

SENATE SELECT COMMITTEE
January 2022

FAS BRIEF – KEY INFORMATION

OHPR Brief XX

Enhanced data on Omicron trends deaths/ICU hospitalisation

KEY FACTS

Data source and caveats

The following data has been extracted from SPRINT-SARI on 18 January 2022 and represents cases with an ICU admission date of 1 July 2021 to 16 January 2022.

- *SPRINT-SARI is a sentinel system that collects detailed data on the characteristics and outcomes of interventions for patients admitted to ICUs or High Dependency Units with COVID-19 at participating sites across Australia.*
- *In the absence of comprehensive genetic sequencing data capture, timeframe has been used as a proxy for the 'Delta wave' and 'Omicron wave' respectively. For the purposes of this analysis, ICU admission dates from 1 July to 14 December 2021 are considered to be predominantly driven by Delta. Those with admission dates after 14 December 2021 are considered most likely to be driven by the Omicron strain.*
- Preliminary analysis suggests that the profile of people being admitted to ICU with COVID-19 attributed to Omicron differs slightly from those admitted as a result of Delta infection.
- Consistent with previous analyses, it is clear that unvaccinated individuals are at a greater risk of poor health outcomes requiring management and admission to ICU. This is the case regardless of age or which strain of COVID-19 people are infected with. The analysis used an attributable risk approach to estimate the proportion of disease that would be reduced if the whole population had been vaccinated.
 - During the Omicron wave, of those aged under 50 years, 67% of ICU admissions could have been prevented by being fully vaccinated, compared to 49% of those aged 50 years and over.
 - For the Delta wave, 98% of ICU admissions could have been avoided if fully vaccinated, compared to 93% for those aged 50 years and over.
- *Public health implications and messaging:*
 - Continued vaccination uptake, including boosters, is important, especially among those under 50 years of age.
 - In addition to maintaining high levels of vaccination among those aged over 50 years, earlier treatment options should be considered, especially among those with comorbidities who are at increased risk of ICU admission and poor health outcomes.

BACKGROUND

Supporting data

Vaccination Status

Of cases admitted to ICU from 1 July to 14 December 2021 (representing the Delta wave), 76% of those aged less than 50 were unvaccinated. This trend has continued during the current wave, with the majority (53%) of cases aged less than 50 having not received an effective vaccine dose (Table 1).

- Given the staged vaccination rollout in 2021, with older age groups being eligible for vaccination first, it is expected that a larger proportion of cases during the Delta wave, particularly in those aged under 50, are unvaccinated. Therefore, comparisons of vaccine effectiveness between the two waves should be undertaken with caution. For instance, while there is a larger proportion of cases in ICU who are fully vaccinated in the Omicron wave compared to the Delta wave (46% vs. 5%), this is likely due to having a more vaccinated underlying population during the current wave rather than a difference in the effect of the vaccine on the two variants.

Table 1. COVID-19 cases admitted to ICU at participating SPRINT SARI sentinel sites by vaccination status and age group, 1 July 2021 – 16 January 2022

Vaccination Status	1 Jul to 14 Dec 2021			15 Dec 2021 to 16 Jan 2022		
	<50 year	≥50 years	Total	<50 year	≥50 years	Total
Fully vaccinated	20	95	115	40	162	202
	2%	7%	5%	33%	51%	46%
Partially vaccinated	60	199	259	5	10	15
	7%	14%	11%	4%	3%	3%
No effective vaccine	676	892	1,568	64	130	194
	76%	64%	68%	53%	41%	44%
Unknown	139	214	353	11	18	29
	16%	15%	15%	9%	6%	7%
Total	895	1,400	2,295	120	320	440

Comorbidities

During the Delta wave, of cases aged 50 years and over, 69% had at least one of the specified comorbidities; and in the current wave, 76% of cases had at least one comorbidity. For those aged less than 50 years, the majority of cases in ICU during both the Delta and Omicron waves had at least one comorbidity, with 54% and 57% of cases, respectively.

- Listed comorbidities include cardiac disease, chronic respiratory condition, diabetes, obesity, chronic renal disease, chronic neurological condition, malignancy, chronic liver disease and immunosuppression.

Table 2. Number of comorbidities in COVID-19 cases admitted to ICU at participating SPRINT SARI sentinel sites by age group, 1 July 2021 – 16 January 2022[^]

Number of comorbidities	<50 years		≥50 years	
	1 Jul to 14 Dec 2021	15 Dec 2021 to 16 Jan 2022	1 Jul to 14 Dec 2021	15 Dec 2021 to 16 Jan 2022
None	346	47	356	73
	46%	43%	31%	24%
One or more	409	62	807	232
	54%	57%	69%	76%
Two or more	145	30	403	133
	19%	28%	35%	44%
Three or more	37	10	159	57
	5%	9%	14%	19%

[^]Excludes cases for which comorbidity information was unavailable, including 140 cases in the Delta wave and 11 cases in the Omicron wave for those aged under 50 years; and 237 cases in the Delta wave and 15 cases in the Omicron wave for those aged 50 years and over.

Deaths

Hospitalisation outcome was available for 91% (2,070/22 995) of cases admitted to ICU between 1 July and 14 December 2021, and of these 17% (345/2,070) of cases were reported to have died. Where comorbidity information was available, 81% of those who died had at least one of the specified comorbidities.

- For cases in the current wave, i.e. those admitted to ICU from 15 December 2021 to 16 January 2022, outcome information is unknown for 71% of cases, and is therefore not reliable for analysis at this stage.

Table 3. Number of comorbidities in COVID-19 cases who died at participating SPRINT SARI sentinel sites, 1 July 2021 – 14 December 2021[^]

Number of comorbidities	Deaths
None	56
	19%
One or more	239
	81%
Two or more	152
	52%
Three or more	71
	24%

[^]Excludes 50 deaths for which comorbidity information was unavailable.

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