Courtney Henry
[redacted]

Dear Ms Kruk, Professor Bennet, Dr Jackson,

Submission for the Commonwealth Government's COVID-19 Response Inquiry

I am a mid-career professional working within the environmental sector in Western Australia. I appreciate the opportunity to share my views about the Commonwealth Government's response to COVID-19. My comments are primarily in relation to the terms of reference which address 'governance' and 'preventive health measures'.

Prevention as a priority

Given the enormity of human and economic costs of pandemics – and that pandemics much worse than COVID-19 are possible – prevention should be our primary goal. It is within our power to prevent novel pathogens from emerging and to quickly identify, contain and eliminate them if they do.

Preventing pathogens from emerging and controlling them if they do should be top priorities for the new Australian Centre for Disease Control. Bernstein et al make the economic case for this in their paper "The costs and benefits of primary prevention of zoonotic pandemics". They show that, even on pessimistic assumptions and without considering the potential impact of promising emerging technologies, significant investment in pandemic prevention is overwhelmingly justified.

Sources: The costs and benefits of primary prevention of zoonotic pandemics - PMC (nih.gov)

Factory farms are a way in which nature may develop such novel pathogens. In exchange for cheap meat from factory farms, people are dying of bacterial infections that were trivial to treat a few decades ago. Without paradigm shifts in industry or culture, I'm concerned that accelerating demands for meat will only increase and intensify these risks.

Antibiotics are fed to animals to reduce bacterial infections and boost growth – 70% of antibiotics produced globally are used in livestock, and estimates project that Australia will see a 16% increase in antibiotic usage in farming over the decade to 2030. This overuse is a driver of antibiotic-resistant infections globally. In 2020, antimicrobial resistance was attributed to 1,031 deaths, $439 million in costs of premature death and the loss of 27,705 quality-adjusted life years in Australia. I understand that the Australian Government has worked with industry so that its "livestock and seafood industries [have] … little to no resistance to antimicrobials", and these steps should be lauded. However, this same approach to ensuring intensive animal farming doesn't risk human lives needs to be expanded to include viruses - the key cause of pandemics.

Viruses with pandemic potential often originate in wildlife but can cross the species barrier and pose a great risk to humans. Wild animals are natural hosts for viruses that can persist without causing significant harm to the animals. Occasionally, these viruses can spill over from wildlife to livestock in farms. In these farms, the viruses encounter new environments and species, providing opportunities for genetic recombination and adaptation. This process can enhance the virus's ability to infect and transmit among different hosts, including humans. The proximity of wildlife, livestock, and humans in certain settings, such as live animal markets, live exports, abattoirs or factory farms, increases the likelihood of interspecies transmission events, potentially leading to the emergence of novel and more transmissible viruses with pandemic potential.

We now know that the 2009 H1N1 flu pandemic which caused an estimated 284,000 excess deaths originated first in swine farms in central Mexico. This quote taken from peer reviewed paper "Origins of the 2009 H1N1 influenza pandemic in swine in Mexico":

> *" This highlights the critical role that animal trading plays in bringing together diverse viruses from different continents, which can then combine and generate new pandemic viruses."*

Australia needs to drastically decrease the pathogen transmission risks from high animal densities in live legal or illegal animal trade, live animal exports and factory farming. Australia's biosecurity strategies should require the industry to take practical steps to reduce these risks. Where the risks remain too great or the prevention of pathogen transmission is too costly, Australia has a duty to end these practices to avert pandemics.

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I think Australia can and needs to do better than [redacted] prediction.

Citations

- Disease burden, associated mortality and economic impact of antimicrobial resistant infections in Australia
- Antibiotic use in farming set to soar despite drug-resistance fears (see table 1)
- H1N1 Pandemic - Quick stats
- Origins of the 2009 H1N1 influenza pandemic in swine in Mexico

To conclude, I think pandemics are one of the most important issues of our time, and the risk from zoonotic pandemics potentially arising in factory farms is alarming. I think this inquiry should carefully consider how future pandemics could start and ensure it makes specific recommendations to reduce their likelihood.

Kind regards,
Courtney