

COVID-19 Monitor

COVID-19 cases, testing, vaccines, hospitalisations and deaths

12 May 2022

Table 1: NSW key indicators, as at 8 May 2022*

Key indicators	Date: 8 May (change from: 1 May)
7-day average daily COVID-19 cases, week to 8 May	11,345 (+543)
Growth factor for cases	1.01
7-day average daily COVID-19 deaths, week to 8 May	5 (-4)
COVID-19 patients under the care of NSW Health, as at 8 May	3,560 (-49)
COVID-19 patients in hospital, as at 8 May	1,548 (-108)
Percentage who were unvaccinated	20.2%
Percentage with two doses	24.3%
Percentage with three or more doses	53.5%
COVID-19 patients in intensive care units (ICUs), as at 8 May	54 (-18)
Percentage who were unvaccinated	25.9%
Percentage with two doses	25.9%
Percentage with three or more doses	44.4%
Percentage of total occupied adult ICU beds with COVID-19 patients	10.0% (-2.6%)
Rates per million	
7-day average daily COVID-19 cases, week to 8 May	1,348.2 (+64.6)
COVID-19 patients under the care of NSW Health, as at 8 May	403.3
COVID-19 patients in hospital, as at 8 May	184.0
Hospital rate among unvaccinated / two or more doses vaccinated population (aged 12+)	893.3 / 173.0
COVID-19 patients in ICU, as at 8 May	6.4
ICU rate among unvaccinated / two or more doses vaccinated population (aged 12+)	48.9 / 5.9
COVID-19 vaccination, as at 1 May	
Percentage of population aged 16+ with two or more doses	94.8%
Percentage of population aged 12 to 15 years with two or more doses	79.5%
Percentage of total population with two or more doses	83.2%

*See [NSW key indicators: notes and sources](#) at the end of this document.

International reflections

- COVID-19 cases are increasing in the United States, Australia and NSW.¹
- The [World Health Organisation \(WHO\)](#) estimates that nearly 15 million people have died in the COVID-19 pandemic, 2.7 times the official number reported by countries around the world.²
- Omicron sublineages [BA.4 and BA.5](#) are driving a surge in COVID-19 cases in South Africa.³ According to [WHO](#), and based on limited evidence to date, there is no indication of a rise in hospital admissions or other signs of increased severity.⁴
- According to data from the [United Kingdom](#), among double-vaccinated adults, the prevalence of self-reported long COVID (four to eight weeks after first infection) was nearly 50% lower in infections compatible with Omicron BA.1 variant than Delta variant (8.7% versus 15.9%). Among triple-vaccinated adults, the prevalence is higher with infections compatible with Omicron BA.2 variant than BA.1 variant (9.3% versus 7.8%).⁵

Table 2: Summary of public health, healthcare and vaccination measures (select countries, Canadian provinces and NSW), as at 8 May 2022*

	7-day average confirmed cases	7-day average confirmed cases (per million)	7-day average deaths (per million)	% total population with two or more doses	COVID-19 patients in hospital	COVID-19 patients in hospital (per million)	COVID-19 patients in ICU	COVID-19 patients in ICU (per million)
NSW	11,345	1,348.2	0.5	83.2%	1,548	184.0	54	6.4
Australia	42,082	1,631.8	1.5	83.6%	3,139	121.7	129	5.0
Belgium	4,555	391.6	1.4	78.6%	2,016	173.3	122	10.5
Canada	5,676	149.1	1.9	82.3%	6,178	162.3	432	11.3
Ontario	2,119	142.9	1.3	82.1%	1,167	78.7	207	14.0
Quebec	1,292	150.2	2.1	83.2%	2,051	238.4	60	7.0
Denmark	855	147.2	1.7	82.5%	466	80.2	5	0.9
Israel	2,027	218.2	0.7	66.0%	481	51.8	65	7.0
Japan	28,569	226.7	0.2	80.6%	10,774	85.5	631	5.0
Singapore	3,525	646.3	0.4	91.4%	241	40.9	6	1.0
United Kingdom	10,887	159.6	2.7	72.9%	10,243	150.2	237	3.5
United States	71,252	214.0	1.6	66.3%	14,778	44.4	1,745	5.2

*See [Summary of public health: notes and sources](#) at the end of this document.

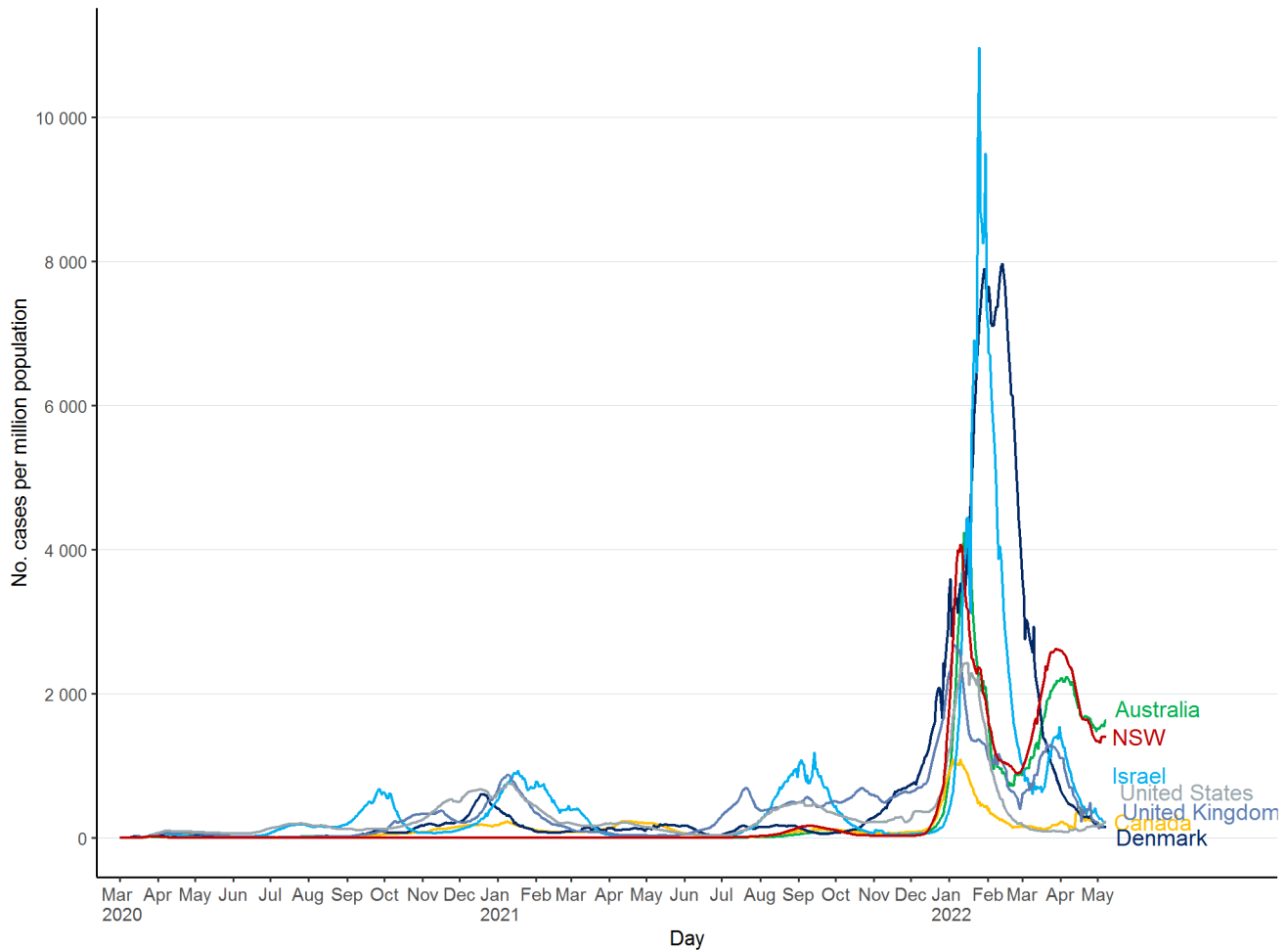
Cell colouring has been applied according to the following criteria:

- For 7-day average cases per million, rates over 1,000 per million are highlighted in red, and the lowest three rates highlighted in green.
- For 7-day average deaths per million, rates over 4.0 per million are highlighted in red, and rates under 0.5 per million are highlighted in green.
- For percentage of total population with two or more doses, percentages greater than or equal to 80% are highlighted in green.
- For patients in hospital per million, rates over 200 per million are highlighted in red, and the lowest three rates highlighted in green.
- For patients in ICU per million, rates over 10 per million are highlighted in red, and the lowest three rates highlighted in green.

COVID-19 daily rates of confirmed cases

Figure 1 shows the daily rate per million population (rolling seven-day average) of confirmed COVID-19 cases in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from March 2020 to May 2022.

Figure 1: Daily rates of COVID-19 cases (select countries and NSW), March 2020 – May 2022

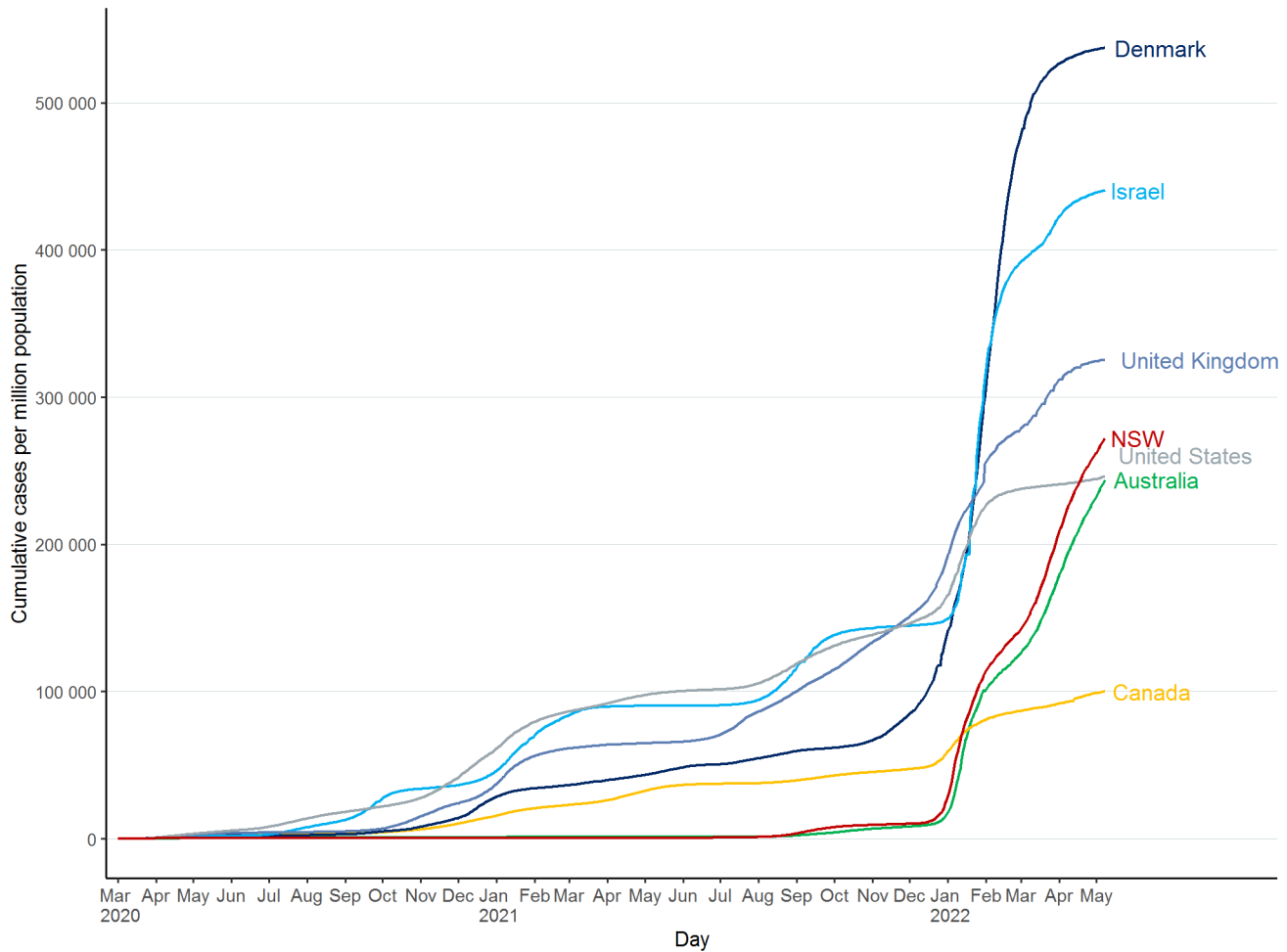


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

COVID-19 cumulative confirmed cases

Figure 2 shows the cumulative rate per million population of confirmed COVID-19 cases in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from March 2020 to May 2022.

Figure 2: Cumulative confirmed COVID-19 cases per million population, (select countries and NSW), March 2020 – May 2022

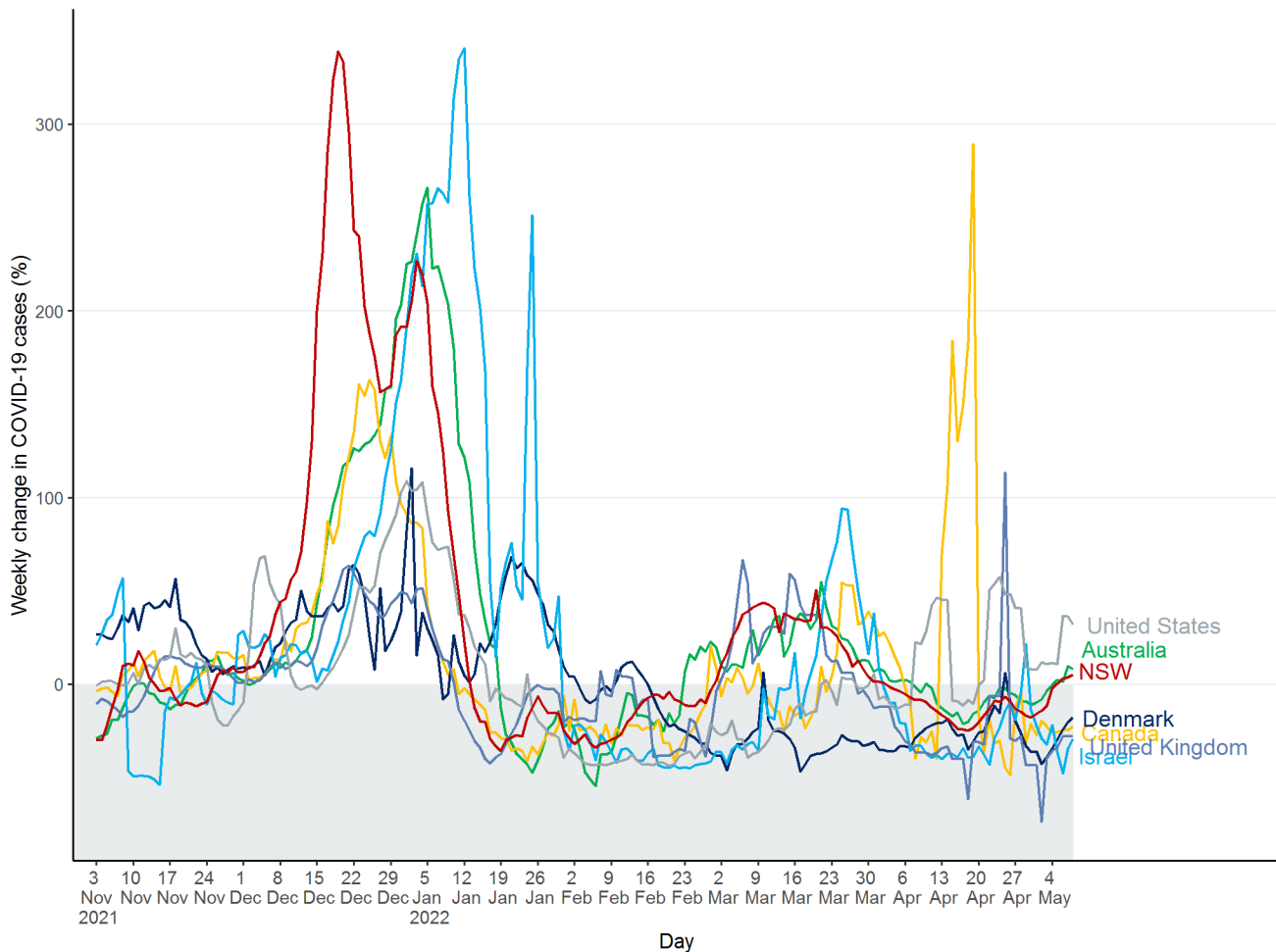


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

Weekly change in COVID-19 confirmed cases

Figure 3 shows the weekly percentage change of COVID-19 cases for NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from November 2021 to May 2022. The weekly change of COVID-19 cases on any given day is measured as the percentage change in the number of confirmed cases in the last seven days, compared with the number in the previous seven days.

Figure 3: Weekly change in COVID-19 cases (select countries and NSW), November 2021 – May 2022

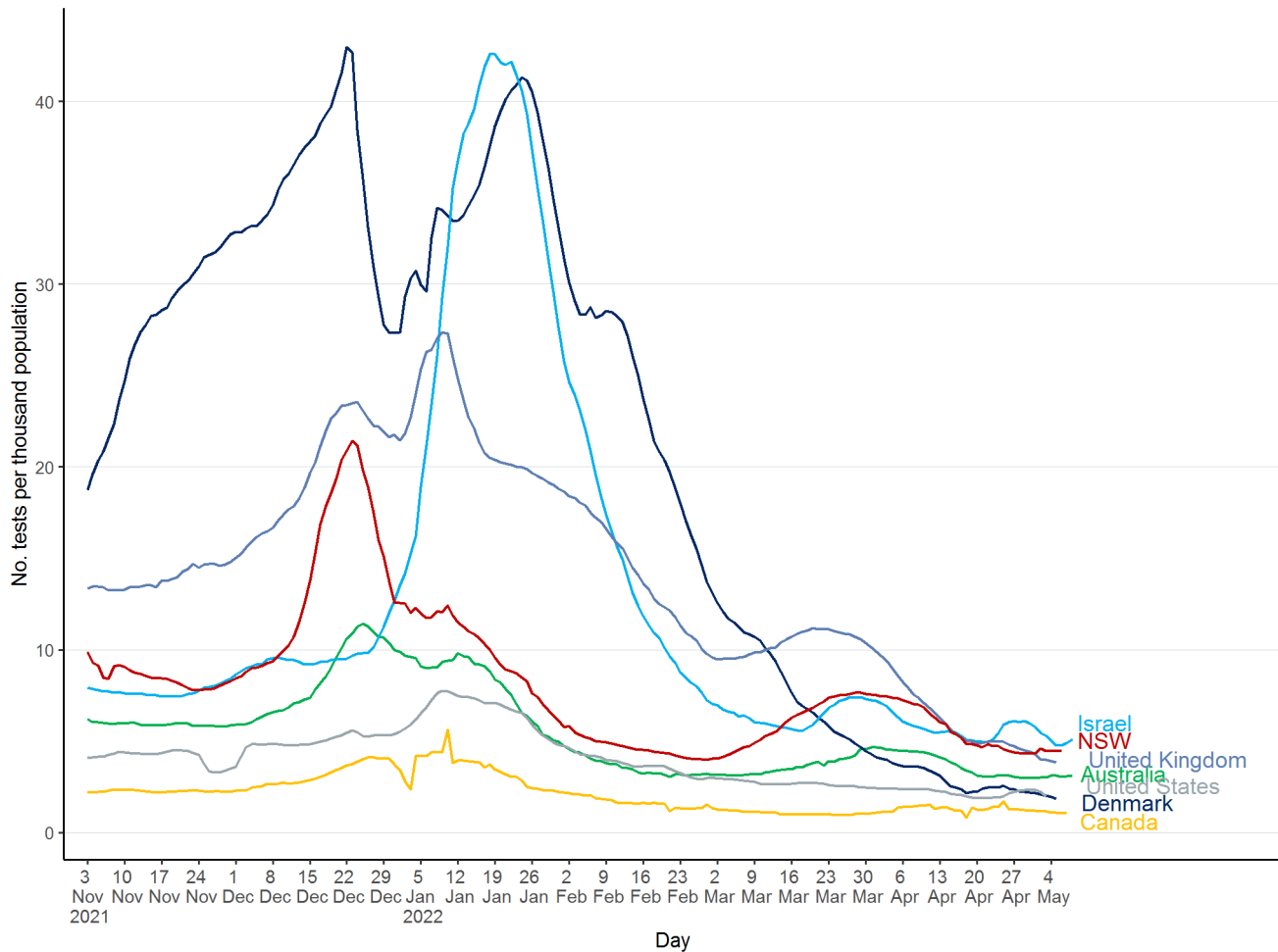


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document. Data anomaly occurred in Canada around mid-April; interpretation and comparison should be done with caution.

COVID-19 daily testing rates

Figure 4 shows the daily rate per thousand population (rolling seven-day average) of COVID-19 tests in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from November 2021 to May 2022.

Figure 4: Daily rates of COVID-19 tests (select countries and NSW), November 2021 – May 2022

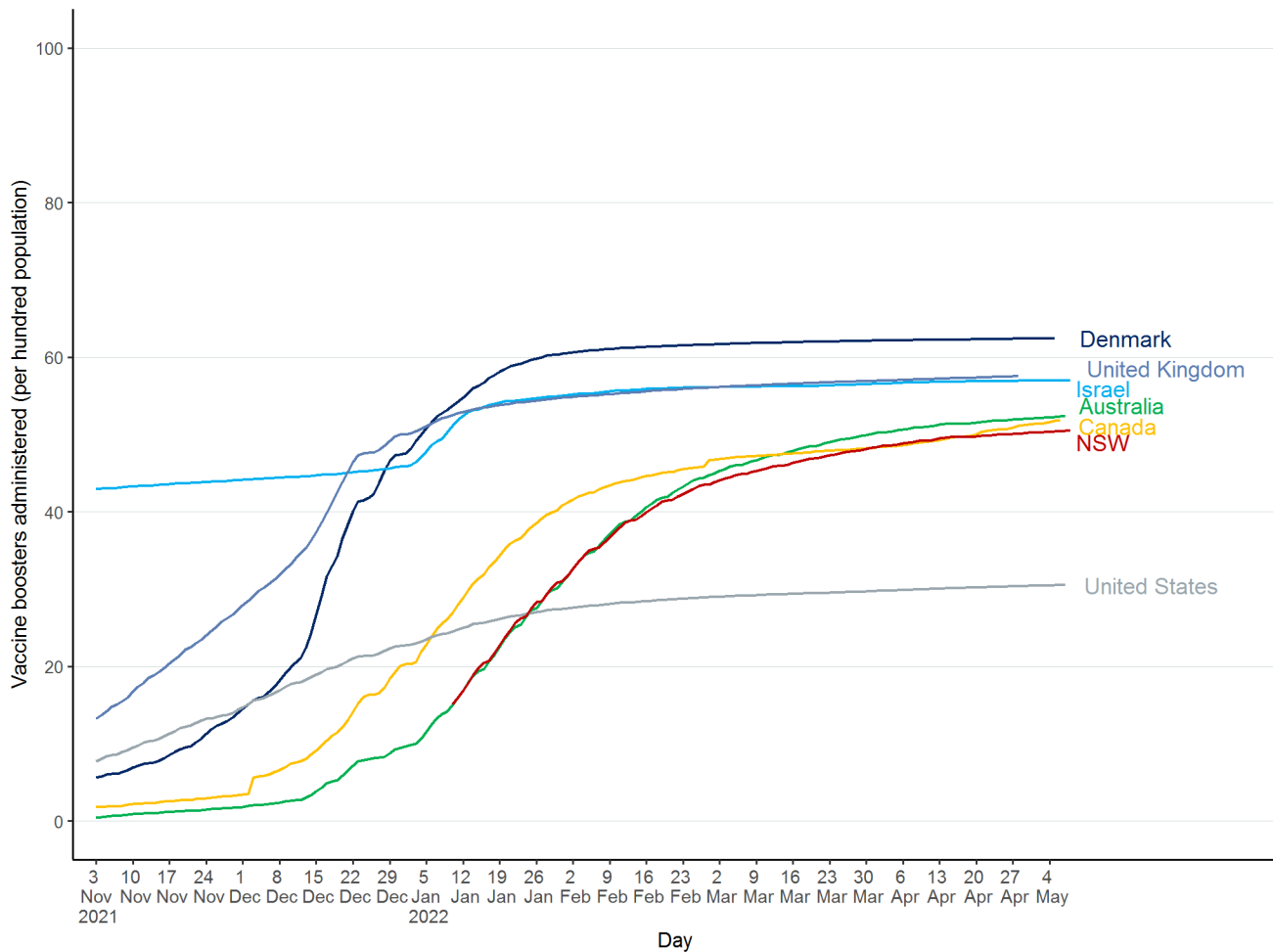


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

COVID-19 vaccine boosters

Figure 5 shows the total number of COVID-19 vaccine booster doses administered per hundred population in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from November 2021 to May 2022. Booster doses are defined as doses administered in addition to the original vaccination protocol of two doses.

Figure 5: Number of COVID-19 vaccine boosters administered (select countries), November 2021 – May 2022

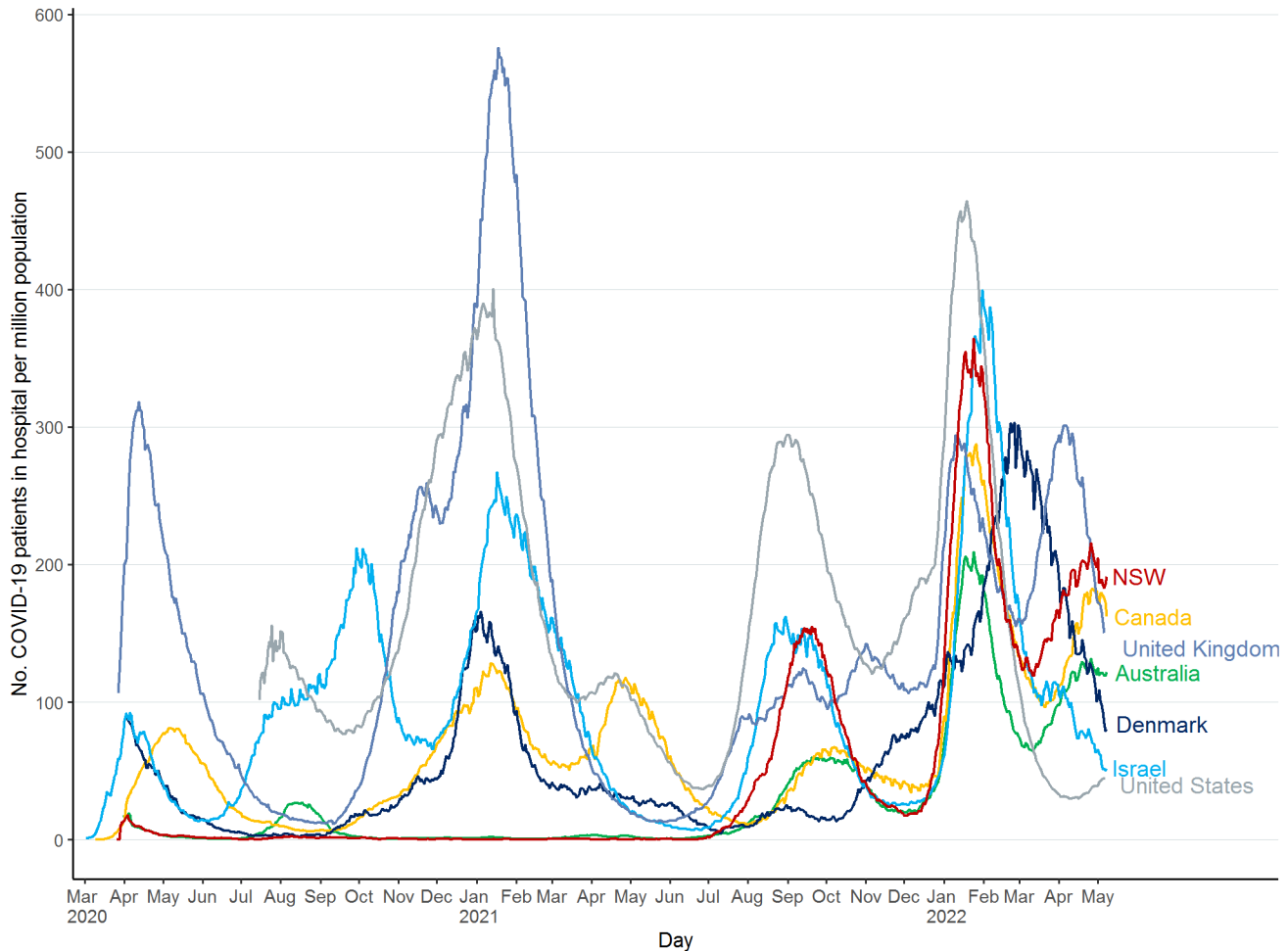


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

COVID-19 patients in hospital

Figure 6 shows the daily number of COVID-19 patients in hospital per million population in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from March 2020 to May 2022.

Figure 6: Number of COVID-19 patients in hospital (select countries and NSW), March 2020 – May 2022

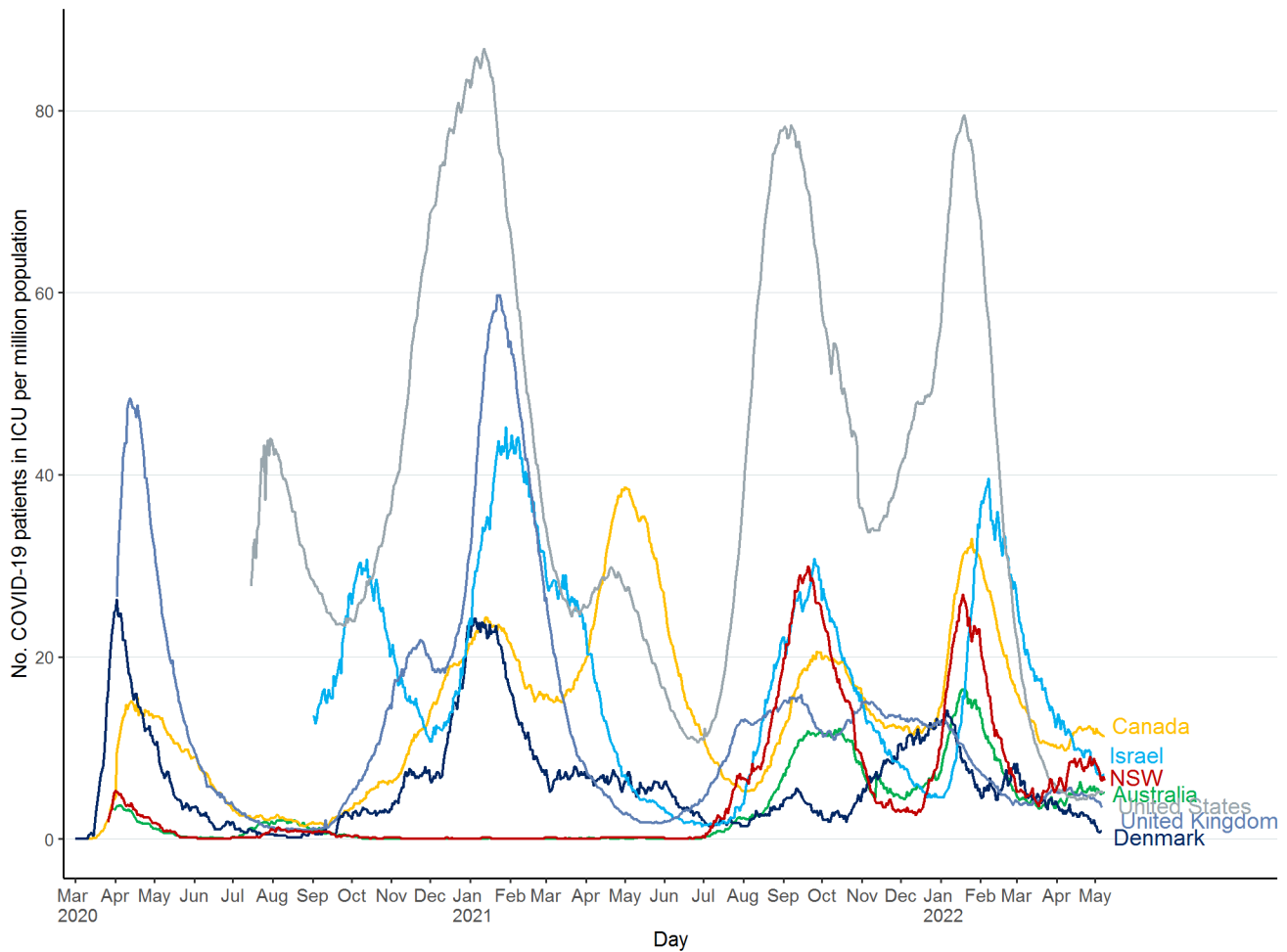


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

COVID-19 patients in intensive care units

Figure 7 shows the daily number of COVID-19 patients in intensive care units (ICUs) per million population in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from March 2020 to May 2022.

Figure 7: Number of COVID-19 patients in intensive care units (select countries and NSW), March 2020 – May 2022

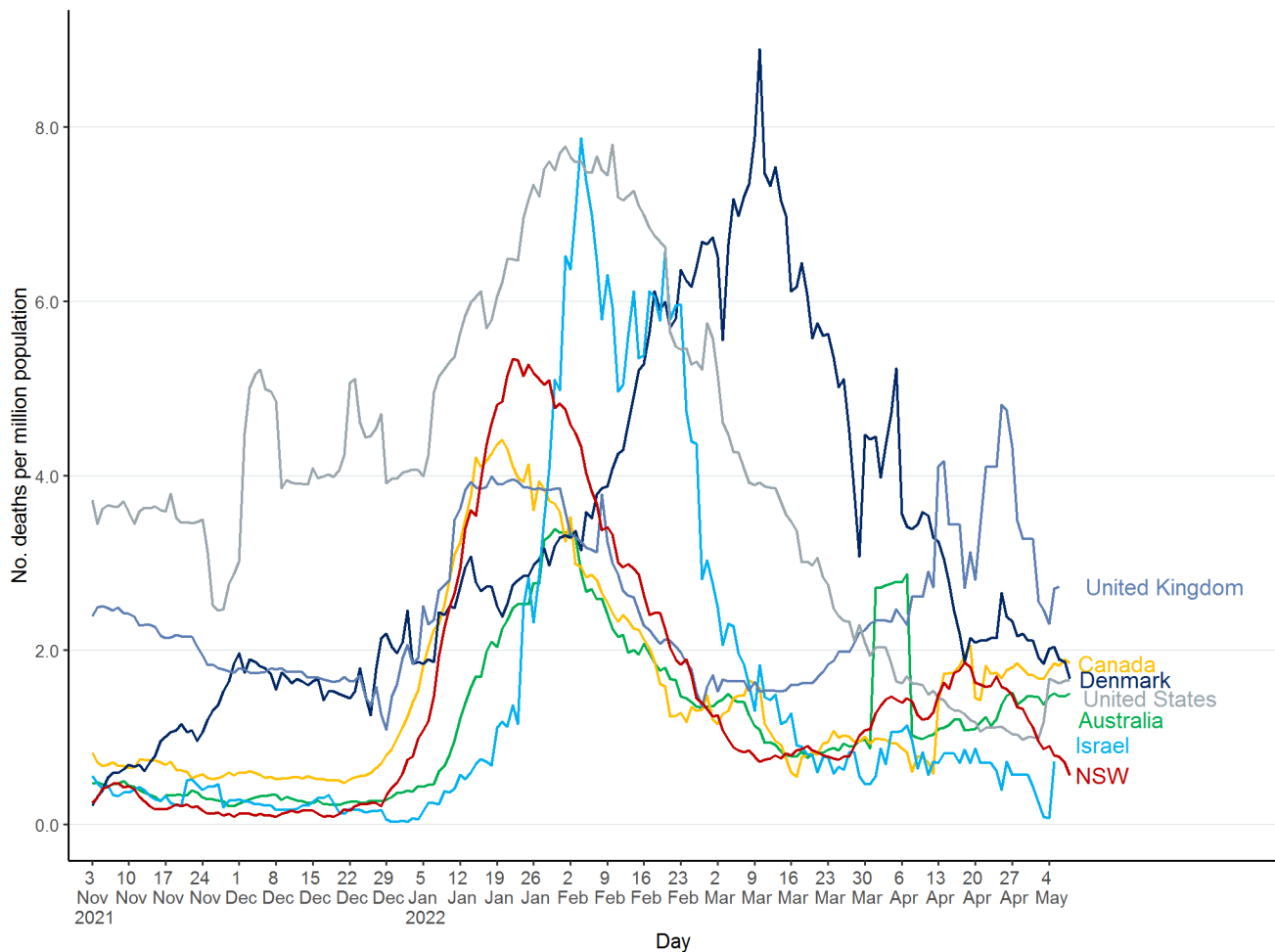


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

COVID-19 daily mortality rates

Figure 8 shows the daily mortality rate per million population (rolling seven-day average) in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from November 2021 to May 2022.

Figure 8: Daily mortality rates (select countries and NSW), November 2021 – May 2022

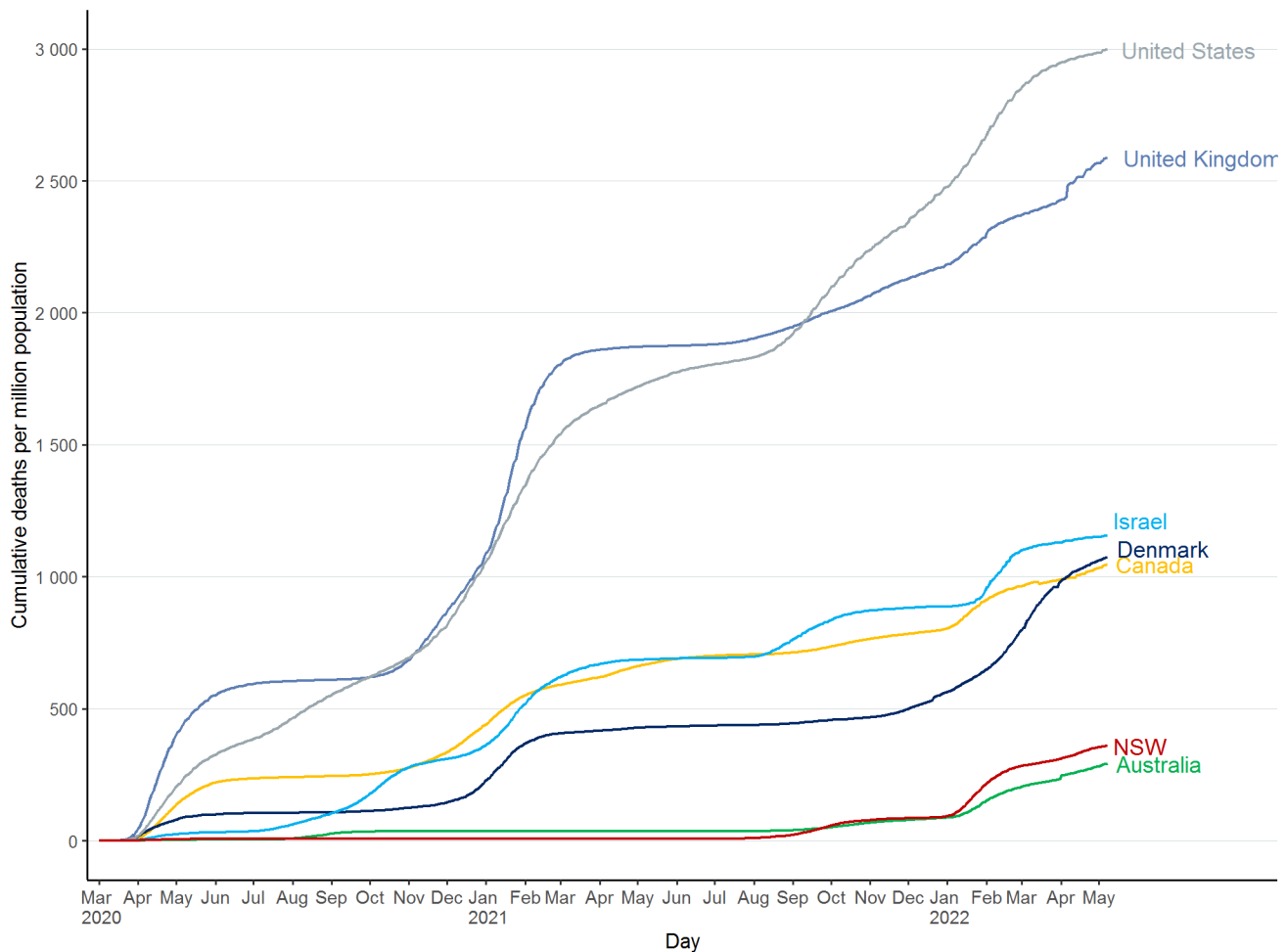


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document. A review of historical death records (from January 2020 to current) conducted within NSW, Australia found an additional 331 deaths related to COVID-19. This resulted in the artificial spike seen in deaths for Australia. Internally-sourced deaths data for NSW is calculated based on date of death (versus date of reporting) therefore the newly-reported deaths are distributed across the time series.

COVID-19 cumulative mortality rates

Figure 9 shows the cumulative mortality rate per million population in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from March 2020 to May 2022.

Figure 9: Cumulative mortality rates (select countries and NSW), March 2020 – May 2022

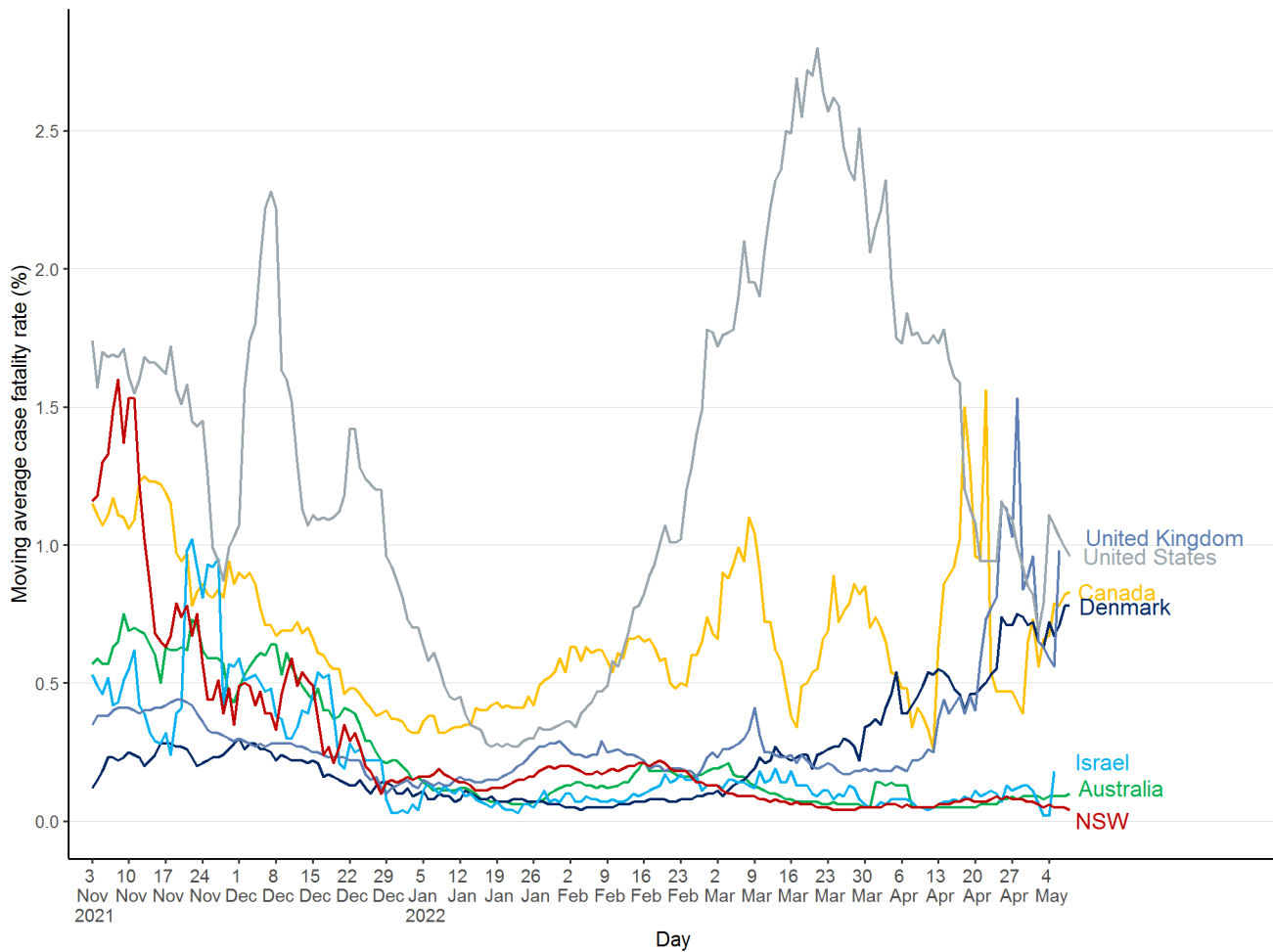


Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document.

Case fatality rate for COVID-19

Figure 10 shows the case fatality rate (moving average) of COVID-19 in NSW, Australia, United Kingdom, United States, Canada, Denmark and Israel, from November 2021 to May 2022. The moving average case fatality rate on any given day is calculated as the ratio between the seven-day average number of confirmed deaths and the seven-day average number of confirmed cases 10 days earlier.

Figure 10: Case fatality rate of COVID-19 (select countries and NSW), November 2021 – May 2022



Note: See [COVID-19 daily rates: notes and sources](#) at the end of this document. Data anomaly occurred in Canada around mid-April; interpretation and comparison should be done with caution.

NSW key indicators

Notes

Data are presented for all indicators as at 8 May 2022 (previous week, 1 May 2022).

Cases identified via rapid antigen tests (RATs) are included from 21 January 2022 onwards; comparisons with historical data should be made with care.

Average daily confirmed cases and average daily deaths are based on a seven-day average.

For any given day, the growth factor for COVID-19 cases is a ratio of cases notified in the seven days ending that day, to the cases notified in the seven days ending the day before.

Patients in hospital include cases on the ward and in ICUs.

Vaccination rates for the total population are estimated using the number of second doses available through public sources. This figure may be underestimated by up to 1% from that reported elsewhere due to differences in timing of reporting.

Estimated per million population rates for all indicators, other than vaccination, are calculated using population estimates at 30 June 2021. For vaccination, population estimates at 30 June 2020 are used. This is based on the Australian Bureau of Statistics estimated resident population and population projections, based on data from the NSW Department of Planning, Industry and Environment.⁶

The rate of hospitalisation and ICU admission (per million) among the unvaccinated population is calculated as the number of unvaccinated COVID-19 cases in hospital against the estimated total number of the unvaccinated population. The rate of hospitalisation and ICU admission (per million) among the vaccinated population is calculated as the number of COVID-19 cases in hospital who have received two or more vaccine doses, against the estimated total number of the population with two or more doses. Rolling seven-day average was applied. Rates were age-standardised to NSW 2021 population estimates.

Sources

New cases for NSW sourced from NSW Health via Notifiable Conditions Information Management System; accessed 10 May 2022.⁷

Vaccination data sourced from Australian Government Department of Health [vaccination numbers and statistics](#); accessed 10 May 2022.⁸

Data for hospital capacity, admissions and proportion of vaccinated cases are sourced from NSW Health via the Patient Flow Portal and taken from a 7pm snapshot, 8 May 2022; accessed 10 May 2022.⁹

Summary of public health, healthcare and vaccination measures (select countries, Canadian provinces and NSW)

Notes

Data are presented for all indicators as at 8 May 2022. If unavailable, the latest available data are shown.

Data on confirmed COVID-19 cases may include both cases identified via PCR tests and cases identified via RATs, depending on differences in reporting procedures in the selected locations. For NSW, cases identified via RATs are included from 21 January 2022 onwards. Comparisons with historical data should be made with care.

Average daily confirmed cases and average daily deaths are based on a seven-day average.

Proportions for the population with two or more doses are based on the full population.

For NSW, estimated per million population rates for all indicators (except vaccination) are calculated using population estimates at 30 June 2021. For vaccination, population estimates at 30 June 2020 are used. This is based on the Australian Bureau of Statistics estimated resident population and population projections, based on data from the NSW Department of Planning, Industry and Environment.⁶

Patients in hospital include both cases on the ward and in ICUs.

Sources

New cases for selected countries sourced from [Our World in Data](#).¹ New cases for NSW sourced from NSW Health via the Notifiable Conditions Information Management System.⁷ New cases for Ontario and Quebec sourced from [COVID-19 Tracker Canada](#).¹⁰ All accessed 10 May 2022.

COVID-19 deaths for selected countries sourced from [Our World in Data](#).¹ COVID-19 deaths for NSW sourced from NSW Health via the Notifiable Conditions Information Management System.⁷ COVID-19 deaths for Ontario and Quebec sourced from [COVID-19 Tracker Canada](#).¹⁰ All accessed 10 May 2022.

Vaccination data for selected countries sourced from [Our World in Data](#).¹ Vaccination data for NSW sourced from Australian Government Department of Health [vaccination numbers and statistics](#).⁸ Vaccination data for Ontario and Quebec sourced from [COVID-19 Tracker Canada](#).¹⁰ All accessed 10 May 2022.

Data on the number of COVID-19 patients in hospital and ICUs sourced on 10 May 2022 from the following:

- [Our World in Data](#) for all countries¹
- NSW Health via the Patient Flow Portal for NSW, taken from a 7pm snapshot on 8 May 2022⁹
- [COVID-19 Tracker Canada](#) for Ontario and Quebec¹⁰
- [Singapore Government](#) for Singapore¹¹

COVID-19 daily rates of cases, tests, vaccination, hospitalisations and deaths

Notes

Limited testing and delayed reporting likely result in the actual number of confirmed cases being underestimated.

Data on confirmed COVID-19 cases may include both cases identified via PCR tests and cases identified via RATs, depending on differences in reporting procedures in the selected locations. For NSW, cases identified via RATs are included from 21 January 2022 onwards. These numbers do not include an additional 180,433 RAT-positive cases reported prior to this as the data were unavailable in the sources used for this report. Comparisons with historical data should be made with care.

Data on COVID-19 tests may include both PCR tests and RATs, depending on differences in reporting procedures in the selected locations. NSW testing rates include positive and negative PCR tests, and all positive RATs only.

Challenges in the attribution of the cause of death means the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19. A review of historical death records (from January 2020 to current) conducted within NSW, Australia, found an additional 331 COVID-19-related deaths. This resulted in the artificial spike seen in deaths for Australia. Internally sourced deaths data for NSW is calculated based on date of death (versus date of reporting), therefore the newly reported deaths are distributed across the time series.

Patients in hospital include cases on the ward and in ICUs.

Data for some countries may appear unstable at times (e.g. over the Christmas and New Year period) due to reasons such as reduced testing and unavailability of accurate data from the various countries.

Sources

Cases, tests and deaths data for selected countries sourced from [Our World in Data](#).¹ Cases, tests and deaths data for NSW sourced from NSW Health via the Notifiable Conditions Information Management System.⁷ Both accessed 10 May 2022.

Vaccination data for selected countries sourced from [Our World in Data](#).¹ Vaccination data for NSW sourced from [COVID Live](#), which verifies data against Australian state and territory government health departments.¹² Both accessed 10 May 2022.

Hospital and ICU data for selected countries sourced from [Our World in Data](#).¹ Accessed 10 May 2022. Hospital and ICU data for NSW sourced from NSW Health via the Patient Flow Portal.⁹ Accessed 8 May 2022.

Method

The NSW Health COVID-19 Critical Intelligence Unit maintains living evidence tables on [COVID-19 vaccines](#) and [SARS-CoV-2 variants](#).^{13, 14} To inform this brief, a review of the daily evidence digest and Google searches are undertaken weekly.

Countries were chosen based on contemporary relevance with regards to the variables of interest in the NSW and Australian context (cases, variants, vaccines, and patient outcomes).

References

1. Our World in Data. Latest publication [Internet]. United Kingdom: Our World in Data; 2022 [cited 2022 May 10]. Available from: <https://ourworldindata.org/>.
2. Adam D. 15 million people have died in the pandemic, WHO says [Internet]. Nature; 2022 May 05 [cited 2022 May 10]. Available from: <https://www.nature.com/articles/d41586-022-01245-6>.
3. Callaway E. Are COVID surges becoming more predictable? New Omicron variants offer a hint [Internet]. Nature; 2022 May 06 [cited 2022 May 10]. Available from: <https://www.nature.com/articles/d41586-022-01240-x>.
4. World Health Organisation (WHO). Weekly epidemiological update on COVID-19 - 4 May 2022 [Internet]. Geneva: WJP; 2022 May 04 [cited 2022 May 10]. Available from: <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---4-may-2022>.
5. Office for National Statistics. Self-reported long COVID after infection with the Omicron variant in the UK: 6 May 2022 [Internet]. United Kingdom: UK Government; 2022 May 06 [cited 2022 May 10]. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/selfreportedlongcovidafterinfectionwiththeomicronvariant/6may2022>.
6. NSW Department of Planning, Industry and Environment. Population [Internet]. Australia: NSW Department of Planning, Industry and Environment; 2020 [cited 2022 May 10]. Available from: <https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections>.
7. NSW Ministry of Health. Notifiable Conditions Information Management System (NCIMS) [unpublished dataset]. Sydney: NSW Ministry of Health; 2022 [cited 2022 May 10].
8. Department of Health. COVID-19 vaccines [Internet]. Australia: Australian Government Department of Health; 2022 May 10 [cited 2022 May 10]. Available from: <https://www.health.gov.au/initiatives-and-programs/covid-19-vaccines>.
9. NSW Ministry of Health. Patient flow portal [unpublished dataset]. Sydney: NSW Ministry of Health; 2022 [cited 2022 May 10].
10. COVID-19 Tracker Canada. Updated Monday, May 9th at 1:24 pm CST [Internet]. 2022 [cited 2022 May 10]. Available from: <https://covid19tracker.ca/index.html>.
11. Singapore Government. Overview of COVID-19 situation in Singapore [Internet]. Singapore: Singapore Government; 2022 May 09 [cited 2022 May 10]. Available from: <https://www.gov.sg/COVID-19>.
12. COVID LIVE [Internet]. Australia: COVID LIVE; 2022 May 10 [cited 2022 May 10]. Available from: <https://covidlive.com.au/>.
13. COVID-19 Critical Intelligence Unit. Living evidence - SARS-CoV-2 variants [Internet]. Sydney: NSW Agency for Clinical Innovation; 2022 May 06 [cited 2022 May 10]. Available from: <https://aci.health.nsw.gov.au/covid-19/critical-intelligence-unit/sars-cov-2-variants>.
14. COVID-19 Critical Intelligence Unit. Living evidence - COVID-19 vaccines [Internet]. Sydney, Australia: NSW Agency for Clinical Innovation; 2022 May 04 [cited 2022 May 10]. Available from: <https://aci.health.nsw.gov.au/covid-19/critical-intelligence-unit/covid-19-vaccines>.

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