

Thank you for the opportunity to make a submission and share my views and experiences about the Government's COVID-19 response.

My name is Kerri Thomson. I am a clinical nurse for WA health, and have worked in the health system for over 30 years. I recognise the importance of an effective and resilient PPE supply chain specifically within the Australian manufacturing industry. I would like to see the Australian Government pioneering the development of next generation PPE that gives frontline workers like myself the confidence to come to work during pandemics worse than covid. I would also like to see the development of new standards and regulations surrounding indoor air quality, and preventing close proximity transmission and spread of airborne pathogens that jeopardise vulnerable communities.

My key message is the overriding importance of efforts to prevent future pandemics. Perhaps more than any other kind of catastrophic risk, it's within our power to prevent novel pathogens from emerging and to quickly identify, contain and eliminate them if they do. 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.

I think 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.

My comments go primarily to 'preventive health measures' in terms of reference 3.

[The costs and benefits of primary prevention of zoonotic pandemics - PMC \(nih.gov\)](#)

### Indoor Air Quality Standards

I believe that the Australian government should create clear codes of practice and standards for Indoor Air Quality (IAQ) and introduce regulations for high-risk spaces. Every year, Australians fall ill as a result of exposure to airborne pathogens in indoor environments. Some of the most vulnerable members of our community, the elderly and immunocompromised, are particularly exposed to this risk. Better controls on IAQ would not only help protect us against current and future pandemics, but they can also reduce the negative health outcomes caused by other hazards like indoor smog, toxic materials, non-pandemic respiratory diseases, and other known airborne health hazards.

Despite [Australians spending at least 90% of their time indoors](#), the Australian Department of Climate Change, Energy, the Environment and Water highlights that Australia has no specific controls on IAQ aside from the limited control specified by [Work Safe Australia](#). Without nationalised standards and codes specifying minimum performance requirements for infection control, I worry that the nation will default to ineffective interventions that provide little protection against pathogens.

Clear and effective codes of practice and standards for IAQ Australia would provide clear metrics and targets for air quality with the goal to reduce pathogen transmission. Without clear metrics and targets, I worry that manufacturers and innovators will create products that are ineffective at cleaning indoor air to suitable levels to reduce pathogen transmission. Evidence-based standards for IAQ which are informed by the latest scientific research into

respiratory disease, air filtration and sanitation, public health, and behavioural science would provide the correct regulatory environment to ensure effective IAQ interventions are available to the Australian public. Additionally, clear requirements should be specified for high-risk environments in which airborne infections are potentially life threatening such as in aged care facilities, hospitals, healthcare facilities, and other facilities caring for the immunocompromised.

The Lancet COVID-19 Commission Task Force has [proposed Non-infectious Air Delivery Rates \(NADR\)](#) so we now have measurable goals for ventilation and filtration targets that protect against infectious disease transmission. The Task Force highlights that, while there is ongoing scientific debate over what metrics and targets are optimal, there is agreement that current practices are insufficient. I recommend that the Inquiry read the report to gain a better understanding of the considerations in setting effective codes and standards for IAQ

IAQ codes and standards could be defined by the Australian Building Codes Board (ABCB) in the National Construction Code. The ABCB could draw on the expertise of the Australian Commission on Safety and Quality in Health Care and the [Australasian Health Infrastructure Alliance \(AHIA\)](#), as well as the existing IAQ work done by the ABCB. [ASHRAE Standard 241, Control of Infectious Aerosols](#) may also be helpful in informing codes and standards.

I believe that clearer codes of practice and standards for IAQ can help safeguard all Australians against airborne pathogens in indoor environments. With the right regulatory environment we can reduce the spread of pathogens, reduce the burden on our public health system, and safeguard the most vulnerable members of our community.

#### Supply chains and next generation PPE

The terms of reference refer to support for industry and business, including in responding to supply chain, transport and labour shortage issues. No doubt, when hearing evidence on this topic, the Inquiry will receive submissions from the industry which boil down to seeking additional government support.

While I think it is right that the Inquiry turns its mind to supporting industry and business – I would encourage the inquiry to do that through the lens of the public interest. Specifically, in a future pandemic worse than COVID-19, what is it that the public needs from industry and how can the Inquiry's recommendations ensure we are in a position to receive it?

We know that, during critical stages of the pandemic, Australia had difficulty acquiring adequate [vaccines](#), [PPE](#) and [rapid antigen tests](#). A lack of reagents also [inhibited testing](#) in the early stages of the pandemic.

In a future worse pandemic, it might be that supply chain breakdowns and labour force shortages lead to far worse consequences. Although COVID was challenging, there was never a suggestion that the power might go out or that food would not be available. But COVID did show us just how brittle modern “just in time” supply chains can be. If what happened to toilet paper instead happened to food, medication or liquid fuel, the consequences could be catastrophic. Similarly, if the workforce shortages that hit the meat industry instead hit the power grid operators, the consequences could be societal collapse. Overall, there's a sense in which modern society is far more brittle than historical societies that endured pandemics. In a modern society, our lives depend on interactions with people hundreds or thousands of kilometres away who we have never met. This has never been the case historically.

This observation leads to two conclusions:

First, the importance of pandemic prevention is paramount. If a pandemic could plausibly cause complete social collapse, it's essential that we identify all the vectors by which pandemics could begin and work hard domestically and globally to address them.

Second, in the event that such a pandemic does occur, we can't be in the position of having to solve problems like defining essential workers or mapping supply chains on the fly through ad hoc approaches like the National Coordination Mechanism. Instead, we need to have a robust national plan for a pandemic worse than COVID that is regularly exercised with industry and civil society organisations as well as international partners. Exactly where the pressure points are will change rapidly, and the lessons we learned from COVID are unlikely to remain true in 10 or 30 years from now. Only robust planning and regular exercising will ensure we maintain and build the knowledge necessary for the future.

## Conclusion

The notable public health challenges of history have been solved by innovative people bringing new ideas and perspectives to the challenge of health. As the scope of public health has grown, so has its ability to improve longevity and quality of life.

The terms of reference of this inquiry are fundamentally about doing better in the future. Given how terrible future pandemics could be – the best thing the Inquiry could do for the future is to prioritise pandemic prevention, including the novel ways pandemics could occur in the future. While that will require uncomfortable thinking about unexpected topics and emerging technologies, these are the issues that could have the biggest impact towards securing a healthier future.