

Deaths from COVID-19: largely an eastern states and older person phenomenon

Summary

By sex and age

- More males than females died from COVID-19 in the period from March 2020 to end May 2022.
- The majority (90.5%) of deaths in Australia from COVID-19 were recorded for people aged 65 years and over, with the highest proportions in Victoria (44.7% of the national total), New South Wales (36.3%) and Queensland (11.4%).
- The highest proportion of deaths for both males and females were in the 80 to 89-year age group, with a very high proportion for females aged 90 years and over.

By state and territory

- The majority (81.1%) of the deaths at all ages from COVID-19 over the pandemic period were in Victoria (43.6%, 70% above their share of the population) and New South Wales (37.5%, 18% above their share of the population).

By pre-existing condition

- Three quarters of those dying had a pre-existing condition, with the most commonly-recorded conditions being chronic cardiac conditions (37.6%) and dementia (31.3%).

By birthplace

- There were nearly twice (1.97 times) as many deaths of people born overseas when compared with their share of the population: this disparity would be greater had we been able to calculate this figure excluding people born in predominantly English-speaking countries and represents a major equity gap, reflecting the cultural, social and economic disadvantage of many older people in this population group.
- Although people aged 65 years and over born overseas accounted for 37.1% of the Australian population at the 2021 Census, they represented 58.1% of deaths from COVID-19 to May 2022. That is, the number of deaths was 1.57 times their proportion in the population.

By socioeconomic disadvantage

- There are marked differences in the majority of jurisdictions between the rates of death in the most disadvantaged areas when compared with the least disadvantaged areas.

By wave to end May 2022

- For Australia overall, the rate of deaths increased substantially from Wave 1 to Wave 2, with a further increase to Wave 3; the largest increase was in Wave 4. Notably, Victoria recorded 99% of deaths in Wave 2, whereas deaths in New South Wales rates were very low until Wave 3.
- The sharpest increase in death rates was from Wave 3 to Wave 4. Of the regions of country of birth with the highest rates of death from COVID-19 (South Eastern Europe, Eastern Europe and Southern Europe), rates increased from the first deaths in Wave 1
- Overall, Victoria and New South Wales had more deaths from COVID-19 than their share in the population – 70% more in Victoria and 18% more in New South Wales. Western Australia had the lowest ratio of deaths in the pandemic to their share of the 2021 population. It is of note that deaths of people born in Australia or in the United Kingdom and Ireland only show an increase from Wave 3.

Comment

- Despite some deficiencies, these data can inform action to address similarly poor outcomes from future infection outbreaks among those at the oldest ages, and in particular those from born in a non-English speaking country, and for whom English is a second language.

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Suggested citation

Public Health Information Development Unit (PHIDU). Deaths from COVID-19: largely an eastern states phenomenon. Adelaide: PHIDU, Torrens University Australia, August 2022

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Deaths from COVID-19: largely an eastern states phenomenon

Background

The data used in this Fact sheet were provided by the Australian Bureau of Statistics (ABS) as a consultancy, allowing earlier access to the data than normally afforded. Importantly, the data were coded to birthplace, as Australian- or overseas-born, with further coding of the region of birth for the latter group. This regional break-down has enabled the analysis to show the variation in the rate of death between people born in, say Southern Europe, or Eastern Europe, or North Africa. Coding to the wave of the pandemic and state/territory of death also showed variations in death rates over time between the states.

Although the ABS also coded the place of death (as Home, Aged care or Hospital), they were unable to distinguish between deaths occurring in a hospital for those who normally lived 'at home' from those who normally lived in aged care. This prevented an analysis of deaths in aged care by wave and state, when it is clear that there have been variations in the timing and onset of deaths between New South Wales and Victoria, between those in/not in aged care.

Data such as these are invaluable for informing action to address similarly poor outcomes from future infection outbreaks among those at the oldest ages, and in particular those born in a non-English country and for whom English is a second language.

Definitions and Methods

The period of the data is from January 2022 to May 2022, for deaths received by the ABS, who provided the data to PHIDU, by mid-June 2022 that were coded as deaths from COVID-19 – see <https://www.abs.gov.au/methodologies/provisional-mortality-statistics-methodology/jan-apr-2022>.

The data have been provided by discreet periods, related to outbreaks within the pandemic period, referred to as waves 1, 2, 3 and 4. Dates of the waves are:

- Wave 1 – March to May 2020
- Wave 2 – June to November 2020
- Wave 3 – July to December 2021
- Wave 4 – January to May 2022.

Note that, with respect to wave 4, one commentator has noted that 'COVID-19, however, has already had three large waves this year (omicron BA.1, BA.2 and now BA.5)¹. And that Wave 4 is continuing beyond the period of these data, with further large numbers of deaths in June (up from 6,102 as in the data used here as supplied by ABS in early July, to 8,219 deaths at the end of July²) and July 2022.

Data caveats of note include that:

- Data are presented by state of death occurrence (as opposed to usual residence). The country of birth was as coded by the ABS to the Major Group level in the Standard Classification of Countries³. The population used as a denominator to calculate rates for birthplace regions is the 2021 Place of Usual Resident Population.
- Data have not been age-standardised, a process which is undertaken to adjust for differences in the age profile of regional areas for which data are available
- The total numbers of deaths quoted for a particular age group, or state, may vary throughout this Fact sheet, as tables involving disaggregation by wave, age and state/territory can have many cells suppressed, to maintain confidentiality of those who died.

¹ Peter Collignon, article in the Australian Financial Review, August 4 issue.

² Australian Bureau of Statistics (ABS), COVID-19 Mortality in Australia: Deaths registered until 30 June 2022. Available from <https://www.abs.gov.au/articles/covid-19-mortality-australia-deaths-registered-until-30-june-2022>; last viewed 4 August 2022

³ Australian Bureau of Statistics (ABS), Standard Classification of Countries (SACC). Available from <https://www.abs.gov.au/statistics/classifications/standard-australian-classification-countries-sacc/latest-release>; last viewed 1 August 2022

Results

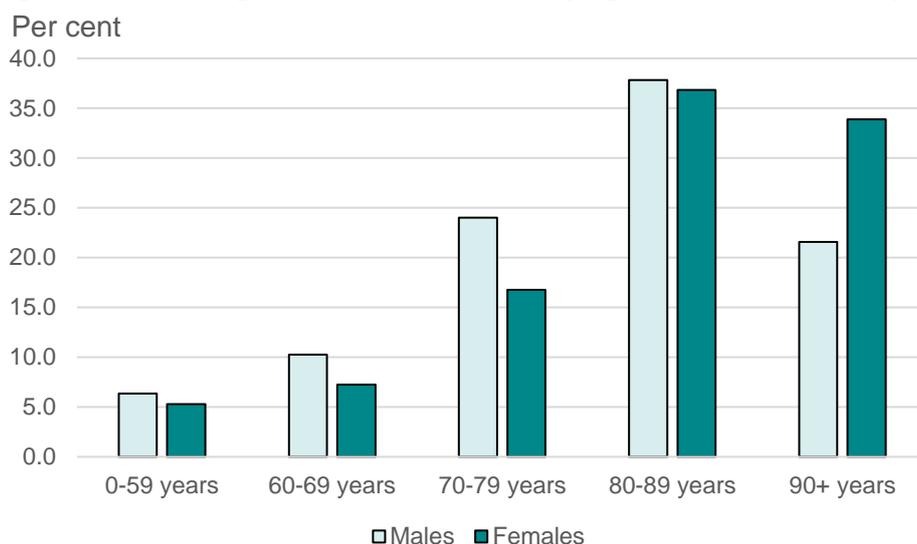
By sex and age

Some 6,129 deaths due to COVID-19 were registered in Australia over the period from March 2020 to May 2022⁴.

There were more deaths of males than females overall, with males comprising 58% of all deaths.

Male deaths predominated in the ten-year age groups 60 to 69 and 70 to 79 years, with similar numbers of males and females at ages 80 to 89 years, the age group with the highest proportion of deaths. The reverse was the case in the 90 years and over age group (an age group with nearly twice as many females as males), with 57% more females than males dying from COVID-19 (Figure 1).

Figure 1: Percentage of COVID-19 deaths by age, March 2020 to May 2022, Australia



The data for Figure 1 are available [here](#).

Of jurisdictions with more than 100 deaths;

- NSW had higher proportions of deaths of males and of females at ages under 60 years; and
- Victoria had the highest proportion of male deaths, and South Australia the highest proportion of female deaths, of people aged 90 years and over.

Distribution by State and Territory

The largest number of deaths and the highest rate of death was recorded in Victoria, and the lowest in Western Australia (Table 1). The majority (81.1%) of the deaths at all ages from COVID-19 over the pandemic period were in Victoria (43.6%, 70% above their share of the population) and New South Wales (37.5%, 18% above their share of the population).

Table 1: Number and rate of COVID-19 deaths by State/Territory, March 2020 to February 2022

| | NSW | Vic | Qld | SA | WA | Tas | NT | ACT | Aus |
|----------------------------|-------|-------|------|------|------|------|------|------|-------|
| Deaths (no.) | 2,300 | 2,673 | 698 | 223 | 92 | 57 | 14 | 72 | 6,129 |
| Rate per 10,000 population | 2.82 | 3.99 | 1.35 | 1.26 | 0.35 | 1.05 | 0.57 | 1.69 | 2.39 |

By pre-existing condition

Of the 6,129 deaths due to COVID-19, three quarters (74.9%) had a pre-existing condition listed on the death certificate. The most commonly-recorded conditions were chronic cardiac conditions (37.6%) and dementia (31.3%). Data for other conditions are available [here](#).

⁴ Data are preliminary and subject to revision, as deaths occurring in May 2022 and earlier but received later than mid-June by the ABS are coded

By socioeconomic disadvantage

There are marked differences in the majority of jurisdictions between the rates of death in the most disadvantaged areas when compared with the least disadvantaged areas.

Although the rate of COVID-19 deaths in South Australia was less than one-third that in Victoria, and 44% below the rate for Australia as a whole, the State had proportionally more deaths in the most disadvantaged areas, at ten times the rate in the least disadvantaged areas (Table 2). However, this, in part, reflects that South Australia has a lower than average proportion of its population in the least disadvantaged areas and an above-average proportion in the most disadvantaged areas. Queensland had the second highest rate ratio. The large equity gaps in these states suggest a difficulty in reaching the most disadvantaged populations, comprising Aboriginal and Torres Strait Islander people and other disadvantaged people. The gap was still evident late in the pandemic, with rate ratios of 9.9 and 6.2 in South Australia and Queensland, respectively, in the period from January 2022 to May 2022.

In the larger states of New South Wales and Victoria, deaths of socioeconomically disadvantaged populations would have been heavily influenced by deaths of people born in predominantly non-English speaking countries (see below).

Table 2: COVID-19 deaths by State/Territory and socioeconomic disadvantage, March 2020 to February 2022

| | NSW | Vic | Qld | SA | WA | Tas | ACT | Aust |
|--|-------------|-------------|-------------|--------------|-------------|------|------|-------------|
| Number of deaths | 2,278 | 2,660 | 691 | 223 | 88 | 55 | 70 | 6,082 |
| Rate of deaths per 100,000 population | 27.9 | 39.7 | 13.3 | 12.6 | 3.3 | 10.2 | 16.5 | 23.7 |
| Rate ratio: Most to Least disadvantaged | 3.47 | 3.07 | 6.26 | 10.02 | 3.55 | .. | .. | 3.50 |

.. Indicates that the rate ratio could not be calculated due to the number of deaths being too small to publish

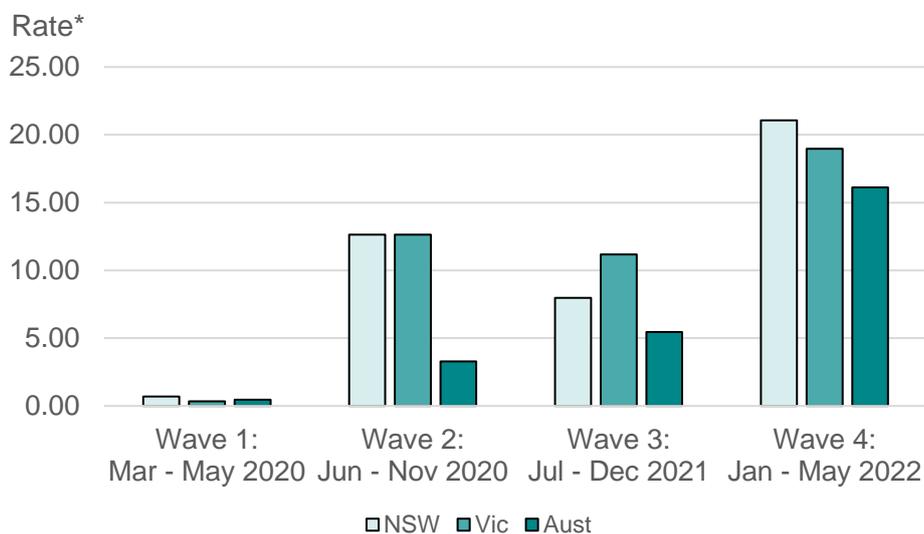
Note: The IRSD is based on 2016 Census data and populations in the five groupings (quintiles) used to calculate the rates are at June 2020.

Additional data for Table 1 are available [here](#).

All ages by Wave

For Australia overall, the rate of deaths increased substantially from Wave 1 to Wave 2, with a further increase to Wave 3; the largest increase was in Wave 4 (Figure 2 and Table 3). Of note is the lower rate of deaths in Wave 3 in New South Wales when compared with Victoria, and the reverse in Wave 4. Victoria also had the largest number of deaths.

Figure 2: Rate of COVID-19 deaths by Wave, New South Wales, Victoria and Australia, March 2020 to May 2022



¹Rate is the number of deaths per 100,000 population

As noted above, the majority (81%) of the deaths at all ages from COVID-19 over the pandemic period were in New South Wales (37.4%) and Vic (43.8%). These proportions varied over the life of the pandemic to the end of May 2022. For example, 48.6% of deaths from COVID-19 in Wave 1 were recorded in New South Wales, with 19.8% in Victoria: however, there were only 113 deaths recorded in this wave, 56 in New South Wales and 22 in Victoria. Almost all (99.0%) deaths in Wave 2, and over half (52.5%) in Wave 3, were of people in Victoria. Wave 4 saw more deaths in New South Wales than in Victoria.

Overall, Victoria and New South Wales had more deaths from COVID-19 than their share in the population – 70% more in Victoria and 18% more in New South Wales. Western Australia had the lowest ratio of deaths in the pandemic to their share of the 2021 population.

Table 3: Percentage of deaths from COVID-19, by state and the ACT, by Wave

| State/ACT | Wave 1 | Wave 2 | Wave 3 | Wave 4 | Pandemic (Total) | Share of population | Rate ratio ¹ |
|-----------|-------------|-------------|-------------|-------------|------------------|---------------------|-------------------------|
| NSW | 48.6 | np | 46.4 | 41.5 | 37.4 | 31.8 | 1.18 |
| Vic | 19.8 | 99.0 | 52.5 | 30.2 | 43.8 | 25.7 | 1.70 |
| Qld | np | np | np | 17.8 | 11.4 | 20.2 | 0.56 |
| SA | np | np | np | 5.6 | 3.6 | 7.1 | 0.51 |
| WA | 8.9 | np | np | 2.1 | 1.5 | 10.4 | 0.14 |
| Tas | 13.3 | np | np | 1.0 | 0.9 | 2.2 | 0.41 |
| ACT | np | np | 0.9 | 1.5 | 1.2 | 1.8 | 0.67 |
| Australia | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 1.00 |

¹Rate ratio is the rate of the number of deaths in the pandemic in the jurisdiction to the share of the 2021 Place of Usual Resident Population

Note: Details of periods in each wave are shown in Definitions, above

All ages by country of birth

The predominance in deaths from COVID-19 of people born overseas is immediately evident in that they represent the largest number of deaths (3,525 deaths) when compared with those born in Australia (2,577 deaths) (Table 4). That is, 57.8% of deaths were of people born Overseas in comparison with the 29.3% of the population. Put another way, there were nearly twice (1.97 times) as many deaths of people born overseas when compared with their share of the population: this disparity would be greater had we been able to calculate this figure excluding people born in predominantly English-speaking countries. This is a major equity gap, reflecting the cultural, social and economic disadvantage of many older people in this population group.

The largest variation from deaths from COVID-19 is seen for those born overseas in the regional grouping of Southern and Eastern Europe, with the 1,525 deaths representing a rate over 13 times the rate for all Australians. Within this regional group, South Eastern Europe (with 823 deaths, a rate of 404.3 deaths per 100,000 population) and Southern Europe (536 deaths, a rate of 269.7) had the largest number of deaths.

The rate of death from COVID-19 in these regional groupings of countries was 15.9 times the total rate in South Eastern Europe, 14.3 times in Eastern Europe (with 166 deaths), and 10.64 times in Southern Europe.

The extent of inequality in deaths from COVID-19 for people born overseas, both overall and in several regions, is further highlighted when the comparison of their rate of death is compared with the rate for those born in Australia. Under this comparison, the rate of deaths of people from countries in the Southern and Eastern Europe group is over 20 (22.5) times that for the Australian-born and higher again for those born in South Eastern Europe and Eastern Europe, with rate ratios of 26.7 and 23.9, respectively.

Others with death rates markedly above those for the total and the Australian-born population are people born in North Africa and the Middle East (5.6 and 9.4), North West Europe (1.8 and 3.0), Oceania and Antarctica (excluding Australia) (1.7 times the rate for all Australians and 2.87 times the

rate for the Australian-born), and Americas (1.4 and 2.4). Surprisingly, the rates in United Kingdom and Ireland were substantially above both comparators.

Although the rate for people born in Sub-Saharan Africa was 15% below the rate for all Australians (a rate ratio of 0.85), their rate of death was 2.4 times the rate for the Australian-born.

Table 4: Number and Rate of COVID-19 deaths by Country and Region of Birth, March 2020 to May 2022

| Country of birth | Number | Rate ¹ | Variation from the | |
|----------------------------------|--------|-------------------|-------------------------|------------------------------|
| | | | Total rate ² | Australian rate ² |
| Australia | 2,577 | 15.1 | 0.60 | 1.00 |
| Overseas born | 3,525 | 50.0 | 1.97 | 3.31 |
| Total | 6,102 | 25.4 | 1.00 | 1.67 |
| Oceania and Antarctica | 286 | 43.5 | 1.72 | 2.87 |
| North-West Europe | 626 | 46.0 | 1.82 | 3.04 |
| United Kingdom and Ireland | 470 | 40.7 | 1.60 | 2.68 |
| Other North-West Europe | 156 | 76.6 | 3.02 | 5.06 |
| Southern and Eastern Europe | 1,525 | 340.3 | 13.42 | 22.47 |
| Southern Europe | 536 | 269.7 | 10.64 | 17.81 |
| South Eastern Europe | 823 | 404.3 | 15.94 | 26.70 |
| Eastern Europe | 166 | 361.8 | 14.27 | 23.89 |
| North Africa and the Middle East | 476 | 143.0 | 5.64 | 9.44 |
| North Africa | 76 | 175.9 | 6.94 | 11.62 |
| Middle East | 400 | 138.1 | 5.44 | 9.12 |
| South-East Asia | 220 | 21.4 | 0.84 | 1.41 |
| North-East Asia | 134 | 15.8 | 0.62 | 1.05 |
| Southern and Central Asia | 120 | 10.6 | 0.42 | 0.70 |
| Americas | 83 | 36.4 | 1.43 | 2.40 |
| Sub-Saharan Africa | 55 | 21.6 | 0.85 | 1.43 |

¹Rate is the number of deaths per 100,000 population

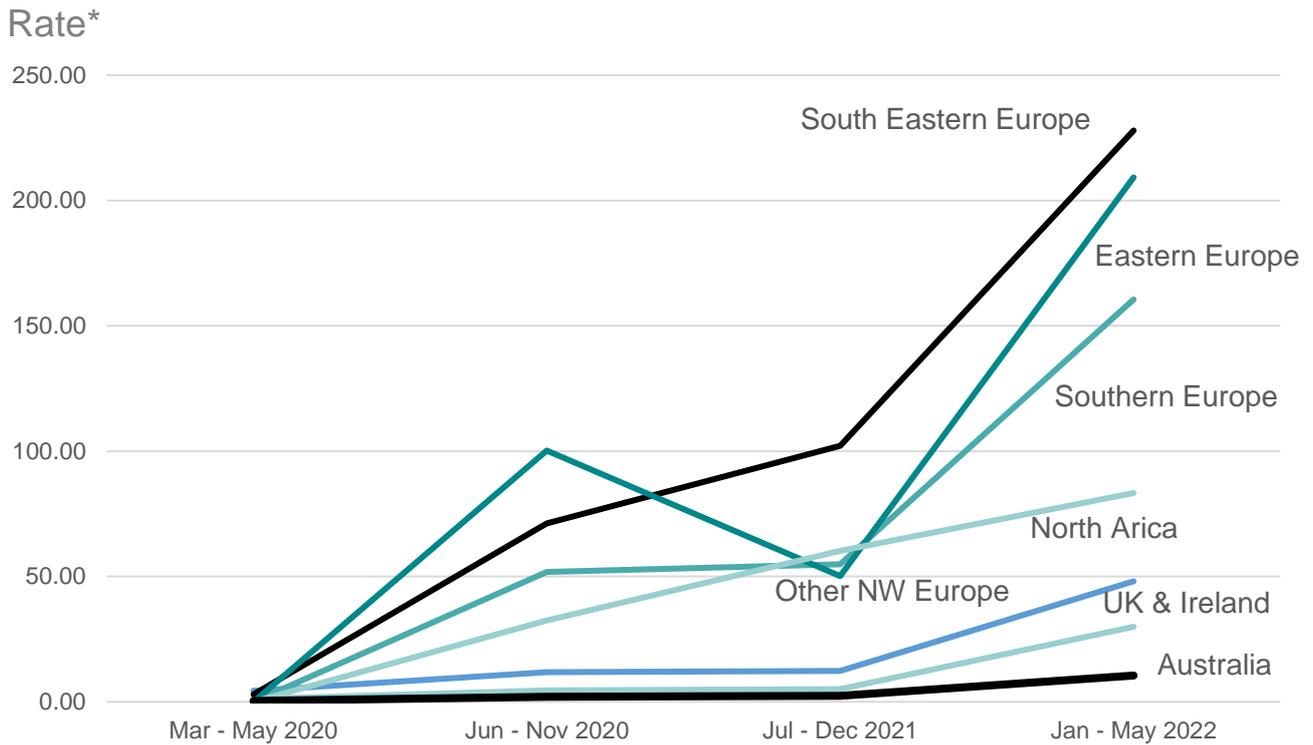
²Variation shows the rate ratio – the ratio between the rate in each country/regional grouping and the Total rate for Australia: numbers below 1 indicate a lower rate, and those above 1 indicate a higher rate

³Variation shows the rate ratio – the ratio between the rate in each country/regional grouping and the rate for those born in Australia: numbers below 1 indicate a lower rate, and those above 1 indicate a higher rate

All ages by country of birth and wave

Charting the data from the previous table over time, by wave, highlights the sharper increase in death rates from Wave 3 to Wave 4 (Figure 3): as it is for all of Australia, this chart ‘hides’ the impact of the different experiences in Victoria and New South Wales, as shown in Figure 4. It also shows again that the regions of country of birth with the highest rates of death from COVID-19 were in Europe – South Eastern Europe, Eastern Europe and Southern Europe. In each case, rates increased sharply from the first deaths in Wave 1 – March to May 2020. It is of note that deaths of people born in Australia or in the United Kingdom and Ireland only increase from Wave 3 – July to December 2021: there was a similar pattern among those born in Other North West Europe.

Figure 3: Rate of COVID-19 deaths in Selected Countries and Regions of Birth, Australia, March 2020 to May 2022



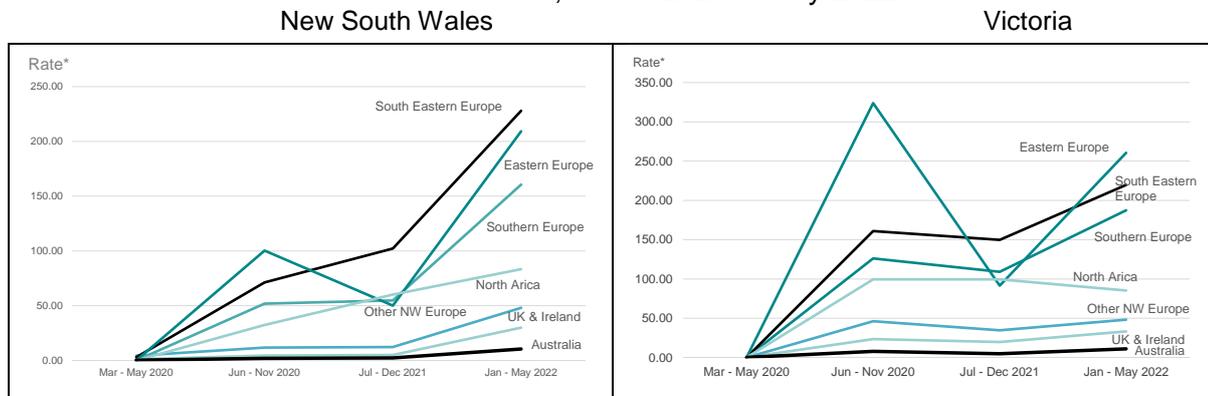
¹Rate is the number of deaths per 100,000 population

As noted earlier, the majority (81.1%) of the deaths at all ages from COVID-19 were in NSW (37%) and Vic (44%). As a result, the birthplace regions with the highest death rates in New South Wales and Victoria are similar to those in Australia (Figure 4).

There are, however, some major differences between these two states. For example, in:

- Victoria, death rates in Wave 2 – June to November 2020 were very high, whereas in New South Wales rates were very low until Wave 3 – July to December 2021;
- Victoria, the rates for those born in Eastern Europe were above those for South Eastern Europe, with the reverse the case in New South Wales; and, in
- New South Wales, rates for those born in North Africa rose more sharply than those from Southern Europe, before increasing at a slower pace.

Figure 4: Rate of COVID-19 deaths in Selected Countries and Regions of Birth, New South Wales and Victoria, March 2020 to May 2022



¹Rate is the number of deaths per 100,000 population

Although not shown here, the age and sex profiles of those dying in New South Wales, Victoria and Australia were consistent across the age groups, as supplied by the ABS, of 0 to 59, 60 to 69, 70 to 79, 80 to 89 and 90 years and over.

People aged 65 years and over by country of birth

The majority (90.5%) of deaths in Australia from COVID-19 were recorded for people aged 65 years and over. The proportions in New South Wales and Victoria were similar, at 87.5% and 92.7%, respectively. Of the deaths at ages 65 years and over, the highest proportions were in Victoria (44.7% of the national total), New South Wales (36.3%) and Queensland (11.4%) (Table 5).

Table 5: Deaths from COVID-19 by broad age group and State/Territory, March 2020 to May 2022

| Age (yrs) | NSW | Vic | Qld | ACT | Others | Aust |
|-----------|-------------|-------------|-------------|-----|--------|-------|
| 65+ | 36.3 | 44.7 | 11.4 | 0.4 | 7.2 | 100.0 |
| All ages | 37.5 | 43.6 | 11.4 | 1.2 | 6.3 | 100.0 |

Although people aged 65 years and over and born overseas accounted for 37.1% of the Australian population at the 2021 Census, they represented 58.1% of deaths from COVID-19 to May 2022. That is, the number of deaths was 1.57 times their proportion in the population.

Proportions in New South Wales and Victoria were similar – 38.3% born overseas and 60.0% of deaths (deaths were 1.57 times their proportion in the population) and 41.0% born overseas and 58.1% of deaths (deaths were 1.42 times their proportion in the population), respectively.