







# COVID-19 and Children's Surveillance Report

Number 7

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### Overview

- This weekly summary documents the latest COVID-19 surveillance data in children and adolescents, with a focus on Victoria and New South Wales (NSW) 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 also searched for but is not always available.
- This report is updated weekly using the most recently available data from government websites.
- Surveillance data for the Omicron variant of concern is included for most countries in this report.
- The number of infections in unvaccinated and vaccinated children (as vaccines have little effect against Omicron infection but are still highly effective against severe disease) may also increase if school mitigation measures are few, or there are changes to testing criteria and the adoption of screening in schools. The number of cases will be biased towards the age groups that are tested most.





## **Summary**

- Throughout 2021, the proportion of infections in unvaccinated children generally increased as vaccination of adults increased. This proportion is likely to increase irrespective of vaccination status as vaccines have low effectiveness against Omicron infection. Many countries are now vaccinating adolescents and others, including Australia, most European countries, Singapore and the USA, have begun vaccinating children aged 5 years and over.
- With the predominance of Omicron in many settings and with vaccines having low effectiveness against infection, the age distribution of infection has changed again. Early reports from NSW, the UK and Denmark, regions which have intensive surveillance, indicate that transmission mainly occurs in 20-29 year olds for now, with children and adolescents less affected. However, some settings have had lockdowns and closed schools and other settings have only just started to open schools again, so these mobility changes have started to change the age distribution over time.
- COVID-19 epidemiology in children and adolescents varies by setting.
- Many schools were closed for the end-of-year holidays and some have reopened in early January 2022.
- The Omicron variant of concern<sup>3</sup> was first reported from South Africa on 25 November 2021. At the time of writing, it has been detected in 123 countries<sup>4</sup>, up from 118 countries in the last report. Omicron is now the predominant variant across many countries due to its high transmissibility, including in Australia, South Africa, the UK and USA.
- There has been an increase in paediatric hospitalisations but this has been a combination of admission for COVID-19 treatment and incidentally testing positive when admitted for an unrelated condition. 5 Nevertheless, being a COVID-19 positive patient presents its own health care and workforce challenges.
- While paediatric infections and hospitalisations are rising in the US, the outcomes are less severe with Omicron compared to Delta.<sup>6</sup>
- Up until school holidays and before the predominance of the Omicron variant, infections appeared to be stable in children and adolescents in Victoria and declined in NSW with the return of face-to-face learning despite many school infections. This could be attributable to high vaccine coverage in ≥12 year olds and implementation of mitigation measures in schools including test, trace, isolate and quarantine (TTIQ).
- Victoria closed schools for holidays from 18 December 2021. Early childhood centres have remained open.
  - o Density limits have been reintroduced with work from home default, indoor mask wearing is required for all aged 8 years and older.
  - Schools will reopen on 28 January 2022 with multi-layered mitigation strategies in place, including twice-weekly surveillance rapid antigen tests (RAT), 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. Remote learning will be considered as a localised, short-term last resort.
  - Approximately 86% of 12-15 year olds have received at least one dose of a COVID-19 vaccine. Children aged 5-11 years became eligible for vaccination from 10 January 2022, two doses given eight weeks apart, and ~30% have received their first dose.
  - There is now a clear downward trend of infections, with ~17,000 confirmed cases per day in all ages.
    - Omicron is the dominant variant, detected in ~76% of samples collected in late December 2021.
    - Infections are highest in the 30-39 year age group followed by the 20-29 years. Infections are decreasing in all age groups.
    - Testing capacity has been constrained in all ages due to increased demand. Since 8 January 2022, Victorian daily case numbers include both PCR and RAT positive results.
  - $\circ$   $\;$  There is no hospitalisation data available by age, but overall numbers are beginning to stabilise.
  - o Two children have died with COVID-19 throughout the entire pandemic.
- NSW schools closed for holidays from 18 December 2021. Early childhood centres have remained open.
  - o Indoor mask wearing is required for all aged 12 years and older.
  - Schools will reopen on 28 January 2022 with multi-layered mitigation strategies in place, including twice-weekly surveillance RAT, mandatory third vaccine dose for staff, supply of air-purification devices, masks required for all staff and high school students, and cohorting.
  - o Approximately 83% of 12-15 year olds have received at least one dose of vaccine. Children aged 5-11 years are now eligible for vaccination and ~28% have received their first dose.

Wang L, Berger NA, Kaelber DC, Davis PB, Volkow ND, Xu R. Comparison of outcomes from COVID infection in pediatric and adult patients before and after the emergence of Omicron. medRxiv [preprint]. 2022;21268495. https://doi.org/10.1101/2021.12.30.21268495







<sup>&</sup>lt;sup>1</sup> Russell FM, Anderson V, Crawford N, Curtis N, Danchin M, Goldfeld S, Hart J, Keeble T, Medley T, Mulholland K, Ranganathan S, Suryawijaya Ong D, Overmars I, Perrett K, Steer A. COVID-19 in Early Childhood Education and Care & Schools. Research Brief Number 1, Version 1: 14 October 2021. Parkville, Victoria, Australia: Murdoch Children's Research Institute, The Royal Children's Hospital, University of Melbourne Department of Paediatrics; 2021. https://www.mcri.edu.au/sites/default/files/media/documents/covid-19 in early childhood education and Care and Schools.pdf

<sup>2</sup> American Academy of Pediatrics (AAP). Children and COVID-19: State-Level Data Report 14 October 2021. Illinois, US: AAP; 2021. https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/

<sup>&</sup>lt;sup>4</sup> American Academy of Pediatrics (AAP). Children and COVID-19: State-Level Data Report 14 October 2021. Illinois, US: AAP; 2021. <a href="https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infection">https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infection</a> <a href="https://www.hom.in/cews/item/28-11-2021-update-on-omicron">https://www.hom.in/cews/item/28-11-2021-update-on-omicron</a>
"dworld Health Organization (WHO). Update on Omicron 28 November 2021. Geneva, Switzerland: WHO; 2021. <a href="https://www.hom.in/cews/item/28-11-2021-update-on-omicron">https://www.hom.in/cews/item/28-11-2021-update-on-omicron</a>

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

<sup>&</sup>lt;sup>5</sup> New York State Department of Health. Pediatric COVID-19 Update 07 January 2022. New York, US: New York State Department of Health; 2022. https://www.health.ny.gov/press/releases/2022/docs/pediatric\_covid-19\_hospitalization\_report\_summary.pdf

- case numbers are on a downward trend, with currently -23,000 confirmed cases per day in all ages.
  - Omicron is the dominant variant.
  - Infections are highest in the 16-39 year age group and lowest in the 0-11 year age group.
- o There is no data on hospitalisation trends by age, but overall hospitalisations have increased in recent weeks.
  - From late November 2021 to early January 2022, 7 children aged 0-9 years were admitted to ICU, and 4 unvaccinated and 4 fully vaccinated adolescents aged 10-19 years were admitted to ICU.
- Two children have died with COVID-19 throughout the entire pandemic.
- In Europe and North America, cases are on the rise across all age groups in many countries, although there is now a downward trend in several countries and regions, including the United Kingdom, Canada and several states in the USA.
- Canada closed its schools for the holidays in December 2021 and they reopened in mid-January 2022.
  - o Public Health and Social Measures (PHSM) vary by province. Ontario introduced further restrictions including closure of indoor dining.
  - o Since November 2021, all 5-11 year olds have been offered vaccine with an eight week interval between doses. Approximately 51% of 5-11 year olds and 88% of 12-17 year olds have received at least one dose of vaccine.
  - o There was a steep increase in infections due to the Omicron variant, which overtook the Delta variant, but there is now a steep downward trend in all age groups.
  - There is no data on hospitalisation trends by age, but overall hospitalisations have increased in recent weeks.
    - In the Province of British Columbia, rising case rates among children since August 2021 (Delta wave) have not translated to an increase in hospitalisations (data to Report #5, 10 January 2022).
  - There have been 27 deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
- Denmark closed their schools early for the end-of-year holidays and they reopened in early January 2022.
  - Additional PHSM were reintroduced, including a partial lockdown due to a rapid rise in COVID-19 cases due to Omicron. Restrictions were eased in mid-January 2022, including the reopening of certain public venues.
  - o Approximately 82% of the population aged 12+ have received at least one dose of vaccine. The 5-11 year old vaccination program commenced in late November 2021.
  - Total infection rates continue to remain on a steep upward trend, although this is stabilising in the 50+ year age groups.
    - Omicron is now the predominant variant, causing >90% of all infections.
  - Hospitalisations in children have remained relatively stable.
  - o There have been three deaths with COVID-19 in children aged 0-19 years throughout the entire pandemic.
- England reopened its schools in early January 2022 following the end-of-year holidays.
  - o Additional PHSM were reintroduced in late November 2021, including indoor mask wearing, work from home default and proof of vaccination. RAT is available for all twice weekly.
  - Approximately 53% of 12-15 year olds and 66% of 16-17 year olds have received at least one dose of vaccine. Vaccination in 5-11 year olds is only recommended for immunocompromised children.
  - o Infections across most age groups remain high but are now on a downward trend overall, except the 5-9 year age group.
    - Omicron is now the predominant variant.
    - Infection rates are now highest in the 5-9 year age group and continue to increase. Infections in the 0-4 year age group are also on an upward trend, although infections remain lower than adults.
  - Overall hospitalisations are stabilising.
    - There was a steep increase in 0-4 year olds but rates in children remain the lowest compared to all other age groups.
    - Hospitalisations include children who test positive, irrespective of the reason for admission, so is an overestimate of hospitalisations for treatment of COVID-19.
    - Children admitted to hospital with Omicron require less support and are discharged earlier, compared to children admitted earlier in the pandemic.<sup>7</sup>
  - o There have been 78 deaths with COVID-19 in children aged 0-19 years in the past year.







<sup>&</sup>lt;sup>7</sup> Torjesen I. COVID-19: Omicron variant is linked to steep rise in hospital admissions of very young children, BMJ. 2022;376:o110. https://doi.org/10.1136/bmj.o110

- Finland reopened its schools in early January 2022 following the end-of-year holidays. There are no restrictions on children's activities.
  - o Additional restrictions were reintroduced in late December 2021, including indoor mask wearing, proof of vaccination, work from home default and density limits. Further restrictions were introduced in January 2022, including limits on household visitors, hospitality opening hours and access to public places.
  - o Approximately 76% of 12-15 year olds and 83% of 16-19 year olds have received at least one dose of vaccine (data to Report #6, 17 January 2022). All children aged 5-11 years are now offered vaccine.
  - o There continues to be a steep increase in infections in all age groups, especially in the 15-24 year olds. Infection rates are similar between people who are vaccinated or unvaccinated in most age groups (data to Report #6, 17 January 2022).
  - o Overall hospitalisations continue to increase (data to Report #6, 17 January 2022). Data on hospitalisations by age group is no longer reported.
  - There have been no deaths in anyone <30 years old throughout the entire pandemic.
- Scotland reopened its schools in early January 2022 following the end-of-year holidays.
  - o Restrictions eased in late January 2022, including removal of density and household visitor limits. Hybrid work arrangements will be re-introduced, replacing the direction to work from home. Indoor mask wearing remains mandatory. Despite having more restrictions than England, infection rates (1 in 20) were the same.<sup>8</sup>
  - Approximately 68% of 12-15 year olds and 82% of 16-17 year olds have received at least one dose of vaccine. Vaccination in 5-11 year olds is recommended for immunocompromised children.
  - Infections across all age groups are now decreasing.
    - Omicron is responsible for >90% of infections.
    - The 20-39 year age group continues to have the highest rates of infection.
  - Hospitalisations in children are on the rise, primarily 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.</li>
  - o There have been 2 deaths due to COVID-19 in children aged 0-14 years in the past year.
- Singapore reopened its schools in early January 2022 following the end-of-year holidays.
  - Restrictions were reintroduced in late September 2021, including indoor and outdoor mask wearing, work from home default and density limits.
  - o Approximately 91% of the entire population has received at least one dose of vaccine. All children aged 5-11 years are now offered vaccine.
  - o Currently there is an upward trend in overall infections with ~3100 cases per day, primarily in the 20-39 year age group.
  - o Overall hospitalisations are increasing, although admissions remain lowest in children.
  - A total of five cases of MIS-C have been reported (up to 8 November 2021), all from the Delta wave in mid-late 2021. There has been one ICU admission due to MIS-C.
  - o There have been no deaths in children throughout the entire pandemic.
- South Africa reopened its schools in early January 2022 following the end-of-year holidays.
  - o Certain restrictions such as the curfew and density limits were eased since late December 2021.
  - o Approximately 46% of the entire population is fully vaccinated. Vaccination for children 5-11 years old is not available.
  - o There was a rapid increase in infections due to Omicron in all age groups but this has rapidly decreased, with children <19 years having the lowest infection rates.
  - Overall hospitalisations are also now decreasing. However, many admissions were incidental (admitted for other reasons and subsequently test positive).
  - o There have been 788 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 have reopened in several States and Territories following the end-of-year holidays.
  - The US Centres for Disease Control and Prevention (CDC) recommend multi-layered PHSM, but adoption varies by State and Territory.
  - Approximately 29% of 5-11 year olds and 66% of 12-17 year olds have received at least one dose of vaccine. Since November 2021, all children aged 5-11 years have been offered vaccine with a three-week interval between doses.
  - There are large differences in infection and hospitalisation rates and the number of deaths in children between States and Territories, most likely due to differences in vaccination coverage and adherence to PHSM.
  - o Infections remain high but are stabilising in many US states. Infections are highest in the 18-39 year age group.
    - An estimated >99% infections were due to Omicron as of 15 January 2022.

BOffice for National Statistics (ONS). Coronavirus (COVID-19) Infection Survey, UK: 21 January 2022. London, UK: ONS; 2022. https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveypilot/latest







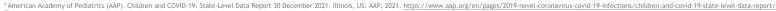
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- There was an increase in hospitalisation rates among children aged 0-4 years, but rates are now decreasing.
- o There have been 727 deaths with COVID-19 in children aged 0-17 years throughout the entire pandemic. This accounts for <0.1% of all COVID-19 deaths in the country.
  - Texas has had the highest number of child deaths (121) and there are four States that have reported 0 deaths throughout the entire pandemic.
- o A total of 6431 cases of MIS-C have been reported, including 55 deaths (data to Report #5, 10 January 2022).
  - There does not appear to be an increase in MIS-C despite the surge of Omicron cases, but surveillance is ongoing.
- The State of New York experienced its Omicron surge in December 2021. Rates of COVID-19 hospitalisation increased exponentially in all paediatric age groups but were very low compared to adults. 10 70% of children who contracted COVID-19 and were hospitalised were symptomatic and 54% had no comorbidities. The hospitalisation rate in children was 0.17 per 100,000 amongst those vaccinated vs 0.73 per 100,000 amongst those unvaccinated.
- 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.

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

Country	Cases	Hospitalisations	MIS-C/PIMS-TS	Deaths^
VIC, Australia	<b>↓</b>	Not available	Not reported	2 <sup>b</sup>
NSW, Australia	$\downarrow$	<b>↑*</b>	Not reported	2ь
Canada	$\downarrow$	<b>^*</b>	Not reported	27 <sup>b</sup>
Denmark	<b>↑</b>	Stable	Not reported	3ь
England, UK	$\downarrow$	Stable	Not reported	78 <sup>b,#</sup>
Finland	<b>↑</b>	<b>^*</b>	Not reported	0
Scotland, UK	$\downarrow$	<b>^*</b>	Not reported	<b>2</b> a,#
Singapore	<b>↑</b>	<b>↑</b>	5 cases	0
South Africa	$\downarrow$	<b>↓*</b>	Not reported	788b
USA	Stable	$\downarrow$	6431 cases	727 <sup>b</sup>

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



<sup>10</sup> New York State Department of Health, Pediatric COVID-19 Update 07 January 2022. New York, US: New York State Department of Health; 2022. https://www.health.ny.gov/press/releases/2022/docs/pediatric\_covid-19\_hospitalization\_report\_summary.pdf







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

<sup>^</sup>Age range for child deaths between 0-19y except Scotland (0-14y) and USA (0-17y). Deaths  $^a$ due to COVID-19 or  $^b$ with COVID-19.  $^\#$ In the past year.



Abbreviation	Term
CDC	US Centres for Disease Control and Prevention
MIS-C	Multisystem inflammatory syndrome in children
NSW	New South Wales, Australia
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: Victoria

(population 6.6 million)

PHSM <sup>11</sup>	Schools & miti	<u> -                                   </u>		Vaccination	coverage <sup>13,14</sup>		
Indoor mask-wearing required for all aged 8+, all shops open, TTIQ, QR check-in, proof of vaccination to attend some premises.		turned to onsite fu d all closed for holi		Age group (years) 5-11	1 <sup>st</sup> dose (%) 30.3	2 <sup>nd</sup> dose (%)	3 <sup>rd</sup> /booster (%)
From Jan 2022, density limits reintroduced and work from home default. A positive RAT result is reported as a "probable" COVID-19 case (treated as a PCR positive case and reported in daily case numbers). Certain essential workers can be exempt from close contact home isolation requirements to attend work.	2022. Multi-lay introduced, ind RAT, mandator supply of air-p for all staff and	eturn to onsite lea vered mitigation strong twice-week ry third vaccine do urification devices d students grade 3 ng will be consider tresort.	ategies will be ly surveillance se for staff, masks required and above.	12-15 16+ 18+ Fourth dose for it dose available to extended to all seconds.	88.6 94.1 - immunocompromised of all eligible adults ag	ged 18y+. Three prim promised people age	- 32.0 early Jan 2022, booster ary dose recommendation d 5y+ from mid-Jan 2022.
Infections by age group 15	Hospitalisation	ns in children <sup>16</sup>		Deaths by ag	ge group <sup>17</sup>		
Daily new cases (to 22/01/2022)	Current cases in hospital	<b>1,002</b> cases in hospital	<b>84</b> cases in ICU	People who have po 19 23/01/2022	assed away with COVID-		
10000   appgroup - T   9				Age group	Male	Female 1	Total
8 8000 ——1019 ≥ 20-79	No age breakdown			10-19	0	1	1
<u>—</u> 30-39				20-29	2	1	3
4000 ——40-49 ——50-59				30-39	8	1	9
2000				40-49	14	7	21
—8089 —90H				50-59	47	30	$\pi$
11:-Mar 11:				60-69	92	50	142
2020 2021 2022				70-79	247	142	390
From 8 Jan 2022, daily numbers include both PCR and RAT positive cases.				80-89	368	305	676
				Total	969	292	1805
					ve died with COVID-1	9 throughout the pan	demic, including one 15 conditions and in palliative







<sup>11</sup> https://www.coronavirus.vic.gov.au/coronavirus-covidsafe-settings
22 https://www.coronavirus.vic.gov.au/education-information-about-coronavirus-covid-19
23 https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update
24 https://twitter.com/VicGovDH

To 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/cayes-in-hospital

## Australia: New South Wales

(population 8.2 million)

Infections by age group 22

PHSM<sup>18</sup>

### Mandatory masks indoors and on public transport for all aged 12+, TTIQ, QR check-in, all shops open, proof of vaccination to attend some

open, proof of vaccination to attend some premises. Certain essential workers can be exempt from close contact home isolation requirements to attend work.

Figure 2. Seven day backward rolling average of COVID-19 cases rate per 100,000 population by age and notification date, NSW, from 26 November 2021 to 8 January 2022

### Schools & mitigation 19

All students returned to onsite fulltime schooling from 8 Nov and all closed for holidays from 18 Dec 2021.

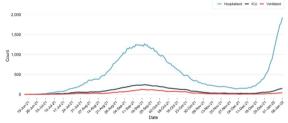
Students will return to onsite learning from 28 Jan 2022. Multi-layered mitigation strategies will be introduced, including twice-weekly surveillance RAT, mandatory third vaccine dose for staff, supply of air-purification devices, masks required for all staff and high school students, cohorting.

### Hospitalisations in children<sup>23</sup>

	1 Jan 20	20 – 15 Jun 2021	16 Jun	- 25 Nov 2021	26 Nov 2	021 – 8 Jan 2022
Age-group (years)	Hospitalised	Percentage of cases hospitalised	Hospitalised	Percentage of cases hospitalised	Hospitalised	Percentage of cases hospitalised
0-9	5	2%	290	2%	185	2%
10-19	8	2%	359	3%	124	2%
20-29	23	2%	970	7%	428	2%
30-39	43	4%	1,255	10%	502	4%
40-49	41	6%	1,293	14%	360	6%
50-59	59	8%	1,269	19%	440	8%
60-69	85	13%	1,046	27%	525	13%
70-79	68	17%	764	40%	679	17%
80-89	40	33%	508	54%	660	33%
90+	13	31%	128	54%	197	31%
Total	385	7%	7,882	10%	4,100	1%

Hospitalisations among people diagnosed with COVID-19, by age group, NSW, 1 January 2020 to 8 January 2022

Figure 4b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June 2021 to 8 January 2022



Many admissions in <12y children are for social reasons as parents are hospitalised for treatment of COVID-19. ~1% of primary school age cases are admitted for treatment of COVID-19. Graph is not available by age group.

### Vaccination coverage 20,21

Age group (years)	1st dose (%)	2 <sup>nd</sup> dose (%)	3 <sup>rd</sup> /booster (%)
5-11	28.0	-	-
12-15	82.7	78.4	-
16+	95.3	93.9	-
18+	-	-	33.5

Fourth dose for immunocompromised recommended from early Jan 2021, booster dose available to all eligible adults aged 18y+. 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.

### Deaths by age group 24

Table 7. Deaths following recent infection with COVID-19, by age group and location, 26 November 2021 to 8 January 2022

	Number of deaths	0	Location	or death	
Age-group (years)	Number of deaths	Case fatality rate	Health care facility	Aged care facility	
0-9	1	<1%	0	0	
10-19	0	0%	0	0	
20-29	1	<1%	1	0	
30-39	1	<1%	1	0	
40-49	0	0%	0	0	
50-59	3	<1%	3	0	
60-69	8	<1%	8	0	
70-79	29	<1%	25	4	
80-89	30	<1%	28	2	
90+	25	2%	17	7	
Total	98	<1%	83	13	

Table 6. Proportion of cases with a severe outcome (ICU and/or death) amongst all cases, by age, time of infection, and

Age-	1 Jan	2020 - 1	5 Jun		16 Jun 2021	– 25 No	v 2021			26	Nov 2021	– 8 Jan :	2022	
group (years)		2021		Two e	ffective doses	No e	ffective c	loses	Two effective doses No		No ef	No effective doses		
0-9	0%	(0/	251)			<1%	(10/	12,409)	-		-	<1%	(7/:	24,209
10-19	<1%	(1/	325)	<1%	(0 / 155)	<1%	(28/	10,078)	<1%	(4/	32,886)	<1%	(4/	7,458
20-29	<1%	(4/	1,115)	<1%	(2 / 1,035)	1%	(96 /	10,144)	<1%	(12/	88,028)	<1%	(4/	865
30-39	1%	(15/	1,098)	<1%	(5 / 1,406)	2%	(152 /	8,023)	<1%	(16/	52,145)	1%	(7/	643
40-49	2%	(12/	718)	<1%	(4 / 1,304)	3%	(178/	5,516)	<1%	(20/	36,605)	1%	(5/	393
50-59	4%	(30 /	710)	1%	(15 / 1,159)	7%	(261 /	3,795)	<1%	(23/	30,100)	7%	(14/	210
60-69	7%	(44/	656)	2%	(17 / 813)	13%	(228 /	1,772)	<1%	(47/	16,626)	8%	(15/	186
70-79	12%	(46 /	394)	7%	(37 / 565)	23%	(163/	708)	1%	(75/	7,264)	10%	(15/	157
80-89	21%	(26 /	122)	11%	(34 / 298)	36%	(129/	359)	2%	(52/	2,964)	8%	(6/	74
90+	38%	(16/	42)	21%	(24 / 114)	45%	(29 /	64)	3%	(23/	763)	12%	(3/	24
Total	4%	(194 /	5,431)	2%	(138 / 6.849)	2%	(1,274/	52.868)	<1%	(272/	267,381)	<1%	(80 /	34,219

Two children have died with COVID-19 throughout the pandemic, including one 15 year old with pneumococcal meningitis and one three year old with underlying genetic disorder.

Omicron is now the dominant variant in NSW.





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

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

### Canada

### (population 38 million)

### PHSM<sup>25</sup> Schools & mitigation 26 Vaccination coverage 27 Fully Standard PHSM including TTIQ and mask wearing encouraged in shared spaces and Closed for winter holidays in Dec 2021 and returned to school in mid-Jan 2022. Ontario subject to local advice. 1st dose vacc.\* 3<sup>rd</sup>/booster Age group resumed in-person learning following a brief (%) (%) (%) (years) Ontario closed indoor dining from early Jan 2022. switch to remote learning due to rising case Total pop. 83.4 77.5 16.6 numbers. 5-11 51.1 5.1 Standard PHSM and additional measures 12-17 87.5 82.9 0.9 depending on local advice: physical distancing, cohorting, masks when required, screening \*Canada also uses the J&J/Janssen vaccine which is a singledose vaccine. tests. RATs provided to students in Ontario for Third/booster doses have been available to high-risk individuals return to in-person learning. in phases since Sep 2021. Vaccination of 12y+ commenced mid-May and 5-11y in mid-Nov 2021. Infections by age group 28,29 Hospitalisations in children<sup>30</sup> Deaths by age group 31 Figure 7. Age and gender 4 distribution of COVID-19 cases deceased am EST (n=31,841 1) v in Canada as of January 21, 2022, 8 Figure 7. Age and gender 4 distribution of COVID-19 cases hospitalized am EST (n=111,056 1) Male Female Other Figure 5. Distribution of confirmed COVID-19 cases reported to PHAC by vaccination status as of Male Female Other 12.19 n = 10 (0.0%) 12.19 n = 1.152 (1.0%) 30-39 n = 235 (0.7%) 40-49 n = 518 (1.6%) n = 19.386 (17.5%) n = 21 451 (19 26) Number (Proportion (%)) There have been 27 deaths with COVID-19 in children aged 0-British Columbia (pop. 5.1 million; data has not been updated since Report #4 04 Jan 2022): 19y throughout the pandemic. Genomic surveillance<sup>32</sup>







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

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

<sup>27</sup> 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**

PHSM<sup>33</sup>

(population 5.9 million)

Partial lockdown reinstated from 19 Dec 2021. Restrictions eased in mid-January
2022 including reopening of certain public venues.

Previously all PHSM lifted on 8 Oct 2021, except for mask wearing in airports & hospitals.

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

Standard PHSM; PCR or RAT screening tests: Recommended weekly for staff & students from grade 1 unless fully vaccinated or previously infected with COVID-19 in the last 6 months, twice weekly tests recommended for areas with high infection rates.

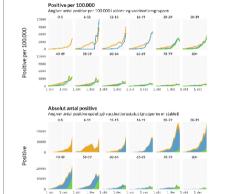
### Vaccination coverage 35 2<sup>nd</sup> 1st 3rd/ Age group dose dose booster (years) (%) (%) (%) 12+ 82.4 80.5 59.3

Commenced 3<sup>rd</sup>/booster vaccination for people 65+y in late Oct and for all adults from late Nov 2021. Vaccination for 5-11y age group commenced late Nov 2021, coverage data not available.

### Infections by age group 36, 37

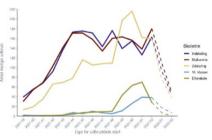
Weekly positive cases by age and vaccine status\*

Ugentligt antal positive opdelt på alder og vaccinestatus Relative og absolutte antal personer med positiv SARS-CoV-2 PCR test Viser kun ikke-tidligere positive.



Omicron is now the predominant variant in Denmark (>90%).

Number of school outbreaks by school level since return to school:



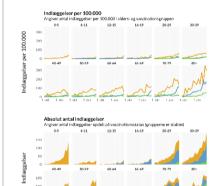
Grades: 0-3, 4-6, 7-9, 10, 10+

### Hospitalisations in children 38,39

Schools & mitigation 34

Weekly admissions by age and vaccine status\*

Ugentligt antal indlæggelser opdelt på alder og vaccinestatus Relative og absolutte antal indlæggelser med positiv SARS-CoV-2 PCR tes



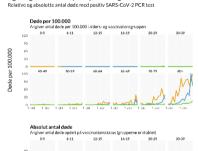
Ingen vaccination Fuld effekt 2 doser Fuld effekt 3 dose

For the entire pandemic, a total of 53 children in ICU, which included 15 children with comorbidities.

Deaths by age group 40,41

Weekly deaths by age and vaccine status\*

Ugentligt antal døde opdelt på alder og vaccinestatus



■ Ingen vaccination ■ Fuld effekt 2 doser ■ Fuld effekt 3 doser

Total of 3 deaths with COVID-19 in children aged 0-19y throughout the pandemic.

\*(1) Numbers per 100,000; (2) Absolute numbers Yellow (unvaccinated), blue (two doses), green (three doses)

Kristoffer T. Bæk rovid 19danmark dk data: SSI







<sup>33</sup> https://en.coronasmitte.dk/rules-and-regulations

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

https://experience.arcgis.com/experience/9824b03b114244348ef0b10f69f490b4/page/page\_3/

https://covid19danmark.dk/

https://covid19.ssi.dk/overvagningsdata/ugentlige-opgorelser-med-overvaagningsdata

<sup>38</sup> https://covid19danmark.dk/

https://covid19.ssi.dk/overvagningsdata/ugentlige-opgorelser-med-overvaagningsdata 40 https://covid19danmark.dk/

https://covid19.ssi.dk/overvagningsdata/ugentlige-opgorelser-med-overvaagningsdata

## England, UK

PHSM<sup>42</sup>

(population 56.6 million)

Standard PHSM including TTIQ and mandatory mask wearing indoors, work from home default, proof of
vaccination/negative test required for certain venues; previously most PHSM lifted until re-introduced in late
Nov 2021.

## Schools & mitigation 43

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

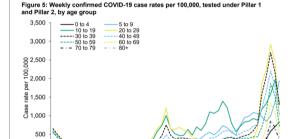
Standard PHSM, cohorting, mask wearing required for adults and students from year 7 onwards, twice-weekly RAT screening for staff and secondary school students, vaccination of 16-17y commenced mid-Aug & 12-15y commenced mid-Sep 2021 (initially as single dose). Close contacts who are fully vaccinated or under 18.5y and produce a negative PCR test result do not need to isolate.

### Vaccination coverage 44

Age group			
(years)	1st dose (%)	2 <sup>nd</sup> dose (%)	3 <sup>rd</sup> /booster (%)
12+	90.8	83.5	63.8
12-15	52.8	11.9	-
16-17	66.2	45.9	4.9

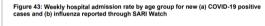
Third/booster dose available for all 18y+ and other high-risk groups. Vaccination is recommended for children aged 5-11 years who are immunocompromised.

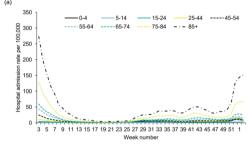
### Infections by age group<sup>45</sup>



2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 2

### Hospitalisations in children<sup>46,47</sup>



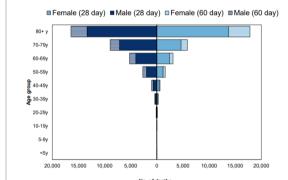


COVID-19-positive hospital admissions as a percentage of the rate during the January peak (rate in week ending 17 January = 100%), by age, England

	24 years	15 to 2		4 years	5 to 1		o 4 years
			_			-1	
٨							00 = 17 January 021 peak
~J		~	<u></u>	~~~	The	- لتهت	D21 peak
16	11 Jul	17 Jan	16 Jan	11 Jul	17 Jan	16 Jan	11 Jul
k ending	Week						

### Deaths by age group<sup>48</sup>

Figure 55: Age-sex pyramid of laboratory confirmed COVID-19 deaths, for the past year



A total of 78 deaths with COVID-19 in the past year:

<5y: 17 5-9y: 8 10-19y: 53





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https://www.gov.uk/guidance/covid-19-coronavirus-restrictions-what-you-can-and-cannot-do

thtps://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=England 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

Thttps://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/hospitals

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

## **Finland**

## (population 5.5 million)

PHSM <sup>49</sup>	Schools & mitigation 50	accination coverage 51*				
Restrictions reinstated in late Dec 2021, including mandatory indoor mask wearing, proof of vaccination to attend 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.	Schools closed for winter holiday in late Dec 2021 and reopened in early Jan 2022.  Standard PHSM, cohorting, masks, ventilation, vaccination of 12y+ commenced early Aug & 5-11y in late Dec 2021.	Age group 1st dose 2nd dose 3rd/booster (years) (%) (%) (%)  12+ 86.3 82.9 38.5  12-15 75.7 68.1 0.3  16-19 83.0 76.5 3.9  Third/booster dose is recommended for all aged 18y+. Fourth dose recommended for 12y+ with severe immunodeficiency. Vaccine offered to 5-11y children from late Dec 2021.				
Infections by age group 52,53	Hospitalisations in children <sup>54</sup>	Deaths by age group <sup>55</sup>				
Finland: 14-day age-specific COVID-19 case notification rate  - <15y - 15-26y - 25-40y - 50-46y - 65-77y - 50-yr  - 1520y - 15-26y - 25-40y - 50-46y - 65-77y - 50-yr  - 1520y - 15-26y - 25-40y - 50-46y - 65-77y - 50-yr  - 1520y -	Number of hospitalisations:  Note: Data has not been updated since Report #6 17 Jan 2022  Sairaalahoidossa olevat COVID-19 potilaat  Tiebobio  Firibioticalraamiotion osastot  (7.12 set) gift osittain makana)  Persuterveydenhuolion osastot	Deaths by age group (for the whole period)  1,500  1,000				
Infections by age group (14-day average):  Covid-16-tertionlegies illnearthrous 16 phivia Buturvalla ajanjaksolia likaryimittiin ja reketusatatuksen muhaan  13-23  Note: Data has not been updated since Report #6 17 Jan 2022  Pink (unvaccinated) Dark blue (1 dose)	Blue (Intensive care) Green (Specialist wards) Pink (Primary health care)	Genomic surveillance <sup>56</sup> Tartuntatautirekisteriin kirjatut geneettiset Iinjat				

Data is no longer available by age groups.

### \*Data to 17 January 2022

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

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

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

  https://sampo.thl.fi/pivot/prod/en/vaccreg/cov19cov/summary\_cov19ageareacov

  https://thl.fi/fi/web/infektiotaudit-ja-rokotukset/ajankohtaista/ajankohtaista-koronaviruksesta-covid-19/tilannekatsaus-koronaviruksesta/koronaviruksen-seuranta

Light blue (2 doses)

- https://covid19-country-overviews.ecdc.europa.eu/countries/Finland.html
- https://thl.fi/fi/web/infektiotaudit-ja-rokotukset/ajankohtaista/ajankohtaista-koronaviruksesta-covid-19/tilannekatsaus-koronaviruksesta/koronaviruksen-seuranta thttps://experience.arcgis.com/experience/92e9bb33fac744c9a084381fc35aa3c7



Blue (Other virus lineage)

COVID-19 -virusvariantti Muut viruslirjat Mu Alpha Beta Gamma Delta Mu Omitron
12.012-022

Note: Data has not been updated since Report #6 17 Jan 2022





## Scotland, UK

PHSM<sup>57</sup>

(population 5.5 million)

# Minimal restrictions before reinstated in Dec 2021, including mandatory masks indoors, density limits, recommendation to travel only for essential reasons, work from home default and

From 24 Jan 2022, restrictions eased including removal of density limits and household visitor limits. Hybrid work arrangements introduced.

proof of vaccination to attend premises.

### Schools & mitigation 58

Closed for winter holidays in late  $\mbox{Dec 2021}$  and returned to school in early  $\mbox{Jan 2022}.$ 

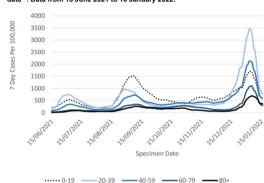
Standard PHSM, cohorting, mask wearing recommended for adults and students from year 7 onwards, twice-weekly RAT screening for staff and secondary school students, vaccination of 16-17y commenced mid-Aug & 12-15y commenced mid-Sep 2021 (initially as single dose). Close contacts who are fully vaccinated or under 18.5y and produce a negative PCR test result do not need to isolate.

### Vaccination coverage 59 2<sup>nd</sup> dose 3<sup>rd</sup>/booster 1st dose Age group (vears) (%) (%) (%) 12+ 92.1 85.8 68.0 12-15 67.5 28.9 0.9 16-17 82.1 52.6 9.1

Third/booster dose available for all 18y+ and other high-risk groups. Vaccination is recommended for children aged 5-11 years who are immunocompromised.

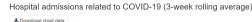
### Infections by age group 60

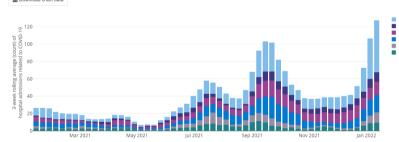
Figure 5: Seven day PCR case rate in Scotland by age group by specimen date 18. Data from 15 June 2021 to 16 January 2022.



Omicron is responsible for >90% of cases in Scotland as of 10 Jan 2022.

### Hospitalisations in children 61

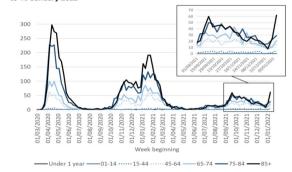




Any admitted child who is COVID-19 positive is included, so this overestimates the number of children being admitted and needing treatment for COVID-19.

### Deaths by age group 62,63

Figure 10: Deaths by age group (weekly total by week beginning, NRS), data up to 16 January 2022



There have been 2 deaths due to COVID-19 in children aged 0-14y in the past year.







<sup>57</sup> 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=Scotlanc https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/

<sup>61</sup> https://scotland.shinyapps.io/phs-covid19-education/ w 852fb58e/

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

<sup>41</sup> https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics/statistics/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland

## Singapore

(population 5.5 million)

### PHSM<sup>64</sup>

Restrictions re-introduced in late Sep 2021 after temporary easing.

Mandatory masks indoors & outdoors, TTIQ, work from home, shops open with density limits and digital check-in, vaccination requirements to enter some premises, limits on guests at home.

### Schools & mitigation 65

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

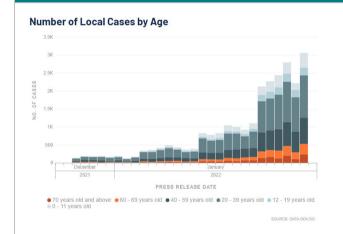
Standard PHSM, cohorting, RAT & temperature screening, mandatory masks 6y+ with exceptions, vaccination of 12y+ commenced early Jun 2021 and 5-11y in late Dec 2021.

### Vaccination coverage 66

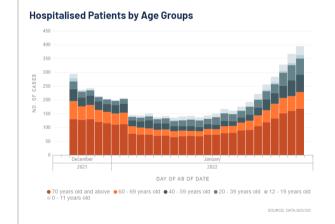
Age group	1st dose	2 <sup>nd</sup> dose	3 <sup>rd</sup> /booster		
(years)	(%)	(%)	(%)		
Total pop.	91.0	88.0	55.0		

Third/booster dose available for all aged 18y+. From 14 Feb 2022, all 18y+ must receive a booster dose within 270 days of their 2nd dose to be considered fully vaccinated.

### Infections by age group 67



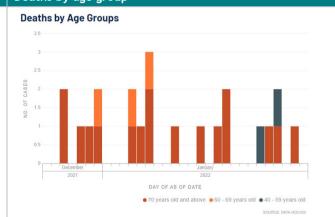
### Hospitalisations in children<sup>68</sup>



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

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

### Deaths by age group 69



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







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

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

<sup>66</sup> https://www.moh.gov.sg/

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

<sup>69</sup> https://www.moh.gov.sg/

### South Africa

### (population 60.4 million)

### PHSM<sup>70</sup>

Since 1 Oct 2021, restrictions including partial curfew, mandatory masks 6y+ with exceptions, density limits.

Since 30 Dec 2021, lifting of certain restrictions including removal of curfew and increased density limits.

### Schools & mitigation 71,72

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, visitor limits, vaccination of 12v+.

### Vaccination coverage 73

Age group Fully

(years) vaccinated\* (%)

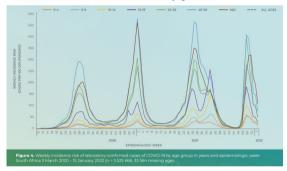
18+ 46.1

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

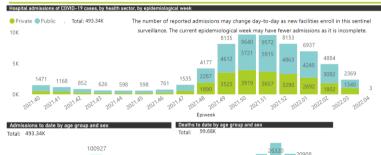
Vaccination is available for all aged 12y+. Coverage data for 12-17y not available.

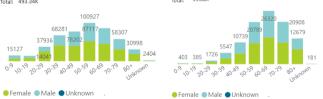
### Infections by age group 74





### Hospitalisations in children and deaths by age group 75

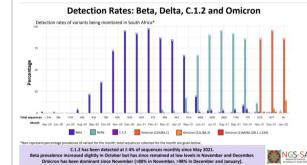


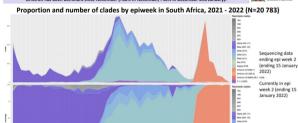


Total of 788 deaths with COVID-19 in children 0-19y throughout the entire pandemic. Deaths in children account for <1% of all deaths in South Africa.











Delta dominated in South Africa until October at >80%. Omicron dominated November and Dec





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

https://sacoronavirus.co.za/vaccine-updates/

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/

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>77</sup> Schools & mitigation <sup>78</sup>			Vaccination coverage <sup>79,80</sup>				
The US CDC recommends indoor mask wearing for all unvaccinated and aged 2y+, physical distancing, hand & surface hygiene, TTIQ, but	Closed for winter holidays in late Dec 2021 and reopened from early Jan 2022.	Age group (years)	1 <sup>st</sup> dose (%)	Fully vaccinated* (%)	3 <sup>rd</sup> /booster (%)	*Note: The US also uses the J&J/Janssen vaccine which is a single-dose vaccine. Third/booster dose for 65y+ and	
adoption varies by State/Territory.	Standard PHSM, cohorting, masks, PCR & RAT screening, vaccination commenced mid-May for 12+y and early Nov 2021 for	5-11 12-17	29.1 65.7	19.9 55.0	-	other high-risk individuals from Sep 2021, expanded to all 18y+ from late Nov 2021.	
	5-11y, but adoption varies by State.	18+	87.4	73.8	43.0		
Infections by age group <sup>81</sup>	MIS-C <sup>82</sup>	Deaths by ag	e group <sup>83,84</sup>		Genomic surve	illance <sup>85</sup>	
COVID-19 Weekly Cases per 100,000 Population by Age Group, United States  March 01, 2020 - January 22, 2022*  Sag ####################################	Daily MIS-C Cases and COVID-19 Cases Reported to CDC (7-Day Moving Average)		100,000 Population by Age Gr 01, 2020 - January 22, 2022*	oup, United States	United States: 10/10/2021	- 1/15/2022 United States: 1/9/2022 - 1/15/2022 NOWCAST ** **	
Hospitalisations in children 87  Coro Dell' Color Dell	Note: Data has not been updated since Report #5 (10 Jan 2022) There have been 6431 cases of MIS-C throughout the entire pandemic, including 55 deaths. The median age of MIS-C cases was 9y and half were between 5-13y.	of all deaths in the There is marked fatality rates are majority of State	entire pandemic, he US. variation by State between 0-0.019 as and Territories 1); Arizona (n=54 ); Puerto Rico (n=	accounting for <0.1%  e/Territory and case % for the vast %: ); California (n=46);	Conticron is now respthe US.	Wildlight   Lineage #   Old Clark whiteled   595/07	





 $<sup>^{77} \</sup> https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html \\ ^{78} \ https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html \\ ^{79} \ https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-total-admin-rate-total$ 

https://covid.cdc.gov/covid-data-tracker/#watchnatuns\_vatc-tucat-aumm-rac
https://covid.cdc.gov/covid-data-tracker/#watchnatun-demographics-trends
https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
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https://covid.cdc.gov/covid-data-tracker/#demographicsovertime
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https://covid.cdc.gov/covid-data-tracker/#variant-proportions
https://covid.cdc.gov/covid-data-tracker/#variant-proportions
https://www.aap.org/en/page/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/
https://gis.cdc.gov/grasp/COVIDNEY.COVID19\_3.html
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https://gis.cdc.gov/grasp/COVIDNEY.COVID19\_3.html
https://gis.cdc.gov/grasp/COVIDNE

# **USA:** Comparison of states

A comparison of select US states based on 7-day incidence per 100,000 population and PHSM.

INDICATOR	MONTANA (pop. 1.1 million)			TENNESSEE (pop. 6.8 million)			CALIFORNIA (pop. 39.5 million)		
7-day incidence per 100,000 population <sup>88</sup>	937.1			1730			1977		
PHSM	Mask wearing encouraged, physical distancing, $\ensuremath{TTIQ}^{89}$			Mask wearing encouraged, physical distancing, TTIQ <sup>90</sup>		Indoor mask wearing mandatory in many indoor venues for all aged 2+, TTIQ <sup>91</sup>			
Schools & mitigation	Closed in Dec 2021 for winter holidays, returned to school in early Jan 2022.  Standard PHSM as recommended by US CDC, school-based mask mandates with option for parents to optout, vaccination encouraged, vaccination of 12+y commenced mid-May and 5-11y in early Nov 2021. 92		Closed in Dec 2021 for winter holidays, returned to school in early Jan 2022.  Standard PHSM as recommended by US CDC, mask wearing and vaccination encouraged, vaccination of 12+y commenced mid-May and 5-11y in early Nov 2021. 93			Closed in Dec 2021 for winter holidays, returned to school in early Jan 2022.  Standard PHSM as recommended by US CDC, mask wearing mandatory for all aged 2+, PCR & RAT screening, vaccination of 12+y commenced mid-May and 5-11y in early Nov 2021, mandatory staff vaccination or weekly testing. 94			
Vaccination coverage <sup>95</sup>			Fully vacc.* (%) 15.6 41.6 58.0 91.7 tine which is a single-dose ster dose coverage not	Age group (years) 5-11 12-17 18-64 65+	1 <sup>st</sup> dose (%) 15.6 43.4 66.9 97.0	Fully vacc.* (%) 10.8 36.1 57.7 88.5	Age group (years) 5-11 12-17 18-64 65+	1 <sup>st</sup> dose (%) 35.4 81.6 95.3 99.9	Fully vacc.* (%) 23.7 66.5 76.6 93.8







<sup>\*\*</sup> https://covid.cdc.gov/covid-data-tracker/#cases\_casesper100klast7days

\*\*\*bhttps://covid19.mt.gov/index

\*\*https://covid19.tn.gov/prevention/

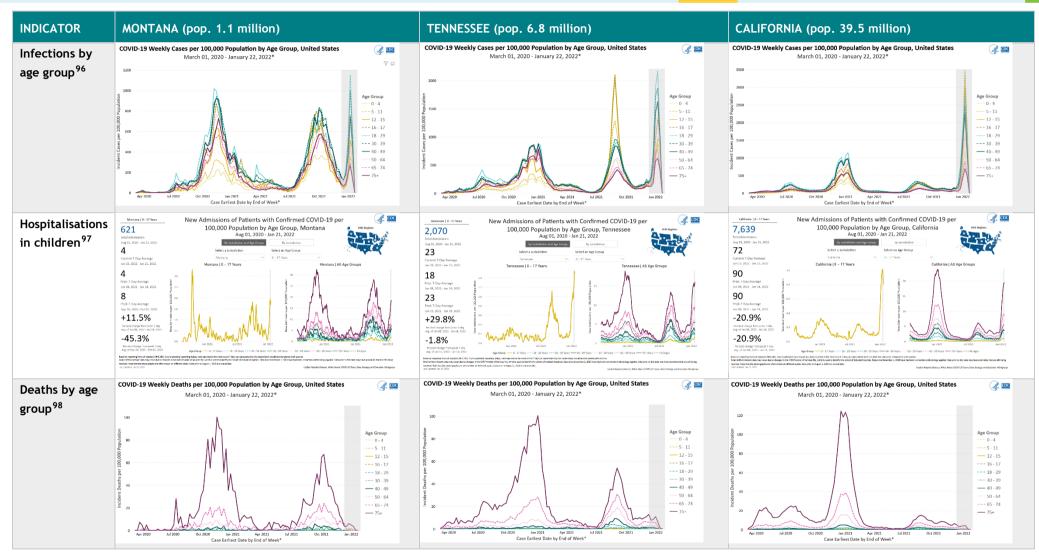
\*\*https://covid19.tn.gov/prevention/

\*\*https://covid19.tn.gov/masks-and-ppe/

\*\*https://dophhs.mt.gov/publichealth/cdepi/diseases/CoronavirusMT/index

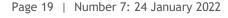
\*\*https://www.tn.gov/health/cedepi/closeases/CoronavirusMT-index

<sup>95</sup> https://www.mayoclinic.org/coronavirus-covid-19/vaccine-tracker



Note: Comparative graphs may have different scales on the y-axis.

https://covid.cdc.gov/covid-data-tracker/#demographicsovertime







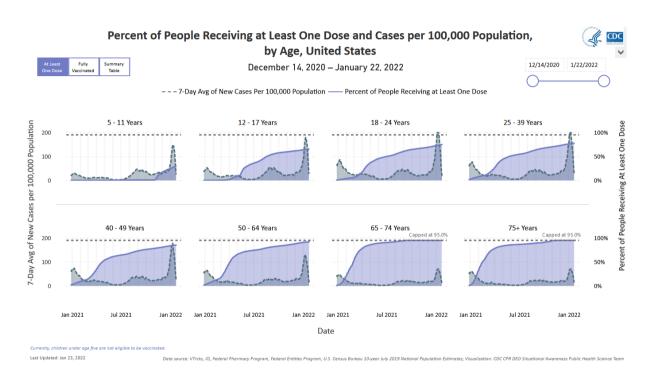


<sup>96</sup> https://covid.cdc.gov/covid-data-tracker/#demographicsovertime

https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions

# 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. 99









<sup>99</sup> https://covid.cdc.gov/covid-data-tracker/#vaccinations-cases-trends



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