

## Submission to the COVID-19 Response Inquiry

*This submission is relevant to the first two areas of review in the terms of reference.*

### About the author.

I am a retired occupational hygienist. Occupational hygiene is the science of anticipating, recognising, evaluating and controlling health hazards in occupational environments. In almost all workplaces, the vast majority of health hazards that occupational hygienists deal with are airborne ones. My first job in occupational hygiene was in the South Australian Department of Public Health where I established for the first time in South Australia the ability to measure airborne asbestos and airborne respirable crystalline silica by the currently accepted methods in order to be able to control those airborne health risks.

### Summary.

This submission is concerned with three very important failures during Australia's response to Covid-19. These failures continue to the present day. They are:

1. A failure to understand the implications of the scientific findings about the airborne transmission of the SARS-CoV-2 virus, and therefore the range of expertise needed to properly respond to the epidemic.
2. A gross failure in public health messaging, particularly as it relates to airborne transmission, but also more broadly.
3. A failure to properly use Australia's Workplace Health and Safety (WHS) legislation to control the airborne transmission of the virus.

### Airborne transmission of the SARS-CoV-2 virus.

The Lancet Commission carried out a very detailed and very well documented review of the response to the Covid-19 pandemic. They were critical of the time it took the WHO to acknowledge the role of airborne transmission and said<sup>1</sup>:

A paradigm shift in how we view and address the transmission of respiratory infectious diseases is underway.<sup>118</sup> Airborne transmission in both the near-fields and the far-fields is a crucial, if not dominant, exposure pathway for SARS-CoV-2 and other respiratory viruses. Laboratory, field, modelling, and case studies have shown that airborne transmission through the inhalation of a virus-laden aerosol is important, if not dominant, for COVID-19.<sup>119-132</sup> Although transmission can occur through touch, it is rare for respiratory viruses, and touch and spray transmission are not likely to contribute to widespread transmission or superspreading events. As nearly all transmission occurs indoors, the way in which we design and operate building ventilation and filtration systems can reduce transmission.

This submission does not address how long it took the various Australian health authorities to acknowledge the science of airborne transmission of the SARS-CoV-2 virus, but points out that it is an extremely important question, as Australia's response to future new health threats must be flexible and must change and adapt to scientific knowledge as it evolves.

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<sup>1</sup> The Lancet Commission on lessons for the future from the COVID-19 pandemic, page 13. Report first published online on September 14, 2022 [https://doi.org/10.1016/S0140-6736\(22\)01585-9](https://doi.org/10.1016/S0140-6736(22)01585-9) Superscript numbers in the section quoted refer to the documents cited in the Commission's report.

Once the science of the airborne transmission of the virus had been accepted, however, numerous changes to Australia's response arrangements should have happened immediately. Most importantly, the top expert groups advising National Cabinet should have been widened to include people with established expertise in the management and control of airborne health hazards, such as aerosol scientists, occupational hygienists, and ventilation engineers. Australia is fortunate to be well supplied with people with a wide range of relevant expertise, and it should be a matter of national shame that several of the prominent names from OzSAGE<sup>2</sup> were not, and are still not at the centre of national advice.

Another key outcome from updated scientific understanding of the transmission of the virus relates to the role of masks. It should have been realised that the aerosol sizes masks needed to block were some orders of magnitude smaller than originally thought, and that this called for respiratory protection that had been certified to at least P2 standard in AS/NZS 1716<sup>3</sup>. Neither cloth masks nor surgical masks are so certified and are therefore not fit for the purpose of protecting wearers against the transmission of the virus. Nevertheless, some Australian health authorities still recommend such masks, or for example, fail to distinguish between mask types while showing footage of masks that are not P2 respirators<sup>4</sup>.

## Public Health Messaging.

Health risk messaging was an important part of my job as an occupational hygienist, particularly when I was employed in industry. The clear absence of buy-in for Covid precautions such as mask wearing amongst significant (and vocal) sections of the population is evidence of the failure of public health messaging. The Inquiry will hopefully dig very hard into this aspect of Australia's response.

When the airborne nature of the transmission of the SARS-CoV-2 virus was properly understood, much of the earlier public health messaging about the primary importance of hand sanitising and social distancing indoors turned out to have been wrong, but no attempt was made to correct the record. Yes, more recent messaging may now mention ventilation, but how many Australians realise that our fundamental understanding of how the disease is transmitted from person to person has changed since the early days of the pandemic? If I had so badly mishandled health risk messaging as an occupational hygienist working in industry I would have deserved to have lost my job.

## Relevance of Australia's Workplace Health and Safety (WHS) Legislation.

Workplace Health and Safety is regulated in Australia by States and Territories, through a system of nationally harmonised legislation and other requirements<sup>5</sup>. These include a Model WHS Act, Model WHS Regulations, and Model WHS Codes of Practice<sup>6</sup>. The model WHS Act imposes a range of general duties which are intended to be universally applicable to all Australian workplaces. Section 19 starts as follows<sup>7</sup>:

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<sup>2</sup> <https://ozsage.org/member-list/>

<sup>3</sup> Australian/New Zealand Standard 1716:2012 Respiratory protective devices. Standards Australia and Standards New Zealand, 13 February 2012.

<sup>4</sup> <https://www.health.gov.au/resources/videos/covid-19-video-staying-safe-from-covid-19?language=en> at time 0.19. Department of Health and Aged Care, advertisement last updated 22 December 2023.

<sup>5</sup> A good overview of the arrangements can be found at <https://www.dewr.gov.au/work-health-and-safety>

<sup>6</sup> <https://www.safeworkaustralia.gov.au/law-and-regulation/legislation>

<sup>7</sup> [https://www.safeworkaustralia.gov.au/sites/default/files/2023-12/model-whs-bill-23\\_november\\_2023.pdf](https://www.safeworkaustralia.gov.au/sites/default/files/2023-12/model-whs-bill-23_november_2023.pdf) page 28.

### 19 Primary duty of care

- (1) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of:
  - (a) workers engaged, or caused to be engaged by the person; and
  - (b) workers whose activities in carrying out work are influenced or directed by the person, while the workers are at work in the business or undertaking.
- (2) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.
- (3) Without limiting subsections (1) and (2), a person conducting a business or undertaking must ensure, so far as is reasonably practicable:
  - (a) the provision and maintenance of a work environment without risks to health and safety; and...

These provisions are highly relevant to the management of the Covid-19 health risk in Australia because:

1. The laws are designed to be as universal as possible, covering all health risks in all workplaces, including those operated by volunteer organisations.
2. Since “nearly all transmission occurs indoors”<sup>8</sup> it is very hard to envision a building other than a private dwelling which is not also a workplace for some or all of the people who go there.
3. Therefore, minimising transmission of the virus in all Australian workplaces, as already required in Australian WHS laws, should go a long way to reducing the incidence of Covid-19 in Australia.

Some further provisions of Australia’s WHS laws are relevant. The Model WHS Regulations include the hierarchy of control<sup>9</sup>, the relevant components of which are, in descending order of preference:

- Engineering controls – ventilation or air filtration in the case of the SARS-CoV-2 virus;
- Administrative controls – testing and isolating infectious persons; and finally
- Personal protective equipment – respiratory protection.

Clearly, legislation that is not enforced will not reduce transmission. It is also clear that minimising transmission indoors by providing adequate ventilation cannot be achieved overnight. We have the legislative underpinning: what is needed are the programs to help every Australian workplace comply with existing laws which require minimising the transmission of the virus in all indoor workplaces.

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<sup>8</sup> Lancet Commission as quoted on page 1 of this submission.

<sup>9</sup> [https://www.safeworkaustralia.gov.au/sites/default/files/2023-08/model-whs-regulations-1\\_august\\_2023.pdf](https://www.safeworkaustralia.gov.au/sites/default/files/2023-08/model-whs-regulations-1_august_2023.pdf) regulation 36.