



COVID-19 and Children's Surveillance Report

Number 2

Compiled: 10 December 2021





Contents

- Overview 2
- Summary..... 3
- List of abbreviations 6
- Australia: Victoria 7
- Australia: New South Wales 8
- Canada 9
- Denmark 10
- England, UK 11
- Finland 12
- Scotland, UK 13
- Singapore 14
- South Africa..... 15
- USA 16
- USA: Comparison of states 17
- USA: Impact of vaccination on disease incidence 19
- Authors 20





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 will be updated weekly using the most recently available data.
- South African data has been added this week, including genomic surveillance data for the Omicron variant of concern.
- The number of infections in unvaccinated children may also increase if school mitigation measures are few, 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 has generally increased as vaccination of adults has increased.^{1,2} This proportion may continue to increase in countries where a low proportion of children are vaccinated. Many countries are now vaccinating adolescents and the USA and several other countries have begun vaccinating children aged 5 years and over.
- COVID-19 epidemiology in children and adolescents varies by setting.
- Following the return to school, many settings with high vaccination coverage and school mitigation measures have had few infections and outbreaks. Other settings with low coverage in all ages, including adolescents, and/or few mitigation measures have experienced an increase in case numbers in children, and school outbreaks.
- The **Omicron variant** of concern³ was first reported from South Africa on 25 November 2021. At the time of writing, it has been detected in 42 countries⁴. Omicron is now the predominant variant in South Africa, overtaking the Delta variant which was the predominant variant in October 2021.
- Infections appear to be stable in children and adolescents in **Victoria** and have declined in **New South Wales (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** opened all schools for onsite fulltime schooling on 1 November 2021.
 - There is currently a total of ~1100 confirmed cases per day in all ages, highest in the 0-9 year age group, although this is stable.
 - There is no hospitalisation data available by age.
- In **NSW**, early childhood and education centres have been open throughout the entire Delta period. Despite this, the effective reproduction number (an estimate of how many people are infected by each positive case) declined up until November, which suggests young children contribute little to broader community transmission.
 - Onsite fulltime schooling commenced on 8 November.
 - The case numbers are now increasing overall but show a stable trend in children and adolescents.
- In **Canada**, where ~83% of 12-17 year olds are fully vaccinated, there has been no increase in cases in children aged 12+ years following schools reopening in early September.
 - There was an initial steep increase in infections in 5-11 year olds after schools re-opened, but this is now declining.
 - In the province of British Columbia, infections increased in children 5-11 years of age during the first two weeks of school reopening in September 2021, primarily in areas of lower vaccine coverage. Infections in this age group were trending downwards and now remain relatively stable. The increase in infections in September was partly due to a significant increase in testing among children. Serious illness in children has been rare in this province. British Columbia data has not been updated since the previous report.
 - Since November, all 5-11 year old children are offered COVID-19 vaccine with an eight week interval between doses.
- In **Europe and North America**, schools returned after the summer break in September 2021. Cases are on the rise across all age groups in many European countries.
- In **Denmark**, all mitigation measures in schools were lifted in early October 2021 except for a recommendation of weekly testing for staff and students aged 9 years and older who are unvaccinated.
 - Some Public Health and Social Measures (PHSM) have been reintroduced due to a rise in COVID-19 cases, including indoor mask wearing and proof of vaccination to attend shops.
 - Total infection and hospitalisation rates are on an upward trend.
 - Schools have closed early for the holiday period and the 5-11 year old vaccination program has commenced.
- In **England**, following school re-opening, infections increased mostly in 12-15 year olds followed by primary school ages.
 - Infection then decreased particularly in children 10-19 years of age, but also in children aged 5-9 years, before increasing slightly again.
 - Infections in children aged 0-4 years remained amongst one of the lowest of all age groups.

¹ 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.

² American Academy of Pediatrics (AAP). Children and COVID-19: State-Level Data Report 14 October 2021. Illinois, US: AAP; 2021.

³ <https://www.who.int/news/item/28-11-2021-update-on-omicron>

⁴ <https://www.gisaid.org/hcov19-variants/>



- Vaccine uptake is low in 12-15 year olds (~44% single dose, which was the recommended schedule for this age group in the UK until late November 2021) and ~61% single dose in 16-17 year olds. Infections declined in children aged 5-19 years, following the extension of the vaccination program to 12-17 year olds in mid-September 2021.
- There was an initial increase in hospitalisations in the 5-14 year age group but this is now declining and rates in children this age remain the lowest compared to all other age groups. Hospitalisations include children who test positive, irrespective of the reason for admission.
- Infections are now increasing in all age groups under 70 years, with the 5-9 and 10-19 year age groups having the highest rates of infection (up until last week).
- Mandatory mask wearing indoors, work from home and proof of vaccination have been re-introduced due to an increase in COVID-19 cases across Europe. Close contacts who are fully vaccinated or under 18 years and 6 months of age and produce a negative PCR test result are not required to isolate, unless they are close contacts of a case with the Omicron variant.
- **In Finland**, where ~76% of 12-15 year olds and ~82% of 16-19 year olds have received at least one dose of vaccine, there has been an increase in infections in all age groups under 60 years, especially in 12-19 year olds.
 - Hospitalisations remain very low in children and adolescents. There have been no deaths in anyone <30 years old.
 - There are far fewer infections and hospitalisations in the vaccinated compared to the unvaccinated.
 - 5-11 year old children who live with clinically vulnerable people are now offered COVID-19 vaccine.
- **In Scotland**, infections and hospitalisations increased in children with the return to in-person learning but then declined, and are now stable.
 - Hospitalisations include children who test positive, irrespective of the reason for admission.
 - There has been a total of three deaths due to COVID-19 amongst children aged 0-14y throughout the entire pandemic.
 - Masks are recommended in secondary schools in Scotland.
 - The country has vaccinated ~60% of 12-15 year olds with a single dose.
- **In Singapore**, schools re-opened with <70% total vaccine coverage in July 2021.
 - Currently there are ~700 cases per day and additional restrictions.
 - There has been one ICU admission due to MIS-C and no deaths in children for the entire pandemic.
 - A total of five cases of MIS-C have been reported, all from the current Delta wave.
 - Primary schools were closed as a precautionary measure to ensure that primary school exams were not disrupted. There has been a phased return to schools from 11 October. Mitigation measures include vaccination of 12+ years, mask wearing, cohorting and screening with rapid antigen testing (RAT).
- **In South Africa**, restrictions including a partial curfew and mandatory masks for those aged six years and older have been in place since early October 2021.
 - Infections in children aged 5-19 years old increased following the re-opening of schools in early August 2021, before decreasing in early September.
 - Infections across all age groups are now on the rise, with Omicron becoming the predominant variant, although hospitalisations remain relatively stable.
 - A total of 663 deaths in children with COVID-19 have been reported, accounting for <0.1% of all COVID-19 deaths in the country.
- **In the United States**, there are large differences in infection and hospitalisation rates (up to four-fold differences) and the number of deaths in children between States and Territories most likely due to differences in vaccination coverage and adherence to PHSM.
 - Where there is high uptake of PHSM, such as in San Francisco, there are low infection and hospitalisation rates in children, and infections have declined in all age groups with school reopening.
 - There is currently a downward trend in infections and hospitalisations in most US states including in unvaccinated children <12 years.
 - Hospitalisations include children who test positive, irrespective of the reason for admission.
 - There have been 644 deaths in children with COVID-19 throughout the pandemic, accounting for <0.2% of all COVID-19 deaths in the US.
 - Texas has had the highest number of child deaths (115) and there are six States that have reported 0 deaths throughout the entire pandemic⁵.
 - A total of 5973 cases of MIS-C have been reported, including 52 deaths.
 - Since November, all 5-11 year old children are offered COVID-19 vaccine with a three week interval between doses.

⁵ <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/>



Summary of COVID-19 epidemiology in children and adolescents

Country	Cases	Hospitalisations	MIS-C/PIMS-TS	Total deaths ^
VIC, Australia	Stable	Not available	Not available	2 ^b
NSW, Australia	Stable	Stable	Not available	1 ^b
Canada	↓	↓	Not available	16 ^b
Denmark	↑	↑*	Not available	Not available
England, UK	↑	Stable	Not available	69 ^b
Finland	↑	Stable	Not available	0
Scotland, UK	Stable	Stable	Not available	3 ^a
Singapore	↓	↓	5 cases	0
South Africa	↑	Stable	Not available	663 ^b
USA	↓	↓	5973 cases	644 ^b

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

*Available data includes both children and adults.

^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.



List of abbreviations

Abbreviation	Term
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 ⁶	Schools & mitigation ⁷	Vaccination coverage ⁸																																																						
<p>As of 19 Nov 2021: Phase D All gathering limits, capacity and density limits removed, masks only required in limited high-risk or low-vaccinated settings, onsite work can return for fully vaccinated people, all shops open, TTIQ, QR check-in, proof of vaccination to attend premises</p>	<p>All students returned to onsite fulltime schooling from 1 Nov 2021</p> <p>Standard PHSM, staggered return, cohorting, masks in primary & secondary, mandatory vaccination for staff from 18 Oct, RAT available for students and staff who are close contacts at an educational setting, all educational contacts can return to school after a negative standard PCR following exposure</p> <p>Mandatory vaccination for staff</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> </tr> </thead> <tbody> <tr> <td>12-15</td> <td>87.5</td> <td>80.6</td> </tr> <tr> <td>16+</td> <td>93.5</td> <td>91.5</td> </tr> </tbody> </table> <p>Third dose for immunocompromised available from early Oct 2021, booster dose available to all eligible adults aged 18y+. Coverage data not available. Vaccination for 5-11y will become available from 10 Jan 2022.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	12-15	87.5	80.6	16+	93.5	91.5																																													
Age group (years)	1 st dose (%)	2 nd dose (%)																																																						
12-15	87.5	80.6																																																						
16+	93.5	91.5																																																						
Infections by age group ⁹	Hospitalisations in children ¹⁰	Deaths by age group ¹¹																																																						
<p>Weekly cases in Victoria by age group</p>	<table border="1"> <thead> <tr> <th>Current cases in hospital</th> <th>cases in hospital</th> <th>cases in ICU</th> </tr> </thead> <tbody> <tr> <td style="background-color: #004a99; color: white;">315</td> <td>315</td> <td>52</td> </tr> </tbody> </table> <p>No age breakdown</p> <p>Victorian hospitalisation and ICU counts exclude COVID-19 patients who are still in hospital but no longer infectious</p>	Current cases in hospital	cases in hospital	cases in ICU	315	315	52	<p>People who have passed away with COVID-19</p> <p>09/12/2021</p> <table border="1"> <thead> <tr> <th>Age group</th> <th>Male</th> <th>Female</th> <th>Total</th> </tr> </thead> <tbody> <tr><td>00-09</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>10-19</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>20-29</td><td>2</td><td>1</td><td>3</td></tr> <tr><td>30-39</td><td>5</td><td>0</td><td>5</td></tr> <tr><td>40-49</td><td>11</td><td>4</td><td>15</td></tr> <tr><td>50-59</td><td>34</td><td>19</td><td>53</td></tr> <tr><td>60-69</td><td>66</td><td>39</td><td>105</td></tr> <tr><td>70-79</td><td>179</td><td>111</td><td>290</td></tr> <tr><td>80-89</td><td>285</td><td>250</td><td>535</td></tr> <tr><td>90+</td><td>150</td><td>241</td><td>391</td></tr> <tr><td>Total</td><td>732</td><td>667</td><td>1,399</td></tr> </tbody> </table> <p>One 15 year old and one child under 10 with multiple underlying conditions and in palliative care died with COVID-19</p>	Age group	Male	Female	Total	00-09	0	1	1	10-19	0	1	1	20-29	2	1	3	30-39	5	0	5	40-49	11	4	15	50-59	34	19	53	60-69	66	39	105	70-79	179	111	290	80-89	285	250	535	90+	150	241	391	Total	732	667	1,399
Current cases in hospital	cases in hospital	cases in ICU																																																						
315	315	52																																																						
Age group	Male	Female	Total																																																					
00-09	0	1	1																																																					
10-19	0	1	1																																																					
20-29	2	1	3																																																					
30-39	5	0	5																																																					
40-49	11	4	15																																																					
50-59	34	19	53																																																					
60-69	66	39	105																																																					
70-79	179	111	290																																																					
80-89	285	250	535																																																					
90+	150	241	391																																																					
Total	732	667	1,399																																																					

⁶ <https://www.coronavirus.vic.gov.au/coronavirus-covidsafe-settings>

⁷ <https://www.coronavirus.vic.gov.au/education-information-about-coronavirus-covid-19>

⁸ <https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update>

⁹ Data from: <https://www.coronavirus.vic.gov.au/victorian-coronavirus-covid-19-data>

¹⁰ <https://www.coronavirus.vic.gov.au/victorian-coronavirus-covid-19-data>

¹¹ <https://www.coronavirus.vic.gov.au/additional-covid-19-case-data#cases-in-hospital>



Australia: New South Wales

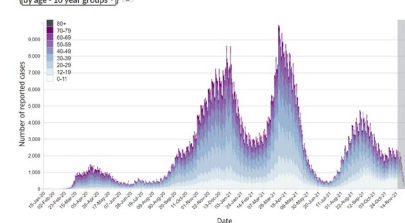
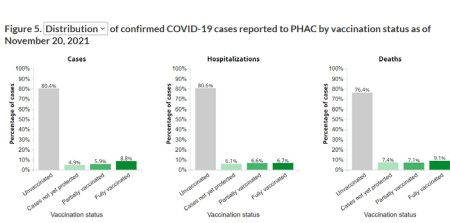
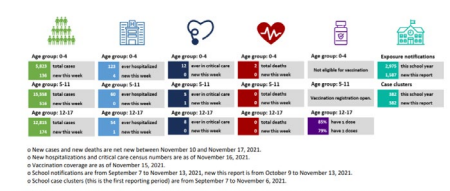
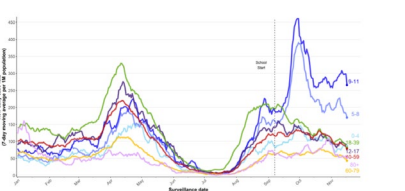
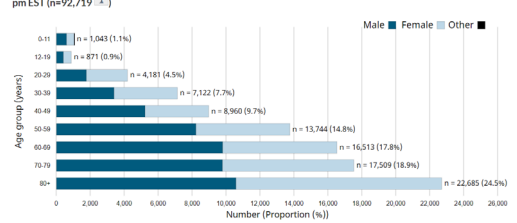
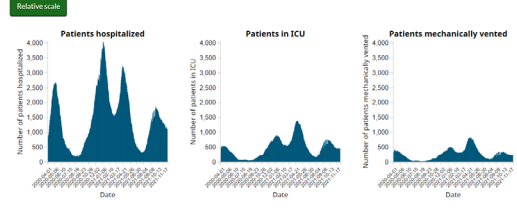
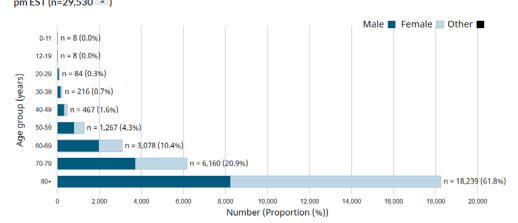
(population 8.2 million)

<p>PHSM¹²</p> <p>Mandatory masks indoors and on public transport, TTIQ, QR check-in, all shops open Vaccinated people: Proof of vaccination to attend premises Not fully vaccinated: No visitors at home with exceptions, attendance in shops limited to essential services only</p>	<p>Schools & mitigation^{13,14}</p> <p>All students returned to onsite fulltime schooling from 8 Nov 2021</p> <p>Standard PHSM, RAT home testing for educational contacts</p> <p>Mandatory vaccination for staff from 8 Nov 2021</p>	<p>Vaccination coverage¹⁵</p> <table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> </tr> </thead> <tbody> <tr> <td>12-15</td> <td>81.4</td> <td>77.5</td> </tr> <tr> <td>16+</td> <td>94.7</td> <td>93.0</td> </tr> </tbody> </table> <p>Third dose for immunocompromised available from early Oct 2021, booster dose available to all eligible adults aged 18y+. Coverage data not available. Vaccination for 5-11y will become available from 10 Jan 2022.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	12-15	81.4	77.5	16+	94.7	93.0																																																																																																																																																																																																														
Age group (years)	1 st dose (%)	2 nd dose (%)																																																																																																																																																																																																																							
12-15	81.4	77.5																																																																																																																																																																																																																							
16+	94.7	93.0																																																																																																																																																																																																																							
<p>Infections by age group¹⁶</p> <p>Figure 5. Seven day backward rolling average of COVID-19 cases rate per 100,000 population by age and notification date, NSW, from 16 June 2021 to 20 November 2021</p> <p><i>Note: This data has not been updated since the previous report (3 Dec 2021)</i></p>	<p>Hospitalisations in children¹⁷</p> <p>Hospitalisations among people diagnosed with COVID-19, by age group, NSW</p> <table border="1"> <thead> <tr> <th rowspan="2">Age-group (years)</th> <th colspan="2">Since 16 Jun 2021</th> <th colspan="2">Jan 2020 – 15 Jun 2021</th> </tr> <tr> <th>Hospitalised</th> <th>Percentage of cases hospitalised¹</th> <th>Hospitalised per 100,000 population</th> <th>Percentage of cases hospitalised¹</th> </tr> </thead> <tbody> <tr><td>0-9</td><td>402</td><td>3%</td><td>39.8</td><td>2%</td></tr> <tr><td>10-19</td><td>503</td><td>4%</td><td>52.2</td><td>3%</td></tr> <tr><td>20-29</td><td>1,293</td><td>9%</td><td>110.3</td><td>2%</td></tr> <tr><td>30-39</td><td>1,558</td><td>12%</td><td>133.1</td><td>4%</td></tr> <tr><td>40-49</td><td>1,485</td><td>16%</td><td>143.8</td><td>7%</td></tr> <tr><td>50-59</td><td>1,411</td><td>21%</td><td>145.1</td><td>11%</td></tr> <tr><td>60-69</td><td>1,113</td><td>29%</td><td>132.4</td><td>18%</td></tr> <tr><td>70-79</td><td>782</td><td>42%</td><td>134.2</td><td>23%</td></tr> <tr><td>80-89</td><td>518</td><td>56%</td><td>188.9</td><td>43%</td></tr> <tr><td>90+</td><td>125</td><td>54%</td><td>180.2</td><td>38%</td></tr> <tr><td>Total</td><td>9,190</td><td>12%</td><td>113.6</td><td>9%</td></tr> </tbody> </table> <p>Figure 7b. Number of cases in hospital, in ICU and ventilated by date, NSW, from 16 June to 20 November 2021</p> <p><i>Note: This data has not been updated since the previous report (3 Dec 2021)</i></p> <p>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.</p>	Age-group (years)	Since 16 Jun 2021		Jan 2020 – 15 Jun 2021		Hospitalised	Percentage of cases hospitalised ¹	Hospitalised per 100,000 population	Percentage of cases hospitalised ¹	0-9	402	3%	39.8	2%	10-19	503	4%	52.2	3%	20-29	1,293	9%	110.3	2%	30-39	1,558	12%	133.1	4%	40-49	1,485	16%	143.8	7%	50-59	1,411	21%	145.1	11%	60-69	1,113	29%	132.4	18%	70-79	782	42%	134.2	23%	80-89	518	56%	188.9	43%	90+	125	54%	180.2	38%	Total	9,190	12%	113.6	9%	<p>Deaths by age group¹⁸</p> <p>Table 5. Deaths following recent infection with COVID-19, by age group, from January 2020 to 20 November 2021</p> <table border="1"> <thead> <tr> <th rowspan="2">Age-group (years)</th> <th colspan="3">Since 16 Jun 2021</th> <th colspan="2">Jan 2020 – 15 Jun 2021</th> </tr> <tr> <th>Number of deaths</th> <th>Case fatality rate</th> <th>Fatality rate per 100,000 population³</th> <th>Number of deaths</th> <th>Case fatality rate²</th> </tr> </thead> <tbody> <tr><td>0-9</td><td>0</td><td>0%</td><td>0.0</td><td>0</td><td>0%</td></tr> <tr><td>10-19</td><td>1</td><td><1%</td><td>0.1</td><td>0</td><td>0%</td></tr> <tr><td>20-29</td><td>6</td><td><1%</td><td>0.5</td><td>0</td><td>0%</td></tr> <tr><td>30-39</td><td>15</td><td><1%</td><td>1.3</td><td>0</td><td>0%</td></tr> <tr><td>40-49</td><td>26</td><td><1%</td><td>2.5</td><td>0</td><td>0%</td></tr> <tr><td>50-59</td><td>63</td><td>1%</td><td>6.5</td><td>1</td><td><1%</td></tr> <tr><td>60-69</td><td>100</td><td>3%</td><td>11.9</td><td>4</td><td>1%</td></tr> <tr><td>70-79</td><td>132</td><td>7%</td><td>22.7</td><td>15</td><td>4%</td></tr> <tr><td>80-89</td><td>161</td><td>17%</td><td>58.7</td><td>20</td><td>16%</td></tr> <tr><td>90+</td><td>62</td><td>27%</td><td>89.4</td><td>16</td><td>38%</td></tr> <tr><td>Total</td><td>566</td><td>1%</td><td>7.0</td><td>56</td><td>1%</td></tr> </tbody> </table> <p>Proportion of cases with a severe outcome (ICU and/or death) amongst all cases, by age, time of infection, and vaccination status</p> <table border="1"> <thead> <tr> <th rowspan="2">Age-group (years)</th> <th colspan="4">% cases with severe outcomes (ICU and/or death)</th> </tr> <tr> <th>Jan 2020 – 15 Jun 2021</th> <th colspan="2">16 Jun – 20 Nov 2021:</th> <th>16 Jun – 20 Nov 2021:</th> </tr> <tr> <td></td> <td></td> <td>Fully vaccinated</td> <td>Un-vaccinated</td> <td></td> </tr> </thead> <tbody> <tr><td>0-9</td><td>0%</td><td>(0 / 251)</td><td>-</td><td><1% (9 / 12,187)</td></tr> <tr><td>10-19</td><td><1%</td><td>(1 / 325)</td><td>0%</td><td>(0 / 137)</td></tr> <tr><td>20-29</td><td><1%</td><td>(4 / 1,115)</td><td><1%</td><td>(2 / 940)</td></tr> <tr><td>30-39</td><td>1%</td><td>(15 / 1,098)</td><td><1%</td><td>(4 / 1,285)</td></tr> <tr><td>40-49</td><td>2%</td><td>(12 / 718)</td><td><1%</td><td>(4 / 1,198)</td></tr> <tr><td>50-59</td><td>4%</td><td>(30 / 710)</td><td>1%</td><td>(15 / 1,078)</td></tr> <tr><td>60-69</td><td>7%</td><td>(44 / 656)</td><td>2%</td><td>(17 / 768)</td></tr> <tr><td>70-79</td><td>12%</td><td>(46 / 394)</td><td>6%</td><td>(33 / 532)</td></tr> <tr><td>80-89</td><td>21%</td><td>(26 / 122)</td><td>11%</td><td>(33 / 288)</td></tr> <tr><td>90+</td><td>38%</td><td>(16 / 42)</td><td>21%</td><td>(24 / 113)</td></tr> <tr><td>Total</td><td>4%</td><td>(194 / 5,431)</td><td>2%</td><td>(132 / 6,339)</td></tr> <tr><td></td><td></td><td></td><td>2%</td><td>(1,265 / 50,844)</td></tr> </tbody> </table> <p>* For this table, un-vaccinated includes those with no effective dose, and those who are ineligible for vaccination (aged 0-11 years).</p> <p><i>Note: This data has not been updated since the previous report (3 Dec 2021)</i></p> <p>One 15 year old died with pneumococcal meningitis and COVID-19</p>	Age-group (years)	Since 16 Jun 2021			Jan 2020 – 15 Jun 2021		Number of deaths	Case fatality rate	Fatality rate per 100,000 population ³	Number of deaths	Case fatality rate ²	0-9	0	0%	0.0	0	0%	10-19	1	<1%	0.1	0	0%	20-29	6	<1%	0.5	0	0%	30-39	15	<1%	1.3	0	0%	40-49	26	<1%	2.5	0	0%	50-59	63	1%	6.5	1	<1%	60-69	100	3%	11.9	4	1%	70-79	132	7%	22.7	15	4%	80-89	161	17%	58.7	20	16%	90+	62	27%	89.4	16	38%	Total	566	1%	7.0	56	1%	Age-group (years)	% cases with severe outcomes (ICU and/or death)				Jan 2020 – 15 Jun 2021	16 Jun – 20 Nov 2021:		16 Jun – 20 Nov 2021:			Fully vaccinated	Un-vaccinated		0-9	0%	(0 / 251)	-	<1% (9 / 12,187)	10-19	<1%	(1 / 325)	0%	(0 / 137)	20-29	<1%	(4 / 1,115)	<1%	(2 / 940)	30-39	1%	(15 / 1,098)	<1%	(4 / 1,285)	40-49	2%	(12 / 718)	<1%	(4 / 1,198)	50-59	4%	(30 / 710)	1%	(15 / 1,078)	60-69	7%	(44 / 656)	2%	(17 / 768)	70-79	12%	(46 / 394)	6%	(33 / 532)	80-89	21%	(26 / 122)	11%	(33 / 288)	90+	38%	(16 / 42)	21%	(24 / 113)	Total	4%	(194 / 5,431)	2%	(132 / 6,339)				2%	(1,265 / 50,844)
Age-group (years)	Since 16 Jun 2021		Jan 2020 – 15 Jun 2021																																																																																																																																																																																																																						
	Hospitalised	Percentage of cases hospitalised ¹	Hospitalised per 100,000 population	Percentage of cases hospitalised ¹																																																																																																																																																																																																																					
0-9	402	3%	39.8	2%																																																																																																																																																																																																																					
10-19	503	4%	52.2	3%																																																																																																																																																																																																																					
20-29	1,293	9%	110.3	2%																																																																																																																																																																																																																					
30-39	1,558	12%	133.1	4%																																																																																																																																																																																																																					
40-49	1,485	16%	143.8	7%																																																																																																																																																																																																																					
50-59	1,411	21%	145.1	11%																																																																																																																																																																																																																					
60-69	1,113	29%	132.4	18%																																																																																																																																																																																																																					
70-79	782	42%	134.2	23%																																																																																																																																																																																																																					
80-89	518	56%	188.9	43%																																																																																																																																																																																																																					
90+	125	54%	180.2	38%																																																																																																																																																																																																																					
Total	9,190	12%	113.6	9%																																																																																																																																																																																																																					
Age-group (years)	Since 16 Jun 2021			Jan 2020 – 15 Jun 2021																																																																																																																																																																																																																					
	Number of deaths	Case fatality rate	Fatality rate per 100,000 population ³	Number of deaths	Case fatality rate ²																																																																																																																																																																																																																				
0-9	0	0%	0.0	0	0%																																																																																																																																																																																																																				
10-19	1	<1%	0.1	0	0%																																																																																																																																																																																																																				
20-29	6	<1%	0.5	0	0%																																																																																																																																																																																																																				
30-39	15	<1%	1.3	0	0%																																																																																																																																																																																																																				
40-49	26	<1%	2.5	0	0%																																																																																																																																																																																																																				
50-59	63	1%	6.5	1	<1%																																																																																																																																																																																																																				
60-69	100	3%	11.9	4	1%																																																																																																																																																																																																																				
70-79	132	7%	22.7	15	4%																																																																																																																																																																																																																				
80-89	161	17%	58.7	20	16%																																																																																																																																																																																																																				
90+	62	27%	89.4	16	38%																																																																																																																																																																																																																				
Total	566	1%	7.0	56	1%																																																																																																																																																																																																																				
Age-group (years)	% cases with severe outcomes (ICU and/or death)																																																																																																																																																																																																																								
	Jan 2020 – 15 Jun 2021	16 Jun – 20 Nov 2021:		16 Jun – 20 Nov 2021:																																																																																																																																																																																																																					
		Fully vaccinated	Un-vaccinated																																																																																																																																																																																																																						
0-9	0%	(0 / 251)	-	<1% (9 / 12,187)																																																																																																																																																																																																																					
10-19	<1%	(1 / 325)	0%	(0 / 137)																																																																																																																																																																																																																					
20-29	<1%	(4 / 1,115)	<1%	(2 / 940)																																																																																																																																																																																																																					
30-39	1%	(15 / 1,098)	<1%	(4 / 1,285)																																																																																																																																																																																																																					
40-49	2%	(12 / 718)	<1%	(4 / 1,198)																																																																																																																																																																																																																					
50-59	4%	(30 / 710)	1%	(15 / 1,078)																																																																																																																																																																																																																					
60-69	7%	(44 / 656)	2%	(17 / 768)																																																																																																																																																																																																																					
70-79	12%	(46 / 394)	6%	(33 / 532)																																																																																																																																																																																																																					
80-89	21%	(26 / 122)	11%	(33 / 288)																																																																																																																																																																																																																					
90+	38%	(16 / 42)	21%	(24 / 113)																																																																																																																																																																																																																					
Total	4%	(194 / 5,431)	2%	(132 / 6,339)																																																																																																																																																																																																																					
			2%	(1,265 / 50,844)																																																																																																																																																																																																																					

¹² <https://www.nsw.gov.au/covid-19/stay-safe/rules>
¹³ <https://education.nsw.gov.au/covid-19/advice-for-families/vaccination-requirements-for-school-sites>
¹⁴ <https://education.nsw.gov.au/covid-19/advice-for-families>
¹⁵ <https://www.health.gov.au/resources/collections/covid-19-vaccination-daily-rollout-update>
¹⁶ <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx>
¹⁷ <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx>
¹⁸ <https://www.health.nsw.gov.au/Infectious/covid-19/Pages/weekly-reports.aspx>



Canada (population 38 million)

PHSM ¹⁹	Schools & mitigation ^{20, 21}	Vaccination coverage ²²												
<p>Standard PHSM including TTIQ and mask wearing encouraged in shared spaces and subject to local advice</p>	<p>Re-opened in Sep 2021 Standard PHSM and additional measures depending on local advice: physical distancing, cohorting, masks when required, screening tests</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>Fully vaccinated* (%)</th> </tr> </thead> <tbody> <tr> <td>5-11</td> <td>5.8</td> <td>1.3</td> </tr> <tr> <td>12+</td> <td>89.5</td> <td>86.4</td> </tr> <tr> <td>12-17</td> <td>87.6</td> <td>82.7</td> </tr> </tbody> </table> <p>*Canada also uses the J&J/Janssen vaccine which is a single-dose vaccine. Third/booster doses have been available to high-risk individuals in phases since Sep 2021, coverage data not available. Vaccination of 12y+ commenced mid-May 2021 and 5-11y in mid-Nov.</p>	Age group (years)	1 st dose (%)	Fully vaccinated* (%)	5-11	5.8	1.3	12+	89.5	86.4	12-17	87.6	82.7
Age group (years)	1 st dose (%)	Fully vaccinated* (%)												
5-11	5.8	1.3												
12+	89.5	86.4												
12-17	87.6	82.7												
Infections by age group ^{23, 24}	Hospitalisations in children ²⁵	Deaths by age group ²⁶												
<p>Figure 3. COVID-19 cases (n=1,729,301²³) in Canada by date²⁴ as of December 3, 2021, 7 pm EST (by age - 10 year groups²³)</p>  <p>Figure 4. Distribution²³ of confirmed COVID-19 cases reported to PHAC by vaccination status as of November 20, 2021</p>  <p>Figure 5. Current summary of pediatric COVID-19 cases and outcomes, vaccine coverage, school notifications, and school case clusters in BC, as of November 2021</p>  <p>Figure 6. Rate of COVID-19 cases by age group, BC, January 1 to November 13, 2021</p>  <p>British Columbia (pop. 5.1 million): Note: This data has not been updated since the previous report (3 Dec 2021)</p>	<p>Figure 7. Age and gender²⁵ distribution of COVID-19 cases [hospitalized] in Canada as of December 3, 2021, 7 pm EST (n=92,719²⁵)</p>  <p>Figure 8. Daily number of hospital beds and ICU beds occupied by COVID-19 patients as of December 6, 2021</p> 	<p>Figure 9. Age and gender²⁶ distribution of COVID-19 cases [deceased] in Canada as of December 3, 2021, 7 pm EST (n=29,530²⁶)</p>  <p>Note: Three deaths have been reclassified since the previous report (3 Dec 2021)</p> <p>There have been 16 deaths with COVID-19 in children aged 0-19y throughout the pandemic</p>												

¹⁹ <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html>
²⁰ <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/planning-2021-2022-school-year-vaccination.html>
²¹ <https://www.canada.ca/en/public-health/services/vaccination-children/covid-19.html>
²² <https://health-infobase.canada.ca/covid-19/vaccination-coverage/>
²³ <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>
²⁴ <http://www.bccdc.ca/schools/news-resources/data-for-k12>
²⁵ <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>
²⁶ <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>

Denmark

(population 5.9 million)

PHSM ²⁷	Schools & mitigation ²⁸	Vaccination coverage ²⁹																																																																																											
<p>Reinstatement of certain measures in late Nov 2021, including indoor mask wearing and digital pass (proof of vaccination or negative COVID-19 test) for shops and restaurants</p> <p>Previously all PHSM lifted on 8 Oct 2021, except for mask wearing in airports & hospitals</p>	<p>Re-opened in May 2021</p> <p>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 12 months, twice weekly tests recommended for areas with high infection rates. Schools closed early for winter holiday.</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> </tr> </thead> <tbody> <tr> <td>12+</td> <td>78.8</td> <td>76.3</td> </tr> </tbody> </table> <p>Commenced 3rd/booster vaccination for people 65+y in late Oct 2021 and for all adults from late Nov, coverage data not available. Vaccination for 5-11y age group commenced late Nov 2021, coverage data not available.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	12+	78.8	76.3																																																																																					
Age group (years)	1 st dose (%)	2 nd dose (%)																																																																																											
12+	78.8	76.3																																																																																											
Infections by age group ³⁰	Hospitalisations in children ^{31, 32}	Deaths by age group ³³																																																																																											
<p>Denmark: 14-day age-specific COVID-19 case notification rate</p> <p>ECDC Figure produced 9 December 2021. Source: TEISBY COVID 19</p>	<table border="1"> <thead> <tr> <th>Age group</th> <th>Confirmed cases</th> <th>Total hospitalised (%)</th> <th>Comorbid. (%)</th> <th>Short hospital stay</th> <th>Hospitalised females</th> <th>Hospitalised males</th> </tr> <tr> <th>Aldersgrupper</th> <th>Bekræftede tilfælde</th> <th>Indlagte i alt (%)</th> <th>Heraf med komorbiditet (%)</th> <th>Korte indlæggelser**</th> <th>Indlagte kvinder</th> <th>Indlagte mænd</th> </tr> </thead> <tbody> <tr> <td>0-9</td> <td>56.135</td> <td>435 (1)</td> <td>98 (23)</td> <td>198</td> <td>202</td> <td>233</td> </tr> <tr> <td>10-19</td> <td>91.098</td> <td>397 (0)</td> <td>130 (33)</td> <td>149</td> <td>221</td> <td>176</td> </tr> <tr> <td>20-29</td> <td>98.035</td> <td>1.343 (1)</td> <td>563 (42)</td> <td>494</td> <td>819</td> <td>524</td> </tr> <tr> <td>30-39</td> <td>72.839</td> <td>1.891 (3)</td> <td>822 (43)</td> <td>667</td> <td>1.108</td> <td>783</td> </tr> <tr> <td>40-49</td> <td>74.618</td> <td>2.349 (3)</td> <td>1.142 (49)</td> <td>697</td> <td>1.147</td> <td>1.202</td> </tr> <tr> <td>50-59</td> <td>62.256</td> <td>3.136 (5)</td> <td>1.852 (59)</td> <td>673</td> <td>1.396</td> <td>1.740</td> </tr> <tr> <td>60-69</td> <td>34.434</td> <td>3.047 (9)</td> <td>2.195 (72)</td> <td>425</td> <td>1.244</td> <td>1.803</td> </tr> <tr> <td>70-79</td> <td>21.950</td> <td>4.196 (19)</td> <td>3.599 (86)</td> <td>369</td> <td>1.747</td> <td>2.449</td> </tr> <tr> <td>80-89</td> <td>8.886</td> <td>3.286 (37)</td> <td>2.934 (89)</td> <td>260</td> <td>1.615</td> <td>1.671</td> </tr> <tr> <td>90+</td> <td>2.330</td> <td>874 (38)</td> <td>795 (91)</td> <td>55</td> <td>510</td> <td>364</td> </tr> <tr> <td>I alt</td> <td>522.581</td> <td>20.954 (4)</td> <td>14.130 (67)</td> <td>3987</td> <td>10.009</td> <td>10.945</td> </tr> </tbody> </table> <p>Denmark: rate of new hospital COVID-19 admissions</p> <p>ECDC Figure produced 9 December 2021. Source: ECDC database compiled from public online sources</p>	Age group	Confirmed cases	Total hospitalised (%)	Comorbid. (%)	Short hospital stay	Hospitalised females	Hospitalised males	Aldersgrupper	Bekræftede tilfælde	Indlagte i alt (%)	Heraf med komorbiditet (%)	Korte indlæggelser**	Indlagte kvinder	Indlagte mænd	0-9	56.135	435 (1)	98 (23)	198	202	233	10-19	91.098	397 (0)	130 (33)	149	221	176	20-29	98.035	1.343 (1)	563 (42)	494	819	524	30-39	72.839	1.891 (3)	822 (43)	667	1.108	783	40-49	74.618	2.349 (3)	1.142 (49)	697	1.147	1.202	50-59	62.256	3.136 (5)	1.852 (59)	673	1.396	1.740	60-69	34.434	3.047 (9)	2.195 (72)	425	1.244	1.803	70-79	21.950	4.196 (19)	3.599 (86)	369	1.747	2.449	80-89	8.886	3.286 (37)	2.934 (89)	260	1.615	1.671	90+	2.330	874 (38)	795 (91)	55	510	364	I alt	522.581	20.954 (4)	14.130 (67)	3987	10.009	10.945	<p>Total of 2983 in all age groups, but no age breakdown</p>
Age group	Confirmed cases	Total hospitalised (%)	Comorbid. (%)	Short hospital stay	Hospitalised females	Hospitalised males																																																																																							
Aldersgrupper	Bekræftede tilfælde	Indlagte i alt (%)	Heraf med komorbiditet (%)	Korte indlæggelser**	Indlagte kvinder	Indlagte mænd																																																																																							
0-9	56.135	435 (1)	98 (23)	198	202	233																																																																																							
10-19	91.098	397 (0)	130 (33)	149	221	176																																																																																							
20-29	98.035	1.343 (1)	563 (42)	494	819	524																																																																																							
30-39	72.839	1.891 (3)	822 (43)	667	1.108	783																																																																																							
40-49	74.618	2.349 (3)	1.142 (49)	697	1.147	1.202																																																																																							
50-59	62.256	3.136 (5)	1.852 (59)	673	1.396	1.740																																																																																							
60-69	34.434	3.047 (9)	2.195 (72)	425	1.244	1.803																																																																																							
70-79	21.950	4.196 (19)	3.599 (86)	369	1.747	2.449																																																																																							
80-89	8.886	3.286 (37)	2.934 (89)	260	1.615	1.671																																																																																							
90+	2.330	874 (38)	795 (91)	55	510	364																																																																																							
I alt	522.581	20.954 (4)	14.130 (67)	3987	10.009	10.945																																																																																							
	<p>For the entire pandemic, a total of 35 children in ICU, which included 12 children with comorbidities</p> <p>Graph is not available by age group</p>																																																																																												

²⁷ <https://en.coronasmitte.dk/rules-and-regulations>
²⁸ <https://en.coronasmitte.dk/rules-and-regulations>
²⁹ https://experience.arcgis.com/experience/9824b03b114244348ef0b10f69f490b4/page/page_3/
³⁰ <https://covid19-country-overviews.ecdc.europa.eu/countries/Denmark.html>
³¹ <https://www.sst.dk/da/corona/tal-og-overvaagning>
³² <https://covid19-country-overviews.ecdc.europa.eu/countries/Denmark.html>
³³ <https://www.sst.dk/da/corona/tal-og-overvaagning>



England, UK

(population 56.6 million)

PHSM ³⁴	Schools & mitigation ³⁵	Vaccination coverage ³⁶																
<p>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</p> <p>Close contacts of a case with the Omicron variant must isolate for 10 days</p>	<p>Re-opened after summer holiday in mid-Sep 2021</p> <p>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 (single dose)</p> <p>Close contacts who are fully vaccinated or under 18.5y and produce a negative PCR test result do not need to isolate; contacts of a case with the Omicron variant must isolate</p>	<p>Age group</p> <table border="1"> <thead> <tr> <th>(years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> <th>3rd/booster (%)</th> </tr> </thead> <tbody> <tr> <td>12+</td> <td>88.8</td> <td>80.9</td> <td>37.6</td> </tr> <tr> <td>12-15</td> <td>44.0</td> <td>0.8</td> <td>-</td> </tr> <tr> <td>16-17</td> <td>60.5</td> <td>25.1</td> <td>1.0</td> </tr> </tbody> </table> <p>Third/booster dose for 40y+ and other high-risk individuals, commenced Sep 2021.</p>	(years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)	12+	88.8	80.9	37.6	12-15	44.0	0.8	-	16-17	60.5	25.1	1.0
(years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)															
12+	88.8	80.9	37.6															
12-15	44.0	0.8	-															
16-17	60.5	25.1	1.0															
Infections by age group ^{37, 38}	Hospitalisations in children ^{39, 40}	Deaths by age group ⁴¹																
<p>Figure 5: Weekly confirmed COVID-19 case rates per 100,000, tested under Pillar 1 and Pillar 2, by age group</p> <p>Figure 4: The percentage of people testing positive for COVID-19 increased for those aged 2 years to school Year 6 and those aged 35 to 49 years, and decreased for those aged 70 years and over in the week ending 27 November 2021</p>	<p>Figure 43: Weekly hospital admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch</p> <p>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</p>	<p>Figure 55: Age-sex pyramid of laboratory confirmed COVID-19 deaths, for the past year</p> <p>Deaths with COVID-19 in the past year:</p> <ul style="list-style-type: none"> <5y: 13 5-9y: 9 10-19y: 47 <p>Note: Two deaths in the 10-19y group have been reclassified since the previous report (3 Dec 2021)</p>																

³⁴ <https://www.gov.uk/guidance/covid-19-coronavirus-restrictions-what-you-can-and-cannot-do>
³⁵ <https://www.gov.uk/government/publications/actions-for-schools-during-the-coronavirus-outbreak/schools-covid-19-operational-guidance>
³⁶ <https://coronavirus.data.gov.uk/details/vaccinations?areaType=nation&areaName=England>
³⁷ <https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season>
³⁸ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/previousReleases>
³⁹ <https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season>
⁴⁰ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/hospitals>
⁴¹ <https://www.gov.uk/government/statistics/national-flu-and-covid-19-surveillance-reports-2021-to-2022-season>



Finland

(population 5.5 million)

PHSM ⁴²	Schools & mitigation ⁴³	Vaccination coverage ^{44,45}																
<p>Mask wearing encouraged in crowded areas, TTIQ, physical distancing, hand hygiene and respiratory etiquette</p>	<p>Many schools have reopened from Sep 2021</p> <p>Standard PHSM, cohorting, masks, vaccination of 12y+ commenced early Aug 2021</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> <th>3rd/booster (%)</th> </tr> </thead> <tbody> <tr> <td>12+</td> <td>87.1</td> <td>82.4</td> <td>8.3</td> </tr> <tr> <td>12-15</td> <td>75.5</td> <td>65.7</td> <td>0.2</td> </tr> <tr> <td>16-19</td> <td>82.4</td> <td>74.3</td> <td>0.3</td> </tr> </tbody> </table> <p>Third/booster dose is recommended for females 12y+, males 30y+ and high-risk individuals.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)	12+	87.1	82.4	8.3	12-15	75.5	65.7	0.2	16-19	82.4	74.3	0.3
Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)															
12+	87.1	82.4	8.3															
12-15	75.5	65.7	0.2															
16-19	82.4	74.3	0.3															
Infections by age group ⁴⁶	Hospitalisations in children ⁴⁷	Deaths by age group ⁴⁸																
<p>Infections by age group (14-day average)</p> <p>thl</p> <p>Pink (unvaccinated) Dark blue (1 dose) Light blue (2 doses)</p>	<p>Incidence of hospitalisation by age group (14-day average)</p> <p>thl</p> <p>Pink (unvaccinated) Dark blue (1 dose) Light blue (2 doses)</p>	<p>Deaths by age group (for the whole period)</p> <p>There have been 0 deaths in children throughout the entire pandemic</p>																

⁴² <https://thl.fi/en/web/infectious-diseases-and-vaccinations/what-s-new/coronavirus-covid-19-latest-updates/transmission-and-protection-coronavirus>
⁴³ <https://thl.fi/en/web/thlfi-en/-/okm-and-thl-new-covid-19-recommendations-for-early-childhood-education-and-care-educational-institutions-and-higher-education-institutions>
⁴⁴ https://sampo.thl.fi/pivot/prod/en/vaccreg/cov19cov/summary_cov19ageareacov
⁴⁵ https://www.thl.fi/episeuranta/rokotukset/koronarokotusten_edistyminen.html
⁴⁶ <https://thl.fi/infektioaudit-ja-rokotukset/ajankohtaista/ajankohtaista-koronaviruksesta-covid-19/tilannekatsaus-koronaviruksesta/koronaviruksen-seuranta>
⁴⁷ <https://thl.fi/infektioaudit-ja-rokotukset/ajankohtaista/ajankohtaista-koronaviruksesta-covid-19/tilannekatsaus-koronaviruksesta/koronaviruksen-seuranta>
⁴⁸ <https://experience.arcgis.com/experience/92e9bb33fac744c9a084381fc35aa3c7>



Scotland, UK

(population 5.5 million)

PHSM ⁴⁹	Schools & mitigation ⁵⁰	Vaccination coverage ⁵¹																
Mandatory masks indoors, TTIQ, screening tests, work from home encouraged	<p>Re-opened after summer holiday in mid-Sep 2021</p> <p>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 (single dose)</p> <p>Close contacts who are fully vaccinated or under 18.5y and produce a negative PCR test result do not need to isolate</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> <th>3rd/booster (%)</th> </tr> </thead> <tbody> <tr> <td>12+</td> <td>91.1</td> <td>82.9</td> <td>41.8</td> </tr> <tr> <td>12-15</td> <td>60.2</td> <td>2.0</td> <td>0.3</td> </tr> <tr> <td>16-17</td> <td>78.5</td> <td>25.6</td> <td>2.0</td> </tr> </tbody> </table> <p>Third/booster dose for 40y+ and other high-risk individuals, commenced Sep 2021.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)	12+	91.1	82.9	41.8	12-15	60.2	2.0	0.3	16-17	78.5	25.6	2.0
Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)															
12+	91.1	82.9	41.8															
12-15	60.2	2.0	0.3															
16-17	78.5	25.6	2.0															
Infections by age group ⁵²	Hospitalisations in children ⁵³	Deaths by age group ^{54,55}																
<p>Figure 3: Seven day case rate in Scotland by age group by specimen date [2]. Refers to PCR testing only</p>	<p>Hospital admissions related to COVID-19 (3-week rolling average)</p>	<p>Figure 7: Deaths by age group (weekly total by week beginning, NRS)</p>																

⁴⁹ <https://www.gov.scot/coronavirus-covid-19/>
⁵⁰ <https://www.gov.uk/government/publications/actions-for-schools-during-the-coronavirus-outbreak/schools-covid-19-operational-guidance>
⁵¹ <https://coronavirus.data.gov.uk/details/vaccinations?areaType=nation&areaName=Scotland>
⁵² <https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/>
⁵³ https://scotland.shinyapps.io/phs-covid19-education/?w_852fb58e/
⁵⁴ <https://www.gov.scot/collections/coronavirus-covid-19-the-state-of-the-epidemic/>
⁵⁵ <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland>

Singapore

(population 5.5 million)

<p>PHSM⁵⁶</p> <p>Restrictions re-introduced on 27 Sep 2021 after temporary easing Mandatory masks indoors & outdoors, TTIQ, work from home, shops open with maximum 5 people/group and digital check-in, maximum 5 guests at home Fully vaccinated*: Social activities with maximum of 5 people/group Not fully vaccinated: Social activities with reduced density limits</p> <p>*including those who have recovered from COVID-19 or have a negative pre-event test result within 24 hours</p>	<p>Schools & mitigation⁵⁷</p> <p>Re-opened in Jul 2021 with temporary home-based learning so exams could be undertaken without interruption; secondary schools continue to study onsite; phased return of primary schools from 11 Oct 2021</p> <p>Standard PHSM, cohorting, RAT & temperature screening, mandatory masks 6y+ with exceptions, vaccination of 12y+ commenced early Jun 2021s</p>	<p>Vaccination coverage⁵⁸</p> <table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>2nd dose (%)</th> <th>3rd/booster (%)</th> </tr> </thead> <tbody> <tr> <td>Total pop.</td> <td>87.0</td> <td>87.0</td> <td>29.0</td> </tr> </tbody> </table> <p>Third/booster dose for 30y+ and other high-risk individuals from Sep 2021.</p>	Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)	Total pop.	87.0	87.0	29.0
Age group (years)	1 st dose (%)	2 nd dose (%)	3 rd /booster (%)							
Total pop.	87.0	87.0	29.0							
<p>Infections by age group⁵⁹</p> <p>Number of Community Cases by Age</p> <p>SOURCE: DATA.GOV.SG</p>	<p>Hospitalisations in children⁶⁰</p> <p>Hospitalised Patients by Age Groups</p> <p>One child was admitted to ICU due to MIS-C for the entire pandemic</p> <p>There have been five cases of MIS-C throughout the entire pandemic, last reported 8 Nov 2021</p> <p>SOURCE: DATA.GOV.SG</p>	<p>Deaths by age group⁶¹</p> <p>Deaths by Age Groups</p> <p>There have been 0 deaths in children throughout the entire pandemic</p> <p>SOURCE: DATA.GOV.SG</p>								

⁵⁶ <https://www.moh.gov.sg/covid-19-phase-advisory>
⁵⁷ <https://www.moe.gov.sg/faqs-covid-19-infection>
⁵⁸ <https://www.moh.gov.sg/>
⁵⁹ <https://www.moh.gov.sg/>
⁶⁰ <https://www.moh.gov.sg/covid-19/statistics>
⁶¹ <https://www.moh.gov.sg/covid-19/statistics>

South Africa

(population 60.4 million)

<p>PHSM⁶²</p>	<p>Schools & mitigation⁶³</p>	<p>Vaccination coverage⁶⁴</p>
<p>Since 1 Oct 2021, restrictions including partial curfew, mandatory masks 6y+ with exceptions, density limits</p>	<p>Re-opened in Aug 2021 Standard PHSM, ventilation, symptom screening, mandatory masks 6y+ with exceptions, visitor limits, vaccination of 12y+ commenced mid Oct 2021</p>	<p>Age group Fully vaccinated* (years) (%) Total pop. 43.6 *Note: South Africa also uses the J&J/Janssen vaccine which is a single-dose vaccine. Coverage data for 12-17y not available.</p>
<p>Infections by age group⁶⁵</p>	<p>Hospitalisations in children and deaths by age group⁶⁶</p>	<p>Genomic surveillance⁶⁷</p>
<p>Characteristics of COVID-19 cases in South Africa by age and sex</p> <p>Figure 4. Weekly incidence risk of laboratory-confirmed cases of COVID-19 by age group in years and epidemiologic week, South Africa, 3 March 2020 – 4 December 2021 (n=3 003 554; 28 140 missing age)</p>	<p>Hospital admissions of COVID-19 cases, by health sector, by epidemiologic week</p> <p>Total: 444.32K</p> <p>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.</p> <p>Deaths to date by age group and sex</p> <p>Total: 94.86K</p> <p>Hospitalisations are not available by age groups</p> <p>Total of 663 deaths with COVID-19 in children 0-19y throughout the entire pandemic</p> <p>Deaths in children account for <0.1% of all deaths in South Africa</p>	<p>Detection Rates: Beta, Delta, C.1.2 and Omicron</p> <p>Detection rates of variants being monitored in South Africa</p> <p>Total sequences: 358</p> <p>C.1.2 has been detected at 5.4% of sequences monthly. Beta prevalence increased slightly in October and has also been detected in November. Omicron first detected in South Africa on November 8th, accounting for 70% (n=250/358) genomes from this month.</p> <p>Proportion and number of clades by epiweek in South Africa, 2021 (N= 17 958)</p> <p>Sequencing data ending epi week 48 (ending 4 December 2021)</p> <p>Currently in epi week 49 (ending 11 December 2021)</p> <p>Delta dominated South Africa's third wave with >80% frequency in October, with C.1.2 detection remaining <4%. Omicron appears to dominate November sequencing data but sequencing is ongoing to determine its prevalence.</p>

⁶² <https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19>
⁶³ <https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19>
⁶⁴ <https://sacoronavirus.co.za/latest-vaccine-statistics/>
⁶⁵ <https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-epidemiological-brief/>
⁶⁶ <https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/daily-hospital-surveillance-datcov-report/>
⁶⁷ <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 ⁶⁸	Schools & mitigation ⁶⁹	Vaccination coverage ^{70,71}																
<p>Varies by state</p> <p>The US CDC recommends indoor mask wearing for all unvaccinated and aged 2y+, physical distancing, hand & surface hygiene, TTIQ, but adoption varies by State</p>	<p>Many schools have reopened from Sep 2021</p> <p>Standard PHSM, cohorting, masks, PCR & RAT screening, vaccination commenced mid-May for 12+y and early Nov 2021 for 5-11y, but adoption varies by State</p>	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>Fully vaccinated* (%)</th> <th>3rd/booster (%)</th> </tr> </thead> <tbody> <tr> <td>5-11</td> <td>17.9</td> <td>7.0</td> <td>-</td> </tr> <tr> <td>12-17</td> <td>61.8</td> <td>52.0</td> <td>-</td> </tr> <tr> <td>18+</td> <td>83.9</td> <td>71.8</td> <td>26.9</td> </tr> </tbody> </table> <p>*Note: The US also uses the J&J/Janssen vaccine which is a single-dose vaccine. Third/booster dose for 65y+ and other high-risk individuals from Sep 2021, expanded to all 18y+ from late Nov 2021.</p>	Age group (years)	1 st dose (%)	Fully vaccinated* (%)	3 rd /booster (%)	5-11	17.9	7.0	-	12-17	61.8	52.0	-	18+	83.9	71.8	26.9
Age group (years)	1 st dose (%)	Fully vaccinated* (%)	3 rd /booster (%)															
5-11	17.9	7.0	-															
12-17	61.8	52.0	-															
18+	83.9	71.8	26.9															
<h3>Infections by age group⁷²</h3> <p>COVID-19 Weekly Cases per 100,000 Population by Age Group, United States March 01, 2020 - December 11, 2021*</p>	<h3>MIS-C⁷³</h3> <p>Daily MIS-C Cases and COVID-19 Cases Reported to CDC (7-Day Moving Average)</p>	<h3>Deaths by age group^{74,75}</h3> <p>COVID-19 Weekly Deaths per 100,000 Population by Age Group, United States March 01, 2020 - December 11, 2021*</p>																
<h3>Hospitalisations in children⁷⁷</h3> <p>COVID-NET: Entire Network :: 2020-21 :: Weekly Rate</p> <p>Any admitted child who is COVID-19 positive is likely to be included, so this is likely to be an overestimation of the number of children needing treatment for COVID-19</p>	<h3>MIS-C Patients By Age Group</h3> <p>Note: This data has not been updated since the previous report (3 Dec 2021)</p> <p>There have been 5973 cases of MIS-C throughout the entire pandemic, including 52 deaths</p> <p>The median age of patients with MIS-C was 9y and half were between 5-13y</p>	<p>Total 644 deaths with COVID-19 in children 0-17y throughout the entire pandemic</p> <p>There is marked variation by State/Territory and case fatality rates are between 0-0.01% for the vast majority of States and Territories⁷⁶: e.g. Texas (n=115); Arizona (n=50); California (n=42); Tennessee (n=26); Puerto Rico (n=9); Guam (n=6); Hawaii (n=1); Alaska (n=0)</p> <p>Deaths in children account for <0.2% of all deaths in the US</p>																

⁶⁸ <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>
⁶⁹ <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html>
⁷⁰ https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-total-admin-rate-total
⁷¹ <https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends>
⁷² <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>
⁷³ <https://covid.cdc.gov/covid-data-tracker/#mis-national-surveillance>
⁷⁴ <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>
⁷⁵ https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.html
⁷⁶ <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/>
⁷⁷ https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html





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 population⁷⁸	157.6	193.3	131.2																																				
PHSM	Mask wearing encouraged, physical distancing, TTIQ ⁷⁹	Mask wearing encouraged, physical distancing, TTIQ ⁸⁰	Indoor mask wearing mandatory in many indoor venues for all aged 2+, TTIQ ⁸¹																																				
Schools & mitigation	Schools reopened from Aug 2021 Standard PHSM as recommended by US CDC, school-based mask mandates with option for parents to opt-out, vaccination encouraged, vaccination of 12+y commenced mid-May and 5-11y in early Nov 2021 ⁸²	Schools reopened from Aug 2021 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 ⁸³	Schools reopened from Sep 2021 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 ⁸⁴																																				
Vaccination coverage⁸⁵	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>Fully vacc.* (%)</th> </tr> </thead> <tbody> <tr> <td>12-17</td> <td>46.8</td> <td>39.4</td> </tr> <tr> <td>18-64</td> <td>64.4</td> <td>56.1</td> </tr> <tr> <td>65+</td> <td>99.9</td> <td>90.6</td> </tr> </tbody> </table> <p><small>*The US also uses the J&J/Janssen vaccine which is a single-dose vaccine. State-specific data on 3rd/booster dose coverage not available.</small></p>	Age group (years)	1 st dose (%)	Fully vacc.* (%)	12-17	46.8	39.4	18-64	64.4	56.1	65+	99.9	90.6	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>Fully vacc.* (%)</th> </tr> </thead> <tbody> <tr> <td>12-17</td> <td>40.7</td> <td>33.8</td> </tr> <tr> <td>18-64</td> <td>63.8</td> <td>55.6</td> </tr> <tr> <td>65+</td> <td>95.1</td> <td>87.1</td> </tr> </tbody> </table>	Age group (years)	1 st dose (%)	Fully vacc.* (%)	12-17	40.7	33.8	18-64	63.8	55.6	65+	95.1	87.1	<table border="1"> <thead> <tr> <th>Age group (years)</th> <th>1st dose (%)</th> <th>Fully vacc.* (%)</th> </tr> </thead> <tbody> <tr> <td>12-17</td> <td>76.4</td> <td>62.2</td> </tr> <tr> <td>18-64</td> <td>89.3</td> <td>73.3</td> </tr> <tr> <td>65+</td> <td>99.9</td> <td>91.3</td> </tr> </tbody> </table>	Age group (years)	1 st dose (%)	Fully vacc.* (%)	12-17	76.4	62.2	18-64	89.3	73.3	65+	99.9	91.3
Age group (years)	1 st dose (%)	Fully vacc.* (%)																																					
12-17	46.8	39.4																																					
18-64	64.4	56.1																																					
65+	99.9	90.6																																					
Age group (years)	1 st dose (%)	Fully vacc.* (%)																																					
12-17	40.7	33.8																																					
18-64	63.8	55.6																																					
65+	95.1	87.1																																					
Age group (years)	1 st dose (%)	Fully vacc.* (%)																																					
12-17	76.4	62.2																																					
18-64	89.3	73.3																																					
65+	99.9	91.3																																					

⁷⁸ https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days

⁷⁹ <https://covid19.mt.gov/index>

⁸⁰ <https://covid19.tn.gov/prevention/>

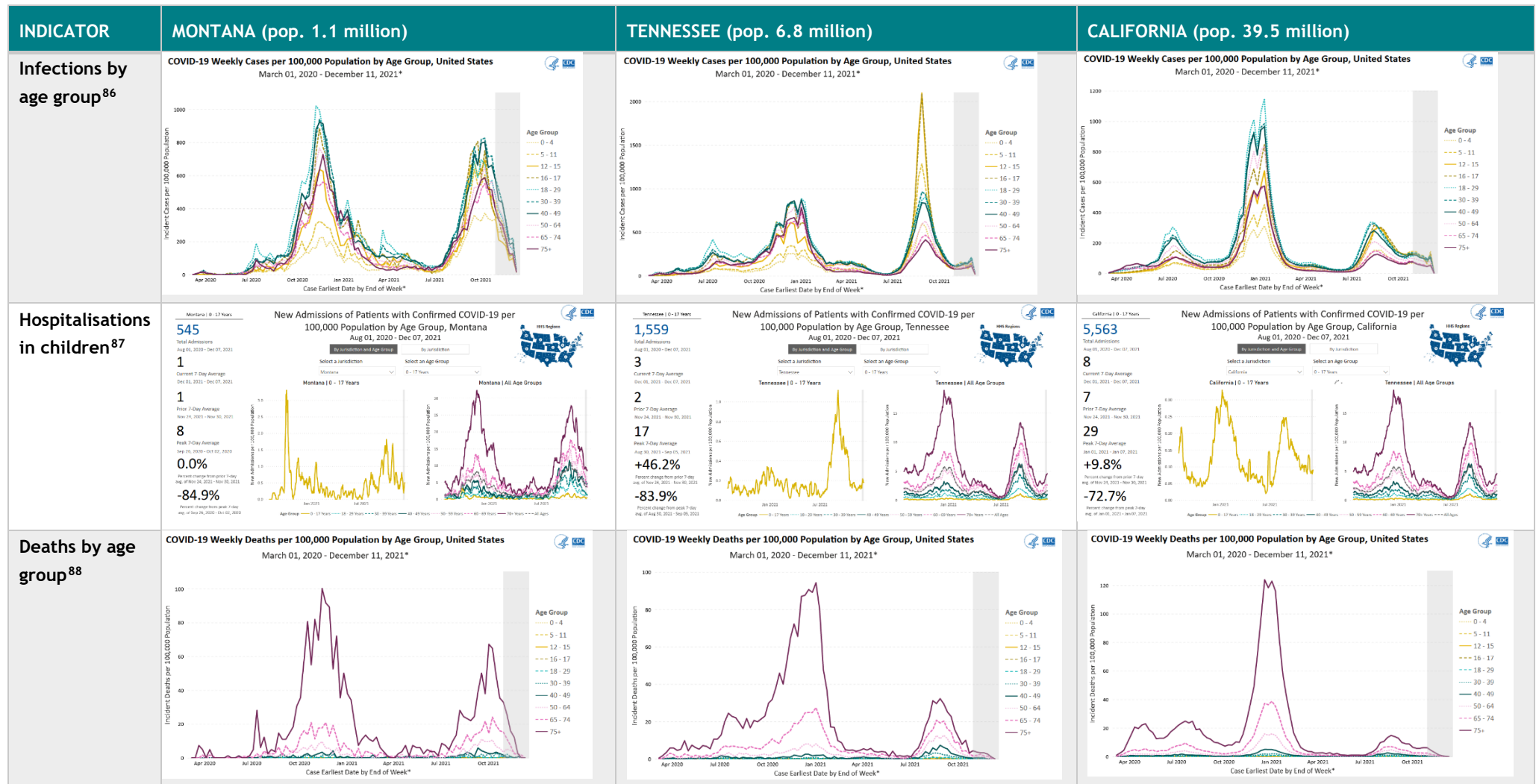
⁸¹ <https://covid19.ca.gov/masks-and-ppe/>

⁸² <https://dphhs.mt.gov/publichealth/cdepi/diseases/CoronavirusMT/index>

⁸³ <https://www.tn.gov/health/cdepi/ncov/educational-resources.html>

⁸⁴ <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/K-12-Guidance-2021-22-School-Year.aspx>

⁸⁵ <https://www.mavoclinic.org/coronavirus-covid-19/vaccine-tracker>



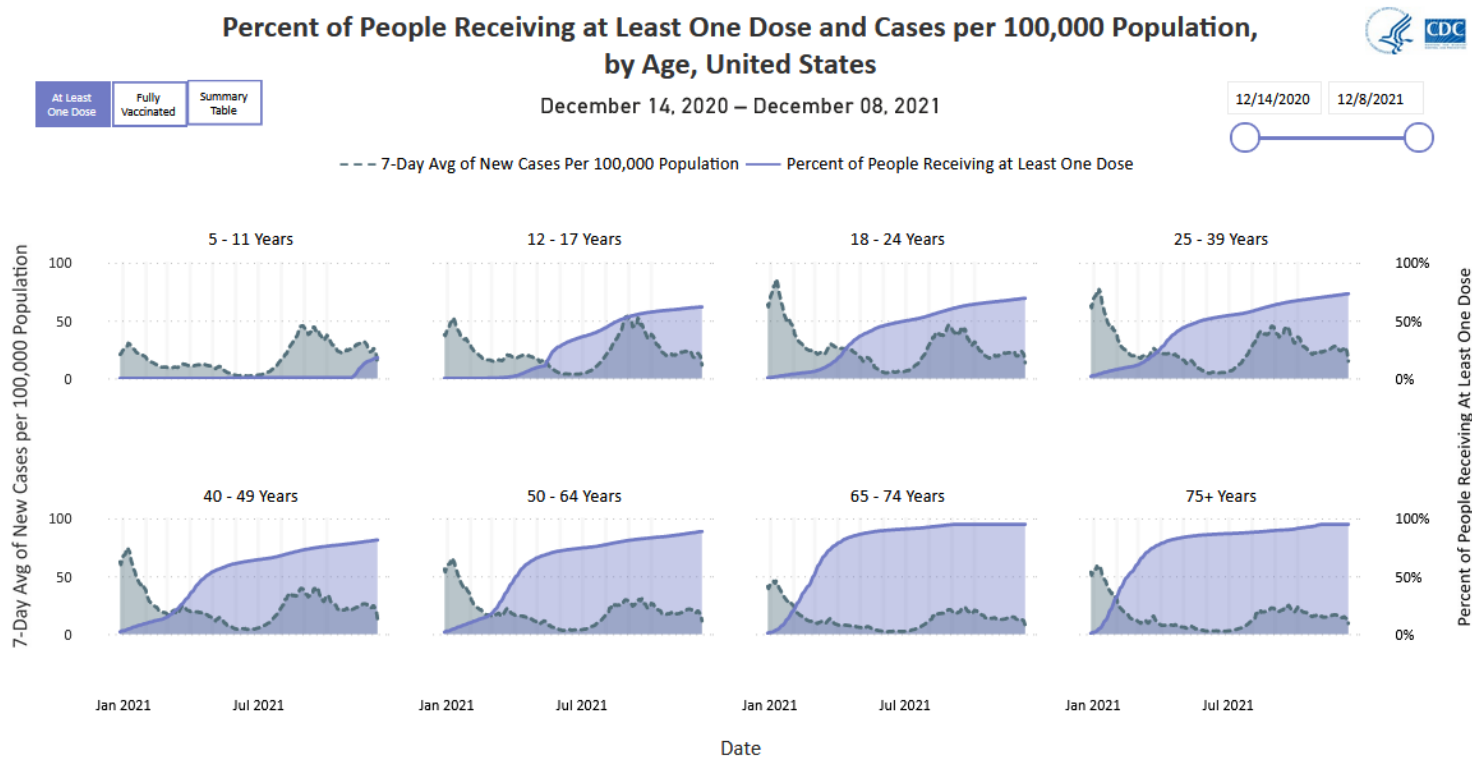
Note: Comparative graphs may have different scales on the y-axis.

⁸⁶ <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>
⁸⁷ <https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions>
⁸⁸ <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>



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 group⁸⁹



Currently, children under age five are not eligible to be vaccinated.

Last Updated: Dec 09, 2021

Data source: VTricks, IIS, Federal Pharmacy Program, Federal Entities Program, U.S. Census Bureau 10-year July 2019 National Population Estimates; Visualization: CDC CPR DEO Situational Awareness Public Health Science Team

⁸⁹ <https://covid.cdc.gov/covid-data-tracker/#vaccinations-cases-trends>



Authors

Darren Suryawijaya Ong

Research Assistant, Asia-Pacific Health, Murdoch Children's Research Institute

Dr John Hart

Research Clinician, Asia-Pacific Health, Murdoch Children's Research Institute

Professor Fiona Russell

Director, Child and Adolescent Health PhD Program, Department of Paediatrics, The University of Melbourne
Group Leader, Asia-Pacific Health, Murdoch Children's Research Institute

To subscribe and receive the weekly reports, please email: asiapacific.health@mcri.edu.au

Murdoch Children's Research Institute

50 Flemington Rd, Parkville
Victoria 3052 Australia
ABN 21 006 566 972

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