SUBMISSION TO COVID-19 RESPONSE INQUIRY

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My name is (Dr) John Terence (Terry) Bellair, principal of Environmental Science Associates.

I received my PhD (biochemistry) in 1965 and was involved in biomedical research and teaching in Australia and the USA for the next 7 years. I commenced work as an environmental science consultant in 1973 and am now transitioning to retirement. Since the late-1970s, my consulting career has focussed on air quality management. I was the principal author of the Victorian EPA's original Air Policy, have presented expert evidence at well over 200 tribunal and court hearings, and have been appointed to about 30 planning panels and ministerial advisory committees.

My submission summarises the failure of some key pandemic responses to take account of basic scientific principles.

The myth that exhaled COVID-19 viruses will "fall to the floor within 1.5m"

This myth was promulgated by the WHO and apparently adopted uncritically by many leading public health practitioners, including the eminent immunologist [redacted] It led to an initial belief that the main mode of transmission was via contaminated surfaces and advice that disinfecting surfaces and maintaining a separation distance of 1.5m would provide a significant reduction in the risk of contracting COVID-19. Had these public health experts bothered to seek advice from air quality specialists, they would have learned that aerosols with aerodynamic diameters below 10 microns remain suspended for prolonged periods and can be transported significant distances by natural and/or mechanically-induced air movements.

At least some hotels were unsuitable for quarantining COVID-19 cases

Ventilation issues do not appear to have been considered (adequately or at all) in selecting hotels for quarantining potential COVID-19 cases. This failure resulted in a number of situations where the virus was transmitted from infectious individuals to occupants of other rooms and staff. Advice should have been sought from mechanical engineers on the adequacy of ventilation systems to minimise the risk of viral aerosols dispersing from individual rooms into corridors (and nearby rooms) when doors are opened (and the risk of them being distributed more widely throughout the hotels by recycling ventilation air).

Monitoring CO_2 within indoor areas was insufficiently promoted

Measuring CO_2 concentrations within indoor areas can provide a useful indication of the risk of transmission of respiratory viruses, because it provides an integrated measure of the density of people, their level of physical activity and air-exchange rates. The use of CO_2 analysers should have been widely promoted, along with CO_2 concentration guidelines above which the number of people should be reduced and/or air-exchange rates increased. CO_2 measurements would also assist in optimising the placement of air filters within rooms. The adoption CO_2 monitoring with appropriate guidelines should have been a "no brainer" for many indoor settings.

The overall thrust of my submission is that: (1) many senior members of the medical profession were "blinkered" when providing advice to government on appropriate responses to the COVID-19 pandemic; and (2) planning for future pandemics should ensure advice is sought from experts in relevant scientific disciplines.

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