

Update of COVID-19 & Racial Disparities in Michigan

June 17, 2022

Disparities Data Committee

Purpose

- *Provide relevant data to aid the Lt. Governor-appointed Racial Disparities Task Force in better understanding and addressing the needs of racial and ethnic minority communities.*
 - *Outline existing upstream factors that result in disparities and put some people at greater risk of severe impact of COVID-19 epidemic and response*
 - *Identify a set of actionable downstream indicators that can be used to measure change in disparity in short term*

Disparity Indicators

Indicator: Rationale	Sample of Proposed Metrics
<p>SARS-CoV-2 Testing: Are we testing enough in all communities?</p>	<p>Report testing by Race and Ethnicity Testing Rate in Socially Vulnerable Communities Early identification when there is insufficient testing</p>
<p>SARS-CoV-2 Spread: What is the spread of COVID-19 in Michigan populations?</p>	<p>Number & Percent of COVID-19 Cases by Race and Ethnicity Case Rate per Million People by Race and Ethnicity Missingness of Race/Ethnicity data for COVID-19 cases</p>
<p>COVID-19 Severity: Are some groups experiencing more severe outcomes?</p>	<p>COVID-19 diagnosis in Emergency Departments and Urgent Care Number & Percent of COVID-19 Deaths by Race and Ethnicity Death Rate per Million People by Race and Ethnicity</p>
<p>Access to Services for COVID-19: Is case investigation and contact tracing equitable? Are supportive services available for quarantine/isolation compliance? Is vaccine distributed equitably?</p>	<p>Percent of cases who were followed up with Case Investigation Percent of cases who indicated need for services and services provided Total vaccines administered by race and ethnicity Percent of population with first dose, completed vaccine series</p>
<p>Impact of Pandemic Response (<i>rotating metrics</i>): How are non-COVID outcomes impacted by COVID-19? And is the impact the same in all populations? Are preventive services and access to care equitable?</p>	<p>Excess deaths Maternal and Child Health Indicators (pre/antenatal, CLPPP) Substance use disorder services Health Screening (HIV, STD, Noncommunicable Diseases)</p>

Key Messages

SARS-CoV-2 Spread

- Under new CDC COVID-19 community levels, 60% (50/83) of Michigan counties are at the lowest level for hospital and healthcare burden
- However, majority of counties have COVID-19 transmission levels at either substantial or high throughout the state
- Case rates are plateaued or decreasing for all reported racial and ethnic groups and rates

COVID-19 Severity

- In the most recent surge, severity metrics have not trended as closely to case metrics
- Hospitalization metrics in Michigan showing slight declines/plateaus over past month
- In past 28 days, Hawaiian/Pacific Islanders and those identified with Other race have been flagged as having more than their expected share of hospitalizations and deaths

Access to COVID-19 Services

- Vaccine initiation coverage is highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (66.9%), then Hispanic (64.0%), NH American Indian (59.7%), NH White (56.6%), NH Black or African American Races (45.6%)
- Targeting vaccination efforts towards the most vulnerable will decrease COVID-associated morbidity and mortality among underserved populations
- Those who are eligible, must receive a *second* booster in order to stay up to date with their COVID-19 vaccine

Special Report: COVID-19 Epidemiology in Children

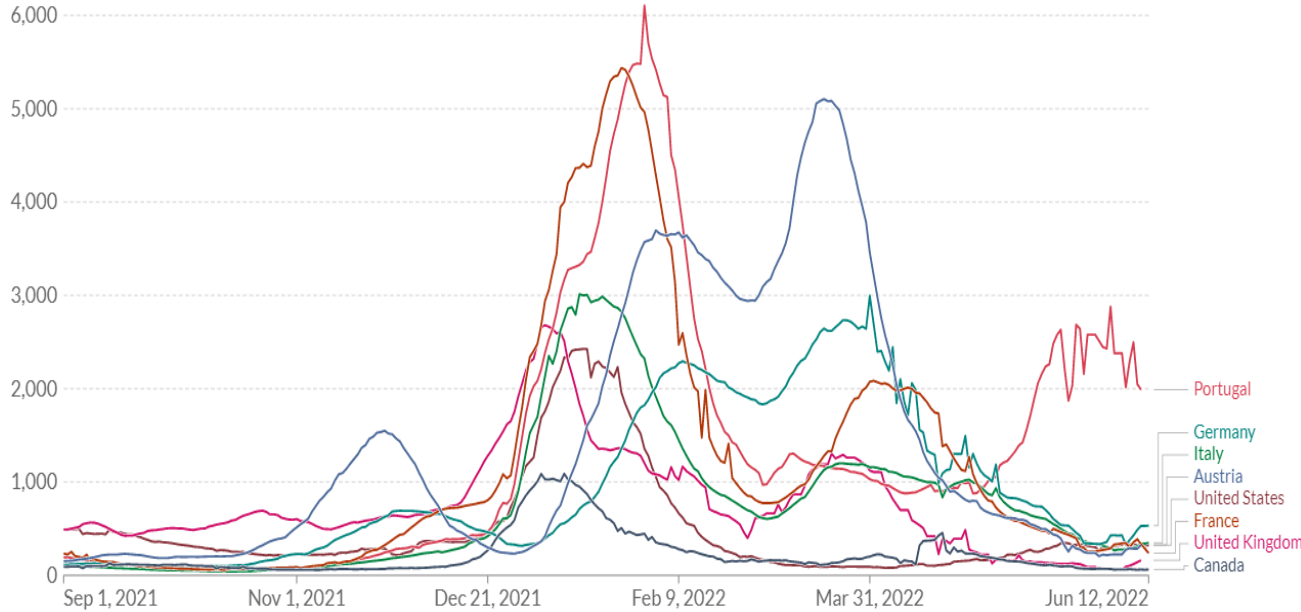
Global and National Trends

Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

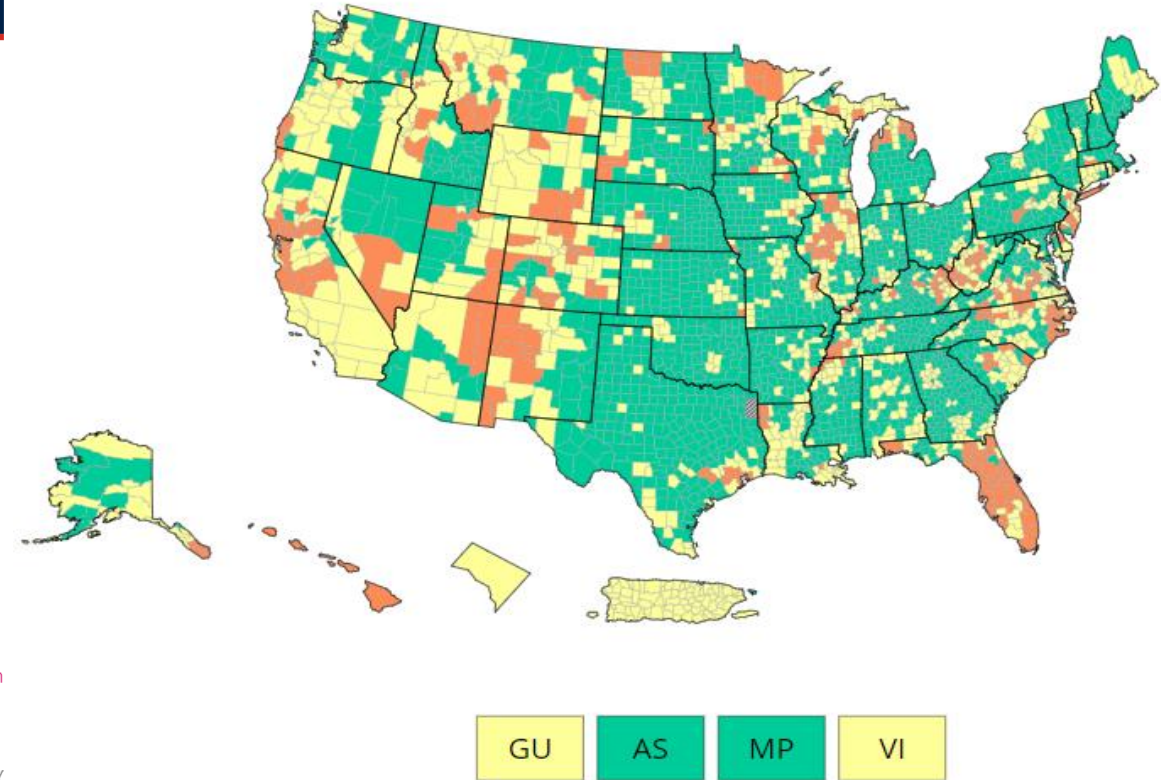


LINEAR LOG



Source: Johns Hopkins University CSSE COVID-19 Data

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Globally, 535,331,765 cases and 6,309,626 deaths (Data* through 6/13/2022)

- Case rates are steady for several European countries following second Omicron wave

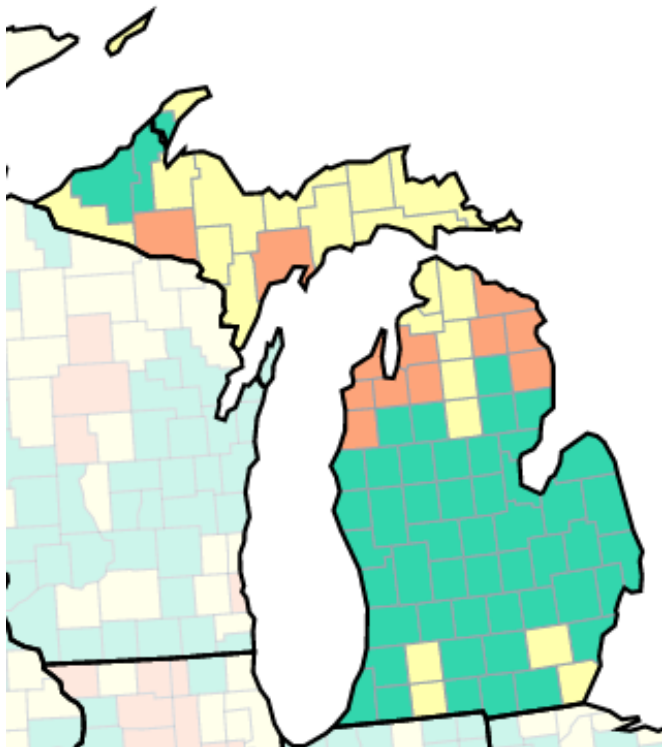
United States: Reported cases (7-day average) have **increased** over 8.0% since the prior week†

- In the U.S., the case rate is 229 cases/100,000 in last 7 days (last week: 206 cases per/100,000)

Continued signs of plateaus/declines in some parts of Region 5 (Midwest) states, including Michigan

- Illinois and Wisconsin have the highest case rates *in Region 5* (6/13)

As of June 17, 12 Michigan Counties at High COVID-19 Community Level



- In the US, 10% of counties have high risk for medically significant disease and healthcare strain; in Michigan, 14% of counties are at high risk
- 3% of Michigan residents reside in a county with a High COVID-19 Community Level
- All counties that are categorized as High due to HSA COVID-19 percent inpatient bed utilization or COVID-19 hospital admissions per capita exceeding their respective thresholds
- 21 Michigan counties are currently at Medium level (25%). This represents 12% of the population.

Percent of Counties

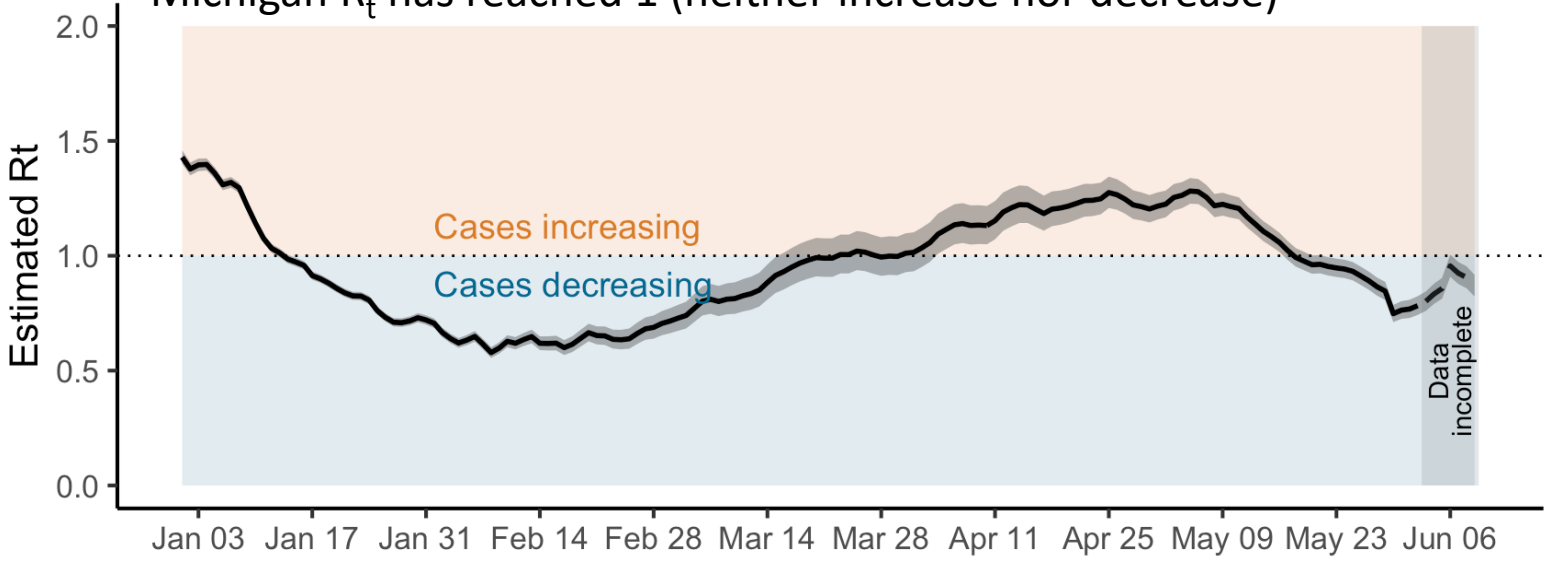
	United States	Michigan	Percent of MI Population
Low	60%	60%	85%
Medium	29%	25%	12%
High	10%	14%	3%

Low	Medium	High
<ul style="list-style-type: none"> • Stay up to date with COVID-19 vaccines • Get tested if you have symptoms 	<ul style="list-style-type: none"> • If you are at high risk for severe illness, talk to your healthcare provider about whether you need to wear a mask and take other precautions • Stay up to date with COVID-19 vaccines • Get tested if you have symptoms 	<ul style="list-style-type: none"> • Wear a mask indoors in public • Stay up to date with COVID-19 vaccines • Get tested if you have symptoms • Additional precautions may be needed for people at high risk for severe illness

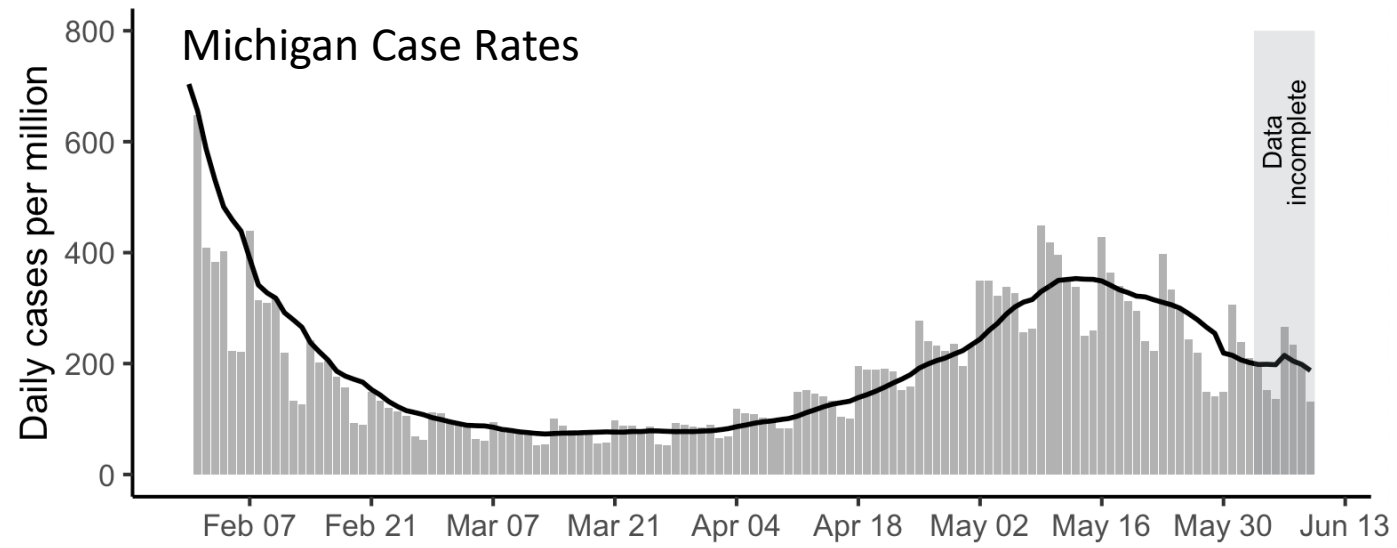
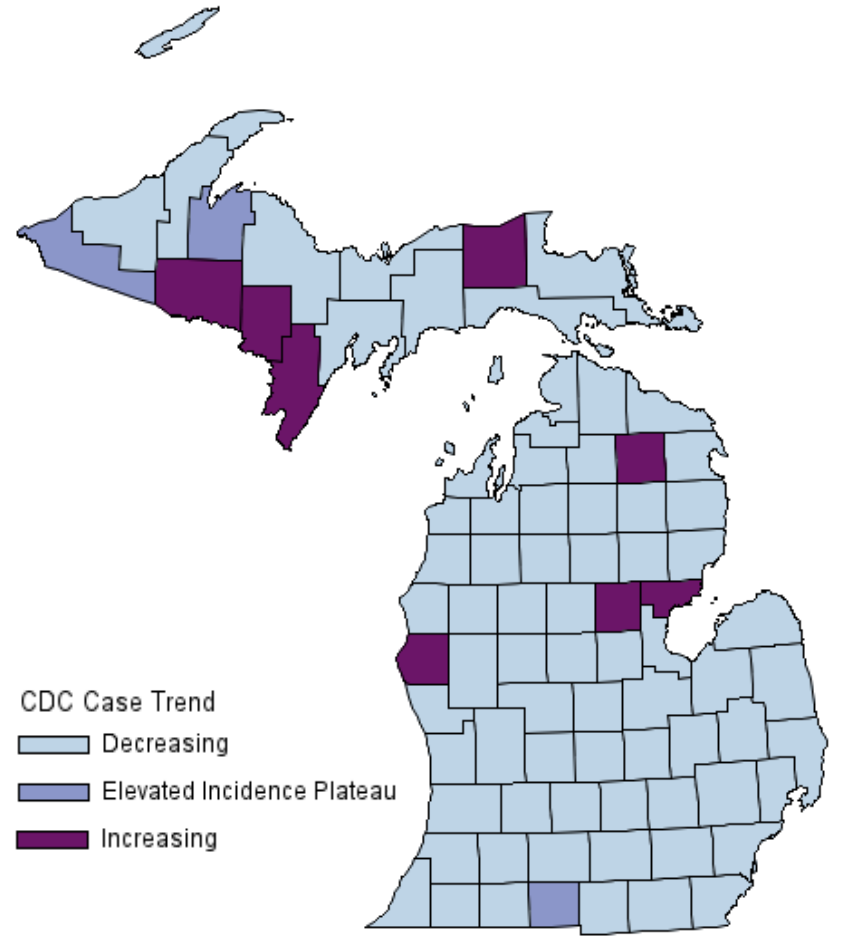
Case rates appear to have peaked/plateaued in Michigan

However, continue to monitor following the Memorial Holiday

Michigan R_t has reached 1 (neither increase nor decrease)



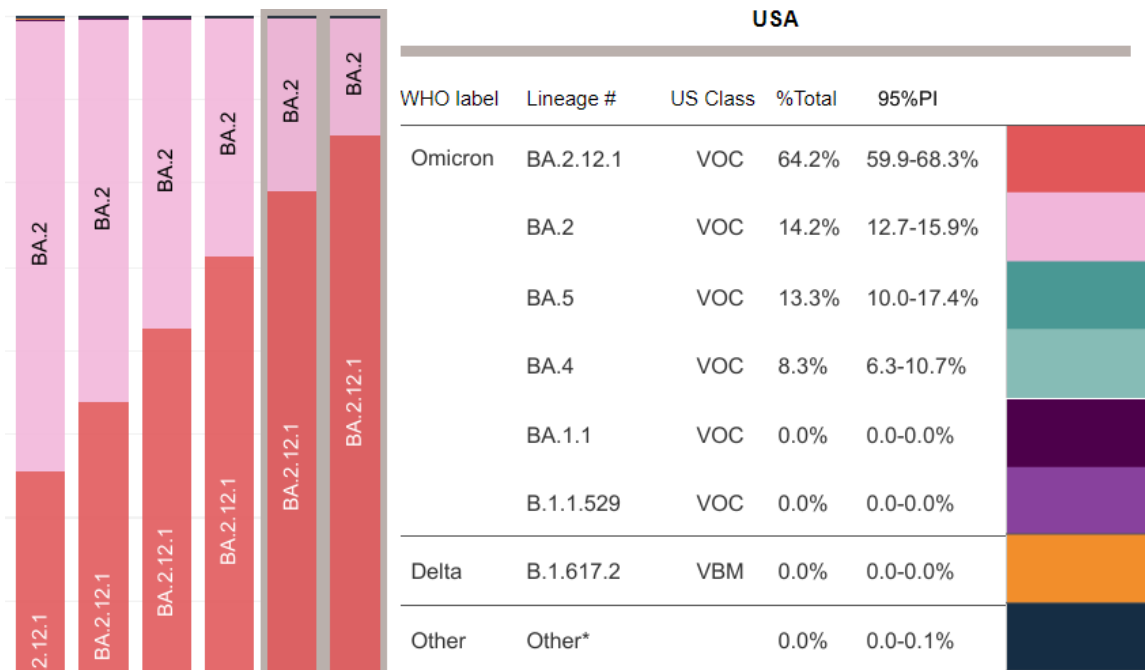
8 counties currently showing increases and 3 in elevated incidence plateaus (via mistartmap.info as of 6/10/22, data through 6/3/22).



Sources: MDSS cases plotted by onset date as of 6/10/22.

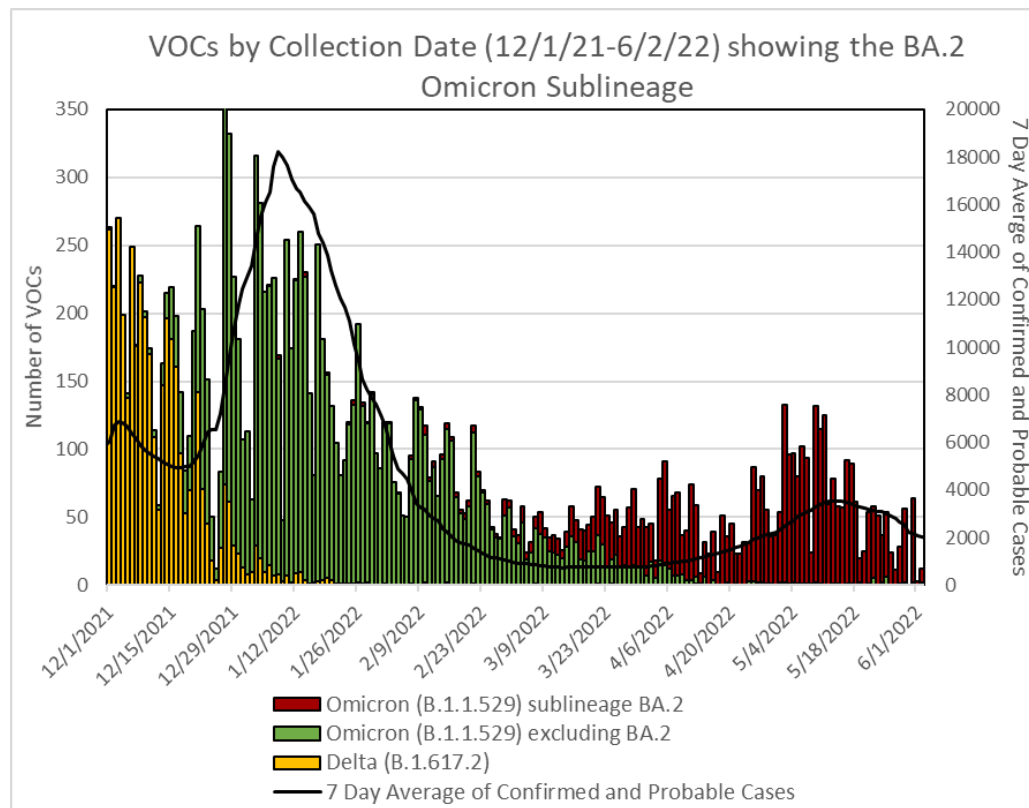
Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan

SARS-CoV-2 Variants Circulating in the United States, May 1 – Jun 11 (NOWCAST)



* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
 ** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
 # AY.1-AY.133 and their sublineages are aggregated with B.1.617.2. BA.1, BA.3 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. For regional data, BA.1.1 and its sublineages are also aggregated with B.1.1.529, as they currently cannot be reliably called in each region. Except BA.2.12.1 and its sublineages, BA.2 sublineages are aggregated with BA.2.

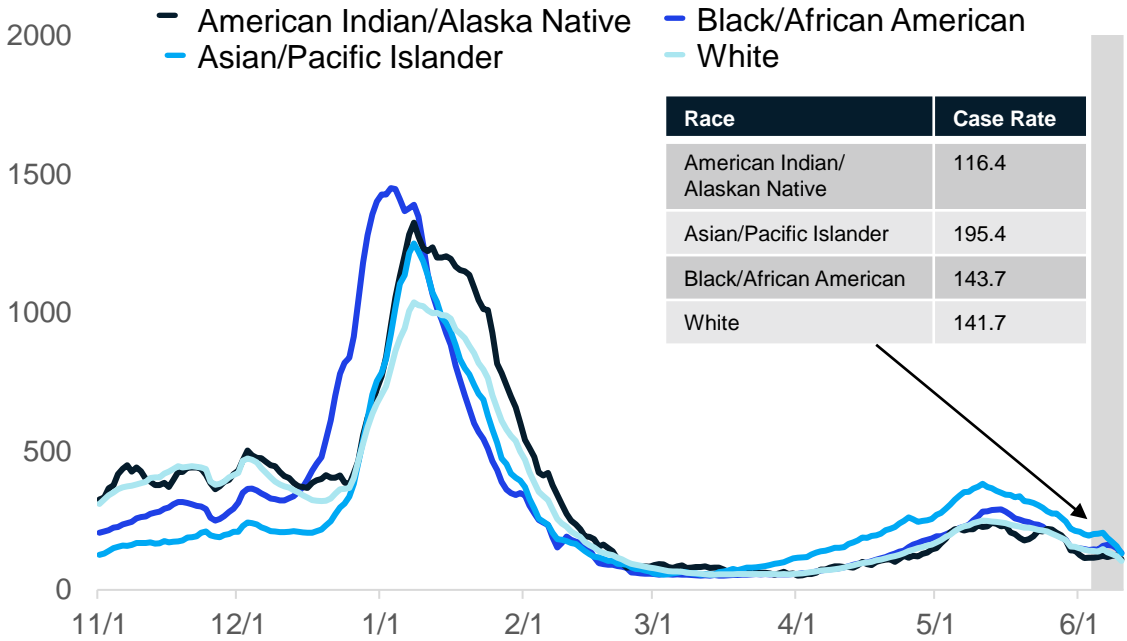
VOC Distribution in Michigan



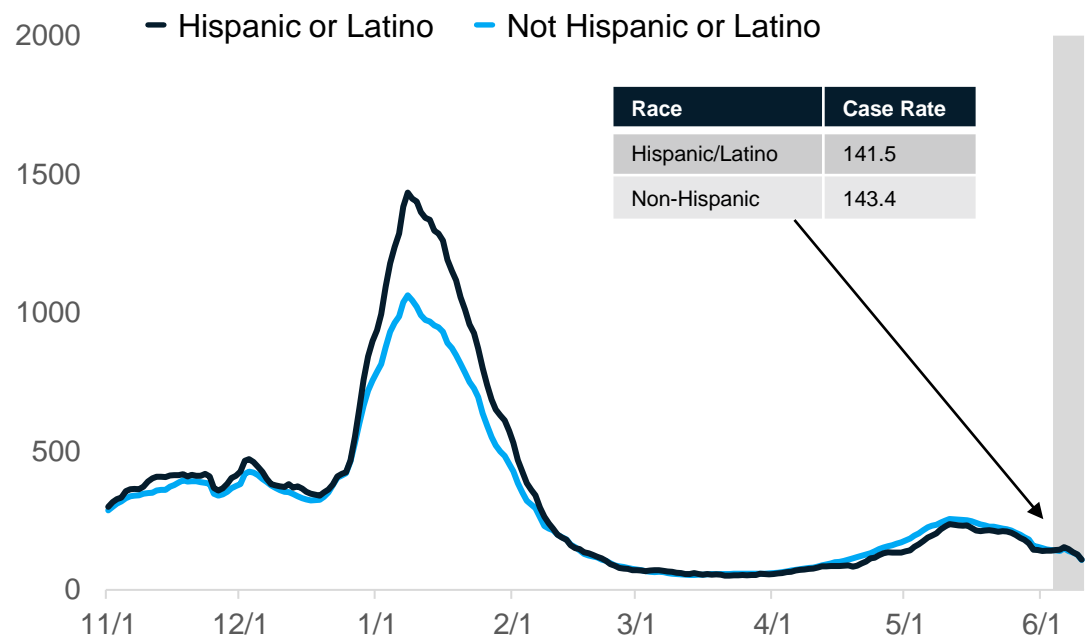
- Since May 1, there have 2,044 VOC specimens sequenced
- 100% of specimens sequenced are Omicron
- A small fraction of specimens have been identified as BA.4 (n=19) and BA.5 (n=8)

Case Rates by Reported Racial and Ethnic Group

Daily new confirmed and probable cases per million (7 day rolling average) by race category



Daily new confirmed and probable cases per million (7 day rolling average) by ethnicity category



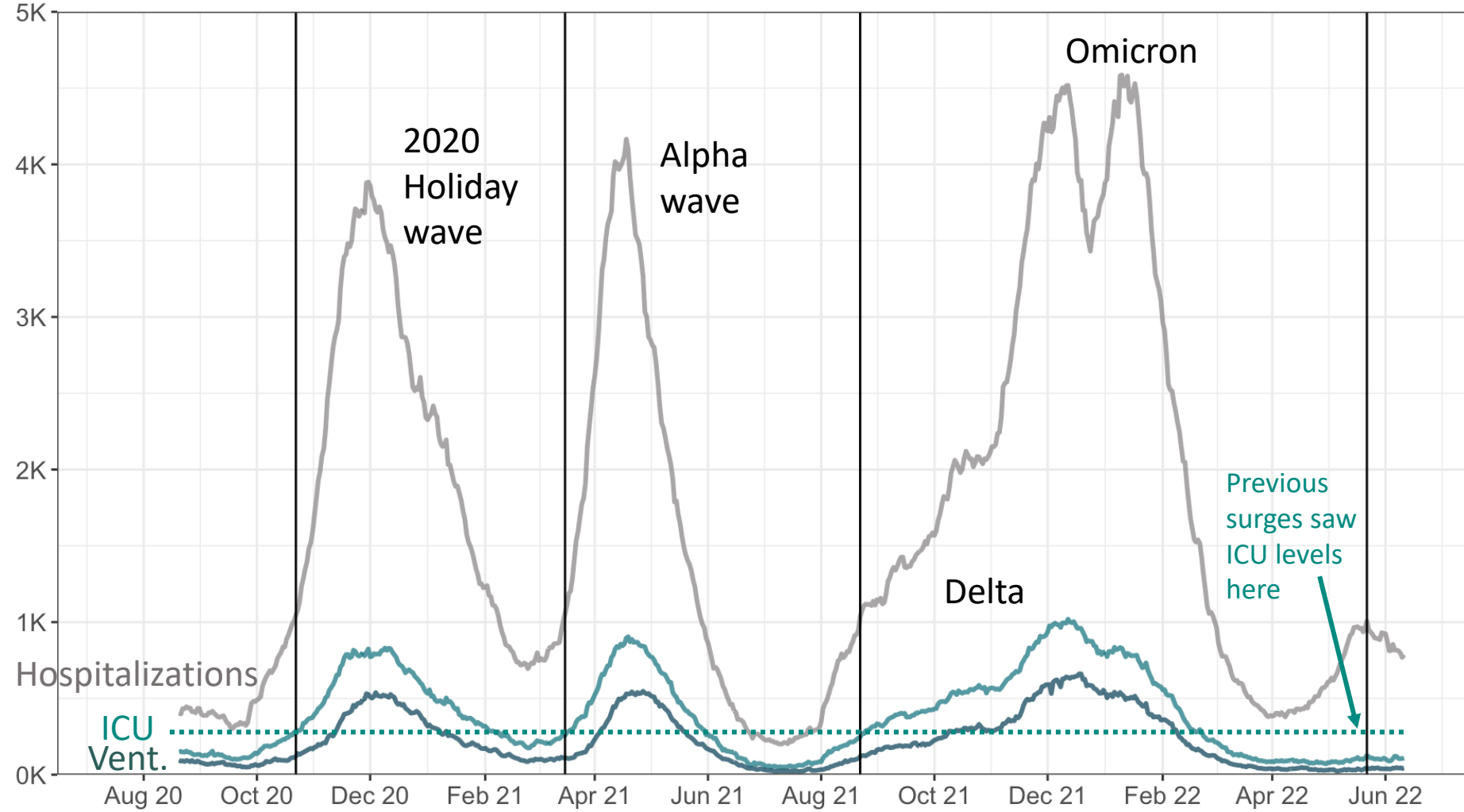
State Case Rate (as of 6/10/2022): 199.2

Updates since last week:

- Cases per million are decreasing at similar rate for all reported racial and ethnic groups
- In the past 30 days, 22.5% (↑ 0.2%) of race data and 28.1% (↑ 0.2%) ethnicity data was either missing or reported as unknown

Note: Case information sourced from MDHHS and reflects date of death of confirmed and probable cases.
 Source: MDHHS – Michigan Disease Surveillance System

COVID-19 Hospitalization and Severe Illness Trends



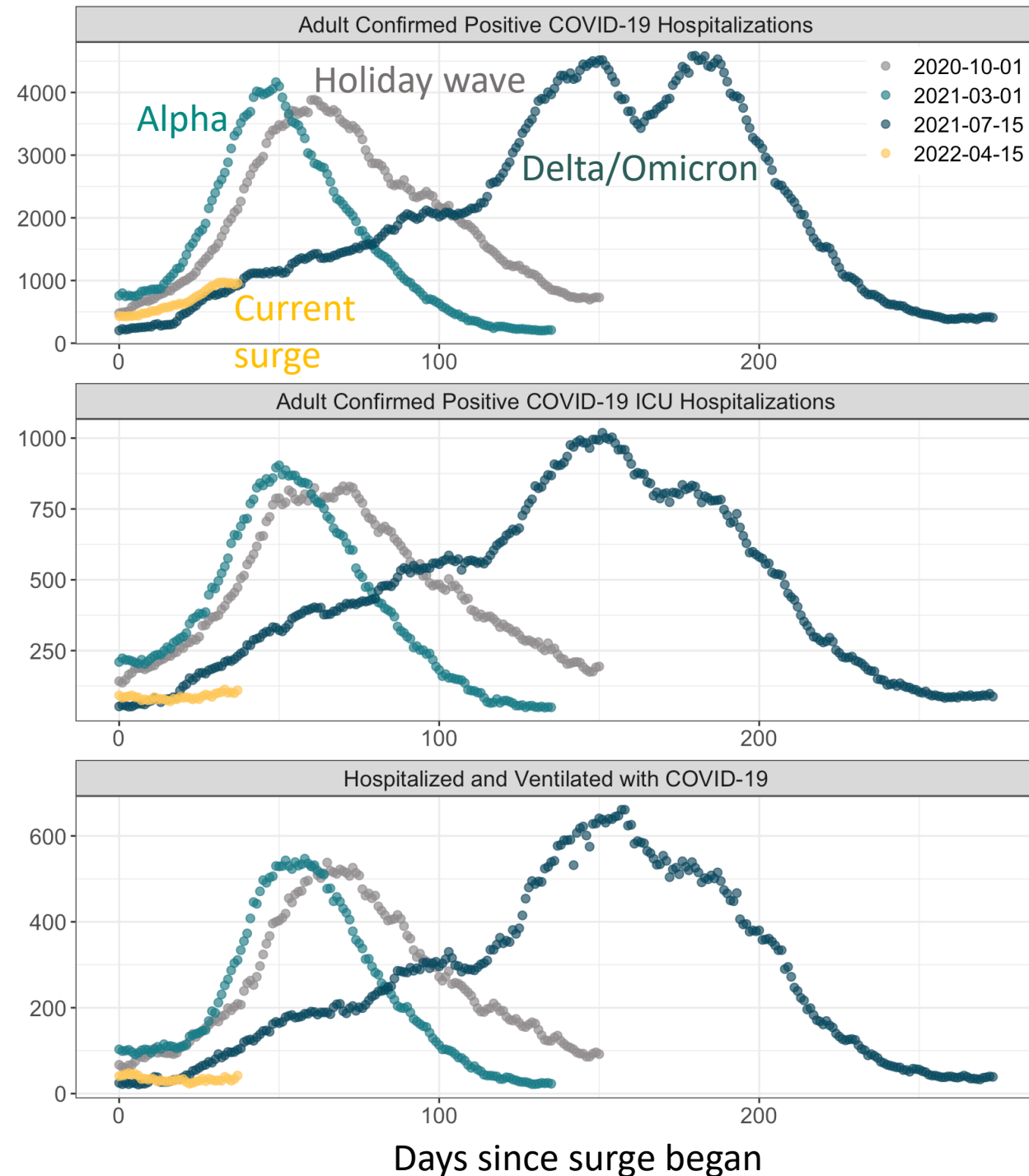
— vertical line indicates where hospitalizations reached 1K in previous increases

- █ Adult Confirmed Positive COVID-19 Hospitalizations
- █ Adult Confirmed Positive COVID-19 ICU Hospitalizations
- █ Hospitalized and Ventilated with COVID-19

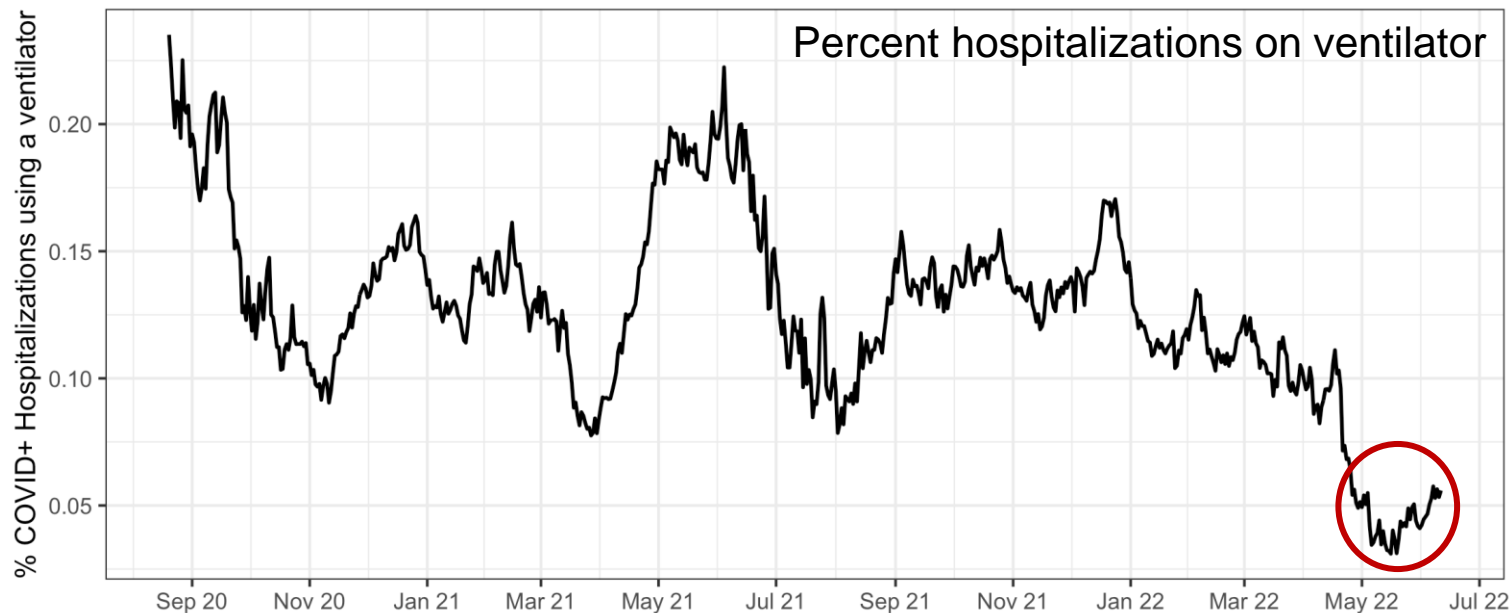
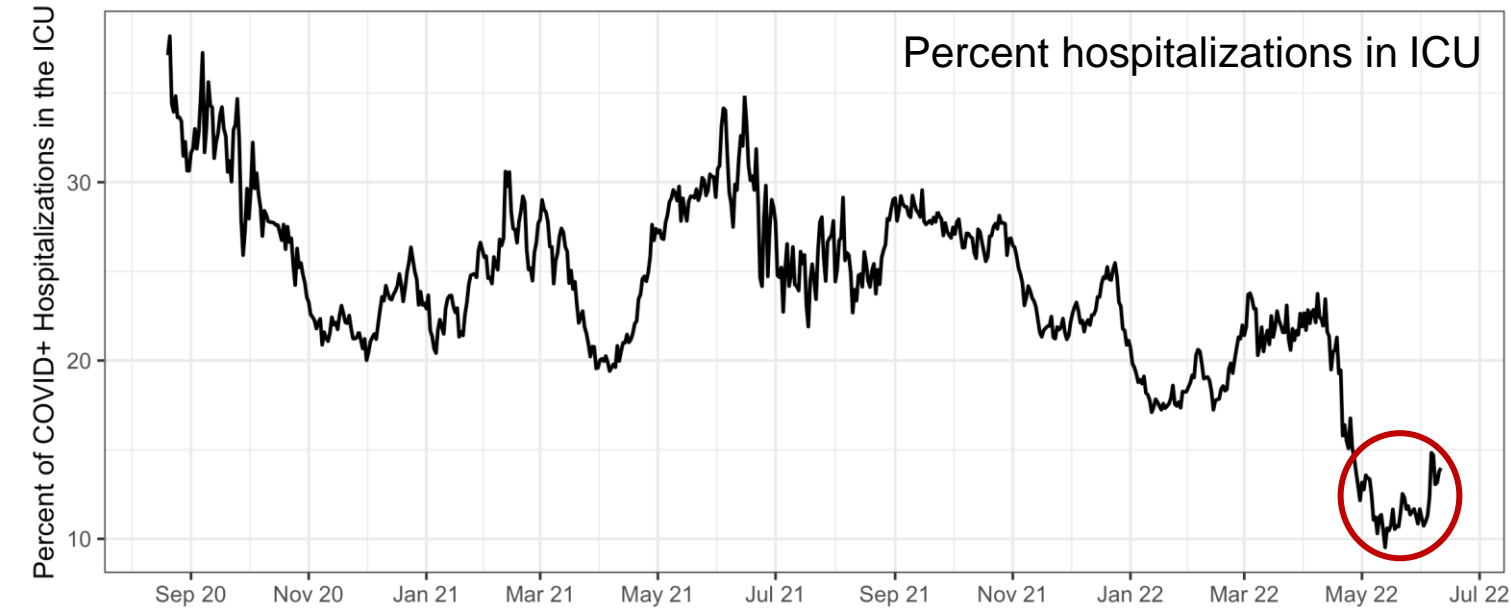
- In all prior surges we have seen a simultaneous increase in patients hospitalized with COVID-19 vs patients in the ICU with COVID-19 vs patients on ventilators with COVID-19.
- In the current surge we have seen a smaller increase in ICU and patients on ventilators, indicating that most hospitalized patients are not experiencing as severe disease.
- This may be attributed in part to vaccinations and therapeutics.

Another view: severity wave by wave

- In previous waves, when hospitalizations reached ~1000 patients (top panel), ICU and ventilator use were higher than they are currently (bottom two panels yellow vs. others)
- Overall, the ICU and ventilator usage is lower than would be expected based on previous surges



















Currently seeing the lowest percentage of hospitalizations requiring ICU or ventilator since September 2020




- Both metrics have seen a general decline in the proportion compared to the total adult patients hospitalized between September 2020 and May 2022, with a steeper decrease in the last couple of months
- Currently seeing near the lowest percent of hospitalizations in ICU or ventilator since September 2020 (red circle)
- While these are lagging indicators, it is not expected that ICU admissions or ventilator usage during this wave will exceed that of previous waves

Prior 28-Day Metrics By Race (May 11, 2022 – Jun 7, 2022)

RACE	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Known	76.9%	88.2%	91.1%	5,428.0	140.6	87.5
Unknown	23.1%	11.8%	8.9%	--	--	--
Any	--	--	--	7,055.3	159.5	96

KNOWN RACE ONLY	% OF POP	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
American Indian / Alaskan Native	0.5%	0.8% 	0.4%	0.1%	8,171.3 	93.9	18.8
Asian	3.1%	4.6% 	1.1%	2.5%	8,078.1 	49.3	72.3
Black / African American	13.8%	14.5%	12.3%	17%	5,684.1	125.1	107.6
Hawaiian / Pacific Islander	< 0.1%	0.1% 	0.2% 	0.1% 	22,826.5 	1,007 	335.7 
Multiple Race	2.9%	1.1%	0.6%	0.8%	2,093.6	31.7	24.7
Other	1.2%	5.5% 	3.3% 	2.2% 	24,936.8 	386.1 	159.5 
White	78.5%	73.5%	82.1%	77.3%	5,078.2	147.1	86.1

 disparity present ⓘ


 disparity present but based on small absolute numbers

Prior 28-Day Metrics By Hispanic Ethnicity (May 11, 2022 – Jun 7, 2022)

ETHNICITY (HISPANIC)	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Known	71.4%	84.6%	90%	5,034.3	134.9	86.4
Unknown	28.7%	15.4%	10%	--	--	--
Any	--	--	--	7,055.3	159.5	96

KNOWN ETHNICITY ONLY	% OF POP	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Hispanic or Latino	5%	5%	2.4%	2.8%	5,031.2	64.3	48.2
Not Hispanic or Latino	95%	95%	97.6%	97.2%	5,034.5	138.6	88.4

 disparity present ⓘ


 disparity present but based on small absolute numbers

Prior 28-Day Metrics By Arab Ethnicity (May 11, 2022 – Jun 7, 2022)

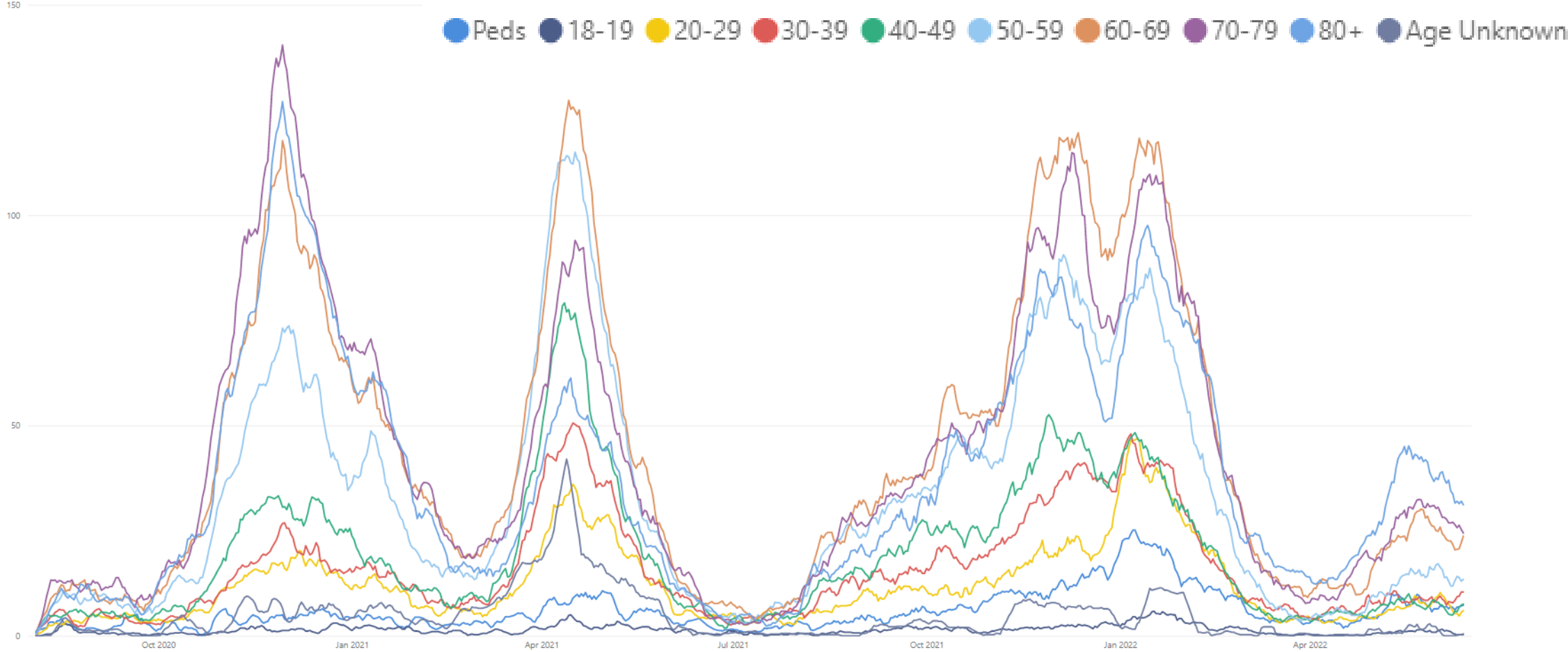
ETHNICITY (ARAB)	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES
Known [ⓘ]	41.4%	37.9%	52%
Unknown [ⓘ]	58.6%	62.1%	48%
Any	--	--	--

KNOWN ETHNICITY ONLY	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES
Arab Ethnicity	4%	3.7%	2.8%
Not Arab Ethnicity	96.1%	96.4%	97.2%

 disparity present [ⓘ]

 disparity present but based on small absolute numbers

Hospital admissions due to COVID-19 remain lower than past surges and are decreasing

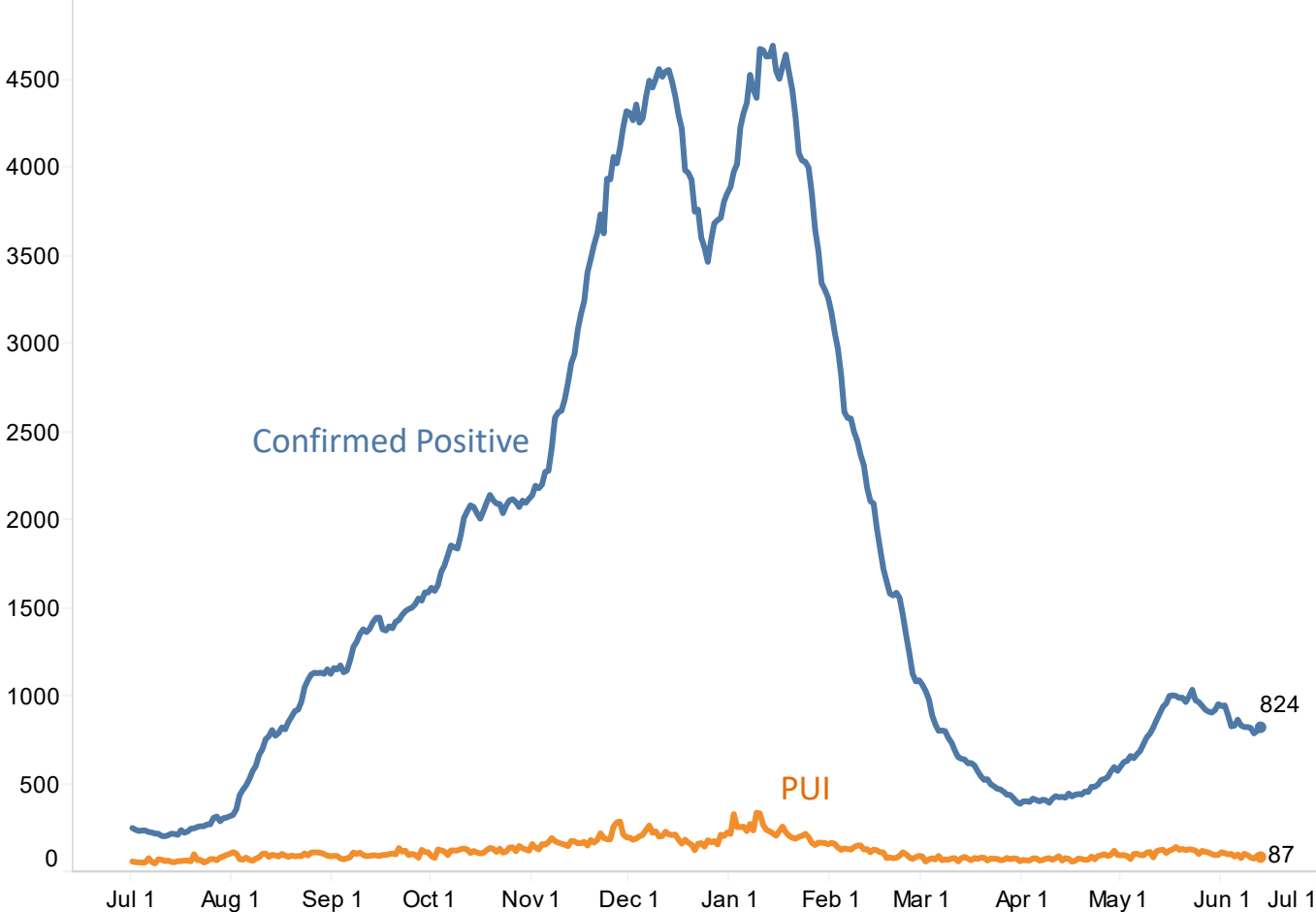


- Trends for daily average hospital admissions slightly decreased (-4%) since last week (vs. -12% prior week)
- Half of the reported age groups saw decreases this week
- Those 60-69, 70-79, and 80+ are seeing between 20-30 daily hospital admissions

Source: CHECC & EM Resource

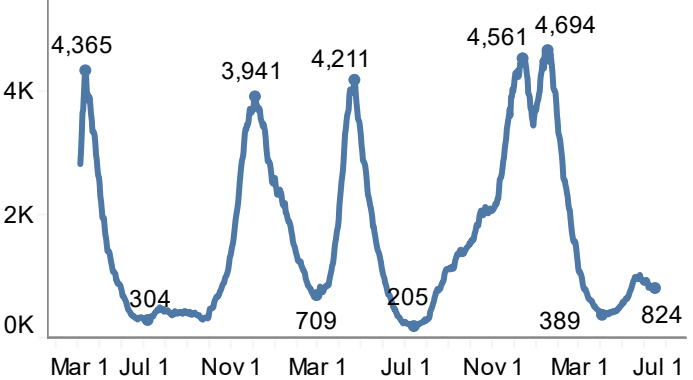
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 7/1/2021 – 6/13/2022
Confirmed Positive & Persons Under Investigation (PUI)



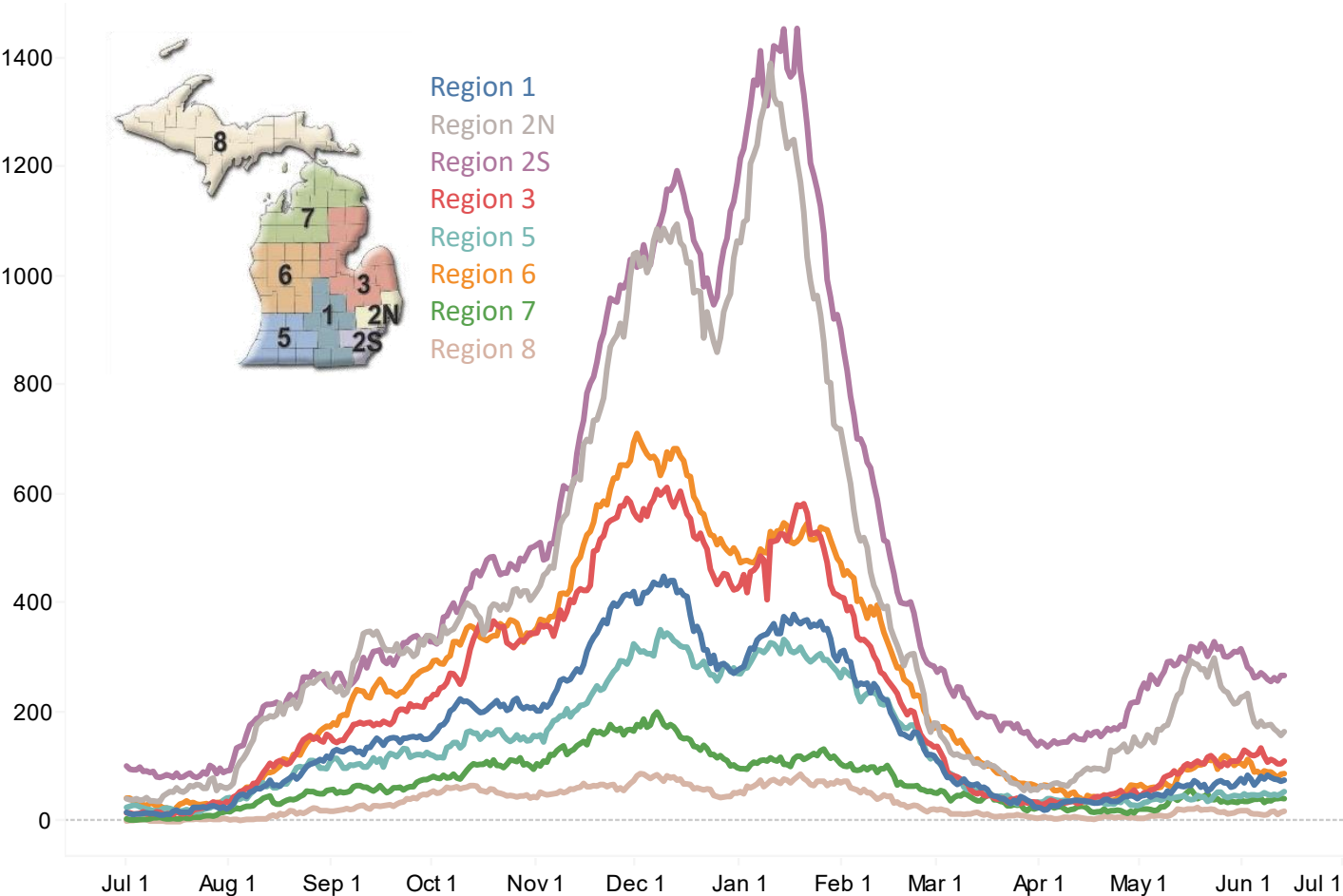
The COVID+ census in hospitals has decreased by 5% from last week (last week decreased 10% from the previous week). Overall census is currently 824 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 6/13/2022
Confirmed Positive by Region



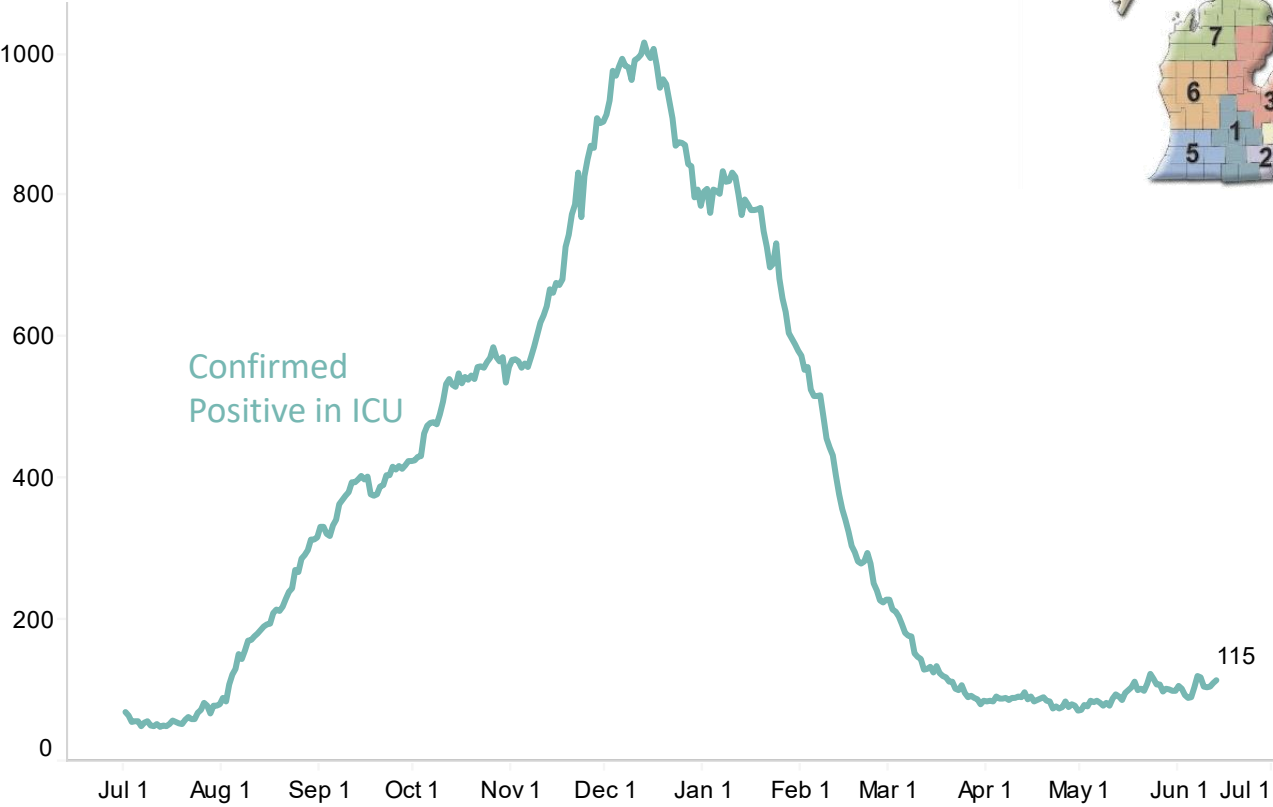
This week the COVID+ census has increased in Regions 5, 6 and 8. The census has decreased in Regions 1, 2N, 2S, 3, and 7.

Only Region 2S has greater than 100/Million Population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	76 (-8%)	70/M
Region 2N	165 (-10%)	75/M
Region 2S	268 (-2%)	120/M
Region 3	111 (-18%)	98/M
Region 5	55 (12%)	58/M
Region 6	88 (1%)	60/M
Region 7	42 (-2%)	84/M
Region 8	19 (46%)	61/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 7/1/2021 – 6/13/2022
Confirmed Positive in ICUs



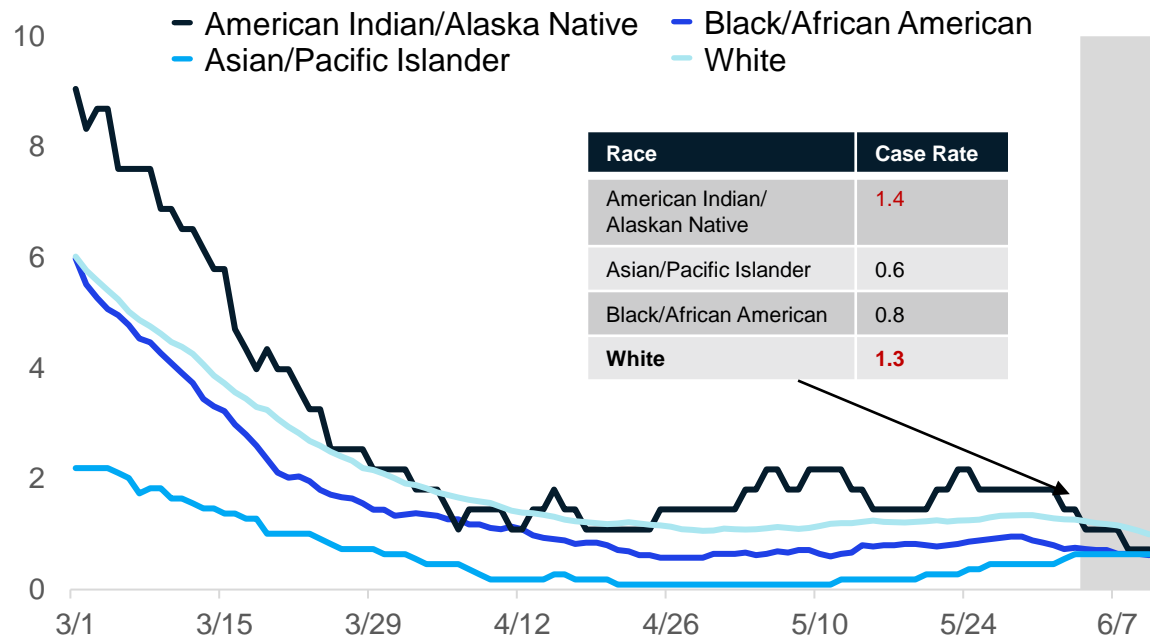
Overall, the census of COVID+ patients in ICUs has increased by 10% from last week. There are 115 COVID+ patients in ICU beds across the state.

COVID+ ICU census has decreased or remained flat in Regions 2N, 2S, 3 and 7. ICU census has increased in Regions 1, 5, 6 and 8. ICU occupancy is below 85% in all regions.

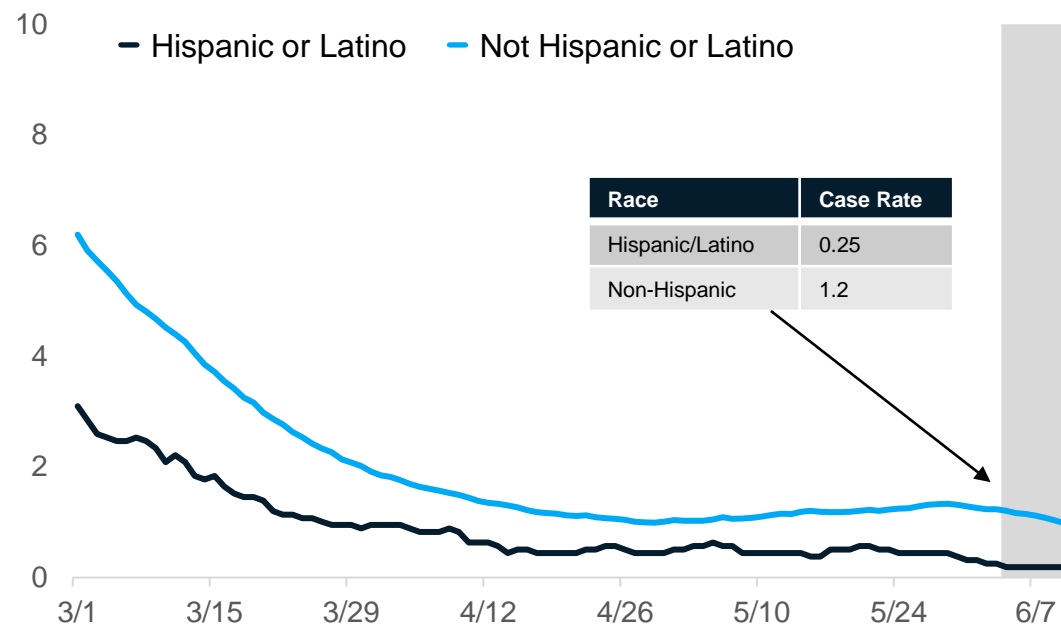
Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	17 (89%)	82%	9%
Region 2N	18 (-22%)	63%	3%
Region 2S	38 (0%)	73%	6%
Region 3	12 (-8%)	81%	4%
Region 5	9 (125%)	75%	5%
Region 6	7 (75%)	77%	3%
Region 7	11 (-8%)	81%	8%
Region 8	3 (200%)	54%	5%

Daily average deaths per million people by race and ethnicity have plateaued or are decreasing

Average daily deaths per million people by race



Average daily deaths per million people by ethnicity




30-day rolling avg State Death Rate (as of 5/27/2022): 0.9

- Deaths are lagging indicator of other metrics
- Currently, the American Indian/Alaskan Native population have the highest death rate (1.4 deaths/million)

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

COVID-19 Transmission and Case Rates in Michigan

MICHIGAN STATEWIDE RISK DETERMINATION

Risk Level E (Jun 14) 

[Why? Statewide Overview & Risk Level Explanation](#)

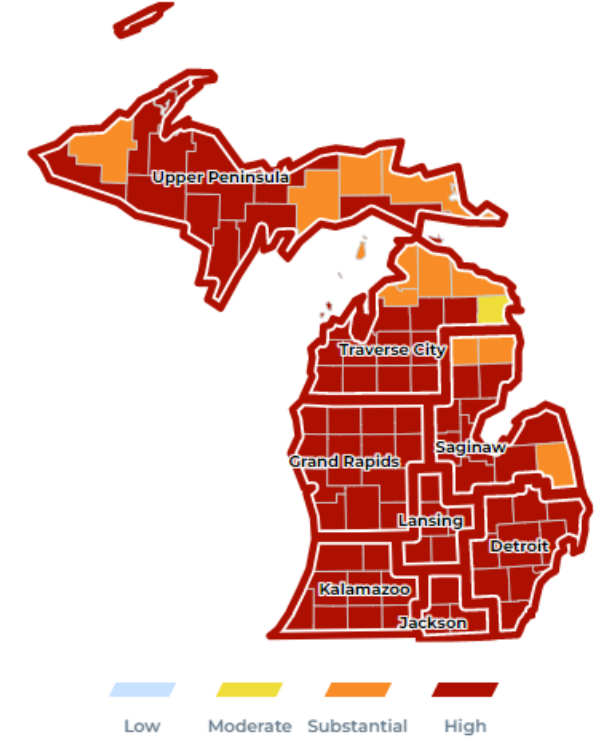


COVID-19 Community Transmission Levels (June 14)

MICHIGAN STATEWIDE RISK DETERMINATION

Risk Level: High (Jun 14) 

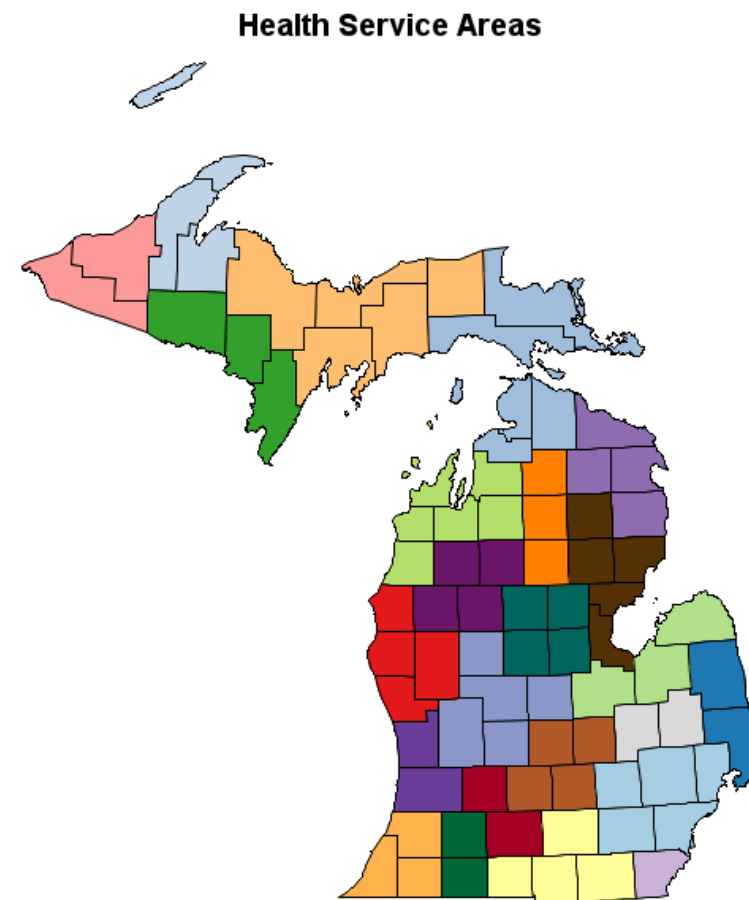
[Why? Statewide Overview & Risk Level Explanation](#)



- Michigan has ongoing COVID-19 transmission throughout the state

CDC COVID-19 Community Levels are defined by County Case Rates and Health Service Area (HSA) Hospitalizations

COVID-19 Community Levels – Use the Highest Level that Applies to Your Community				
New COVID-19 Cases Per 100,000 people in the past 7 days	Indicators	Low	Medium	High
Fewer than 200	New COVID-19 admissions per 100,000 population (7-day total)	<10.0	10.0-19.9	≥20.0
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	<10.0%	10.0-14.9%	≥15.0%
200 or more	New COVID-19 admissions per 100,000 population (7-day total)	NA	<10.0	≥10.0
	Proportion of staffed inpatient beds occupied by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%



- The new levels use three metrics — new COVID-19 admissions per 100,000 population in the past 7 days, the percent of staffed inpatient beds occupied by COVID-19 patients, and total new COVID-19 cases per 100,000 population in the past 7 days
- Case rates can be calculated for each county, but hospital metrics use Health Service Areas which aggregate several counties together
- The COVID-19 community level is determined by the higher of the new admissions and inpatient beds metrics, based on the current level of new cases per 100,000 population in the past 7 days

6 Million Michiganders fully vaccinated and over 60.6% of total population fully vaccinated

Vaccination Coverage in Michigan as of 6/13/2022

Vaccination Coverage

Over 6.0 million people in the state are fully vaccinated*

88.9% of people aged 65 and older have completed the series*

67.4% of total population initiated*

Race/Ethnicity[†] for those 5 years and older:

- Initiation coverage highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (66.9%), then NH American Indian (59.7%), NH White (56.6%), NH Black or African American Races (45.6%).
- Initiation is at 64.0% for those of Hispanic ethnicity

Booster Coverage

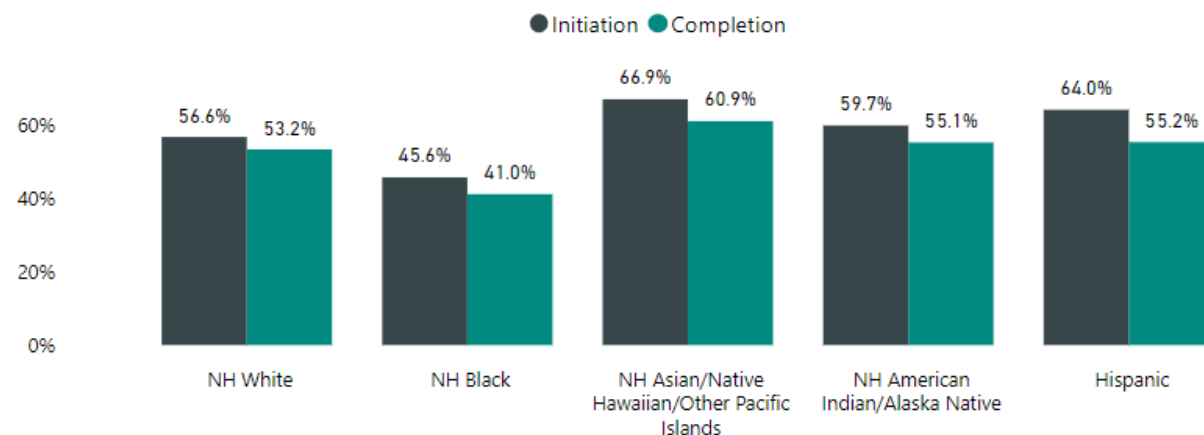
77.2% of fully vaccinated people aged 65 and older have received a booster dose

55.1% of Michiganders in the state who are fully vaccinated have received their booster dose

Age Group	% At Least One Dose	% Fully Vaccinated	% Boosted**	Number Fully Vaccinated
Total Population	67.4%	60.6%	55.1%	6,047,968
≥ 5 years	71.4%	64.2%	N/A	6,047,898
≥ 12 years	75.4%	67.8%	57%	5,831,343
≥ 18 years	77.6%	69.8%	58.7%	5,473,378
≥ 65 years	95%	88.9%	77.2%	1,569,958

**Percentage of the fully vaccinated population

Coverage by Race*



Those who are eligible, must receive a second booster in order to stay up to date with their COVID-19 vaccine.

Four months after receipt of a first booster dose of Pfizer BioNTech, Moderna or Janssen (Johnson & Johnson), the following are now authorized

- A second booster dose of the Pfizer-BioNTech COVID-19 vaccine or Moderna COVID-19 vaccine **should** be administered to individuals 50 years of age and older.
 - A second booster dose of the Pfizer-BioNTech COVID-19 vaccine **should** be administered to moderately or severely immunocompromised individuals 12 years of age and older.
 - A second booster dose of the Moderna COVID-19 vaccine **should** be administered to moderately or severely immunocompromised individuals 18 years of age and older.
- A new CDC Tool is available, to help persons understand if they are up to date or eligible for another COVID-19 vaccine dose: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/booster-shot.html>

When Are You Up to Date?

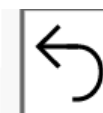
You are **up to date** with your COVID-19 vaccines when you have received all doses in the primary series and all boosters recommended for you, when eligible.

- Vaccine recommendations are different depending on your age, the vaccine you first received, and time since last dose, [as shown below](#).
- Learn more about [COVID-19 vaccine recommendations specifically for people who are moderately or severely immunocompromised](#).

Michigan: vaccine coverage for all ages and races by census tract

COVID Vaccine Coverage

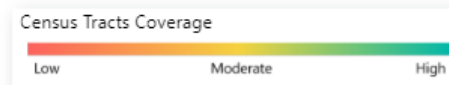
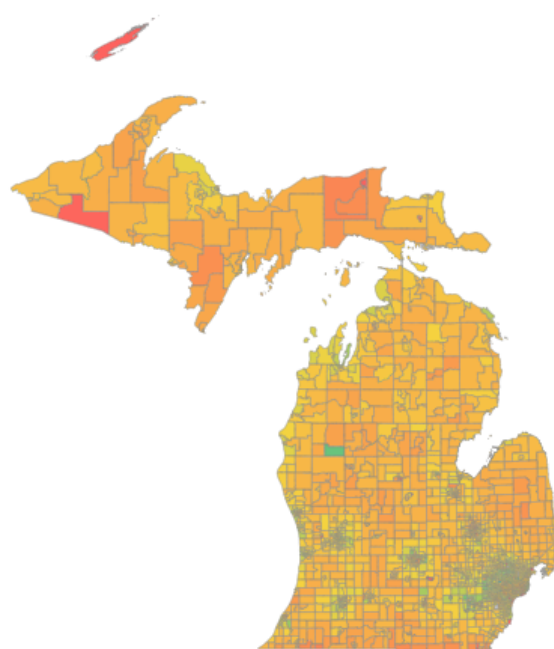
Dashboard Updated: June 15, 2022. **FOR INTERNAL USE ONLY.** Use this page to look at coverage of individual census tracts. Use



Michigan

Census Tracts	Preparedness Region	Person's County	Person's LHD	Dose	Census Tracts SVI	Age
All	All	All	All	Initiation	All	All

COVID Vaccine Coverage by Census Tracts



Bubble Chart 18 years

Bubble Chart 65 years

Week Ending Date

12/19/2020 6/18/2022

Coverage (% of Residents Vaccinated)

62.8%

Residents Vaccinated

6,248,912

MI Population*

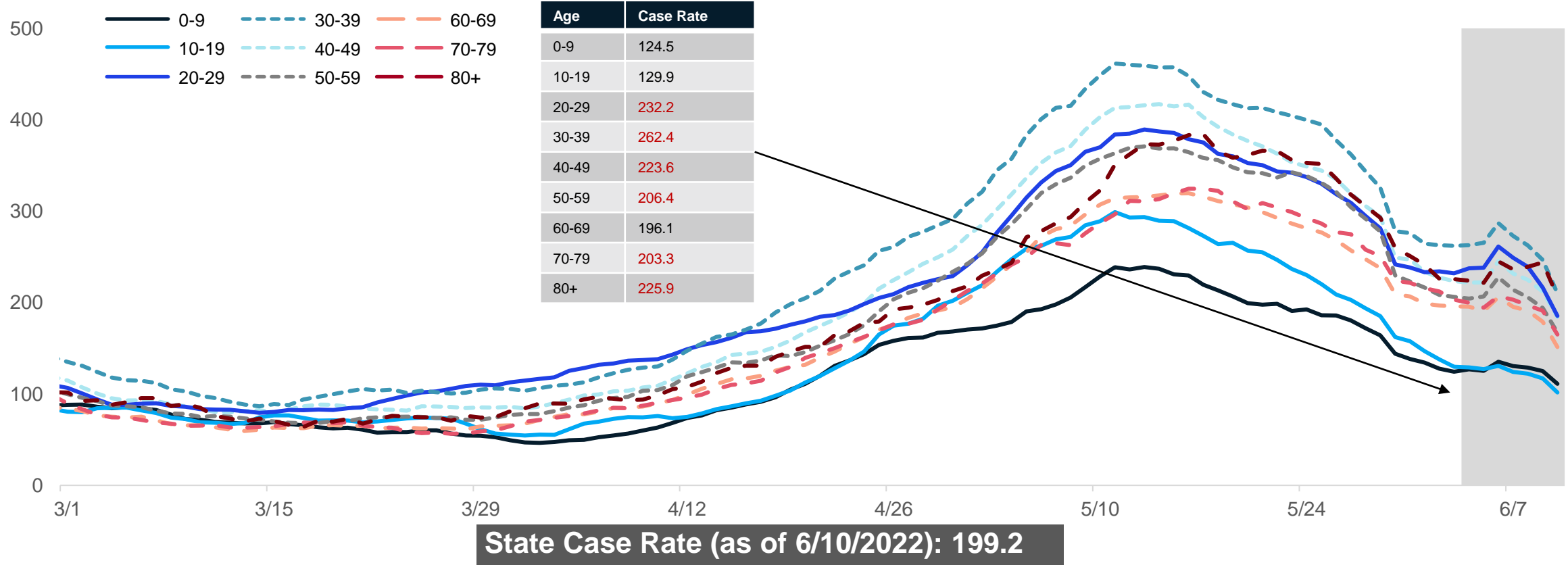
9,957,488

*2019 US Census estimates

Special Report: Epidemiology of COVID-19 in Children

Case Rate Trends by Age Group

Daily new confirmed and probable cases per million by age group (7-day rolling average)

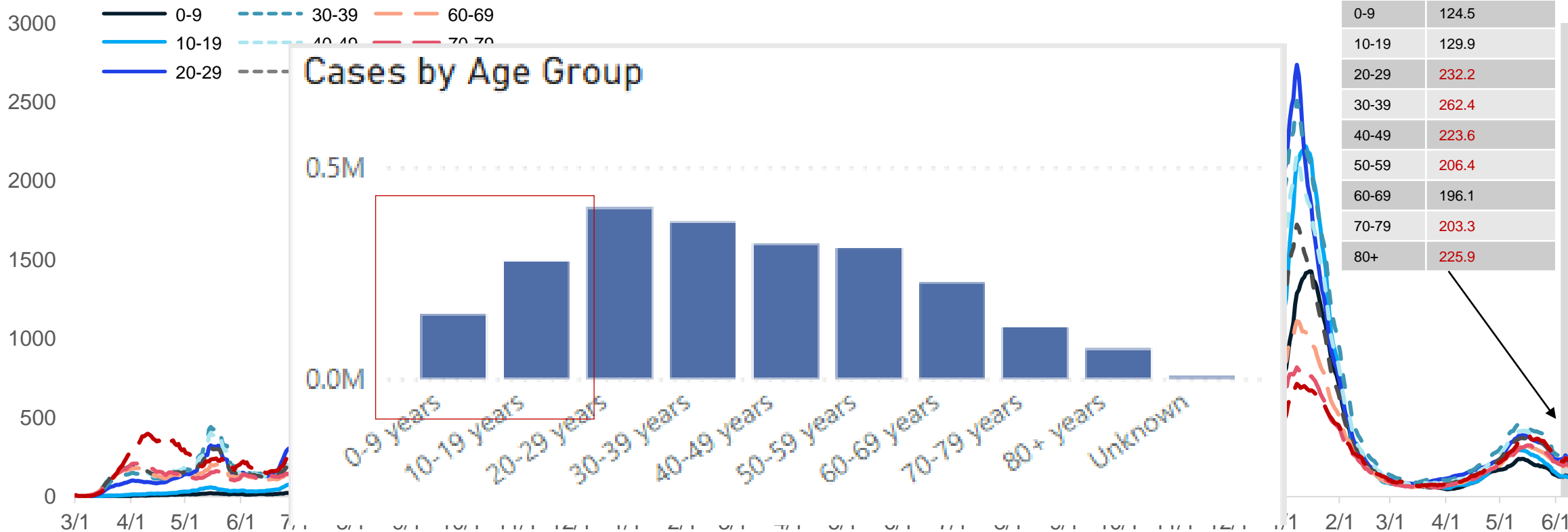


- Case rate trends for all age groups experienced a decrease over the last week
- Case rates by onset date for all age groups are between 124.5 and 262.4 cases per million (through 6/3/22)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 40–49-year-olds and 80+ age groups

Note: Case information sourced from MDHHS and reflects date of onset of symptoms
 Source: MDHHS – Michigan Disease Surveillance System

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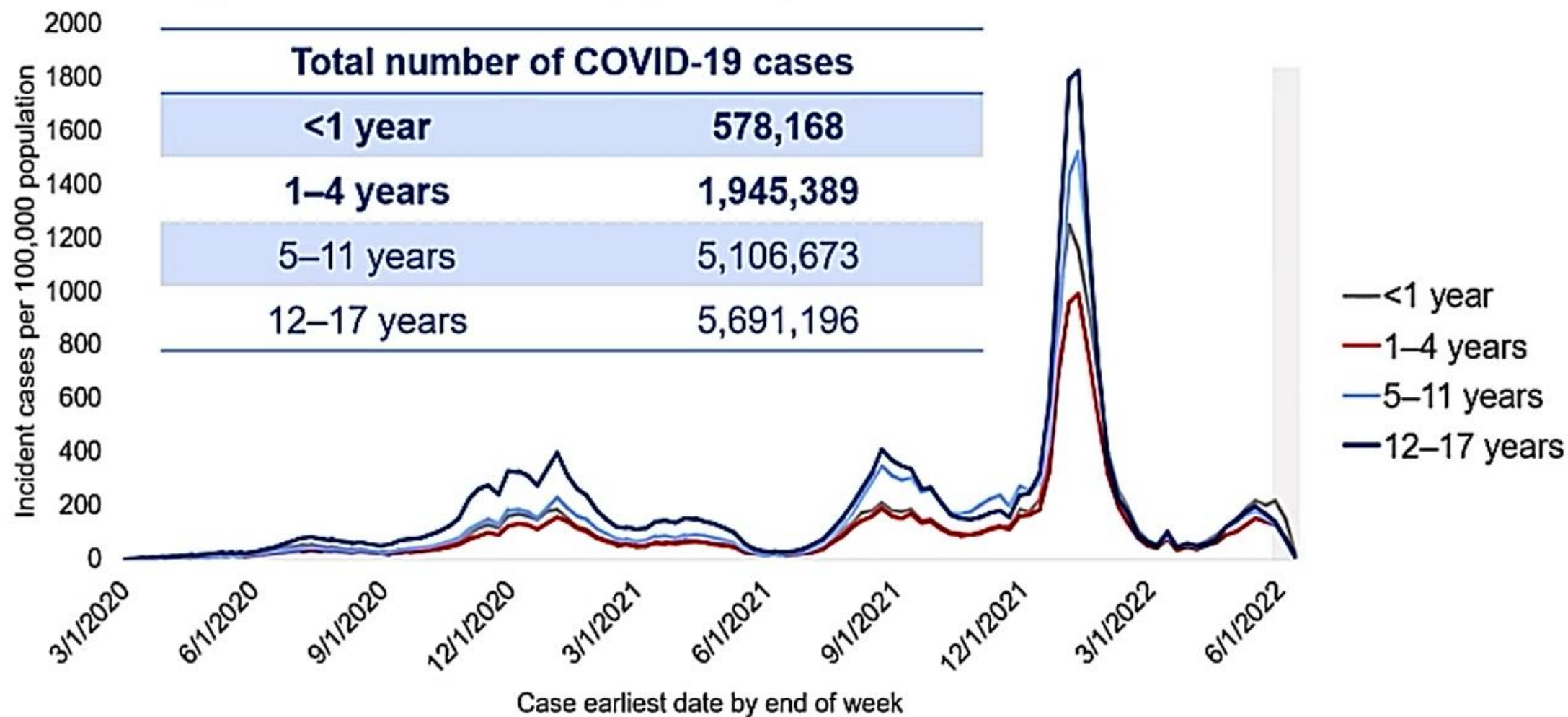
State Case Rate (as of 6/10/2022): 199.2

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Source: MDHHS – Michigan Disease Surveillance System

COVID-19 weekly cases per 100,000 population among children ages 0–17 years by age group — United States

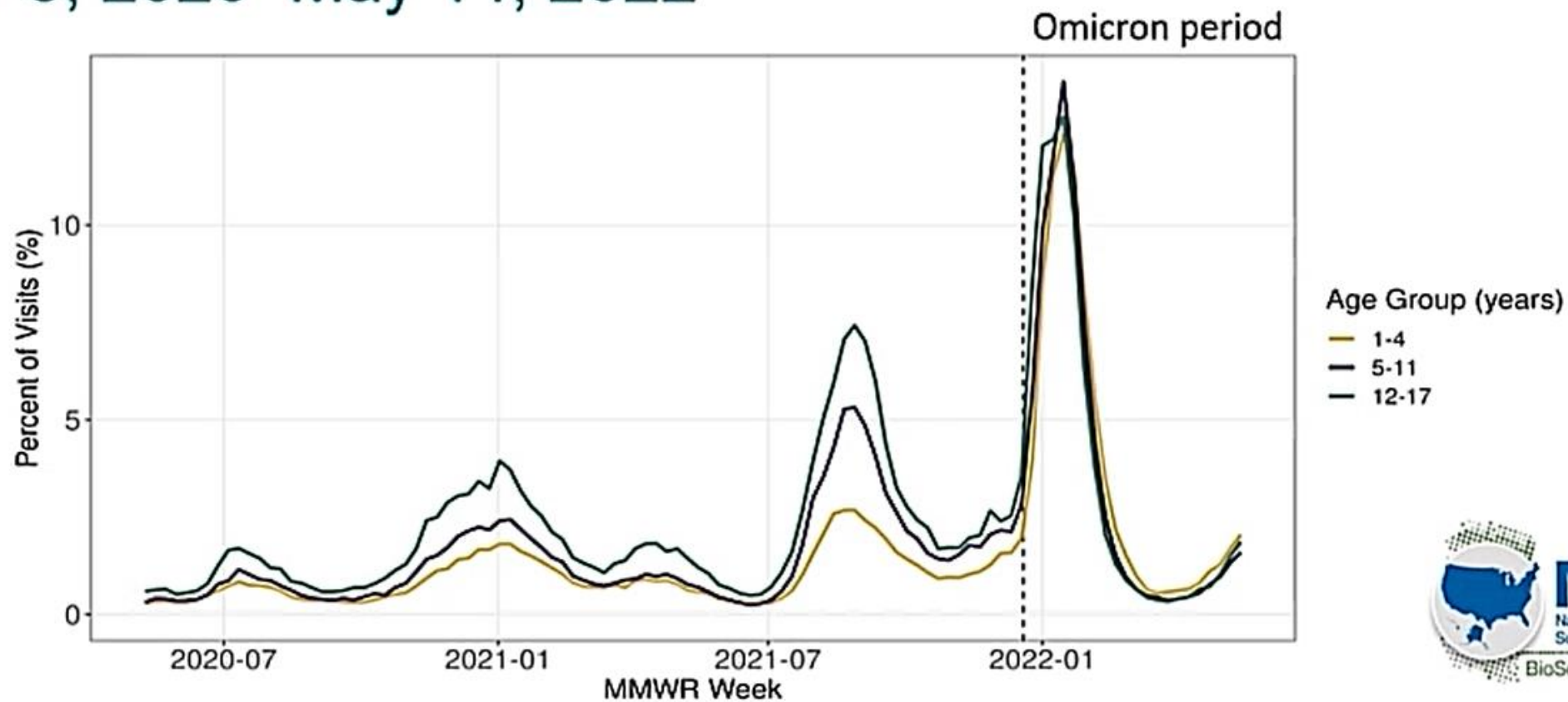
March 1, 2020 – June 12, 2022



Reporting may be incomplete for the most recent two weeks of data, denoted by the grey box.

Source: COVID Data Tracker, <https://covid.cdc.gov/covid-data-tracker/#demographicsovertime>. Accessed June 16, 2022

Weekly percent of emergency department visits diagnosed with COVID-19 among children ages 1–17 years, National Syndromic Surveillance Program May 3, 2020–May 14, 2022



Dashed line, on December 19, 2021, represents the first date when >50% of nationally sequenced SARS-CoV-2 specimens were Omicron variant. Data contains emergency department visits from NSSP ED data feeds consistently reporting data from 2020-2022. The data contains visits with an ICD-10 or SNOMED code for COVID-19.

Hospital admissions due to COVID-19 in Children and Adolescents

MI | 0 - 17 Years

3,747
Total Admissions
Aug 01, 2020 - Jun 14, 2022

7
Current 7-Day Average
Jun 08, 2022 - Jun 14, 2022

7
Prior 7-Day Average
Jun 01, 2022 - Jun 07, 2022

27
Peak 7-Day Average
Dec 30, 2021 - Jan 05, 2022

+4.3%
Percent change from prior 7-day avg. of Jun 01, 2022 - Jun 07, 2022

-74.2%
Percent change from peak 7-day avg. of Dec 30, 2021 - Jan 05, 2022

New Admissions of Patients with Confirmed COVID-19, MI

Aug 01, 2020 - Jun 14, 2022

By Jurisdiction and Age Group

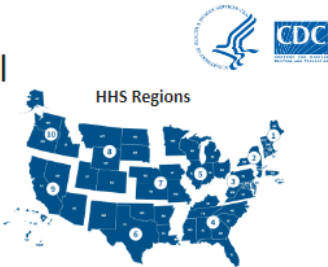
By Jurisdiction

Select a Jurisdiction

Select an Age Group

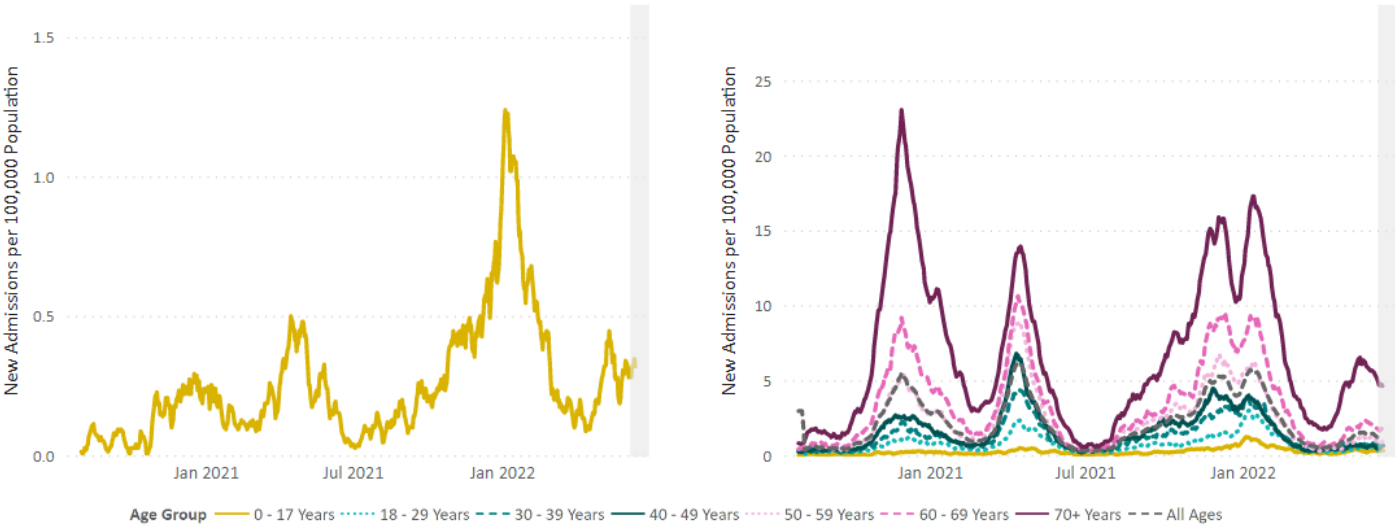
MI

0 - 17 Years



MI | 0 - 17 Years

Line chart

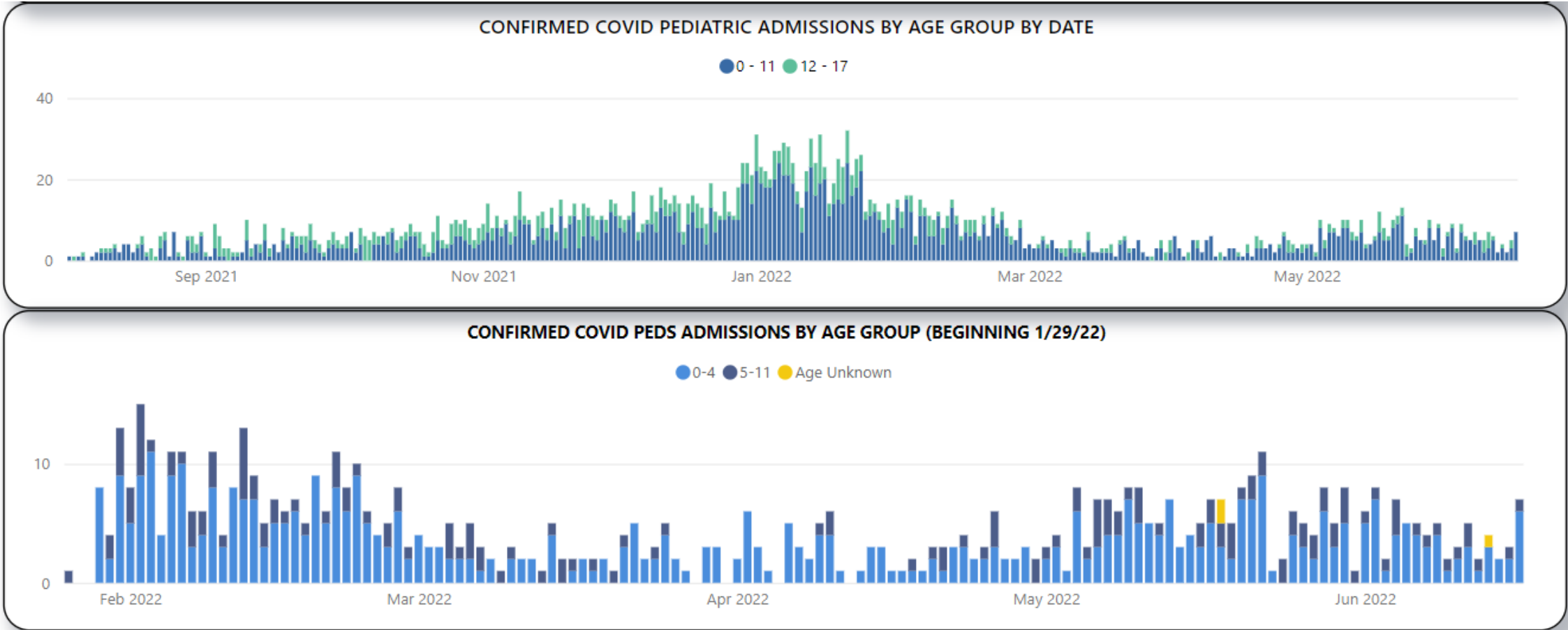


Based on reporting from all hospitals (N=5,295). Due to potential reporting delays, data reported in the most recent 7 days (as represented by the shaded bar) should be interpreted with caution. Small shifts in historic data may occur due to changes in the CMS Provider of Services file, which is used to identify the cohort of included hospitals. Data since December 1, 2020 have had error correction methodology applied. Data prior to this date may have anomalies that are still being resolved. Note that the above graphs are often shown on different scales. Data prior to August 1, 2020 are unavailable. Last Updated: Jun 16, 2022

Unified Hospital Dataset, White House COVID-19 Team, Data Strategy and Execution Workgroup

- Trends for daily average hospital admissions for pediatrics follows that of state trends
- A total of 3,747 hospital admissions for COVID-19 among those 0-17 from August 1, 2020 to June 14, 2022
- Those 60-69, 70-79, and 80+ are seeing between 20-30 daily hospital admissions









Hospital admissions due to COVID-19 for children follow statewide trend with youngest ages accounting for majority of pediatric admissions




- Hospital admissions reflect statewide infection trends where admissions are higher during surges of SARS-CoV-2 transmission
- Among those under 18 years of age, the majority of hospital admissions occurred in those 0-11 in Michigan
- Among those under 12 years of age, the majority of hospital admissions occurred in those 0-4 in Michigan

Prior 28-Day Metrics By Age Group (May 11, 2022 – Jun 7, 2022)

AGE GROUP	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Known	99.7%	99.9%	100%	7,037.2	159.4	96
Unknown	0.3%	0.1%	--	--	--	--
Any	--	--	--	7,055.3	159.5	96











KNOWN AGE GROUP ONLY	% OF POP	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Age 0 to 9	11.6%	7.4%	0.6%	4.8%	4,481.1	8.7	39.8
Age 10 to 19	12.7%	9.2%	0.6%	2.9%	5,098.3	7.1	22.1
Age 20 to 29	13.9%	15.5%	1.3%	5%	7,845.0	14.5	34.7
Age 30 to 39	12%	15.6%	2.1%	5.3%	9,115.8	27.6	42.6
Age 40 to 49	12%	13.6%	3.7%	5.5%	8,011.4	48.8	44.6
Age 50 to 59	13.8%	14.4%	8.5%	9.6%	7,330.3	98.3	67
Age 60 to 69	12.6%	12.2%	17.3% 	16.6%	6,783.9	218.4 	126.7
Age 70 to 79	7.4%	7.5%	24.8% 	20.4% 	7,195.5	537.3 	266.6 
Age 80 Plus	4.1%	4.7%	41.3% 	29.7% 	8,130.7	1,608 	697.2 

 disparity present ⓘ


 disparity present but based on small absolute numbers

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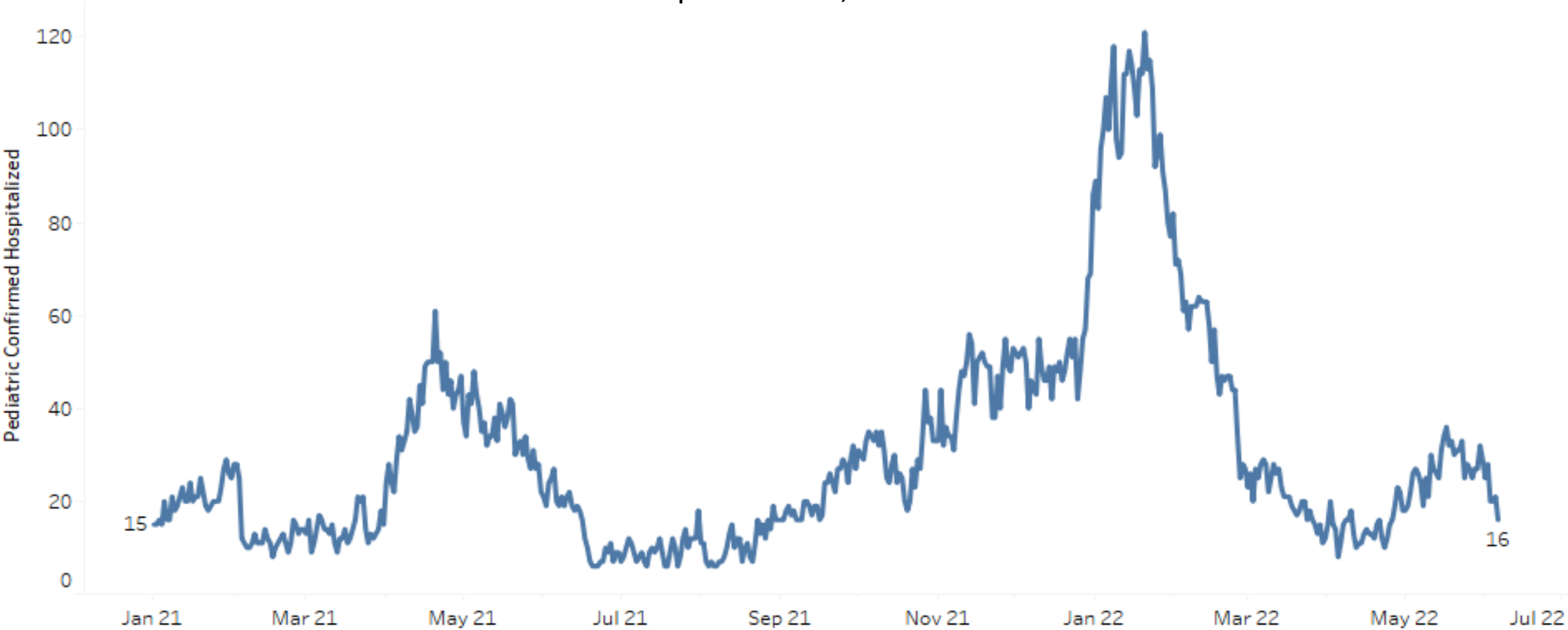
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Age 80 Plus	4.1%	4.7%	41.3% 	29.7% 	8,130.7	1,608 	697.2 

 disparity present ⓘ

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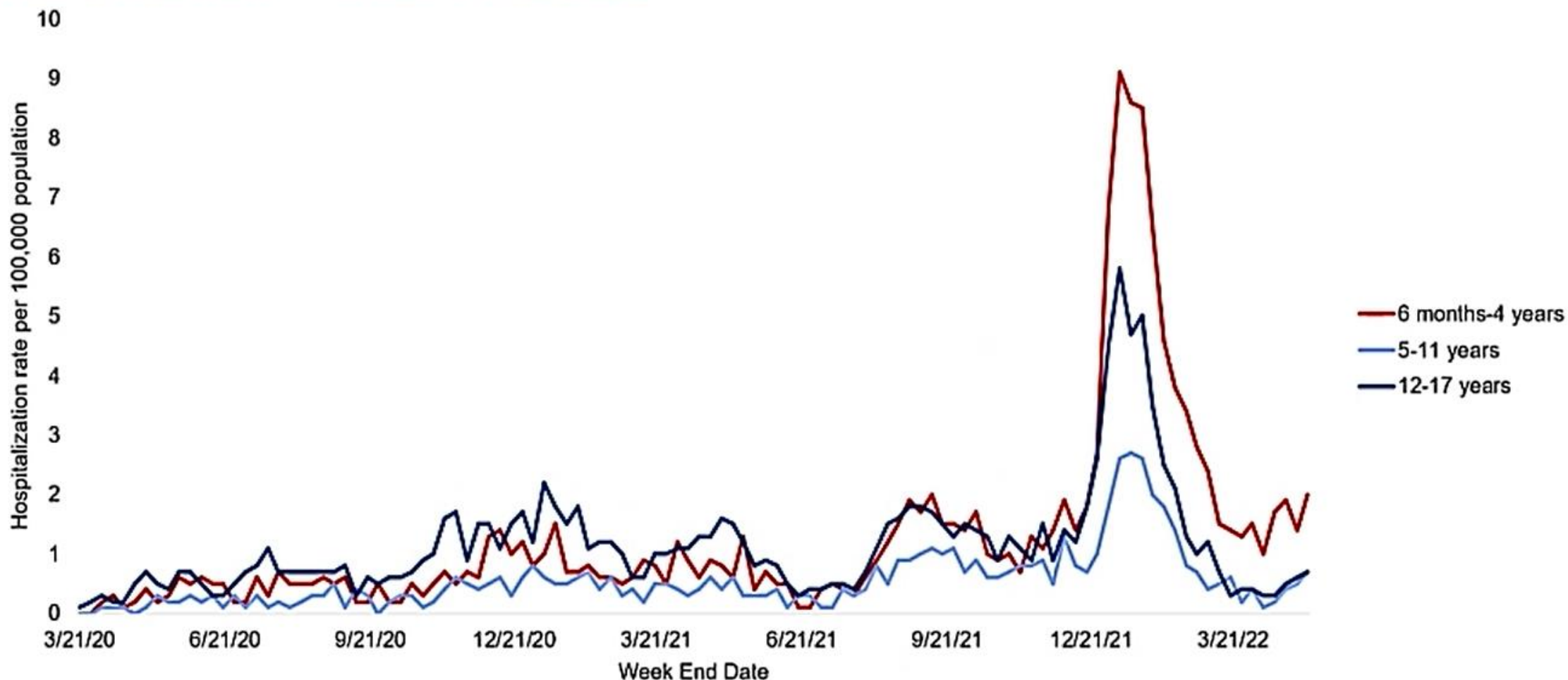
Statewide Hospitalization Trends: Pediatric COVID+ Census

Hospitalization Trends 1/1/2021 – 6/6/2022
Pediatric Hospitalizations, Confirmed



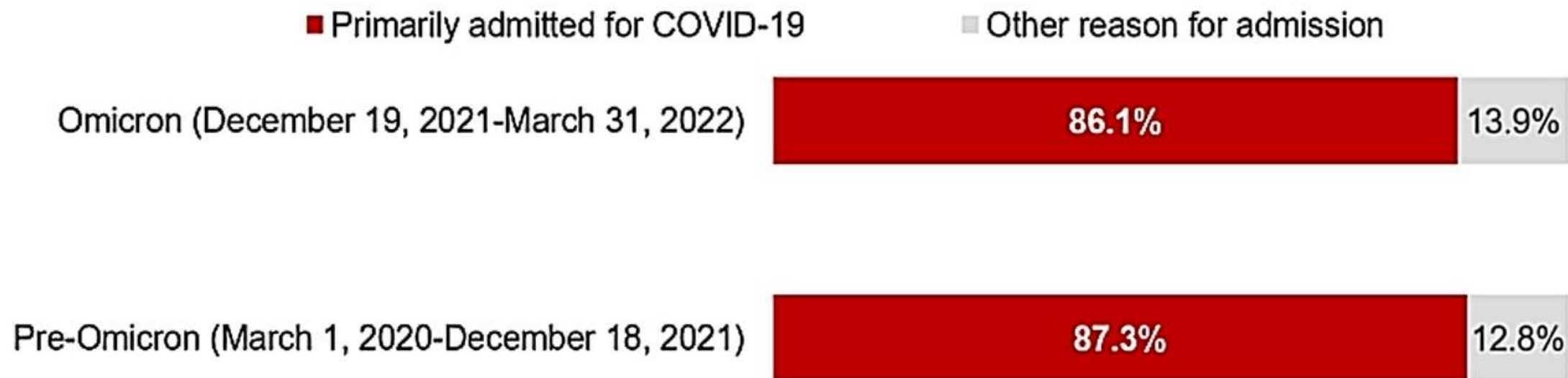
COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET

March 2020 – March 2022



Source: COVID-NET, https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html. Accessed May 21, 2022.

Proportion of children ages 6 months–4 years with COVID-19 associated hospitalization who were primarily admitted for COVID-19, COVID-NET March 2020 – March 2022



All children in COVID-NET had a positive SARS-CoV-2 test within 14 days of or during hospital admission. "Primarily admitted for COVID-19" was defined based on the "Reason for admission" field from the case report form. If the chief complaint or history of present illness in the medical chart documents fever/respiratory illness, COVID-19-like illness, or a suspicion for COVID-19, a case is categorized as having COVID-19 as the primary reason for admission. Examples of other non-COVID-19-related reasons for admission seen in this age group include admissions for trauma or inpatient surgeries.

Source: COVID-NET data, Accessed May 21, 2022.

Percent of children ages 6 months–4 years with COVID-19 associated hospitalization with underlying health conditions

■ At least 1 underlying medical conditions ■ No underlying medical conditions

New Vaccine Surveillance Network, March 2020
– April 2022

46%

54%

COVID-NET, March 2020 – March 2022

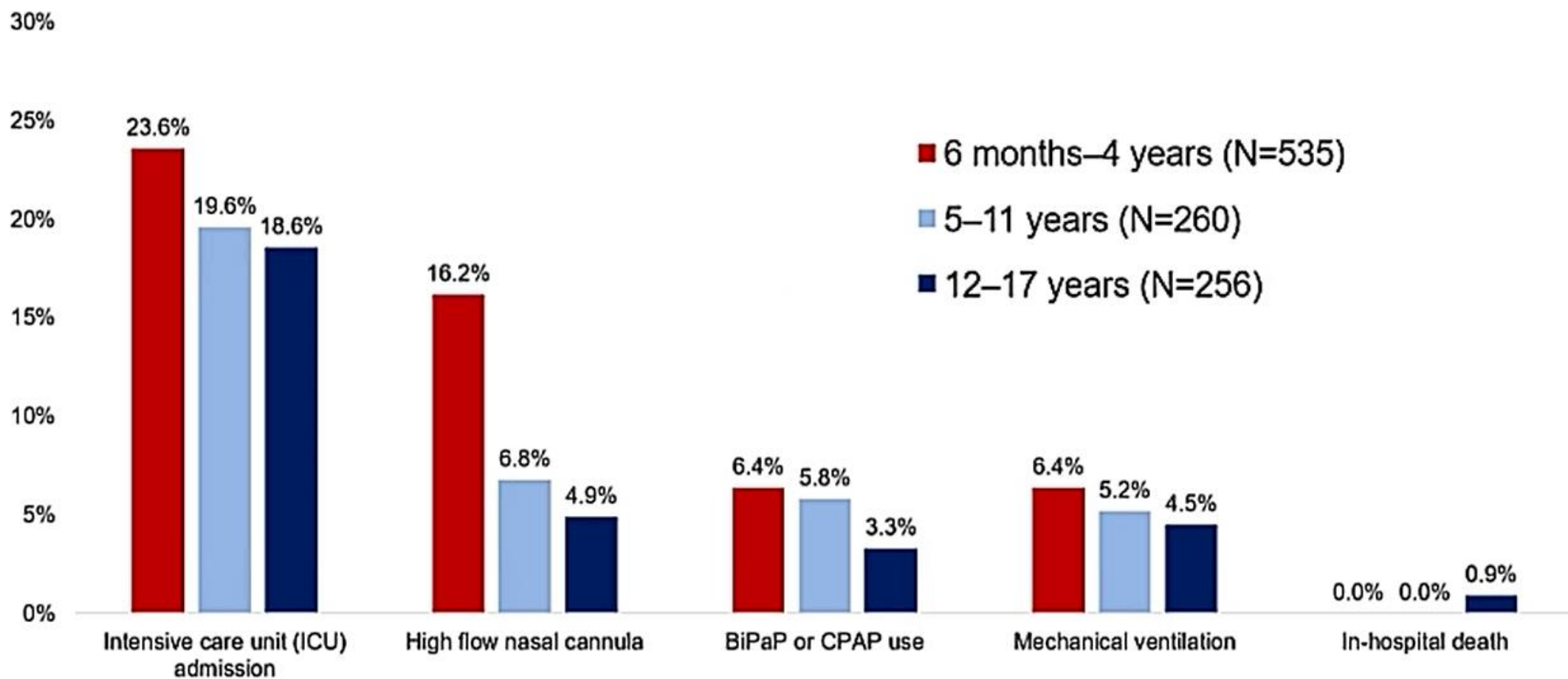
49%

51%

Source: 1. New Vaccine Surveillance Network. Preliminary data as of May 25, 2022, reflecting data from March 2020–April 2022

2. COVID-NET data. Accessed May 21, 2022, reflecting data from March 2020–March 2022

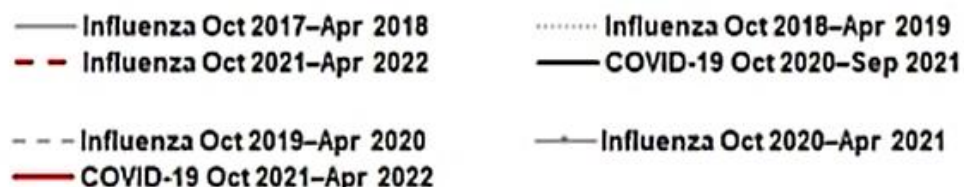
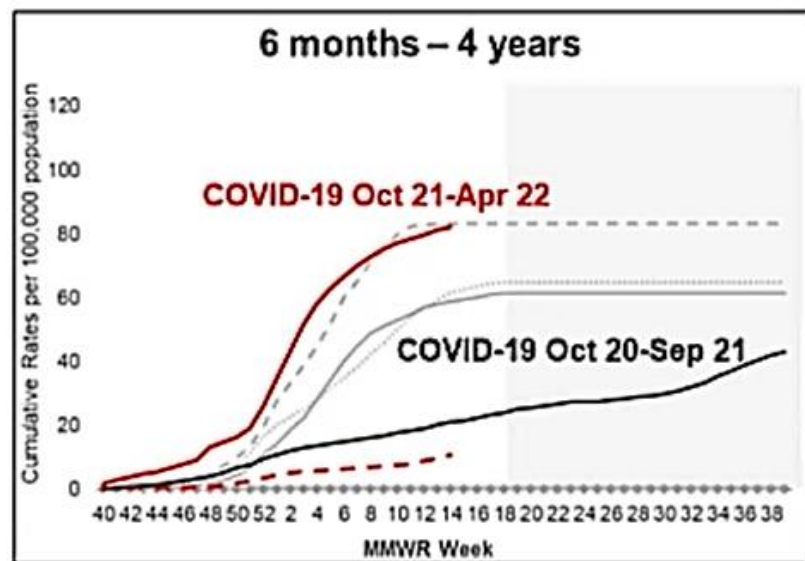
Severity of COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET, December 19, 2021 – March 31, 2022 (Omicron period)



BiPAP: bilevel positive pressure, CPAP: continuous positive pressure

Source: COVID-NET data. Accessed May 21, 2022.

Cumulative influenza- and COVID-19-associated hospitalization rates per 100,000 children ages 6 months–4 years, FluSurv-NET and COVID-NET, 2017–2022



Among children ages 6 months–4 years

- Oct 2020–Sep 2021 COVID-19 hospitalization rates were lower than influenza hospitalization rates during 2017–18 through 2019–20 (pre-pandemic) influenza seasons
- Oct 2021–Apr 2022 COVID-19 hospitalization rates were as high or higher than influenza hospitalization rates during 2017–18 through 2021–22 influenza seasons

Other Pediatric Vaccine Preventable Diseases: Hospitalizations per Year Prior to Recommended Vaccines

	Hepatitis A ¹	Varicella ² (Chickenpox)	Vaccine-type Invasive Pneumococcal Disease ³	COVID-19 ⁴
Age	5–14 years	0–4 years	0–4 years	6 months–4 years
Time period	2005	1993–1995	1998–1999	Year 1: April 2020–March 2021 Year 2: April 2021–March 2022
Hospitalization Burden (Annual rate per 100,000 population)	<1	29-42	40 ⁵	Year 1: 29.8 Year 2: 89.3

¹ <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss5603a1.htm>

² Davis MM, Patel MS, Gebremariam A. Decline in varicella-related hospitalizations and expenditures for children and adults after introduction of varicella vaccine in the United States. *Pediatrics*. 2004;114(3):786-792. doi:10.1542/peds.2004-0012

³ Centers for Disease Control and Prevention (CDC). Direct and indirect effects of routine vaccination of children with 7-valent pneumococcal conjugate vaccine on incidence of invasive pneumococcal disease—United States, 1998-2003. *MMWR Morb Mortal Wkly Rep*. 2005 Sep 16;54(36):893-7. PMID: 16163262.

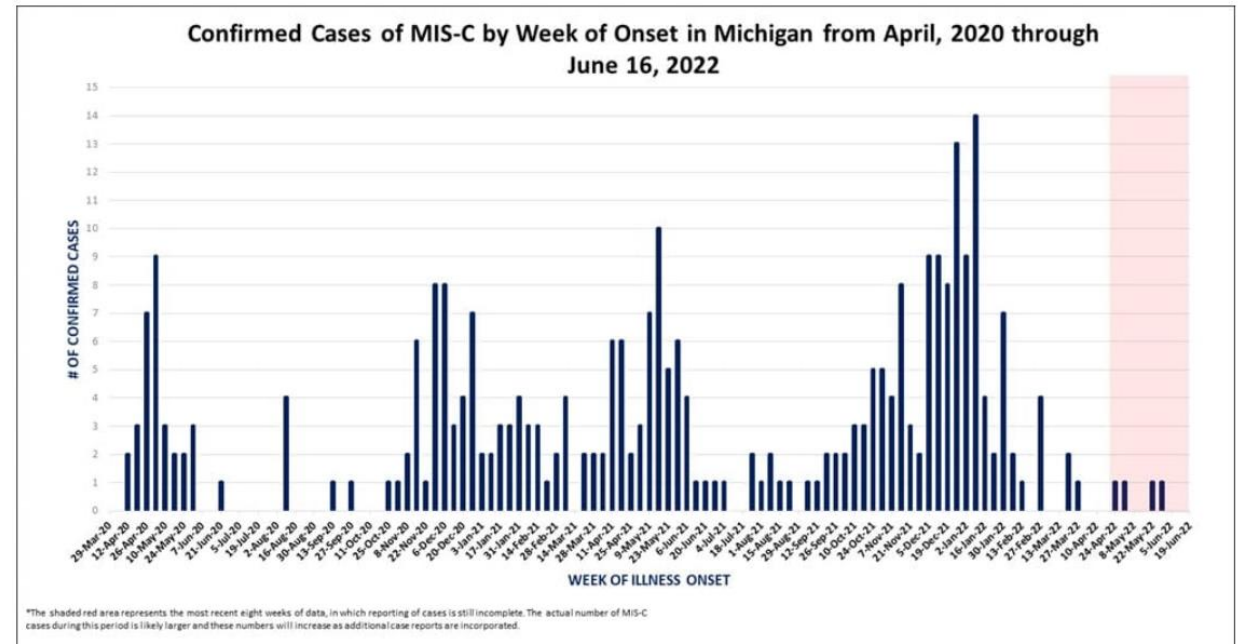
⁴ COVID-NET data, Accessed May 21, 2022.

⁵ Vaccine-type invasive pneumococcal disease annual rate for children <5 years in 1998-1999 was 80 per 100,000, of which about 50% were hospitalized.

Multisystem Inflammatory Syndrome in Children (MIS-C)

Michigan Surveillance

- Higher community transmissions is followed by higher incidence of MIS-C cases
- 302 cases identified in Michigan: highest numbers have occurred after most recent omicron surge
- More than 70% of those children are elementary and pre-school aged
- Black/African American children are disproportionately impacted
- 65.6% (192) children with MIS-C are treated in the ICU

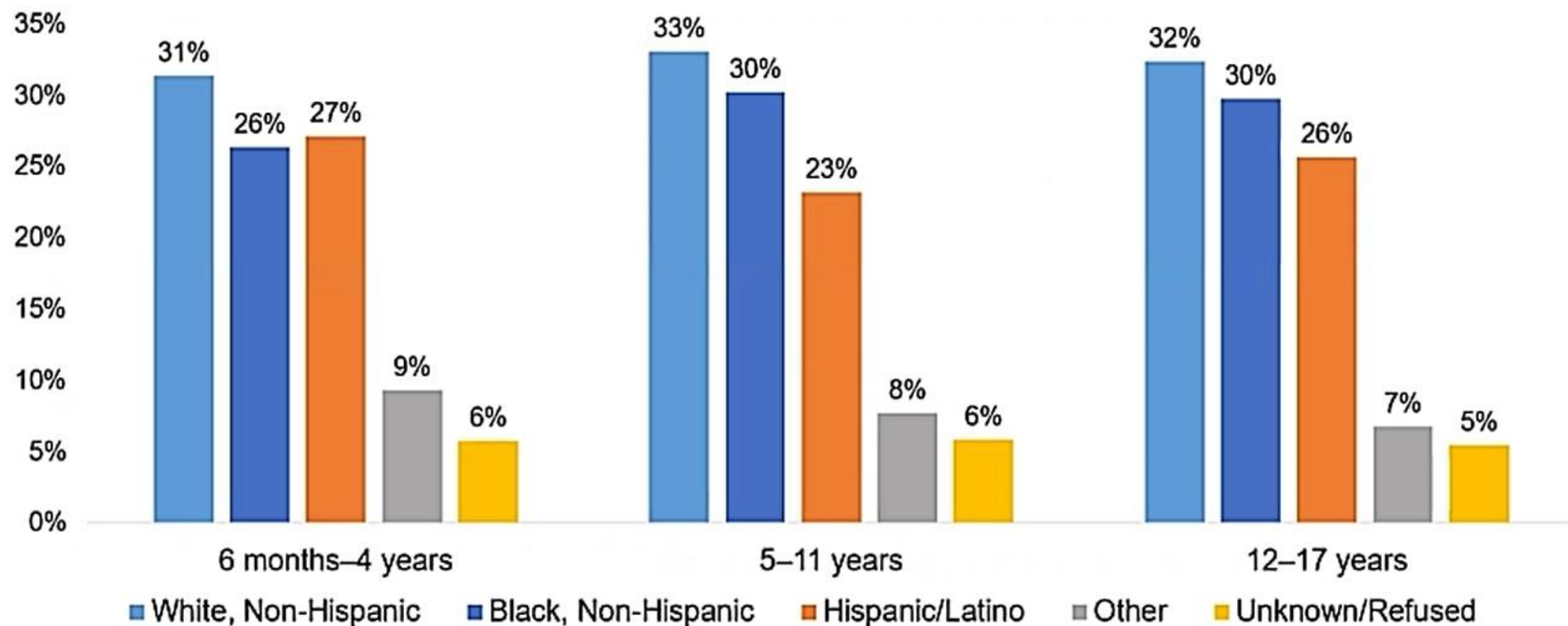


Red shading indicates the expected reporting lag for new cases. Cases with onset dates in this time period may not have been detected or reported yet.

Age Group	Count	%	Race	Count	%
<1	10	3.3%	Black/African American	105	34.8%
1-4	74	24.5%	Caucasian	146	48.3%
5-11	145	48.0%	All Others/Unknown	51	16.9%
12-15	54	17.9%	Ethnicity		
16-20	19	6.3%	Not Hispanic/Non-Latino	225	74.5%
			Hispanic/Latino	27	8.9%

MIS-C patients by race & ethnicity for children and adolescents ages 6 months–17 years by age group

February 1, 2020 – May 31, 2022

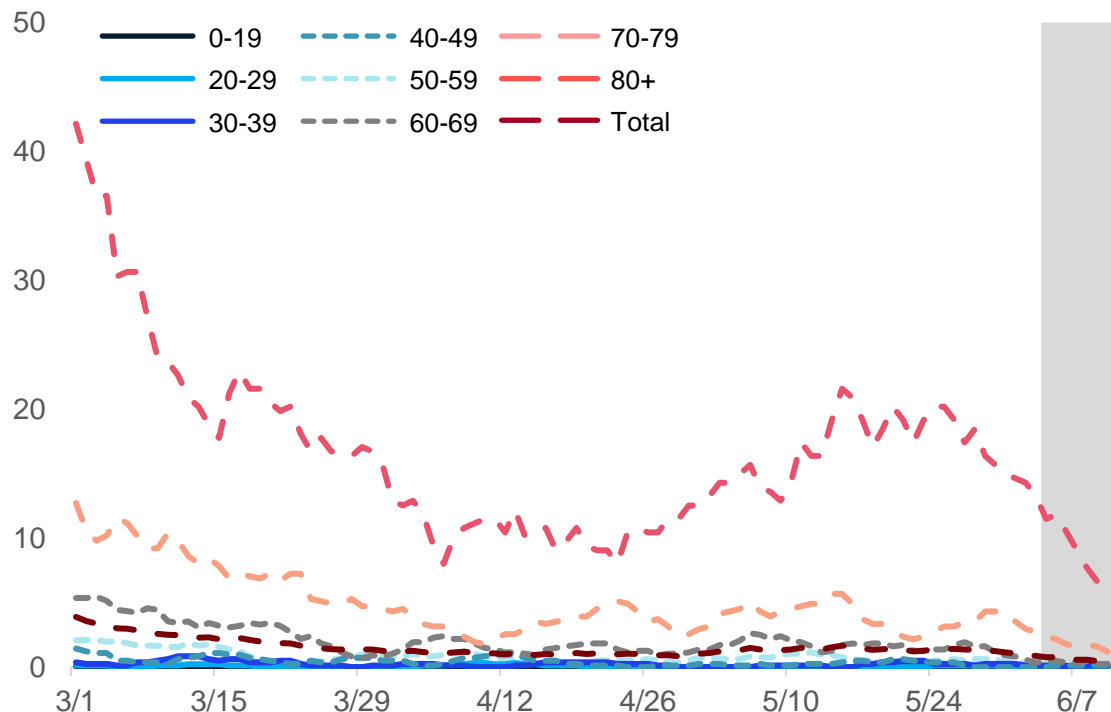


Age is missing for 1 case.

Source: CDC data. Accessed June 7, 2022

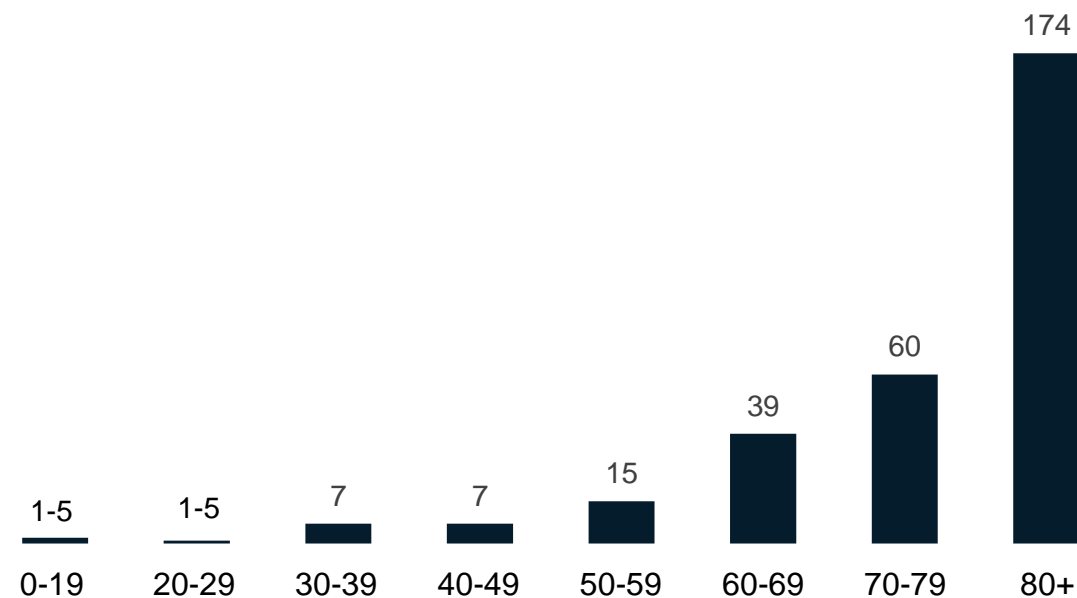
Average new deaths have decreased for those over the age of 80

Daily COVID-19 deaths in confirmed and probable cases per million by age group (7 day rolling average)



Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 6/3/2022)

- 10.5% of deaths below age sixty

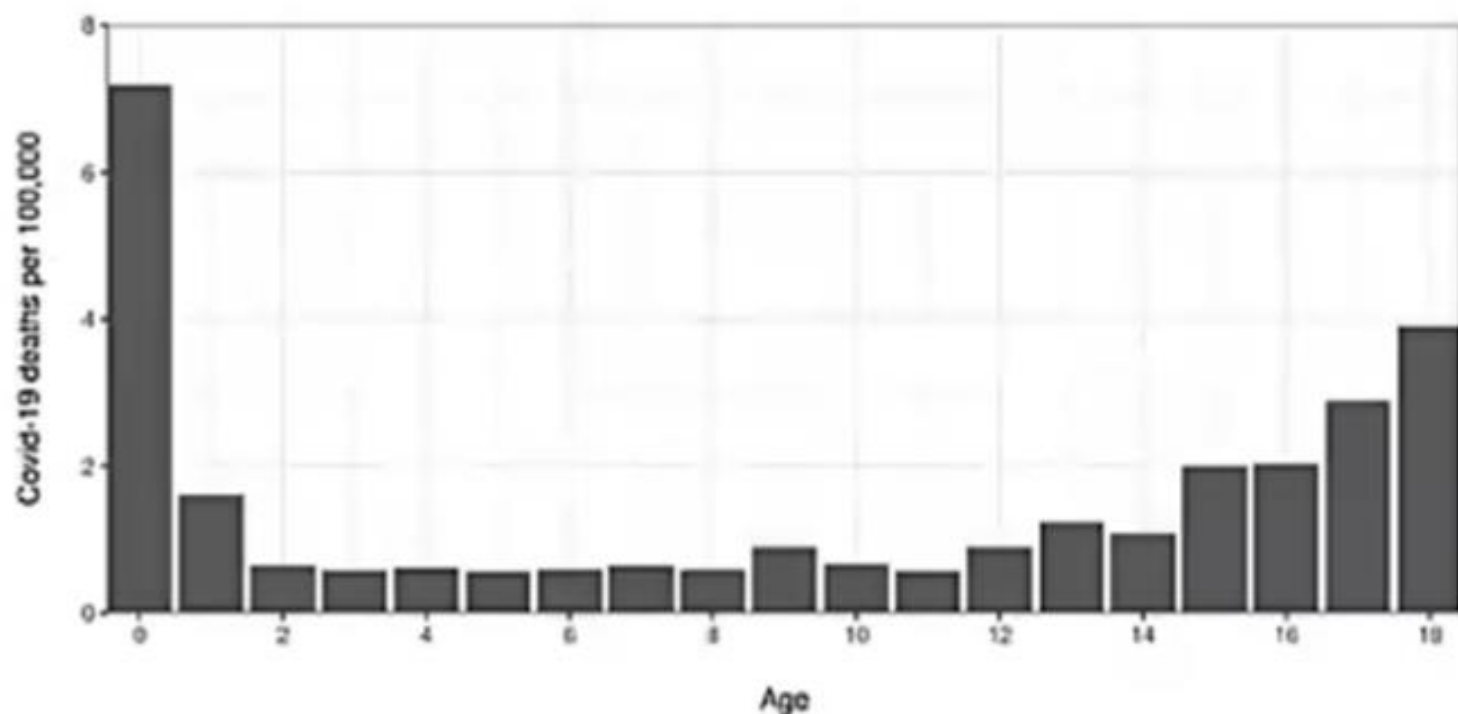


- Through 6/3, the 7-day avg. death rate has decreased (13.2 deaths per million people) for those over the age of 80
- In the past 30 days, there are fewer than 20 among confirmed and probable COVID-19 cases under the age of 40
- 30-day proportion of deaths among those under 60 years of age is 10.5%. This proportion has decreased incrementally over the last 4 weeks (last week 11.4%)

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
 Source: MDHHS – Michigan Disease Surveillance System (MDSS)

COVID-19 death rate among children by age, United States, March 1, 2020—April 30, 2022

- Based on cumulative total incidence, COVID-19 is the **leading** cause of death among **infectious diseases** for people ages 0-19
 - COVID-19 is the **seventh** most common of **all** causes of death for people ages 0-19
- Among people ages 1-4, COVID-19 is the **fifth** most common of **all** causes of death



Based on death certificate data from the National Center for Health Statistics. COVID-19 based on cumulative total incidence of COVID-19 deaths from March 1, 2020-April 30, 2022.

Source: Preprint: Flaxman S, Whittaker C, Semenova E et al. Covid-19 is a leading cause of death in children and young people ages 0-19 years in the United States. medRxiv 2022.05.23.22275458; doi: <https://doi.org/10.1101/2022.05.23.22275458>

Pediatric vaccine preventable diseases:

Deaths per year in the United States prior to recommended vaccines

	Hepatitis A ¹	Meningococcal (ACWY) ²	Varicella ³	Rubella ⁴	Rotavirus ⁵	COVID-19 ⁶
Age	<20 years	11–18 years	5–9 years	All ages	<5 years	6 months – 4 years
Time period	1990–1995	2000–2004	1990–1994	1966–1968	1985–1991	Jan 2020–May 2022
Average deaths per year	3	8	16	17	20	86

¹Vogt TM, Wise ME, Bell BP, Finelli L. Declining hepatitis A mortality in the United States during the era of hepatitis A vaccination. *J Infect Dis* 2008; 197:1282–8.

²National Notifiable Diseases Surveillance System with additional serogroup and outcome data from Enhanced Meningococcal Disease Surveillance for 2015–2019.

³Meyer PA, Seward JF, Jumaan AO, Wharton M. Varicella mortality: trends before vaccine licensure in the United States, 1970–1994. *J Infect Dis*. 2000;182(2):383–390. doi:10.1086/315714

⁴Roush SW, Murphy TV. Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. *JAMA* 2007; 298:2155–63.

⁵Glass RI, Kilgore PE, Holman RC, et al. The epidemiology of rotavirus diarrhea in the United States: surveillance and estimates of disease burden. *J Infect Dis*. 1996 Sep;174 Suppl 1:S5–11.

⁶<https://data.cdc.gov/NCHS/Provisional-COVID-19-Deaths-Counts-by-Age-in-Years/3apk-4u44/data>.

COVID-19 is a leading cause of death among children ages 0–19 years

March 1, 2020–April 30, 2022

Age group	Rank of COVID-19 among causes of death
<1 year	4
1–4 years	5
5–9 years	5
10–14 years	4
15–19 years	4

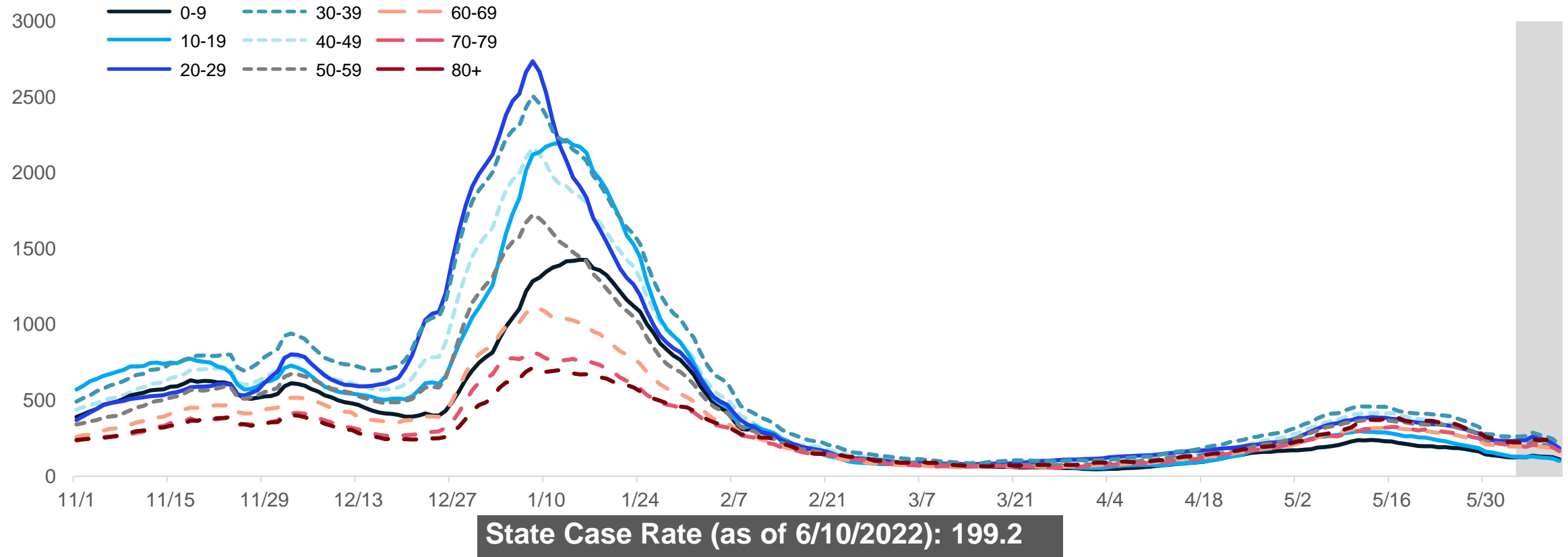
Based on death certificate data from the National Center for Health Statistics. COVID-19 based on cumulative total incidence of COVID-19 deaths from March 1, 2020-April 30, 2022.

Source: Flaxman S, Whittaker C, Semenova E et al. Covid-19 is a leading cause of death in children and young people ages 0-19 years in the United States. medRxiv 2022.05.23.22275458; doi: <https://doi.org/10.1101/2022.05.23.22275458>

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