Changes in the health of Australians during the COVID-19 period

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Key findings

This article examines whether the health of the Australian population changed in 2020, 2021 or in the early months of 2022 compared with pre-existing trends. This analysis provides a context for determining whether the total effect of the COVID-19 pandemic – both direct and indirect effects – has changed population health. Analysis at this stage is restricted to data sets with data available for the pandemic period, along with sufficient comparable earlier data to determine pre-existing trends.

Key findings are outlined here:

Overall mortality

- The age-adjusted rate of deaths from all causes combined continued its long-term decline, with no deviation in 2020 or 2021; there was also no obvious change in rates for any age group.
- Excess mortality – which measures the number of deaths compared with what is expected based on previous trends – showed a period of lower than expected deaths in winter 2020. From the middle of December 2021 to the end of February 2022 there was a substantial increase in excess deaths, when there were nearly 5,400 more deaths than expected.

Diseases and injuries

- Levels of psychological distress worsened for younger age groups (ages 18 to 44) at the start of the pandemic. Some improvement followed but not to pre-pandemic levels.
- The number of respiratory infections during 2020 and 2021 were very low, particularly for influenza, resulting in a substantial fall in death rates for respiratory diseases compared with previous trends.
- Death rates from cardiovascular disease and injury continued previous trends.

Foregone and delayed health care

- Rates of visits to general practitioners (GPs) in 2020 were similar to pre-existing trends but the rates in 2021 were above these trends, coinciding with the large vaccine roll-out; the new telehealth provisions played an important role in maintaining rates that were consistent with previous trends.

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- Over the 2 years from 2019–20 to 2020–21, there were around 120,000 fewer elective surgery procedures in public hospitals than expected, based on previous trends; for private patients (in public or private hospitals), there were more procedures in 2021 than expected.
- A number of data sources provide evidence of delayed or missed cancer screening and procedures – such as a large decline in colonoscopies – with rates well below what was expected in 2020. However, the impact of COVID-19 on the respective national screening programs cannot be quantified without further years of data.

To broadly assess the mortality benefit of preventing the potentially substantial effects of the COVID-19 pandemic, total excess mortality was compared across selected countries. Australia and New Zealand were 2 of very few Organisation for Economic Co-operation and Development (OECD) countries that kept cumulative excess deaths well below zero from the start of the pandemic until early 2022. This indicates that there were more deaths prevented than occurred.

The period covering 2020, 2021 and into 2022 has been exceptional in terms of public interest in the health of Australians and the efforts and sacrifices made to protect their health. Given the national health challenges faced, and the efforts made to tackle these, this article investigates how Australia's overall health has been affected during the COVID-19 pandemic. Specifically, how different were health outcomes in this period compared with pre-existing trends?

The COVID-19 pandemic has affected, or has the potential to affect, the health of Australians in several ways (AIHW 2021d):

- There are direct effects on health for people who contracted the virus – both the acute effects and, for some, the longer term impacts (for example, long COVID), for more information see 'Chapter 1 The impact of a new disease: COVID-19 from 2020, 2021 and into 2022'.
- There are also potential effects on health from the mitigations put in place to contain the spread of the virus (Meyerowitz-Katz et al. 2021; Pfefferbaum and North 2020; Shah et al. 2020). The stay-at-home orders and associated closure of services have the potential to affect mental, physical and social health (see Box 2.1 for more information).
- Other impacts on the health system and use of health services have been due to the suspension of some services, the extra strain put on hospitals when COVID-19 admissions were higher, and people's hesitancy to seek care due to fear of contracting the virus.

Box 2.1: Indirect effects from public health measures

A range of public health interventions were put in place to help contain the spread of the virus that causes COVID-19. These included border controls; closure of non-essential businesses; work-from-home orders; school closures; density limits within businesses and workplaces; stay-at-home orders; mandated mask use; and test, trace, isolation and quarantine measures. (For the purposes of this discussion, clinical treatments and vaccinations are not included.)

Governments and public health officials aim to balance the benefits from these interventions in reducing harm from the infectious disease with the potential harm caused by the interventions themselves. Some interventions are minimally disruptive to society (such as mask use and density limits). Others have unintended harms – in particular, stay-at-home orders (sometimes referred to as 'lockdowns'). Managing the response to the COVID-19 pandemic has been a complex balancing exercise, made even more so by the difficulty in showing the benefits of preventing harm caused by the spread of the virus (see the section titled 'A window into what could have been' toward the end of this article).

The potential negative effects of these public health interventions is challenging to quantify, as they can result from government directions, or from changed personal behaviour even in the absence of government directions – sometimes referred to as 'shadow lockdowns'. A lockdown is put in place due to high case numbers; this will, in itself, have indirect health effects (reduced health services due to COVID-19 priorities and staff furloughing, and the anxiety people experience due the pandemic's being close at hand). The separate effect of a lockdown on health, over and above any effects caused by the pandemic generally, is difficult to quantify (Holden 2022; Meyerowitz-Katz et al. 2021; Ouakrim et al. 2021).

Previous health crises and patterns seen overseas point to components of health that may worsen during crises such as large outbreaks of an infectious disease with periods of restrictions or other economic downturns – in particular, mental health, domestic violence and delays in accessing needed health care (Douglas et al. 2020; Newby et al. 2020). In contrast, some other aspects of health may improve, such as through reductions in the numbers of injuries or cases of other infectious diseases (Chen et al. 2020; Shilling and Waetjen 2020; Toffolutti and Suhrcke 2014).

Evidence points to some population groups having been disproportionately affected (either directly or indirectly) by the COVID-19 pandemic – making its impact one of inequality. The indirect impacts extend to the social determinants of health, which include adverse effects on income, education, employment, housing and social connections – and these effects can influence health years into the future.

Many vulnerable groups have been at a substantially increased risk during the pandemic, including Aboriginal and Torres Strait Islander people, people with disability and people with pre-existing health conditions. For more information on the impact of COVID-19 on Indigenous Australians, see Chapter 3 'Changes in Aboriginal and Torres Strait Islander people's use of health services in the early part of the COVID-19 pandemic'.

This article looks at available data on the overall health of the population during the COVID-19 pandemic, and compares that picture with trends over recent decades. The intention is to establish if there were any areas where the health of the population changed substantially during 2020 and 2021.

The analysis possible at this stage is somewhat constrained (Box 2.2); when this chapter was finalised, only limited data were available for the period into 2022. Until December 2021, Australia had relatively low infection and death rates from COVID-19, following a broad range of measures put in place to this point. However, toward the end of 2021 and into 2022, this situation changed markedly: the more infectious Omicron variant reached the country around Christmas 2021 and into the summer holiday period, just when public health measures were removed. This resulted in a substantial increase in the number of infections and deaths, though with a lower case-fatality rate than during previous waves of the virus, likely reflecting the relatively high vaccination rates in Australia at that time. For more information, see Chapter 1 'The impact of a new disease: COVID-19 from 2020, 2021 and into 2022'.

Box 2.2: What changes can be determined at this stage?

This article draws on the latest available data; however, there are important limitations on what can be examined at this stage of the pandemic. It is only possible to look at health issues evident in the currently available data. Further, there may be longer term impacts from the disease in the future which, by definition, cannot yet be determined in the data.

The focus of this article – in comparing recent data with pre-existing trends – means that key data sources needed to have data that were relatively up to date and consistently collected over a number of years. Notably, national hospital data have not been extensively used, as data were not available for analysis past June 2020. In addition, the analysis is generally at an aggregate level as it is not possible to analyse detailed breakdowns of data in a contained article. The data presented are mostly at the national level, and their non-geographical breakdowns are limited. Note that these aggregate data can hide differing patterns for different population and geographical groups, and that individual states have also produced analyses for their jurisdiction.

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Box 2.2 (continued): What changes can be determined at this stage?

Sections focusing on health outcomes use age-standardised rates (ASRs) for long-term trends in deaths. This enables valid comparisons to be made that account for changes in the size and age structure of the populations being compared, both over time and between males and females. Age-specific rates for shorter time spans are also presented, or were calculated but not shown. Crude rates and numbers of services have been used for health service data as an early indication of any changes in health service use during the pandemic. Age patterns may be valuable for future analysis as more data become available.

To establish whether there were deviations from expected trends in 2020 and 2021, short projections have been calculated using exponential smoothing, and displayed on graphs; 95% confidence intervals (CIs) were calculated, and instances where the observed rates fell outside these are noted in the footnotes.

This article has 3 main sections presenting new data:

- The first section focuses on all-cause deaths data.
- The second section presents available information on some key diseases and injuries.
- The last section examines available data on foregone or delayed health care.

The article concludes with discussions of variations across population groups, and of Australia's mortality experience compared with that of other OECD countries – to provide some insight into what was prevented in Australia, at least in terms of deaths.

Trends in population health over 2020 and 2021 in the context of pre-existing trends

As noted earlier, the measures used to control the COVID-19 pandemic, together with changes in people's behaviour – whether caused by these mitigations or unconnected to them (see Box 2.1) – have had indirect health impacts. This section presents several illustrations of these effects, based on available data; however, there are likely to be other health impacts that are not included.

This article concentrates on topics with available longer term trend data, which show whether an aspect of health was already increasing or decreasing before the pandemic. Boxes 2.3a to 2.3c include summaries of selected other important topics for which some data indicate if their trends changed during the COVID-19 period.

Box 2.3a: Health behaviours – some recent data but limited long term trend data

It is challenging to source national data on longer term trends in health behaviours that include those for the COVID-19 period. Available data largely rely on surveys with self-reported responses on whether behaviour changed from that before the pandemic. Data are not yet available using the more standard monitoring approach – that is, information on current behaviours which can then be compared with that in previous surveys using the same methodology. Notably, while the most recent National Health Survey collected data on health behaviours during 2020 and 2021, changed methodology means the results cannot be compared with information in earlier surveys (ABS 2022c).

Two examples using available data on short-term trends are summarised here: physical activity and alcohol use.

Physical activity

During the early period of the COVID-19 pandemic, similar proportions of people either increased or decreased their exercise or other physical activity (AIHW 2021d). For example, based on self-reported data from an Australian Bureau of Statistics (ABS) survey conducted in June 2020, 20.5% of people aged 18 or over increased their time spent on exercise or other physical activity compared with before the pandemic, while 19.2% decreased it (ABS 2020). Other data to July to September 2020 from the AusPlay survey suggest that males may have returned to levels of participation in recreation and fitness activities matching those in 2019, but females maintained higher participation levels (46% participating in 5 or more sessions per week compared with 43% in 2019) (Australian Sports Commission 2021). The same survey revealed a notable increase in the percentage of people engaging in endurance/health activities (includes activities such as walking, running and cycling) – from around 65% for the 4 quarters across 2019 and quarter 1 of 2020 to close to 75% in quarter 2 of 2020. This percentage fell back to around 70% in quarters 3 and 4 of 2020, which was still higher than pre-pandemic levels.

Alcohol use

Alcohol use presented a mixed picture during 2020. Overviews of available data from a range of sources are available elsewhere (AIHW 2022a; Farrugia and Hinkley 2021), and a summary of some key points is included here.

(continued)

Box 2.3a (continued): Health behaviours – some recent data but limited long-term trend data

Data from 2 surveys collected in the early period of the pandemic showed a similar pattern to that for exercise and physical activity: some people increased their consumption of alcohol and others decreased it. For instance, the ANUpoll from May 2020 found that 20% of alcohol drinkers increased their consumption while 27% decreased it. The ABS Household Impacts of COVID-19 Survey from June 2020 indicated that 13.9% of alcohol drinkers increased their consumption compared with their consumption before the pandemic, and 14.7% decreased it.

Data from credit/debit cards show a changed pattern in spending on alcohol. Spending increased between May 2020 and January 2021 compared with the same period in 2019, driven by an increase in spending on alcohol goods (such as those sold at bottle shops). Spending on alcohol services (such as provided by pubs and clubs) declined until mid-November 2020, after which it increased for the first time since the COVID-19 mitigations were introduced.

Box 2.3b: Suicide and intentional self harm – some recent data but limited long-term trend data

Rates of death by suicide have been tracked closely during the pandemic (see AIHW 2022e for a detailed analysis). This monitoring did not identify any increase during 2020 and 2021. State-based suicide registers that compile timely data on suspected deaths by suicide have shown:

- a relatively stable number of deaths across the years from 2016 to 2021 in Victoria
- a relatively stable number of deaths across the years 2019, 2020 and to October 2021 in New South Wales
- similar patterns in ASRs for males and females by month in Queensland, up until August 2020 (data were not available for more recent periods; Leske et al. 2020).

National deaths data on confirmed deaths by suicide in 2020 also do not show an increase compared with recent years. The ASR fell by 6.1% for males between 2019 and 2020, and by 7.9% for females (ABS 2021a).

Trends for ambulance attendances (for 5 states and territories – New South Wales, Victoria, Queensland, Tasmania and the Australian Capital Territory) have largely continued as they were before the pandemic, though with some potentially higher rates for young females (aged under 25). This is reflected in higher presentations for self-harm and suicidal ideation than expected (based on pre-existing trends) by young females aged 13–17 in emergency departments in New South Wales since the pandemic began (Sara et al. 2022).

Box 2.3c: Family and domestic violence - some recent data but limited long-term trend data

Data on self-reported intimate partner violence among women during the pandemic are available from a study conducted by the Australian Institute of Criminology (Boxall and Morgan 2021). These data cannot be used to show how the prevalence of violence has changed from pre-pandemic levels, but they do highlight some key patterns and show where violence might have changed in frequency or severity in the survey population. In the first year of the pandemic, 9.6% of women reported experiencing physical violence and 7.6% sexual violence. Many women reported that violence had increased during the pandemic: 42% said physical violence had increased in frequency or severity, and 43% said sexual violence had increased in frequency or severity. One in 4 women (26%) who had experienced physical or sexual violence said that they had been unable to seek assistance on at least one occasion due to safety concerns.

Compared with numbers for previous years, the number of hospitalisations for assault injuries related to family and domestic violence (FDV) was lower in April 2020 – 514 assaults – compared with April 2019 (582) and April 2018 (558) (AIHW 2021c). However, after April 2020, the number rose again, and was higher than in 2019 and 2018. Across 2019–20, the total number of assault hospitalisations due to FDV (7,256) was still higher than that for 2018–19 (6,786) and 2017–18 (6,538). This is consistent with the general increase over time in hospitalisations for FDV assault but is more than the increase in the population (which rose by around 1.5% each year during this period). Changes in hospitalisations may reflect increased disclosure and/or identification of FDV in hospitals and/or an increase in family and domestic violence events requiring hospitalisation.

Deaths from all causes combined

Data on deaths from all causes (combined) is a key statistic that reflects the overall health of the population. Data presented in this section are from 2 perspectives:

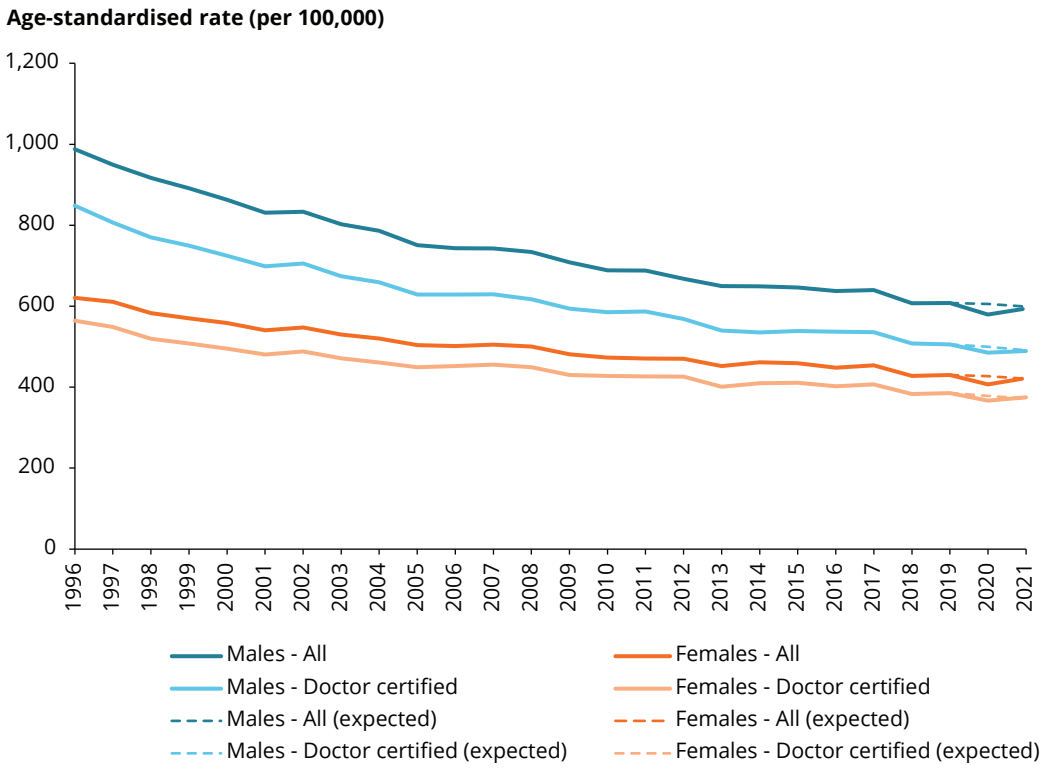
- trends in death rates from all causes to show how rates in 2020, 2021 and early 2022 compared with pre-existing trends
- weekly 'excess deaths' over the pandemic period to provide more detail within the pandemic period, including for the current year.

Much of the data presented here are for the subset of deaths certified by a doctor ('doctor-certified'); these account for 87–89% of all deaths in a year (ABS 2022a). Information on these deaths is available first. The remaining deaths are investigated by the state or territory coroner, resulting in a later finalisation of the cause of death. (Note that data on specific causes of death are reported later in this article, with international comparisons of excess deaths presented in the section titled 'A window into what could have been'.)

Deaths from all causes

The data over the last 25 years show a long-term trend of declining age-standardised death rates (Figure 2.1). Data for 2020 show no substantial change from this pattern for both males and females. Data to 2021 for the subset of doctor-certified deaths also show a continuation of previous trends. Comparing observed rates for 2020 and 2021 with expected rates – based on statistical projections, using the data to 2019 (shown as dotted lines in Figure 2.1) – suggests a somewhat lower rate of death in 2020 than expected. However, those rates are still within the expected band: they are not outside the 95% CIs from the projection models.

Figure 2.1: All-cause death rates, by sex, 1996 to 2021



Notes

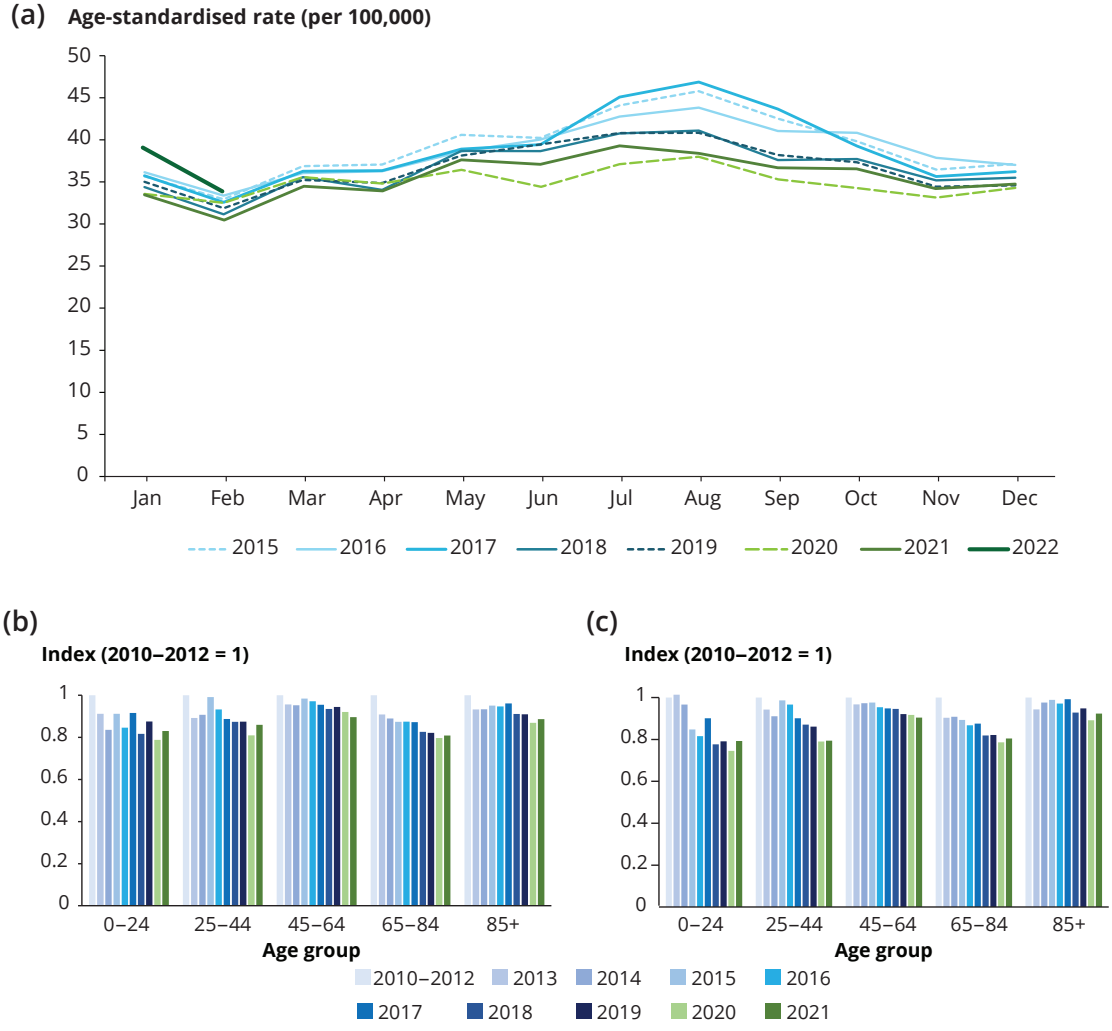
1. Mortality data are stratified by the year of occurrence of death for years up to and including 2021. Data for year 2020 and 2021 are provisional and subject to change.
2. Data are age standardised using the 2001 standard population. See Box 2.2 for context on age-standardisation in this article.
3. Dotted lines are the expected rates based on exponential smoothing projections, using the data to 2019.
4. Observed rates for 2020 and 2021 are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Looking more closely at recent years by month (Figure 2.2a), the ASR generally fell between 2015 and 2019. Some variation in the winter months is apparent, likely reflecting the severity of infectious diseases that tend to peak then, such as influenza outbreaks (for example, 2017 was a bad year for influenza). Data for 2020 and 2021 show a continuation of the downward trends for each month, most particularly during the winter months. Data for the first two months of 2022 show a higher ASR compared with the same months in previous years. This was much higher in January.

Trends to 2019 by age and sex over the last decade (Figure 2.2b and 2.2c) show continuing declines for both men and women aged 65–84 and for females under 45, with fairly stable rates for other groups. These trends continued into 2020 and 2021.

Figure 2.2: Monthly age-standardised death rates (a), and indexed age-specific death rates for doctor-certified deaths by age group for males (b) and females (c)



Note: Data in b) and c) have been indexed to the mean value for 2010–2012.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Excess mortality

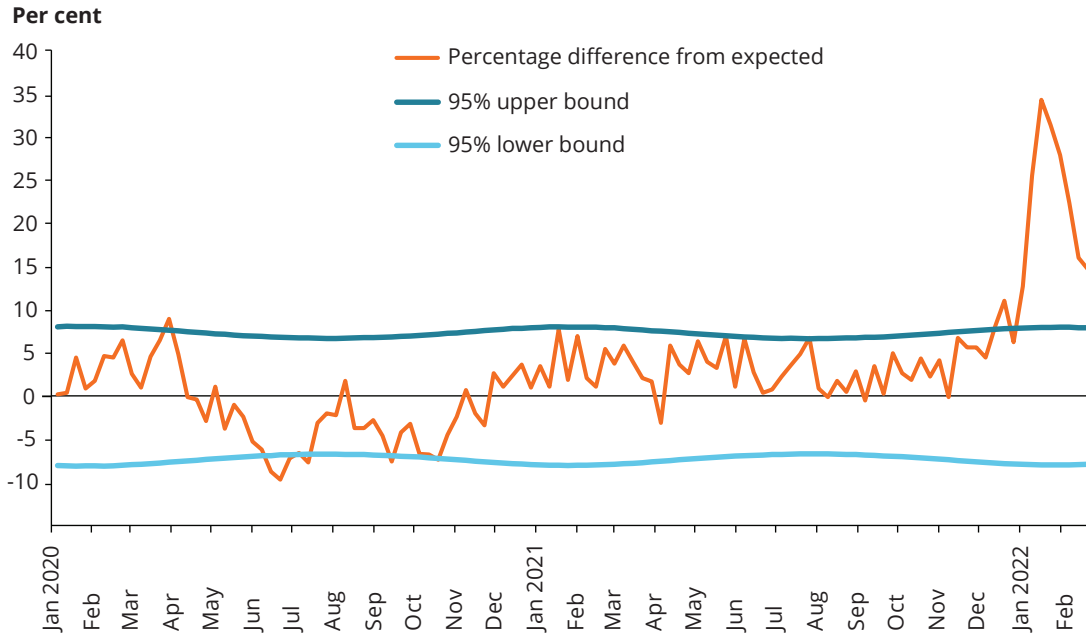
The graphs in Figure 2.1 and Figure 2.2a show that mortality rates were already decreasing before the pandemic, and during 2020 and 2021 this trend continued. A more specific measure to help determine if there were any changes during the year that were larger than expected is excess deaths (which is observed deaths minus expected deaths). This summary measure quantifies the number of observed deaths from all causes during a period of interest (in this case 2020, 2021 and early 2022) and compares it with what would have been expected given recent trends. This measure is of particular interest when comparing the situation during a health challenge with the preceding 'normal' period. It includes both COVID-19 and non-COVID-19 deaths and thus reflects the total impact of the pandemic, including both direct and indirect effects.

The preferred way to compare observed and expected deaths is based on statistical models that reflect patterns in recent data. Based on the Australian Bureau of Statistics (ABS) model of doctor-certified deaths, there were 2,152 fewer deaths than expected in 2020 in Australia and 5,061 more deaths than expected in 2021 (ABS 2022b). However, there was a marked change in January and February 2022 where there were 4,732 more deaths than expected in just those 2 months.

Figure 2.3 presents weekly excess deaths (doctor-certified only) during the pandemic period as a percentage of expected deaths, along with the upper and lower bounds of normal variation. This shows that Australia had a period of lower than expected deaths in the second half of June 2020. For 3 weeks during this time, deaths were 7–10% lower than expected, with the observed rates being statistically lower than expected for at least 2 weeks in a row. This period coincided with continuing public health measures which likely contributed to reductions in deaths for a number of causes, notably respiratory infections (discussed further in this article in the section titled 'Respiratory diseases and infections').

There was a marked change in the pattern in December 2021 and into January and February 2022 (Figure 2.3), with a sharp increase in excess deaths. This began in the second half of December 2021, when there were 2 weeks of excess deaths above the 95% CI. The one week beginning 27 December reverted to excess deaths within the CI, but this was followed by a very large spike during January and February 2022 – peaking nearly 35% above the expected level. This is much larger than spikes since 2016, with the next highest weekly percentage excess being around 15% in 2017 during the large influenza outbreak of that year. From mid-December 2021 to the end of February 2022, there were nearly 5,400 more deaths than expected.

Figure 2.3: Excess mortality from doctor-certified deaths per week, January 2020 to February 2022



Notes

1. Data shown represent the difference between the observed and expected deaths (from models) as a percentage of expected deaths.
2. The model uses historical data to predict current numbers of deaths to enable significant deviations from the expected trend to be identified.
3. At least 2 weeks outside the 95% upper and lower bounds of normal variation indicates statistically significant differences. This occurred for 3 weeks in Jun 2020 (lower than expected), 2 weeks in the second half of Dec 2021 (higher than expected) and all weeks in Jan and Feb 2022 (higher than expected).

Source: ABS 2022b.

COVID-19 accounted for a higher proportion, though not all, of the excess deaths in January and February 2022. COVID-19 accounted for around half (52%) of the excess deaths in 2022, while coronary heart disease (CHD) and dementia accounted for around 10% each (ABS 2022b, 2022d). Over those 2 months, deaths for CHD were 29% higher than expected, and dementia 24% higher. Some other major disease groups with the number of deaths being substantially higher in these 2 months than expected include chronic lower respiratory conditions (23% higher), stroke (20%) and diabetes (14%).

There was, however, variation across states and territories. Notably, Victoria had some further periods of higher than expected deaths, particularly towards the end of 2021 (ABS 2022a).

Australia's favourable excess mortality figures during 2020 and 2021 contrast sharply with the situation in many other countries. This is discussed later in the section titled 'A window into what could have been'.

Early evidence for specific diseases and injuries

Disease-specific data with longer term trends continuing into 2020 and 2021 are mostly limited to deaths data at this stage. Data on the non-fatal components of disease (such as prevalence and hospitalisations) take longer to collect and collate, and are largely not yet available for the pandemic period in a form that can be compared with existing trends.

Three disease and injury groups are presented in this section of the article: respiratory diseases, cardiovascular diseases and injuries. These are major causes of death in Australia and were identified early in the pandemic as ones that may have increasing or decreasing death rates during the pandemic. This section also covers mental health despite it having less time trend data available, as it is a vital disease group to track during the disruption caused by the pandemic.

A number of recent studies have shown adverse effects from COVID-19 after the initial infection, which may affect longer term trends for these diseases but are not yet evident in the data presented in this article.

- A large study in the United States (Xie et al. 2022) showed that the chance of developing a range of sub-types of cardiovascular disease from 30 days after testing positive to COVID-19 were increased compared with the risk before the pandemic. The study also showed that the risks were increased even for people with milder (non-hospitalised) disease, with the risk increasing with the severity of disease.
- A study of participants in the United Kingdom Biobank who had brain scans before and after the pandemic (Douaud et al. 2022) showed that people who had had COVID-19 had changes to the structure of the brain – including a greater reduction in brain size, and a larger cognitive decline than people who had not had COVID-19. These changes were also present in people with milder COVID-19 (not hospitalised).
- A United States study showed that people who had had COVID-19 had an increased risk of developing diabetes (Xie and Al-Aly 2022) – again present in both people who were hospitalised and people who were not.

It is not yet known whether these increases in risk will be sustained, whether they can be reversed, and whether these quantified risks will remain the same following vaccination and/or with new variants of the virus – these questions will require further research. The AIHW is establishing a national COVID-19 linked data set that will support research into the medium and longer term health effects of COVID-19.

Mental health

For some Australians, the COVID-19 pandemic and associated mitigations appear to have had a negative effect on mental health. Negative effects can result from concerns about the virus itself, and the impact of the measures used to contain the spread of the virus (NMHC 2020). Importantly, due to measures that required as many people as possible to stay at home to reduce physical interactions, isolation from family, friends and other support networks increased. Flow-on effects from the pandemic and associated disruptions – such as loss of employment, and pressures in adapting to remote work and schooling – are also part of the picture.

For some people, resulting declines in mental health may be short term; for others, there is potential for the pandemic and associated mitigations to exacerbate pre-existing mental health problems such as depression and substance abuse (WHO 2020).

The potential for negative impacts on mental health was recognised early in the pandemic (Brooks et al. 2020; NMHC 2020). A number of support measures were put in place to reduce these effects. For more information, see AIHW 2022c; NMHC 2020.

Psychological distress

Data on levels of psychological distress in the community provide an indication of the mental health of the population over time. Psychological distress reflects non-specific psychological symptoms of stress, anxiety and depression (Viertiö et al. 2021). There is a correlation between high levels of psychological distress and common mental health disorders (Cuijpers et al. 2009). Psychological distress is commonly measured using the Kessler Psychological Distress Scale, which has 10 items (K10). This K10 questionnaire includes questions about people's level of nervousness, agitation, psychological fatigue and depression over the past 4 weeks. The level of psychological distress of respondents can be grouped into categories ranging from low to very high, based on their responses to the questions.

The trend in the proportion of people with high or very high psychological distress based on the K10 scale had been relatively flat for the 15 years before the pandemic, at 9–11% of males and 13–15% of females (AIHW 2022e). Initial results from the ABS 2020–21 National Study of Mental Health and Wellbeing (for data collected between December 2020 and June 2021) showed that 12% of men and 19% of women were classified as having high or very high levels of psychological distress (ABS 2021b). While this appears to indicate an increase in population levels of psychological distress, the most recent data may not be directly comparable with data collected before the pandemic due to differing survey methods and response rates.

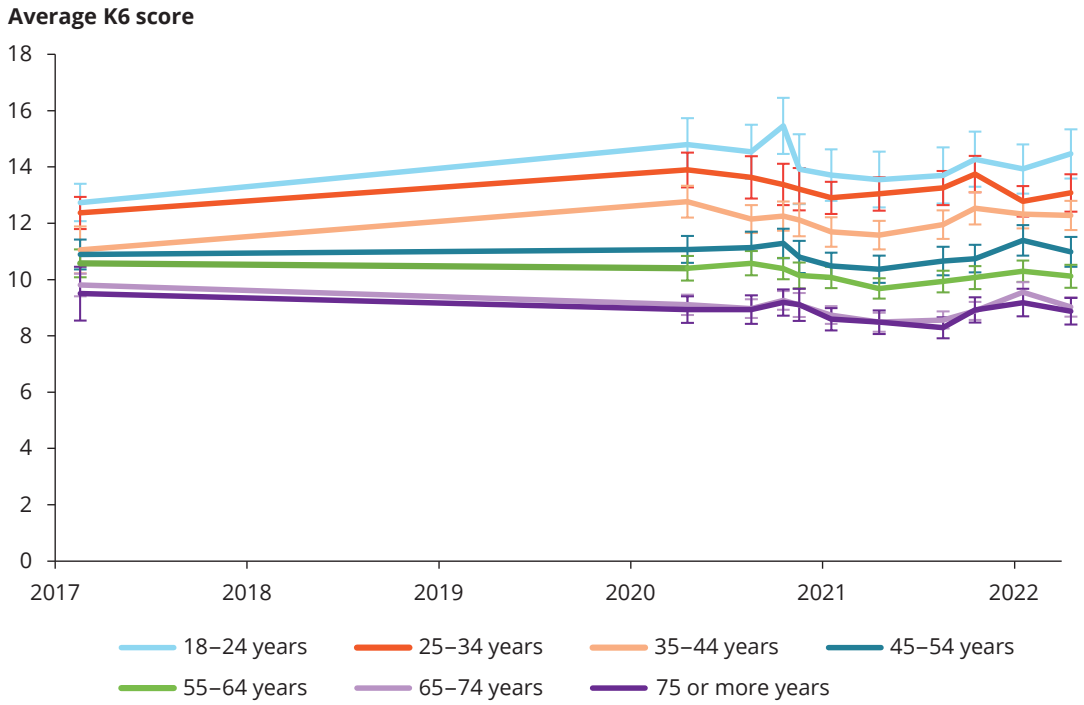
While detailed data using the K10 instrument are not available for multiple time points during the pandemic nor by age group, data from an abbreviated version (K6) are available, along with data for one time point in 2017 (Figure 2.4). The data shown here represent the average K6 scores, rather than the proportion of the population with high

or very high psychological distress. Data come from ANUpoll surveys, which use sampling methods based on random probability and cover people with and without internet access. Data were collected from 2,500 respondents in 2017 (February), and from more than 3,000 respondents in 2020 (April, August, October and November), 2021 (January, April, August and October) and 2022 (January and April) (AIHW 2022e; Biddle and Gray 2022; Biddle et al. 2022).

For age groups up to 44 years, these data show somewhat higher average scores (indicating higher levels of psychological distress) in April 2020 than in February 2017; however, it is not possible to determine whether or not this is directly due to the pandemic. After April, there was some decline in scores for these age groups over the rest of 2020 and well into 2021, with the decline slower for those aged 18–24. Some older age groups had lower K6 scores during 2021 than the 2017 levels, notably the group aged 65–74.

The scores for many age groups generally increased during the second half of 2021. For the 4 oldest age groups (45 years and over), these increases continued into January 2022 – with scores significantly higher than those in April 2021, though not above the levels of 2017. For younger age groups, there was some levelling off between October 2021 and January 2022; however, scores for the 18–24 and 35–44 age groups remained above the 2017 level. While scores for the youngest age groups continued to be above pre-pandemic levels in April 2022, scores for the 3 oldest age groups (55 years and over) were below 2017 levels (Figure 2.4).

Figure 2.4: Average psychological distress (K6 aggregate scores), 2017 to 2022



Sources: ANUpoll surveys (April, August, October and November 2020; January, April, August and October 2021; and January and April 2022); ANU's Social Research Centre Life in Australia Survey, February 2017.

Other measures of population mental health

While there are only limited national data showing how population mental health has changed in Australia during the pandemic compared with before it, a comprehensive international study provides important modelled data on the situation in Australia (COVID-19 Mental Disorders Collaborators 2021). The study assessed evidence on the mental health impacts of COVID-19 and then modelled the prevalence in 2020. It found that countries with more severe outbreaks:

- had larger increases in the prevalence of major depressive and anxiety disorders
- recorded a greater impact on females than on males
- saw younger age groups more affected than older ones.

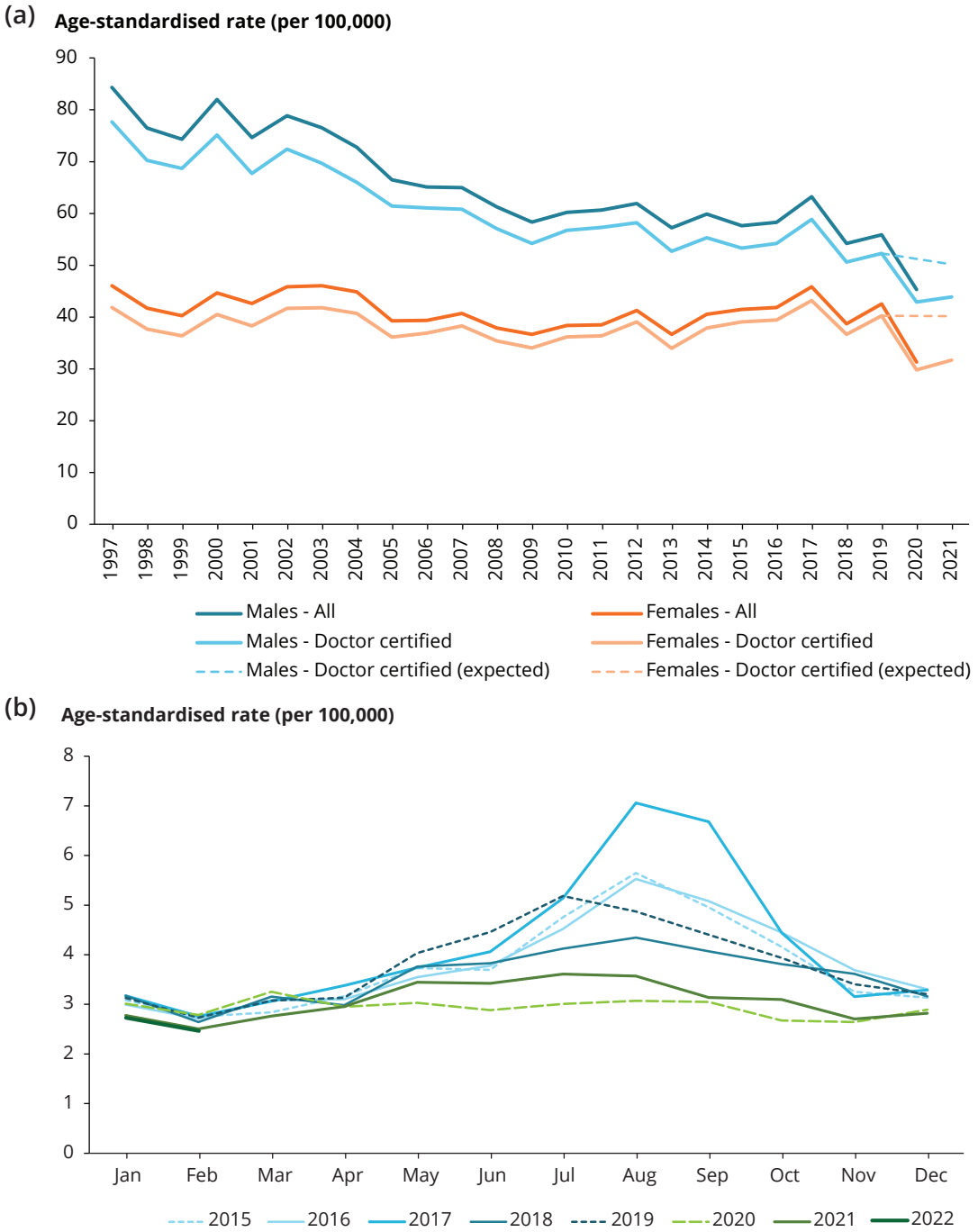
The prevalence of major depressive disorders was modelled to have increased by 27.1% (95% CI: 22.6–31.5) in high-income countries, and anxiety disorders by 25.2% (20.3–30.7). Reflecting the less severe outbreaks in Australia, the modelled change for Australia was lower than the overall change for high-income countries – in the range 10.1% to <13.6% increase in prevalence for major depressive disorders and 9.7% to <14.0% for anxiety disorders.

The use of mental health services since the start of the pandemic (as measured by Medicare Benefits Schedule [MBS] claims processed) also increased as have contacts with support organisations (as measured by the number of calls or other contacts, such as webchat or email) (AIHW 2022e).

Respiratory diseases and infections

Death rates from all respiratory diseases combined (Figure 2.5a) showed a substantial fall in 2020 – for females, to a level outside the CIs of the projections. The figures for 2021 were not outside the expected range. The monthly data in Figure 2.5b show the very flat death rates across 2020 and 2021, in sharp contrast to data for previous years where there was a much larger increase in rates during the winter months. The death rates for the first two months of 2022 are similar to the rates for the first two months of 2021. Similar patterns were seen for the subsets of respiratory diseases shown here: chronic lower respiratory diseases, and influenza and pneumonia (figures 2.6 and 2.7, respectively). For chronic lower respiratory diseases, the rates in 2020 and 2021 for females were outside the expected range. For influenza and pneumonia, the rates for females in 2020 were outside the expected range.

Figure 2.5: Age-standardised death rates from respiratory diseases, 1997 to 2021 (a), and monthly for doctor-certified deaths, 2015 to February 2022 (b)

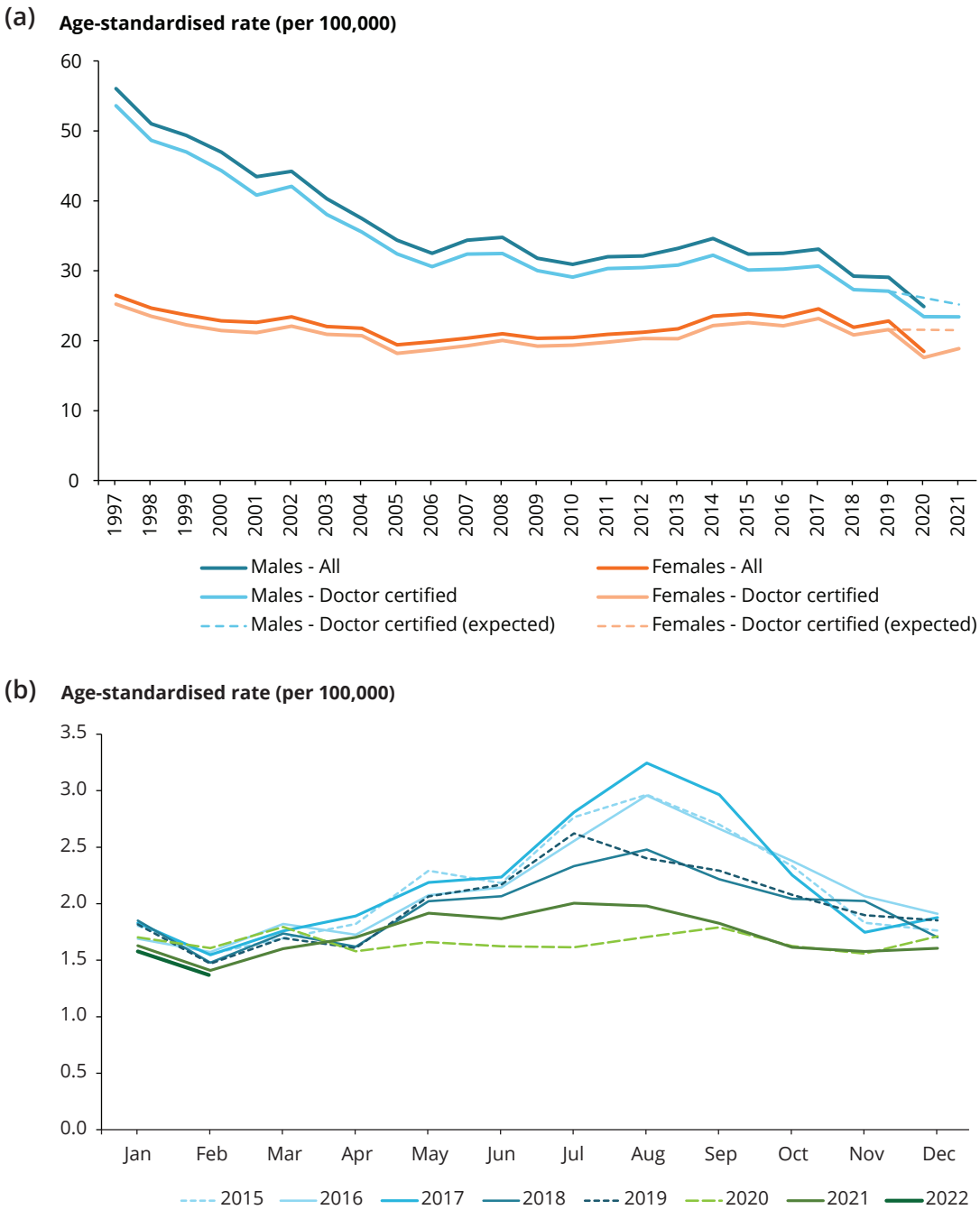


Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. Observed rates in a) for doctor-certified and all deaths for females in 2020 are lower than the CIs for the projections. All other observed rates in 2020 and 2021 are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Figure 2.6: Age-standardised deaths rates from chronic lower respiratory diseases, 1997 to 2021 (a), and monthly for doctor-certified deaths, 2015 to February 2022 (b)

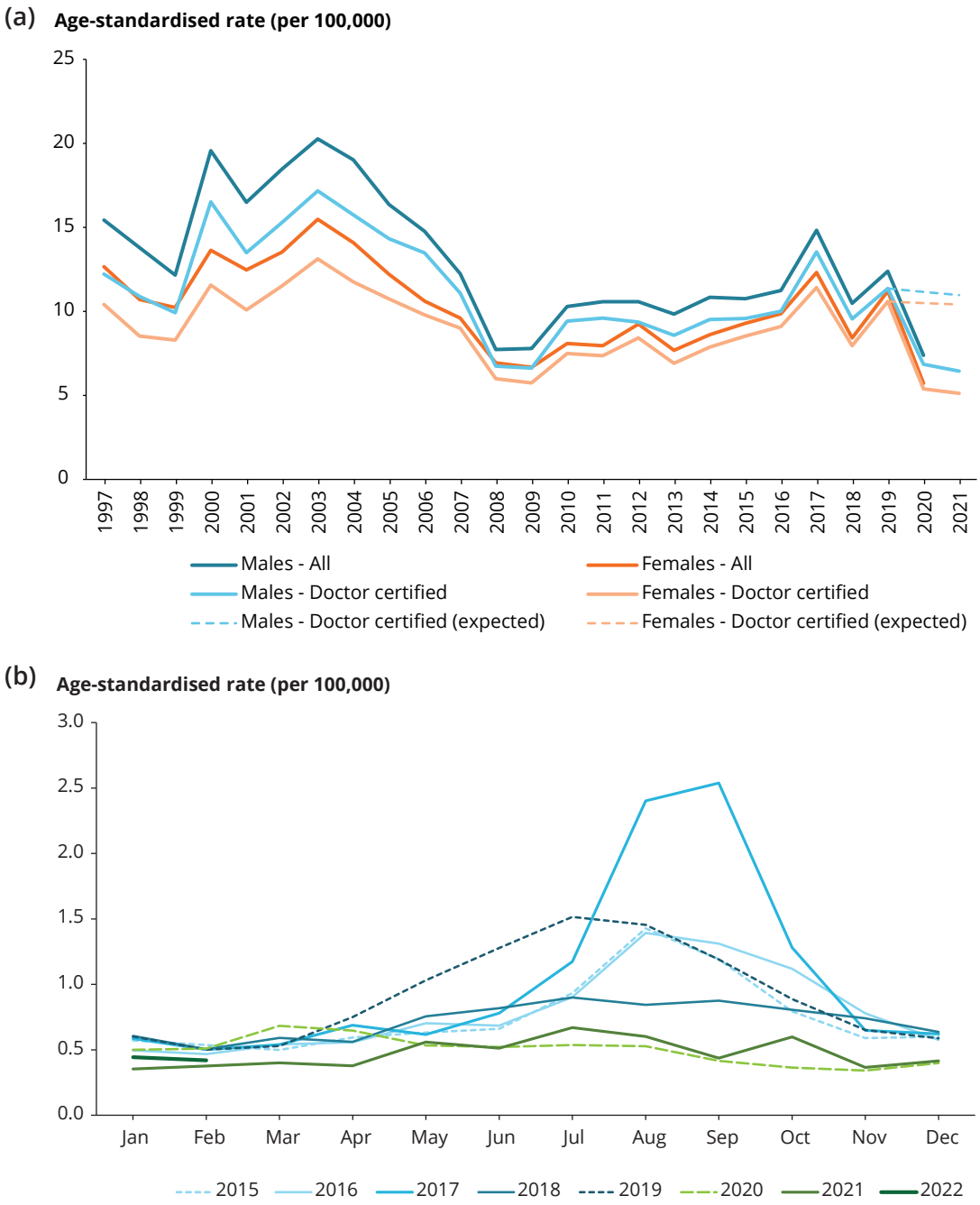


Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. Observed rates a) for doctor-certified and all deaths for females in 2020 and 2021 are lower than the CI for the projections. Rates for males in 2020 and 2021 are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Figure 2.7: Age-standardised death rates from influenza and pneumonia, 1997 to 2021 (a), and monthly for doctor-certified deaths, 2015 to February 2022 (b)



Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. Observed rates in a) for doctor-certified and all deaths for females in 2020 are lower than the CIs for the projections. All other observed rates in 2020 and 2021 are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Coinciding with these much lower death rates for many respiratory diseases, surveillance data for respiratory infections during 2020 and 2021 declined dramatically compared with data for previous years. This was particularly the case for influenza, with national data for the period to early November 2021 showing very low numbers of laboratory-confirmed cases for all of 2020 and 2021 (Department of Health 2021a).

Coinciding with the substantial reduction in respiratory infections was a sharp fall in the number of prescriptions subsidised for anti-infective medications (largely due to decreased antibiotic use) for all quarters ending June 2020 through to the end of September 2021 (AIHW 2022b). For example, compared with the corresponding 2019 quarter, prescriptions for the June 2020 quarter were 35% lower – and still 21% lower for the June 2021 quarter. The same trends were observed for the September quarters, when dispensed prescriptions were 36% and 31% lower in 2020 and 2021, respectively, compared with the 2019 figure.

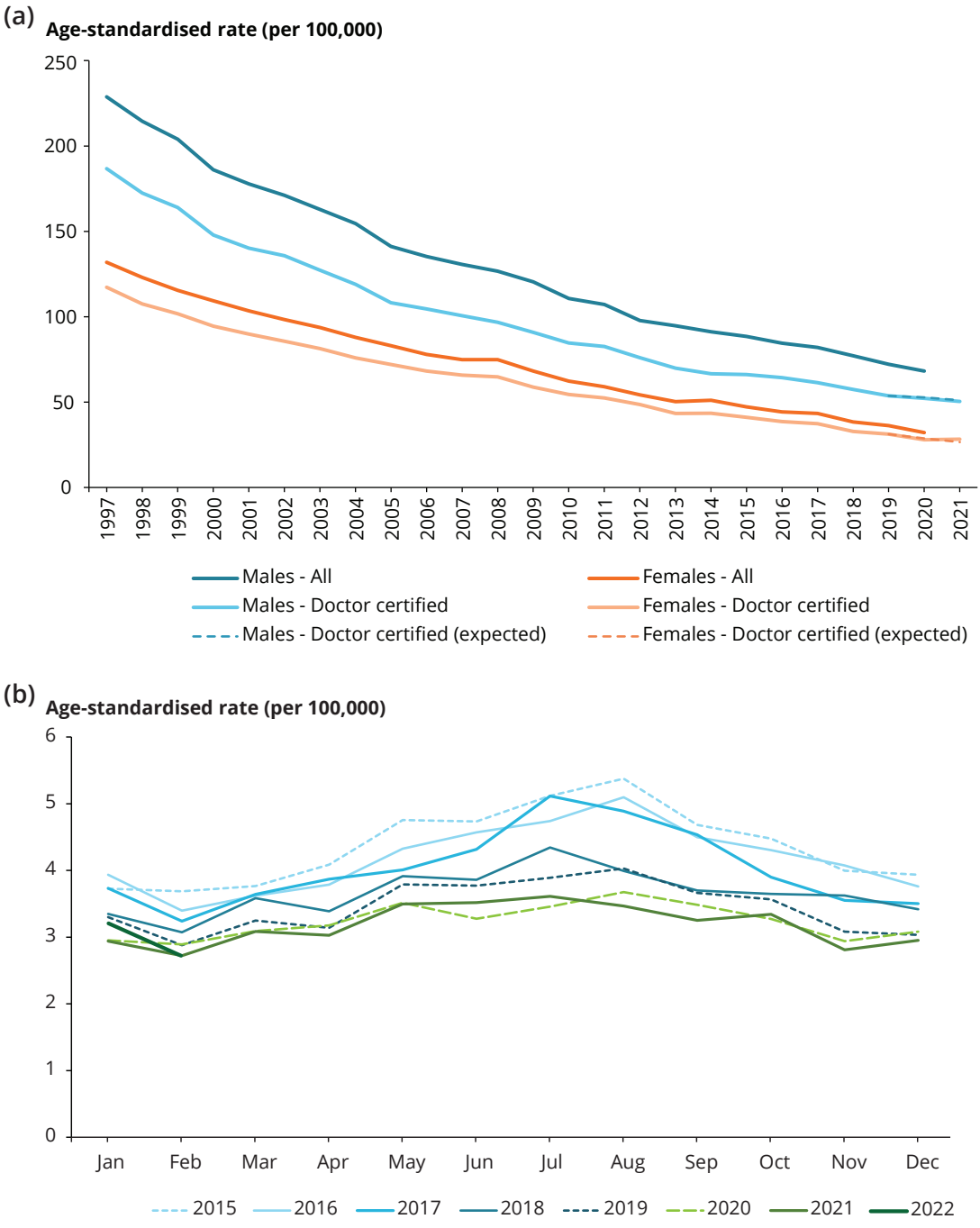
Cardiovascular disease

The long-term trend in death rates for the 2 major types of cardiovascular disease – coronary heart disease and stroke – has been decreasing since a peak around the end of the 1960s. For more information, see Chapter 4 'Changing patterns of mortality in Australia since 1900'.

This decline has continued into the 21st century, though at a slower rate. Age-standardised death rates in 2020 – and, for doctor-certified deaths, in 2021 and early 2022 – continued these decreasing trajectories at similar rates to the expected trends (figures 2.8 and 2.9). The monthly data also illustrate the year-on-year declines, though it appears that the usual winter increase in death rates for coronary heart disease was reduced in 2020 and 2021.

In January 2022, death rates for coronary heart disease were slightly higher compared with January 2020 and 2021. Whereas in February 2022, death rates were similar to that in 2021. Deaths rates for stroke were lower in the first two months of 2022 compared with previous years.

Figure 2.8: Age-standardised death rates from coronary heart disease, 1997 to 2021 (a), and monthly for doctor-certified deaths, 2015 to February 2022 (b)

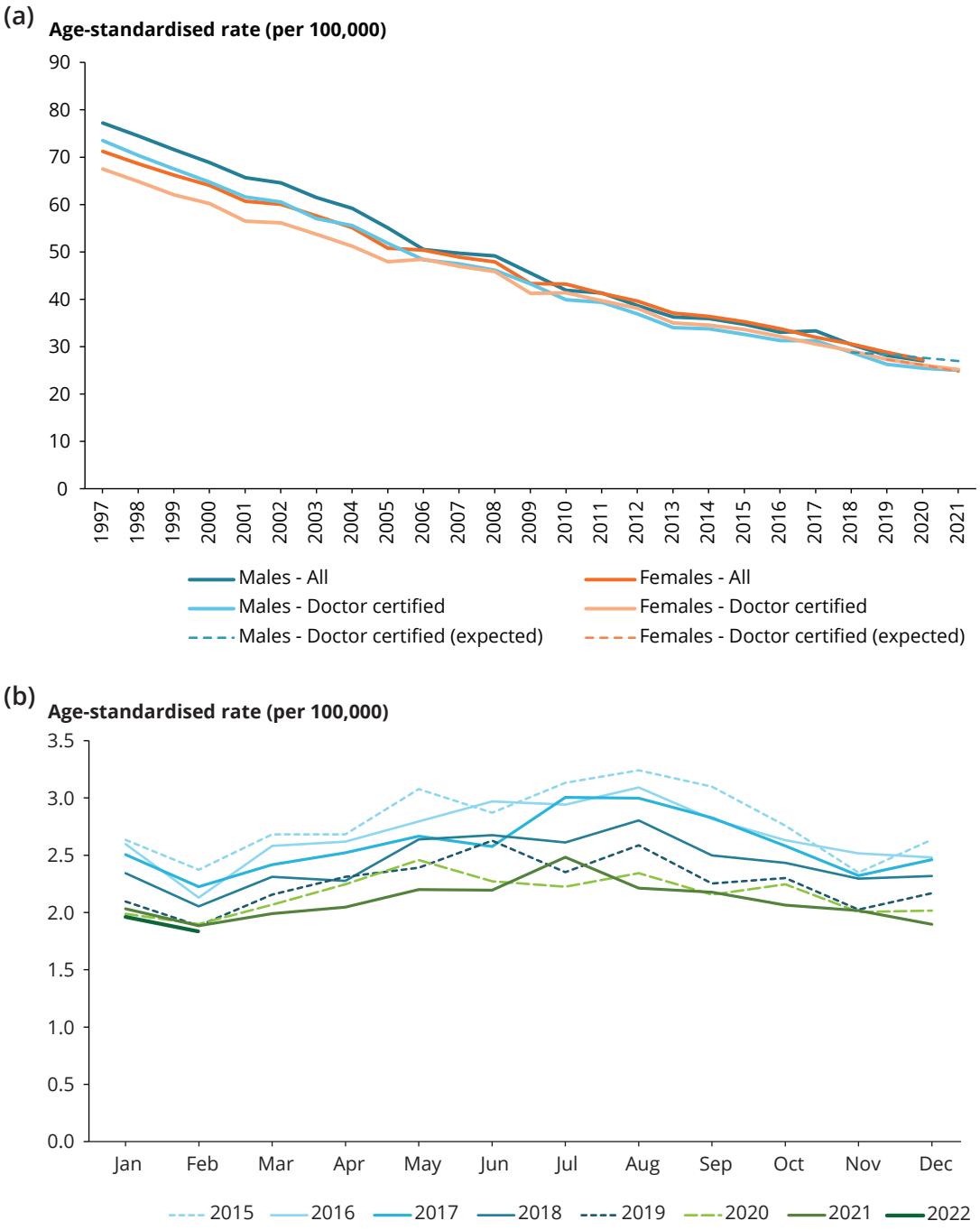


Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. All observed rates for 2020 and 2021 in a) are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Figure 2.9: Age-standardised deaths from stroke, 1997 to 2021 (a), and monthly for doctor-certified deaths, 2015 to February 2022 (b)



Notes

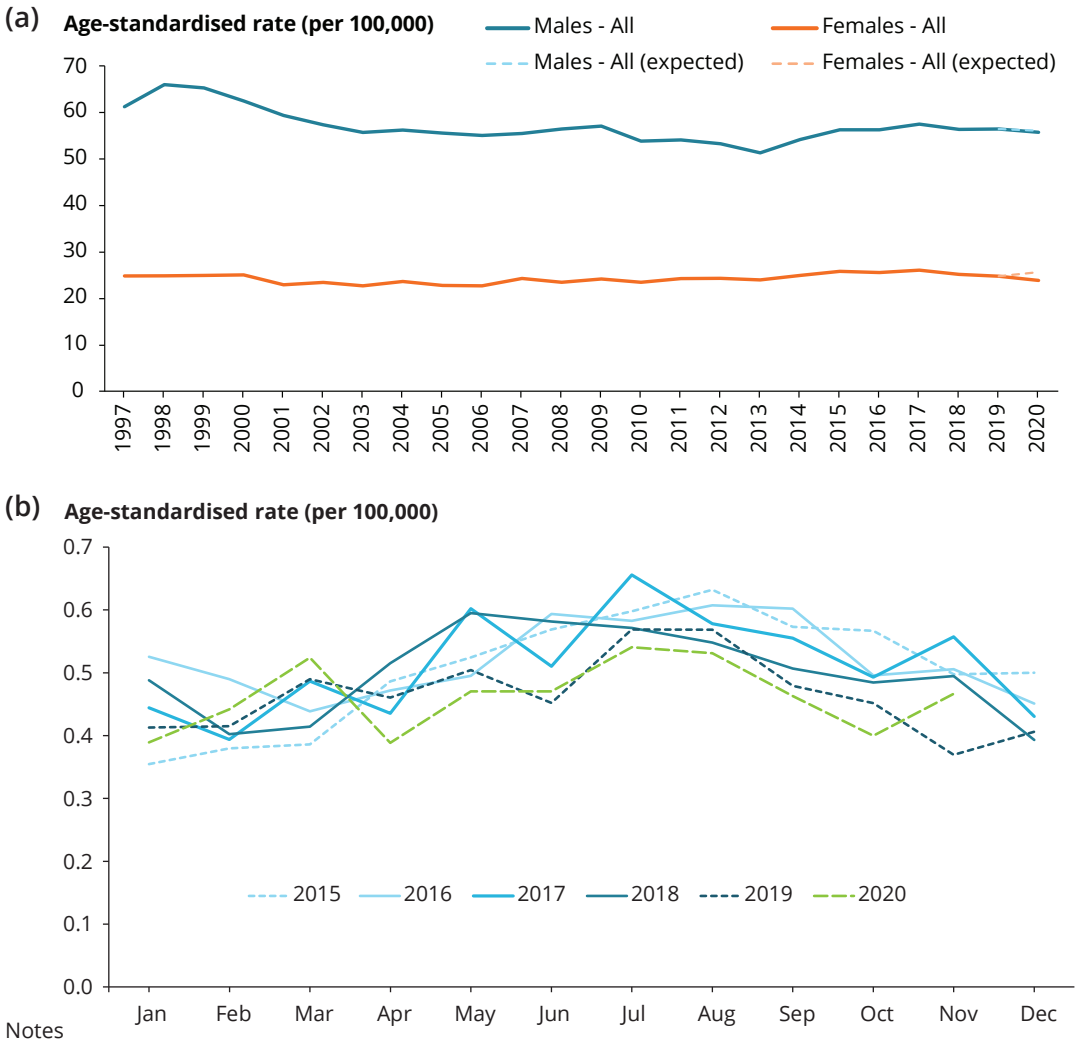
1. Notes 1–3 in Figure 2.1 also apply here.
2. All observed rates for 2020 and 2021 in a) are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Injuries

During the early stages of the COVD-19 pandemic in Australia, there were signs of reduced injuries (AIHW 2021d). When this report was compiled, national deaths data on injuries were available only to the end of 2020 (as the subset of doctor-certified deaths is not reliable for injuries due to the large number of these deaths being investigated by jurisdictional coroners). To the end of 2020, age-standardised death rates from all injuries continued the flat trends seen over recent years for males, while the rate for females was below the CIs for the expected rate (Figure 2.10). There was also little change in the monthly death rates for all injuries in 2020 compared with recent years.

Figure 2.10: Age-standardised death rates from injuries, 1997 to 2020 (a) and monthly, 2015 to 2020 (b)



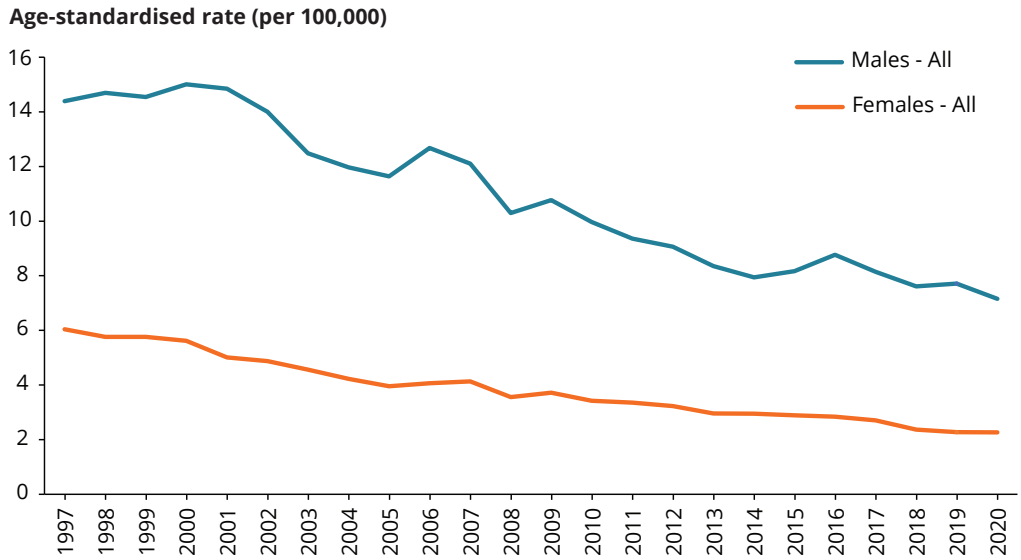
Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. The observed female rate for 2020 in a) is below the CIs for the projection, and the male rate is within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

The subgroup of injuries – land transport accidents – also continued the decreasing trend seen in recent years (Figure 2.11). More recent data on road deaths confirm no major changes in the trend for this group (BITRE 2022).

Figure 2.11: Age-standardised death rates from injuries in land transport incidents, 1997 to 2020



Notes

1. Notes 1–3 in Figure 2.1 also apply here.
2. Both observed rates in 2020 are within the CIs for the projections.

Sources: AIHW analyses of ABS provisional mortality statistics: customised report; AIHW National Mortality Database.

Foregone and delayed health care

Health services have been affected in several ways during the COVID-19 pandemic, both directly and indirectly:

- Substantial changes have been needed to respond to the direct effects of COVID-19, including public health measures to prevent the spread of the virus and health care for people who develop COVID-19.
- Indirect effects of the pandemic that have affected health services have included:
  - restrictions on some services at various times (for example, elective surgery)
  - increases in the need for some services (for example, mental health) and decreases in the need for others (for example, respiratory infections)
  - people changing their health-seeking behaviour to reduce their chance of contracting the virus.

This section considers whether the combination of these effects may have resulted in people delaying, or even missing, required health care. While it is not possible to categorically determine this, it would be likely suggested by any substantial changes in patterns compared with pre-existing trends. Available national data provide insight into this when looking at patterns over 2020 and 2021 and into 2022 compared with existing longer term trends.

This section examines national patterns; however, there would have been likely differences across the states and territories depending on the level and timing of COVID-19 outbreaks and mitigations. Patterns by age and sex have not yet been examined in detail either, but may benefit from further analysis in the future. In contrast to the data on trends in deaths presented earlier in this article, analysis presented in this section uses a combination of crude rates and numbers of services (see Box 2.2 for more information). While not covered in this article, note that there is detailed analysis of recent changes in the use of mental health services on the AIHW website (www.aihw.gov.au), and Chapter 3 in this report examines the changing use of health services among Aboriginal and Torres Strait Islander people.

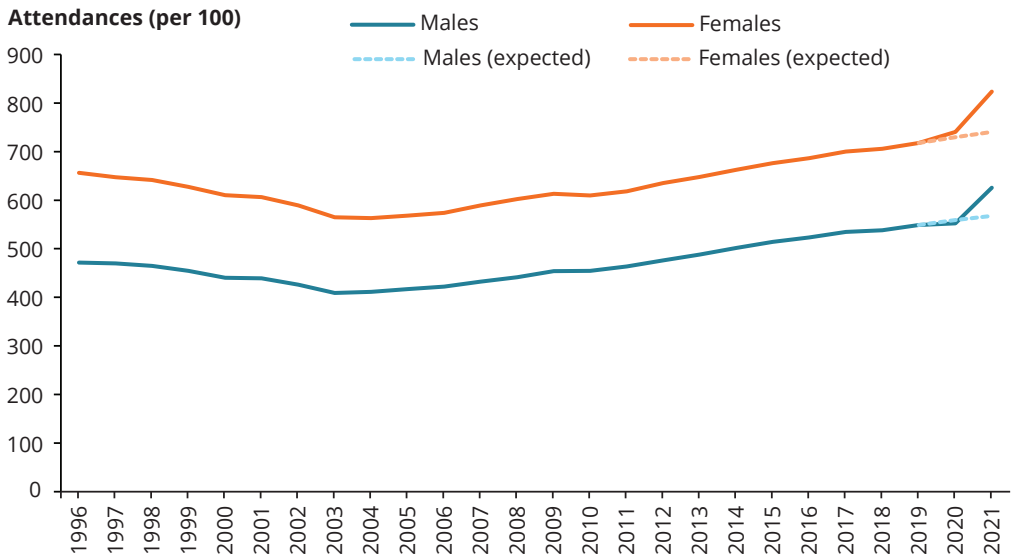
The longer term trend information presented in this section largely comes from administrative data, particularly MBS data for specific categories of services. There are also national survey data available from the ABS 2020–21 Patient Experience Survey which included specific questions on whether people delayed or missed health care because of COVID-19 (ABS 2021d). The results show that 9.8% of people aged 15 and over delayed or missed needed health care from a GP due to COVID-19. The corresponding figures for missed care from dental professionals was 12.2%, and from medical specialists 7.3%. These rates of missed/delayed health care were higher for: females than males; people aged 15–34 than people aged 85 and over; people with long-term health conditions than people without them; and people living in cities than people living in other areas. It is possible that these figures do not include the new telehealth services (AIHW 2022b) as questions remained the same as in previous surveys to preserve comparability. In relation to telehealth, 29% of people had used telehealth in the previous 12 months.

General practitioner visits

During the early period of the COVID-19 epidemic in Australia, there was concern that people may not receive the care they needed for other medical issues. As GPs provide the majority of primary care in Australia, any changes in service use have important implications for the health of the population.

The sustained increase in rates of visits to GPs from the early 2000s to 2019 continued into 2020 (Figure 2.12). However, there was a substantial increase in 2021; it was well above the expected rate, based on projections from data for the period to 2019, and was outside the 95% CIs. This increase was driven by the key role GPs played in the vaccine roll-out. In 2021, 10.3% of all GP attendances were to assess a patient's suitability for the COVID-19 vaccine. When excluding these attendances from the analysis, the rate of GP attendances in 2021 were within the expected range.

Figure 2.12: Rate of non-referred GP attendances, 1996 to 2021



Notes

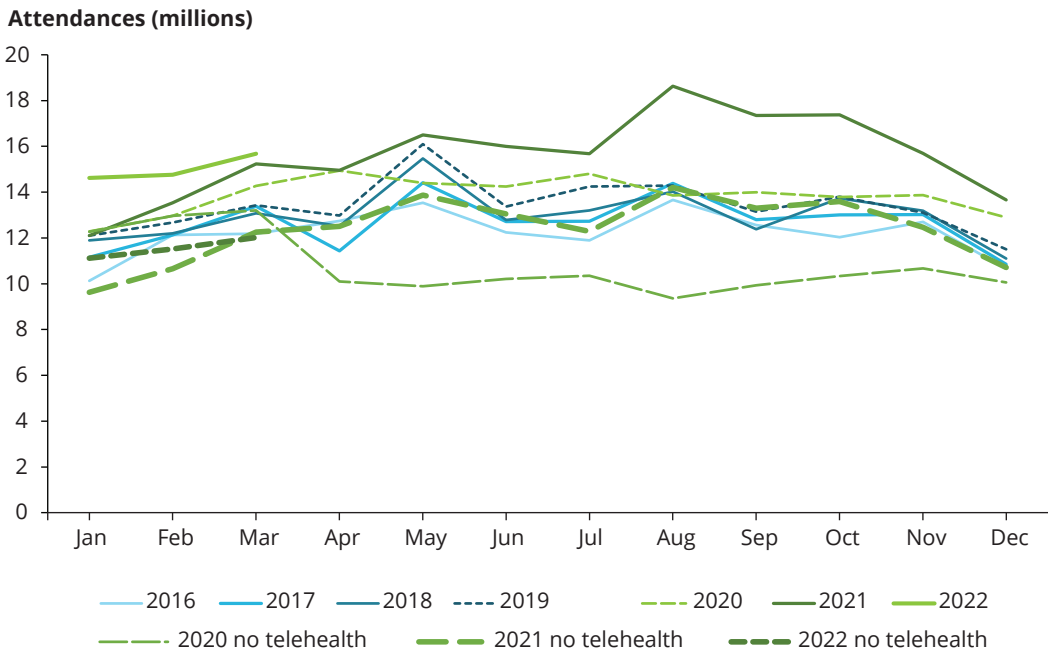
1. Dotted lines are the expected rates based on exponential smoothing projections using the data to 2019. Observed rates for 2021 are above the CIs for the projections, while 2020 estimates are within them.
2. Year is based on the date of processing (processed up until 31 March 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

Figure 2.13 presents data on attendances by month over recent years. It shows that the total number of GP visits (the solid lines) remained at the level of recent years during 2020 and the first part of 2021. There was a noticeable increase in the second half of 2021, coinciding with the vaccine roll-out. Numbers were also higher than for previous years between January and March 2022.

The dotted and dashed lines labelled 'no teleheath' in Figure 2.13 show the number of non-referred GP attendances excluding the new telehealth provisions introduced in March 2020. The remaining lines present the same data but with telehealth provisions included – demonstrating their important role telehealth played in maintaining GP care during the pandemic. In 2020, 22% of GP visits were conducted via telehealth, and 20% in 2021. For the first 3 months of 2022, the percentage again increased – to 23%. It is not possible to determine how much of the shift was due to concerns by patients or GPs of spreading the virus, and how much was due to convenience and a preference for particular types of services – and thus whether a similar pattern would have been observed if telehealth provisions were introduced outside the pandemic. It is also not possible to assess whether the reduction in face-to-face attendances affected the quality of care, or whether there were any changes in the reasons for visits.

Figure 2.13: Number of non-referred GP attendances by month, 2016 to March 2022

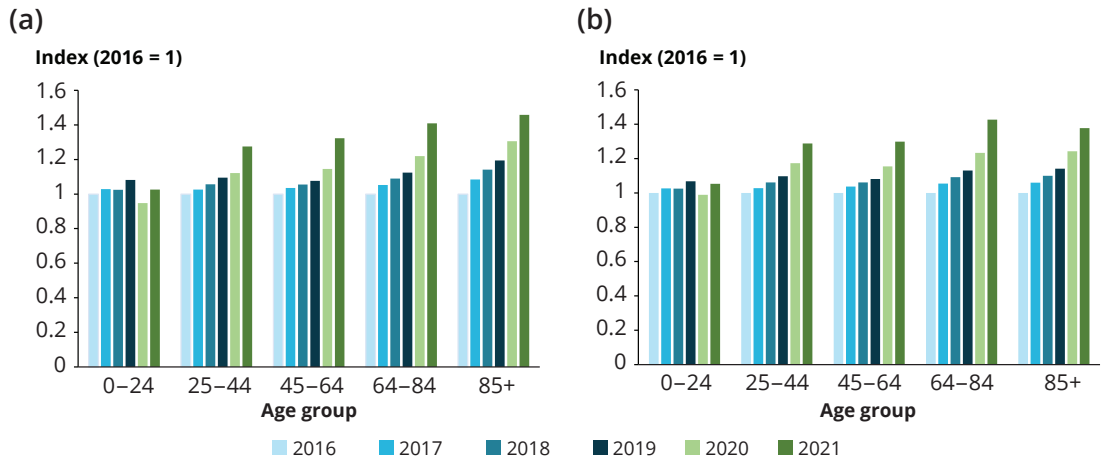


Note: Year and month are based on the date of processing (processed up until 31 March 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

Rates of visits by age group and sex (Figure 2.14) also show a continuation of previous trends for most groups into 2020, with larger increases into 2021.

Figure 2.14: Trends in non-referred GP attendances, for males (a) and females (b), by age, 2016 to 2021



Notes

1. Data have been indexed to the mean value for 2016.
2. Year is based on the date of processing (processed up until 31 March 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

Elective surgery

At the start of the COVID-19 pandemic in Australia, non-urgent elective surgery was suspended for 1 month, from late March to late April 2020. During this time, only Category 1 (the most urgent) and exceptional Category 2 procedures could be undertaken. These restrictions then started to be eased, though some were reintroduced in various jurisdictions at different times. The long-term health effects of cancelling or postponing non-urgent elective surgeries are not yet known.

Elective surgery occurs in both public and private hospitals, with around two-thirds of elective surgery admissions occurring in private hospitals (AHIW 2019). Elective surgery data in public hospitals are currently available up to the end of 2020–21.

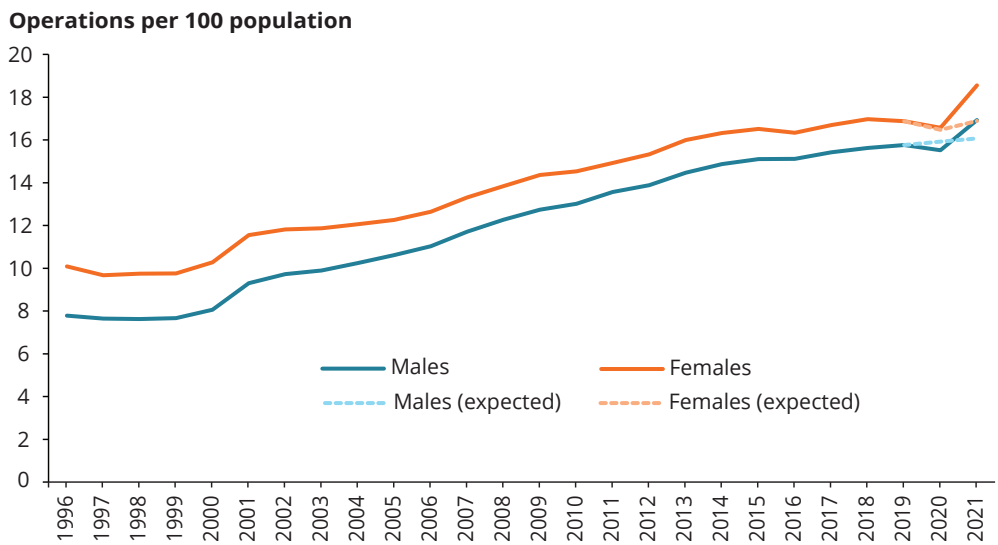
- Before the pandemic, admissions for elective surgery in public hospitals had been increasing steadily, by 2.1% on average each year between 2014–15 and 2018–19 (AIHW 2022d).
- In contrast, between 2018–19 and 2019–20, the number of elective surgery admissions decreased by 9.3% following the restrictions on elective surgery put in place at the start of the pandemic. This suggests that a large number of elective surgery procedures were delayed or treated differently. Due to the nature of the restrictions, reductions were in the less urgent groups. Between 2018–19 and 2019–20, semi-urgent procedures declined by 9.2% and urgent procedures by 18%.

- Elective surgery admissions substantially increased (9.6%) between 2019–20 and 2020–21. This brought the number of admissions close to the level of 2018–19 but around 5% lower than would have been expected if admissions had continued to increase at the same rate as between 2014–15 and 2018–19. Over the 2 years from 2019–20 to 2020–21, there were just over 120,000 fewer admissions for elective surgery in public hospitals than would have been expected.
- Changes between 2019–20 and 2020–21 were not consistent across jurisdictions. In Victoria, admissions continued to fall between 2019–20 and 2020–21, reflecting the ongoing limits in place, which had an impact on the volume, type and timing of elective surgery.

No directly comparable data for elective surgery in private hospitals are available, though data on Medicare-subsidised operations occurring in hospital are provided below (which may also include some non-elective operations). It is important to note that there is some overlap between these Medicare data and the public hospital data – procedures for private patients in public hospitals are included in both data sets.

The rate of Medicare-subsidised operations for private patients (in public or private hospitals) has risen steadily over many years (Figure 2.15). However, in 2020, there was a dip below this trend, followed by a notable increase in 2021 (the rate for females is above the 95% CI for the projection). There may have been a higher number of elective surgery procedures performed in private hospitals to partly compensate for the lower than expected number in public hospitals as described above.

Figure 2.15: Rate of Medicare-subsidised operations for private patients, 1996 to 2021



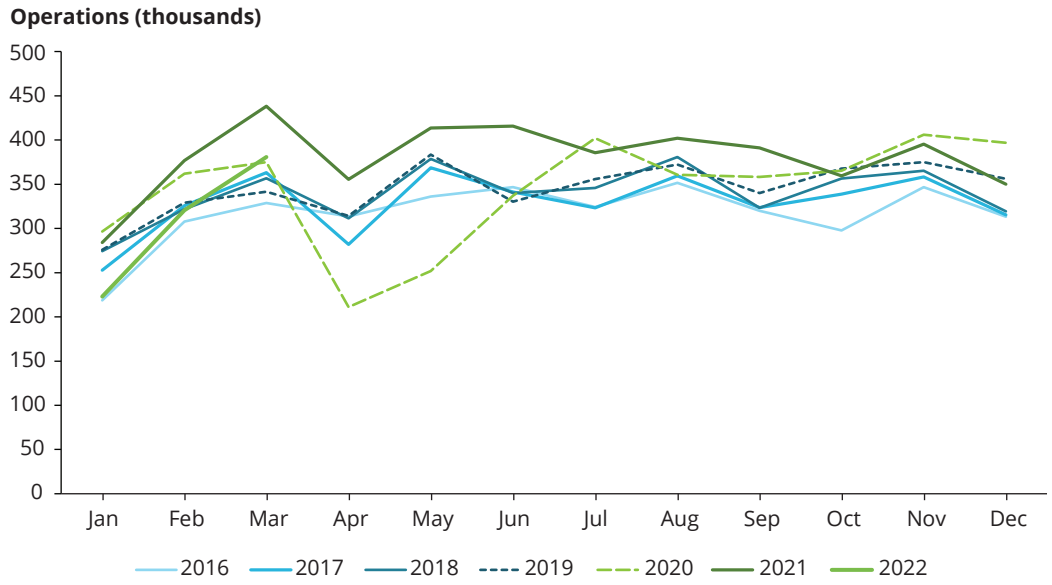
Notes

1. Dotted lines are the expected rates based on exponential smoothing projections using the data to 2019. The observed rate for females in 2021 is above the CIs for the projection. All other rates are within the CIs.
2. Year is based on the date of processing (processed up until 31 March 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

Monthly data (Figure 2.16) show the substantial drop in operations in April and May 2020, along with the higher numbers for much of 2021. Data for the early months of 2022 show another drop in the number of operations compared with earlier years – this period coincided with a large surge in COVID-19 cases, resulting in restrictions placed on elective surgery.

Figure 2.16: Number of Medicare-subsidised operations for private patients, by month, 2016 to March 2022



Note: Year and month are based on the date of processing (processed up until 31 March 2022).
Source: AIHW analysis of MBS data maintained by the Department of Health.

Cancer

Cancer needs to be diagnosed early to ensure the best chance of favourable outcomes (WHO 2022). As well, some pre-cancerous changes are able to be detected, enabling procedures to prevent the cancer developing. Delays in screening or early detection services during the COVID-19 pandemic may signal an increased risk of more advanced cancers being diagnosed later, although it is too early to see this potential effect in the data.

Screening

For breast screening, the number of screening mammograms conducted through BreastScreen Australia in 2020 declined (AIHW 2021b). From January to June 2020, there were 145,000 fewer screening mammograms than in the same period in 2018 (2018 was chosen as the comparison year as this is a 2-yearly program). This was largely due to a sharp decline when services were suspended during the earliest part of the pandemic, when the number of mammograms for women aged 50–74 fell from more than 70,000 in March 2020 to just over 1,100 in April 2020.

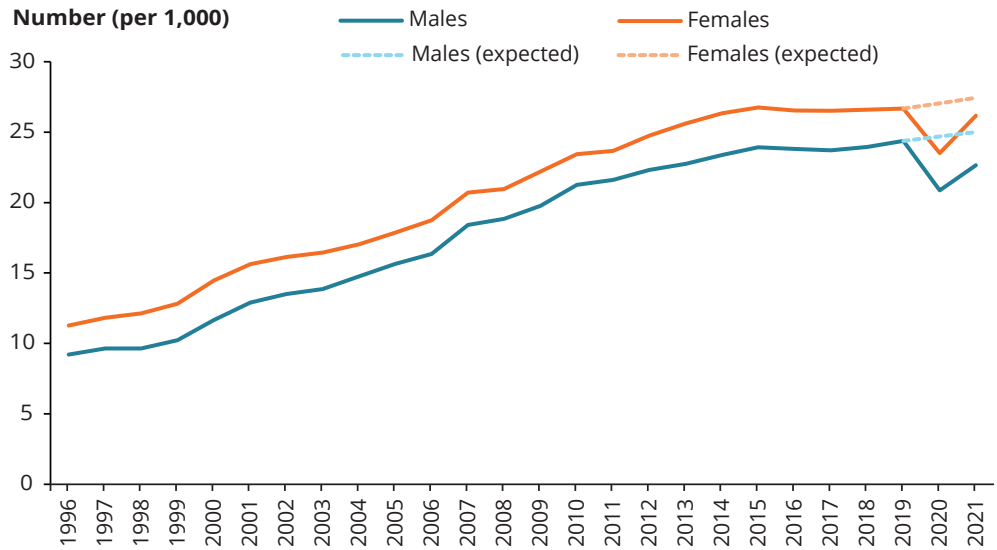
The number of screening mammograms increased as restrictions were eased. During the 3 months from July to September 2020, 12,000 more mammograms were performed than in the same period in 2018. Younger women and women who spoke a language other than English at home were slower to return to screening mammograms after restrictions eased. There was little difference in return to screening across socioeconomic groups.

For both bowel and cervical screening, the impact of COVID-19 cannot be quantified without further years of data due to normal fluctuations in, or changes to, the respective national screening programs (AIHW 2021b).

Procedures related to screening and early detection

Data on Medicare-subsidised procedures related to screening and early detection provide further insight into potential missed care. Analysis indicates that there were unexpected declines in these procedures during the pandemic. The rate at which people received a colonoscopy during the year dropped sharply in 2020, well below the expected rate, based on recent trends (Figure 2.17). While there was some return toward the expected rates in 2021, the rates were still outside the CIs for the expected rates. The number of Medicare-subsidised breast and prostate cancer tests also showed some declines in 2020 compared with earlier years (AIHW 2021a).

Figure 2.17: Rate of patients receiving at least one MBS-subsidised colonoscopy in a year, 1996 to 2021



Notes

1. MBS items included: 32084, 32087, 32088, 32089, 32090, 32093, 32094, 32222, 32223, 32224, 32225, 32226, 32227, 32228.
2. Dotted lines are the expected rates based on exponential smoothing projections using the data to 2019. All observed rates in 2020 and 2021 are below the CIs for the projections.
3. Year is based on the year the service was rendered to the patient (processed up until 11 April 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

As well as showing declines in cancer diagnostic tests mentioned above, other analysis showed declines in a number of Medicare-subsidised cancer procedures in 2020 compared with the trend for the previous 3 years (Cancer Australia 2021). Notable reductions occurred for procedures for breast cancer, gynaecological cancers and melanoma.

Missed cancer diagnoses

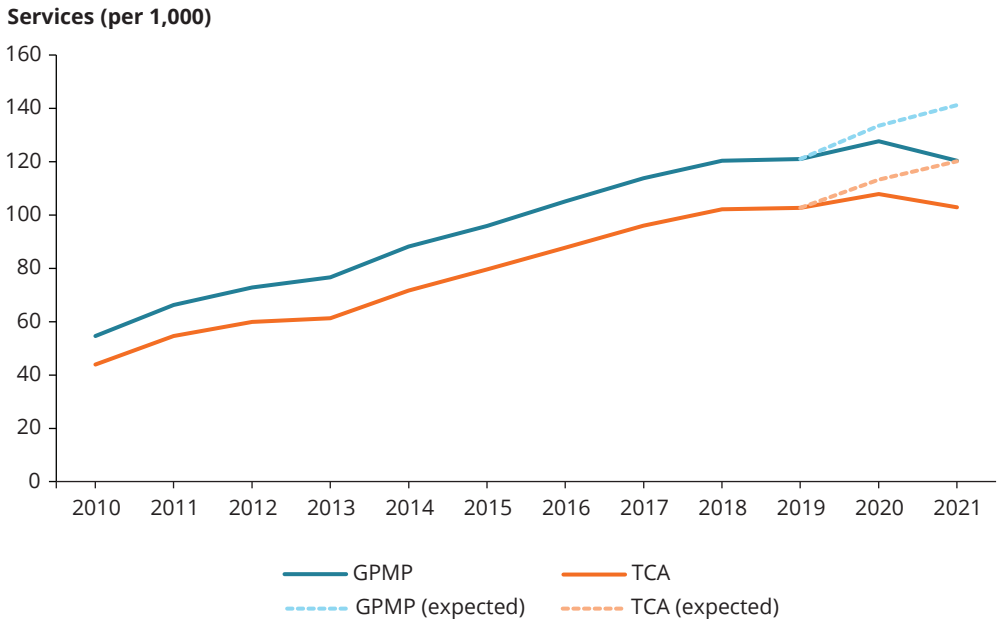
At this early stage, there are only limited data available on the impact of delayed or missed cancer diagnosis. However, data from Victoria show a 10% (95% CI: 9.2–10.8) reduction in notifications of new cancer diagnoses for the period from the start of April 2020 to mid-October 2020 (the period corresponding to the first and second waves in that state) compared with the modelled expected number (Te Marvelde et al. 2021). This equates to an estimated 2,530 (95% CI: 2,327–2,731) undiagnosed cancers that were potentially delayed or missed. The authors note this could be related to changes in care, such as suspension of screening services and outpatient clinics, and postponed surveillance of existing cancers.

Chronic disease management

A population group of particular interest in relation to health care use is people living with chronic conditions. These people are at greater risk of severe disease if they contract the COVID-19 virus (Department of Health 2021b; Ssentongo et al. 2020), making it more important that their conditions are well managed at this time. It is also possible that, because of this risk, people with chronic conditions may have avoided face-to-face medical care during the pandemic.

Services for chronic disease MBS items have been increasing steadily for more than a decade (Figure 2.18). While there was an increase in 2020 compared with earlier years, the rates for that year were still below the expected rates based on the longer term trend. This increase followed a small dip in the rates in 2019 compared with earlier years. In 2021, there was a further fall in the rates to well below the expected rates (and outside the CIs for the projections) – back to around the rates observed in 2019.

Figure 2.18: Rate of services for MBS chronic disease items, 2010 to 2021



Notes

1. GPMP: General Practice Management Plan; TCA: Team Care Arrangement.
2. Includes MBS items 721, 723, 229 and 230.
3. Dotted lines are the expected rates based on exponential smoothing projections using the data to 2019. Observed rates for TCA in 2020 and for both types of services in 2021 are below the CIs for the projections.
4. Year is based on the year the service was rendered to the patient (processed up until 31 March 2022).

Source: AIHW analysis of MBS data maintained by the Department of Health.

There had been a generally steady increase in the number of services by month across 2016 to 2019 (Figure 2.19), for both types of chronic disease services. The pattern for 2020 was somewhat different – there was a dip below the 2019 numbers in April and May 2020 (during the initial period of stay-at-home orders), followed by higher numbers than in previous years for the remainder of 2020. The number of services in the early months of 2021 remained higher than in previous years. It then fell to below the numbers for 2018 to 2020 for most of the months of 2021 through to October, before again recovering to similar numbers for those in 2020. Numbers for January 2022 were much lower than in previous years – back to 2018 – but then largely recovered to expected levels in February 2022. These periods where numbers were lower than in previous years coincided with outbreaks of COVID-19 and, up until 2022, various stay-at-home orders.

The telehealth provisions were particularly important in the early part of the pandemic, when the percentage of services provided via telehealth was over 30% for both GPMP and TCA services (data not shown). The percentage then fell steadily to between 4% and 8% for all months between July 2021 and February 2022.

Figure 2.19: Number of services for chronic disease services via GPMP (a) and TCA (b), by month, 2016 to February 2022

Notes

1. GPMP: General Practice Management Plan; TCA: Team Care Arrangement.
2. GPMP includes MBS items 721, 229, and from 30 March 2020 onwards telehealth MBS items 92024, 92055, 92068, 92099. TCA includes MBS items 723, 230, and from 30 March 2020 onwards telehealth MBS items 92025, 92056, 92069, 92100.

Source: AIHW analysis of MBS data maintained by the Department of Health.

Changes for key population groups

Data presented in this article show that there were several differences in outcomes for males and females, and across age groups. Females had lower respiratory death rates than males, and had a quicker return than males in 2021 toward expected rates for some procedures (MBS-subsidised colonoscopies and operations in hospitals). In terms of age differences, mental health for younger people suffered more than for older people at the start of the pandemic. There were also differing challenges for age and sex groups during the pandemic that may affect population health in the future, such as employment and school/education changes (Di Gessa and Price 2021; Goldfeld et al. 2022; Risse and Jackson 2021; Seedat and Rondon 2021; Siette et al. 2021; Wood et al. 2021).

This article focused on changes to longer term trends in 2020 and 2021. At this stage, there has been no analysis to disaggregate these longer term trends by population groups other than age and sex. However, there is other evidence of a differential effect of COVID-19 on vulnerable groups, including people from lower socioeconomic groups (OECD 2021a; Roder et al. 2022) and people born overseas in particular countries (see Chapter 1 'The impact of a new disease: COVID-19 from 2020, 2021 and into 2022'). Further analysis will be needed to determine whether these differentials are large enough to affect either overall population health for these groups or the level of inequality between groups.

As mentioned at the start of this article, the impact of changes to social determinants of health – such as income, employment, education, housing and social connections – is another factor with the potential for detrimental impacts now and into the future (Lucyk and McLaren 2017; Marmot and Wilkinson 1999; OECD 2021b).

- Employment changes were substantial for many people during the COVID-19 pandemic, including loss of jobs and businesses, even with substantial mitigation via government support programs (particularly earlier in the pandemic) such as JobKeeper and increases to JobSeeker (AIHW 2021e). Particular groups have faced substantial challenges throughout the pandemic, including health care workers (Bismark et al. 2022; Smallwood et al. 2021) and other front-line workers who were unable to work from home.
- Average income fell at the start of the pandemic and, while it had increased by October 2021, it remained below the pre-pandemic level (Biddle and Gray 2021). Again the averages can hide variation across groups, with some receiving lower incomes than before the pandemic – such as people in employment groups most affected (for example, people working in the entertainment, hospitality and tourism industries) (ABS 2021c).

- There were also a number of education changes which may have health effects in the future, including disruption to face-to-face schooling and higher education.
- Housing arrangements could also have had a detrimental effect on social interactions – such as for people who are isolated (for example, in aged care or living alone).

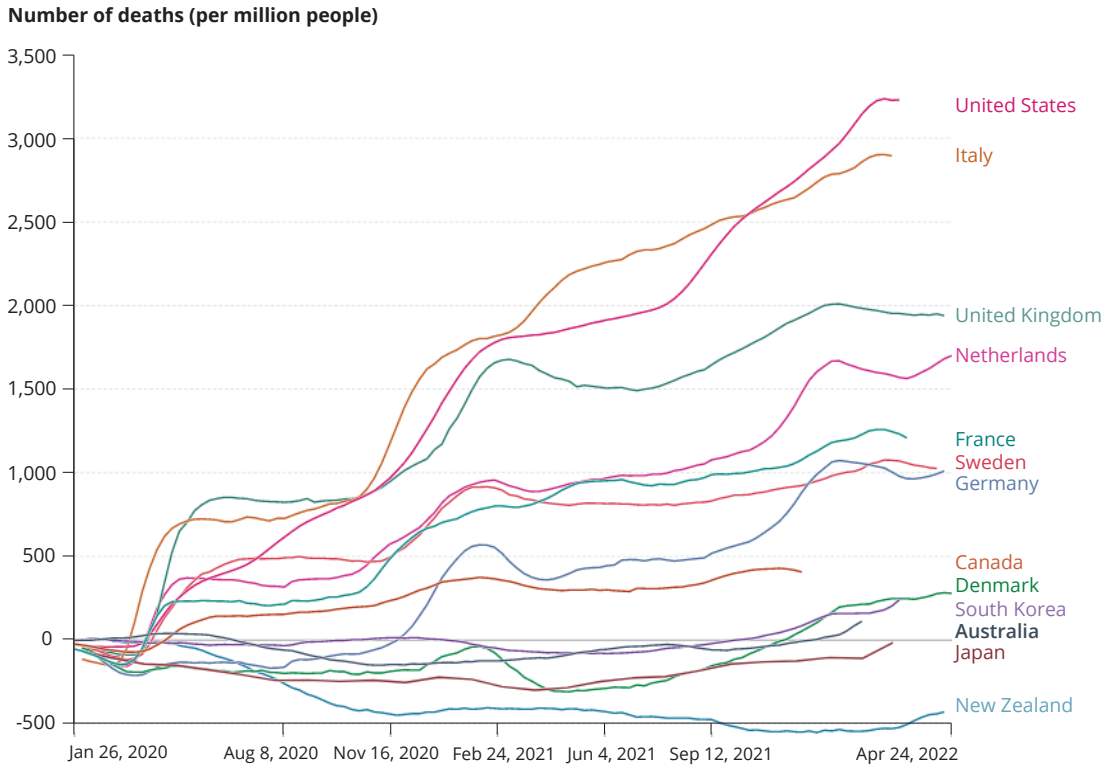
A window into what could have been

Based on the available data presented in this article, the overall population health of Australians did not change substantially during 2020 and 2021. However, some population groups faced major challenges and there were some declines in mental health. There were also a number of areas showing early signs of potential concern, such as missed or delayed health care. These challenges were balanced by some mortality gains, particularly in relation to respiratory diseases and infections. There was, however, a significant increase in deaths in the early part of 2022, with a substantial increase in excess deaths.

Despite no major changes in Australia's overall population health in 2020 and 2021, it is very likely that this would not have been the case without the extensive effort put into preventing the spread of COVID-19 during this period. It is very difficult to quantify the impact of prevention, and that is not the intention here. Nevertheless, one way to provide an insight into Australia's favourable situation is to compare excess mortality with that in other similar countries. That enables a broad assessment of the mortality benefit of preventing the potentially large direct and indirect effects of COVID-19 (Figure 2.20). However, it is not possible from these data to quantify how individual prevention measures contributed to Australia's (and some other countries') favourable situation.

Australia and New Zealand were 2 of very few OECD countries that kept cumulative excess deaths well below zero during 2020 and 2021 (Summers et al. 2022). This indicates that, overall, there were more deaths prevented than occurred from other causes (including COVID-19). In Australia, this was likely to be largely driven by the substantial decline in deaths from respiratory causes. Other countries with excess deaths at or below zero for much of the period included Japan, South Korea and Denmark. Three OECD countries that experienced substantially more excess deaths than others across both 2020 and 2021 were the United States, Italy and the United Kingdom. It is notable that the key driver of the high levels of excess mortality in many of these countries was their relatively high COVID-19 death rates (CDC 2022; COVID-19 Excess Mortality Collaborators 2022; ONS 2022).

Figure 2.20: Cumulative excess mortality compared with projection based on previous years, selected OECD countries



Source: OWID 2022.

Looking further ahead

This article has largely focused on changes in population health in 2020 and 2021 based on currently available information. However, the COVID-19 situation in Australia substantially changed starting in December 2021, with many more cases and deaths recorded than previously (see Chapter 1 'The impact of a new disease: COVID-19 from 2020, 2021 and into 2022'). The total impact of this changed situation will not be known for some time.

It is still unknown what may come next in relation to COVID-19 – how many cases will continue in the community, whether there will be new waves or new variants, and whether new vaccines or treatments will be more effective than those currently available. It is also not fully known what the longer term impacts of COVID-19 will be.

This article examined how population health trends have changed during the COVID-pandemic up until early 2022; however, the impacts of the pandemic are likely

to affect population health for many years to come. The longer term impacts of the indirect effects are also not known, such as the impact of any changes in health behaviours or the impact of missed health care. All of this uncertainty highlights the need to continue to monitor these population health impacts into the future.

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