







COVID-19 and Children's Surveillance Report

Number 17

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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. In the absence of random sampling of the population by age group or seroprevalence surveys, trends in case numbers are relatively an unreliable indicator to determine how much SARS-CoV-2 is circulating. Due to the nature of the testing, the number of cases and the age distribution of cases will be biased towards the age groups that are tested most. This means that if there is asymptomatic screening in school-age children then it will appear that children contribute more to case numbers than any other age group.

Overview

- The Omicron variant of concern² has been detected in 181 countries³ (up from 179 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, the UK and the USA. BA.1 remains predominant in Finland and BA.4 has replaced BA.2 as the predominant variant in South Africa. 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. 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.
- In the UK, seroprevalence surveys found that 97.6% of children aged 8-11 years had evidence of prior infection with SARS-CoV-2 by the third week of Feb 2022 during the Omicron (BA.1) wave. 4

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.
- Currently, there are no mask mandates for primary school-age children in any Australian state or territory. Victoria and Western Australia had a mask mandate for year 3 onwards until
 the end of term 1 2022. NSW and Victoria mandated masks for secondary school students until late Feb 2022. The ACT requires masks for high school students who are household contacts.
 Tasmania requires all school staff and secondary school students to wear masks. No Nordic countries have had mask mandates for children and several countries have never recommended

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/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/coronaviruscovid19antibodydataforther







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

² World Health Organization (WHO). Update on Omicron 28 November 2021. Geneva, Switzerland: WHO; 2021. https://www.who.int/news/item/28-11-2021-update-on-omicron of SISAID. Tracking of Variants. Munich, Germany: GISAID; 2022. https://www.gisaid.org/hcov19-variants/

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.

- 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 ~5-80% among 5-11 year olds and ~54-99% among 12-15 year olds.

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 was no evidence during these periods 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. This also coincided with an increase in testing availability during school term. During term 1, infections in school-age children peaked in NSW and the ACT in mid-Mar and in Tasmania in late Mar to early Apr 2022, 2-4 weeks before school holidays commenced.
- 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.⁵
- 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:
 - o 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. 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). 8 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 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 with admission to ICU for monitoring and treatment. 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





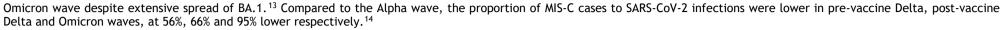


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Pediatric COVID-19 update: 7. Journary 2022. New York, USA: New York State Department of Health; 2022. https://www.health.nvg.gov/press/releases/2022/docs/p2ediatric_covid-19_hospitalization_report_summary.pdf
Marks KJ, Whitaker M, Anglin O, et al. Hospitalizations of children and adolescentes with laboratory-confirmed COVID-19 - COVID-NET, 14 States, July 2021 - January 2022. https://www.ndc.agov/mmwr/volumes/71/wr/mm7107e4.htm
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⁹ Wang L, Berger NA, Kaelber DC, et al. Incidence rates and clinical outcomes of SARS-CoV-2 infection with the Omicron and Delta variants in children younger than 5 years in the US. JAMA Pediatrics, 2022. https://doi.org/10.1001/jamapediatrics, 2022.0945 11 Omicron drives record cases of child COVID hospitalisations. Financial Times. 17 January 2022. https://www.ft.com/content/28be9d3f-0b12-4c33-bda9-fbff375c0b7e

¹² Does Omicron hit kids harder? Scientists are trying to find out. Nature. 04 February 2022. https://www.nature.com/articles/d41586-022-00309-x

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- 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 14 Mar to 24 Apr 2022, of 60,496 people tested and working in education or childcare, 64.7% were positive. In comparison, 65.1% of the 1,060,385 adults tested were positive in the same period. 16
- 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.

Updates from new publications

- A seroprevalence study in the United States found that 68% of children aged 1-4 years, 77% aged 5-11 years and 74% aged 12-17 years were infected over six months, highlighting the high transmissibility of the Omicron variant. 17
- In the United States, acute upper airway disease in SARS-CoV-2 positive children increased during the Omicron wave (1.5% pre-Omicron vs 4.1% Omicron). More than one-fifth of children hospitalised with SARS-CoV-2 and upper airway disease developed severe disease. 18
- During the Omicron period (mid-Dec 2021 to late Feb 2022) in the USA, COVID-19-associated hospitalisation rates in children aged 5-11 years were approximately twice as high among unvaccinated as among vaccinated children. There were no underlying medical conditions in 30% of children and 19% were admitted to ICU. Children with diabetes and obesity were more likely to experience severe COVID-19.19
- During the Omicron wave in South Africa, paediatric cases were higher than in the three previous SARS-CoV-2 waves and hospitalisations in children uncharacteristically increased ahead of adults. Nearly two-thirds (63%) of the paediatric hospitalisations were in children aged 0-4 years and 44% of these had a primary diagnosis of COVID-19. Most of these children (88%) required standard ward care and 20% needed oxygen therapy, while 5% were ventilated and 3% died during the study period. All children were unvaccinated against COVID-19. 20

²⁰ Cloete J, Kruger A, Masha M, et al. Paediatric hospitalisations due to COVID-19 during the first SARS-CoV-2 omicron (B.1.1.529) variant wave in South Africa: a multicentre observational study. Lancet Child & Adolescent Health. 2022;6(5);294-302. https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(22)00027-X/fulltext







¹⁰ Cohen JM, Carter MJ, Cheung CR, et al. Lower risk of paediatric inflammatory multisystem syndrome (PIMS-TS) with the Delta variant of SARS-CoV-2 [Preprint]. medRxiv. 2022. https://www.medrxiv.org/content/10.1101/2022.03.13.22272267v1
14 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/10.1101/2022.03.13.22272267v2

¹⁵ EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps
16 National 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.rivm.nl/en/coronavirus-covid-19/children-and-covid-19/research-results-gggd-data

Clarke KEN, Kim Y, Jones J, et al. Pediatric infection-induced SARS-CoV-2 seroprevalence estimation using commercial laboratory specimens; how representative is it of the general U.S. pediatric population? [Preprint]. SSRN. 2022. https://papers.csrn.com/sol3/pa 18 Martin B, DeWitt PE, Russell S, et al. Acute upper airway disease in children with the Omicron (B.1.1.529) variant of SARS-CoV-2 - a report from the US National COVID Cohort Collaborative. JAMA Pediatrics. 2022. https://jamanetwork.com/journals/jamapediatrics/fullarticle/2791278

¹⁹ Shi DS, Whitaker M, Marks KJ, et al. Hospitalizations of children aged 5-11 years with laboratory-confirmed COVID-19 - COVID-NET, 14 States, March 2020 - February 2022. MMWR. 2022:71(16):574-81. https://www.cdc.gov/mmwr/volumes/71/wr/mm7116e1.htm?s_cid=mm7116e1_w

Summary of COVID-19 epidemiology in children and adolescents

Country	Predominant variants	Cases	Hospitalisations	MIS-C/PIMS-TS	Deaths^
ACT, Australia	Not reported	Stable	Stable	Not reported	0
NSW, Australia	Omicron BA.2	\downarrow	*	Not reported	4 ^b
TAS, Australia	Not reported	↓	Not available	Not reported	0
VIC, Australia	Not reported	Stable	Not available	Not reported	2 ^b
Canada	Omicron BA.2	_	^*	Not reported	37 ^b
Denmark	Omicron BA.2	Stable	Stable	44 cases⁺	7 b
England, UK	Omicron BA.2	\downarrow	Stable	Not reported	90b,#,±
Finland	Omicron BA.2	\downarrow	↓	Not reported	0
Netherlands	Omicron BA.2	\downarrow	Stable	Not reported	Not reported
Scotland, UK	Omicron BA.2	\downarrow	\downarrow	Not reported	5a,#
Singapore	Not reported	↓	Stable	5 cases-	0
South Africa	Omicron BA.4 & BA.5	↑	↑	Not reported	853b
USA	Omicron BA.2	↑	Stable	7880 cases	1017 ^b

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







^{*}Available data includes both children and adults.

^{*}During the Omicron period (1 Nov 2021 - 1 Feb 2022). `Last reported 8 Nov 2021. *Last reported 7 Apr 2022.

[^]Age range for child deaths between 0-19y except Scotland (0-14y) and USA (0-17y). Deaths adue to COVID-19 or bwith COVID-19. "In the past year.

Summary

- In Australia, COVID-19 Public Health and Social Measures (PHSM) and trends differ by State/Territory.
 - o Nationwide, approximately 53% of 5-11 year olds and 85% 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 nationwide reported testing for RAT. Self-reported positivity across all age groups was 18.3% for PCR and 7.9% for RAT.²¹
- The ACT closed schools for holidays in early Apr and reopened in late Apr 2022.
 - o Masks are no longer required in most settings and the advice to work from home has been removed.
 - o Schools have multi-layered mitigation strategies in place, including mask-wearing only for high school students who are household contacts. 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 stabilising, with currently -800 confirmed cases per day in all ages.
 - Infections are highest in the 18-39 year age group and lowest in the 0-17 and 65+ year age groups. 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.
 - o Hospitalisations rates for 0-17 year olds is very low at 1 per 100,000. It is unknown how many are incidental. Of all the hospitalisations in <17 years, three quarters are unvaccinated.
 - o There have been no deaths in children throughout the entire pandemic.
- NSW schools closed for holidays in early Apr and reopened in late Apr 2022.
 - Masks are no longer required in most settings and advice to work from home has been removed.
 - o Schools have multi-layered mitigation strategies in place, including RATs for symptomatic individuals and close contacts and maximising classroom ventilation.
 - o Approximately 50% of 5-11 year olds and 83% of 12-15 year olds have received at least one dose of vaccine.
 - Case numbers are declining, with currently ~10,800 confirmed cases per day in all ages. Omicron subvariant BA.2 is the predominant variant.
 - Infections declined in school-age children 2-3 weeks before school holidays, which may be due to reductions in testing. Infections are highest in the 30-49 year age group and lowest in the 0-19 and 70+ year age groups. 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.
 - There is no data on hospitalisation trends by age, but overall hospitalisations are declining.
 - o Four children have died with COVID-19 throughout the entire pandemic.
- Tasmania closed schools for holidays in mid-Apr and reopened in early May 2022.
 - o Masks are no longer required in most settings.
 - Schools have multi-layered mitigation strategies in place, including mask-wearing for all school staff and secondary school students, RATs for symptomatic individuals and close contacts, cohorting and supply of air-purification devices.
 - o Approximately 64% of 5-11 year olds and 87% of 12-15 year olds have received at least one dose of vaccine.
 - o There are currently ~1000 confirmed cases per day in all ages. Case numbers in school-age children started declining two weeks before school holidays commenced.
 - Infections are highest in the 20-49 year age group, followed by the 12-19 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.
 - Since Dec 2021, there have been eight 5-19 year olds admitted to hospital for treatment, with one in ICU (aged 16-19 years). 33 children aged 0-4 years were hospitalised for treatment of COVID-19, with three admitted to ICU.
 - $\circ\quad$ There have been no deaths in children throughout the entire pandemic.
- Victoria closed schools for holidays in early Apr and reopened in late Apr 2022.
 - Masks are no longer required in most settings and advice to work from home has been removed. Schools have mitigation strategies in place, including improved ventilation and RAT testing.
 - Approximately 57% of 5-11 year olds and 89% of 12-15 year olds have received at least one dose of a COVID-19 vaccine.







²¹ FluTracking, FluTracking Reports (Australia), New South Wales, Australia: FluTracking; 2022, https://info.flutracking.net/reports-2/australia-reports/

- Case numbers are stable, with currently ~9,200 confirmed cases per day in all ages.
 - Infections are highest in the 30-39 year age group. 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.
- 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 a one-week holiday in mid-Mar 2022.
 - 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.
 - 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 became the predominant variant which caused a temporary steep increase in mid-Apr 2022. Cases are now declining.
 - There is no data on hospitalisation trends by age. Overall hospitalisations had increased before declining but are now increasing again.
 - There have been 37 deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
 - In the Province of British Columbia²² (data to Report #16, 11 Apr 2022):
 - 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 for one-week holidays in mid-Feb and mid-Apr 2022. Excess mortality in all age groups dramatically declined over the Omicron period but slightly increased before stabilising and decreasing over the past two months. 23
 - All restrictions have been lifted from Feb 2022.
 - Approximately 47% of 5-11 year olds and 81% of 12-15 year olds have received at least one dose of vaccine.
 - Infections are low and stable in all age groups.
 - Hospitalisations in children have remained relatively stable and very low.
 - There have been seven deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
- England closed its schools for holidays from early to mid-Apr 2022. Excess mortality in all age groups continues to dramatically decline over the Omicron period. 24
 - Most restrictions have been lifted. Some remain in place including advice to stay home if positive and mask-wearing in healthcare settings only. Free PCRs and RATs are no longer available for most people.
 - Approximately 5% of 5-11 year olds, 54% of 12-15 year olds and 66% of 16-17 year olds have received at least one dose of vaccine.
 - 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.
 - Infection rates are highest in the 80+ year age group and lowest in the 0-19 age group. Positivity rates are also highest in the 70+ age group.
 - Hospitalisations remain stable for most age groups, except in the 75+ age group which is declining but remains high. Hospitalisations remain lowest in children and are stable.
 - Deaths are no longer available by age group but total deaths in all age groups are decreasing.
- Finland closed its schools for a one-week holiday in mid-Feb 2022. Excess mortality fluctuated above and below the historical average over the Omicron period but is currently low and stable. 25
 - Few restrictions remain in place, including a recommendation to wear masks indoors.







²² 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

²² EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps
²⁴ Sundhedsstyrelsen [Danish Health Authority]. Opdatering vedr. covid-19 vaccination/Notat-vaccination/Notat-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

²⁵ 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

- Approximately 26% of 5-11 year olds and 79% of 12-17 year olds have received at least one dose of vaccine.
- o Infections peaked in Apr 2022 and are declining in all age groups. Infections are highest in the 25-49 year age group.
- o There is no hospitalisation data available by age. Total hospitalisations have peaked but remain high and are on a downward trend. Specialist care admissions remain low and stable in children.
- o There have been no deaths in children throughout the entire pandemic.
- The Netherlands closed its schools for one-week holidays in mid-late Feb and late Apr to early Mar 2022. Excess mortality declined over the Omicron period, before increasing slightly and decreasing over the past 6 weeks. ²⁶
 - o Few restrictions remain in place, including mask-wearing in airports only and advice to test if symptomatic.
 - 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 25-29 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 2.3% of all hospital admissions with COVID-19.
 - The number of deaths with COVID-19 in children is not reported.
- Scotland closed its schools for a one-week holiday in mid-Feb and a two-week holiday in early to mid-Apr 2022. Excess mortality in all age groups remains low and stable over the Omicron period. 27
 - o Most restrictions have been lifted. Some remain in place including mask-wearing on public transport and some indoor settings. From May 2022, testing is only available to high-risk groups and healthcare workers. Asymptomatic close contacts are not required to isolate and there is reduced isolation time for cases.
 - o Approximately 16% of 5-11 year olds, 68% of 12-15 year olds and 81% of 16-17 year olds have received at least one dose of vaccine.
 - 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. Infection rates are highest in the 20-39 year age group and lowest in children. Hospitalisations in children increased with the BA.2 wave but are now decreasing. For children, hospitalisations are highest in the <1 year age group. Hospitalisations also include children who test positive, irrespective of the reason for admission, so is an overestimate of hospitalisations for treatment of COVID-19.
 - There have been five deaths due to COVID-19 in children aged 0-14 years in the past year.
- Singapore closed its schools for a one-week holiday in mid-Mar 2022.
 - From late Apr 2022, restrictions have eased further to include mask-wearing indoors only (including schools), and removal of work from home advice, physical distancing requirements
 and density limits.
 - o Approximately 93% of the entire population has received at least one dose of vaccine. All children aged 5-11 years are offered vaccine.
 - o Following a peak in infections with BA.2, there is currently a downward trend with ~2400 cases per day, primarily in the 20-39 year age group.
 - \circ Overall hospitalisations are stable and admissions remain lowest in children.
 - 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 up until 8 Nov 2021.
 - $\circ\quad$ There have been no deaths in children throughout the entire pandemic.
- South Africa closed its schools for holidays in mid-Mar to early Apr 2022. Overall excess mortality declined over the Omicron period and is now close to baseline levels. 28
 - o Few restrictions remain in place, including mandatory indoor mask-wearing for all aged 6 years and older. Asymptomatic cases are not required to isolate.
 - o Approximately 49% of the entire population is fully vaccinated. Vaccination is only offered to those aged 12 years and older.
 - There was a rapid increase in infections due to Omicron BA.1 in all age groups followed by a rapid decrease. Omicron subvariant BA.2 overtook BA.1 as the predominant variant in late Jan 2022 but there was no increase in case numbers. Infections are currently increasing with BA.4 and BA.5 overtaking BA.2 as the predominant variants.
 - o Overall hospitalisations are stable although there seems to be a slight increase and so far, much less than the increase seen with BA.1.
 - 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.



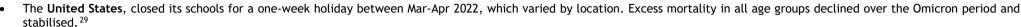




²⁶ EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps
²⁷ EuroMOMO. Graphs and maps. Copenhagen, Denmark: Statens Serum Institut (SSI); 2022. https://www.euromomo.eu/graphs-and-maps

²⁰ 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-covig

COVID-19 and Children's Surveillance Report



- 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 are increasing in all age groups due to the recent predominance of BA.2 and BA.2.12.1.
- o Hospitalisations continue to remain low and stable in children, although this is increasing in adults.
- o There have been 1017 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.
 - Texas has had the highest number of child deaths (146) and there are three States that have reported zero deaths throughout the entire pandemic. 30
- o A total of 7880 cases of MIS-C have been reported, including 66 deaths (data to Report #15, 04 Apr 2022).
 - 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.

and 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/







²⁹ 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



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)

PHSM³¹

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 32

Schools closed for holidays in early Apr and returned in late Apr 2022. Density limits no longer apply and masks are only required for high school students who are household contacts. RATs were provided to staff and students for the first eight weeks of the school year and are now provided on a needs basis.

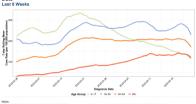
Vaccination coverage 33,34

Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)
5-11	80.4	65.6	-
12-15	>99.0	>99.0	-
16+	>99.0	>99.0	75.3

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 35

Figure 3: Rolling Mean of COVID-19 Case Rate by Age Group and Diagnosis Date!
Last 8 Weeks



Omicron (BA.2) is the dominant variant.

Table 6: Whole Genome Sequencing results

Reporting Week	Omicron sub lineage BA.1	Omicron sub lineage BA.2	Unassigned ¹	Total
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 (11.2%)	147 (86.4%)	4 (2%)	170
Week 14: Ending 03/04/2022	16 (11%)	131 (87%)	3 (2%)	150
Week 15: Ending 10/04/2022	18 (11%)	140 (83%)	11 (6%)	169
Week 16: Ending 17/04/2022	13 (8%)	144 (88%)	6 (4%)	163
Week 17: Ending 24/04/2022	14 (8%)	139 (84%)	13 (8%)	166

Hospitalisations in children 36

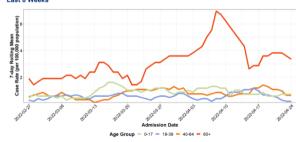
Table 5: Hospitalised COVID-19 Cases1 by Age Group and Vaccination Status

Age Group	3 doses of COVID-19 vaccine N (%)	2 doses of COVID-19 vaccine N (%)	1 doses of COVID-19 vaccine N (%)	Unvaccinated N (%)	Unvalidated/ Unknown N (%)	TOTAL
0-17	1 (1%)	15 (14%)	11 (10%)	81 (75%)	0 (0%)	108 (100%)
18-39	28 (17%)	60 (36%)	8 (5%)	69 (41%)	3 (2%)	168 (100%)
40-64	41 (21%)	66 (34%)	7 (4%)	75 (39%)	3 (2%)	192 (100%)
65+	86 (30%)	119 (41%)	12 (4%)	64 (22%)	6 (2%)	287 (100%)
TOTAL	156 (21%)	260 (34%)	38 (5%)	289 (38%)	12 (2%)	755 (100%)

Note:

¹Cases admitted to an ACT hospital, including those with a residential address in the ACT or another state or territory

Figure 6: Rolling Mean of Hospitalised¹ COVID-19 Case Rate by Date of Admission Last 8 Weeks



Notes:

"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 ACT hospit on multiple occasions, the earliest date of the hospital admission is used in the reporting week. Admissions are counted whether it was for COVID-related reason or for other reason.

Deaths by age group 37

Table 1: Case Status by Test Type

	Test Type	WEEK 17 ¹ Ending 24/04/2022	TOTAL ²
	PCR	3,481	62,662
New Cases	RAT	3,055	37,445
ĺ	Total	6,536	100,107
New Deaths		1	50

Not

¹Cases notified to ACT Health during the reporting period.

²Total 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.

murdoch
children's





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

³⁵ https://www.covid19.act.gov.au/updates/act-covid-19-statistics 36 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)

PHSM³⁸

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 closed for holidays in early Apr and returned in late April 2022. Masks are no longer required in most school settings and RATs are provided to symptomatic individuals and close contacts. Vaccination and maximising ventilation continue to be encouraged.

Schools & mitigation 39

Vaccination coverage 40,41								
Age group (years)	1st dose (%)	2 nd dose (%)	3 rd /booster (%)					
5-11	50.0	35.3	-					
12-15	83.1	79.5	-					
16+	96.2	94.8	62.5					

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 42

Figure 6. Daily seven-day rolling average rate of people reported with COVID-19 per 100,000 population, by age group, NSW, 1 January to 30 April 2022



Omicron (BA.2) is the dominant variant.

Table 3. Variants of concern (VOCs) identified by whole genome sequencing (WGS) of virus from people who tested

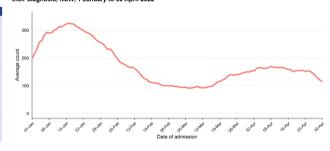
Variant		Week	ending	
Variant	09 April	16 April	23 April	30 April
Omicron (BA.1)	27	12	8	0
Omicron (BA.2)	619	463	281	9
Omicron (BA.4)	0	0	4	2
Omicron (BA.5)	0	0	2	0
Mixed BA.1/BA.2*	1	0	0	0
Recombinant BA.1/BA.2 (XE) ^A	5	0	0	0
Recombinant BA.1/BA.2 (XU-like) [^]	0	0	1	0
Total	652	475	296	11
* 'Mixed' infections occur when two sepa specimen. ^ Recombinant virus sequence single strain that contains genomic region.	ces occur when t	wo separate viri		

Hospitalisations in children and deaths by age group 43

Table 1. Number of people with a COVID-19 diagnosis in the previous 14 days who were admitted to hospital, admitted to ICU or reported as having died in the week ending 30 April 2022

		Admitted to hospital (but not to ICU)	Admitted to ICU	Deaths
-	Female	353	34	42
Gender	Male	337	45	41
Ō	Not stated	1	0	0
	0-9	46	3	0
	10-19	25	5	0
	20-29	51	3	1
۵	30-39	68	3	0
group	40-49	36	8	1
Age	50-59	56	7	2
∢	60-69	79	21	7
	70-79	119	17	12
	80-89	155	8	30
	90+	56	4	30

Figure 1. Daily seven-day rolling average of people with COVID-19 admitted to hospital within 14 days of their diagnosis, NSW, 1 January to 30 April 2022



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.

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.





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

⁴¹ https://twitter.com/NSWHealth

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

⁴³ https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx

Australia: Tasmania

(population 540,000)

PHSM ⁴⁴	Schools & mitigation ⁴⁵	Vaccination coverag	e ⁴⁶		
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 closed for holidays in mid-Apr and returned in early May 2022. Masks for staff in all schools and secondary students, RATs are provided to symptomatic individuals and close contacts, cohorting and supply of air-purification devices. Vaccination continues to be encouraged.	Age group (years) 5-11 12-15 16+ Fourth dose for immunocor available to all eligible add dose available to all 65y+ a recommendation extended mid-Jan 2022. Vaccination	ults aged 18y+ and 1 and high-risk groups I to all severely imn	16-17y from 3 Feb 20 from 4 Apr 2022. Th nunocompromised pe	22, second booster aree primary dose
		illia sali zozz. Vaccillacion	101 5 TTy available	Trom to san 2022.	

Infections by age group 47

1.6 Weekly number of COVID-19 cases per 1000 people notified in Tasmania since 15 December 2021, by age group

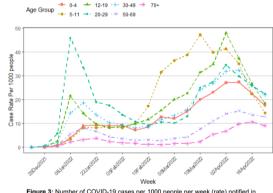


Figure 3: Number of COVID-19 cases per 1000 people per week (rate) notified in Tasmania, since 15 December 2021, by age group.

Hospitalisations in children and deaths by age group 48

3.2 Clinical severity and deaths in reported COVID-19 cases, by age group

Table 11: Number of cases hospitalised with COVID-19, number of cases hospitalised due to COVID-19, number of cases 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 23 April 2022, by age group.

Age Group (years)	All Hospital Admissions with COVID-19	Hospital Admissions due to COVID-19*	Intensive Care Admissions	Deaths
0-4	54	33	3	
5-11	16	3	-	-
12-15	13	3	-	-
16-19	13	2	1	-
20-29	90	24	4	-
30-39	87	25	2	-
40-49	59	26	3	-
50-59	69	31	3	1
60-69	102	45	5	11
70-79	121	60	6	3
80-84	54	34	-	3
85+	79	36	-	16
Total	757	322	27	34

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 attributed to COVID-19 have been included. Where the recorded death has been attributed to 'other causes' it has been excluded.

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

3.3 Clinical severity and deaths in reported COVID-19 cases, by vaccination status

Table 12: Number of cases hospitalised with COVID-19, number of cases hospitalised due to COVID-19, number of cases with COVID-19 admitted to ICU (for any reason), and deaths for which COVID-19 was a cause or contributing factor 15 December 2021 to 23 April 2022, by vaccination status.

Number of Reported Vaccination Doses	Reported Cases	All Hospital Admissions with COVID-19	Hospital Admissions due to COVID-19	Intensive Care Admissions	Deaths	
0 doses	12,067	173	79	10	12	
1 dose	12,619	29	13	1	-	
2 or more doses	62,466	521	218	15	17	
Unknown	42,121	34	12	1	5	
Total	129,273	757	322	27	34	

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 to COVID-19 have been included. Where the death is reported to has been attributed to 'other causes' it has been excluded.







⁴⁴ https://www.coronavirus.tas.gov.au/families-community/current-restrictions

https://www.coronavirus.tas.gov.au/families-community/schools-and-childcare

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

Thttps://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 ⁴⁹	Schools & mitigation 50		Vaccination coverage ^{51,52}				
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.	Schools closed for holidays in early Apr and returned in late Apr 2022. Masks are no longer required for all students and RATs are provided for twice-weekly testing. Vaccination continues to be encouraged.		Age group (years) 1st dose (%) 2nd dose (%) 3rd/booster (%) 5-11 56.6 39.8 - 12-15 89.3 85.5 - 16+ 95.3 93.9 - 18+ 67.8 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 53	Hospitalisations in children ⁵⁴		Deaths by age group 55				
Rapid antigen vs PCR cases 2022	Current cases in hospital 456 cases in hospital 22 cases in ICU No age breakdown		00-09 10-19 20-29 20-29 30-39 40-49 50-59 10-69 20 70-79 60-89			andemic, including one 15 year	





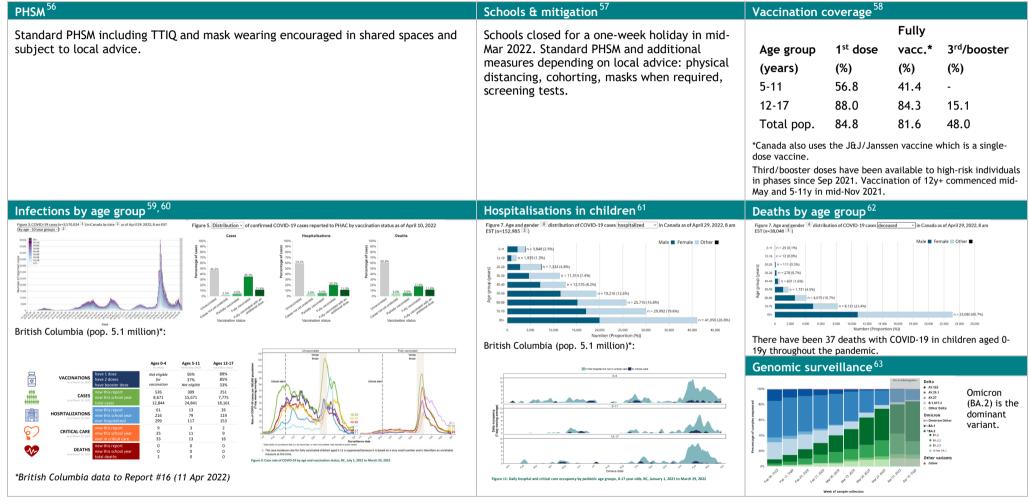


⁴⁹ https://www.coronavirus.vic.gov.au/coronavirus-covidsafe-settings
²⁰ https://www.coronavirus.vic.gov.au/education-information-about-coronavirus-covid-19
³⁰ https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update
³⁰ https://twitter.com/VicGovDH

Data from: 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 https://www.coronavirus.vic.gov.au/additional-covid-19-case-data/cases-in-hospital

Canada

(population 38 million)



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







⁵⁷ https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/planning-2021-2022-school-year-vaccination.html

⁵⁸ https://health-infobase.canada.ca/covid-19/vaccination-coverage/

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

http://www.bccdc.ca/schools/news-resources/data-for-k12

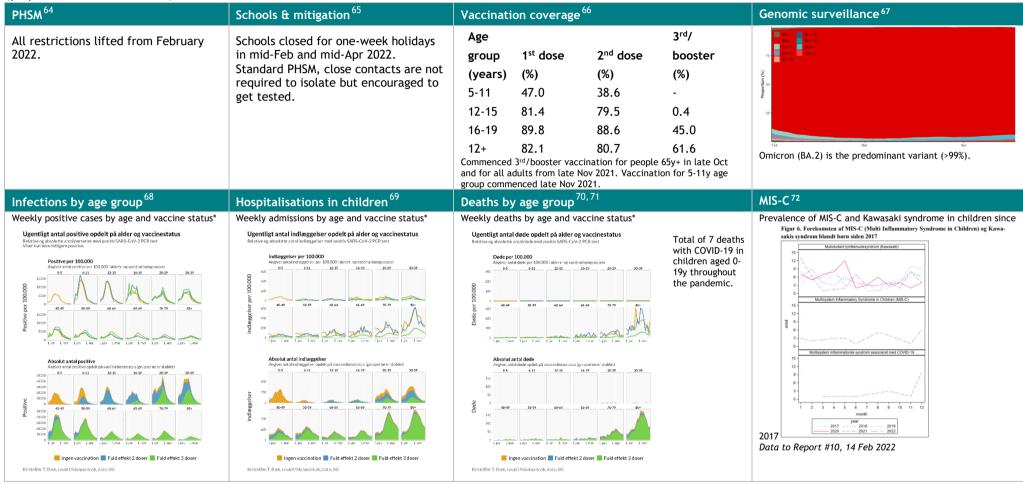
https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html

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

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)







https://en.coronasmitte.dk/rules-and-regulations

https://en.coronasmitte.dk/rules-and-regulations

https://experience.arcgis.com/experience/9824b03b114244348ef0b10f69f490b4/page/page_3/

⁶⁷ https://covid19genomics.dk/statistics https://covid19danmark.dk/

⁶⁹ https://covid19danmark.dk/ https://covid19danmark.dk/

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 ⁷³	Schools & mitigation ⁷⁴	Vaccination coverage 75				
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.	Schools closed for holidays from early to mid-Apr 2022. Standard PHSM only.	Age 1st 2nd group dose 3rd/booster (years) (%) (%) 5-11 5.2 0.1 - 12-15 53.9 32.1 0.4 16-17 65.7 48.3 11.2 12+ 92.4 86.4 67.5 Third/booster dose available for all 16y+ 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.				
Infections by age group ^{76,77}	Hospitalisations in children ^{78,79}	Deaths by age group ⁸⁰				
Figure 3: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by age group Modeled daily percentage of the population restring positive for convenience (COVID-19 on now and throat south, by age group, friginal, 13 Maint to 23 April 2022	Figure 44: Weekly hospital admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch	Figure 55: Number of deaths by week of death and time since a positive COVID-19 test, England 2500 1				
250 100 19 20 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 19 30 10 29 100 10 10 10 29 100 10 10 10 29 100 10 20 100 10	(a) 250 00 200 00 100 100 100 100 100 100 100	2000 — 28 day definition — 80 day definition —				
Genomic surveillance 81	COVID-19-positive hospital admissions as a percentage of the rate during the January peak (rate in week ending 17 January 2021 = 100%), by age, England 104 years 5 to 14 years 15 to 24 years	Note: Deaths are no longer available by age group.				
Figure 5. Varient prevalence of available sequenced cases for England from 1 February 2021 as of 5 April 2022 Omicron (BA.2) is the dominant variant. Note: Data to Report #16 (11 Apr 2022)	400 200 200 200 201 2021 peek 100 17 January 100 17 Jan 21 24 Apr 22 17 Jan 21 24 Apr 22 Week ending					

 $^{^{73} \, \}underline{\text{https://www.gov.uk/guidance/covid-19-coronavirus-restrictions-what-you-can-and-cannot-do} \\$







⁷⁴ https://www.gov.uk/government/publications/actions-for-schools-during-the-coronavirus-outbreak/schools-covid-19-operational-guidance 75 https://coronavirus.data.gov.uk/details/vaccinations?areaType=nation&areaName=England

nttps://coronavirus.data.gov_uk/details/vaccinations/area ippe-mations/areaname=tngiand
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

⁸¹ https://www.government/publications/investigation-of-sars-cov-2-variants-technical-briefings

Finland

(population 5.5 million)

PHSM ⁸²	Schools & mitigation 83	Vaccination coverage 84			
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 one-week holiday in mid-Feb 2022. Standard PHSM, cohorting and ventilation.	recommended	for 12y+ with s	evere immuno	3 rd /booster (%) - 2.4 64.0 aged 18y+. Fourth dose deficiency. Vaccine ren from late Dec 2021.
Infections by age group 85	Hospitalisations in children ⁸⁶	Deaths by ag	ge group 87		
Finland: 14-day age-specific COVID-19 case notification rate - 419r - 15-24p - 25-48p - 55-44p - 55-44p - 15-24p - 15-2	Rate of admission to specialist care by age group: Covid-19-ta-truman vuokal erikolosatrianbilotoon vuodeavastolis joutumisen Branchivuus 2 pilvin liutuvusta ajanksioli ilärymmitain rokkustatkisen mukaan 224 245 245 245 245 245 245 24	3,000 2,000 1,000 0 0 There have been Genomic sur	veillance 88 and of concern intributions 1.1.1.7 Bil 1672 1.1.2.1 Bil 1529 1.1.1.1.0 Otter	2.5k 2.5k 862 7 327 Omieron su distribu 100 100 100 100 100 100 100 1	out the entire pandemic. Unineage Long Long





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

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

Netherlands

(population 17.4 million)

PHSM⁸⁹ Schools & mitigation 90 Vaccination coverage 91 3rd/booster Age group 1st dose Fully vacc. Most restrictions have been lifted. Some remain in place Schools closed for one-week holidays in mid-late Feb and including mask-wearing in airports only and advice to late Apr to early May 2022. (years) (%) (%) (%) test if symptomatic. 5-11 6.0 3.0 Standard PHSM, mask wearing required for secondary 12-17 69.0 68.0 school staff and students, twice-weekly RAT screening for staff and secondary school students, ventilation, 18+ 86.4 63.9 quarantine arrangements based on case numbers within a Note: The Netherlands also uses the J&J/Janssen vaccine which is a single-dose vaccine. Third/booster dose available for all 18y+. Vaccine offered to 12-17y from cohort. early Jul 2021 and 5-11y from mid-Jan 2022. Infections by age group 92,93 Hospitalisations in children 94, 95 Deaths by age group 96 Distribution of age groups in the Netherlands Deaths by age group - 0-19 - 20-29 - 30-39 - 40-49 - 50-59 - 60-69 - 70-79 - 80-89 - 90+ -- All age group Data for recent days is incomplete due to reporting delays Source: NICE via RIVM The number of deaths in children is not known as the Netherlands provides a total Hospital admissions Number of reported positive tests per 100,000 inhabitants, by age ≡ sum of all deaths between 0-49 years. group, by week If we look at all hospital admissions (100,061) reported by the NICE Foundation 7 between 1 January 2021 and 26 Genomic surveillance 97 14 March to 24 April 2022 April 2022, 1.6% (1,602) were younger than 4 years old. 0.4% (384) were aged 4-11 years and 0.3% (344) were aged 12-17 years. The vast majority (97.7% or 97.731) of all people admitted to hospital with COVID-19 were aged 18 years or older. Age group (children Hospital admissions <4 1.6% 4-11 384 0.4% 12-17 0.3% >17 97,731 97.7% ✓ ■ wk 11 ✓ = wk 12 ✓ ■ wk 14 Omicron (BA.2) is the dominant variant. ✓ wk 15 ✓ ■ wk 16







thtps://www.government.nl/topics/coronavirus-covid-19/tackling-new-coronavirus-in-the-netherlands/coronavirus-measures-in-brief

https://www.rivm.nl/en/coronavirus-covid-19/children-and-covid-19

https://coronadashboard.government.nl/landelijk/vaccinaties https://coronadashboard.government.nl/landelijk/positief-geteste-mensen

https://www.rivm.nl/en/coronavirus-covid-19/children-and-covid-19/research-results-ggd-data

⁹⁴ https://coronadashboard.government.nl/landelijk/ziekenhuis-opnames

https://www.rivm.nl/en/coronavirus-covid-19/children-and-covid-19/research-results-ggd-data

[%] https://coronadashboard.government.nl/landelijk/sterfte

⁹⁷ https://www.rivm.nl/en/coronavirus-covid-19/virus/variants

Scotland, UK

(population 5.5 million)

PHSM ⁹⁸	Schools & mitigation 99	Vaccination coverage 100			
Most restrictions have been lifted. Some remain in place including mask-wearing on public transport and some indoor settings. From May 2022, testing is only available to high-risk groups and healthcare workers. Asymptomatic close contacts are not required to isolate and reduced isolation time for cases.	Schools closed for a one week holiday in mid-Feb and a two week holiday in early to mid-Apr 2022. Standard PHSM only.		-17y commence	d mid-Aug, 12-15	3 rd /booster (%) 1.3 12.6 73.5 r high-risk groups. 5y mid-Sep 2021 (initially data not available).
Infections by age group ¹⁰¹	Hospitalisations in children 102	Deaths by age			
Figure 5: Weekly total combined PCR and LFD cases (including reinfections) per 100,000 population in Scotland by age group, by specimen date. Data to 24 April 2022 ^{13 1} . Classes include cony PCR Cases constant control of the control o	Combined PCR BLPD Codes Apr 0-1 Apr 2-4 Apr 2-1 Apr 2-1 Apr 2-2 Apr 3-1 Apr 2-2 Apr 3-1 Apr 2-2 Apr 3-1 Apr 2-2 Apr 3-1 Apr 3	Figure 10: Weekly total in the death certificate, by a second of the d	ge group. Data to the we	# ek ending 24 April 2022. ##	dren aged 0-14y in the





https://www.gov.scot/coronavirus-covid-19/
https://www.gov.uk/government/publications/emergency-planning-and-response-for-education-childcare-and-childrens-social-care-settings
https://coronavirus.data.gov.uk/details/vaccinations/areaType-nationfaareaName=Scotland
https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/
https://scotland.shinyapps.io/phs-covid19-education/_w_852fb58e/
https://scotland.shinyapps.io/phs-covid19-education/_w_852fb58e/
https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/
https://www.rscotland.gov.uk/statistics-and-daaf/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

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

Singapore

PHSM 106

(population 5.5 million)

From late Apr 2022, restrictions have eased
further to include mask-wearing indoors
only, advice to work from home removed,
physical distancing requirements removed,
and density limits removed.

Schools & mitigation 107

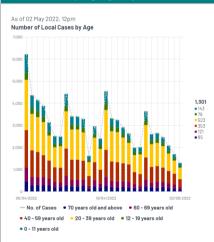
Schools closed for one-week holiday in mid-Mar 2022.

From late Apr 2022, standard PHSM, removal of cohorting and density limits, masks are still required indoors for all students and staff.

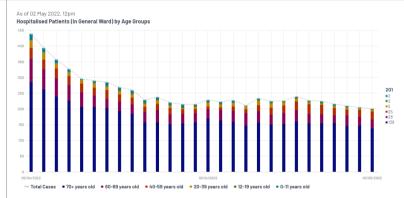
Vaccination coverage 108 1st dose 2nd dose 3rd/booster Age group (%) (years) (%) (%) 93.0 92.0 74.0 Total pop.

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 2nd dose to be considered fully vaccinated. The same applies to all 12-17y from 14 Mar 2022.

Infections by age group 109

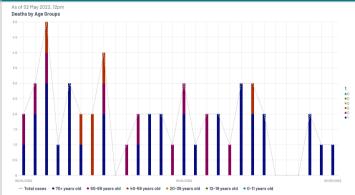


Hospitalisations in children 110



One child was admitted to ICU due to MIS-C and 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.









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

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

¹⁰⁸ https://www.moh.gov.sg/

¹⁰⁹ https://www.moh.gov.sg/ https://www.moh.gov.sg/

South Africa

(population 60.4 million)

PHSM¹¹² Schools & mitigation 113 Vaccination coverage 114 Age group Fully Further easing of restrictions from Apr 2022 to include Schools closed for holidays in mid-Mar to early Apr 2022. Standard asymptomatic cases are not required to isolate, (years) vaccinated* (%) PHSM, indoor mask-wearing. mandatory indoor mask-wearing 6y+ with exceptions. 18+ 49.4 *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. Infections by age group 115 Hospitalisations in children and deaths by age group 116 Genomic surveillance 117 Characteristics of COVID-19 cases in South Africa by age and sex South Africa, 2021-2022, n = 31646* The number of reported admissions may change day-to-day as new facilities enroll in this sentinel surveillance. The current epidemiological week may have fewer admissions as it is incomplete. 73011 Number and percentage of clades by epiweek in South Africa, 2021 – 2022 (31 646*) ● Female ● Male ● Unknown ● Female ● Male ● Unknown Sequencing data ending epi week 17 (ending 30 April Total of 853 deaths with COVID-19 in children 0-19y throughout the entire pandemic. Deaths in children account for <1% of all deaths in South Africa. April 2022) Delta dominated in South Africa until October at >80%. Omicron has dominated from Nov Omicron (BA.4 and BA.5) is now 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

¹¹⁴ 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/

¹¹⁶ 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 ¹¹⁸	Schools & mitigation 119	Vaccination coverage 120				
The US CDC recommends indoor mask wearing for all aged 2y+ in areas of high community	Schools closed for a one-week holiday between Mar-Apr 2022.	Age group (years)	1 st dose (%)	Fully vaccinated* (%)	3 rd /booster (%)	*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 & RAT screening, but adoption varies by State/Territory.	5-11	35.2	28.5	-	Third/booster dose for 65y+ and other high-risk individuals from Sep
State/Territory.		12-17	68.9	58.9	24.6	2021, expanded to all 18y+ from late Nov 2021 and 12y+ from early Jan
	_	18+	89.1	76.1	49.4	2022. Vaccination offered to 12y+ from May and 5-11y from Nov 2021.
Infections by age group 121	MIS-C 122	Deaths by ag	e group ^{123, 1}	24	Genomic surve	eillance ¹²⁵
Age Group Age Group	Daily MIS-C cases and COVID-19 Cases Reported to CDC (7-Day Moving Average) 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. Note: Data to Report #15, 04 Apr 2022.	COVID-19 Weekly Deaths per March Mar	100,000 Population by Age G 101, 2020 - April 30, 2022* Manage Case Entered Date by East of Week' 2 Case Entered Date by East of Week' 2 Septiment COVID-19 2 septiment COVID-19 3 septiment COVID-19 3 septiment COVID-19 4 septiment COVID-19 5 septiment COVID-19 6 septiment COVID-19	Age Group Age Group -0.4 -0.5-11 -12.15 -16.17 -13.29 -50.66 -16.74 -75: in children 0-17y accounting for 0.1% re/Territory and case % for the vast 126: 7); California (n=70);	United States: 1162022-	United States: 4177/2022 - 4/23/2022 NOWCAST USA USA USA USA USA USA USA



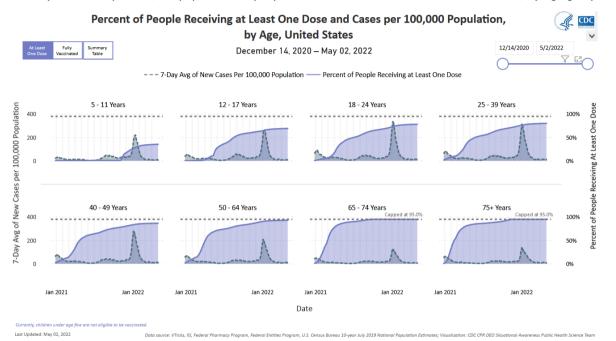


¹¹⁸ https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html
119 https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html
120 https://covid.cdc.gov/covid-data-tracker/#vaccinations vacc-total-admin-rate-total
121 https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
122 https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
123 https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
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://www.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 https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/ https://gis.cdc.gov/grasp/COVIDNEY-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. 128









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



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 $\underline{\text{https://www.mcri.edu.au/research/themes/infection-and-immunity/asia-pacific-health}}$





