



6 December 2022

To Whom it May Concern,

WILDLIFE HEALTH AUSTRALIA SUBMISSION: CONSULTATIONS ON DESIGNING THE AUSTRALIAN CENTRE FOR DISEASE CONTROL (CDC)

Thank you for the invitation to provide a submission to the consultation process for designing the Australian Centre for Disease Control (Australian CDC: the CDC). Wildlife Health Australia strongly supports the proposal for a CDC and recognises its potential for promoting a coordinated, national approach to public health.

We consider the following features of design and governance to be critical to the effectiveness of the CDC model:

- a solid foundation of both design and governance in **One Health principles**.
- design and steering by **cross-sectoral and transdisciplinary expertise** at all levels.
- an entity that is **funded by government, responsible and accountable to government**, but maintains an **independent governance framework**.
- a structure that **recognises and supports the jurisdictional framework** of Australia's federated system and supports the states and territories in meaningful ways.
- an adaptive systems management approach of **evidence-based risk evaluation** to enable effective health responses across all hazards.
- positioned as the **central agency for pandemic prevention, preparedness and response**, supporting internationally agreed arrangements regarding emerging diseases and wildlife health.
- is a **robust framework for preparedness and training**, including the co-ordination of multi-agency, stakeholder-evaluated training exercises.
- is a **trusted centre of knowledge and information** for health promotion and disease risk communication with **quantifiable and measurable public reporting requirements**.
- **provides and supports surge capacity** for communication, collaboration and response across all three sectors of the One Health paradigm.
- **includes wildlife as a dedicated pillar of its design**, recognising that the majority of emerging diseases in Australia and worldwide arise in wildlife.

The majority of emerging infectious diseases affecting humans in Australia and worldwide arise in wildlife. Wildlife Health Australia is well positioned to facilitate cross-sectoral

engagement with a One Health focus, and to be a key pillar of expertise to assist with inclusion of wildlife activities, within the proposed CDC.

In the design and implementation of its CDC, **Australia should act with vision and foresight, abandoning old paradigms that focus on reaction and use of people as sentinels (a “One-third Health-type” approach) and embracing a true "One Health" approach** that will best position the country for the health challenges of the future.

Thank you again for the opportunity to comment and good luck with this important work.

Best wishes,

Rupert Woods AM

CEO, Wildlife Health Australia

EXECUTIVE SUMMARY

Wildlife Health Australia strongly supports the proposal to establish an Australian Centre for Disease Control (CDC) and supports the role of an Australian CDC as a coordinating body for national public health activities.

The health of humans, domestic and wild animals, plants and ecosystems are closely linked and interdependent. One Health principles should be the cornerstone of CDC design and governance, whereby human health is safeguarded by also understanding, promoting, protecting and monitoring environmental and animal health.

Wildlife Health Australia provides a model of governance and action that is successfully built around the One Health paradigm. We achieve outcomes for One Health through strong partnerships with all sectors and levels of government, industry, non-government organisations, universities, researchers, zoos, veterinary personnel and the broader community.

The drivers of all disease hazards (both infectious and non-infectious, including those with pandemic potential) are complex, non-linear, and mostly lie outside the remit of the public health sector. **Given disease prevention is far more cost-effective than response, the CDC should aim to minimise disease risk to public health at its source by addressing these fundamental drivers. This will require establishment of multidisciplinary expertise within the CDC and a commitment to multi-sectoral and multidisciplinary engagement with partners in all jurisdictions.**

The majority of emerging infectious diseases affecting humans in Australia and worldwide arise in wildlife. Wildlife Health Australia, a government initiative with independent governance, is the coordinating body for wildlife health in Australia and is a trusted centre of expertise, data and information on wildlife health and disease both within Australia and internationally. Our focus is the potential impact of wildlife disease on human health, animal health and the environment.

Within the proposed CDC, Wildlife Health Australia is well-positioned to facilitate cross-sectoral engagement with a One Health focus and to be a key pillar of expertise for the wildlife sector. We have established collaborative networks and a proven track record of multi-disciplinary engagement that would support a CDC based on a systems approach that prioritises disease prevention.

ABOUT WILDLIFE HEALTH AUSTRALIA

Wildlife Health Australia, a government initiative, is the coordinating body for wildlife health in Australia. Our mission is to lead national action on wildlife health to protect and enhance the natural environment, biodiversity, economy and animal and human health through strong partnerships. Wildlife Health Australia is trusted and consulted by both government and non-government stakeholders. We assist Australian government sectors, with consideration of Australia's federated system, through the administration of Australia's national wildlife health system.

Wildlife Health Australia is a respected partner in the international communities of wildlife health and One Health. We host Australia's World Organisation for Animal Health (WOAH) focal point for wildlife health, nominated by the Australian Chief Veterinary Officer as Australia's WOAH Delegate, and the co-chair of the International Union for the Conservation of Nature (IUCN) Wildlife Health Specialist Group. Our Chief Executive Officer advises the WOAH on their Wildlife Health Framework and contributes a wildlife health perspective to issues involving the quadripartite of WOAH, WHO, FAO and UNEP.

Wildlife Health Australia has a key consultative role within Australia's animal disease and biosecurity networks. We report to the Agriculture Senior Officials Committee (AGSOC) via the Animal Health Committee and the National Biosecurity Committee and we have observer status on the Environment and Invasives Committee and the Consultative Committee for Emergency Animal Diseases. Wildlife Health Australia is the custodian of the [National Emergency Wildlife Disease Response Guidelines](#) and provides an important bridge and enabling mechanism between government and non-government stakeholders regarding wildlife health issues of mutual concern.

Wildlife Health Australia has 40 member organisations and over 750 individual members. Our membership operates as a network that includes government agencies (including environment, health, and agriculture portfolios) and non-government partners (including universities, independent researchers, zoos and aquariums, private veterinarians and rehabilitators). We work with up to 120 different government and non-government agencies and organisations on a regular basis and our members are invariably requested to assist with any wildlife health issues occurring within Australia.

The Australian government is currently supporting a proposal to designate Wildlife Health Australia, in partnership with the Australian Centre for Disease Preparedness (ACDP), as a proposed WOAH International Collaborating Centre on Wildlife Health Risk Assessment.

More information on Wildlife Health Australia is available at:

<http://www.wildlifehealthaustralia.com.au>.

THE PROPOSAL FOR AN AUSTRALIAN CDC: A ONE HEALTH DESIGN

Wildlife Health Australia strongly supports the proposal for a CDC and recognises its potential for promoting a coordinated, national approach to public health.

We consider the following features of design and governance to be critical to the effectiveness of the CDC model:

- a solid foundation of both design and governance in **One Health principles**.
- design and steering by **cross-sectoral and transdisciplinary expertise** at all levels.
- an entity that is **funded by government, responsible and accountable to government**, but maintains an **independent governance framework**.
- a structure that **recognises and supports the jurisdictional framework** of Australia's federated system and supports the states and territories in meaningful ways.
- an adaptive systems management approach of **evidence-based risk evaluation** to enable effective health responses across all hazards.
- positioned as the **central agency for pandemic prevention, preparedness and response**, supporting internationally agreed arrangements regarding emerging diseases and wildlife health.
- is a **robust framework for preparedness and training**, including the co-ordination of multi-agency, stakeholder-evaluated training exercises.
- is a **trusted centre of knowledge and information** for health promotion and disease risk communication with **quantifiable and measurable public reporting requirements**.
- **provides and supports surge capacity** for communication, collaboration and response across all three sectors of the One Health paradigm.
- **includes wildlife as a dedicated pillar of its design**, recognising that the majority of emerging diseases in Australia and worldwide arise in wildlife.

Wildlife Health Australia provides a model for effective and authentic integration of One Health into business strategy and operations. Our nodal structure of jurisdictional representation (**Text Box 1**) enables rapid and timely access to both wildlife health information and a network of wildlife health professionals, which is crucial to Australia's One Health decision making and to the function of the proposed CDC. We work in active partnership with government (at all levels) and non-government stakeholders across human health, environment and agriculture sectors to lead national action for prevention, detection and response to emerging diseases, including those with pandemic potential.

Text Box 1: Wildlife Health Australia as a model for a nodal network structure within the federated Australian system.

Wildlife Health Australia supports Australia's framework for managing wildlife health and disease, allowing Australia to fulfill its responsibilities for both national and international disease reporting.

We coordinate and connect networks of wildlife health stakeholders throughout Australia. The cornerstone of our nodal system is the Wildlife Coordinator network of government agency representatives in each state and territory. Wildlife Coordinators submit wildlife disease surveillance data from their jurisdiction to our national electronic Wildlife Health Information System (eWHIS) database. Built on that framework are surveillance programs with partners in zoo based wildlife hospitals, key veterinary clinics and universities, who also submit data into the national system. We also have wildlife health focus groups that contribute to the network by sharing wildlife health information and experiences from key sectors e.g. universities.

Our focus groups and programs improve national communication and coordination, provide and receive technical advice, facilitate issue resolution and provide professional support, improving our investigation and management of wildlife health issues. The products and services provided by Wildlife Health Australia assist in limiting the deleterious impact of wildlife health and disease on natural ecosystems, human health and primary industries, resulting in ecological, economic and social benefits to Australia.

THE PREVENTATIVE APPROACH: RAPID RESPONSE TO HEALTH THREATS

The proposed CDC should have a central role in disease (and pandemic) prevention, preparedness and response for Australia. An emphasis on prevention should be the hallmark of all CDC activities across all hazards (both infectious and non-infectious), and with consideration of the full spectrum of disease risk drivers (environmental, geopolitical and socioeconomic).

A preventative approach to public health disease risk means assessing risks and vulnerabilities and recognising warning signs before public health impacts emerge.

Prevention precedes "preparedness", which focus on strategies to detect and respond to a disease outbreak [1].

Our current knowledge of viruses represents less than 0.1% of potential viral zoonotic disease risk, with over 600,000 potentially zoonotic viruses of mammals and birds yet to be described [2]. **Attempts to prepare and respond to any individual zoonotic threat at the time of its emergence in humans will inevitably be more costly and less effective than preventative strategies that address risks before a serious public health threat emerges** (Figure 1).

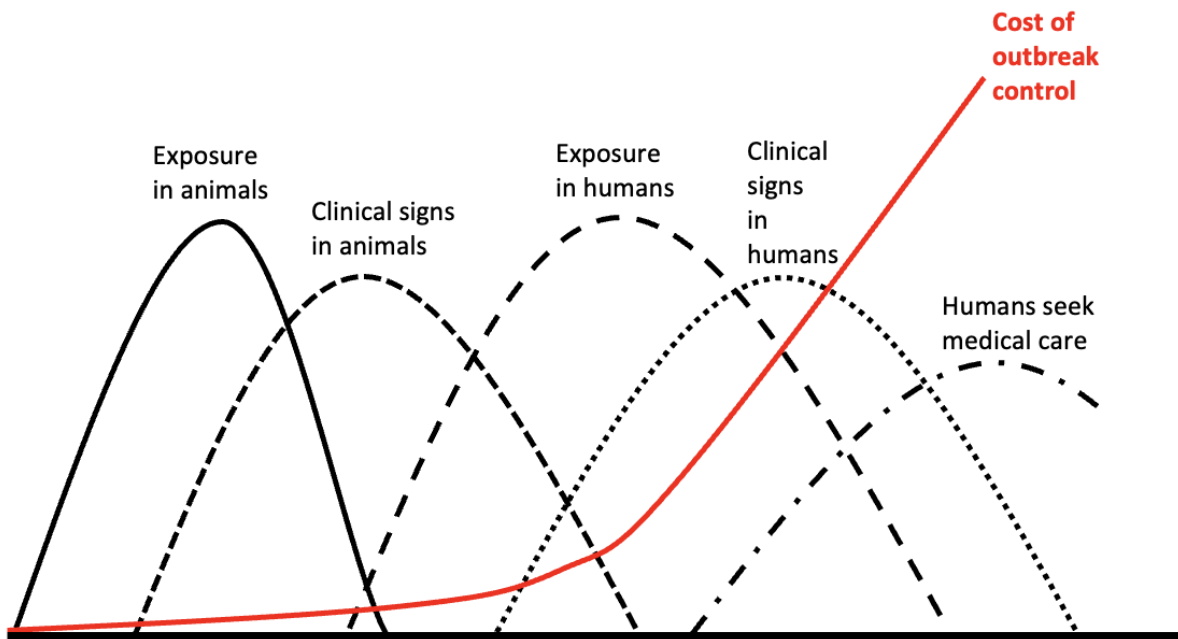


Figure 1 Relative expenditure on costs vs prevention of zoonotic disease [3]. Early preventative actions geared toward animal exposure are both cost effective and prevent human disease.

The relative costs and benefits are even greater when preventative actions are measured against the overall economic and health costs of a pandemic. The measures proposed to prevent pandemics globally have been estimated to cost up to \$31.2 billion per year [4]. Comparatively, the COVID-19 pandemic resulted in global economic damages of between \$8.1 and \$15.8 trillion in 2020 alone [4], which is 250-500 times the estimated cost of pandemic prevention.

Rapid and timely access to surveillance information and intelligence is central to a preventative approach that saves human lives and minimises economic cost. The proposed CDC should recognise existing national and international networks and databases to facilitate the flow of this crucial intelligence. The national wildlife health surveillance system managed by Wildlife Health Australia (**Text Box 2**) must be a central part of any intelligence gathering mechanism to manage human health risk for Australia.

Text Box 2: eWHIS, the national wildlife surveillance database.

Wildlife Health Australia captures national information on wildlife disease investigation and surveillance in a secure, web-enabled database ('eWHIS' - electronic Wildlife Health Information System). Wildlife Health Australia's data management is focused on protection of national and jurisdictional interests, particularly where Australia's environment, economy, animal and human health, trade and tourism may be impacted. **Wildlife Health Australia is trusted by government agencies and non-government organisations alike to collate, store, manage and appropriately utilise wildlife health data reported to us.**

The national wildlife health surveillance system collects data on a range of agreed national priority criteria, one of which is "Interesting and unusual" disease events, which is designed to maximise sensitivity for capture of new and emerging diseases arising in wildlife. **In the last three years, Wildlife Health Australia has captured over 770 wildlife disease events within the "Interesting and Unusual" disease category across all Australian states and territories.**

Despite the hard work and commitment of Wildlife Health Australia and all Australian government biosecurity agencies, Australia's wildlife disease surveillance system remains fragile and its importance under-recognised and under-utilised by the Public Health sector. In addition to recognising existing databases, it will be necessary for the proposed CDC to **support activities that address gaps in surveillance**, including those that exist in wildlife surveillance.

ROLE OF THE CDC IN COORDINATION, COLLABORATION & CONSULTATION

Over 60% of the emerging infectious diseases in humans are of zoonotic or animal origin. The majority of these (around 70%) originate in wildlife [5]. Within Australia, many emerging infectious diseases of humans have arisen within wildlife, or have wildlife involved in their epidemiology, including Australian bat lyssavirus, Hendra virus, Japanese encephalitis virus and *Salmonella Typhimurium* DT160 [6-9].

Given the current and growing importance of wildlife in public health disease risk, there is a clear need for high-level incorporation of wildlife expertise, data and strategies into the CDC model. WHA is developing the necessary systems to identify these diseases and their emergence in close-to-real-time. A metric to capture "interesting or unusual" wildlife events has been incorporated into the analysis of eWHIS data since its inception. Over 770 such events have been reported in the last three years, with an annual average of 280 events per year captured over the last 10 years (Figure 2).

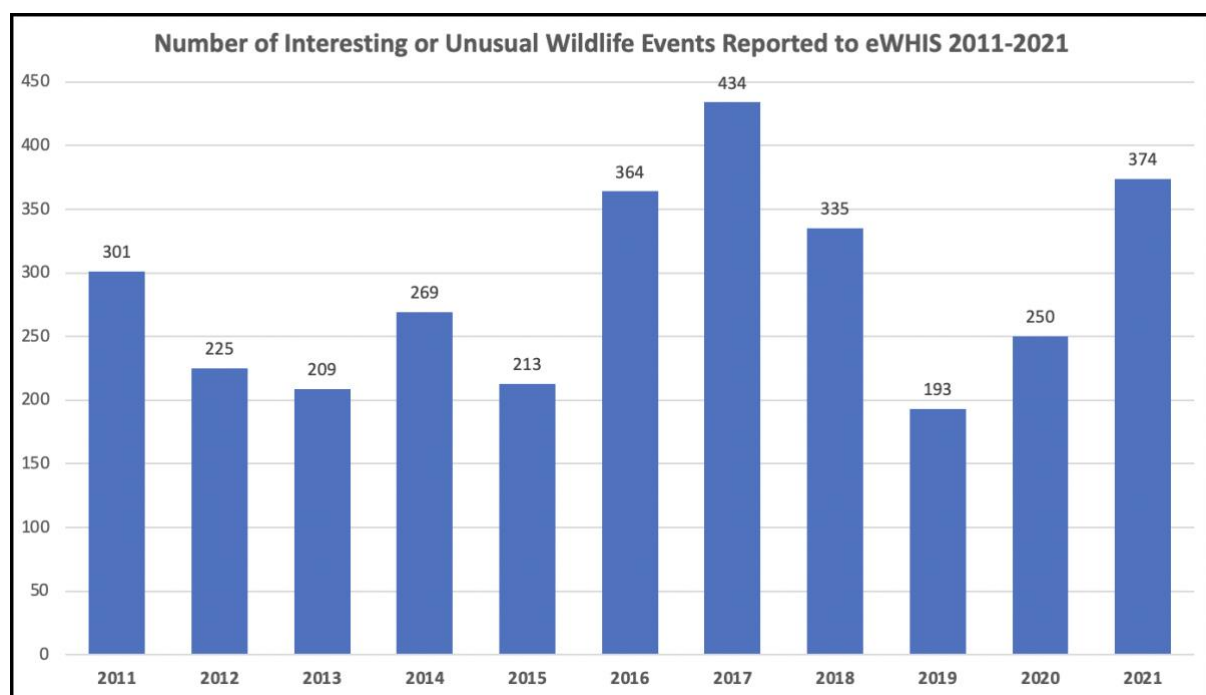


Figure 2 Since 2011 an annual average 280 "interesting or unusual" wildlife disease events have been captured in the national eWHIS dataset.

Drivers that increase zoonotic disease emergence (and therefore pandemic risk) include [10-12]:

- climate change
- unsustainable resource extraction
- global trade and human movement
- wildlife trade
- biodiversity loss
- landscape modification
- intensive agriculture
- antimicrobial resistance

These drivers act by changing how wildlife and pathogens interact, or by increasing contact between people, animals and pathogens (Figure 3).

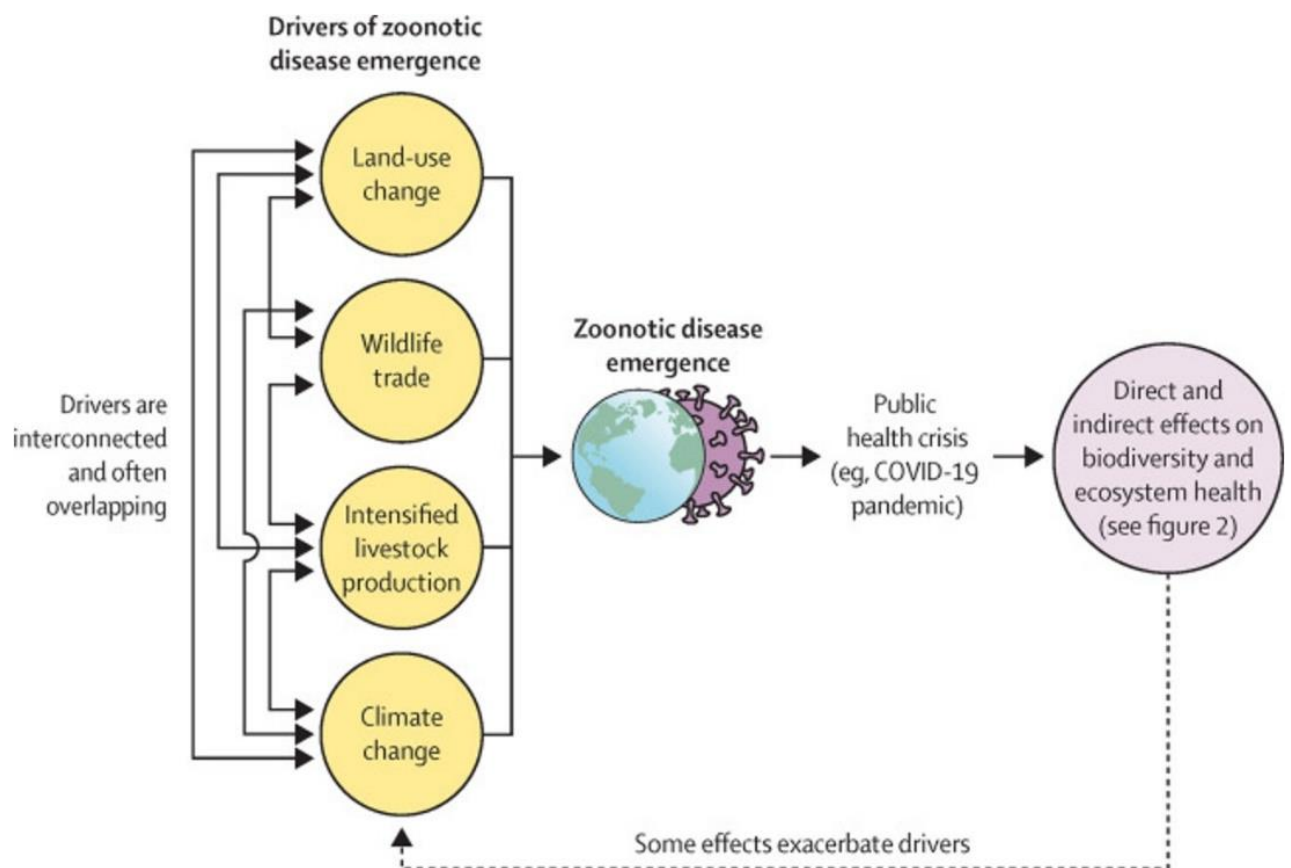


Figure 3: The drivers of zoonotic disease emergence are complex and interconnected [11]

Understanding and anticipating zoonotic disease emergence drivers requires **multisectoral collaboration and consultation** because these drivers are complex, non-linear, and often lie outside the public health sector [1].

Wildlife Health Australia adopts the "4Cs" approach for turning One Health principles into practical action through communication, collaboration, coordination and capacity building [13]. This has enabled rapid and high-quality consultation in response to emerging issues (**Text Box 3**) and represents both a model and a resource to the collaborative and consultative role of the CDC.

Text Box 3: Wildlife Health Australia in consultation and collaboration for public health outcomes.

Within 1 month of the first detection of Japanese encephalitis virus in south-eastern Australia, Wildlife Health Australia, in collaboration with the Australian Department of Agriculture, Water and the Environment held a national meeting to draw upon the expertise of waterbird/wetland bird experts to ensure surveillance and response activities relating to the current Japanese encephalitis outbreak were well-informed. Outcomes from the meeting were shared with Communicable Diseases Network Australia (CDNA), Consultative Committee for Emergency Animal Diseases (CCEAD) and National Arbovirus and Malaria Advisory Committee (NAMAC). A subsequent workshop was attended by stakeholders from government environment agencies, government agriculture and biosecurity agencies universities, independent research bodies, industry, and veterinarians, with all states and territories of Australia represented by both government and non-government entities.

An Australian CDC should align with and **provide support to internationally-agreed arrangements in the area of emerging diseases**, including the [One Health Joint Plan of Action](#) and any agreements that arise from the proposed international treaty on pandemics [14].

Wildlife Health Australia is active in representing Australia in the international health community, with positive outcomes for the national health response (**Text Box 4**). WHA hosts Australia's International Focal Point for Wildlife Health, assists Australia's states and territories in administering Australia's national wildlife health surveillance system and delivers on Australia's international reporting requirements for wildlife health on behalf of the Australian government.

Text Box 4: Wildlife Health Australia facilitates rapid response through expert outputs and trusted, timely information sharing with members and partners.

Wildlife Health Australia published the Wildlife Health Australia fact sheet [COVID-19 \(SARS-CoV-2 virus\)](#) within a week of the World Health Organisation Director General declaring the COVID-19 outbreak a Public Health Emergency of International Concern (PHEIC). Wildlife Health Australia developed biosecurity guidance on COVID-19 and wildlife, which is regularly updated as new information arises.

CONCLUSION

The development of an Australian CDC is an opportunity to act with vision and foresight to create systems that will safeguard the country against future health challenges.

A collaborative approach to the design and function of the CDC will require early and ongoing engagement with all relevant disciplines and stakeholders, including First Nations people, ecologists, wildlife experts, environmental scientists and social scientists [10]. Wildlife Health Australia provides a collaborative and operational model for moving beyond the rhetoric of One Health and achieving genuine cross-sectoral integration with positive outcomes for human health.

Understanding of the risks posed by wildlife and their management is central to the effective development of an Australian CDC. Wildlife Health Australia is well-positioned to facilitate cross-sectoral engagement with a One Health focus and to be a key pillar of expertise within the CDC for the wildlife sector.

REFERENCES

1. World Bank (2022) 'Putting Pandemics Behind Us: Investing in One Health to Reduce Risks of Emerging Infectious Diseases.' (World Bank: Washington, DC)
2. Carroll D, Daszak P, Wolfe ND, Gao GF, Morel CM, Morzaria S, . . . Mazet JA (2018) The global virome project. *Science*, **359**(6378): 872-874
3. Berthe FCJ, Bouley T, Karesh WB, Le Gall FG, Machalaba CC, Plante CA, and Seifman RM (2018) 'Operational framework for strengthening human, animal and environmental public health systems at their interface.' (World Bank Group: Washington DC)
4. Dobson AP, Pimm SL, Hannah L, Kaufman L, Ahumada JA, Ando AW, . . . Engelmann J (2020) Ecology and economics for pandemic prevention. *Science*, **369**(6502): 379-381
5. FAO, UNEP, WHO, WOAHA (2022) 'One Health Joint Plan of Action (2022-2026): working together for the health of humans, animals, plants and the environment.' Available from: <https://doi.org/10.4060/cc2289en> [Verified]
6. Plowright RK, Eby P, Hudson PJ, Smith IL, Westcott D, Bryden WL, . . . McCallum H (2015) Ecological dynamics of emerging bat virus spillover. *Proceedings of the Royal Society B: Biological Sciences*, **282**(1798): 20142124
7. Williams CR, Webb CE, Higgs S, and van den Hurk AF (2022) Japanese encephalitis virus emergence in Australia: public health importance and implications for future surveillance. *Vector-Borne and Zoonotic Diseases*, **22**(11): 529-534
8. Ford L, Ingle D, Glass K, Veitch M, Williamson DA, Harlock M, . . . Kirk MD (2019) Whole-genome sequencing of *Salmonella* Mississippi and Typhimurium definitive type 160, Australia and New Zealand. *Emerging Infectious Diseases*, **25**(9): 1690-1697
9. Field HE (2018) Evidence of Australian bat lyssavirus infection in diverse Australian bat taxa. *Zoonoses and Public Health*, **65**(6): 742-748
10. Woolaston K, Nay Z, Baker ML, Brockett C, Bruce M, Degeling C, . . . Hewitt CL (2022) An argument for pandemic risk management using a multidisciplinary One Health approach to governance: an Australian case study. *Globalization and Health*, **18**(1): 73
11. Lawler OK, Allan HL, Baxter PW, Castagnino R, Tor MC, Dann LE, . . . López-Jara MJ (2021) The COVID-19 pandemic is intricately linked to biodiversity loss and ecosystem health. *The Lancet Planetary Health*, **5**(11): e840-e850
12. World Health Organization (2015) 'Connecting global priorities: biodiversity and human health: a state of knowledge review.' Available from: http://apps.who.int/iris/bitstream/10665/174012/1/9789241508537_eng.pdf?ua=1 [Verified]
13. World Health Organization One Health High-Level Expert Panel (2022) 'One Health Theory of Change.' Available from: <https://www.who.int/publications/m/item/one-health-theory-of-change> [Verified]
14. Council of the European Union (2022) 'Towards an international treaty on pandemics.' Available from: <https://www.consilium.europa.eu/en/infographics/towards-an-international-treaty-on-pandemics/> [Verified]