

COVID 19: Australian perspectives

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The COVID-19 pandemic may be a defining event of the 21st Century in much the same way as the influenza pandemic of 1918 changed a world already tortured by world conflict. Australia's experience may well shape our future and our position in the world.

Throughout history, pandemics have posed the most significant threat to the health and wellbeing of people and to societal functioning. Whether caused by novel viruses such as the Spanish Influenza of 1918, or outbreaks of common pathogens such as influenza, tuberculosis, malaria or HIV/AIDS, pandemics have been the most lethal. In addition, the extensive impacts of pandemics on communities is such that they have considerable and often world changing social and economic effects.

The COVID-19 pandemic has realised our worst fears. The SARS Cov2 virus is a novel Coronavirus, which emerged from live animal markets in Wuhan and spread throughout China and out to the rest of the world. While it mostly causes a mild upper respiratory infection, it can induce severe pneumonia associated with adult respiratory distress syndrome that is often fatal. The disease is also associated with long-term morbidity.

This disease is spread by respiratory means. Like other respiratory viruses (e.g. influenza), the expired air of infected people contains the virus either enclosed in water droplets or as viral particles alone. It can spread through direct inhalation of contaminated air or by touching where the virus particle has settled. However, this disease has behaved differently to other respiratory viruses. It adversely affects older people and those with chronic disease. It does not appear to affect children to the extent that other respiratory viruses do. It is not only milder among children but also apparently less likely to infect them at all. Thus, children and schools have not been the significant source of spread that would ordinarily be expected.

The effects of the overall health of populations of COVID-19 remain unclear. Official data collated by the World Health Organization reveals a worldwide incidence of three in 1000 people and one death for every 10,000 people; a case-fatality rate of

3–4 per cent. However, these figures are likely to underestimate the real incidence and overstate the fatality rate. Many countries have reported increased death rates above that expected. Only a portion of these are explicable by diagnosed COVID-19 cases. In Italy for example, additional deaths are twice the number of diagnosed COVID-19 deaths. The additional deaths are either from undiagnosed COVID-19 or from other causes resulting from lost access to health care.

The numbers of cases are likely to be significantly more than those diagnosed. Many countries including the US have been unable to maintain a comprehensive testing regime. Population-level studies based on antibody screening or computer modelling have reported real population incidences much higher than those reported; for Kobe in Japan, over 800 times more and for England and Wales, 28 times more. Best estimates suggest a real-case-fatality rate of around one per cent, which is still ten times that for seasonal influenza. However, the incidence and the fatality rate vary across the world. This is influenced by socio-economic, socio-political and health systems factors along with the effectiveness of community leadership and management.

Within this context, Australia and New Zealand have restrained the incidence and population mortality rate. We were not unprepared. Following experience with SARS, Ebola virus disease and swine flu, enhanced worldwide alerting systems were developed based on the *International Health Regulations 2005*. All countries, including Australia, developed pandemic response plans based on influenza as the most likely cause.

These systems acted to quickly alert nations of the risk. In response, Australia rapidly instituted enhanced border control, physical distancing and personal hygiene measures in accordance with a rapidly developed Coronavirus Response Plan. Australia's large moat enabled the control

of external entry and an extensive testing regime and effective contact tracing. There was also an admirable outbreak of responsible collaboration among levels of government and cohesion among public health advisers.

Stopping the spread of an infectious disease is based on a simple core principle; separating people with the disease from people who are vulnerable.

This requires identifying infected people and those with whom they may have come into contact. It also means immediately isolating those people from others and monitoring to identify whether they have caught the disease. This ‘test, track and trace’ approach is a core population health strategy. This is complemented by population-level strategies that enhance community-wide physical distancing and personal hygiene to reduce the tracing burden. The ‘pandemic paradox’ is that the more severe the illness, the easier it is to control. For example, SARS was a very severe illness. If you got it, you knew it and could reduce social interactions that spread the virus. On the other hand, the milder swine flu epidemic in 2009 spread very easily.

The traditional population-level approaches rely on isolating populations with high rates of infection. This is challenging in highly mobile communities and therefore state and territory governments have relied on clearly defined state borders as a means of defining communities. In Australia, this has caused consternation within border communities.

This is not to say that all responses were perfect. There are many lessons to be learnt. However, within the limits of information available at the time, they have proven largely effective. There will always be initial confusion. Until the pandemic plays out, it is not possible to determine its true severity and effects.

There has been a tendency in the public discourse to latch onto single solutions; from wearing masks to ingesting bleach. These measures contribute to breaking virus transmission and their relative contribution to risk reduction is influenced by the social and epidemiological environment.

The fundamental (perhaps existential) challenge is whether the risks of the disease outweigh the impact of measures to stop the spread of the disease. For SARS or Ebola, there is no doubt that they do. On the other hand, the relatively mild swine flu had a case-fatality rate that was probably less than seasonal influenza. COVID-19 is somewhere in between.

All disasters including pandemics have significant health, economic, environmental and social consequences. People have painted Australia’s response as a choice between health and economic consequences. This is too simplistic. Economic consequences have health consequences. The most common cause of poor health is poverty. On the other hand, the direct health effects of this disease are significant. If Australia had the death rate of the USA, then there would be 10,000–15,000 deaths. If Melbourne had the death rate of New York City, there would be 10–15,000 deaths in Melbourne alone.

This pandemic will also result in significant social change. The ‘age of entitlement’ is challenged by this event and this reflected in some of the more outlandish human responses. Perhaps one good outcome will be to revalue social responsibility.

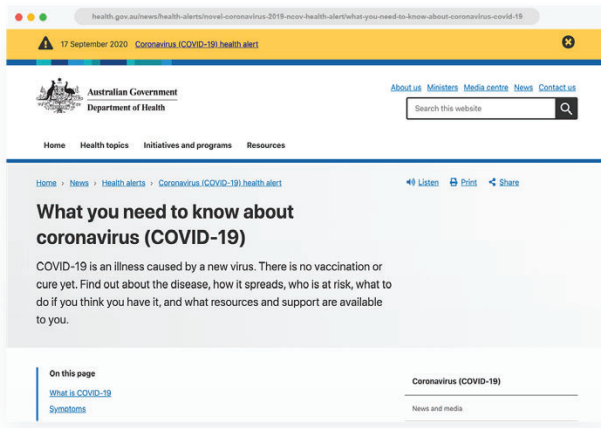
Novel infectious diseases will disappear once the population is no longer vulnerable. This can be achieved by ‘herd immunity’, acquired either through exposure to the disease or through vaccination. Achieving herd immunity through disease exposure will result in many more deaths. The safest and most effective means of control (a vaccine) has proven challenging. Unlike influenza, there is no effective vaccine for coronaviruses. Indeed, previous attempts to develop a vaccine for MERS and SARS were disappointing and tended to have significant adverse effects. For influenza, we just need to change the strains in the current vaccine. Reports on early stage testing of vaccine candidates is proving promising and, hopefully, will result in the availability of effective vaccines early in 2021.

Because of Australia’s relatively low infection and death rates we have not had to face the ethical challenges of other nations. Apart from the population health services, our health systems have not been overwhelmed to a stage that required determination of who can and who cannot be treated. There has also been significant adverse effects for health workers, which potentially reduces health care capacity further. When vaccines emerge, we will need to determine some order of distribution to the world’s population. This is overlaid by whether we accept the risk of an unproven product without evidence of a long-term risk profile.

What have we learnt?

Without presuming the outcomes of definitive evaluations, there are emerging issues from which we can learn for future resilience.

1. Our messages need to be clear and consistent particularly in the environment of uncertainty. Much of the confusion has come from the diversity and multiplicity of commentators as well as those informed only by prejudice and delusion. We need to work out ways to control the message and ensure they are resistant to ignorance and delusion.
2. Our supply chains, particularly for health services, have been challenged by a combination of panicked demand and disrupted supply. Our health systems are less resilient than in the past because the emphasis on efficiency has resulted in reliance on just-in-time delivery and has reduced stockpiled resources.
3. It should have been recognised earlier that this pandemic is a disaster that requires national and local disaster management action.
4. We need to quickly identify and deal with behaviours derived from people’s stupidity and ignorance that threaten the health and wellbeing of communities.



Source: Australian Government Department of Health website.

Where to from here?

Australia has (largely) suppressed the virus. We aspired to elimination while recognising how difficult such a strategy was to sustain. Some say elimination is not practical and we should accept low rates of the disease and restore the economy. Elimination is the best route to economic revival and the states that have achieved elimination are (currently) experiencing mild economic revival. However, the outbreak in Victoria and others around the world demonstrate that such a strategy is not actually possible. We cannot plan for a limited number of cases. The virus's infectivity, and the human behaviours that enable its spread, are impossible to limit. We can only aspire to virus elimination and accept low rates of infection if elimination is not possible.

We need to learn from this event. We need to capture the lessons from the Australia perspective as well as internationally. There is no shortage of science. To date, more than 40,000 articles have been published in the first six months of this year. They speak to better understanding of the disease, but also to the effectiveness of treatment, control and containment methods.

What we can do is capture these lessons and use them to inform public policy and planning. We suggest a think tank to enable this. The emphasis is not on blame but rather to evaluate the extensive research and the experience and to translate that into practical and cost-effective measures. This will help us prepare and make our socio-economic structures and health systems resilient to the challenges of pandemics.

End notes

World Health Organization Coronavirus disease (COVID-19) situation reports. At: www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports [17 August 2020].

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Fenton N, Osman M, Neil M & McLachlan S 2020, *Coronavirus: our study suggests more people have had it than previously estimated. The Conversation, 26 June 2020. At: <https://theconversation.com/coronavirus-our-study-suggests-more-people-have-had-it-than-previously-estimated-140996> [1 September 2020].*

World Health Organization *International Health Regulations (2005)*. At: www.who.int/ihr/publications/9789241580496/en/.

Coronavirus (COVID-19) health alert

The Australian Government Department of Health website includes easy-to-access and understand information about COVID-19 as well as associated help, resources and latest updates.

Access the departments web site at: www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert?utm_source=health.gov.au&utm_medium=redirect&utm_campaign=digital_transformation&utm_content=health-topics/novel-coronavirus-2019-ncov.

