GlobalResearch
Center for Research on Globalization

COVID-19 Pandemic and Coronavirus Suppression – Should Schools Close?

There is a big debate in Australia over whether to follow the UK with an aggressive coronavirus suppression program that includes closure of schools and universities.

By Gideon Polya
Global Research, March 23, 2020

Region: Oceania
Theme: Science and Medicine

The world is in the grip of a COVID-19 pandemic that is now impacting relatively poor countries in Africa and South Asia. Rich island continent Australia (population 25 million) has only about 1,000 cases so far and has achieved this through tough travel bans, selective testing, contact tracing, case isolation, quarantine and public education. However there is a big debate in Australia over whether to follow the UK with an aggressive coronavirus suppression program that includes closure of schools and universities.

First some key advice and disclaimers:

(1) take your medical advice from medical authorities such as your own doctors and from medical organizations such as the World Health Organization [1] and your local medical authorities (e.g. see [2] for Australia) ,

(2) I am a biological chemist and not a medical doctor, and

(3) as a 75-year old I am in a much higher risk group of Australians and therefore have a quite personal interest in the worsening COVID-19 pandemic. Consequently in the following analysis I have taken great pains to mostly quote the opinions of medical experts as well as the expert opinions of people directly involved in the issue of whether schools should close (notably teachers).

Least deaths "suppression" option involving hygiene and social distancing, case detection and isolation, household quarantine, and the closing of schools and universities.

On 16 March 2020 eminent epidemiologist Professor Neil Ferguson and his colleagues at Imperial College, London, released an important research document entitled "Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and health care demand"[3]. This research paper has compelled the UK Government to take drastic action to suppress the COVID-19 epidemic via a "suppression" scenario involving hygiene and social distancing, case detection and isolation, household quarantine, and the closing of schools and universities. This "suppression" strategy is modelled to result in much fewer UK deaths (circa 40,000) as compared to a less stringent "mitigation" strategy not involving school and university closure (210,000 deaths) or inaction (510,000 deaths).

Chelsea Bruce-Lockhart, John Burn-Murdoch and Alex Barker of the UK Financial Times have summarized the key findings of this important report (19 March 2020):

> "The starting point for analysis is an unchecked epidemic. This would infect eight out of 10 people, according to the researchers, with 510,000 deaths in the UK and 2.2m in the US.... While a vaccine is developed — a process that can take up to 18 months — or antiviral drugs identified, US and UK governments are left with two extraordinary choices. The first is a "mitigation strategy" to reduce the peak of infection while the population builds immunity; the second a more drastic "suppression" approach to quell the epidemic, whatever the cost to the economy, or trauma for social life... Governments are racing to expand critical care. Yet even assuming all patients could be treated, the Imperial researchers conclude mitigation strategies alone would leave about 250,000 dead in the UK and around 1.2m in America... More drastic curbs on society can make a big difference. Short of a complete lockdown on movement, the most effective ["suppression"] scenario modelled involves isolating people with symptoms, reducing everyone's social contact by 75 per cent, quarantining households and closing schools and universities for five months. If sustained, the measures can choke the epidemic to bring patient numbers to something hospitals could potentially cope [circa 40,000 UK dead]" [4].

Professor Neil Ferguson and his numerous co-author colleagues (16 March 2020):

> "We find that that optimal mitigation policies (combining home isolation of suspect cases, home quarantine of those living in the same household as suspect cases, and social distancing of the elderly and others at most risk of severe disease) might reduce peak healthcare demand by 2/3 and deaths by half. However, the resulting mitigated epidemic would still likely result in hundreds of thousands of deaths and health systems (most notably intensive care units) being overwhelmed many times over. For countries able to achieve it, this leaves suppression as the preferred policy option. We show that in the UK and US context, suppression will minimally require a combination of social distancing of the entire population, home isolation of cases and household quarantine of their family members. This may need to be supplemented by school and university closures, though it should be recognised that such closures may have negative impacts on health systems due to increased absenteeism... The major challenge of suppression is that this type of intensive intervention package –or something equivalently effective at reducing transmission –will need to be maintained until a vaccine becomes available (potentially 18 months or more) –given that we predict that transmission will quickly rebound if interventions are relaxed... The strategies differ in whether they aim to reduce the reproduction number, R, to below 1 (suppression) –and thus cause case numbers to decline–or to merely slow spread by reducing R, but not to below 1... In the (unlikely) absence of any control measures or spontaneous changes in individual behaviour, we would expect a peak in mortality (daily deaths) to occur after approximately 3 months... in such scenarios, given an estimated R0 of 2.4, we predict 81% of the GB and US populations would be infected over the course of the epidemic... In total, in an unmitigated epidemic, we would predict approximately 510,000 deaths in GB and 2.2 million in the US, not accounting for the potential negative effects of health systems being overwhelmed on mortality... Combining all four interventions (social distancing of the entire population, case isolation, household quarantine and school and university closure) is predicted to have the largest impact [only circa 40,000 deaths], short of a complete lockdown which additionally prevents people going to work... Perhaps our most significant conclusion is that mitigation is unlikely to be feasible without emergency surge capacity limits of the UK and US health care systems being exceeded many times over. In the most effective mitigation strategy examined, which leads to a single, relatively short epidemic (case isolation, household quarantine and social distancing of the elderly), the surge limits for both general ward and ICU beds would be exceeded by at least 8-fold under

> the more optimistic scenario for critical care requirements that we examined. In addition, even if all patients were able to be treated, we predict there would still be in the order of 250,000 deaths in GB, and 1.1-1.2 million in the US... We therefore conclude that epidemic suppression is the only viable strategy at the current time" [3].

Australian Government actions to mitigate the COVID-19 epidemic in Australia.

Australia has acted to minimize the COVID-19 epidemic in Australia.The Australian Government headed by Prime Minister Scott Morrison takes its advice from the Chief Medical Officer, Professor Brendan Murphy, who with the State Chief Health Officers constitute the Australian Health Protection Principal Committee (AHPPC) [5].

In an evolving response, travel into Australia for people who are not Australian citizens or residents is now banned. Australian citizens or residents are banned from departing Australia , and those entering Australia must go into quarantine for 14 days. The Australian Government Department of Health provides very detailed advice about personal hygiene [hand washing, coughing into elbow or tissue to be discarded], social distancing [no more than 500 people at an outside event, no more than 100 people at an inside event, 1.5 metre spacing between people, 1 person per 4 square metres inside], self-isolation, self-quarantine, and case isolation [2]. Thus it states:

> "You must self-isolate if any of the following applies to you: you have COVID-19; you have been in close contact with a confirmed case of COVID-19; you arrived in Australia after midnight on 15 March 2020. If you do not need to self-isolate, you should still protect yourself and others... There is a global shortage of the test kits that pathologists use to diagnose COVID-19. This is why we are doing targeted testing instead of widespread testing"

[2]. The State Government of the island state of Tasmania has declared that, with some exceptions, anyone (Tasmanians or Mainland Australians) entering Tasmania must self-isolate for 14 days.

The result of such measures is regularly updated by the Australian Department of Health:

> "As at 6.30am on 22 March 2020, there have been 1,098 confirmed cases of COVID-19 in Australia. There have been 224 new cases since 6.30am yesterday... Of the 1,098 confirmed cases in Australia, 7 have died from COVID-19. More than 127,000 tests have been conducted across Australia" [6].

Mathematician Dr Joel Miller (Senior lecturer, Applied Mathematics, La Trobe University, Melbourne) provides a key insight (19 March 2020): "Without any intervention, the epidemic would grow until depletion of susceptible people slows the growth. The prevalence would start to fall when the susceptible population reaches what's called a critical fraction, 1/R0. Once we pass this threshold a person with COVID-19 will only transmit the virus to less than one other person (because fewer people remain susceptible to infection). For a population of 25 million like Australia, this would require 15 about million infections. COVID-19's observed doubling time has been about four days. That means every four days the number of cases has been roughly double what it was four days prior. We would calculate it takes about three months for one infection doubling every four days to cause 15 million infections. After

the peak, we expect the total time to drop to be about the same as it took to rise. This gives a crude prediction of six months" [7].

Academics Caleb Ferguson, Richelle Wynne and Scott Newton (20 March 2020):

> "According to data from China, around 5% of people who test positive to COVID-19 will experience severe symptoms and require admission to an intensive care unit (ICU) for around four weeks. So, three months into the pandemic, without public health measures to control the spread, we could have expected to see 750,000 severe cases requiring admission to ICU in the first three months. What can our ICUs cope with? We [Australians] currently have just over 2,200 ICU beds" [8].

5,000 doctors signed an open letter to PM Morrison by Sydney intensive care specialist Dr Greg Kelly calling for an immediate lockdown of Australia (17 March 2020):

> "Dear Prime Minister, We, the undersigned Australian medical doctors, are writing to you today because of our grave concern regarding the threat that novel Coronavirus 19 (COVID19) represents to the lives of Australians. We believe that Australian federal and state governments can avert disaster by heeding the lessons of other countries. This means: 1. Immediately implementing the strict measures of lockdown and social distancing that have been shown to be effective at slowing the spread of COVID19 and, 2. Preparing our health systems for a surge of COVID19 and critically ill patients. Taken together, these measures would reduce the numbers and presentation rate of COVID19 patients and allow our health system to cope. Many of us are in contact with colleagues in Italy, Spain and France and they are begging us to learn from their mistakes. With access to intensive care the death rate from COVID19 is likely less than 1%, but in an overwhelmed system without access to intensive care the death rate approaches 4%… On current growth rates the 370 cases in Australia today will be 750 on Friday [20 March] , 1500 on Tuesday next week [24 March], 3000 next Saturday [29 March], 6000 on the 1st of April and 12 000 by the 4th of April… The Italian region of Lombardy which is currently hardest hit by COVID19, is one of the richest areas in Europe with a health system equal to that of Australia's. Our colleagues there have made herculean efforts to increase their capacity to care for critically ill COVID19 patients. Despite their efforts their systems are completely overwhelmed with corresponding very high death rates and inability to provide intensive care to previously healthy seventy year olds. They describe their situation as like being "in a war zone." With access to intensive care the death rate from COVID19 is likely less than 1%, but in an overwhelmed system without access to intensive care the death rate approaches 4%" [9, 10].

Australian medical and teaching experts supporting closure of schools to help suppress the COVID-19 epidemic, flatten the infection curve, and hence better enable medical services to cope.

Dr Hemant Garg (a GP) and almost 2,500 other doctors in a letter to Federal Health Minister, Greg Hunt (March 2020):

> "[Doctors are] dismayed at the disconnect between the actions being taken within the medical community and the recommendation for actions being passed on to the general population. We should immediately recommend a three to four week closure of schools, cultural and religious places including

> places of worship, gyms and leisure centres, pubs, bars, theatres, cinemas and concert hall. This would allow a steady declaration of cases of coronavirus to present to hospitals and fever clinics as their symptomatic phase develops" [9].

Dr Norman Swan (host of the ABC Radio's "Coronacast" and "Health Report" programs) (20 March 2020):

> "This week, the numbers in Australia are starting to rise steeply, albeit from a low level. We have a few days to play with but very soon, if the curve isn't bending then schools and universities are going to have to shut since the international evidence is that around 30 per cent of infections come from young people. And by the way there — sadly — are plenty of young people being ventilated in intensive-care units in Italy and elsewhere... I'd find it challenging to keep the school open with the increasing level of staff absence" [11].

Dr Norman Swan (15 March 2020):

> "There are social impacts from closing schools... But probably the right thing to do is close schools now... It is tough but I think we control this epidemic early rather than waiting until the numbers get out of control" [12].

David Smillie (principal, The Grange, a primary and secondary college State school located in Hoppers Crossing in the outer west of Melbourne, with 50% of its 1,830 students now absent) (20 March 2020):

> "Since the Prime Minister's statement that schools definitely won't close, I have been inundated with really worried parents. They're very confused, they're very scared. No matter how much we talk about theories of containment of the virus, people still think because we've got lots of kids on site, they still think the school's a possible area of infection and they worry about their own children. They know that the public galleries are closed, they know that politicians are sitting 1.5 metres away from each other, Qantas is closing down, people are working from home, but what do they see here? So, we're hoping that the chief medical officer, Brendan Murphy, is correct, and that he's smarter than the rest of the world and we're hoping that Dr Norman Swan on ABC is wrong... "We hear that schools aren't closing but we also hear there's a great possibility that down the track that they will. So we're caught, we're asking teachers to manage two things, preparation for the future and the current curriculum program. They see it in pretty basic terms that rich schools yet again are safe, when state schools have to bear the brunt of it" [11].

Agata Kula-Lugg (secondary school teacher and mother of 2 young children) (20 March 2020):

> "Aside from concerns about my own safety and my family's safety, I've been following the news very closely for the last three days and there doesn't seem to be any mention of teachers when they're talking about schools. Because if they did mention teachers, they'd have to admit that this is completely unsafe. Schools are not set up for social distancing" [11].

Dr Kerryn Phelps (general practitioner, former AMA president and former independent Federal MP)(ca 16 March 2020):

> "Within a very short timeframe we're going to have to look at the closure of schools and closure of universities for a couple of weeks in order to help with limitation of transmission" [13].

Anthony Albanese (Leader of the Opposition Labor Party) (ca 16 March 2020):

> "What I don't want is the government to be too far behind here. I can't see how [school closures] won't happen at some stage. What we need, though, is for those decisions to be essentially recommended by the medical officers – if they say that is where it's going to go, we need transparency" [13].

Dr Andrew Miller (president of the WA branch of the Australian Medical Association) (ca 16 March 2020:

> "The schools, we need a bit of preparation time, but it will be coming. Sometime in the next few weeks we would expect the government would be looking closely at that. I suspect what will happen is that schools won't go back after the holidays" [13].

Angelo Gavrielatos (president of the NSW Teachers Federation):

> "We've certainly made representations [re sending home pregnant, older and vulnerable teachers]. We expect the Government to make a quick announcement with respect to those more vulnerable members. These are unprecedented times, and now is the time for the Government to demonstrate its obligations to the health and wellbeing of all its employees" [14].

Professor Ian MacKay (virologist, University of Queensland) (ca 16 March 2020):

> "If we were really serious about flattening the curve [of spread of the virus] we would have to think about closing schools. But we have to balance that against all the social disruption that would cause, including taking people out of various jobs so parents could look after small children at home… We know children get the virus, but are they creating a major part of the transmission chain, or are they having low viral loads and not passing the virus on? We need to find that out so we can have a better understanding of the role that schools play in transmitting the virus" [15].

Professor Nigel McMillan (director, Menzies Health Institute, Griffith University) (16 March 2020):

> "Schools will close eventually, it's really a matter of when, not if… With all due respect to the prime minister, I wonder what he thinks those students do when they're out of school (now), if they're not hanging around malls or anything. We may close schools but we're not closing education. And I think schools are well prepared for this" [16].

Australian medical experts and politicians opposing school closures.

Associate Professor Kamalini Lokuge (Australian National University Research School of Public Health) (18 March 2020): “Our essential workers, our doctors, our nurses, those who supply our food, our electricity – they need to be able to send their kids to school” [13].

Dr Brett Sutton (Victorian chief health officer) (ca 17 March 2020):

> “There is currently limited information on the contribution of children to transmission of Covid-19. The WHO-China joint mission noted the primary role of household transmission and observed that children tended to be infected from adults. Previous work suggests that the potential reduction in community transmission from pre-emptive school closures may be offset by the care arrangements that are in place for children who are not at school. There is a particular risk associated with the fact that children may require care from vulnerable grandparents or may continue to associate (and transmit infection) outside of school settings. Broadly the health advice on school closures from previous respiratory epidemics shows the health costs are often underestimated and the benefits overestimated. This may be even more so in relation to Covid-19 as unlike influenza the impact on otherwise healthy children has been minimal to date” [13].

Daniel Andrews (Victorian premier) (ca 16 March 2020):

> “As much as I know parents are concerned, if you were to do that, you would do more harm than good. It is never good not to follow unanimous and clear advice from the health experts. There will be a time when schools will be significantly disrupted, some already have been where there has been individual cases. In many respects, the best place for the kids at the moment is at school. I am not criticising people for being scared or anxious, it is a natural thing” [13].

Steven Marshall (South Australian premier) on extending school holidays (ca 16 March 2020):

> “This is not a political decision, it is not an ideological decision, it is an evidence-based decision, which has been informed by the brightest minds in Australia, and they’re making it very clear. Children should go to school and to preschool and to kindy, here in South Australia, and around the country, and not to do so doesn’t diminish the risk – in fact, it increases the risk and it reduces our response as a nation so the coronavirus. It will harm our ability to tackle the coronavirus. So this couldn’t be any clearer. The advice was unequivocal” [13].

Professor Brendan Murphy (Chief Health Officer of Australia) (18 March 2020):

> “So it will be hard for schools, but it would be much, much, much harder for society if the schools were closed. We want our children to be looked after in schools. If they were at home, we know that they probably wouldn’t stay at home, they would probably congregate anyway and if transmission were occurring, it would happen” [17].

Scott Morrison (Coalition Prime Minister of Australia) (18 March 2020): "That [school closure] will put peoples' lives at risk. Let's keep our heads as parents when it comes to this. Let's do the right thing by the country and by each other and follow the proper advice. There is a national public interest here in keeping schools open. If that were different and if that became different, then premiers and chief ministers and I would certainly come to a different view" [17].

Australian Health Protection Principal Committee (AHPPC) (17 March 2020):

> "The AHPPC met on Tuesday 17 March to consider the issue of school closures in relation to the community transmission of COVID-19. The Committee's advice is that pre-emptive closures are not proportionate or effective as a public health intervention to prevent community transmission of COVID-19 at this time… Previous studies suggest that the potential reduction in community transmission from pre-emptive school closures may be offset by the care arrangements that are in place for children who are not at school. Children may require care from older carers who are more vulnerable to severe disease, or may continue to associate (and transmit infection) outside of school settings. Broadly, the health evidence on school closures from previous respiratory epidemics shows the costs are often underestimated and the benefits are overestimated. This may be even more so in relation to COVID-19 as, unlike influenza, the impact on otherwise healthy children has been minimal to date. School closure is associated with considerable costs. Studies have estimated that around 15% of the total workforce and 30% of the healthcare workforce may need to take time off work to care for children. This burden will be significant and will fall disproportionately on those in casual or tenuous work circumstances. At this stage, the spread of COVID-19 in the community is at quite low levels. It may be many months before the level of Australian community infection is again as low as it is at the moment… More than 70 countries around the world have implemented either nationwide or localised school closures, at different times in the evolution of the local COVID-19 epidemic, however it should be noted the majority of these have not been successful in controlling the outbreak. Some of these countries are now considering their position in relation to re-opening schools. Singapore has had success in limiting the transmission of COVID-19 in the community without closing schools" [18] [however the successful period in Singapore coincided with school holidays and when students returned they were temperature-tested [12]].

Final comments

We Australian laypersons are left in a quandary – which medical experts should we believe? I am biased because as a 75-year old I am in a relatively high risk group. However as a scientist and humanitarian I am sold on the objective argument from the epidemiologists and mathematicians that it is crucial that actions should be maximal and fast to prevent exponentially increasing huge numbers of serious infection cases that will overwhelm medical personnel and facilities. Thus Australia presently only has 2,200 Intensive Care Unit (ICU) beds [8].

Some 70 countries – surely on the basis of advice from their own medical experts – have closed schools as a key "social distancing" measure [14]. No doubt school closures will be economically very disruptive but what value does a society place on the health of teachers and school children? Sensible arrangements can be made, for example, to keep schools open for the children of health and other emergency workers, and indeed for the children

of other parents with special circumstances. Many Australian parents have already removed their children from school, whether from the poorly funded state schools or from the much better funded private schools.

To control the spread of COVID-19 Australia has introduced bans on non-essential mass outdoor gatherings of 500 people or more, on indoor gatherings of 100 or more, and on an indoor personal space of less than 4 square metres for an individual. However so far the Australian Government has not opted for the mass closure of schools where each student is typically confined in class to the 1 square metre occupied by a desk and chair. Teachers young and old and their charges are exposed to very small "social distances" with hundreds of people each day at school, whereas everyone else in Australia is sensibly exhorted to maximize "social distance" to help curb the epidemic.

Admittedly as a layperson, I suspect that the refusal of the Australian Coalition Government to close schools will eventually be overtaken by events and reversed, but in the process valuable time would have been lost in which to minimize infection in a scenario of exponentially increasing infection. As eminent UK epidemiologist Professor Neil Ferguson and his 30 research colleagues stated (16 March 2020):

> "We therefore conclude that epidemic suppression is the only viable strategy at the current time" [3].

*

Note to readers: please click the share buttons above or below. Forward this article to your email lists. Crosspost on your blog site, internet forums. etc.

This article was originally published on Countercurrents.

Dr Gideon Polya taught science students at a major Australian university for 4 decades. He published some 130 works in a 5 decade scientific career, most recently a huge pharmacological reference text "Biochemical Targets of Plant Bioactive Compounds" (CRC Press/Taylor & Francis, New York & London , 2003).

Notes

[1]. World Health Organization (WHO), " Coronavirus disease (COVID-19) advice for the public": https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

[2]. Australian Government, Department of Health, "Coronavirus disease (COVID-19) health alert": https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert

[3]. Neil M. Ferguson and 30 colleagues. "Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and health care demand", Imperial College COVID-19 Response Team, 16 March 2020: https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf.

[4]. Chelsea Bruce-Lockhart, John Burn-Murdoch and Alex Barker, "The shocking coronavirus study that rocked the UK and US", Financial Times, 19 March 2020: https://www.ft.com/content/16764a22-69ca-11ea-a3c9-1fe6fedcca75

[5]. Australian Government, Department of Health, “Australian Health Protection Principal Committee (AHPPC)”
: https://www.health.gov.au/committees-and-groups/australian-health-protection-principal-committee-ahppc#members

[6]. Australian Government, Department of Health,” Coronavirus (COVID-19) current situation and case numbers”: https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers

[7]. Joel Miller, “Scott Morrison has said we’ll face at least 6 months of disruption. Where does that number come from?”, The Conversation, 19 March
2020: https://theconversation.com/scott-morrison-has-said-well-face-at-least-6-months-of-disruption-where-does-that-number-come-from-134025

[8]. Caleb Ferguson, Richelle Wynne and Scott Newton: “How we’ll avoid Australia’s hospitals being crippled by coronavirus”, The Conversation, 20 March 2002:
https://theconversation.com/how-well-avoid-australias-hospitals-being-crippled-by-coronavirus-133920 .

[9]. Melissa Davey, “Thousands of Australian doctors call on government to ramp up coronavirus response”, Guardian, 17 March
2020: https://www.theguardian.com/world/2020/mar/17/thousands-of-australian-doctors-call-on-government-to-ramp-up-coronavirus-response

[10]. Dr Greg Kelly and 5,000 other doctors, “Open letter from Australian doctors to Australian federal and state governments re. coronavirus COVID19 response”
: https://docs.google.com/forms/d/e/1FAIpQLScYb_XOzPsGaRsUPOK_XacES857iti_qIrSKm6YKaC8sLpxmg/viewform

[11]. Margaret Burin, “As coronavirus spreads keeping a school open becomes a fraught challenge”, ABC News, 20 March
2020: https://www.abc.net.au/news/2020-03-21/coronavirus-covid-19-schools-open-close-principal/12072018

[12]. Norman Swan, “Coronavirus Q&A”, ABC News, 15 March
2020: https://www.abc.net.au/news/2020-03-15/dr-norman-swan-recommends-proactive-national-lockdown/12057956

[13]. Paul Karp and Melissa Davey, “Why Australia is not shutting schools to help control spread of corona virus”, Guardian, 16 March
2020: https://www.theguardian.com/world/2020/mar/16/why-australia-is-not-shutting-schools-to-help-control-the-spread-of-coronavirus

[14]. Conor Duffy and Brad Ryan, “Why are schools open in Australia when coronavirus is prompting closures overseas?”, ABC News, 19 March
2020: https://www.abc.net.au/news/2020-03-19/coronavirus-why-is-australia-keeping-schools-open/12070702

[15]. Conor Duffy and Sophie Scott, “Should I keep my children home from school due to coronavirus?”, ABC News, 16 March
2020: https://www.abc.net.au/news/2020-03-16/should-i-keep-my-children-home-from-school-due-to-coronavirus/12058200

[16]. Kelly Burke, “Coronavirus Australia: school closures inevitable, says health expert”, 7 News, 16 March
2020: https://7news.com.au/lifestyle/health-wellbeing/coronavirus-australia-school-closures-inevitable-says-health-expert-c-747069

[17]. Dan Jervis-Bardy, “Student numbers down at Canberra schools due to coronavirus concerns”, Canberra Times, 18 March
2020: https://www.canberratimes.com.au/story/6685297/student-numbers-down-at-canberra-schools-amid-covid-19-concerns/

[18]. Australian Health Protection Principal Committee (AHPPC) coronavirus (COVID-19) statement on 17 March 2020:
https://www.health.gov.au/news/australian-health-protection-principal-committee-ahppc-coronavirus-covid-19-statement-on-17-march-2020
