreme emergency, but it should be noted, and the comparative skill understood.

Why do we need a CDC?: A data revolution

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

From a veterinary perspective, the contribution of health data needs to consider the purpose for which the data is collected. Most systematic data collection conducted in animal health occurs with livestock sectors which depend heavily on trade. Animal health data in this context is used as evidence of health status in relation to pests and diseases of concern and enables both domestic and international trade in livestock species and their products (for example, meat and dairy products). Data collection in the companion animal and wildlife sectors is less developed as systematic systems, so support to further develop these systems would be needed. CDC governance role should play a part in this.

In all sectors – livestock, companion animals, wildlife – the benefits of integration with human health data and environmental data in terms of health for all (One Health) needs to be clearly articulated to have these sectors buy-into such an activity. This is a challenge, so at the higher One Health level, compelling reasons to integrate data must be proposed by the CDC.

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?***
- ***What else is needed to ensure that Australia is able to identify emerging risks to public health in a timely way?***
- ***Would the development of a national data plan with an agreed scope and/or an evidence-based health monitoring framework be useful?***

A National Animal Health Surveillance (NAHS) plan exists⁸. Contributors are mostly Commonwealth, state and territory government departments via laboratories and field services. There is scope for contributions from the non-government sector – such as private laboratories, industry organisations, wildlife carers, and veterinary practices. Demographic data is often lacking in animal health surveillance. Contribution of animal data requires there to be trust in how the data is used. Promotion of the One Health concept, i.e. that contributing existing data will create value and benefit to human, animal and environmental health should be central to this. A national data plan with an agreed scope is not only useful, it is critical.

Laboratory diagnostic capacity and expertise is a crucial aspect of successful surveillance. Given the importance of zoonoses (including arboviruses and foodborne diseases) and threats emerging from wildlife reservoirs in Australia and the wider South East Asia region, key Australian veterinary diagnostic laboratories and centres that link them should be engaged in the development of the CDC to ensure timely detection of emerging infectious diseases. The Australian Centre for Disease Preparedness (ACDP) – the only Biosecurity Containment Level 4 (BC4) laboratory in Australia – links with state and territory government veterinary diagnostic laboratories through the Laboratories Emergency Animal Disease Diagnosis and Response (LEADDR) network⁹. ACDP and The University of Melbourne (Melbourne Veterinary School) also together run a World Organisation for Animal Health Collaborating Centre on Diagnostic Test Validation Science¹⁰.

⁸ <https://www.agriculture.gov.au/agriculture-land/animal/health/surveillance-diagnostics> Note: The latest National Animal Health Surveillance (NAHS) plan has not yet been published on this site at the time of this submission (9 Dec 2022). The Australian Department of Agriculture, Fisheries and Forestry is the appropriate contact for more information about the NAHS plan.

⁹ <https://www.agriculture.gov.au/agriculture-land/animal/health/system/lab-network>

¹⁰ <https://fvas.unimelb.edu.au/research/centres/oie-dx>

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

Governance needs to ensure that adverse impacts on animal industries and animal populations do not occur due to the contribution of data from those sectors. By getting the governance structure right, the CDC model should be able to overcome the barriers to data integration that currently exist in animal health. The guiding principle needs to be 'do no harm'.

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

Workforce development is critical. Whilst there are some capabilities shared between human and animal health (often with environmental data and analyses forming a link), approaches can differ due to the types of data available (e.g. census tracts versus farm locations). New training modules will be needed to support data analysis within a One Health framework. The Australian and New Zealand College of Veterinary Scientists is one organisation which could assist in training and improving technical capability.

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?

Data systems need to balance accessibility versus confidentiality and commercial interests. Parts of the Commonwealth and the state and territory governments have existing programs which could be used as a model for collaboration. For example, the Department of Agriculture, Fisheries and Forestry's Northern Australia Quarantine Strategy has partnered with Indigenous rangers to capture data that has relevance to surveillance, but also to community culture and sustainability¹¹. Systems such as this should be examined in detail and either replicated or supported.

Why do we need a CDC?: 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?**

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

¹¹ <https://www.ava.com.au/member-updates/from-the-desk-of-mark-schipp/dr-mark-schipp-on-indigenous-knowledge-exchange-in-surveillance-activities/>

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.

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

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 remote and rural areas, those working in the agricultural industries and those living with or near companion animals and wildlife. The expertise of the agricultural and animal health sectors should play a key role in developing health literacy to improve safety and promote prevention of zoonoses, farm accidents, and harm caused by both wildlife and domestic animals.

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

The CDC should be established as an independent and trustworthy leader in health promotion, communication, and outreach activities.

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

Yes, a One Health approach to the formulation of advice is critical to the role of the CDC in supporting and improving health literacy. Human health is linked to the health of both natural and man-made environments, wildlife, and domestic animals. The CDC should involve experts in animal health, environment, climate, wildlife health and ecology, and urban planning as appropriate for the health issue in question. For example, experts in agriculture and animal health develop disease prevention and biosecurity advice for companion animal and livestock health to reduce unnecessary use of antimicrobials, decrease the incidence of zoonotic disease, increase sustainability, and protect the livelihoods of individuals and communities that rely on income from the animal industries.

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

The CDC should access already existing databases, providing the contact details of individuals and organisations with specific areas of expertise. Many organisations, such as the state and territory Veterinary Registration Boards and the Australian and New Zealand College of Veterinary Scientists, collect shareable information on their members including areas of expertise, willingness to serve in an animal related disease emergency and contact details of relevant individuals. Linkage

with these and other similar organisations can support broader consultation on decisions when needed.

Why do we need a CDC?: 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?

A multi-disciplinary workforce will be critical in effectively preparing for and responding to future health-related emergencies, especially emerging infectious diseases. We know that about two thirds of emerging diseases are zoonoses¹², and factors such as climate change will continue to have an impact on the incidence and epidemiology of arboviruses¹³. Besides traditional human medical training pathways, skills and experience in veterinary science, entomology and ecology will be increasingly necessary to understand and address threats to public health.

The CDC should work to ensure that workforce planning and training consider the future workforce needs in full, beyond the current scope of medico-centric public health training. While initiatives to develop or enhance public health training (such as expanding the Australian National University's Master of Philosophy in Applied Epidemiology (MAE)¹⁴) may be useful, they will not go far enough. There should be equivalent consideration given to those other scientific disciplines for which there will be an easily foreseeable need in the future to support the CDC's goals. For example, there is currently an identified gap in post-graduate veterinary epidemiology and public health degrees with the demise of the VPH Masters qualifications at the Universities of Sydney and Melbourne. This has exposed risks to future disease preparedness and response, food safety and security and biosecurity. These risks are compounded by complex issues of workforce recruitment and retention that the global veterinary sector is grappling with at present.

These issues must be considered within the scope of CDC's contribution to workforce planning if Australia wants to ensure we are adequately prepared for future health emergencies.

Part of the Australian CDC's remit could be to support expansion of accredited Field Epidemiology Training Programs (FETPs)¹⁵ available in Australia. This should include both bolstering the existing MAE program (the only accredited FETP course currently available in Australia) and supporting the establishment of Field

¹² Jones, KE, Patel, NG, Levy, MA, Storeygard, A, Balk, D, Gittleman, J & Daszak P (2008), 'Global trends in emerging infectious diseases', *Nature*, 451 (7181): 990-3. doi: [10.1038/nature06536](https://doi.org/10.1038/nature06536)

¹³ Whitehorn, J & Yacoub, S (2019), 'Global warming and arboviral infections', *Clinical Medicine Journal*, 19 (2), 149-152. doi: [10.7861/clinmedicine.19-2-149](https://doi.org/10.7861/clinmedicine.19-2-149)

¹⁴ [https://health.anu.edu.au/study/research/master-philosophy-applied-epidemiology-mae#:~:text=The%20MAE%20program%20is%20Australia's,Health%20Interventions%20Network%20\(TEPHINET\).](https://health.anu.edu.au/study/research/master-philosophy-applied-epidemiology-mae#:~:text=The%20MAE%20program%20is%20Australia's,Health%20Interventions%20Network%20(TEPHINET).)

¹⁵ <https://www.tephinet.org/about/about-fetps>

Epidemiology Training for Veterinarians (FETVs)¹⁶, which incorporate laboratory and veterinary components as part of their core training curriculum¹⁷.

As a starting point, the CDC should undertake an analysis of existing training and accreditation pathways available in Australia to inform its next steps to address workforce planning considerations. Organisations such as the Australian and New Zealand College of Veterinary Scientists, the Veterinary Schools of Australia and New Zealand (VSANZ) and the Australian Veterinary Association are well placed to assist with this.

Why do we need a CDC?: 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?

It is critical that the CDC plays a lead role in enhancing national and international collaboration on One Health issues such as threat detection. Building collaboration across disciplines through ‘peace time’ functions such as threat detection will create efficiencies (with many disciplines currently working on similar issues in parallel) and strengthen Australia’s emergency response capabilities.

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

Australia’s animal health sector has an enviable health status, being free of many significant pests and diseases such as foot and mouth disease, African swine fever and lumpy skin disease. This health status supports strong animal health and welfare outcomes, public health (in the case of zoonoses like rabies) and trade in animals and their products. Maintaining this health status is a key objective of Australia’s biosecurity sector. The sector directs considerable resources towards disease preparedness and Australia has a long history of successfully eradicating significant animal pests and diseases.

For example, Australia’s veterinary emergency response plans (AUSVETPLAN¹⁸) are world-leading and provide pre-agreed policies and guidelines to guide government veterinary authorities’ responses to pest and disease outbreaks. These plans are developed with input from all relevant stakeholders (e.g. animal industry representatives, Wildlife Health Australia, Health authorities etc.) and are reviewed regularly to ensure they remain fit-for-purpose. Emergency response processes are tested regularly through exercises of mock outbreaks and emergency response skills are supported through a range of training initiatives such as foundational training in the Australasian Inter-service Incident Management System (AIIMS), short courses and conferences, practical field

¹⁶ <https://www.tephinet.org/training-programs/regional-field-epidemiology-training-program-for-veterinarians-southeast-asia>

¹⁷ <https://www.fao.org/3/cb7545en/cb7545en.pdf>

¹⁸ <https://animalhealthaustralia.com.au/ausvetplan/>

exercises (such as assisting with disease responses overseas) and longer-term training opportunities, such as the National Biosecurity Response Team¹⁹ program.

Compared to Australia's animal health sector, infectious disease receives considerably less focus (and resources) proportionally in Australia's public health sector. In pursuit of enhancing Australia's preparedness for future infectious disease outbreaks, the CDC should recognise and capitalise on the wealth of knowledge and experience that the veterinary and broader biosecurity sectors have to offer.

¹⁹ <https://animalhealthaustralia.com.au/national-biosecurity-response-team-program/>