







## COVID-19 and Children's Surveillance Report

Number 16

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#### **Aim**

- To provide a weekly summary on the latest COVID-19 surveillance data in children and adolescents, with a focus on Australian States and Territories as well as specific countries that are relevant to the Australian context because of their size, COVID-19 epidemiology, the mitigation measures in place and data availability.
- Data on Multisystem Inflammatory Syndrome in Children (MIS-C), otherwise known as Paediatric Inflammatory Multisystem Syndrome (PIMS-TS), is included where available.

#### **Methods**

- This report is updated weekly using the most recently available data from government websites.
- Excess mortality data are sourced from EuroMOMO and Our World in Data. Excess mortality refers to the number of deaths from all causes during a crisis above and beyond what we would have expected to see under 'normal' conditions. In this case, we are interested to compare the number of deaths during the COVID-19 pandemic compared to the expected number of deaths had the pandemic not occurred.
- Caveat: The number of infections in both unvaccinated and vaccinated children increases if school mitigation measures are few, or there are changes to testing criteria and the adoption of screening in schools which identifies asymptomatic cases. The number of cases and the age distribution of cases will be biased towards the age groups that are tested most.

#### **Overview**

- The Omicron variant of concern<sup>2</sup> has been detected in 179 countries<sup>3</sup> (up from 177 countries in the last report) and is the predominant variant worldwide due to its high transmissibility. Subvariant BA.2 has replaced BA.1 as the predominant Omicron subvariant in most regions included in this report, including New South Wales (NSW), Canada, Denmark, the Netherlands, South Africa, the UK and the USA. BA.1 remains predominant in Finland. Genomic surveillance data is not publicly available for the Australian Capital Territory (ACT), Tasmania, Victoria and Singapore.
- With the predominance of Omicron in many settings and with vaccines having lower effectiveness against infection for this variant, the age distribution of infection changed. Early reports from NSW, the UK and Denmark, regions which have intensive surveillance, indicate that transmission mainly occurred in 20-29 year olds initially, with infections in children and adolescents increasing as schools reopened after the end-of-year holidays, which in most settings have now declined.

#### School mitigation measures

- All countries in this report reopened schools during the Omicron period.
- School mitigation measures include rapid antigen testing (RAT) and multiple measures in many countries.
- Victoria had a mask mandate for year 3 onwards whereas NSW mandated masks for secondary school students. Both states removed school mask mandates in late Feb 2022, except for primary schools in Victoria. No Nordic countries have had mask mandates for children and several countries have never recommended masks for children. England does not have a mask mandate in most places including schools, whereas Scotland requires masks for specific circumstances in secondary schools. Singapore and South Africa require masks in schools. The ACT and Tasmania require all school staff and secondary school students to wear masks.
- Finland has removed all restrictions on children and Denmark has lifted all restrictions since Feb 2022. The Netherlands and England have removed most restrictions.
- Vaccines generally have lower effectiveness against Omicron infection but are still highly effective against severe disease.
- All countries included in this report are offering vaccination to primary school-age children and adolescents, except for South Africa. First dose coverage rates range from ~6-60% among 5-11 year olds and ~58-99% among 12-15 year olds.







Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid

GISAID. Tracking of Variants. Munich, Germany: GISAID; 2022. https://www.gisaid.org/hcov19-variants/

#### **Snapshot summary**

- Following the peak in infections and reopening of schools in Victoria and NSW in Feb 2022, infections, hospitalisations, ICU admissions and deaths declined with subvariant BA.1. This pattern was similarly observed after schools reopened in 2020 with the ancestral strain, and in 2021 with the Delta variant. School infections occur but there is no evidence that they drive community transmission, as the peak of the BA.1 wave occurred during the school holidays and reflected broader community transmission. However, infections amongst school-age children increased in the ACT and Tasmania following school reopening in Feb 2022. Infections peaked in the ACT in mid-Mar 2022 but continue to increase in Tasmania as BA.2 becomes more prevalent.
- Following the Omicron wave, seroprevalence surveys in the UK found that 97.6% of children aged 8-11 years have prior infection with SARS-CoV-2 by the third week of Feb 2022, highlighting the high transmissibility of BA.1.4
- Fine age category breakdown by year of age is not available for children except for England and The Netherlands which both show an age-dependent increase in infection rates up to about 13 years of age. This may be due to younger children being more efficient at clearing the virus.<sup>5</sup>
- Some countries had an increase in cases in children and adolescents with schools reopening during the Omicron period, which mostly declined within a few weeks. Similarly, hospitalisations briefly increased in children, but this has been a combination of admission for COVID-19 treatment and incidentally testing positive when admitted for an unrelated condition. An analysis of paediatric hospitalisation data in England (Dec 2020 to Jan 2022 spanning Alpha, Delta and Omicron waves) found that 6:
  - Amongst children hospitalised with COVID-19, 10% (15/147) were admitted with severe COVID-19 presenting as pneumonitis, mainly during the Alpha wave (10/15, 67%) and in older children and adolescents (9/15, 60% aged 12-18 years) with comorbidities (11/15, including 8 with immunosuppression). One third (49/147, 33%) had SARS-CoV-2 as a likely contributor to hospitalisation. The remaining 56% (83/147) incidentally tested positive for SARS-CoV-2 when admitted for an unrelated non-infectious condition.
- The increase in paediatric hospitalisations during the Omicron wave was seen more so in the 0-4 year old age group but was higher in 0-2 years compared to 3-4 year olds.<sup>7,7</sup> In the USA, the rate of hospitalisations during the peak of the Omicron wave (first week of January 2022) was highest in children aged 0-4 years at 14.5 per 100,000 children (five times that of Delta peak of 2.9). Hospitalisation rates were lowest in the 5-11 year age group at approximately 3 per 100,000, which is the lowest of all age groups. The monthly hospitalisation rate of unvaccinated adolescents aged 12-17 years was six times higher than fully vaccinated adolescents (23.5 vs 3.8 per 100,000). Hospitalisations in children aged 0-4 years decreased by mid-February 2022 to 3.9 per 100,000. Recent data is not yet available for the 5-11 and 12-17 year age groups. 9
- An analysis of incidence rates and clinical outcomes of children <5 years infected with the Omicron and Delta variants in the US found that 10:
  - o Incidence rates increased from 1.0-1.5 (Delta period) to 2.4-5.6 cases per 1000 persons per day (Omicron emergence). Monthly rates peaked in Jan 2022 during the Omicron period at 8.6 cases per 1000 persons per day.
  - Omicron infection was higher in children aged 0-2 years compared to 3-4 years.
  - Risks for severe clinical outcomes in children infected with Omicron were significantly lower than those with Delta.
- During the Omicron BA.1 surge, the clinical manifestations in children have been similar to other common paediatric respiratory viral infections. Croup has been a common reason for admission in the 0-4 year age group. 11
- Data from the US and UK both show that despite a large increase in infections during BA.1, the number of MIS-C cases did not increase. MIS-C declined in the USA. 12 A UK study found that compared with the Alpha wave, there were fewer cases of MIS-C relative to SARS-CoV-2 infections during both the initial and subsequent Delta waves, and continuing into the Omicron wave despite extensive spread of BA.1. 13 Compared to the Alpha wave, the proportion of MIS-C cases to SARS-CoV-2 infections were lower in pre-vaccine Delta, post-vaccine Delta and Omicron waves, at 56%, 66% and 95% lower respectively. 14
- In Europe, there is no substantial increase in excess mortality in children aged 0-14 years during the Omicron period. 15
- For infections in educational staff, the Netherlands found similar rates of infection in educational staff vs the general adult population. During 7 to 13 Mar 2022, of 29.677 people tested and working in education or childcare, 66.8% were positive. In comparison, 66.5% of the 559,493 adults tested were positive in the same week. 16

Astional Institute for Public Health and the Environment (RIVM). Research results from GGD data about children and COVID-19. Amsterdam, The Netherlands: Ministry of Health, Welfare and Sport; 2022. https://www.nivm.nl/en/coronavirus-covid-19/children-and-covid-19/research-results-ggd-data







<sup>4</sup> Office for National Statistics (ONS). Coronavirus (COVID-19) antibody and vaccination data for the UK. London, United Kingdom: ONS; 2022. https://www.ons.gov.uk/peoplepopulati

Mallapaty S. Kids show mysteriously low levels of COVID antibodies. Nature. 10 March 2022. https://www.nature.com/articles/d41586-022-00681-8

<sup>&</sup>lt;sup>6</sup> Zsigmdond B, Breathnach AS, Mensah A, et al. Hospitalisations in children with confirmed SARS-COV-2 infection during December 2020 to January 2022: retrospective single-centre cohort, London, England. SSRN. 2022. https://dx.doi.org/10.2139/ssrn.4038380

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Arks KJ, Whitaker M, Anglin O, et al. Hospitalizations of infants and children aged 0.45-years with laboratory-confirmed COVID-19 - COVID-NET, 14 States, March 2020 - February 2022. MMWR. 2022:71(11);429-36. https://www.cdc.gov/mmwr/volumes/71/wr/mm7111e2.htm?s cid=mm7111e2 w 
Own Wang L, Berger MA, Kaelber DC, et al. Incidence rates and clinical outcomes of SAPS-CoV-2 infection with the Omicron and Delta variants in children younger than 5 years in the US. JAWA Pediatrics, 2022. https://doi.org/10.1001/jamapediatrics.2022.07450.

<sup>&</sup>quot;Omicron drives record cases of child COVID hospitalisations. Financial Times. 17 January 2022. https://www.ft.com/content/28be9d3f-0b12-dc33-bda9-fbf1375c0b7e

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Does Omicron hit kids harder? Scientists are trying to find out. Nature. 04 February 2022. https://www.medrxiv.org/content/10.1101/2022.03.13.22272267v1

Cohen JM, Carter MJ, Cheung CR, et al. Lower risk of multisystem inflammatory syndrome in children (MIS-C) with the Delta and Omicron variants of SARS-CoV-2 [Preprint]. medRxiv. 2022. https://www.medrxiv.org/content/10.1101/2022.03.13.22277267v2 15 EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps

• There is no evidence that school re-opening during the Omicron BA.1 period (and BA.2 for Denmark) has increased community transmission or increased excess mortality in all ages. Where reported, excess mortality has declined, except for temporary increases in Denmark and the Netherlands which are now declining.

#### Summary of COVID-19 epidemiology in children and adolescents

| Country        | Predominant<br>variant | Cases        | Hospitalisations | MIS-C/PIMS-TS | Deaths^               |
|----------------|------------------------|--------------|------------------|---------------|-----------------------|
| ACT, Australia | Not reported           | ↓            | $\downarrow$     | Not reported  | 0                     |
| NSW, Australia | Omicron BA.2           | $\downarrow$ | Stable           | Not reported  | 4 <sup>b</sup>        |
| TAS, Australia | Not reported           | 1            | Not available    | Not reported  | 0                     |
| VIC, Australia | Not reported           | Stable       | Not available    | Not reported  | <b>2</b> <sup>b</sup> |
| Canada         | Omicron BA.2           |              | <b>^*</b>        | Not reported  | 36 <sup>b</sup>       |
| Denmark        | Omicron BA.2           | Stable       | Stable           | 44 cases⁺     | <b>7</b> <sup>b</sup> |
| England, UK    | Omicron BA.2           | $\downarrow$ | Stable           | Not reported  | 90 <sup>b,#</sup>     |
| Finland        | Omicron BA.1           | $\downarrow$ | Stable           | Not reported  | 0                     |
| Netherlands    | Omicron BA.2           | $\downarrow$ | Stable           | Not reported  | Not reported          |
| Scotland, UK   | Omicron BA.2           | $\downarrow$ | <b>↑</b>         | Not reported  | 5ª,#                  |
| Singapore      | Not reported           | ↓            | $\downarrow$     | 5 cases-      | 0                     |
| South Africa   | Omicron BA.2           | Stable       | <b>↓*</b>        | Not reported  | 848 <sup>b</sup>      |
| USA            | Omicron BA.2           | Stable       | Stable           | 7880 cases    | 962 <sup>b</sup>      |

Note: Trends and values are for children only, unless otherwise specified.







<sup>\*</sup>Available data includes both children and adults.

<sup>\*</sup>During the Omicron period (1 Nov 2021 - 1 Feb 2022). \*Last reported 8 Nov 2021.

<sup>^</sup>Age range for child deaths between 0-19y except Scotland (0-14y) and USA (0-17y). Deaths adue to COVID-19 or bwith COVID-

<sup>19. #</sup>In the past year.

## Summary

- In Australia, COVID-19 Public Health and Social Measures (PHSM) and trends differ by State/Territory.
  - o Nationwide, approximately 52.6% of 5-11 year olds and 84.9% of 12-15 year olds have received at least one dose of vaccine.
  - o From early Apr 2022, a second booster dose is offered to all aged 65 years and older and high-risk groups, including Indigenous Australians 50 years and older, individuals living in aged or disability care and immunocompromised individuals aged 16 years and older.
  - o In the week ending 27 Mar 2022, approximately 23.5% of 0-4 year-olds, 36.4% of 5-11 year-olds and 37.2% of 12-17 year-olds reported testing for RAT. Self-reported positivity across all age groups was 18.3% for PCR and 7.9% for RAT.<sup>17</sup>
- The ACT closed schools for holidays from mid-Dec 2021 and reopened in late Jan 2022.
  - o Restrictions eased further to limit mask-wearing to certain settings only and advice to work from home was removed in mid Mar 2022.
  - Schools reopened with multi-layered mitigation strategies in place, including cohorting, mask-wearing for all staff and secondary school students, improvement of ventilation systems and free provision of RATs to staff and students. RATs are now provided as needed.
  - o Approximately 80% of 5-11 year olds and >99% of 12-15 year olds have received at least one dose of vaccine.
  - o Case numbers are increasing, with currently ~1100 confirmed cases per day in all ages.
    - Infections are highest in the 18-39 year age group and lowest in the 65+ year age group. Children across the state were offered RATs in the first 8 weeks of school reopening, during which time they were likely to be over-represented in case numbers and the percentage contribution to total infections due to increased testing.
  - Hospitalisations are decreasing in children but admission rates are slightly higher than the 18-64 year age group. It is unknown how many are incidental. Of all the hospitalisations in <17 years, three quarters are unvaccinated.</li>
  - o There have been no deaths in children throughout the entire pandemic.
- NSW schools closed for holidays from mid-Dec 2021 and reopened in late Jan 2022. Early childhood centres have remained open.
  - Restrictions eased further to remove mandatory mask-wearing and advice to work from home in mid Feb 2022.
  - Schools reopened with multi-layered mitigation strategies in place, including twice-weekly surveillance RAT, mandatory third vaccine dose for staff, supply of air-purification devices, mask-wearing and cohorting. From late Feb and early Mar 2022, RATs are only used for symptomatic testing of students and staff (no longer for surveillance), masks are no longer required in most school settings and cohorting removed.
  - o Approximately 50% of 5-11 year olds and 83% of 12-15 year olds have received at least one dose of vaccine.
  - o Case numbers are declining, with currently ~17,500 confirmed cases per day in all ages. Omicron subvariant BA.2 is the predominant variant.
    - Infections are highest in the 10-19 year age group and lowest in the 60+ year age group. Finer age breakdown is needed to understand if these are school-age children or 18-19 year olds (young adults). Children across the state were offered weekly RATs until the end of Feb 2022, during that time they were likely to be over-represented in case numbers and the percentage contribution to total infections due to increased testing.
  - o There is no data on hospitalisation trends by age, but overall hospitalisations are stable.
  - $\circ$  Four children have died with COVID-19 throughout the entire pandemic.
- Tasmania closed schools for holidays from mid-Dec 2021 and reopened in early Feb 2022.
  - o Restrictions eased further to limit mask-wearing in certain settings only.
  - Schools reopened with multi-layered mitigation strategies in place, including mandatory vaccination for staff, cohorting, mask-wearing for all staff and secondary school students, supply of air-purification devices and free provision of RATs to staff and students for symptomatic testing.
  - $\circ$  Approximately 64% of 5-11 year olds and 87% of 12-15 year olds have received at least one dose of vaccine.
  - Case numbers have increased and are peaking, with currently ~1800 confirmed cases per day in all ages.
    - Infections are highest in the 12-19 year age group, followed by the 5-11 age group and lowest in the 70+ age group. Children across the state are offered RATs through schools so are likely to be over-represented in case numbers and the percentage contribution to total infections due to increased testing.
  - Approximately 63% (27/43) of 0-4 year-olds, 20% (3/15) of 5-11 year-olds and 25% (3/12) of 12-15 year-olds admitted with COVID-19 were hospitalised for treatment of COVID-19.
  - o There have been no deaths in children throughout the entire pandemic.







<sup>17</sup> FluTracking, FluTracking Reports (Australia), New South Wales, Australia: FluTracking; 2022, https://info.flutracking.net/reports-2/australia-reports/

- Victoria closed schools for holidays from mid-Dec 2021 and they reopened in late Jan 2022. Term 1 school holidays commenced on 9 Apr. Early childhood centres have remained open.
   Restrictions have eased further to remove density limits for hospitality, mandatory mask-wearing and advice to work from home in mid-Feb 2022.
  - Schools reopened with multi-layered mitigation strategies in place, including twice-weekly surveillance RATs (for childcare, kindergartens and schools), mandatory third vaccine dose for staff, supply of air-purification devices and masks required for all staff and students grade 3 and above, and encouraged in younger students. From late Feb 2022, masks are only required indoors in primary schools for all staff and students in grade 3 and above.
  - o Approximately 56% of 5-11 year olds and 89% of 12-15 year olds have received at least one dose of a COVID-19 vaccine.
  - o Case numbers are stabilising, with currently ~9,600 confirmed cases per day in all ages.
    - Infections are highest in the 30-39 year age group, followed by 40-49 year olds. One million children are offered RATs twice weekly, so children are tested more and therefore likely to be over-represented in case numbers and the percentage contribution to all infections, although testing compliance is not known and the daily breakdown by age for PCR/RATs is not available.
    - Since 8 Jan 2022, both PCR and RAT positive results are considered positive cases.
  - There is no hospitalisation data available by age, but overall numbers in all ages are increasing.
  - o Two children have died with COVID-19 throughout the entire pandemic.
- In Europe and North America, the downward trend continues in many countries and regions, although some regions are experiencing a new increase due to both an increase in Omicron subvariant BA.2, which is more transmissible, and the easing of restrictions.
- Canada closed its schools for the holidays in Dec 2021 and they reopened in early to mid-Jan 2022.
  - o PHSM vary by province.
  - Approximately 57% of 5-11 year olds and 88% of 12-17 year olds have received at least one dose of vaccine.
  - o There was an initial steep increase in infections due to the Omicron (BA.1) variant followed by a steep downward trend in all age groups. BA.2 is now the predominant variant.
  - o There is no data on hospitalisation trends by age. Overall hospitalisations had increased before declining but are now increasing again.
  - o There have been 36 deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
  - o In the Province of British Columbia 18:
    - Infections are low and stable, however, due to changes in testing strategies since late Dec 2021, only PCR cases are included in daily numbers which will lead to an underestimate of the true incidence of cases.
    - Between late Dec 2021 to late Mar 2022, the hospitalisation rates amongst unvaccinated 5-11 and 12-17 year olds were 3.3 and 3.8 times higher than their vaccinated counterparts, while critical care admissions remain rare among school-age children (29 admissions since Jan 2020).
    - There have been no deaths among school-age children.
- Denmark closed its schools early for the end-of-year holidays and they reopened in early Jan 2022. Excess mortality in all age groups dramatically declined over the Omicron period but slightly increased before decreasing and stabilising over the past month. 19
  - Restrictions introduced due to the Omicron wave were eased in mid-Jan 2022. From 1 Feb, all restrictions have been lifted.
  - o Approximately 47% of 5-11 year olds and 82% of 12-15 year olds have received at least one dose of vaccine.
  - Total infection rates are stabilising in all age groups.
  - o Hospitalisations in children have remained relatively stable and very low, with a small increase in unvaccinated young children.
  - o There have been seven deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
- England reopened its schools in early Jan 2022 following the end-of-year holidays. Excess mortality in all age groups continues to decline over the Omicron period. 20
  - o Additional PHSM were reintroduced in late Nov 2021 which have been eased. Masks are no longer required in indoor places, including schools. RATs and PCR tests are no longer free from Apr 2022, except for those aged 75 years and older, immunosuppressed individuals and health/social care workers with symptoms.
  - Approximately 58% of 12-15 year olds and 68% of 16-17 year olds have received at least one dose of vaccine. Vaccination for 5-11 year olds commenced in late Feb 2022 but coverage data is not yet available.
  - o Infections across all age groups peaked in late Dec 2021 to early Jan 2022 with BA.1 and then decreased, which then increased with subvariant BA.2 but are now decreasing in all age groups.

<sup>19</sup> EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps
20 Sundhedsstyrelsen [Danish Health Authority]. Opdatering vedr. covid-19 vaccination of børn på 5-11 år [Update regarding COVID-19 vaccination of children aged 5-11 years]. Copenhagen, Denmark: Sundhedsstyrelsen; 2022. https://www.sst.dk/-/media/Udgivelser/2022/Corona/Vaccination/Notat-vaccination-af-boern-5-11-aar.ashx







<sup>18</sup> BC Centre for Disease Control. British Columbia COVID-19 Situation Report for K-12 Schools: March 2022 Update. British Columbia: Canada: Provincial Health Services Authority; 2022. http://www.bccdc.ca/Health-Info-Site/Documents/COVID\_sitrep/K12\_Situation\_Report/SitRep\_K-12\_March2022.pdf

- Infection rates are highest in the 30-49 year age group and lowest in the 0-4 age group. However, positivity rates are highest amongst children aged 2-12 years.
- Hospitalisations remain stable for most age groups, although there continues to be an increase in the 75+ year age group. Hospitalisations remain lowest in children compared to all other age groups and seem to be declining.
  - Hospitalisations include children who test positive, irrespective of the reason for admission, so is an overestimate of hospitalisations for treatment of COVID-19. During the Omicron period, about 70% of children aged <4 years are admitted for treatment of COVID-19. For children 5-19 years, about 50% of the COVID-19 hospitalisations are incidental cases.<sup>21</sup>
- o There have been 90 deaths with COVID-19 in children aged 0-19 years in the past year.
- Finland reopened its schools in early Jan 2022 following the end-of-year holidays. There are no restrictions on children's activities. Excess mortality in all age groups continues to decline over the Omicron period. 22
  - Additional restrictions were reintroduced in late Dec 2021, including indoor mask wearing, proof of vaccination, work from home default and density limits. Further restrictions were introduced in Jan 2022, including limits on household visitors, hospitality opening hours and access to public places. From Feb 2022, restrictions are being lifted gradually. From early Mar 2022, advice to work from home was removed.
  - o Approximately 26% of 5-11 year olds and 80% of 12-17 year olds have received at least one dose of vaccine.
  - o Infections are increasing and are highest in the 25-49 age group. Infections in children <15 years continue to decline.
  - o There is no hospitalisation data available by age. Total hospitalisations continue to be on an upward trend. Specialist care admissions remain low and stable in children.
  - o There have been no deaths in children throughout the entire pandemic.
- The Netherlands reopened its schools in early Jan 2022 following the end-of-year holidays. Excess mortality in all age groups declined over the Omicron period, with a temporary increase in late Feb and late Mar 2022. 23
  - Some restrictions remain in place, including indoor mask wearing for certain venues and hybrid work arrangements. There is a gradual lifting of all remaining restrictions.
  - o Approximately 6% of 5-11 year olds and 69% of 12-17 year olds have received at least one dose of vaccine.
  - o Infections due to BA.1 were on a steep downward trend when restrictions eased, including removal of mask-wearing, until late Feb 2022. Subvariant BA.2 resulted in a steep upward trend over a few weeks, followed by a steep decline. Infections are highest amongst 10-19 year olds. There is an age-related increase in infection rates in children up to 13 years of age.
  - Hospitalisations increased with Omicron (BA.1 and BA.2) but have since declined. There was an increase in the 70+ year age groups, especially in 90+ year olds, but rates are now declining. Rates remained stable and lowest in children.
    - In the past year, children <18 years accounted for 2.1% of all hospital admissions with COVID-19.
  - $\circ\quad$  The number of deaths with COVID-19 in children is not reported.
- Scotland reopened its schools in early Jan 2022 following the end-of-year holidays. Excess mortality in all age groups remains low and stable over the Omicron period. 24
  - o Most restrictions have been lifted. Some remain in place including mask-wearing on public transport and some indoor settings. TTIQ will end in early May 2022.
  - Approximately 68% of 12-15 year olds and 81% of 16-17 year olds have received at least one dose of vaccine. Vaccination for 5-11 year olds commenced in late Feb 2022 but coverage data is not yet available.
  - o Infections across all age groups peaked in Jan and then decreased, before increasing again in mid-Mar 2022 due to BA.2 and is now decreasing (data to Report #15, 04 Apr 2022).
    - o Infection rates are highest in the 40-49 year age group.
  - Hospitalisations in children temporarily decreased but are now increasing. For children, hospitalisations are highest in the <1 and 5-11 year age groups. Hospitalisations also include children who test positive, irrespective of the reason for admission, so is an overestimate of hospitalisations for treatment of COVID-19.
  - $\circ$   $\;$  There have been five deaths due to COVID-19 in children aged 0-14 years in the past year.
- Singapore reopened its schools in early Jan 2022 following the end-of-year holidays.
  - o From late Mar 2022, some restrictions were eased including masks becoming mandatory indoors only, hybrid work arrangements, increased density limits in shops and vaccination requirements remaining in place. Masks remain mandatory in schools for all aged six years and older.
  - Approximately 93% of the entire population has received at least one dose of vaccine. All children aged 5-11 years are offered vaccine.







<sup>21</sup> UK Health Security Agency (UKHSA). Weekly influenza and COVID-19 surveillance graphs. London, United Kingdom: UKHSA; 2022. https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

<sup>22</sup> Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covic

<sup>&</sup>lt;sup>23</sup> EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps. <sup>24</sup> EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps

#### COVID-19 and Children's Surveillance Report

- Following a peak in infections with BA.2, there is currently a downward trend with ~3600 cases per day, primarily in the 20-39 year age group.
- A total of five cases of MIS-C have been reported, all from the Delta wave in mid-late 2021. There has been one ICU admission due to MIS-C. However, Singapore has not released
  any further data on MIS-C since 8 Nov 2021.
- o There have been no deaths in children throughout the entire pandemic.

Overall hospitalisations are on a downward trend. Admissions remain lowest in children.

- South Africa reopened its schools in early Jan 2022 following the end-of-year holidays. Overall excess mortality declined over the Omicron period and is now close to baseline levels. 25
  - Certain restrictions such as the curfew and density limits were eased in late Dec 2021. Since Feb 2022, asymptomatic cases are not required to isolate while masks remain mandatory for all aged 6 years and older, including in schools.
  - o Approximately 49% of the entire population is fully vaccinated. Vaccination is only offered to those aged 12 years and older.
  - o There was a rapid increase in infections due to Omicron BA.1 in all age groups followed by a rapid decrease, with children under nine years currently having the lowest infection rates. Omicron subvariant BA.2 overtook BA.1 as the predominant variant in late Jan 2022 but there has been no increase in case numbers.
  - o Overall hospitalisations continue to decrease and many admissions were incidental (admitted for other reasons and subsequently test positive).
  - o There have been 848 deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic. This accounts for <1% of all COVID-19 deaths in the country.
- In the United States, schools reopened following the end-of-year holidays. Excess mortality in all age groups declined over the Omicron period and stabilised. 26
  - o The US Centres for Disease Control and Prevention (CDC) recommend multi-layered PHSM, but adoption varies by State and Territory.
  - o Approximately 35% of 5-11 year olds and 69% of 12-17 year olds have received at least one dose of vaccine.
  - o Infections remain low and stable. BA.2 replaced BA.1 as the predominant variant in late Mar 2022 but there has been no increase in case numbers.
  - o Hospitalisations continue to remain low and stable in all age groups.
  - There have been 962 deaths with COVID-19 in children aged 0-17 years throughout the entire pandemic. This accounts for <0.1% of all COVID-19 deaths in the country.</li>
    - Texas has had the highest number of child deaths (127) and there are three States that have reported zero deaths throughout the entire pandemic. 27
  - o A total of 7880 cases of MIS-C have been reported, including 66 deaths.
    - There was no increase in MIS-C despite the surge of Omicron cases.
  - Hospitalisations and deaths include all children who test positive, irrespective of the reason for admission or death, so is likely an overestimate of hospitalisations and deaths due to COVID-19.







<sup>25</sup> Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid 26 Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid 26 Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid 26 Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid 26 Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid 26 Our World in Data. Excess mortality during the Coronavirus pandemic (COVID-19). London, United Kingdom: Global Change Data Lab; 2022. https://ourworldindata.org/excess-mortality-covid

<sup>27</sup> American Academy of Pediatrics (AAP). Children and COVID-19: State-Level Data Report, Illinois, US: AAP; 2021. https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/



| Abbreviation | Term  |
|--------------|---|
| ACT          | Australian Capital Territory                  |
| CDC          | US Centres for Disease Control and Prevention |
| MIS-C        | Multisystem inflammatory syndrome in children |
| NSW          | New South Wales                               |
| PCR          | Polymerase chain reaction                     |
| PHSM         | Public health & social measures               |
| PIMS-TS      | Paediatric inflammatory multisystem syndrome  |
| RAT          | Rapid antigen testing                         |
| TTIQ         | Test, trace, isolate, quarantine              |





## Australia: Australian Capital Territory

(population 430,000)

#### PHSM<sup>28</sup>

From mid Mar 2022, masks are no longer required in most settings except public transport, hospitals and schools, QR check-in and proof of vaccination for certain venues only and advice to work from home removed.

#### Schools & mitigation 29

Closed for holidays from mid-Dec 2021 and returned to school in late Jan 2022.

Multi-layered mitigation strategies were introduced, including cohorting, masks for staff in all schools and secondary students and improvement of ventilation systems.

RATs were provided to staff and students for the first 8 weeks of school and are now provided on a needs basis.

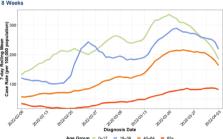
### Vaccination coverage 30, 31

| Age group (years) | 1st dose (%) | 2 <sup>nd</sup> dose (%) | 3 <sup>rd</sup> /booster (%) |
|-------------------|--------------|--------------------------|------------------------------|
| 5-11              | 80.2         | 60.4                     | -                            |
| 12-15             | >99.0        | >99.0                    | -                            |
| 16+               | >99.0        | >99.0                    | 73.9                         |

Fourth dose for immunocompromised recommended from early Jan 2021, booster dose available to all eligible adults aged 18y+ and 16-17y from 3 Feb 2022, second booster dose available to all 65y+ and high-risk groups from 4 Apr 2022. Three primary dose recommendation extended to all severely immunocompromised people aged 5y+ from mid-Jan 2022. Vaccination for 5-11y available from 10 Jan 2022.

## Infections by age group 32

Figure 3: Rolling Mean of COVID-19 Case Rate by Age Group and Diagnosis Date<sup>1</sup> Last 8 Weeks



#### Omicron (BA.2) is the dominant variant.

Table 6: Whole Genome Sequencing results

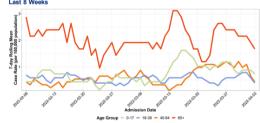
| Reporting Week             | Omicron sub lineage<br>BA.1 | Omicron Sub lineage<br>BA.2 | Unassigned <sup>1</sup> | Total |
|----------------------------|-----------------------------|-----------------------------|-------------------------|-------|
| WEEK 7: Ending 13/02/2022  | 166 (83%)                   | 28 (14%)                    | 5 (3%)                  | 199   |
| WEEK 8: Ending 20/02/2022  | 116 (77%)                   | 28 (18.5%)                  | 7(4%)                   | 151   |
| WEEK 9: Ending 27/02/2022  | 159 (65%)                   | 50 (21%)                    | 34 (14%)                | 243   |
| WEEK 10: Ending 06/03/2022 | 96 (62%)                    | 52 (34%)                    | 7 (4%)                  | 155   |
| WEEK 11: Ending 13/03/2022 | 114 (50%)                   | 103 (45%)                   | 10 (4%)                 | 227   |
| WEEK 12: Ending 20/03/2022 | 33 (18%)                    | 144 (78%)                   | 8 (4%)                  | 185   |
| WEEK 13: Ending 27/03/2022 | 19 (11%)                    | 147 (86%)                   | 4 (2%)                  | 170   |
| Week 14: Ending 03/04/2022 | 17 (11%)                    | 134 (87%)                   | 3 (2%)                  | 154   |

#### Hospitalisations in children 33

Table 5: Hospitalised COVID-19 Cases1 by Age Group and Vaccination Status

| Age Group | 3 doses of<br>COVID-19<br>vaccine<br>N (%) | 2 doses of<br>COVID-19<br>vaccine<br>N (%) | 1 doses of<br>COVID-19<br>vaccine<br>N (%) | Unvaccinated<br>N (%) | Unvalidated/<br>Unknown<br>N (%) | TOTAL<br>Pandemic |
|-----------|--|--|--|-----------------------|----------------------------------|-------------------|
| 0-17      | 1 (1%)                                     | 13 (15%)                                   | 11 (12%)                                   | 64 (72%)              | 0 (0%)                           | 89 (100%)         |
| 18-39     | 20 (13%)                                   | 54 (36%)                                   | 7 (5%)                                     | 66 (44%)              | 3 (2%)                           | 150 (100%)        |
| 40-64     | 29 (17%)                                   | 59 (36%)                                   | 7 (4%)                                     | 70 (42%)              | 1 (1%)                           | 166 (100%)        |
| 65+       | 45 (21%)                                   | 105 (48%)                                  | 12 (5%)                                    | 55 (25%)              | 2 (1%)                           | 219 (100%)        |
| TOTAL     | 95 (15%)                                   | 231 (37%)                                  | 37 (6%)                                    | 255 (41%)             | 6 (1%)                           | 624 (100%)        |

## Figure 6: Rolling Mean of Hospitalised 1 COVID-19 Case Rate by Date of



Cases admitted to an ACT hospital, including those with a residential address in the ACT or another state or territory. If the case was admitted to an

#### Deaths by age group 34

Table 1: COVID-19 Case Status by Test Type

|            | WEEK 14 <sup>2</sup> |                      |                    |
|------------|----------------------|----------------------|--------------------|
|            | Test type            | Ending<br>03/04/2022 | TOTAL <sup>1</sup> |
| New Cases  | PCR                  | 3,539                | 51,917             |
|            | RAT                  | 3,038                | 29,047             |
|            | Total                | 6,577                | 80,964             |
| New Deaths |                      | 2                    | 42                 |

<sup>1</sup>Total cases since the start of the pandemic, March 2020.

Deaths are not available by age group. There have been 0 deaths in children throughout the entire pandemic.





<sup>8</sup> https://www.covid19.act.gov.au/restrictions/current-restrictions

https://www.education.act.gov.au/public-school-life/covid-school-arrangements

https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update

https://twitter.com/ACTHealth

https://www.covid19.act.gov.au/updates/act-covid-19-statistics

<sup>33</sup> https://www.covid19.act.gov.au/updates/act-covid-19-statistics https://www.covid19.act.gov.au/updates/act-covid-19-statistics

## **Australia: New South Wales**

(population 8.2 million)

#### PHSM<sup>35</sup>

From late Feb 2022, masks are no longer required in most settings, QR check-in and proof of vaccination for certain venues only, reduced TTIQ and advice to work from home removed.

#### Schools & mitigation 36

Closed for holidays from mid-Dec 2021 and returned to school in late Jan 2022.

Multi-layered mitigation strategies were introduced, including mandatory third vaccine dose for staff and supply of air-purification devices.

From late February and early March 2022, RATs are only used for symptomatic testing of students and staff (no longer for surveillance), masks are no longer required in most school settings and cohorting removed.

# Vaccination coverage <sup>37, 38</sup> Age group (years) 1<sup>st</sup> dose (%) 2<sup>nd</sup> dose (%) 3<sup>rd</sup>/booster (%) 5-11 49.7 30.7 -

79.5

94.6

61.2

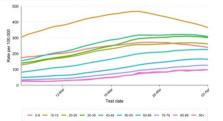
83.3

96.1

Fourth dose for immunocompromised recommended from early Jan 2021, booster dose available to all eligible adults aged 18y+ and 16-17y from 3 Feb 2022, second booster dose available to all 65y+ and high-risk groups from 4 Apr 2022. Three primary dose recommendation extended to all severely immunocompromised people aged 5y+ from mid-Jan 2022. Vaccination for 5-11y available from 10 Jan 2022.

#### Infections by age group 39\*

Figure 4. Daily seven-day rolling average rate of people reported with COVID-19 per 100,000 population, by age group and test date, NSW, in the four weeks to 2 April 2022



Omicron (BA.2) is the dominant variant.

Table 7. Variants of concern (VOCs) identified by whole genome sequencing (WGS) of virus from people who tested positive for SARS CoV-2 by PCR, by test date, NSW, in the four weeks to 2 April 2022

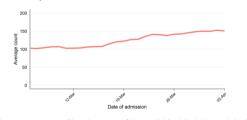
| Variant         |          | Week ending |          |          |  |  |
|-----------------|----------|-------------|----------|----------|--|--|
| variant         | 12 March | 19 March    | 26 March | 02 April |  |  |
| Delta (B.1.617) | 0        | 0           | 0        | 0        |  |  |
| Omicron (BA.1)  | 152      | 103         | 51       | 9        |  |  |
| Omicron (BA.2)  | 264      | 418         | 524      | 141      |  |  |
| Total           | 416      | 521         | 575      | 150      |  |  |

#### Hospitalisations in children 40\*

Table 3. Age group of people with a COVID-19 diagnosis in the previous 14 days who were admitted to hospital in the week ending 2 April 2022, NSW

| Age group (years) | Admitted to hospital (but not to ICU) (%) | Admitted to ICU (%) | Total        |
|-------------------|---|---------------------|--------------|
| 0-9               | 105 (10%)                                 | 2 (2%)              | 107 (9%)     |
| 10-19             | 65 (6%)                                   | 2 (2%)              | 66 (6%)      |
| 20-29             | 113 (10%)                                 | 11 (13%)            | 123 (11%)    |
| 30-39             | 157 (14%)                                 | 10 (12%)            | 162 (14%)    |
| 40-49             | 96 (9%)                                   | 8 (10%)             | 104 (9%)     |
| 50-59             | 84 (8%)                                   | 13 (16%)            | 93 (8%)      |
| 60-69             | 106 (10%)                                 | 8 (10%)             | 111 (10%)    |
| 70-79             | 149 (14%)                                 | 16 (19%)            | 160 (14%)    |
| 80-89             | 157 (14%)                                 | 12 (14%)            | 165 (14%)    |
| 90+               | 57 (5%)                                   | 1 (1%)              | 58 (5%)      |
| Total             | 1,089 (100%)                              | 83 (100%)           | 1,149 (100%) |

Figure 1. Daily seven-day rolling average\* of people with COVID-19 admitted to hospital within 14 days of their diagnosis, NSW, in the four weeks to 2 April 2022



<sup>\*</sup> a seven-day rolling average uses the average of the previous seven days of data to smooth daily variations in data and make it easier to observe trends over time.

Some admissions in <12y children are for social reasons as parents are hospitalised for treatment of COVID-19. Graph is not available by age group.

#### Deaths by age group 41\*

12-15

16+

Table 4. Reported deaths of people with COVID-19, by age group, NSW, in the week ending 2 April 2022

| Age-group (years) | Number of deaths |
|-------------------|------------------|
| 0-9               | 0 (0%)           |
| 10-19             | 0 (0%)           |
| 20-29             | 0 (0%)           |
| 30-39             | 2 (3%)           |
| 40-49             | 0 (0%)           |
| 50-59             | 3 (4%)           |
| 60-69             | 6 (8%)           |
| 70-79             | 15 (21%)         |
| 80-89             | 30 (41%)         |
| 90+               | 17 (23%)         |
| Total             | 73 (100%)        |
|                   |                  |

Table 2. Reported deaths of people with COVID-19, by vaccination status, NSW, in the week ending 2 April 2022

| Vaccination status  | Number of deaths |
|---------------------|------------------|
| Three or more doses | 27 (37%)         |
| Two doses           | 26 (36%)         |
| One dose            | 1 (1%)           |
| No dose/Unknown     | 19 (26%)         |
| Total               | 73 (100%)        |

Four children have died with COVID-19 throughout the pandemic, including one 15 year old with pneumococcal meningitis, one three-year-old with underlying genetic disorder, one two-year-old with no major pre-existing conditions and one two-month-old baby.

\*Note: Data to Report #15, 04 Apr 2022





https://www.nsw.gov.au/covid-19/stay-safe/rules

https://education.nsw.gov.au/covid-19/advice-for-families

https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update

<sup>38</sup> https://twitter.com/NSWHealth

https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx

https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx

## Australia: Tasmania

(population 540,000)

#### PHSM<sup>42</sup>

From mid Mar 2022, masks are no longer required in most settings except public transport, hospitals and schools and QR check-in and proof of vaccination for certain venues only.

#### Schools & mitigation 43

Closed for holidays from mid-Dec 2021 and returned to school in early Feb 2022.

Multi-layered mitigation strategies were introduced, including mandatory vaccination for staff, masks for staff in all schools and secondary students, cohorting and supply of air-purification devices.

RATs are provided to staff and students for symptomatic testing.

## Vaccination coverage <sup>44</sup> Age group (years) 1<sup>st</sup> dose (%) 2<sup>nd</sup> dose (%) 3<sup>rd</sup>/booster (%)

5-11 63.9 46.5 -12-15 87.1 82.8 -16+ >99.0 98.6 71.6

Fourth dose for immunocompromised recommended from early Jan 2021, booster dose available to all eligible adults aged 18y+ and 16-17y from 3 Feb 2022, second booster dose available to all 65y+ and high-risk groups from 4 Apr 2022. Three primary dose recommendation extended to all severely immunocompromised people aged 5y+ from mid-Jan 2022. Vaccination for 5-11y available from 10 Jan 2022.

## Infections by age group 45

1.6 COVID-19 case numbers, and number of cases per 1000 people (rate), by age group

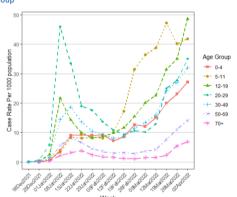


Figure 3: Weekly number of COVID-19 cases per 1000 people per week (rate) notified in Tasmania, since 15 December 2021, by age group.

#### Hospitalisations in children and deaths by age group 46

#### 3.2 Clinical severity and deaths in individuals diagnosed with COVID-19 in Tasmania, by age group

Table 11: Number of individuals hospitalised due to COVID-19, number of individuals hospitalised with COVID-19, number of individuals with COVID-19 admitted to ICU (for any reason), and deaths for which COVID-19 was a cause or contributing factor, from 15 December 2021 to 2 April 2022 by age group.

| Age Group<br>(years) | All Hospital Admissions<br>with COVID-19 | Hospital Admissions due<br>to COVID-19* | Intensive Care<br>Admissions | Deaths |
|----------------------|--|---|------------------------------|--------|
| 0-4                  | 43                                       | 27                                      | 3                            | 0      |
| 5-11                 | 15                                       | 3                                       | 0                            | 0      |
| 12-15                | 12                                       | 3                                       | 0                            | 0      |
| 16-19                | 10                                       | 1                                       | 1                            | 0      |
| 20-29                | 62                                       | 18                                      | 3                            | 0      |
| 30-39                | 63                                       | 21                                      | 2                            | 0      |
| 40-49                | 40                                       | 19                                      | 1                            | 0      |
| 50-59                | 56                                       | 25                                      | 2                            | 1      |
| 60-69                | 59                                       | 30                                      | 5                            | 6      |
| 70-79                | 68                                       | 39                                      | 5                            | 1      |
| 80-84                | 40                                       | 22                                      | 0                            | 3      |
| 85+                  | 50                                       | 25                                      | 0                            | 7      |
| Total                | 518                                      | 233                                     | 22                           | 18     |

Age group is based on age provided at time of PCR testing or reporting of a positive RAT. This table includes interstate and overseas residents who were diagnosed and managed for COVID-19 in Tasmania. Only recorded deaths, where the death is specifically attribute to COVID-19 have been included. Where the death is reported to has been attributed to 'other causes' it has been excluded.

#### 3.3 Clinical severity and deaths in individuals diagnosed with COVID-19 in Tasmania, by vaccination status

Table 12: Number of individuals hospitalised due to COVID-19, number of individuals hospitalised with COVID-19, number of individuals with COVID-19 admitted to ICU (for any reason), and deaths for which COVID-19 was a cause or contributing factor from 15 December 2021 to 2 April 2022, by vaccination status.

| Reported<br>Cases |                                     |  | Intensive Care<br>Admissions                          | Deaths   |  |
|-------------------|-------------------------------------|--|---|--|--|
| 8,636             | 123                                 | 59   | 7   | 6  |  |
| 11,735            | 28                                  | 13   | 1   | 0  |  |
| 41,437            | 315                                 | 136  | 14  | 10   |  |
| 33,079            | 52                                  | 25   | 0   | 2  |  |
| 94,887            | 518                                 | 233  | 22  | 18   |  |
|                   | 8,636<br>11,735<br>41,437<br>33,079 | Reported Cases         Admissions with COVID-19           8,636         123           11,735         28           41,437         315           33,079         52 | Admissions with CoviD-19   Admissions due to COVID-19 | Reported Cases         Admissions with COVID-19         Admissions due to COVID-19         Admissions with COVID-19         Admissions with COVID-19         Admissions with COVID-19           8.636         123         59         7           11,735         28         13         1           41,437         315         136         14           33,079         52         25         0 |  |

This table includes interstate and overseas residents who were diagnosed and managed for COVID-19 in Tasmania. Data should be interpreted with caution as vaccination information is based on self-report at the time of notification of a positive PCR or RAT. Only recorded deaths, where the death is specifically attribute COVID-19 have been included. Where the death is reported to has been attributed to 'other causes' it has been excluded.

There have been 0

deaths in children







throughout the entire pandemic.

<sup>42</sup> https://www.coronavirus.tas.gov.au/families-community/current-restrictions

https://www.coronavirus.tas.gov.au/families-community/current-restrictions

the structure of the structure o

https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update

https://www.coronavirus.tas.gov.au/facts/tasmanian-statistics/weekly-report https://www.coronavirus.tas.gov.au/facts/tasmanian-statistics/weekly-report

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## Australia: Victoria

(population 6.6 million)

| PHSM <sup>47</sup>  | Schools & mitigation 48  | Vaccination coverage <sup>49,50</sup>  |
|---|--|--|
| From late Feb 2022, masks are no longer required in most settings, QR check-in for certain venues only, proof of vaccination to attend some premises, reduced TTIQ and advice to work from home removed.  | Closed for holidays from mid-Dec 2021 and returned to school in late Jan 2022.  Multi-layered mitigation strategies were introduced, including twice-weekly surveillance RAT (childcare, kindergarten and schools), mandatory third vaccine dose for staff and supply of air-purification devices.  From late Feb 2022, masks are only required indoors in primary schools for all staff and students in grade 3 and above.  | Age group  (years) 1st dose (%) 2nd dose (%) 3rd/booster (%)  5-11 56.3 34.5 -  12-15 89.4 85.4 -  16+ 95.1 93.7 -  18+ 66.7  Fourth dose for immunocompromised recommended from early Jan 2022, booster dose available to all eligible adults aged 18y+ and 16-17y from 3 Feb 2022, second booster dose available to all 65y+ and high-risk groups from 4 Apr 2022. Three primary dose recommendation extended to all severely immunocompromised people aged 5y+ from mid-Jan 2022. Vaccination for 5-11y available from 10 Jan 2022. |
| Infections by age group <sup>51</sup>   | Hospitalisations in children 52  | Deaths by age group <sup>53</sup>  |
| Daily PCR cases (to 10/04/2022)   | Current cases in hospital 381 12 comes in hospital comes in hospit | People who have passed away with COVID-19           11/10-4/2022           Age group         Total           00-09         1           10-19         1           20-29         6           30-39         17  |
| 12000 10000 |  | 40-49 31 50-59 105 60-69 205 70-79 593 80-89 1055 90+ 769 Total 2,783  |
| ਸੰਗਰ ਜੋ   |  | Two children have died with COVID-19 throughout the pandemic, including one 15 year old and one child under 10 with multiple underlying conditions and in palliative care.   |





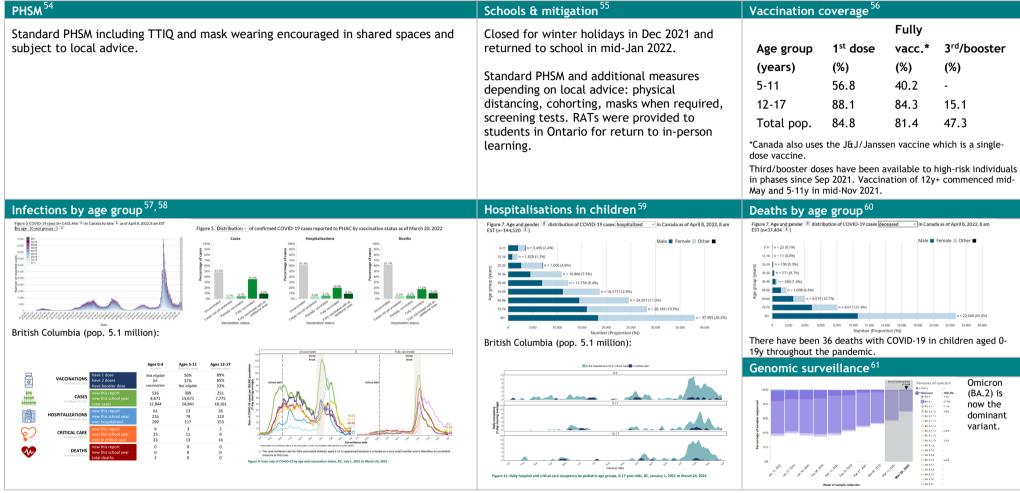


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https://www.coronavirus.vic.gov.au/coronavirus-covidsafe-settings
https://www.coronavirus.vic.gov.au/education-information-about-coronavirus-covid-19
https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update
https://twitter.com/VicGovDH
https://twitter.com/VicGovDH
https://www.coronavirus.vic.gov.au/victorian-coronavirus-covid-19-data
https://www.coronavirus.vic.gov.au/victorian-coronavirus-covid-19-data
https://www.coronavirus.vic.gov.au/victorian-coronavirus-covid-19-data

#### Canada

(population 38 million)



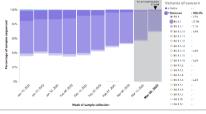
https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html

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 $<sup>\</sup>underline{https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/planning-2021-2022-school-year-vaccination.html$ 

https://health-infobase.canada.ca/covid-19/vaccination-coverage/

https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html

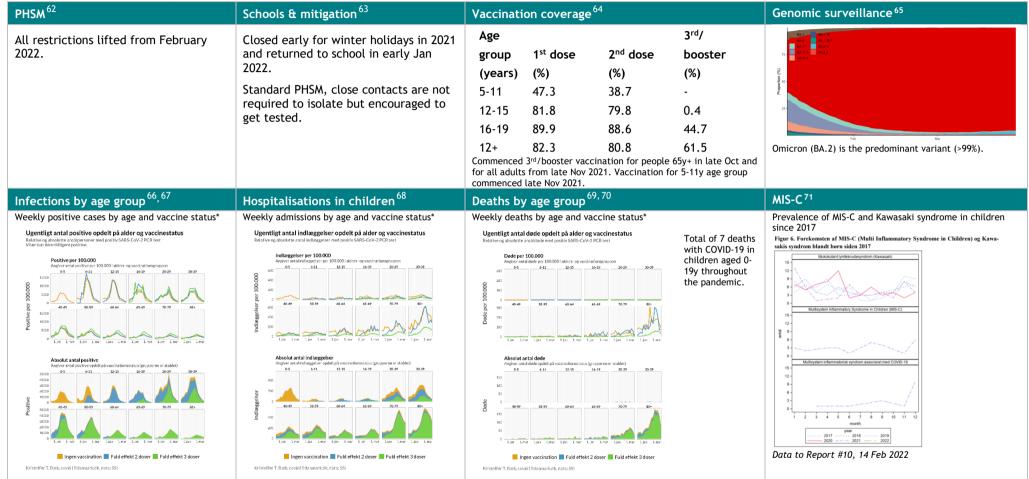
<sup>58</sup> http://www.bccdc.ca/schools/news-resources/data-for-k12

https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html

<sup>60</sup> https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html 61 https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html

### **Denmark**

(population 5.9 million)



\*(1) Top figures are rates per 100,000 and bottom figures are raw numbers; (2) Yellow (unvaccinated), blue (two doses), green (three doses)

- 62 https://en.coronasmitte.dk/rules-and-regulations
- https://en.coronasmitte.dk/rules-and-regulations https://experience.arcgis.com/experience/9824b03b114244348ef0b10f69f490b4/page/page\_3/
- https://covid19genomics.dk/statistics
- https://covid19danmark.dk/
- https://covid19.ssi.dk/overvagningsdata/ugentlige-opgorelser-med-overvaagningsdata 68 https://covid19danmark.dk/
- https://covid19danmark.dk/
- 70 https://covid19.ssi.dk/overvagningsdata/ugentlige-opgorelser-med-overvaagningsdata
- https://www.sst.dk/-/media/Udgivelser/2022/Corona/Vaccination/Notat-vaccination-af-boern-5-11-aar.ashx







## England, UK

(population 56.6 million)

| PHSM <sup>72</sup>  | Schools & mitigation 73  | Vaccination coverage <sup>74</sup>  |  |  |
|---|--|---|--|--|
| Most restrictions have been lifted. Some remain in place including an advice to stay home if positive for COVID-19 and mask-wearing in healthcare settings only. Free PCRs and RATs are no longer available to most people. | Closed for winter holidays in Dec 2021 and returned to school in early Jan 2022.  Standard PHSM. RAT screening for staff and secondary school students, mask wearing and close contact isolation no longer required. | Age group         (years)       1st dose (%)       2nd dose (%)       3rd/booster (%)         12+       91.9       86.0       67.0         12-15       57.7       33.8       0.5         16-17       68.4       53.1       15.2         Third/booster dose available for all 18y+ and other high-risk groups.       Vaccination for 16-17y commenced mid-Aug, 12-15y mid-Sep 2021 (initially as single dose) and 5-11y late Feb 2022 (coverage data not available).   |  |  |
| Infections by age group <sup>75,76</sup>  | Hospitalisations in children 77,78   | Deaths by age group <sup>79</sup>   |  |  |
| Figure 5: Weekly confirmed COVID-19 case rates per 100,000, by episode*, tested under Pillar 1 and Pillar 2, by age group  4.000  3.500   | Figure 44: Weekly hospital admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch  (a)  | Figure 56: Age-eac pyramid of deaths within 28 or 60 days of a positive COVID-19 test, for the past year  #Female (28 day) #Male (28 day) #Male (80 day) #Male (60 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) ### Male (28 day) ### Male (80 day)  ### Bemale (28 day) ### Male (28 day) |  |  |







 $<sup>\</sup>stackrel{72}{\_} \underline{\text{https://www.gov.uk/guidance/covid-19-coronavirus-restrictions-what-you-can-and-cannot-do}\\$ 

 $<sup>\</sup>frac{7^1}{\text{https://www.gov.uk/government/publications/actions-for-schools-during-the-coronavirus-outbreak/schools-covid-19-operational-guidance} \\ \frac{7^4}{\text{https://coronavirus.data.gov.uk/details/vaccinations?areaType=nation&areaName=England}}$ 

nttps://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season

<sup>80</sup> https://www.gov.uk/government/publications/investigation-of-sars-cov-2-variants-technical-briefings

## **Finland**

## (population 5.5 million)

| PHSM <sup>81</sup>  | Schools & mitigation 82  | Vaccination coverage 83   |
|---|--|---|
| Restrictions reinstated in late Dec 2021, including mandatory indoor mask wearing, proof of vaccination to attend certain premises, work from home default and density limits. Additional restrictions in early Jan 2022 including limits on household visitors, hospitality opening hours and access to public places. Gradual easing of restrictions from Feb 2022. From early March 2022, advice to work from home removed. Masks are recommended indoors and on public transport.   | Schools closed for winter holiday in late Dec 2021 and reopened in early Jan 2022.  Standard PHSM, cohorting and ventilation.  | group 1st dose 2nd dose (years) (%) (%) 3rd/booster (%) 5-11 26.4 12.3 - 12-17 79.6 73.7 1.8 18+ 89.5 87.3 63.3 Third/booster dose is recommended for all aged 18y+. Fourth dose recommended for 12y+ with severe immunodeficiency. Vaccine offered to 12y+ in early Aug and 5-11y children from late Dec 2021. |
| Infections by age group <sup>84</sup>   | Hospitalisations in children 85,86   | Deaths by age group <sup>87</sup>   |
| Finland: 14-day age-specific COVID-19 case notification rate  - <15yr = 15-24yr = 55-45yr = 55-45yr = 16-77yr = 167yr | Rate of admission to specialist care by age group (data to Report #15, 04 Apr 2022)  The standard Report Re | Deaths by age group (for the whole period)  3,000 2,000 1,000 2,1k 737 There have been 0 deaths in children throughout the entire pandemic.  Genomic surveillance  Variant of concern distributions  Wariant of concern distributions  0  |







https://valtioneuvosto.fi/en/information-on-coronavirus/current-restrictions

thtps://valtioneuvosto.fi/en/information-on-coronavirus/current-restrictions

thtps://okm.fi/documents/1410845/65547855/MoEC+THL+recommendations+to+education+and+early+childhood+education+and+care+1.3.2022.pdf/61cad874-6b78-84e4-a885-3a61ca69cd10

https://cowid19-country-overviews.ecdc.europa.eu/countries/Finland.html

https://covid19-country-overviews.ecdc.europa.eu/countries/Finland.html

https://covid19-countries/Finland.html

https://covid19-countries/Finland.html

https://covid19-countries/Finland.html

https://covid19-countries/Finland.html

https://covid19-countries/Finland.html

## **Netherlands**

(population 17.4 million)

| PHSM <sup>89</sup>  | Schools & mitigation 90  |                          |       | Vaccination coverage <sup>91</sup>   |                       |                      |   |
|---|--|--------------------------|-------|--|-----------------------|----------------------|---|
| Most restrictions have been lifted. Some remain in place including mask-wearing in airports only and advice to test if symptomatic.   | Closed for winter holidays in late Dec 2021 and returned to school in early Jan 2022.  Standard PHSM, mask wearing required for secondary school staff and students, twice-weekly RAT screening for staff and secondary school students, ventilation, quarantine arrangements based on case numbers within a cohort. |                          |       |  | booster dose a        | vailable for all 18y | 3 <sup>rd</sup> /booster (%)  -  -  63.5 en vaccine which is a single-dose + Vaccine offered to 12-17y from |
| Infections by age group 92,93   | Hospitalisations in ch   | ildren <sup>94, 95</sup> |       | Deaths by ag   | e group <sup>96</sup> |                      |   |
| Fee 100,000 inhabitares   1,230   1 | 1,000  100  100  100  100  100  100  10  |                          |       | Distribution of age groups in the Netherlands  Deaths by age group  Death by age group |                       |                      |   |
|   | Age group (children)   | Hospital admissions      |       | 0.75<br>Egg  |                       | <b>\</b>             |   |
| 0   | <4   | 1,310                    | 1.4%  | Vandeel var  | X                     | X                    | <b>X</b>  |
| Age   | 4-11   | 328                      | 0.4%  | 0.25   | \frac{1}{\lambda}     | <i></i>              | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \   |
| ✓ ■ wk 5 ✓ ■ wk 6 ✓ ■ wk 7 ✓ ■ wk 8 ✓ ■ wk 9 ✓ ■ wk 10  | >17  | 316<br>89,401            | 97.9% |  |                       | 2022-                | 01  |
|   | >17 89,401 97,9%  Total 91,355   |                          |       | Datum van monatername  modelinischatting (95% pred.int.)   Apha   Gamma   Gamma   GamburdiArt   data komsuvelitance (95% bet.int.)   |                       |                      |   |
|   | 3,000  |                          |       | Omicron (BA.2) is the dominant variant.  |                       |                      |   |

<sup>89</sup> https://www.government.nl/topics/coronavirus-covid-19/tackling-new-coronavirus-in-the-netherlands/coronavirus-measures-in-brief







https://www.irwm.it/en/coronavirus-covid-19/children-and-covid-19
https://www.irwm.it/en/coronavirus-covid-19/children-and-covid-19
https://coronadashboard.government.nl/landelijk/positief-geteste-mensen
https://coronadashboard.government.nl/landelijk/positief-geteste-mensen
https://coronadashboard.government.nl/landelijk/positief-geteste-mensen
https://coronadashboard.government.nl/landelijk/ziekenhuis-opnames
https://coronadashboard.government.nl/landelijk/ziekenhuis-opnames
https://coronadashboard.government.nl/landelijk/siekrefte

https://www.rivm.nl/en/coronavirus-covid-19/virus/variants

## Scotland, UK

PHSM<sup>98</sup>

(population 5.5 million)

| Most restrictions have been lifted. Some remain in place including mask-wearing on public transport and some indoor settings. TTIQ will end in early May 2022. |
|--|
|  |
|  |

### Schools & mitigation 99

Closed for winter holidays in late Dec 2021 and returned to school in early Jan 2022.

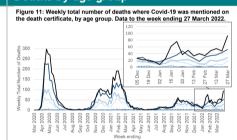
Standard PHSM. RAT screening for staff and secondary school students, mask wearing (except in indoor communal areas of secondary schools) and close contact isolation no longer required.

#### Age 1st dose 2<sup>nd</sup> dose 3<sup>rd</sup>/booster group (years) (%) (%) (%) 12+ 93.6 87.4 73.1 12-15 67.9 42.8 1.1 16-17 80.9 54.8 10.9

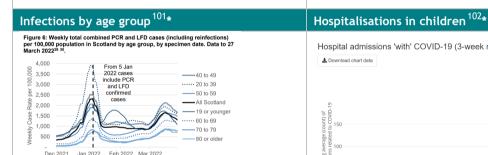
Third/booster dose available for all 18y+ and other high-risk groups. Vaccination for 16-17y commenced mid-Aug, 12-15y mid-Sep 2021 (initially as single dose) and 5-11y late Feb 2022 (coverage data not available).

## Deaths by age group 103, 104\*

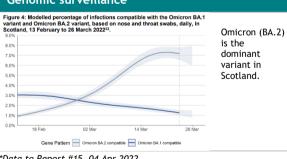
Vaccination coverage 100

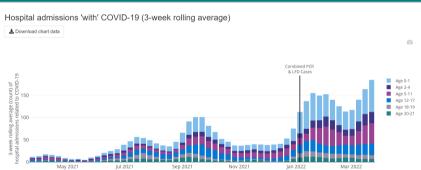


There have been 5 deaths due to COVID-19 in children aged 0-14y in the past year.









Any admitted child who is COVID-19 positive is included, so this overestimates the number of children being admitted and needing treatment for COVID-19.

#### \*Data to Report #15, 04 Apr 2022

- https://www.gov.scot/coronavirus-covid-19/
- https://www.gov.uk/government/publications/actions-for-schools-during-the-coronavirus-outbreak/schools-covid-19-operational-guidance
- https://coronavirus.data.gov.uk/details/vaccinations?areaType=nation&areaName=Scotland
- https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/
- https://scotland.shinyapps.io/phs-covid19-education/\_w\_852fb58e/
- 103 https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/
- 104 https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

\*Please note that positive tests include first LFD tests from 5 January 2022.

https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/





## **Singapore**

(population 5.5 million)

#### PHSM 106

From late Mar 2022, some restrictions have eased including masks mandatory indoors but optional outdoors, hybrid work arrangements, increased density limits in shops, vaccination requirements to enter many premises.

## Schools & mitigation 107

Closed for end-of-year holidays in mid-Nov 2021 and returned to school in early Jan 2022.

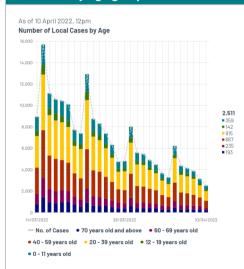
Standard PHSM, RAT tests for symptomatic students and staff and mandatory masks 6y+ with exceptions.

## Vaccination coverage 108

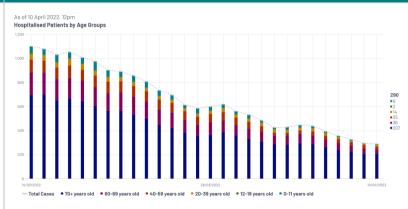
| Age group  | 1st dose | 2 <sup>nd</sup> dose | 3 <sup>rd</sup> /booster |
|------------|----------|----------------------|--------------------------|
| (years)    | (%)      | (%)                  | (%)                      |
| Total pop. | 93.0     | 92.0                 | 72.0                     |

Third/booster dose available for all aged 12y+. Vaccination for 12y+ commenced early June and 5-11y late Dec 2021. From 14 Feb 2022, all 18y+ must receive a booster dose within 270 days of their 2<sup>nd</sup> dose to be considered fully vaccinated. The same applies to all 12-17y from 14 Mar 2022.

## Infections by age group 109



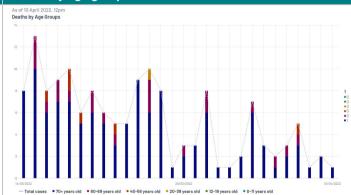
### Hospitalisations in children 110



One child was admitted to ICU due to MIS-C for the entire pandemic.

There have been five reported cases of MIS-C throughout the entire pandemic, last reported  $8\ Nov\ 2021$ .





There have been 0 deaths in children throughout the entire pandemic.

Page 20 | Number 16: 11 April 2022









https://www.moh.gov.sg/covid-19-phase-advisory

https://www.moe.gov.sg/faqs-covid-19-infection

https://www.moh.gov.sg/

https://www.moh.gov.sg/ https://www.moh.gov.sg/

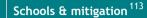
<sup>111</sup> https://www.mon.gov.sg/

### South Africa

PHSM<sup>112</sup>

(population 60.4 million)

## Since Feb 2022, asymptomatic cases are not required to isolate, mandatory masks 6y+ with exceptions. Previous curfew and density limits lifted.



Closed for end-of-year holidays in mid-Dec 2021 and returned to school in early Jan 2022.

Standard PHSM, ventilation, symptom screening, mandatory masks 6v+ with exceptions and visitor limits.

## Vaccination coverage 114

Age group Fully

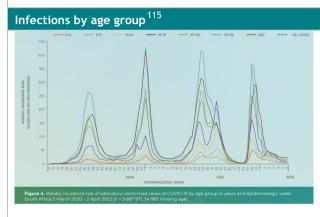
(years) vaccinated\* (%)

18+ 49.0

\*Note: South Africa also uses the J&J/Janssen vaccine which is a single-dose vaccine.

Vaccination is available for all aged 12y+. Coverage data for 12-

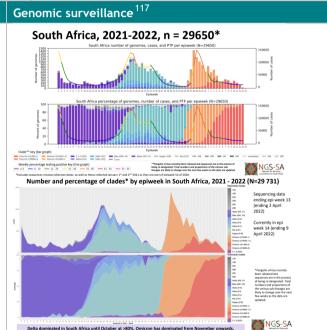
17y not available.



## Hospitalisations in children and deaths by age group 116



Total of 848 deaths with COVID-19 in children 0-19y throughout the entire pandemic. Deaths in children account for <1% of all deaths in South Africa.



Omicron (BA.2) is the dominant variant.





https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19

https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19

<sup>114</sup> https://sacoronavirus.co.za/latest-vaccine-statistics/

https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-epidemiological-brief/

<sup>116</sup> https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/daily-hospital-surveillance-datcov-report/

https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/sars-cov-2-genomic-surveillance-update/

## **USA**

## (population 332.8 million)

| PHSM <sup>118</sup>   | Schools & mitigation 119  | Vaccination coverage 120   |  |                          |  |   |
|---|---|--|--|--------------------------|--|---|
| The US CDC recommends indoor mask wearing for all aged 2y+ in areas of high community                                 | Closed for winter holidays in late Dec 2021 and reopened from early Jan 2022.   | Age group<br>(years)   | 1 <sup>st</sup> dose<br>(%)  | Fully<br>vaccinated* (%) | 3 <sup>rd</sup> /booster<br>(%)  | *Note: The US also uses the J&J/Janssen vaccine which is a single-dose vaccine. |
| transmission, physical distancing, hand & surface hygiene, TTIQ, but adoption varies by                               | Standard PHSM, cohorting, masks, PCR &  | 5-11   | 34.6   | 28.0                     | -  | Third/booster dose for 65y+ and other high-risk individuals from Sep            |
| State/Territory.  | RAT screening, but adoption varies by State/Territory.  | 12-17  | 68.5   | 58.5                     | 23.8   | 2021, expanded to all 18y+ from late<br>Nov 2021 and 12y+ from early Jan        |
|   | ,   | 18+  | 88.6   | 75.7                     | 48.7   | 2022. Vaccination offered to 12y+<br>from May and 5-11y from Nov 2021.          |
| Infections by age group <sup>121</sup>  | MIS-C 122   | Deaths by ag   | e group <sup>123, 1</sup>  | 24                       | Genomic surve  | eillance <sup>125</sup>   |
| COVID-19 Weekly Cases per 100,000 Population by Age Group, United States  March 01, 2020 - April 09, 2022*  Age Group | The shaded area on the right side of the figure represents the most recent six weeks of data, for which reporting of MIS-C cases is still incomplete.  MIS-C Patients By Age Group  There have been 7880 cases of MIS-C throughout the entire pandemic, including 66 deaths. The median age of MIS-C cases was 9y and half were between 5-13y. Data to Report #15, 04 Apr 2022. | Total 962 deaths throughout the eof all deaths in t There is marked fatality rates are majority of State e.g. Texas (n=12' | 100,000 Population by Age 4 h 01, 2020 - April 09, 2022*  Management of the Coving State of Week Week With COVID-19 entire pandemic, he US.  Variation by State between 0-0.0' es and Territorie 7); Arizona (n=6); Puerto Rico (r | Age Group  Age Group     | United States: 12/26/2021  1075  975  1178 |   |



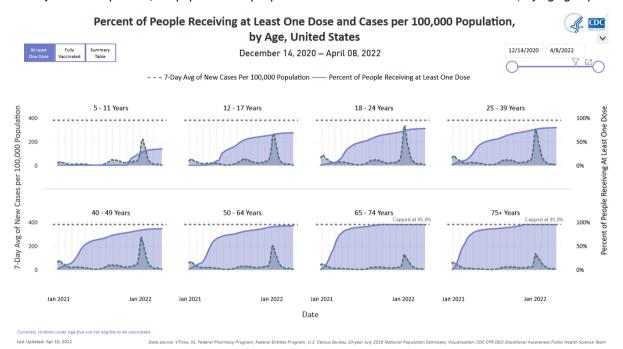


<sup>118</sup> https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html
119 https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html
119 https://covid.cdc.gov/covid-data-tracker/#waccinations vacc-total-admin-rate-total
11 https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
121 https://covid.cdc.gov/covid-data-tracker/#mis-national-surveillance
122 https://covid.cdc.gov/covid-data-tracker/#mis-national-surveillance
124 https://www.cdc.gov/nchs/nvss/vsrr/covid.weekly/index.htm
125 https://www.cdc.gov/nchs/nvss/vsrr/covid.weekly/index.htm
126 https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
126 https://covid.cdc.gov/nchs/nvss/vsrr/covid.weekly/index.htm

https://covid.cdc.gov/covid-data-tracker/#variant-proportions
https://covid.cdc.gov/covid-data-tracker/#variant-proportions
phtps://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/
https://gis.cdc.gov/grasp/COVIDNet/COVID19\_3.html

## USA: Impact of vaccination on disease incidence

Seven-day incidence per 100,000 population in people who received at least one dose of vaccine, by age group. <sup>128</sup>









https://covid.cdc.gov/covid-data-tracker/#vaccinations-cases-trends



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https://www.mcri.edu.au/research/themes/infection-and-immunity/asia-pacific-health





