



Australians' Experiences of COVID-19

STAGE 4 SURVEY FINDINGS, 2023

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Summary

The national online survey findings reported in this report are from the most recent stage of the 'Australians' Experiences of COVID-19' project. Conducted in mid-September 2023, this representative survey investigates 1,000 Australians' experiences of COVID-19 and preventive practices such as vaccination and face mask wearing, their perceptions of COVID-19 risk, who they think are the most trusted sources of COVID-19 information and their views on the federal and their state/territory governments' current management of the pandemic. The survey results show that the pandemic continues to badly affect Australians in terms of accumulated infections and prevalence of long COVID. Yet respondents were equivocal about the extent to which COVID-19 is a continuing risk to Australians. For the most part they were not strongly supportive of continued preventive actions against infection such as face mask wearing and vaccination. They did not hold high trust in any COVID-19 information source, including medical experts and scientists. Respondents were divided about how well their governments were managing the pandemic.

KEY FINDINGS

- More than two-thirds of respondents (68%) reported having had at least one **COVID-19 infection** to their knowledge. One third (32%) reported one infection. A further 22% reported two infections, with a total of 13% experiencing three or more. Younger people reported more infections than older people, as did those in the middle household income category.
- Of those who reported COVID-19 infections, 40% had experienced **long COVID**. More younger people experienced long COVID symptoms, while far fewer people on the lowest household income level reported long COVID.
- The respondents reported a high take-up of the first three **COVID-19 vaccines**. The vast majority (93%) responded they had been vaccinated, with 21% having had two doses and 36% reporting three doses. However, after three doses, the proportion drops considerably.
- Responses were mixed concerning plans for **future COVID-19 vaccination**. A total of 36% said they were planning to get another vaccine in 12 months, a similar proportion (37%) said no, and 27% were unsure. Those in the oldest age group were more likely to say that they were planning to get a further COVID-19 vaccination, as were people living in a capital city or regional city.
- **Face mask wearing** as a personal practice was low. Only 9% of respondents said that they always wore a face mask to protect themselves against COVID-19 when inside public places. A further 26% said that they sometimes used a mask in these settings. This is a combined total of just over one-third of respondents (35%) who

were still masking at least sometimes. Younger respondents were more likely to wear face masks than those in the older groups, as were those in the middle income category.

- Support for **face mask mandates for healthcare workers** while at work was higher, with 58% in at least partial support. Here again, younger people and those in the middle income category were more supportive of mandating face masks for healthcare workers.
- Doctors were considered **the most trustworthy sources of COVID-19 information** (60%), followed by experts in the field (53%), Australian government health agencies (52%), global health agencies (49%), scientists (45%), community health organisations (35%), Australian government leaders (31%) and other healthcare providers (28%). News reports (17%), friends and family (13%), social media (7%) and religious institutions (3%) were considered the least trustworthy. Older people were more likely to trust doctors and Australian government health agencies. The youngest group was the least trusting of scientists and experts in the field. Those in towns were less trusting of Australian government leaders, global health agencies and experts. Those in the lowest income category trusted news sources more than those in the other categories. A greater percentage of respondents in the two higher income categories said they trusted global health agencies.
- A slight majority (59%) thought that **COVID-19 was still posing a risk to Australians**: 17% said definitely, while a further 42% saw COVID-19 as somewhat of a risk. This left 28% who did not view COVID-19 as much of a continuing risk, and 13% who thought it not a risk at all. The oldest age group saw COVID-19 as more of a continuing risk to Australians than did the younger groups, as did respondents located in regional cities and towns and those in the middle income category.
- Respondents were mixed in their assessments of **how well their federal and state/territory governments were currently managing COVID-19**. They were evenly divided between positive assessments (36% for both federal and state/territory governments) and more equivocal assessments: 34% (federal) and 32% (state/territory). The youngest and oldest age groups were least positive about their governments' management of COVID-19. People in towns were less positive than those in capital cities or regional cities. People with the middle levels of household income were more positive than those in other income categories.

Introduction

Australia has experienced multiple waves of COVID-19 outbreaks. COVID-19 infections, hospitalisations and deaths are continuing to affect Australians' health and wellbeing. As the COVID-19 pandemic continues into its fourth year, it is important to know how it is affecting Australians across the nation, how they assess the risk of infection and what they are doing to prevent exposure to the virus. The national online survey findings reported in this report are from the most recent stage of the 'Australians' Experiences of COVID-19' project. Conducted in mid-September 2023, this representative survey investigates 1,000 Australians' experiences of COVID-19 and preventive practices such as vaccination and face mask wearing, their perceptions of COVID-19 risk, who they think are the most trusted sources of COVID-19 information and their views on the Australian federal and their state/territory governments' current management of the pandemic.

An overview of COVID-19 in Australia, 2020-2023

COVID-19 waves, policies and mitigation measures

The first cases of the disease that came to be known as COVID-19, caused by the novel coronavirus SARS-CoV-2, were reported by officials in Wuhan, China, on the last day of 2019. One month later, as cases quickly spread beyond China and to other parts of the world, the World Health Organization (WHO) declared this outbreak as a 'public health emergency of international concern'. By 11 March 2020, COVID-19 was officially characterised as a pandemic by WHO (World Health Organization, 2020).

Throughout 2020 and 2021, the spread of the SARS-CoV-2 virus was well controlled in Australia due to effective public health mitigations. Australia's federal government acted quickly in response to the first notifications of the novel coronavirus. From 23 January 2020, Australian biosecurity officers began screening incoming arrivals on flights from Wuhan. Two days later, the first official cases of COVID-19 in Australia were reported. On 27 February 2020, the Prime Minister at the time, Scott Morrison, activated the Australian Health Sector Emergency Response Plan for Novel Coronavirus (COVID-19). The first death in Australia was reported on 1 March 2020, followed the next day by confirmation of the first cases of community transmission in Australia. On 12 March 2020, Morrison announced an economic stimulus package. In the days following, the federal government implemented a series of measures to 'slow the spread' of the virus, including voluntary isolation of all arriving travellers, contact tracing and testing services, as well as lockdown restrictions for all Australians to reduce citizens' movements outside their homes. International and some internal border control measures between states and territories were introduced and non-essential businesses and services and schools were closed. A second economic stimulus package was announced on 22 March 2020, including changes to unemployment benefits. On 29 March, a safety net package was introduced to

expand mental health and telehealth services as well as increased family violence prevention and food provision services.

These measures proved extremely effective in containing the spread of the virus within the community, and consequently lockdown restrictions were progressively removed from mid-May 2020. The state of Victoria went through a second extended lockdown from mid-2020. By the time this lockdown was eased in late 2020, there were very few cases of COVID in the nation (Lupton, 2020; Stobart & Duckett, 2022). Tight control of the pandemic was facilitated by strong test-and-trace and quarantine measures and continued border controls, together with advocacy of preventive measures such as face mask wearing, physical distancing and occupancy limits on public venues. Further region-specific lockdowns were quickly implemented when community cases were identified. After somewhat of a delay, the federal government eventually managed to secure adequate supplies of the new COVID-19 vaccines. In mid-2021, mass vaccination supplies and facilities together with announcements of targets and media campaigns were established by federal and state/territory governments to encourage eligible Australians to receive the two doses recommended at that time (Biddle, 2022; Biddle et al., 2023; Stobart & Duckett, 2022).

Due to these strong public health protection and containment measures, throughout 2020 and most of 2021, compared with similar wealthy, English-speaking countries Australia had far fewer case numbers per capita and long periods of time in which there was no community transmission of the virus (Australian Institute of Health and Welfare, 2022a). The vast majority of Australians willingly complied with public health measures to limit case numbers and deaths (Stobart & Duckett, 2022; Young, 2022). However in late 2021, Australian federal and state/territory governments began to withdraw COVID-19 mitigations, based on the assumption that the then highly vaccinated population (Biddle, 2022) was well protected against infection and death caused by the dominant Delta variant circulating at the time. Australians were urged to learn to 'live with COVID' so that Australia could 'open up again'. Confidence in the protection offered by double vaccination led to governments dropping many public health measures, including mask mandates, publicising sites where infected cases had been identified, checking in to venues using an app, and regular media briefings by state/territory premiers and health agency leaders such as chief health officers. News media coverage was much reduced, as political leaders sought to establish a sense of normality by suggesting that the crisis was over (Duckett, 2022; Lupton, 2021, 2024; Stobart & Duckett, 2022; Young, 2022).

Unfortunately, the new Omicron viral variant reached Australia soon afterwards, and from late 2021 and into early 2022 Australia experienced a massive new wave of infection (Figure 1) with far greater loss of life than had been previously experienced during the pandemic (Figure 2). The ideal of eliminating COVID-19 which had dominated government policy in 2020 and 2021 was relinquished. Once most mitigations were withdrawn and the international borders fully opened in early 2022, hospitalisations and deaths began a steep trajectory. After a period in which excess mortality decreased in 2020-21, it increased by 12% in 2022. COVID-19 became the third leading cause of death in 2022 (Barrett, 2023).

Figure 1: Daily new confirmed COVID-19 cases per million people, 1 March 2020-1 January 2023, Australia. Source: Our World in Data

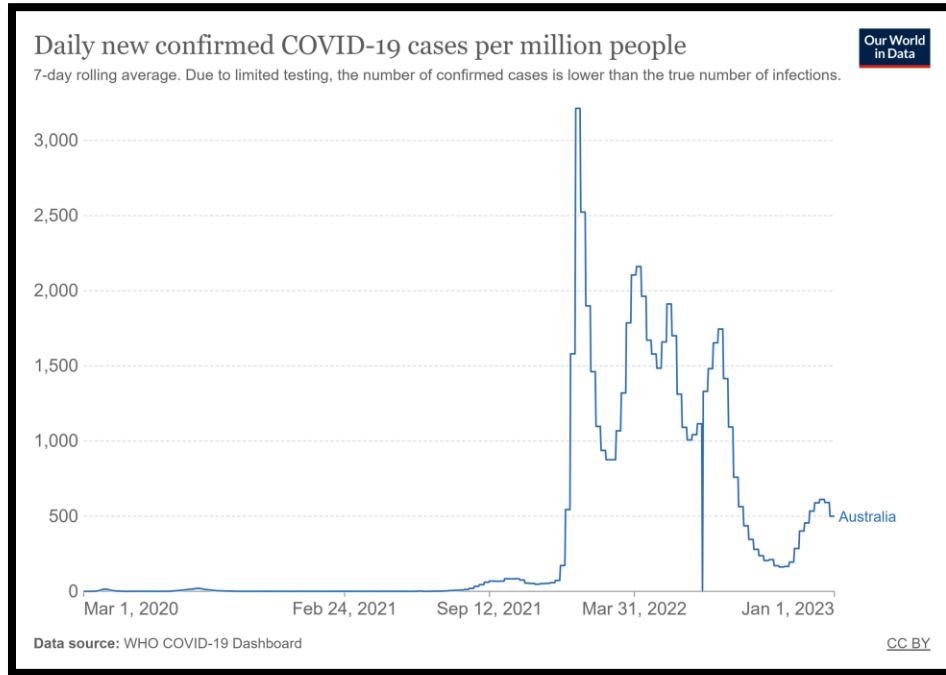
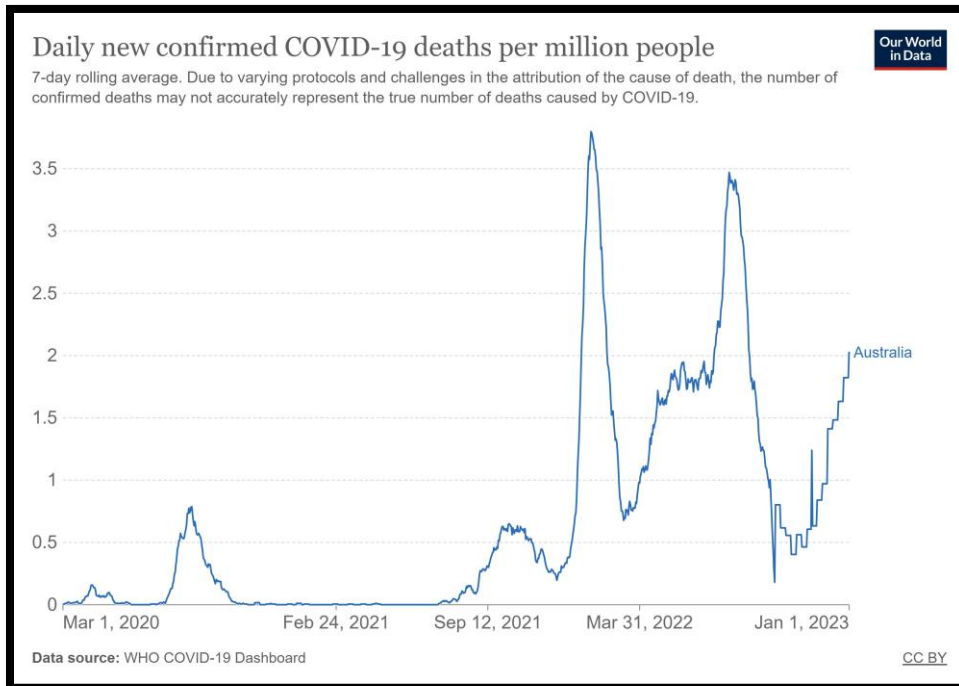


Figure 2: Daily new confirmed COVID-19 deaths per million people, 1 March 2020-1 January 2023, Australia. Source: Our World in Data



While in previous years state and territory governments dealt with COVID-19 protections and regulations quite differently (Biddle et al., 2023; Duckett, 2022; Stobart & Duckett, 2022; Young, 2022), by the beginning of 2023 a similar approach had been adopted across the nation. It has now become difficult to find relevant data about COVID-19 cases and vaccinations. Previously strong COVID case data collection and reporting practices have been progressively dropped and officially reported case numbers can no longer be relied on. Hospitalisations and deaths due to COVID-19, however, are still reasonably accurately reported and can be used as a proxy for the extent of COVID-19 outbreaks. As shown in Figure 3, Australia has gone through several peaks of hospitalisations, including a wave in the weeks preceding the Stage 4 survey. Figure 4 shows cumulative confirmed COVID-19 deaths per million in Australian compared with some other Western countries as well as with other countries that were known for their success in controlling the spread of COVID-19 (New Zealand, Singapore and Japan). As these graphs demonstrate, while Australia avoided the huge loss of life experienced by the UK, USA, Italy, Germany and Sweden due to the strong public health measures implemented in 2021-2022, COVID-19 remains a serious threat to Australians' health.

Figure 3: Number of COVID-19 patients in hospital per million people, 1 March 2020-7 September 2023, Australia. Source: Our World in Data

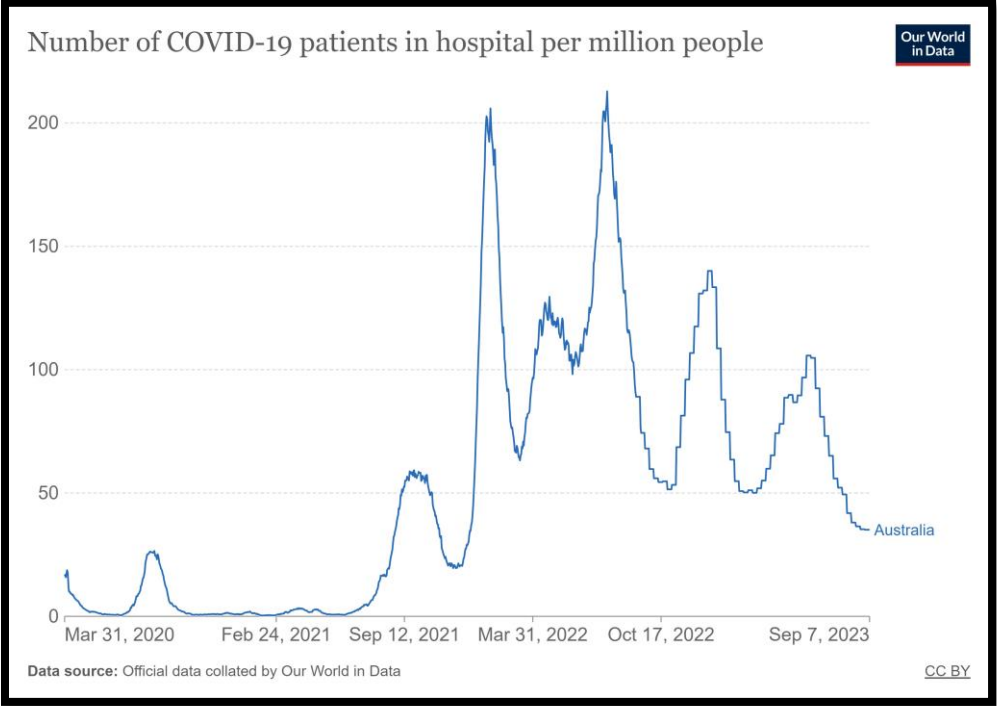
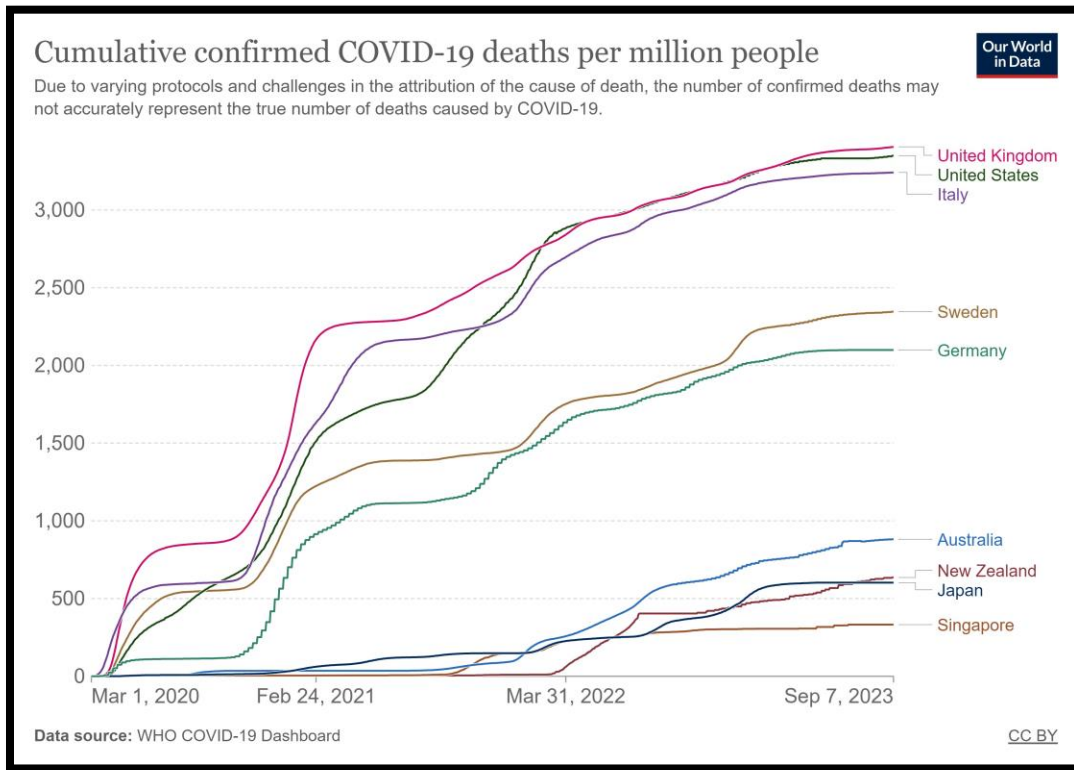


Figure 4: Cumulative confirmed COVID-19 deaths per million people, 1 March 2020-7 September 2023, Australia. Source: Our World in Data



Prevalence of COVID-19 infections

Data from two studies conducted in 2022 give some indication of how many COVID-19 infections Australians have had and the age profile of those infected. The ANU’s ‘COVID-19 Impact Monitoring Survey’ series (Biddle & Korda, 2022) found that of the people surveyed in August 2022, the majority (52.4%) reported having either had COVID-19 or at the very least thinking they have had it. Younger adults were more likely to have had COVID-19 than older Australians, with nearly two-thirds (63.2%) of those aged 25-44 years, but only around a third (33.6%) of those aged 75 years and over reporting having ever having the disease. At that point, the vast majority of Australians (83.4%) who said they had COVID-19 had gone through it once only. Only 11.2% reported that they had it twice, and a further 5.4% three times or more.

Another way to measure the prevalence of COVID infection is from the regular serological tests conducted from Australian donors’ blood by the Australian COVID-19 Surveillance Network. The most recent data are from blood donations received in November-December 2022 (The Australian COVID-19 Serosurveillance Network, 2023). These data, which discern the presence of antibodies to SARS-CoV-2, show that of this group of adults who donated blood, more than two-thirds had been infected with this virus – virtually all since the Omicron outbreak at the beginning of that year. Here again,

evidence of infection was higher among young adults and declined with age. Of the 18-29 years age group, 83.2% had SARS-CoV-2 antibodies compared with 51.4% of blood donors in the 70-89 years age group.

Prevalence of long COVID

There are differing definitions of long COVID (also referred to in the medical literature as post-acute COVID-19 syndrome) and estimates of how many people have suffered from this condition are complicated by the impacts of previous infections or vaccinations. Some definitions classify long COVID as symptoms persisting for a minimum of 28 days (four weeks), while others use a 12-week period. A systematic literature review synthesising the global evidence on the prevalence of long COVID found that on average, at least 45% of COVID-19 survivors, regardless of whether they had been hospitalised with the disease, went on to experience at least one symptom persisting for a minimum of 28 days (O'Mahoney et al., 2023).

There are still little data on long COVID from Australia. Estimates of how many Australians have experienced or still have symptoms of long COVID are variable, as different definitions are used and some measurements rely on people's self-reported symptoms while others use clinical data. The Australian National Clinical Evidence Taskforce (2023) defines long COVID as 'signs and symptoms that develop during or after an infection consistent with COVID-19, continue for more than 12 weeks and are not explained by an alternative diagnosis'. Using the 28 day/four weeks definition, one representative survey conducted in August 2022 found that 29.0% of Australian adults with confirmed or suspected COVID-19 experienced long COVID (Biddle & Korda, 2022). An Australian Institute of Health and Welfare report published in December 2022 noted the continuing lack of information about long COVID in Australia. The authors estimated that at that point 5-10% of Australians had experienced long COVID-19 symptoms persisting for three or more months (Australian Institute of Health and Welfare, 2022b).

Since these data and estimates were published, Australians have been exposed to more infections, potentially leading to more cases of long COVID. The federal government inquiry into long COVID-19, released in April 2023, demonstrated the lack of recognition and treatment for people suffering the prolonged effects of infection (Standing Committee on Health, Aged Care and Sport, 2023).

Trust in information sources and government

Throughout the pandemic, Australians have strongly relied on mainstream media news sources as well as government authorities for information about COVID-19 (Deejay et al., 2023; Lupton, 2024; Lupton & Lewis, 2021, 2022b; Park et al., 2020; Park et al., 2022; Young, 2022). In the early phases, many news reports provided accurate and important information about the pandemic (Nolan et al., 2021; Young, 2022). Unfortunately, as is the case globally, misinformation and disinformation about COVID-19 have also been disseminated in Australia via news outlets, social media and even by politicians and medical or public health experts (Baker et al., 2020; Bruns et al., 2020; Lupton, 2023b,

2023c; Meese et al., 2020; Young, 2022). Australian research has identified fluctuations in people's trust in information sources over the course of the pandemic as they navigated how best to deal with constant change in government policies and case numbers as well as with disinformation and misinformation (Deejay et al., 2023; Park et al., 2020; Park et al., 2022).

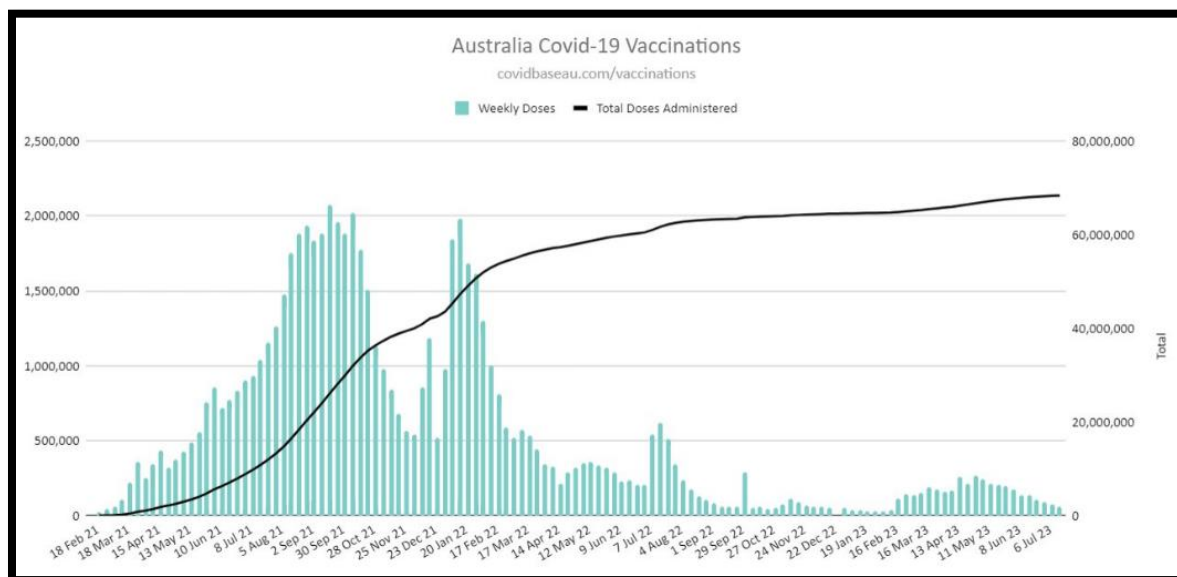
Due to the demonstrated success of government measures to contain the spread of the ancestral and Delta coronavirus variants, trust in and support of both federal and state governments during the first two years of the pandemic was notably high (Biddle et al., 2023; Browne, 2020; Fenna & Goldfinch, 2023; Goldfinch et al., 2021; Lupton, 2022a; Young, 2022). The popularity of the premiers and state governments that had implemented strong COVID protections (Victoria, Queensland and Western Australia) was particularly strong (Young, 2022). However, support for federal and state/territory governments gradually declined over 2021 and 2022, affected by problems such as the timely acquisition and rollout of the first COVID-19 vaccines (Holden & Leigh, 2022) and the onset of the Omicron wave (Biddle & Gray, 2022).

In 2022, when there were far fewer briefings by government and public health officials and the frequency of news coverage of pandemic conditions had diminished (Lupton, 2024; Young, 2022), Australians displayed heightened trust in health and science experts and least trust in social media news. They also expressed scepticism about the motivations of public health and government authorities in relation to vaccines and COVID-19 reporting (Park et al., 2022). By April 2022, just before the federal election in which Prime Minister Morrison and the Liberal Party were voted out of office, confidence in the federal government was only just above pre-pandemic levels, while confidence in state/territory governments declined less precipitously (Biddle et al., 2023).

Vaccination rates

Previous findings from the 'Australians' Experiences of COVID-19' project found that in 2021 Australians responded very positively to their governments' campaigns to offer the first two doses of COVID-19 vaccines once difficulties with acquisition were resolved. Double vaccination was advertised as a 'way out of the pandemic' once enough people had received these doses (Lupton, 2022b, 2023a). Since 2022, however, vaccination rates have dropped precipitously. A 2022 survey looked at disparities in COVID-19 vaccine uptake in Australia (Biddle, 2022). These findings showed that despite an extremely high take-up of the initial two doses of the vaccine offered Australians in 2021, the proportion seeking further 'booster' doses once they became recommended to eligible population groups declined significantly in 2022. It was concluded that Australia's COVID-19 immunisation program was stalling, leaving many people susceptible to disease and death due to waning immunity from the earlier doses. By mid-2023, the acceptance of COVID-19 vaccines was even lower. The graph in Figure 5 shows the levelling off in numbers of weekly COVID-19 vaccine doses administered between February 2021 and July 2023.

Figure 5: Australia COVID-19 weekly doses and total vaccines administered, 18 February 2021-6 July 2023. Source: covidbaseau.com/vaccinations



Face mask wearing

In previous years, Australians have strongly supported preventive measures such as face mask wearing once they became recommended by governments and health authorities (Faasse & Newby, 2020; MacIntyre et al., 2021; Quigley et al., 2022). Even though health officials followed the WHO advice in early 2020 that masks were not effective as preventive measures, by October 2020 state health authorities in NSW and Queensland recommended that face masks should be used in situations where physical distancing was not possible. Earlier that year, Victoria had mandated mask wearing during its second lockdown.

The Australian Bureau of Statistics’ ‘Household Impacts of COVID-19’ survey found that acceptance of mask wearing rose rapidly in response to these recommendations. In April 2020, only 17% of Australians reported wearing a face mask as part of their precautions against COVID-19 (Australian Bureau of Statistics, 2020a). By September 2020, this number had increased dramatically. In total, 60% of Australians reported wearing a face mask in the past week (Australian Bureau of Statistics, 2020b). In early 2022, mask wearing was exceptionally high in Australia (98%), as mask mandates were reintroduced across the country to manage the huge Omicron wave that had spiked over the summer (Australian Bureau of Statistics, 2022b) (Figure 1). Over three quarters of Australians (78%) still reported wearing a face mask in April 2022 (Australian Bureau of Statistics, 2022a).

The ‘Australians’ Experiences of COVID-19’ project

The ‘Australians’ Experiences of COVID-19’ project to date is comprised of four stages, as shown in Figure 6. Stages 1-3 adopted a qualitative approach, each involving semi-structured telephone/video call interviews conducted with 40 Australian adults. There was a different group of participants recruited for each stage, for a total of 120 participants across these three stages. Stage 4 used a quantitative method (a closed-ended online survey with 1,000 respondents).

Figure 6: The four stages of the ‘Australians’ Experiences of COVID-19’ project

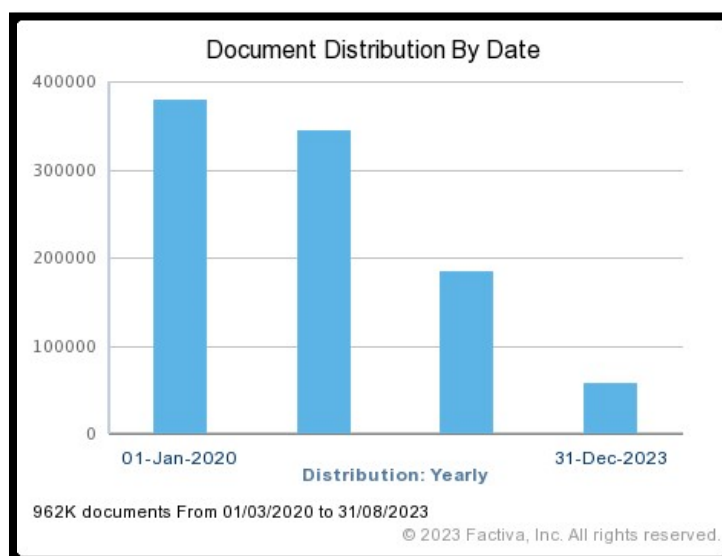


COVID-19 conditions have changed dramatically between each of the research stages. When the Stage 1 interviews were conducted, Australians were emerging from the national lockdown and still learning about and coming to terms with the COVID-19 crisis and how it was affecting their lives. By the time the Stage 2 interviews took place in September-October 2021, half of Australia’s population were in the final stages of another lockdown across the eastern states of Queensland, NSW and Victoria as well as the Australian Capital Territory. People living in the other states of South Australia, Tasmania and Western Australia, as well those in the Northern Territory, were not included in this lockdown and life for them was barely affected during this stage. After an initial problem with the federal government obtaining enough COVID-19 vaccines, by this point all eligible Australians were being strongly encouraged by governments to receive the two recommended doses of the first COVID-19 vaccines, which were presented as a way to end the pandemic. In the year separating Stage 2 and 3 interviews, COVID-19 conditions had again changed with the dropping of most protections in late 2021 and the arrival of the Omicron variant.

The period between the Stage 3 interviews in September 2022 and the Stage 4 survey in September 2023 was characterised by less visibility of COVID-19 in public

forums, even though two new waves of infection and disease had occurred over that year. The survey was conducted at a time in which most mitigations against the spread of COVID-19 previously implemented by governments and the medical and public health systems had been dropped. COVID-19 was at first a highly newsworthy topic: particularly in the first year of the pandemic, when it was novel and journalists were scrambling to cover fast-moving events and policy settings (Nolan et al., 2021). As shown in Figure 7, by the time of the survey, news media attention to COVID-19 had diminished significantly compared with previous years. Government and health leaders were no longer providing frequent updates about the state of the pandemic as they did in earlier pandemic years or running regular health promotion campaigns (Lupton, 2024; Spennemann, 2023; Young, 2022).

Figure 7: Frequency of reports mentioning COVID-19 in the Australian news sources indexed by Factiva, 1 March 2020 to 31 August 2023



Analysis of the interviews from Stages 1-3 is continuing. Publications to date have shown how factors such as age, place of residence and health status have had an impact on people’s concepts of risk, preventive behaviours and wellbeing during the pandemic. Articles from the Stage 1 interviews address topics such as how Australians first learnt about COVID-19 (Lupton & Lewis, 2021), how they conceptualised risk (Lupton & Lewis, 2022b), coped with chronic health conditions (Lupton & Lewis, 2022c) or pre-existing mental illness (Lupton & Lewis, 2022a) and more generally what life was like during the early months of the pandemic (Lupton & Lewis, 2023). Analysis of the Stage 2 interviews published thus far discuss participants’ views and experiences of the first COVID-19 vaccines in relation to their understandings of risk and immunity (Lupton, 2022b, 2023a)

and their attitudes and experiences related to the internal border closures that occurred during 2020 and 2021 as COVID-19 control measures (Butler & Lupton, 2023).

Stage 4 survey methods

A total of 1,000 adult Australians aged 18 to 77 years completed a short online survey between 11-16 September 2023. Quotas were implemented in recruitment to ensure that the sample was representative of the Australian population by age, gender and state/territory of residence (see the Appendix for further details of methods). Respondents were grouped into age categories based on standard ‘generational’ categories often used in social research: 18-28 years (‘Generation Z’), 29-43 years (‘Generation Y’), 44-58 years (‘Generation X’) and 59-77 years (‘Baby Boomers’). Table 1 shows the sociodemographic characteristics of the sample.

Table 1: Sociodemographic characteristics of respondents

gender	%	age group	%	state/territory	%	location	%	household income/week	%	education level	%
female	50	18-28	19	NSW	31	capital city	62	\$3,000+ (Cat1)	18	Year 12 or below	32
male	49	29-43	29	VIC	26	regional city	15	\$2,000-\$2,999 (Cat2)	20	Certificate or diploma	30
other	1	44-58	26	QLD	20	town	19	\$1,200-\$1,999 (Cat3)	26	University degree	38
		59-77	26	SA	7	remote area	4	\$700-\$1,199 (Cat4)	22		
				WA	11			\$699 or less (Cat5)	14		
				TAS	2						
				ACT	2						
				NT	1						

The survey included the following questions:

1. To your knowledge, how many COVID-19 infections have you had? (*This includes any infections you may have had over the course of the last four years.*)
2. Have you experienced symptoms of ‘long-COVID-19’? (*This may be any ongoing symptoms following an initial COVID-19 illness that have lasted longer than three months.*)
3. How many COVID-19 vaccinations and/or boosters have you had?

4. Do you plan to get any COVID-19 vaccinations and/or boosters in the next 12 months?
5. How often do you currently wear a face mask to protect yourself against COVID-19 when inside public places? (*Public places include public transport, planes, shops, medical clinics, restaurants or cafes.*)
6. Do you think wearing face masks should be mandatory for healthcare workers while at work (*e.g. hospitals, medical clinics*)?
7. Which of the following do you believe are trustworthy sources of information about COVID-19? Please select all that apply. (*Options were: Doctors/Other healthcare providers/News reports on television/radio/newspapers/Social media sites/Australian government health agencies (e.g. Federal or State/territory departments of health/Australian government leaders (e.g. the Prime Minister, Minister of Health, state premiers, Chief Health Officers)/Global health agencies (e.g. the World Health Organization)/Community health organisations (e.g. The Heart Foundation, Asthma Australia)/Friends/family/ Experts in the field/Religious institutions/Scientists/Other [please specify]/I am unsure*)
8. Do you think COVID-19 is still posing a risk to Australians?
9. How effectively do you believe the Australian government is currently managing the COVID-19 pandemic?
10. How effectively do you believe your state/territory government is currently managing the COVID-19 pandemic?

Results

Response percentages to each question from across the sample are provided below. Using simple cross-tabulations, responses to the COVID-19 questions were compared by age group, residential location (capital city, regional city, town) and income category (Cat1-Cat5, as shown in Table 1). Where differences were notable, these are outlined below.

COVID-19 infections

More than two-thirds of respondents (68%) reported having had at least one COVID-19 infection to their knowledge. One third (32%) reported one infection. A further 22% reported two infections, with a total of 13% experiencing three or more (7% with three infections and 6% with four or more infections). This left 30% of the sample who said that they have never had COVID-19, with 2% unsure.

Younger people reported more infections than older people. Only 18% of those in the youngest age group said they had never been infected or were unsure, compared with 25%, 37% and 46% in the older age groups in ascending order of age. More than half (52%) of respondents aged 18-28 years reported having had more than one COVID infection, compared with 36% of those aged 29-43 years, 31% aged 44-58 years, and 28% of the oldest age group (59-77 years). Income level made a difference in infections, with 43% of those in the middle household category (Cat3) reporting more than one infection compared with 35-36% of those in Cat1, Cat2 and Cat 4 and only 24% of the lowest

income category (Cat5) respondents. Cat5 respondents were also more likely to report having had no COVID-19 at all: almost half (47%) stated no infections, compared with 27% (Cat1), 22% (Cat2), 24% (Cat3) and 38% (Cat4).

Long COVID

Of those respondents who reported COVID-19 infections, 40% had experienced long COVID, either with symptoms at the time of the survey (15%) or in the past (25%). This equates to just over a quarter (27%) of the whole sample reporting long COVID symptoms.

Age factored into prevalence of reported long COVID. Of the youngest age group, 57% of respondents who had had a past COVID-19 infection reported past or current long COVID symptoms, compared with 44% of those aged 29-43 years, 39% of those aged 44-58 years and 11% of respondents in the 59-77 years age group. Far fewer people on the lowest household income level reported long COVID than did those on higher incomes. Of those who had been infected with COVID, only 15% of respondents in this category said that they had experienced long COVID symptoms, compared with 45% (Cat1), 41% (Cat2), 46% (Cat3) and 34% (Cat4).

COVID-19 vaccinations

The respondents reported a high take-up of the first three COVID-19 vaccines. The vast majority (93%) responded they had been vaccinated, with 21% having had two doses and 37% reporting three doses. However, after three doses, the proportion drops considerably: 17% of respondents reported receiving four doses, with 13% reporting five doses and 1% six or more doses.

In response to the question about whether they planned to get any COVID-19 vaccines and/or boosters in the next 12 months, there was a high degree of equivocation: 36% said yes, a similar proportion (37%) said no, and 27% were unsure. Older respondents (in the 58-77 years group) were more likely to say that they were planning to get a further COVID-19 vaccination in the next 12 months (43% compared with 33-34% in the other three age groups). People living in a capital city (38%) or regional city (40%) were more likely than those in a town (30%) to say they planned a vaccination in that time period.

Face masks

Support of face mask wearing was low. Only 9% of respondents said that they always wore a face mask to protect themselves against COVID-19 when inside public places and a further 26% said that they sometimes used a mask in these settings. This is a combined total of just over one-third of respondents (35%) who were still masking at least sometimes. Of the remaining respondents, 23% said rarely, 18% said that they did so only when it was required, and 24% said that they never wore masks in these settings.

Younger respondents were more likely to wear face masks than those in the older groups. In the 18-28 years group, a combined total of 43% said that they always or sometimes used them when inside public places, while 35% of respondents in the 29-43 age group, 37% of those aged 44-58 years and 27% of those aged 59-77 years gave these responses. Income level made a difference too, with a higher percentage of middle income (Cat3) respondents compared with other income categories answering that they always or sometimes wore face masks when inside in public places: 40% gave these responses compared with 35% (Cat1), 30% (Cat2), 34% (Cat4) and 35% (Cat5).

When asked if they thought face mask wearing should be mandatory for healthcare workers while at work, 25% said definitely yes and 33% somewhat agreed. Combined, just over half of the respondents (58%) were in at least partial support of mask mandates for healthcare workers, leaving 36% respondents not agreeing, and 6% unsure.

Younger people were also more supportive of mandating face masks for healthcare workers: 66% of the youngest group fully or somewhat agreed, compared with 58% (29-43 years), 54% (44-58 years) and 55% (59-77 years). Furthermore, Cat3 respondents were more supportive of mask mandates for healthcare workers: 62% of them compared with 56% (Cat1), 55% (Cat2), 58% (Cat4) and 57% (Cat 5) either fully or partially agreed they should be mandated.

Trusted sources of information

Respondents were provided with a list of sources of COVID-19 information and asked which of these are trustworthy. Doctors were considered the most trustworthy (60%), followed by experts in the field (53%), Australian government health agencies (52%), global health agencies (49%), scientists (45%), community health organisations (35%), Australian government leaders (31%) and other healthcare providers (28%). News reports (17%), friends and family (13%), social media (7%) and religious institutions (3%) were considered the least trustworthy.

Older people were more likely to trust doctors (77% of the oldest age group compared with 66%, 49% and 47% as the age groups became younger). They were also more trusting of Australian government health agencies (60% compared with 51%, 49% and 45% as the age groups became younger). The 44-58 years age group were the most trusting of news reports compared with other age groups (21% compared with 11% of the 18-28 years group and 17% of respondents in the other two groups). The youngest group was the least trusting of experts in the field: 41% compared with 52%, 54% and 62% in each of the older age groups in ascending order of age. The two younger age groups were also less trusting of scientists compared with the two older age groups (35% and 39% of the youngest and next youngest age groups compared with 51% for both older age groups).

There were some differences between those living in capital cities, regional cities and towns in terms of which sources of information were trusted. Those in towns were less trusting of Australian government leaders (22% compared with 33% in capital cities and 38% in regional cities). Those in regional cities and towns were less trusting of global health agencies (44% and 45% respectively) than were those in capital cities (52%).

Capital city dwellers were more trusting of experts in the field (56%) than were those in regional cities (47%) and towns (48%).

Income level also made a difference to some of the responses to this question. Those in the lowest income category (Cat5) trusted news sources more than those in the other categories, especially when compared with the two highest income categories: 24% in Cat5 compared with 12% in Cat2 and 13% in Cat 1. A greater percentage of respondents in the two higher income categories also said they trusted global health agencies than did those in the other categories: 54% (Cat1) and 55% (Cat2) compared with 48% (Cat3), 44% (Cat4) and 45% (Cat5). Highest income respondents (40%, Cat1) together with lower income respondents in (41%, Cat4) were less trusting of scientists than were those in other income categories: 48% (Cat2), 46% (Cat3), 47% (Cat5).

COVID-19 risk perception

When asked if they thought COVID-19 was still posing a risk to Australians, 17% responded it definitely was still a risk, while a further 42% saw COVID-19 as somewhat of a risk, for a slight majority (59%) acknowledging at least some continuing risk. This left 28% who did not view COVID-19 as much of a continuing risk, and 10% who thought it not a risk at all, with 3% unsure.

The oldest age group saw COVID-19 as more of a continuing risk to Australians than did the younger groups: 67% of this group compared with 56-57% in each of the other age groups responded 'yes, definitely' or 'yes somewhat'. Respondents located in regional cities (60%) and towns (59%) were more likely to see COVID-19 as a risk than were those in capital cities (49%). A higher percentage of those in the middle income category (64%, Cat3) viewed COVID-19 as a continuing risk than did those in the other categories: 58% (Cat1), 55% (Cat2), 59% (Cat4), 56% (Cat5).

Governments' current pandemic management

The final two questions concerned how well the federal and the respondents' state/territory governments were currently managing the COVID-19 pandemic. The results for each were remarkably similar. A total of 9% thought that the federal and their state/territory government were managing the pandemic extremely effectively and 27% responded very effectively for both, for a total of 36% providing a highly positive assessment. A further 34% (federal) and 32% (state/territory) were more equivocal giving a 'somewhat effectively' response. On the more negative side, 11% (federal) and 12% (state/territory) chose the response 'slightly effectively' and 11%/12% respectively responded that they did not think these governments' current management was at all effective. A further 8% were unsure about how well both the federal and state/territory governments were managing COVID-19.

The two middle age groups were more positive than the youngest and oldest age group about their governments' management of COVID-19. A total of 34% of the youngest age group replied 'extremely effectively' or 'very effectively' in response to the federal government's management, while 28% of the oldest group and 41-42% of the two

middle age groups provided these responses. The equivalent question for the state/territory governments' management showed a similar pattern: those viewing their management as extremely/very effective were 26%, 40%, 41% and 26% respectively across the age groups from youngest to oldest. People in towns were less positive about the federal government's management: 30% responded with 'extremely/very effective' compared with those in capital cities (39%) or regional cities (41%).

People with the middle levels of household income were the most positive about the federal government's COVID-19 management compared with other income categories. A total of 35% (Cat1) 40% (Cat2), 41% (Cat3), 32% (Cat4) and 31% (Cat5) gave the responses 'extremely effectively' or 'very effectively'. A similar pattern was evident in the percentage who gave these responses in relation to their state/territory governments: 35% (Cat1), 37% (Cat2), 41% (Cat3), 34% (Cat4) and 32% (Cat5) said that their management was 'extremely/very effective'.

Discussion

Among the respondents in this latest stage of the 'Australians' Experiences of COVID-19' project, there was a high degree of uncertainty about the level of COVID-19 risk. The majority of respondents saw COVID-19 as at least somewhat of a continuing risk to Australians, but a sizeable minority refuted the risk. Yet the survey also demonstrates an increase in infections compared with studies conducted in 2022 (Biddle & Korda, 2022; The Australian COVID-19 Serosurveillance Network, 2023). The prevalence of long COVID in this sample is concerning in the current environment where the needs of people with long COVID are being ignored or unmet, and few options are available for formal diagnosis and treatment (Standing Committee on Health, Aged Care and Sport, 2023).

The survey responses further show a weakening in Australians' willingness to engage in preventive actions such as vaccination and masking. While the majority of respondents had received three COVID vaccine doses, fewer had taken up further doses. Respondents' reports of their COVID-19 vaccine uptake are aligned with other research showing a significant decrease in vaccinations delivered in 2022 (Biddle, 2022) and population-wide data from 2023 (Figure 5). Only a minority of the respondents definitely planned a further vaccination in the next 12 months. These findings from Stage 4 contrast strongly with the attitudes and practices expressed by Australians who were interviewed in 2021 for Stage 2 of the project, in which there were high levels of appreciation of interest in and willingness to receive the two doses made available that year (Lupton, 2022b, 2023a).

So too, despite continuing waves of infection in 2023, many respondents for the most part were not wearing masks themselves and only a bare majority supported mask mandates for healthcare workers in clinical settings. Compared with previous years of the pandemic (Australian Bureau of Statistics, 2020b, 2022a) and particularly when face masks were mandated for everyone (Australian Bureau of Statistics, 2022b), this is a major change in attitudes and practices related to masking.

The survey findings further showed that in contrast to earlier pandemic times (Park et al., 2020), trust in COVID-19 information sources was low. In line with research from 2022 demonstrating an increase in generalised scepticism towards all types of news and information (Park et al., 2022), respondents demonstrated uncertainty about the sources of the COVID information. Even figures usually considered reputable, such as doctors, experts in the field, Australian government health agencies and scientists, were not considered particularly trustworthy. Australian government leaders were ranked well below these sources in terms of their trustworthiness. Similarly, compared with the first two years of the pandemic (Biddle et al., 2023; Browne, 2020; Fenna & Goldfinch, 2023; Goldfinch et al., 2021; Holden & Leigh, 2022; Lupton, 2022a), there was relatively muted support of federal and state/territory governments' approaches to COVID-19 management.

Sociodemographic attributes were associated with some differences in responses. Younger respondents reported more COVID-19 infections and more experience of long COVID, especially in comparison to the oldest age group. Younger respondents also expressed greater support of face mask wearing than did older respondents but were less trusting of traditional sources of authority such as doctors, Australian government health agencies, scientists and experts. The oldest group were more likely to plan another COVID vaccine in the next 12 months and to assess COVID-19 as more of a continuing threat than did other age groups. Both the youngest and oldest groups were less positive about governments' current management of the pandemic compared with respondents in the middle age groups.

Respondents with lower household incomes reported fewer infections and experiences of long COVID. Those in the middle income category were more supportive of face mask wearing and mandates for healthcare workers. They were also more likely to perceive COVID as a continuing risk than were those in other income categories and more positive about governments' current COVID management. Higher income respondents were less trusting of news sources, but more trusting of global news agencies compared with those on a lower income. People living in towns were less likely than those in capital or regional cities to plan another COVID-19 vaccine in the next 12 months but (with those in regional cities) were more likely to see COVID-19 as a continuing risk to Australians. Town dwellers were also less positive about the federal government's current management of the pandemic and less trusting of Australian government leaders, experts and global health agencies.

Concluding comments

During earlier years of the pandemic, the vast majority of Australians were compliant with public health protections and restrictions and supportive of the shared effort to 'stop the spread' and 'flatten the curve' of COVID-19. They understood the serious threat posed to their own health and that of others by the novel coronavirus SARS-CoV-2. Even though waves of COVID-19 continue to occur, Australians' attitudes and behaviours have changed now that most public signage about COVID-19 safety have been removed from public settings, far less information is gathered or publicised about crucial data such as

positive cases, hospitalisations, deaths and the prevalence of long COVID, and mainstream media and government leaders and health departments provide little information or warnings about the continuing risk. Trust in government leaders, health authorities and news sources has significantly eroded compared with previous years of the pandemic. Australians need much better leadership, accurate and up-to-date information and public health communication to lessen the burden of further COVID-19-related infections, illness, disability and death.

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Cover images credit: Deborah Lupton.

Appendix

This study was designed by Deborah Lupton and approved by the UNSW Human Research Ethics Committee (HC230531). All participants were provided with an information and consent form before starting the survey. Responses were collected between 11-16 September 2023 using an online survey administered through the McCrindle research company's secure national survey platform using their pre-registered survey panel members. All recruitment and data gathering were facilitated and handled by McCrindle, who then provided the data to Deborah Lupton for analysis and reporting. The number of participants ensured a confidence level of 95% for the survey results, with a 3.1% margin of error.

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