MI COVID RESPONSE DATA AND MODELING UPDATE

August 30, 2022

Epidemiologic Surveillance: Key Messages

COVID-19 pandemic is decreasing in some parts of the globe and within the United States

- Case rate declines for several European countries are now plateauing
- Within the U.S., case rates decreased 6.7% over the past week, which is slower than last week
- Nearly all midwestern states (region 5) are showing signs of a plateau or decreases

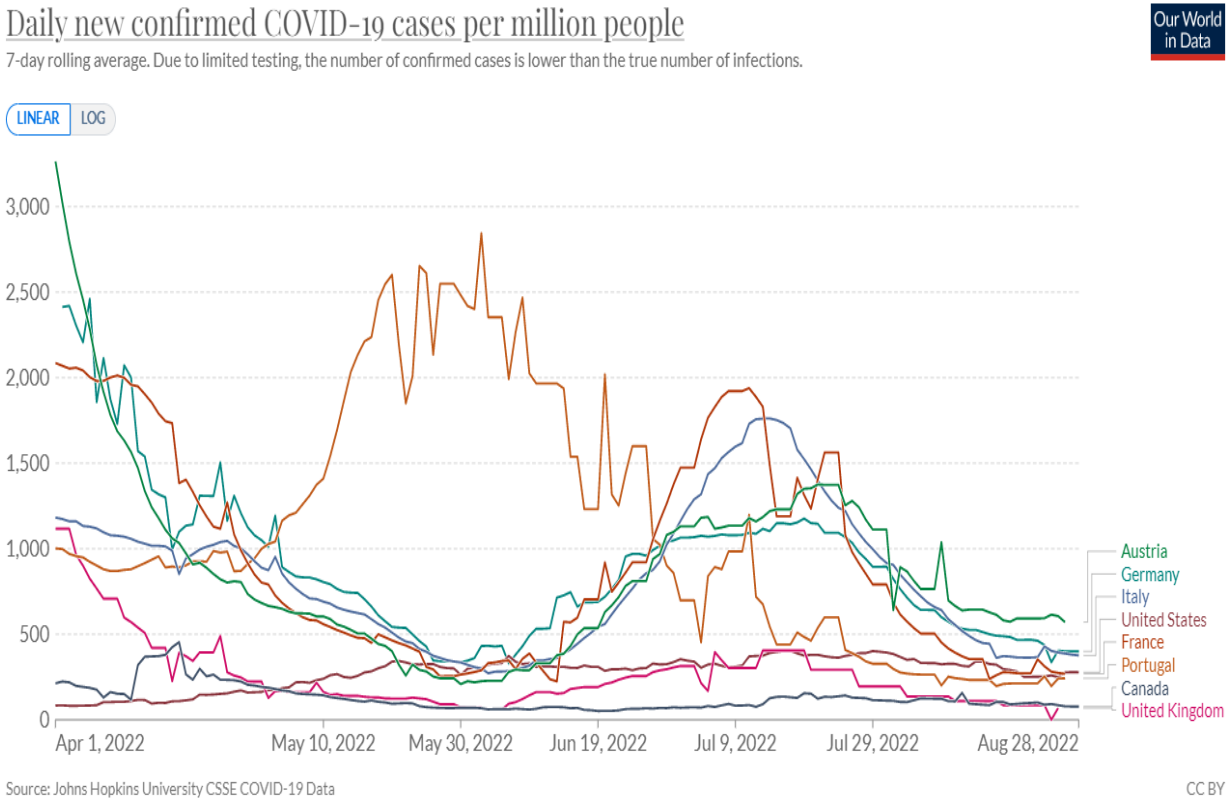
COVID spread in Michigan is plateaued

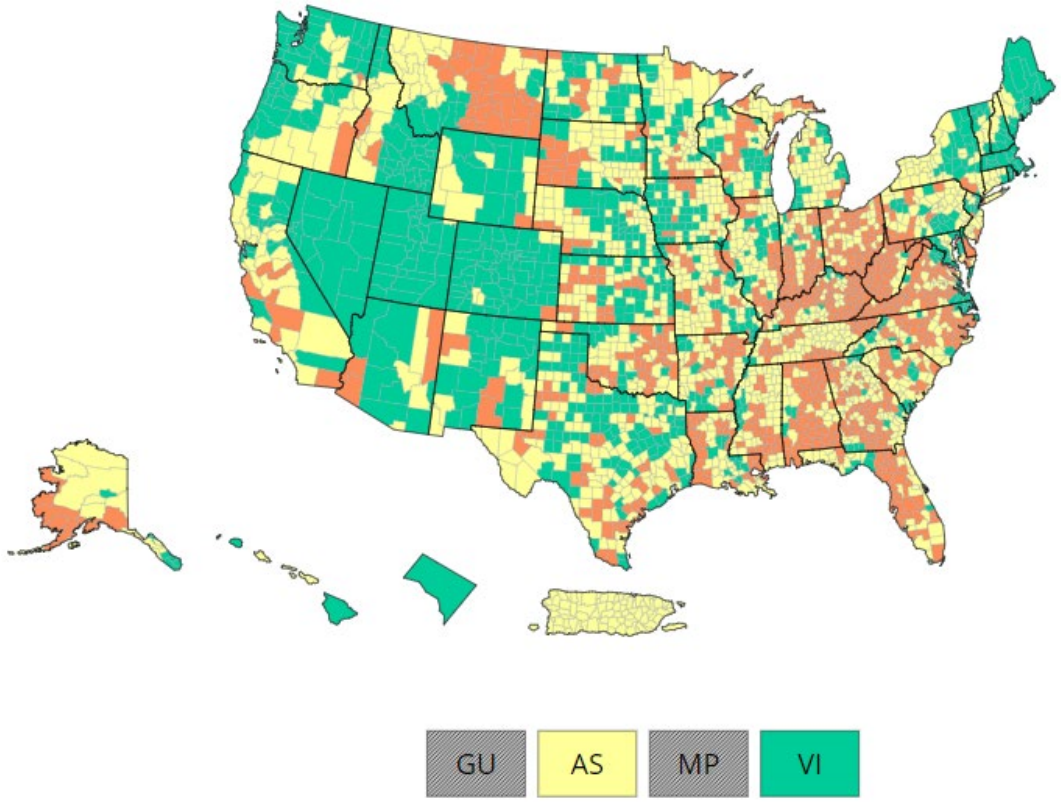
- COVID spread is assessed from many different markers including CDC community levels and other surveillance systems
- As of Aug 25, 80% of Michigan counties are at medium or high COVID-19 community levels, which is higher than last week
  - 9 Michigan counties are classified as High this week according to CDC's Community Levels (11%). This represents 31% of the population.
  - 57 Michigan counties are currently at Medium level (69%). This represents 56% of the population
- The R_t for Michigan recently fell slightly below 1 indicating COVID is plateaued
- The proportion of specimens sequenced and identified as BA.5 in the U.S. and Michigan continues to remain the most dominant
- Less than half (40%) of SWEEP sites saw an increase in the most recent week

COVID-19 hospital metrics in Michigan remain lower than past surges

- COVID-19 hospital admissions, hospital census, and ICU census showed small signs of increases this week compared to last week

Global and National Trends





Globally, 601,068,062 cases and 6,486,873 deaths (Data* through 8/29/2022)

- Case rates for Europe have plateaued

United States: Reported cases (7-day average) have decreased 6.7% since the prior week¶

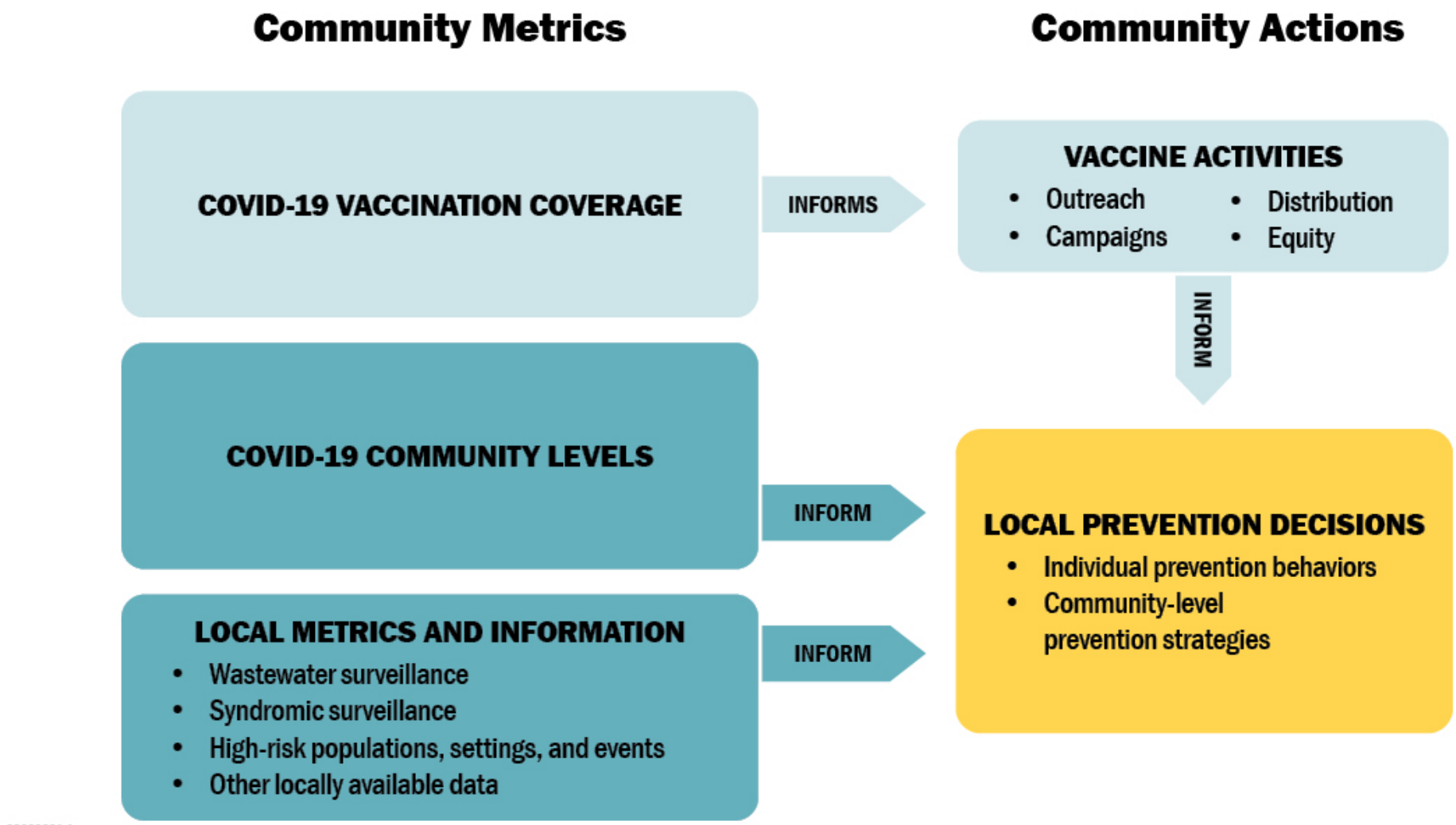
- In the U.S., the case rate is 186.8 cases/100,000 in last 7 days (last week: 197.7 cases per/100,000)

Most Region 5 (Midwest) states are showing early signs of plateaus or declines

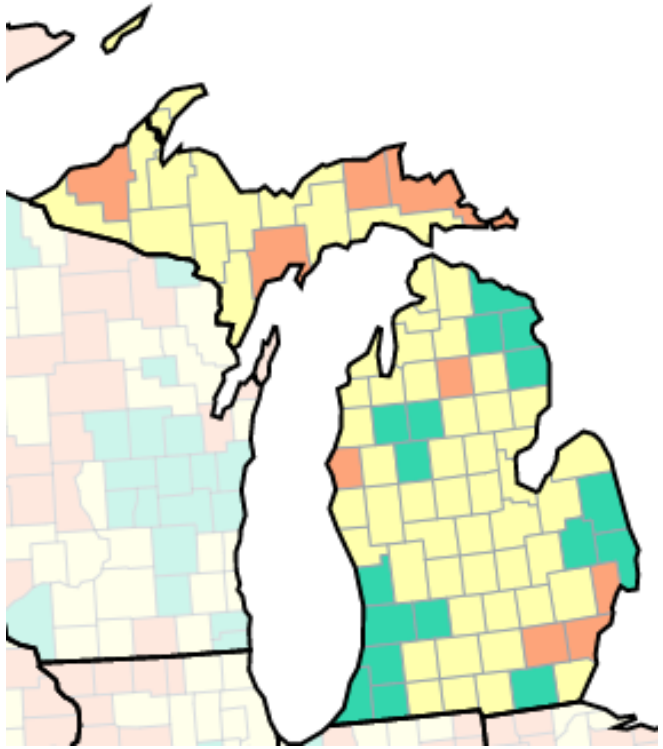
- Minnesota and Wisconsin have the lowest case rates *in Region 5* (8/29/2022)

Source: * Johns Hopkins Coronavirus Resource Center; ¶ CDC COVID Data Tracker Weekly Review; † CDC COVID Data Tracker – CDC recently updated their methodology for reporting case rates

Local Prevention Decisions Should Use Community Levels in Concert with Other Pandemic Indicators



As of Aug 25, 9 Michigan Counties at High COVID-19 Community Level



- In the US, 29% of counties have high risk for medically significant disease and healthcare strain
- In Michigan, 11% (9/83) of counties are at high risk. This represents 31% of the population
- 57 Michigan counties are currently at Medium level (69%). This represents 56% of the population
- 17 Michigan counties are currently at Low level (20%). This represents 13% of the population

Percent of Counties

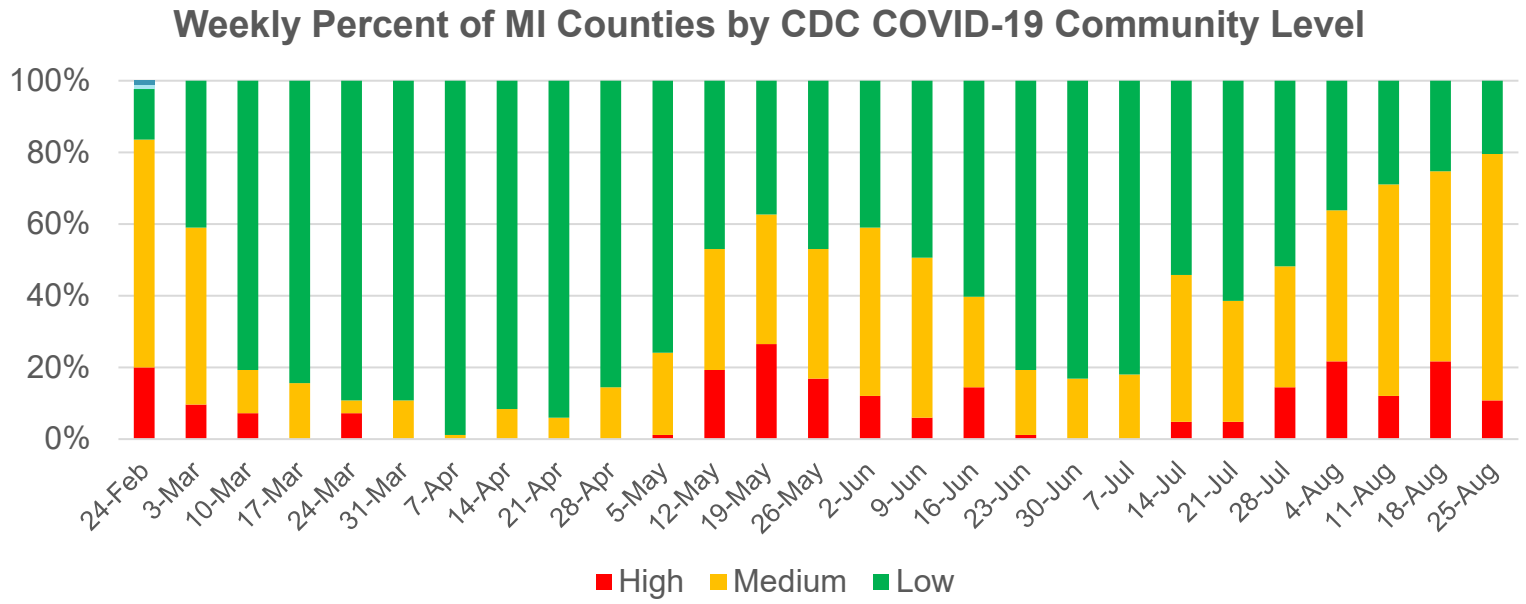
	United States	Michigan	Percent of MI Population
Low	28%	20%	13%
Medium	43%	69%	56%
High	29%	11%	31%

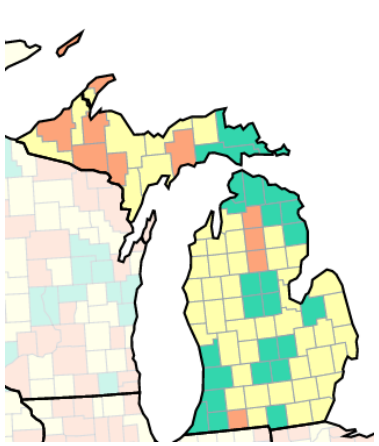
Low	Medium	High
• Stay up to date with COVID-19 vaccines • Get tested if you have symptoms	• If you are at high risk for severe illness, talk to your healthcare provider about whether you need to wear a mask and take other precautions • Stay up to date with COVID-19 vaccines • Get tested if you have symptoms	• 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

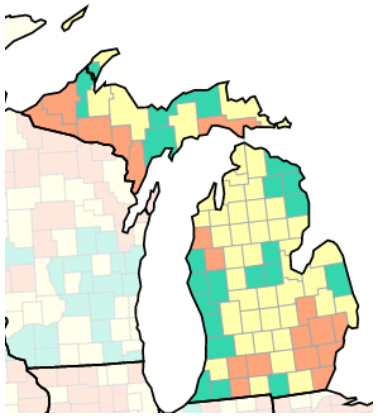
Source: CDC COVID-19 Community Levels https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=CommunityLevels

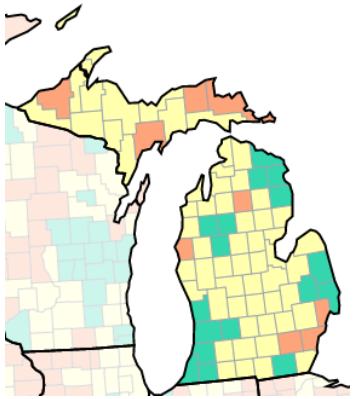
Michigan Trends of COVID-19 Community Levels

- As of August 25, 9 (11%) Michigan counties at high COVID-19 community level and another 57 Michigan counties are currently at Medium level (69%)
- The proportion of Michigan counties at medium and high is higher than last week
- Current levels are not as high as the first Omicron wave but are higher than the second Omicron (BA.2.12.1) wave




Aug 11 CDC Community Levels

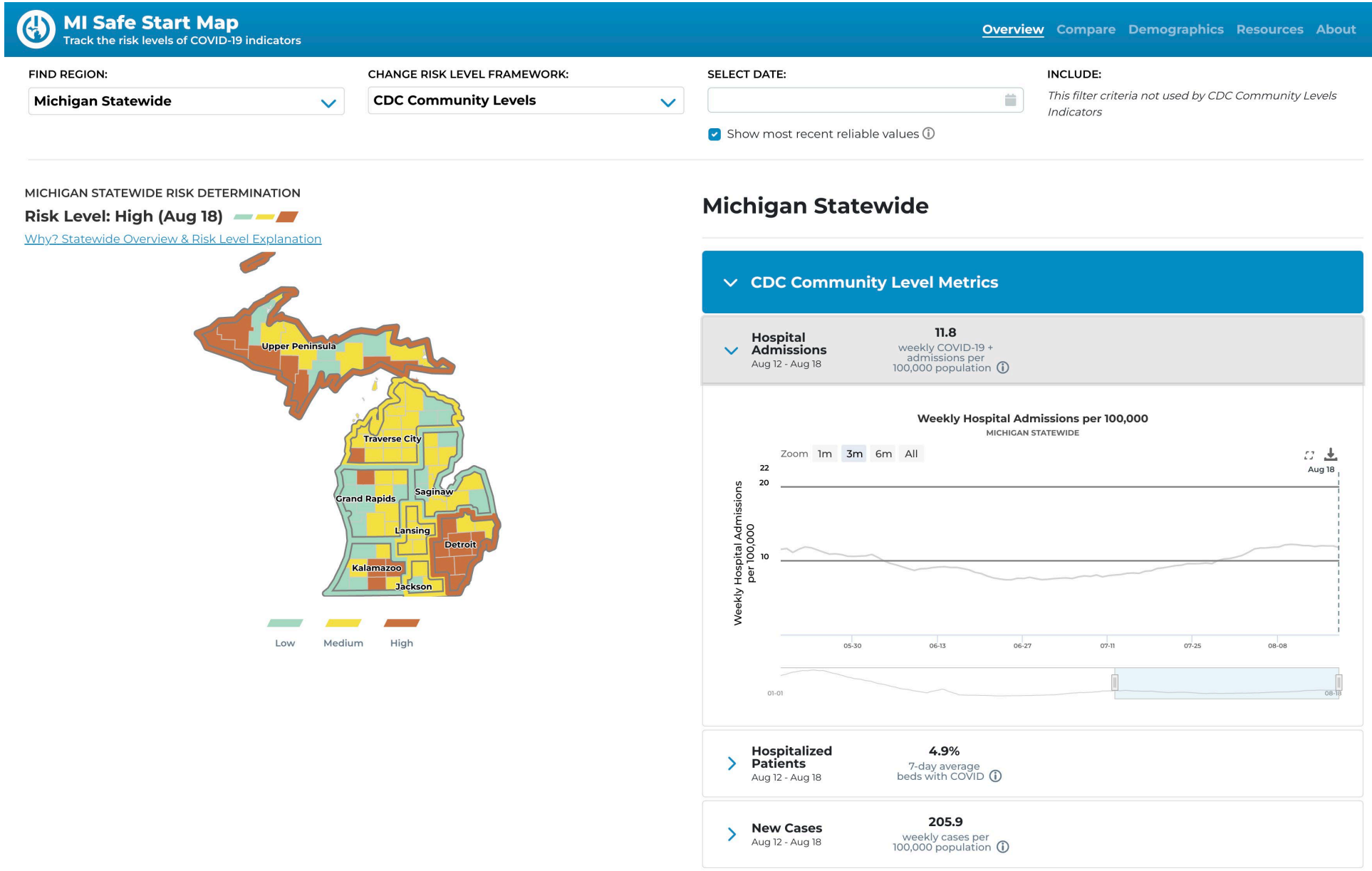

Aug 18 CDC Community Levels


Aug 25 CDC Community Levels

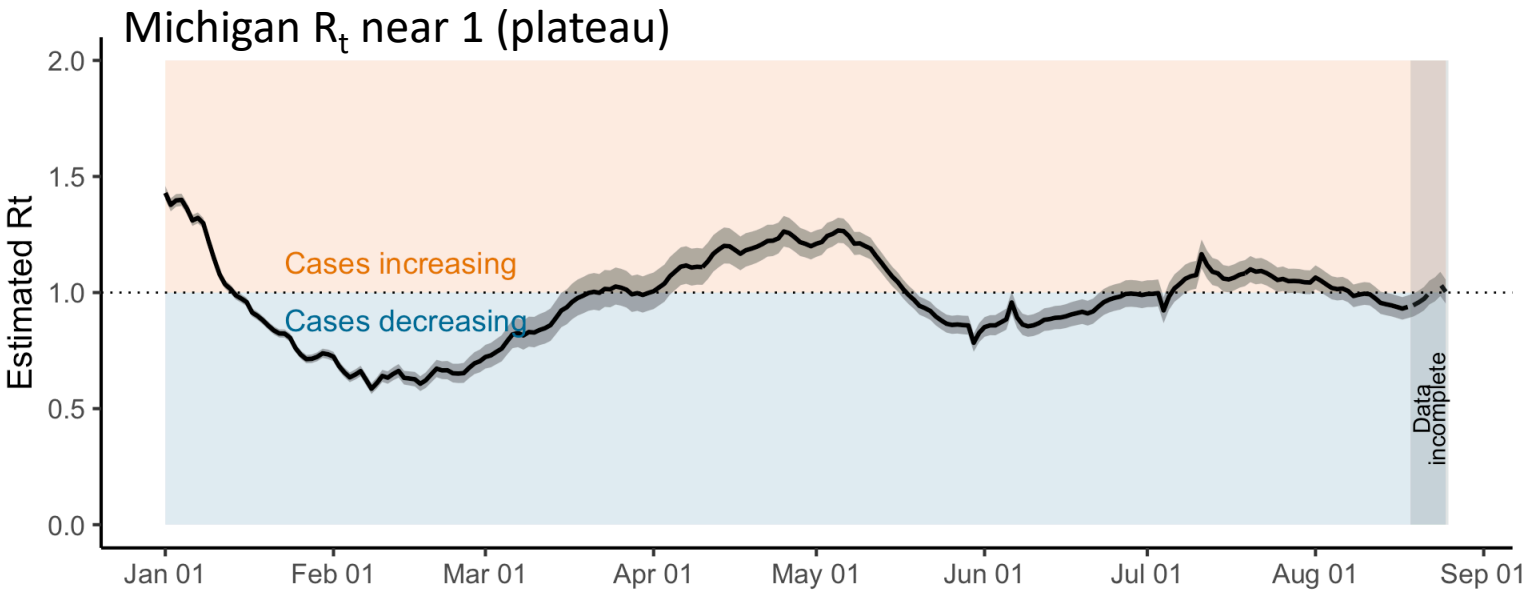
Source: CDC COVID-19 Community Levels https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&list_select_county=all_counties&data-type=CommunityLevels

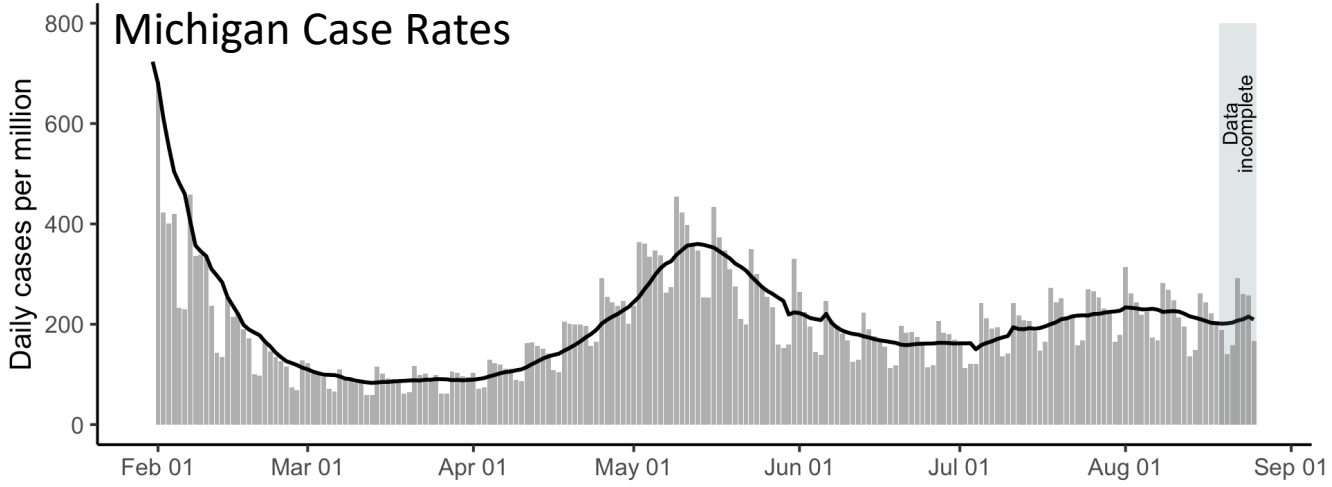
CDC Community Levels now available on mistartmap.info

- Community Levels available at the county, regional, and statewide levels
- County level data updates weekly
- Regional and statewide data updates twice weekly

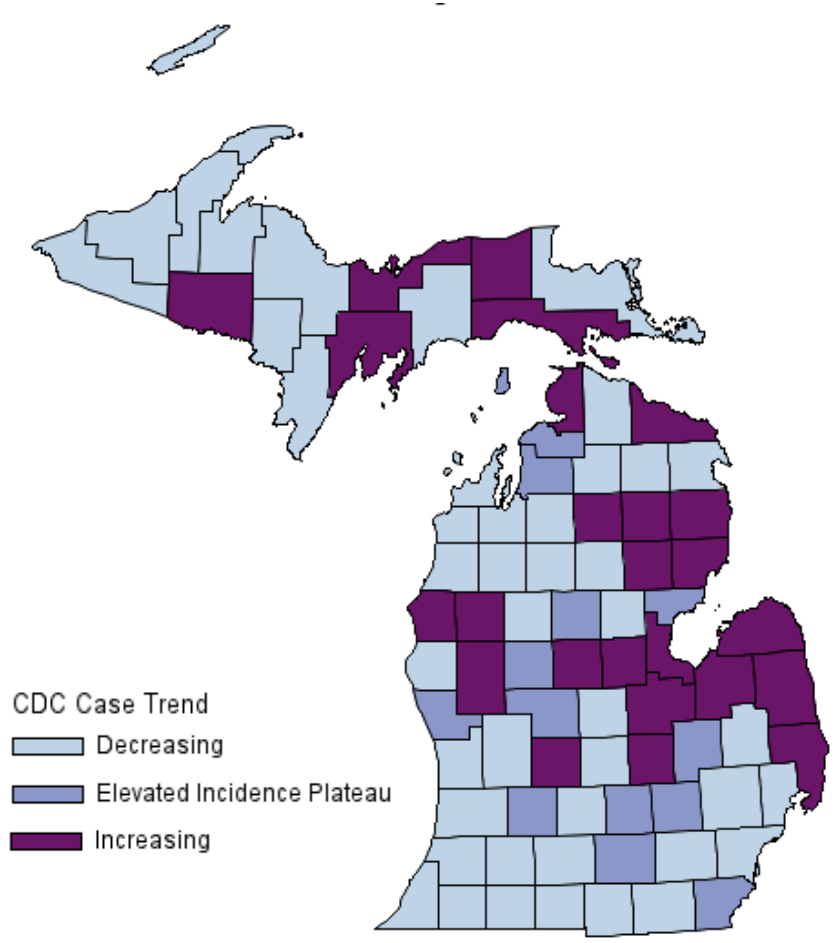


Cases are plateaued/slightly decreasing in Michigan





25 counties currently showing increases and 13 in elevated incidence plateaus (via mistartmap.info as of 8/26/22, data through 8/19/22).



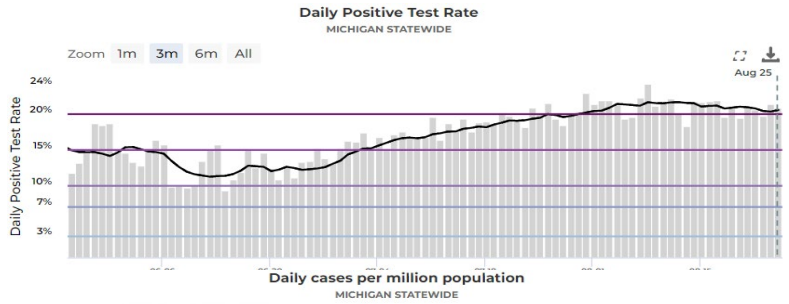
Sources: MDSS cases plotted by onset date as of 8/26/22.

Recent statewide trends are plateaued

Statewide trends

7-day average Daily values

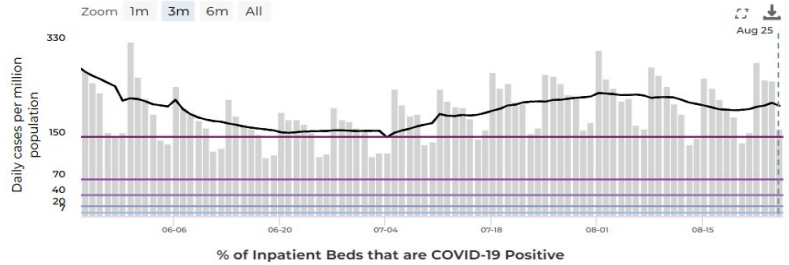
Positivity, %



Current: 20.6%

Last Week: 20.8 %

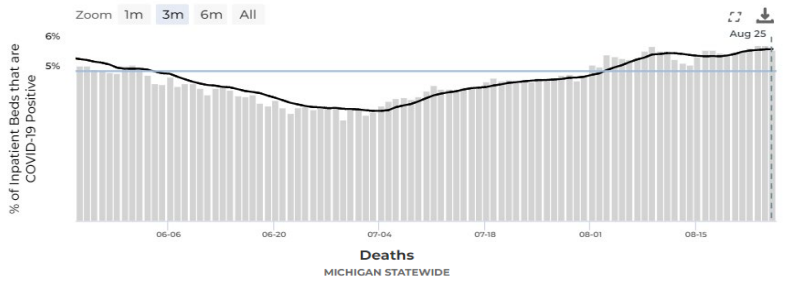
Daily cases per million



Current: 201.1

Last Week: 220.4

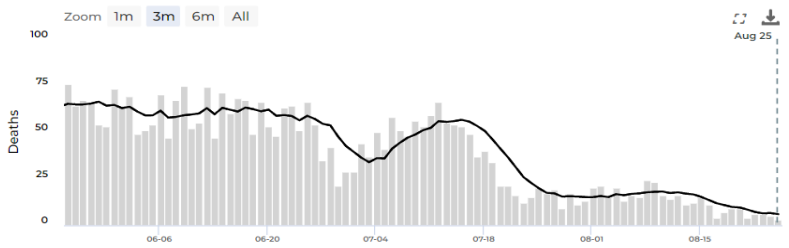
Daily hospitalization rate, %



Current: 5.7%

Last Week: 5.5 %

Deaths

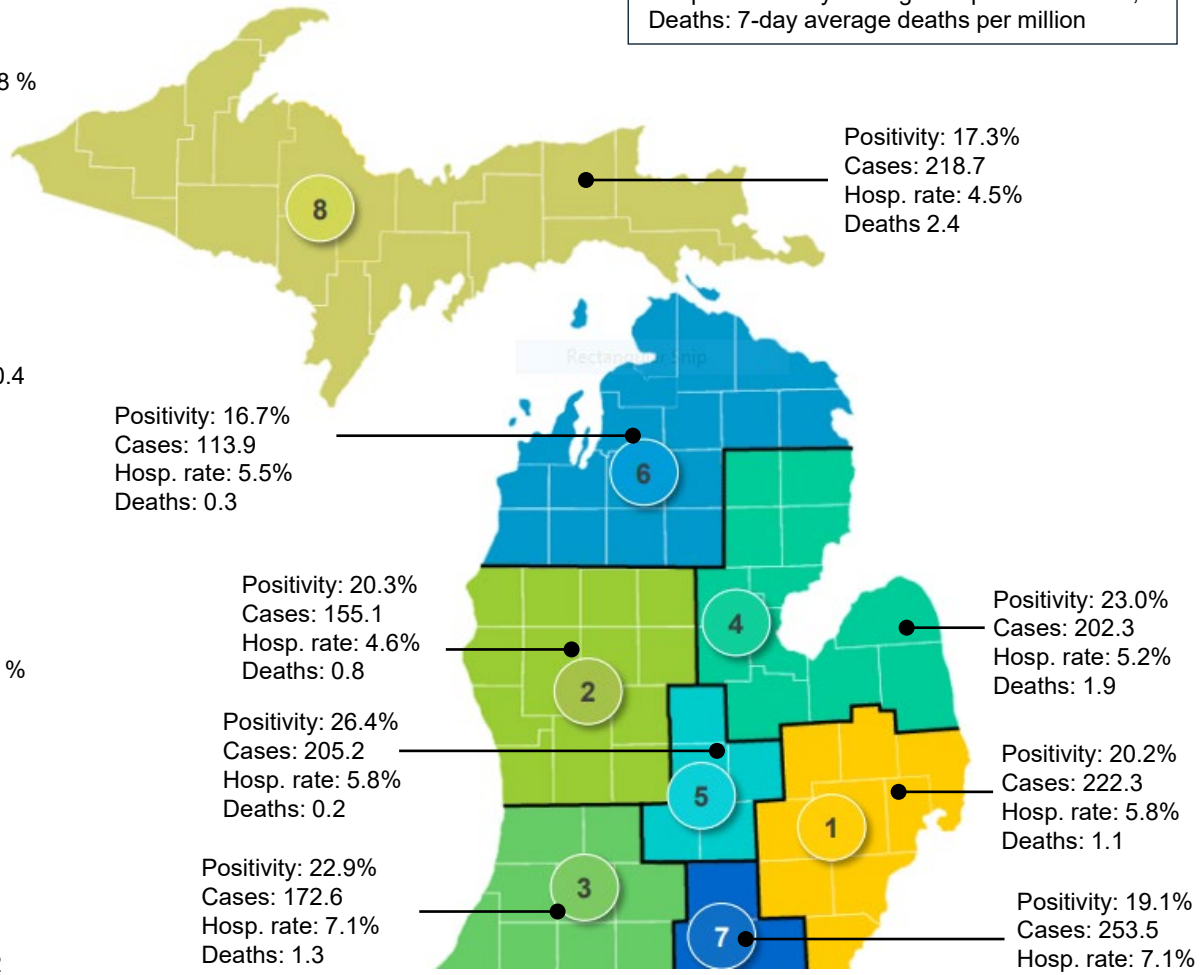


Current: 1.0

Last Week: 1.2

MERC Regional breakdown: Positivity, cases, hospitalization rate, and deaths

Positivity: 7-day average positivity, %
Cases: 7-day average cases per million
Hosp. rate: 7-day average hospitalization rate, %
Deaths: 7-day average deaths per million



Positivity: 17.3%
Cases: 218.7
Hosp. rate: 4.5%
Deaths 2.4

Positivity: 16.7%
Cases: 113.9
Hosp. rate: 5.5%
Deaths: 0.3

Positivity: 20.3%
Cases: 155.1
Hosp. rate: 4.6%
Deaths: 0.8

Positivity: 23.0%
Cases: 202.3
Hosp. rate: 5.2%
Deaths: 1.9

Positivity: 26.4%
Cases: 205.2
Hosp. rate: 5.8%
Deaths: 0.2

Positivity: 20.2%
Cases: 222.3
Hosp. rate: 5.8%
Deaths: 1.1

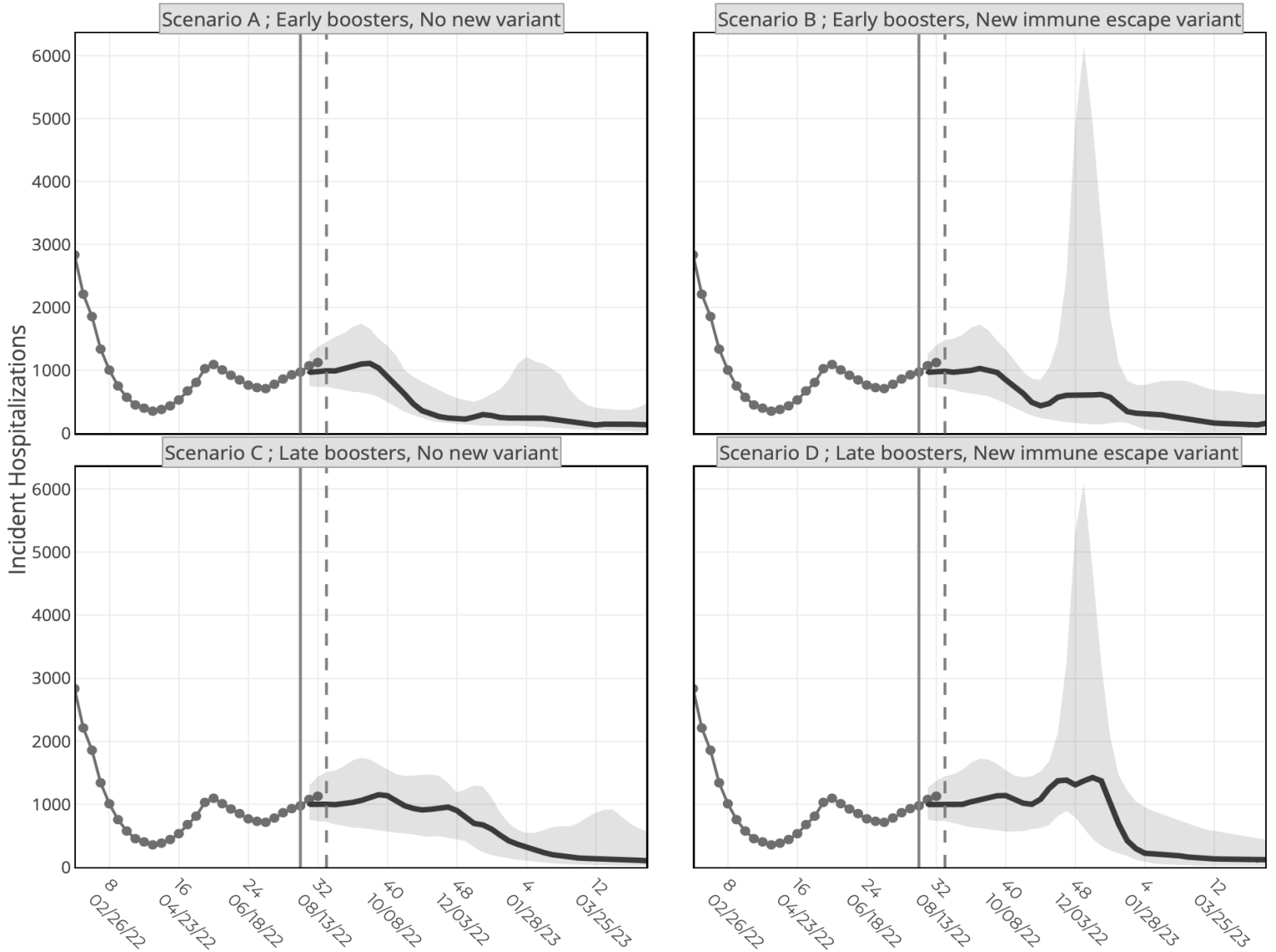
Positivity: 22.9%
Cases: 172.6
Hosp. rate: 7.1%
Deaths: 1.3

Positivity: 19.1%
Cases: 253.5
Hosp. rate: 7.1%
Deaths: 0.5

Source: https://mistartmap.info/

Scenario Hub projections suggest plateau/smaller fall surge + potential winter surge

- Explored scenarios with early/late boosters and potential new variant
- Fall: smaller surge or plateau
- Winter
  - If no new immune escape variant, suggests plateau through winter (left two plots)
  - If new variant, potential for larger winter surge (right two plots)
- Similar patterns for cases and deaths (see link below)

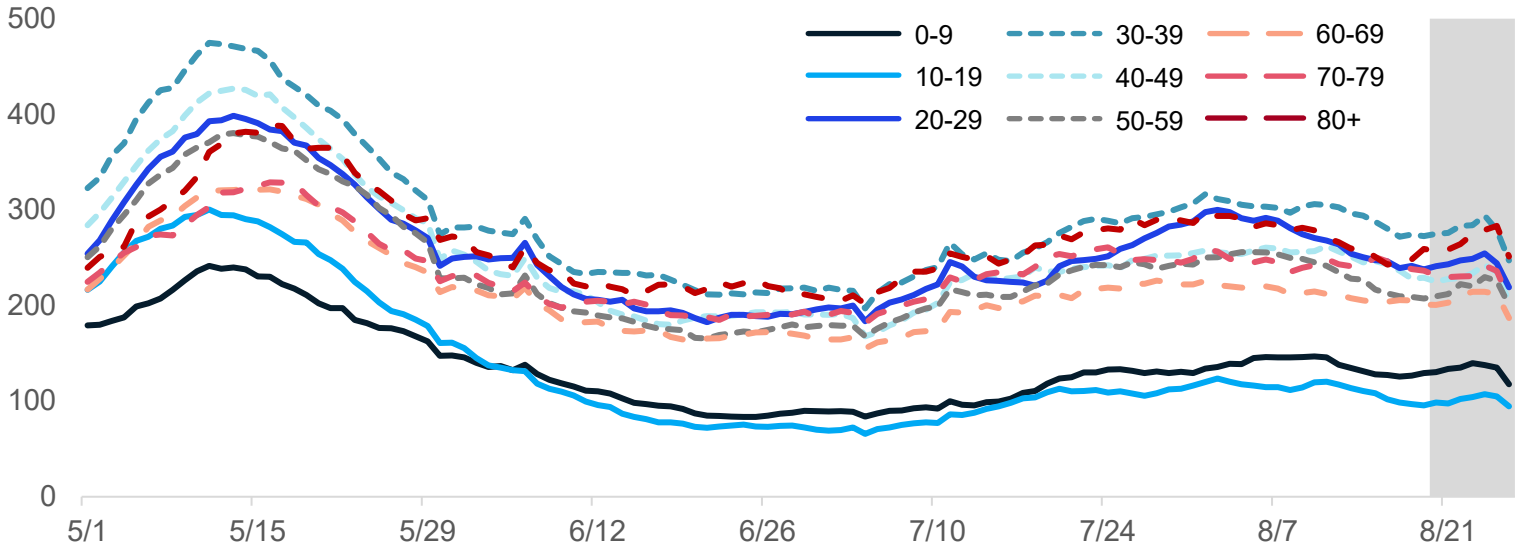


Plotted with 50% uncertainty interval

Source: [Round 15 Scenario Modeling Hub Projections]

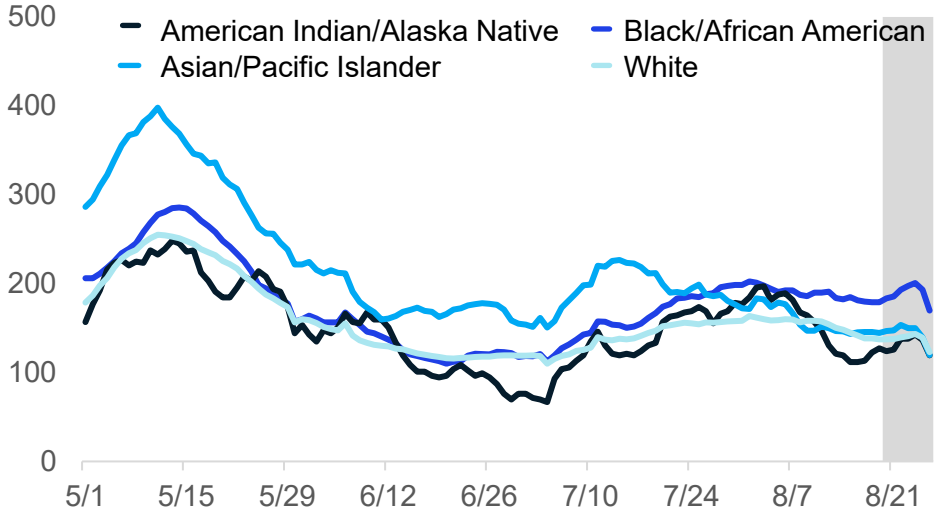
Case rates by age, race, and ethnicity are plateaued

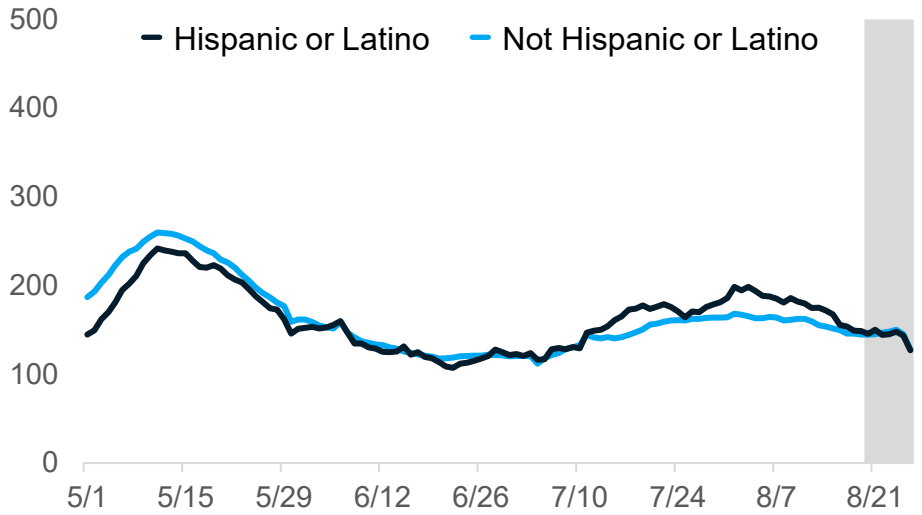
Daily new confirmed and probable cases per million by age group (7-day rolling average)



- Case rates by onset date for all age groups are between 95.6 and 272.7 cases per million (through 8/19)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 20-29-year-olds and the 80+-year-old age groups

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

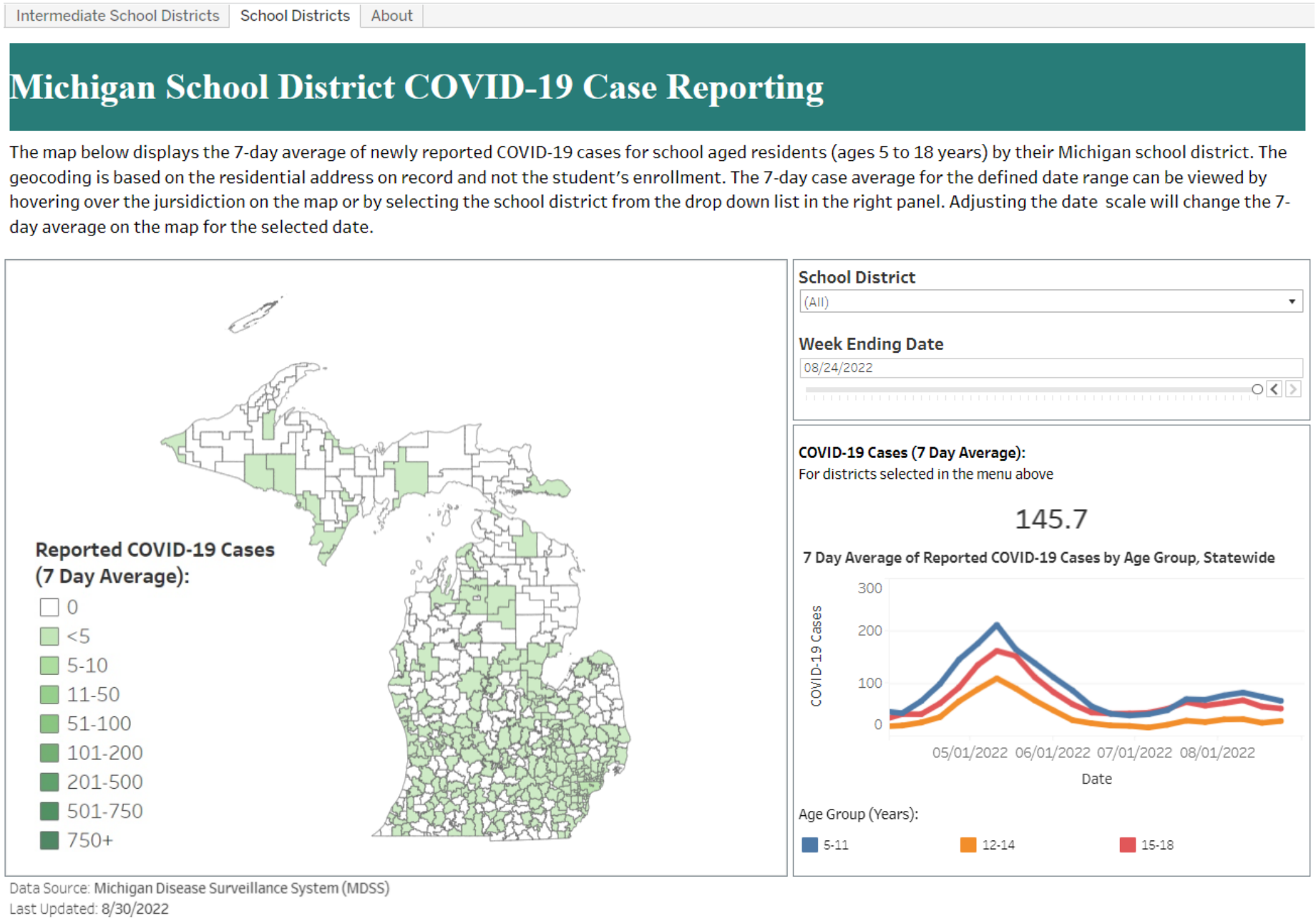




- Case rates are highest for Black populations (178.9 cases/million)
- Between 22-27% of cases in last 30 days have missing race/ethnicity data

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

COVID case counts among K-12 age individuals



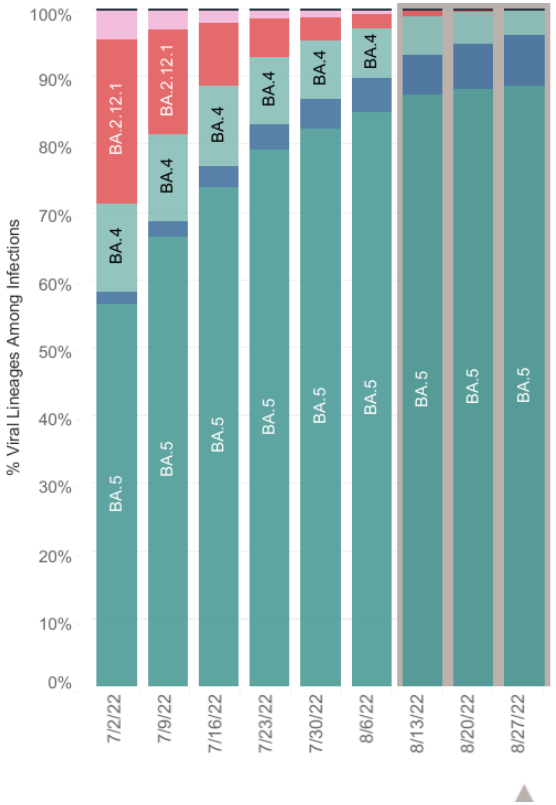
K-12 age population summary:

- Overall case counts among school-aged populations are plateaued.
  (7-day average 145.7)
- 51% of school district areas have between 1-5 cases.
- 7 ISD areas have greater than 5 cases.

Interactive dashboard and data download can be found at: https://www.michigan.gov/coronavirus/stats/k-to-12-aged-isd-reporting

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

SARS-CoV-2 Variants Circulating in the United States, Jun 26 – Aug 27 (NOWCAST)

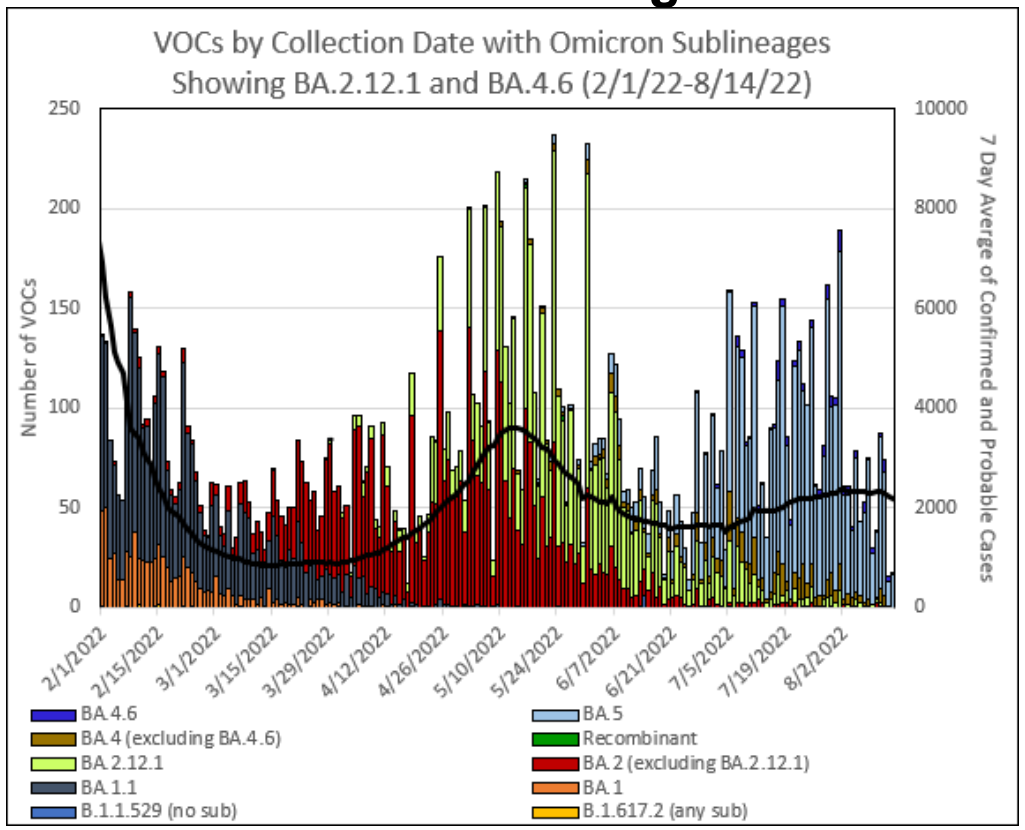


USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.5	VOC	88.7%	87.3-89.8%
	BA.4.6	VOC	7.5%	6.4-8.8%
	BA.4	VOC	3.6%	3.3-3.8%
	BA.2.12.1	VOC	0.2%	0.2-0.3%
	BA.2	VOC	0.0%	0.0-0.0%
	B.1.1.529	VOC	0.0%	0.0-0.0%
	BA.1.1	VOC	0.0%	0.0-0.0%
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%
Other	Other*		0.0%	0.0-0.0%

* 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, BA.2 sublineages are aggregated with BA.2. Except BA.4.6, sublineages of BA.4 are aggregated to BA.4. Sublineages of BA.5 are aggregated to BA.5.

VOC Distribution in Michigan



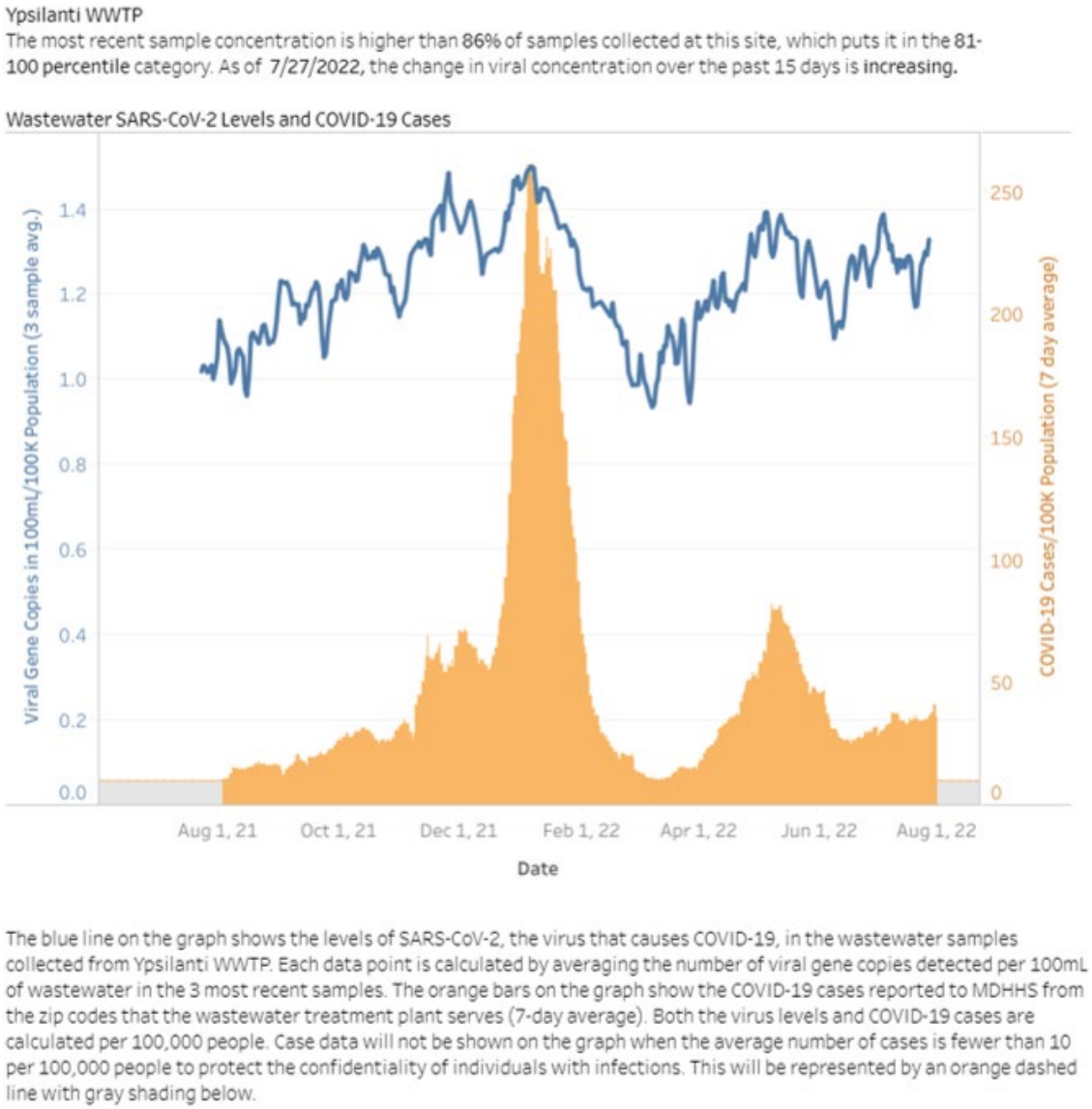
- Since July 15, there have 2,649 VOC specimens sequenced
- 100% of specimens sequenced are Omicron, 84% of those are BA.5 lineage
  - In the most recent week (Aug 7 – Aug 13), a majority of specimens sequenced are BA.5 (86.5%) with 461 specimens collected and reported to date

Data last updated Aug 30, 2022
Source: CDC COVID Data Tracker: Genomic Surveillance and Michigan's MDSS; sequence data may take up to four weeks to process and get reported back to health departments

Interpreting Wastewater Should Be In Context with Other Indicators

- When levels of virus in wastewater are low, a modest increase overall in virus level can appear much larger as numbers are translated into percentages
  - This does not necessarily mean we will see major increases in transmission in the community

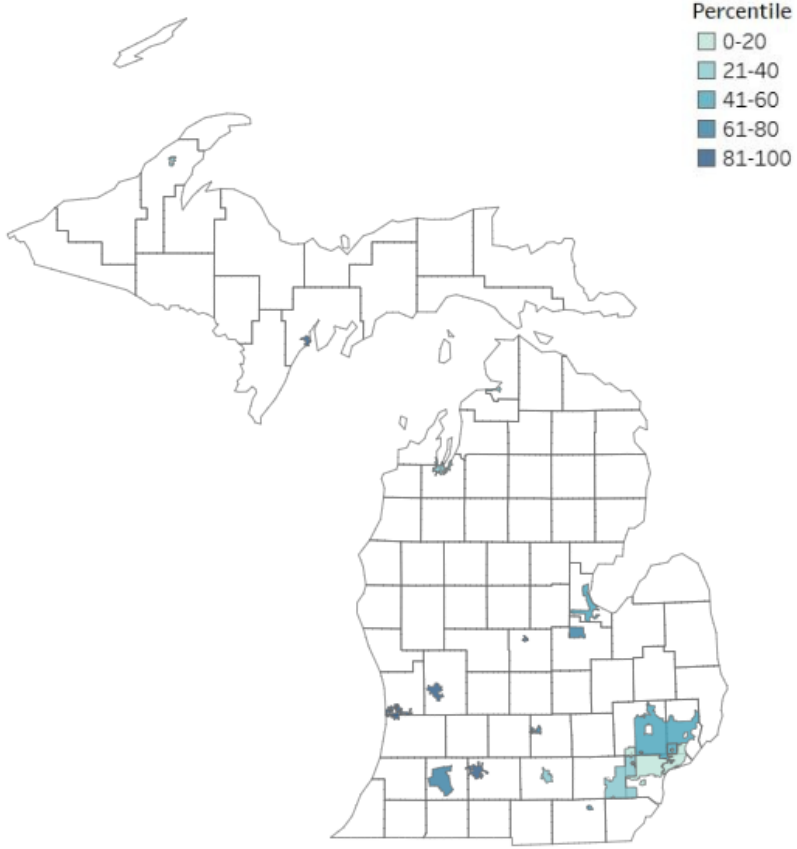
- When increases are seen within one wastewater site, public health officials compare with neighboring communities and other data sources to understand potential of surges
  - For example, the Ypsilanti WWTP saw increases in SARS-CoV-2 levels which correlated with increasing presence of Omicron BA.2 lineage and then followed by an increase in cases



Source: MDHHS – Sentinel Wastewater Epidemiology Evaluation Project - https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-573480--,00.html

Michigan COVID-19 SWEEP Sentinel Wastewater Dashboard

The map below shows 20 sewershed sites in Michigan where wastewater is being monitored for the presence of SARS-CoV-2, the virus that causes COVID-19. These sentinel sites serve as a subset of wastewater surveillance in Michigan distributed across the Michigan Economic Recovery Council (MERC) Regions. Click on each site on the map to see wastewater and clinical case data over time. To view wastewater data from previous weeks, please use the "Map - All Data" and "Trends - All Data" tabs.



Site	Sewershed Population	Consecutive Weeks of Virus Detection	Trend As Of	15-Day Trend
Alma WWTP	8976	19	8/22/2022	
Battle Creek WWTP	51093	18	8/17/2022	
Bay City WWTP	34000	10	8/23/2022	
Delhi Township WWTP	22500	21	8/18/2022	
Escanaba WWTP	12600	17	8/22/2022	
GLWA Detroit River Interce..	492000	6	8/17/2022	
GLWA North Interceptor-Ea..	1482000	73	8/17/2022	
GLWA Oakwood-Northwest..	840600	96	8/17/2022	
Grand Rapids WWTP	265000	55	8/22/2022	
Holland WWTP North	45606	18	8/17/2022	
Holland WWTP South	36912	20	8/17/2022	
Jackson WWTP	90000	58	8/22/2022	
Kalamazoo WWTP	150000	21	8/18/2022	
Petoskey WWTP	7900	19	8/23/2022	
Portage Lake WWTP	14000	50	8/22/2022	
Saginaw Township WWTP	40000	20	8/22/2022	
Tecumseh WWTP	8680	33	8/22/2022	
Traverse City WWTP	45000	24	8/25/2022	
Warren WWTP	135000	18	8/18/2022	
Ypsilanti WWTP	330000	58	8/22/2022	

Abbreviations: GLWA - Great Lakes Water Authority; WWTP - Waste Water Treatment Plant

Definitions and descriptions of data calculations can be found in the "About" tab.

Current results reflect data that were uploaded to MDHHS as of 8/29/2022. Labs are required to report test results to local partners within 24 hours. Data is subject to change as additional wastewater data and case data are received.

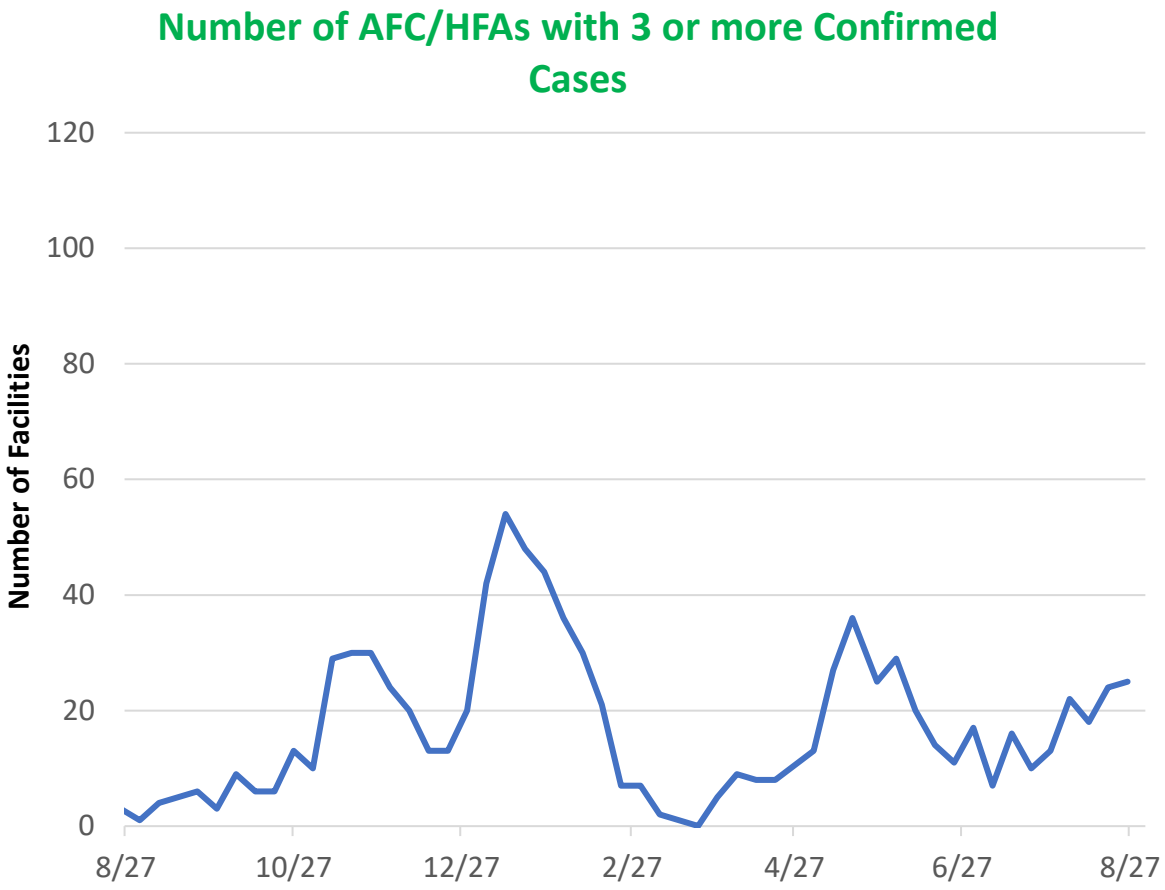
15-Day Trends
- 1000% or more
- 100% to 999%
- 10% to 99%
- 0% to 9%
- -1% to -9%
- -10% to -99%
- -100% to -999%
- -1000% or more

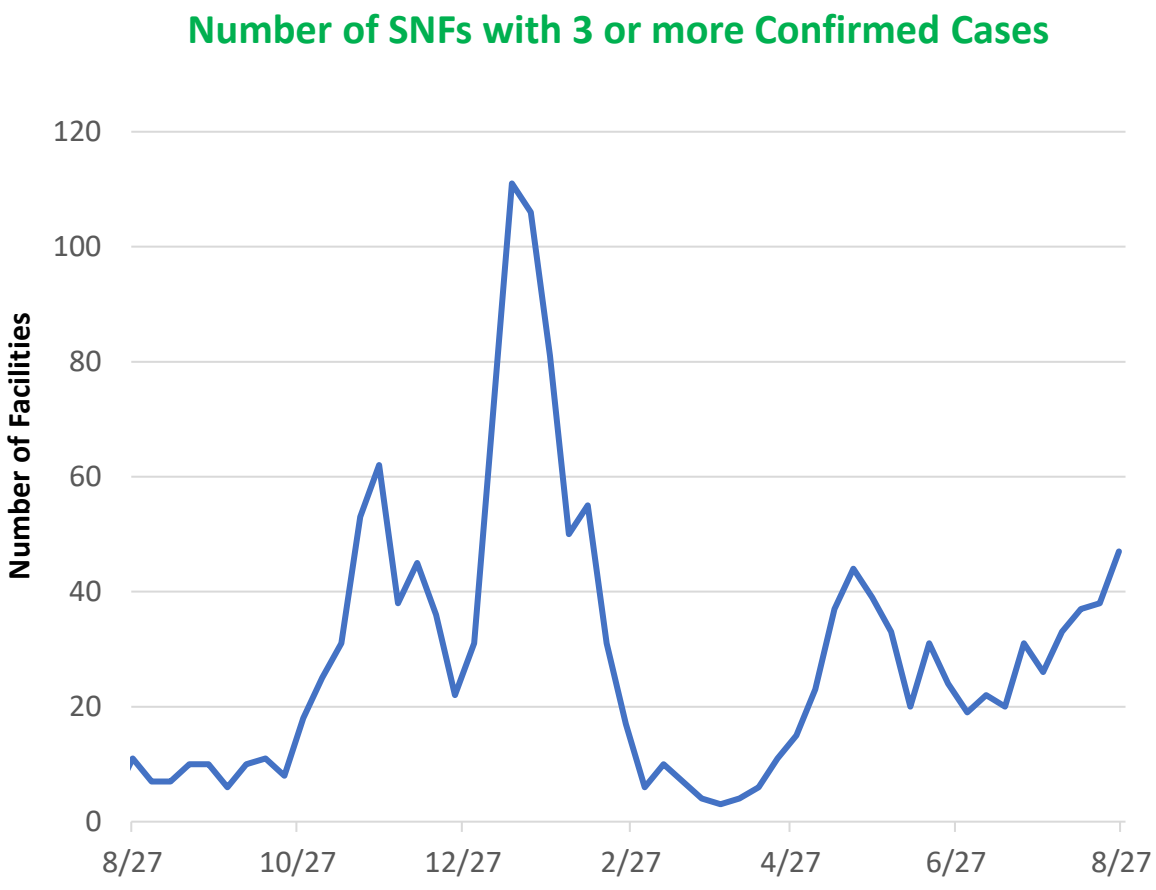
SWEEP Summary

- 40% (8/20) of sentinel sites are showing increasing trends over last 15-days
- 25% (5/20) of sites have plateaued over the last 15 days
- 35% (7/20) of sentinel sites are showing declines in the previous 15-days

Source: MDHHS – Sentinel Wastewater Epidemiology Evaluation Project - https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-573480--,00.html

Reported Number of Clusters in Long Term Care Facilities

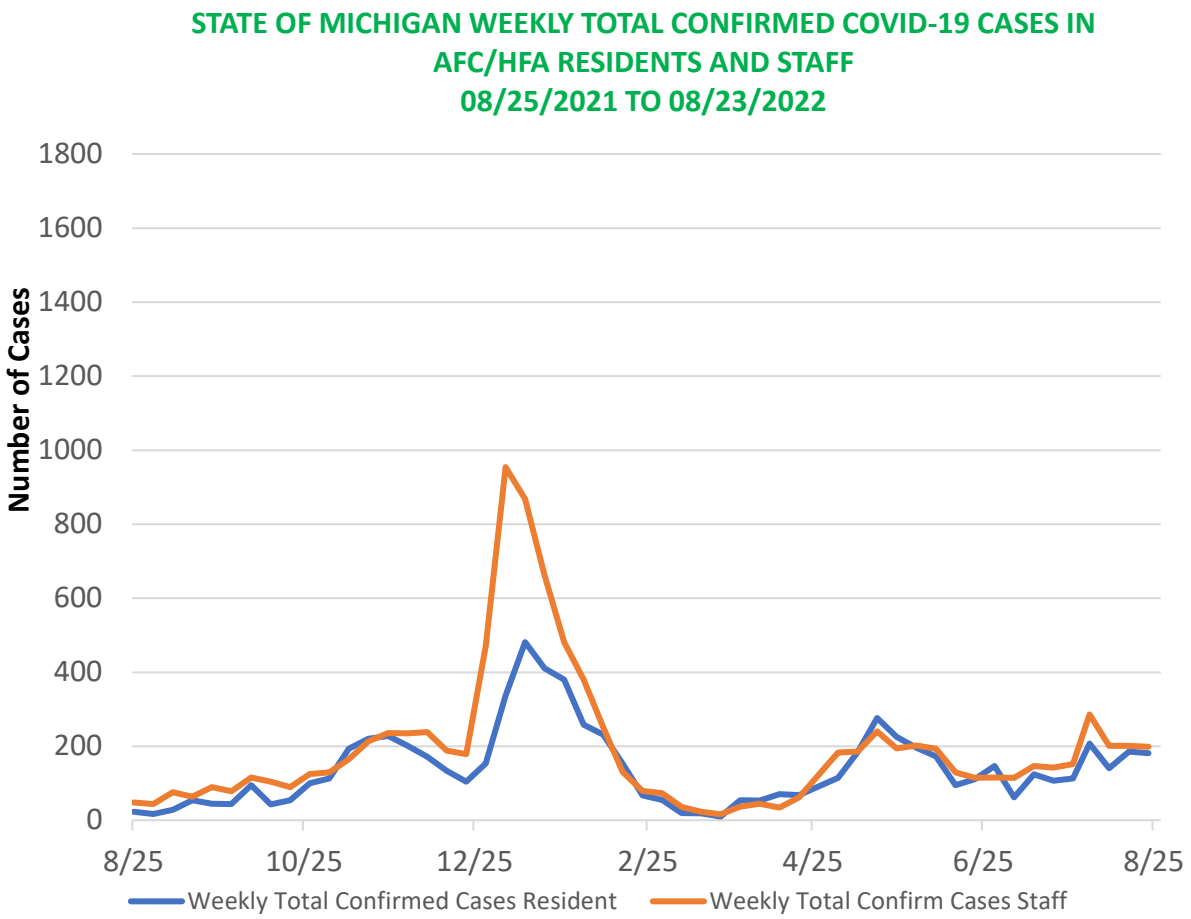


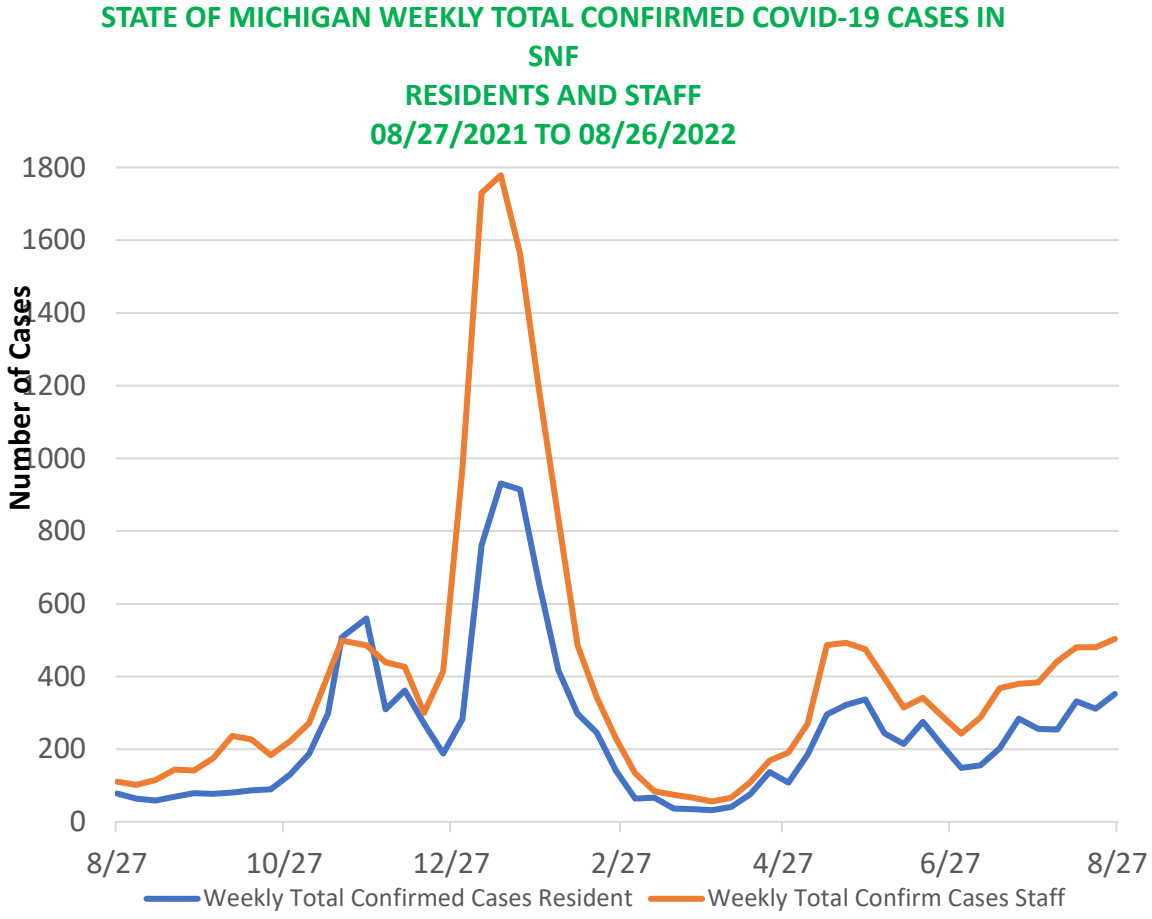


- The number of Long-Term Care Facilities reporting 3 or more cases within a single reporting period is steadily increasing over the past 2 months
- This week, the number has increased in both **AFC/HFAs (**24 to 25) and in **SNFs** (38 to 47) since the previous week

The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

Cases Among Staff and Residents in Long Term Care Facilities



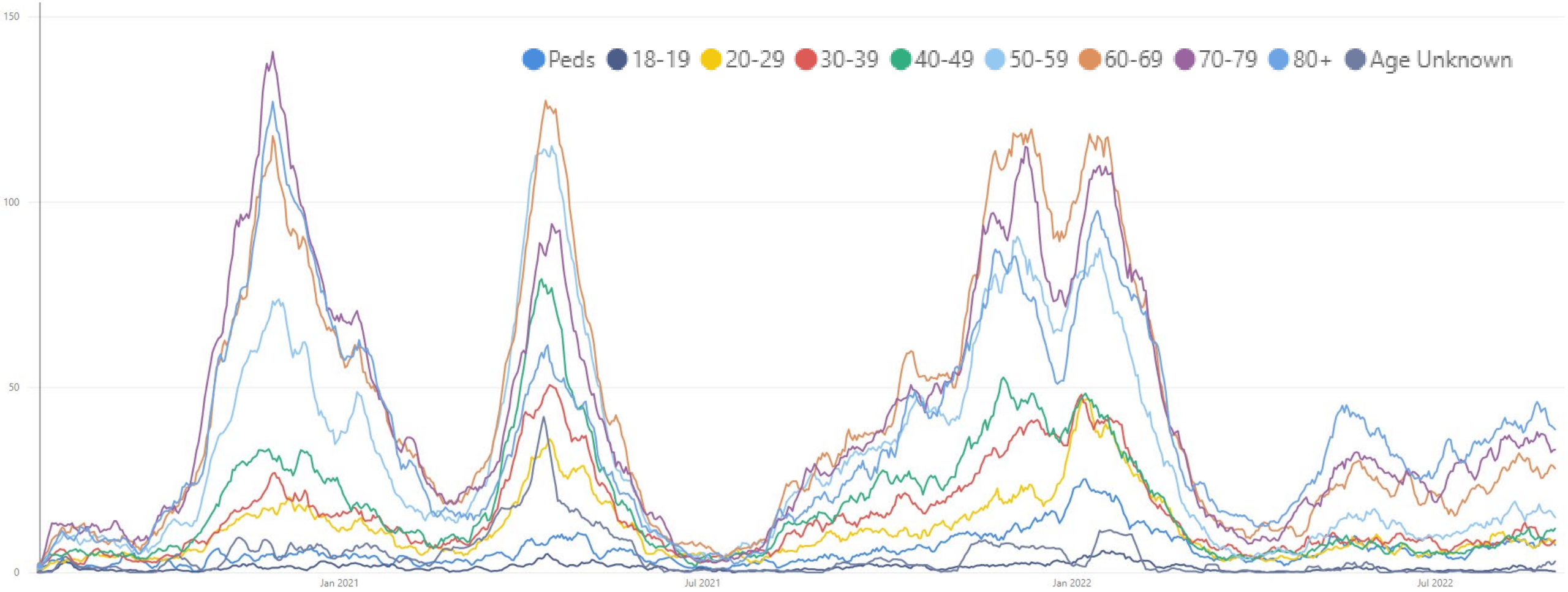


- Case counts in residents plateaued in AFC/HFA (186 to 181), but increased in SNFs (311 to 352) since last week
- Case counts in staff are plateaued within AFC/HFA (201 to 199), but increased in SNFs (480 to 503) since last week
- **29%** of SNFs are reporting **nursing shortages** and **30%** of SNFs are reporting **aide shortages**, which is stable from last week

Abbreviations: AFC: Adult Foster Care; HFAs: Homes for the Aged; and SNF: Skilled Nursing Facilities

The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

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



- Trends for daily average hospital admissions decreased (-5%) compared to last week (vs. +2% prior week)
- Older age groups (50-59, 70-79, and 80+) saw larger decreases this week compared to other ages
- Those 60-69, 70-79, and 80+ are seeing between 25-40 daily hospital admissions

Source: CHECC & EM Resource

Hospital Admissions and Admission Rates by Age Group

Daily new hospital admission per million by age group (7-day rolling average)

Age Group	Average† daily number of hospital admissions	Average† Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	7.1	5.1	+19% (+1)
12-17	1.3	1.7	-0% (-0)
18-19	0.3	1.1	-50% (-<1)
20-29	8.4	6.1	+11% (+1)
30-39	8.3	6.8	-13% (-1)
40-49	11.1	9.4	+15% (+1)
50-59	15.6	11.5	-16% (-3)
60-69	**28.7**	**22.5**	+6% (+2)
70-79	**33.0**	**43.0**	-10% (-4)
80+	**39.1**	**94.5**	-13% (-6)
Total¶	**155.3**	**13.6**	**-5% (-8)**

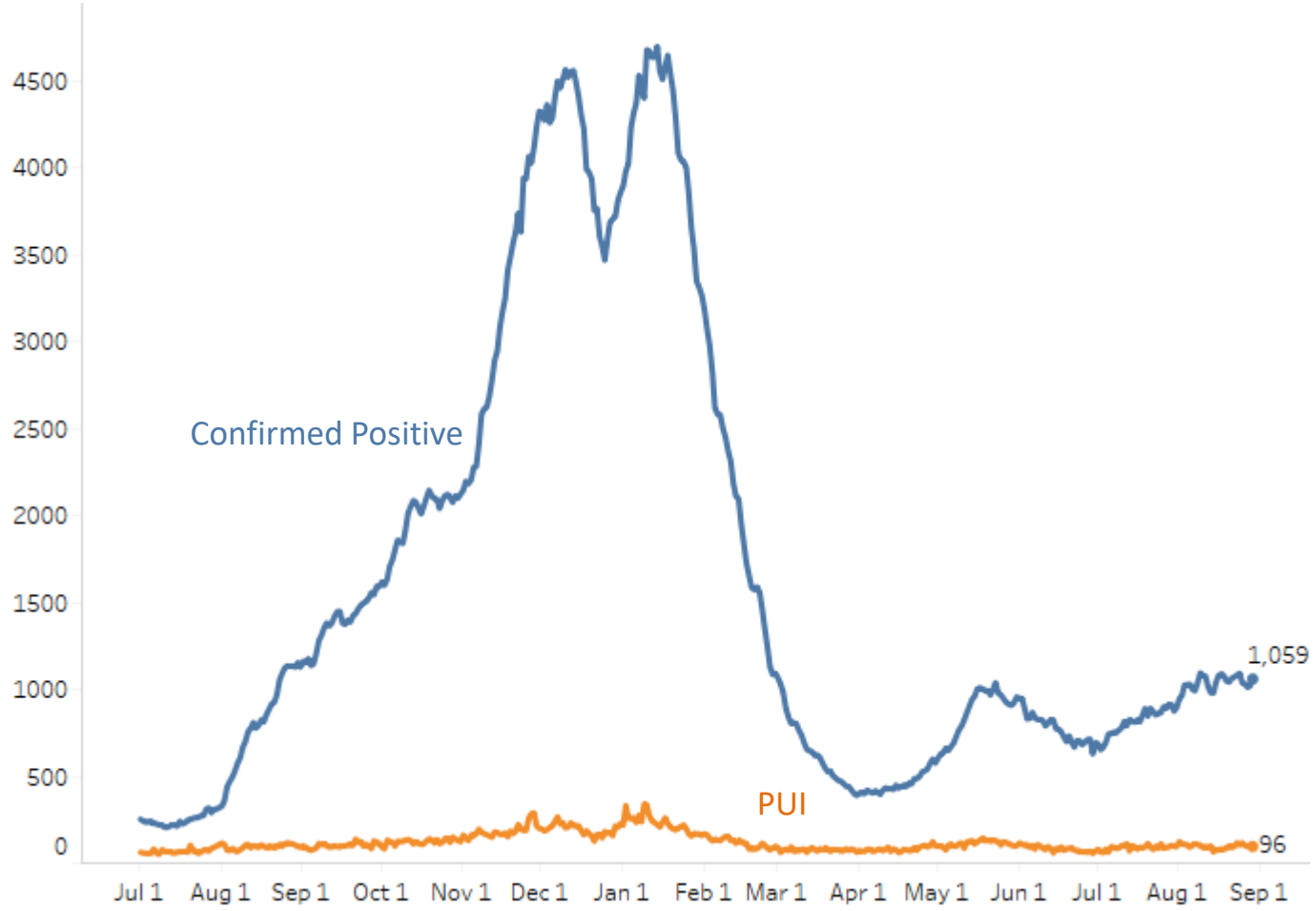
* Rate per 1 million residents; † Rolling 7-day average; ¶ Total may not reflect state due to missing age data
Note: Hospital Admission data reflects date data was submitted
Source: CHECC and EM Resource

- Through August 29, there were an average of 155.3 hospital admissions per day due to COVID-19; a decrease from last week (-5%, -8)
- Older age groups (50-59, 70-79, and 80+) saw larger decreases this week compared to other ages
- This week, those between 80+ years (-6/day) saw the greatest daily average decrease
- Average daily hospital admission count (39.1 hospital admissions per day) and average daily hospital admission rate (94.5 hospital admissions/million) remains highest among those aged 80+
- Those 60-69, 70-79, and 80+ are seeing between 25-40 daily hospital admissions

Note: for some age groups, small changes in number of hospitalization admissions can cause large change in One Week Percent Change

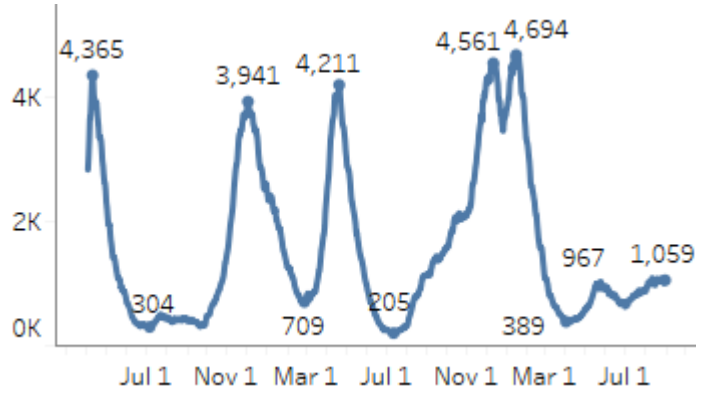
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 7/1/2021 – 8/29/2022
Confirmed Positive & Persons Under Investigation (PUI)



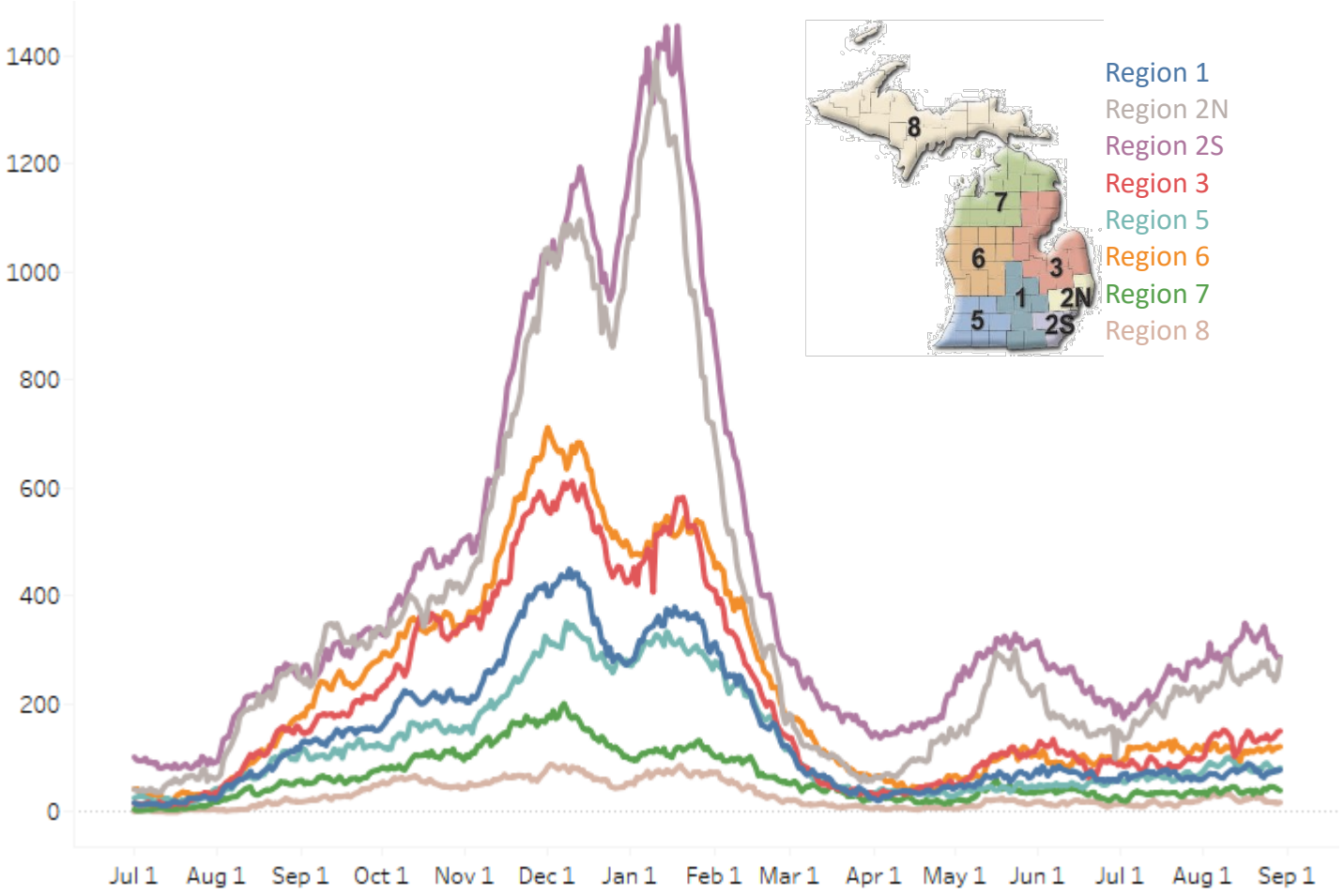
COVID+ census in hospitals decreased slightly from last week, by 1%. Overall census is currently 1,059 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 8/29/2022
Confirmed Positive by Region



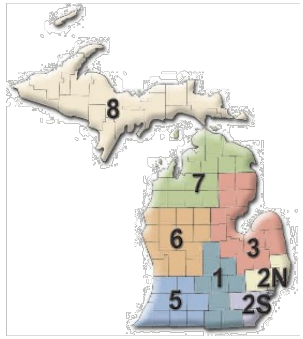
This week hospitalizations have increased in Regions 1, 2N, 3, 5, 6, and 7. Hospitalizations have decreased or remained flat in Regions 2S and 8.

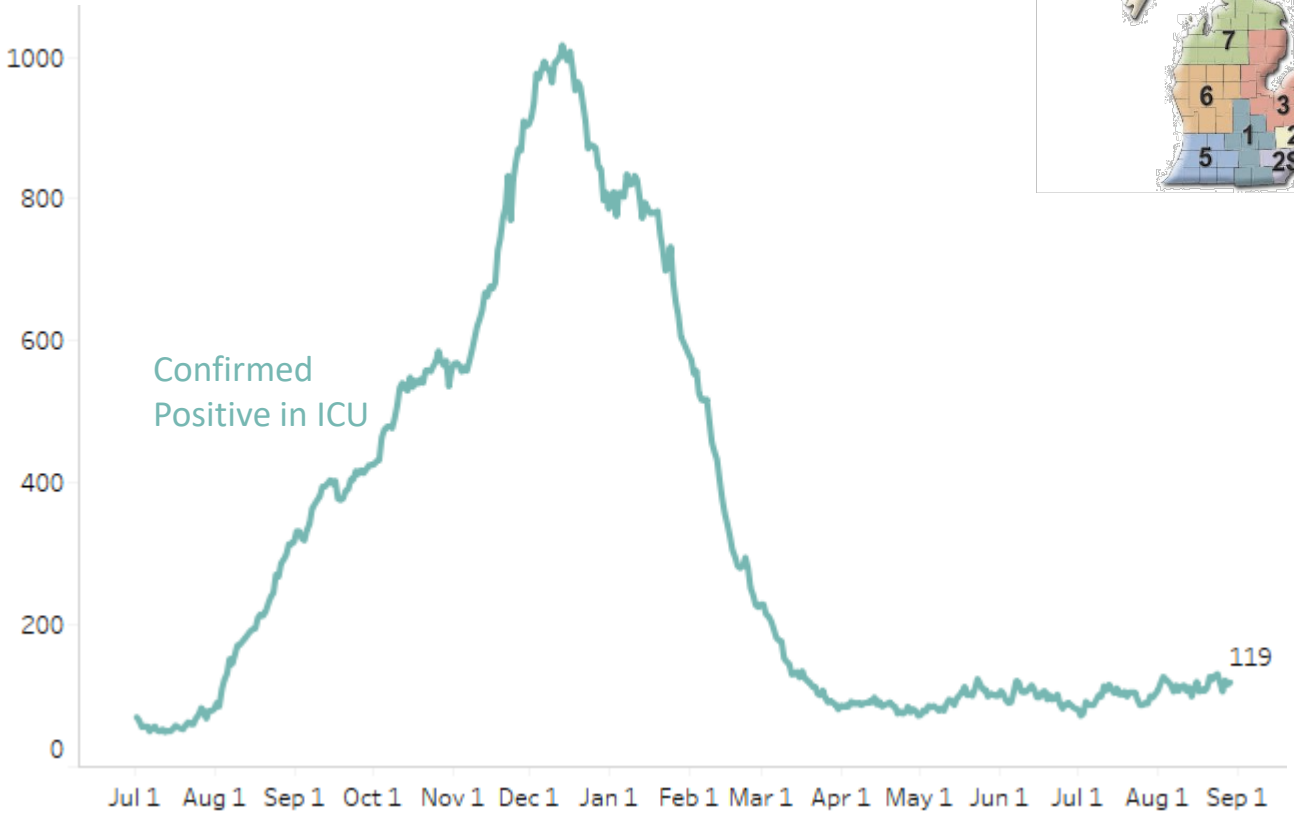
Regions 2N, 2S, and 3 have greater than or equal to 100 hospitalizations/M.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	78 (16%)	72/M
Region 2N	283 (2%)	128/M
Region 2S	287 (-13%)	129/M
Region 3	150 (9%)	132/M
Region 5	82 (5%)	86/M
Region 6	121 (8%)	82/M
Region 7	40 (11%)	80/M
Region 8	18 (-42%)	58/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 7/1/2021 – 8/29/2022
Confirmed Positive in ICUs



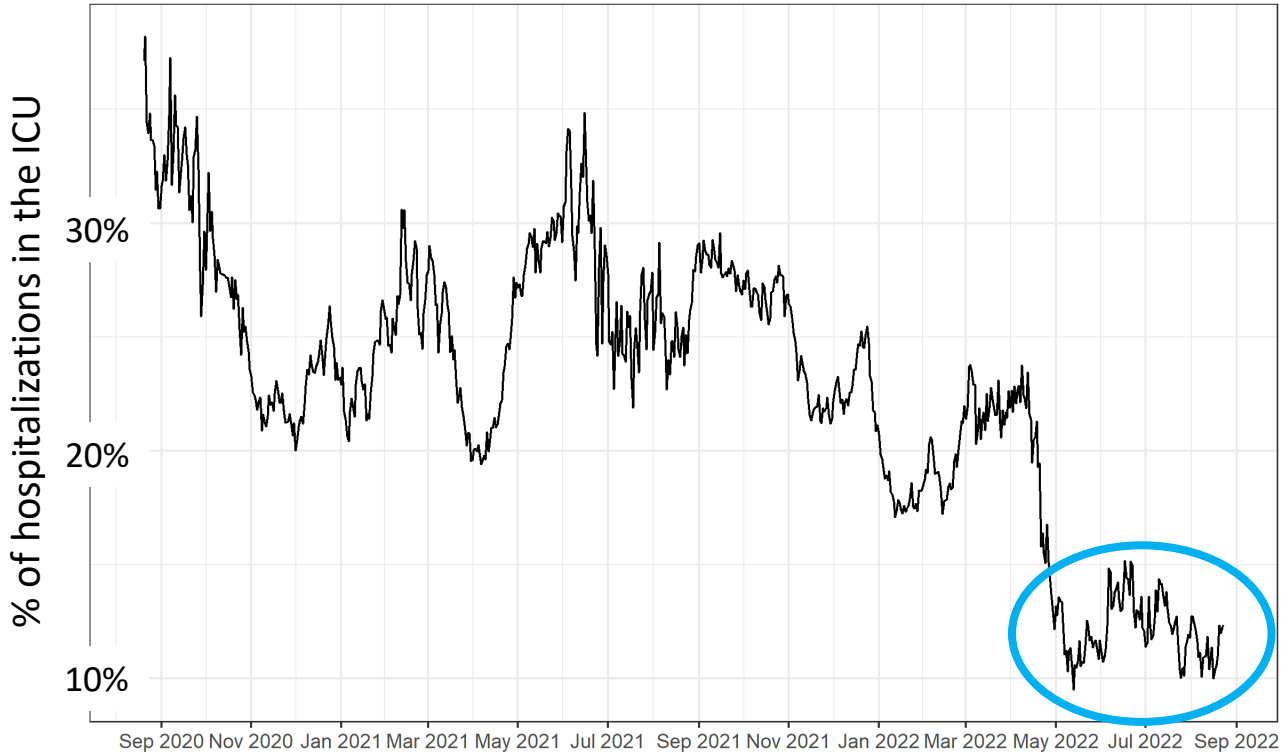


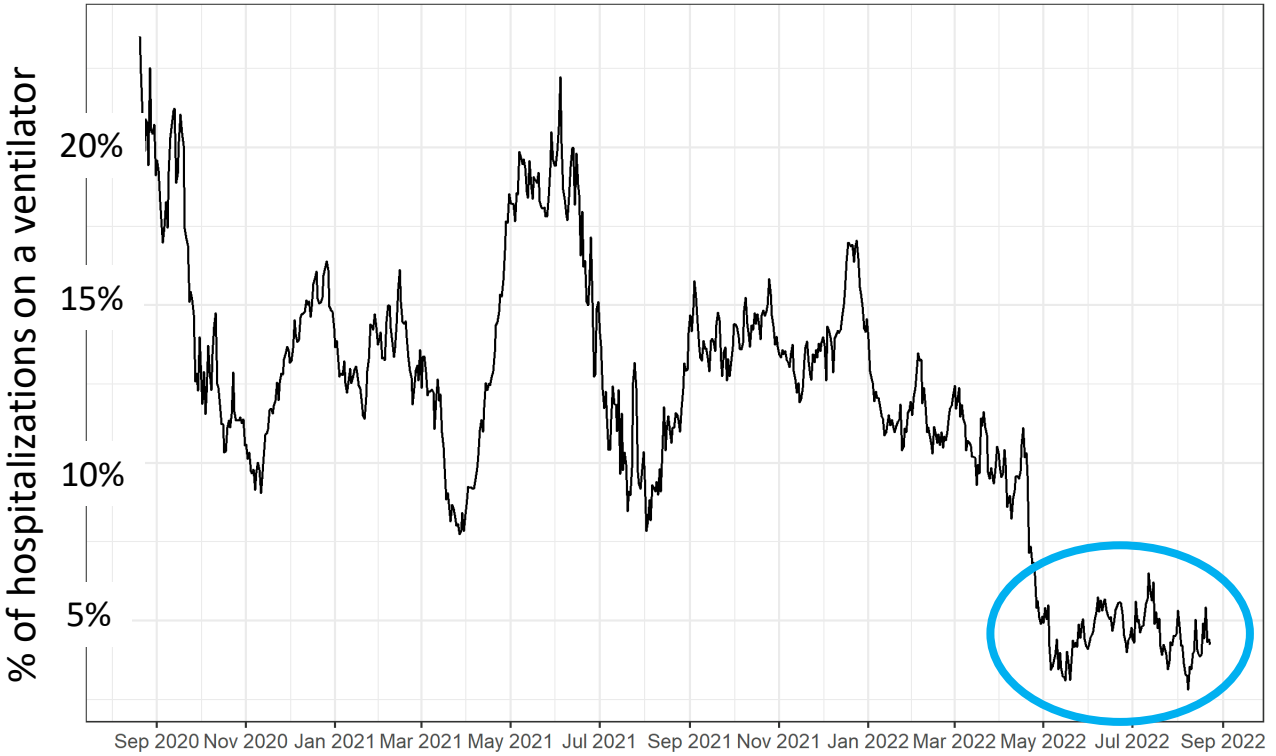
Overall, the volume of COVID+ patients in ICUs has decreased by 3% from last week. There are 119 COVID+ patients in ICU beds across the state.

ICU occupancy is less than 85% in all regions. All regions have fewer than 10% of ICU beds occupied by COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	11 (0%)	84%	6%
Region 2N	42 (40%)	62%	7%
Region 2S	30 (-29%)	74%	4%
Region 3	15 (15%)	82%	5%
Region 5	3 (-63%)	73%	2%
Region 6	8 (-11%)	76%	4%
Region 7	8 (14%)	82%	6%
Region 8	2 (-33%)	56%	3%

Recent months have seen the lowest % of hospitalizations in the ICU or on a ventilator over the entire pandemic

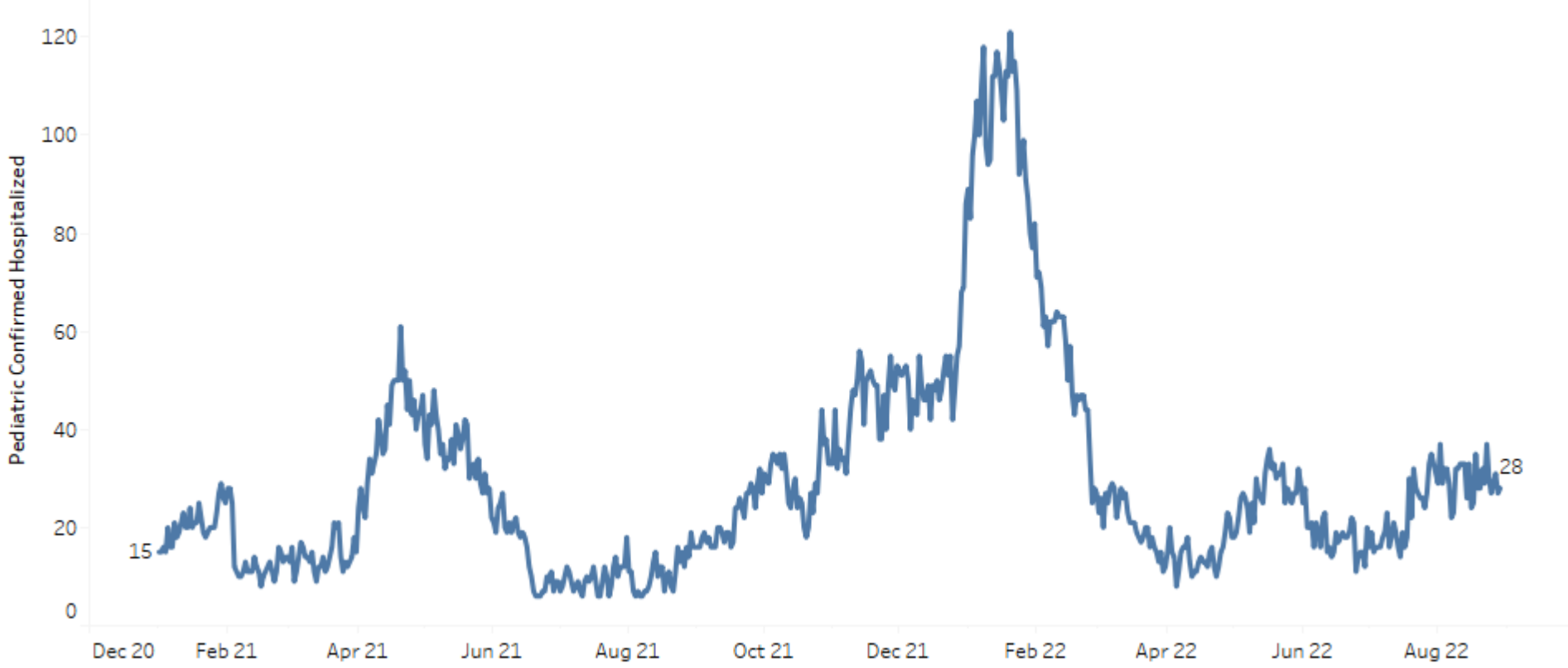




- Testing, hospitalizations, and ICU usage have all changed substantially over the pandemic
- Currently seeing lower % of hospitalizations in the ICU or on a ventilator compared to earlier in the pandemic, likely due in part to vaccination and increased availability of treatment

Statewide Hospitalization Trends: Pediatric COVID+ Census

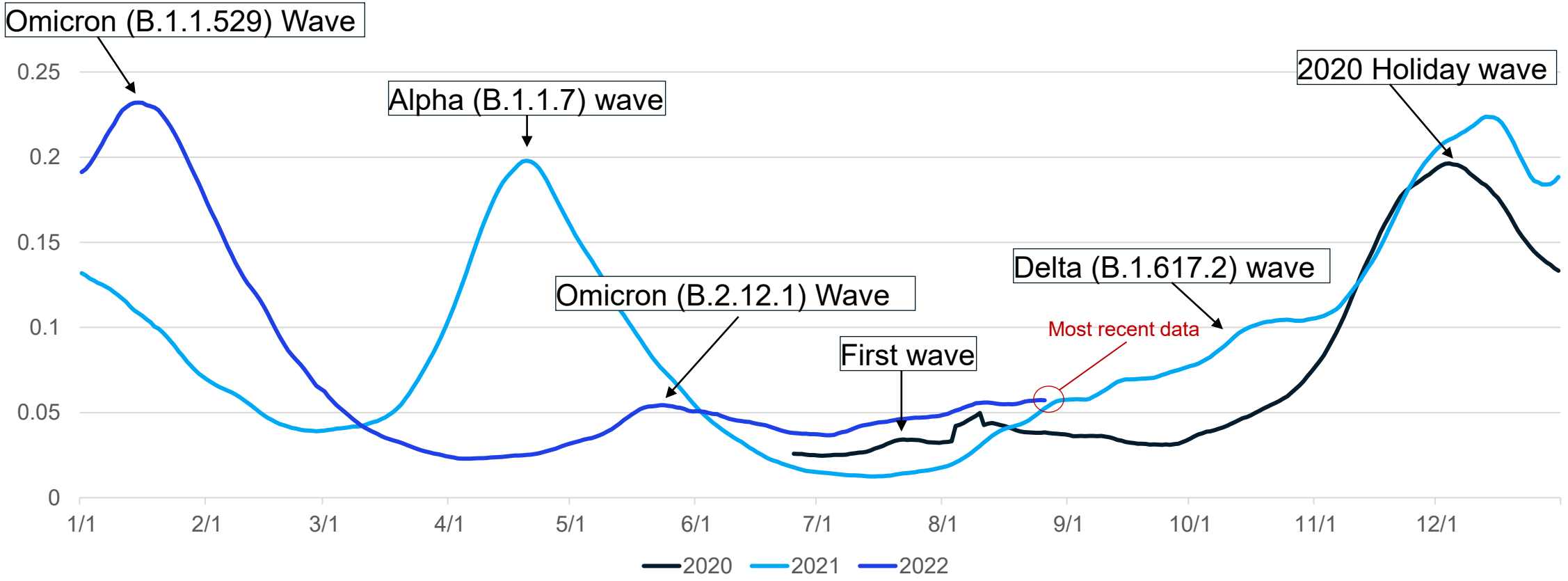
Hospitalization Trends 1/1/2021 – 8/29/2022
Pediatric Hospitalizations, Confirmed + PUI



Time Trends – Annual Comparison: Percent Inpatient COVID+

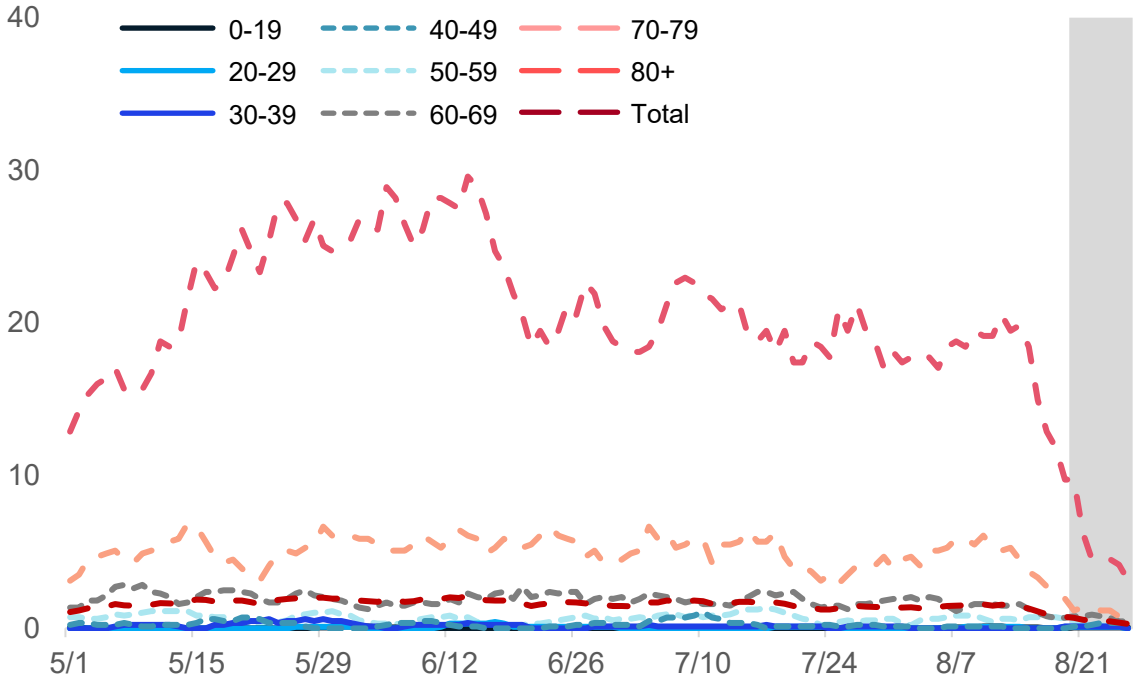
- The percent of inpatients who are COVID+ remains lower than Alpha, Omicron, and holiday wave peaks
- Current hospital levels are higher than last summer's levels as we head into the for now

7-day rolling average of percent of inpatients who are COVID positive



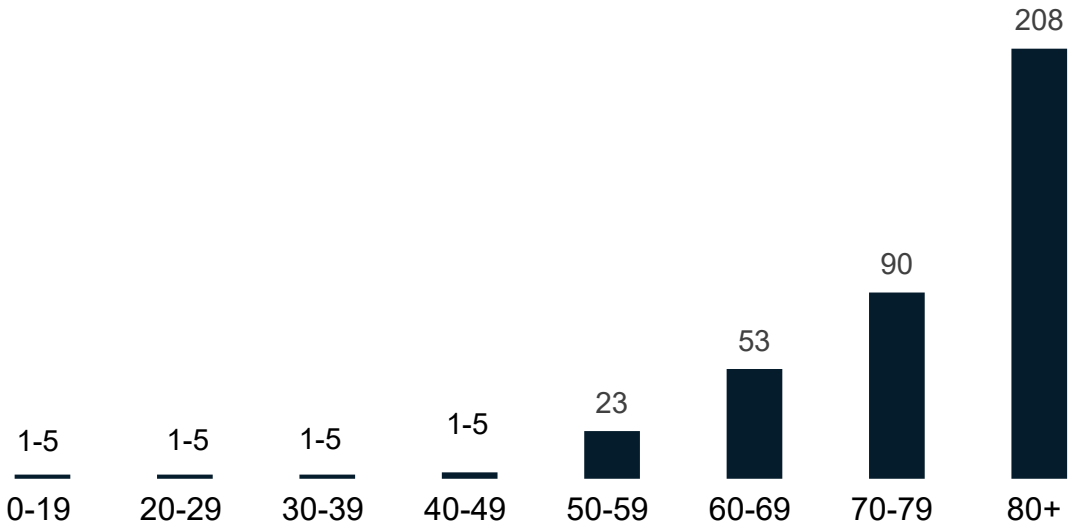
Average new deaths has plateaued for those over the age of 80

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 8/19/2022)

- 8.4% of deaths below age sixty



- Through 8/19, the 7-day avg. death rate has plateaued (9.8 deaths per million people) for those over the age of 80
- In the past 30 days, there are fewer than 10 confirmed and probable COVID-19 deaths under the age of 50
- 30-day proportion of deaths among those under 60 years of age is 8.4%.

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

Harm Reduction: Key Messages

Empowering community members to make best choices for their individual circumstances and to be prepared by making a COVID plan

- Michiganders can take advantage of local, state, and national COVID-19 resources

- Get tested, and if positive, seek care with therapeutics (e.g., antibodies or antiviral medications)
  - Cumulative therapeutic availability and administration is plateaued since early August
  - Talk to your doctor or pharmacist about whether you should get antibody or antiviral treatment, and where you can find treatment
  - Therapeutics are authorized for people who meet select criteria
  - Additional public health, regulatory, and policy efforts might help decrease barriers to oral antiviral access, particularly in communities with high social vulnerability

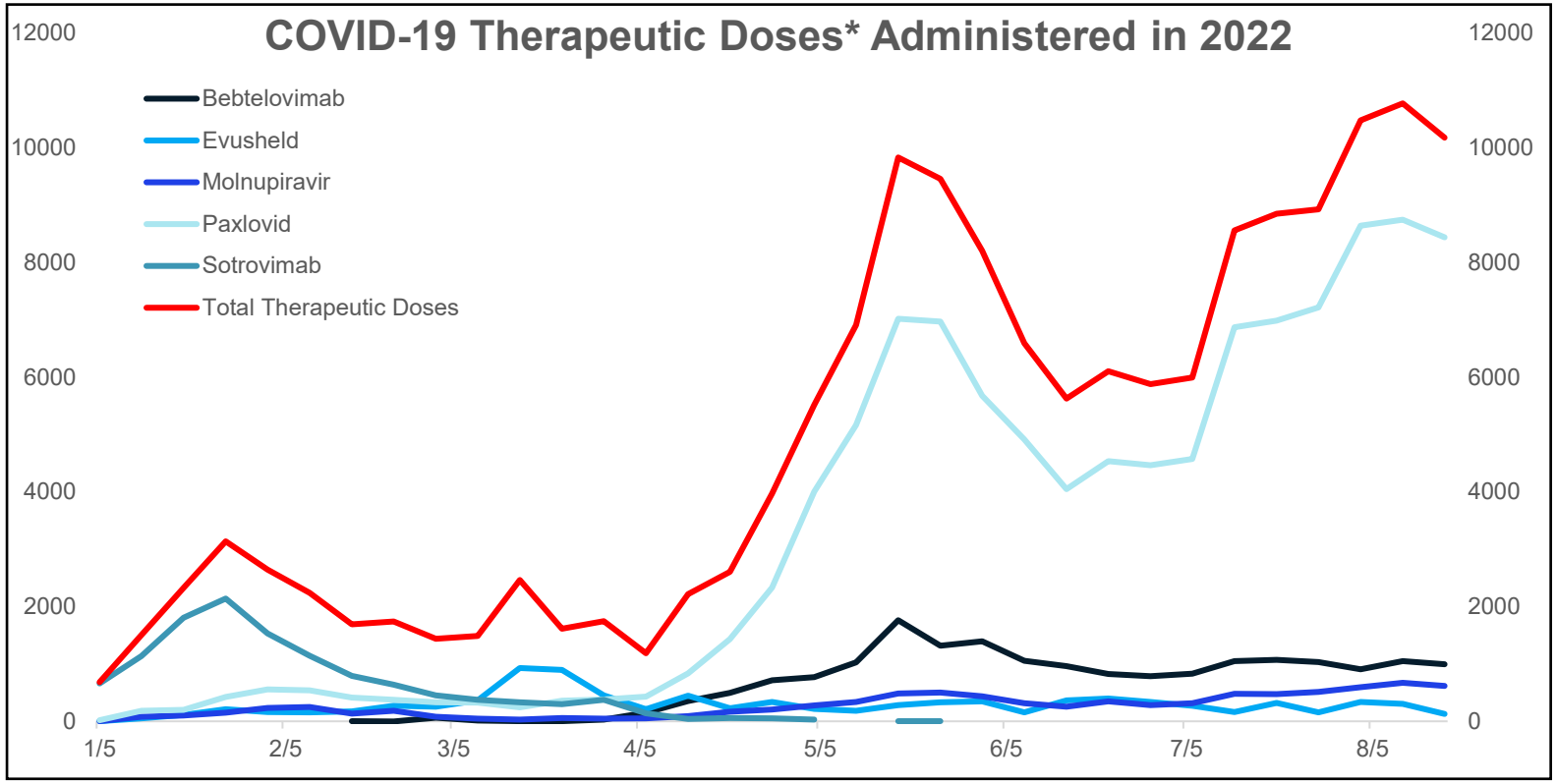
- Vaccinations remain the best way to protect from COVID-19, especially from severe disease
  - COVID-19 vaccines are now available for ages 6 months and up
    - Everyone 6 months and older should also get an age-appropriate COVID-19 booster, when eligible
  - Data tracker now includes Novavax administration
  - Over 6.7 million Michiganders have received at least one dose (68.0%)
  - 56.2% of fully vaccinated Michiganders have received at least one booster
  - 34.1% of people in Michigan (741K+) with a first booster dose have received a second booster dose

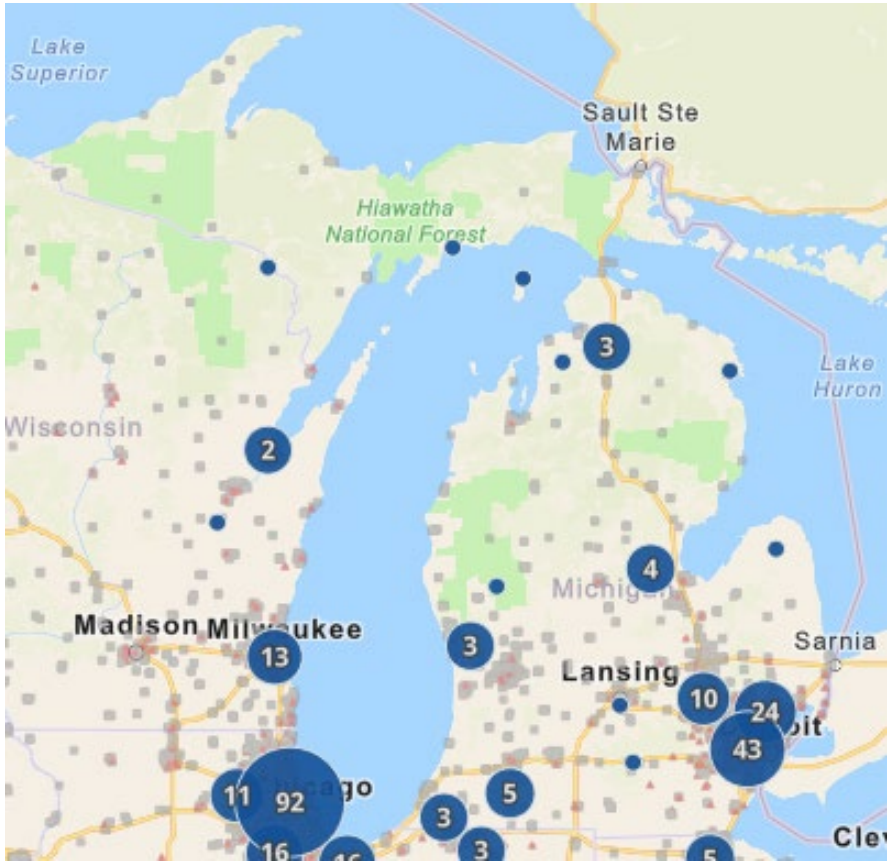
Federal & Michigan websites assist COVID positive residents find treatment

COVID-19 resources available on federal website: COVID.gov

Test-to-Treat program simplifies access to COVID treatment: Find a Test-to-Treat location near you

- If you have COVID-19 symptoms, do not wait to get treated
- You must take oral COVID-19 medication within 5 days of your first COVID-19 symptoms
- Use the tool to find a location that is right for you





Source: Screen capture of Michigan Test-to-Treat sites from linked website

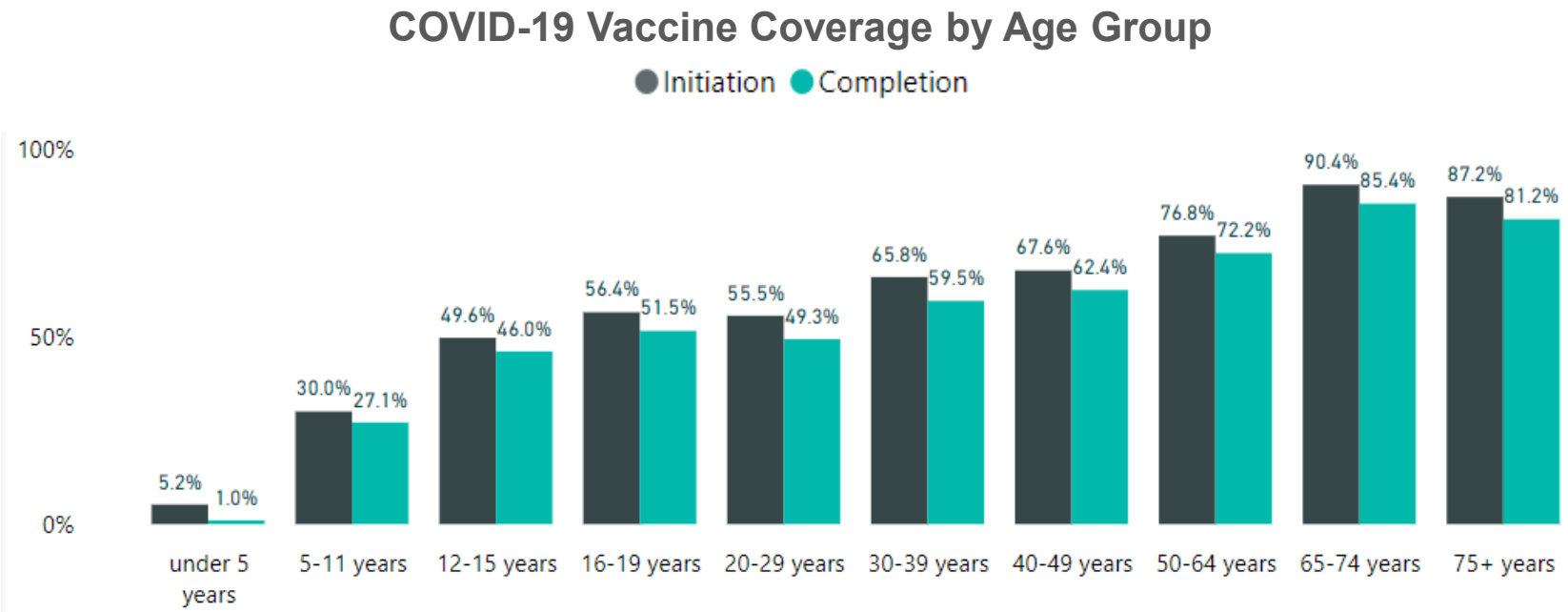
Therapeutic administration increased during Michigan's Spring Omicron surge. Supply limitations in January 2022 required strategic distribution and should not be compared directly.

Source: HHS – Tiberius

*Data is reported as a single patient course, except for Evusheld, which is reported as the number of 300mg doses administered. Data Updated August 25

Vaccinations and Boosters

- Over 16.6 million COVID-19 vaccine doses have been administered in Michigan
  - Over 6.7 million Michiganders have received at least one dose (68.0%)
  - Over 6 million Michiganders have completed a primary series (61.1%)
  - Over 3.4 million additional/booster doses have been administered in Michigan
    - 56.2% of the fully vaccinated population has received a booster
    - 77.9% of the fully vaccinated population 65 years of age or older has received a booster
  - Nearly 741,654 Michiganders 50 years of age or older who have received a first booster dose have received second booster (34.1%)



Note: Cumulative data and population percentages now include those ages 6 months and older

Sources: Michigan Coronavirus Vaccine Dashboard; CDC COVID-19 Data Tracker: Vaccine Coverage Dashboard

Person–, household–, and community level public health strategies to minimize COVID-19 impact (1 of 4)

- Summary guidance and links to scientific evidence
- Includes vaccination, PREP, treatment, ventilation, facial coverings, testing, isolation, close contacts, hand hygiene, and other NPIs

Recommended public health strategy	Person- and household-level prevention behaviors	Community-level prevention strategies*	Links to guidance and scientific evidence
COVID-19 vaccination	Stay up to date with COVID-19 vaccination	Distribute and administer vaccines to achieve high community vaccination coverage and ensure health equity Support community partnerships and leverage trusted sources of information to expand booster coverage	Vaccines for COVID-19: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html Stay up to date with COVID-19 vaccines: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html Science brief: COVID-19 vaccines and vaccination: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html
Preexposure prophylaxis	Persons who are moderately or severely immunocompromised might benefit from COVID-19 preexposure prophylactic treatment (Evusheld) to prevent severe COVID-19 illness	Provide education and communication outreach to patients and clinical care organizations that serve patients with immunocompromising conditions to support equitable access to preexposure prophylaxis	COVID-19 preventive medication: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#preventive Prevention of SARS-CoV-2 infection: https://www.covid19treatmentguidelines.nih.gov/overview/prevention-of-sars-cov-2/
Medications for treatment of COVID-19	Persons at increased risk for severe illness should have a plan for rapid access to tests and	Enable rapid access to oral COVID-19 treatment within ≤5 days of diagnosis Support clinical-community linkages to	COVID-19 treatments and medication: https://www.cdc.gov/coronavirus/2019-ncov/your-health/treatments-for-severe-illness.html

Sources: Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1

Person–, household–, and community level public health strategies to minimize COVID-19 impact (2 of 4)

- Summary guidance and links to scientific evidence
- Includes vaccination, PREP, treatment, ventilation, facial coverings, testing, isolation, close contacts, hand hygiene, and other NPIs

Recommended public health strategy	Person- and household-level prevention behaviors	Community-level prevention strategies*	Links to guidance and scientific evidence
Improved ventilation	Increase ventilation and filtration	Take steps to increase ventilation and filtration in public places	Improving ventilation in your home: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/Improving-Ventilation-Home.html Ventilation in buildings: https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html Ventilation in schools and childcare programs: https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/ventilation.html Science brief: SARS-CoV-2 transmission: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html
Masks and respirators	Persons at high risk for severe illness should wear a mask or respirator (N95/KN95) that provides more protection indoors in public at medium and high COVID-19 community levels All persons should wear well-fitting masks or respirators indoors in public at high COVID-19 Community Levels†	Recommend all persons wear well-fitting masks or respirators at high COVID-19 Community Levels and support use of masks through messaging and resources	Masks and respirators: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html Science brief: community use of masks to control and spread of SARS-CoV-2: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html

Sources: Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1

Person–, household–, and community level public health strategies to minimize COVID-19 impact (3 of 4)

- Summary guidance and links to scientific evidence
- Includes vaccination, PREP, treatment, ventilation, facial coverings, testing, isolation, close contacts, hand hygiene, and other NPIs

Recommended public health strategy	Person- and household-level prevention behaviors	Community-level prevention strategies*	Links to guidance and scientific evidence
Managing exposures to SARS-CoV-2	Persons with recent exposure should wear a mask indoors in public for 10 days and test ≥5 days after last exposure	Increase equitable access to testing, including through point-of-care and at-home tests for all persons Support case investigation and contact tracing in high-risk settings where recommended§	What to do if you are exposed: https://www.cdc.gov/coronavirus/2019-ncov/your-health/if-you-were-exposed.html Definition of close contacts: https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/appendix.html#contact Science brief: SARS-CoV-2 transmission: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html
Hand hygiene	Wash hands frequently	Ensure provision of adequate hand sanitation supplies	How to protect yourself and others: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html Science brief: SARS-CoV-2 transmission: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html
	mask around others at home and in public and avoid contact with persons at high risk for severe illness¶		

Sources: Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1

Person–, household–, and community level public health strategies to minimize COVID-19 impact (4 of 4)

- Summary guidance and links to scientific evidence
- Includes vaccination, PREP, treatment, ventilation, facial coverings, testing, isolation, close contacts, hand hygiene, and other NPIs

Recommended public health strategy	Person- and household-level prevention behaviors	Community-level prevention strategies*	Links to guidance and scientific evidence
Increasing space and distance	Persons at high risk for severe illness can consider avoiding crowded areas and minimizing direct physical contact, especially in settings where there is high risk for exposure	Provide education to populations at high risk for severe illness to advise them to consider taking steps to protect themselves in settings where there is high risk for exposure	How to protect yourself and others: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html Science brief: SARS-CoV-2 transmission: https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html

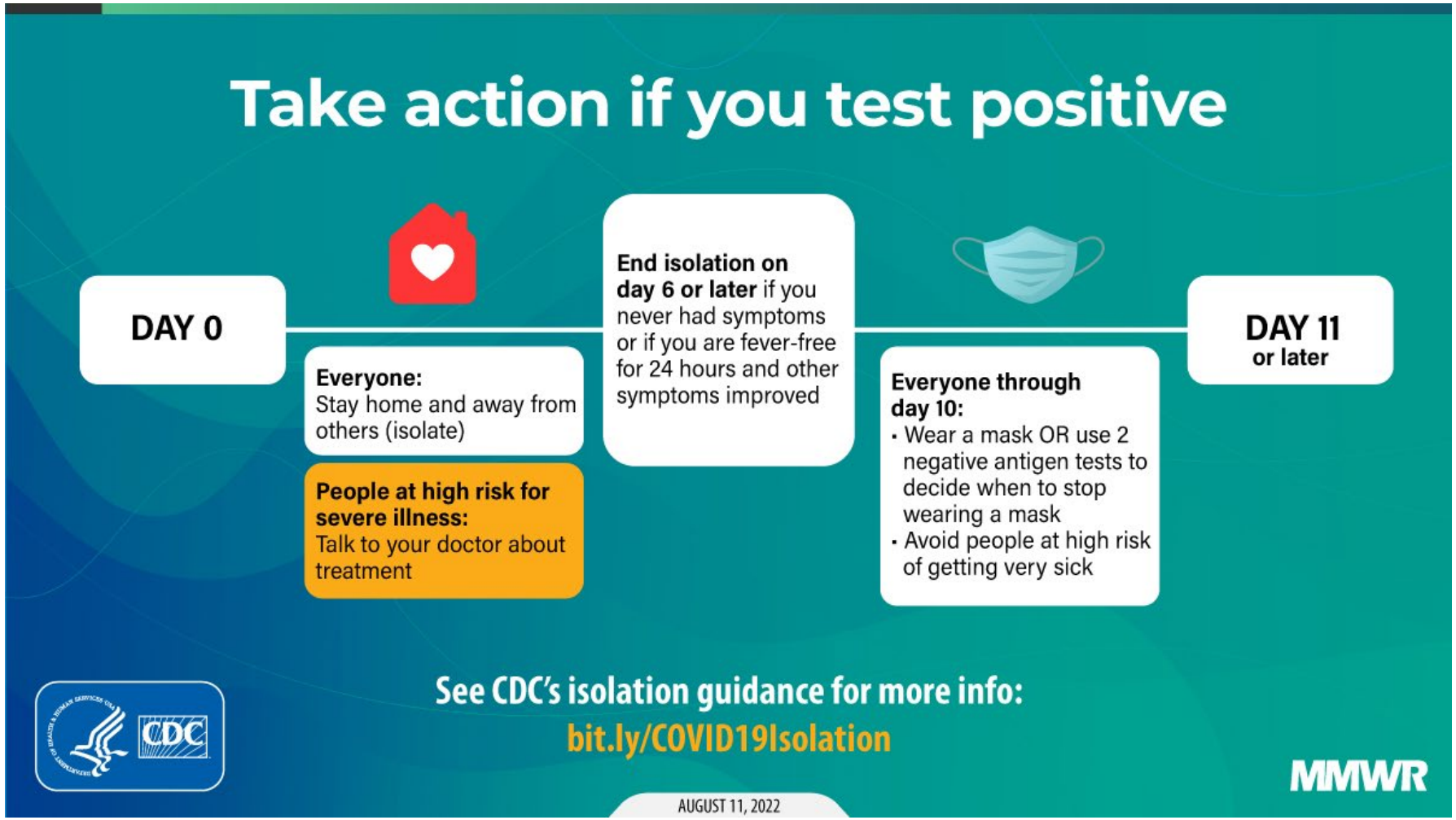
* Recommended strategies relate to general community settings; adapted setting-specific guidance and recommendations include schools and early childhood settings (https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-childcare-guidance.html), high-risk congregate settings such as correctional facilities and homeless shelters (https://www.cdc.gov/coronavirus/2019-ncov/community/high-risk-congregate-settings.html), health care settings (https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html), and travel (https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html).

† Although all masks and respirators provide some level of protection, properly fitting respirators provide the highest level of protection. Persons may consider the situation and other factors when choosing a mask or respirator that offers greater protection. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/types-of-masks.html#DifferentSituations

§ Universal case investigation and contact tracing are not recommended for COVID-19; health departments and jurisdictions should prioritize investigation of COVID-19 cases, clusters, and outbreaks involving high-risk congregate settings such as long-term care facilities and correctional facilities or unusual clusters of cases. https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/prioritization.html

¶ Infected persons should end isolation only when they are without a fever for ≥24 hours without use of medication and all other symptoms have improved. Persons who had moderate illness from COVID-19, including those who show evidence of lower respiratory disease such as shortness of breath or difficulty breathing should isolate for ≥10 days. Persons who had severe illness from COVID-19 (including those who were hospitalized or required intensive care) and persons who are immunocompromised should consult with a health care provider about how to determine end of isolation. https://www.covid19treatmentguidelines.nih.gov/overview/clinical-spectrum/

Sources: Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1



Evidence Supporting CDC's New Isolation Recommendations

- Isolation is effective at reducing transmission of SARS-CoV-2[1]
- Symptomatic individuals with URI symptoms should isolate regardless of test result. Symptomatic individuals with an initial negative home antigen test result for SARS-CoV-2 should test again 1 to 2 days later because test sensitivity seems to peak several days after illness onset[4]
- SARS-CoV-2 transmission is propagated through high viral loads of viable virus which is found to be most evident earlier in infection through approximately day 8[2,3]
- Immunocompromised individuals may be infectious for longer periods of time[2]

Abbreviations: URI upper respiratory infection

Sources: 1. Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1

2. Rahmani A, Dini G, Leso V, Montecucco A, Kusznir Vitturi B, Iavicoli I, Durando P. Duration of SARS-CoV-2 shedding and infectivity in the working age population: a systematic review and meta-analysis. Med Lav. 2022 Apr 26;113(2):e2022014. doi: 10.23749/mdl.v113i2.12724. PMID: 35481581; PMCID: PMC9073762

3. Jefferson T, Spencer EA, Brassey Jon, Heneghan C, Viral Cultures for Coronavirus Disease 2019 Infectivity Assessment: A Sy stematic Review, Clinical Infectious Diseases, Volume 73, Issue 11, 1 December 2021, Pages e3884–e3899, https://doi.org/10.1093/cid/ciaa1764

4. Chu VT, Schwartz NG, Donnelly MAP, et al. Comparison of Home Antigen Testing With RT -PCR and Viral Culture During the Course of SARS-CoV-2 Infection. JAMA Intern Med. 2022;182(7):701–709. doi:10.1001/jamainternmed.2022.1827

CDC Operational Guidance for K-12 School and Early Childhood Education (ECE) Programs to Support Safe In-Person Learning

Strategies for Everyday Operations in K-12 Schools and Early Childhood Education

- Schools and ECE programs should promote, emphasize, and implement a core set of infectious disease prevention strategies as part of their normal operations, including to mitigate COVID-19
  - Staying up to date on vaccinations
  - Staying home when sick
  - Improving ventilation
  - Washing hands and respiratory etiquette
  - Cleaning surfaces at least once a day

Recently released CDC guidance to minimize COVID-19 impact in the United States modifies some of the existing mitigations in K-12 schools and ECEs

- Removed recommendation to cohort
- Changed recommendation to focus screening for high-risk activities during high COVID-19 Community level or in response to an outbreak
- Removed the recommendation to quarantine, except in high risk congregate settings
- Removed recommendation about Test to Stay in school settings
- Added detailed information about when to wear a mask*, managing cases and exposures, and responding to outbreaks

Considerations for Prioritizing Strategies

- COVID-19 community levels and other community or setting-specific context
  - Age of those in the population served
  - Students with disabilities
  - People at risk of getting very sick
  - Equity
  - Availability of resources
  - Communities served
  - Pediatric-specific considerations

Sources: Massetti GM, Jackson BR, Brooks JT, et al. Summary of Guidance for Minimizing the Impact of COVID-19 on Individual Persons, Communities, and Health Care Systems — United States, August 2022. MMWR Morb Mortal Wkly Rep. ePub: 11 August 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7133e1

Safety Monitoring of Pfizer-BioNTech COVID-19 Vaccine Booster Doses Among Children Aged 5–11 Years — United States, May 17–July 31, 2022

TABLE 2. Adverse reactions and health impacts reported to v-safe for children aged 5–11 years who received homologous Pfizer-BioNTech COVID-19 booster vaccination* (N = 3,249) — United States, May 17–July 31, 2022

	% Reporting event†		
Reported event	Dose 1	Dose 2	Dose 3
Any local injection site reaction	**62.6**	**68.0**	**68.5**
Itching	4.9	4.9	5.3
Pain	60.7	66.1	66.7
Redness	4.5	5.5	8.5
Swelling	4.2	6.2	9.6
Any systemic reaction	**38.1**	**45.8**	**45.6**
Abdominal pain	5.3	7.4	6.1
Myalgia	7.1	10.2	13.9
Chills	3.8	7.6	7.4
Diarrhea	2.6	2.2	2.4
Fatigue	22.9	29.9	28.9
Fever	7.8	15.4	16.9
Headache	15.2	20.6	19.9
Joint pain	2.2	3.0	3.4
Nausea	4.8	7.1	7.1
Rash	1.0	0.8	1.3
Vomiting	1.9	2.5	3.1
Any health impact	**9.4**	**14.5**	**16.3**
Unable to perform normal daily activities	4.7	7.5	12.1
Unable to attend school	6.5	10.0	6.9
Needed medical care	1.1	0.9	1.0
Clinic	0.5	0.5	0.5
Telehealth	0.2	0.2	0.3
Emergency department visit	0.03	0.1	0.03
Hospitalization	0.03	0	0

TABLE 3. Reports of nonserious and serious events to the Vaccine Adverse Event Reporting System for children aged 5–11 years who received a Pfizer-BioNTech COVID-19 booster dose (N = 581) — United States, May 17–July 31, 2022

Reported events	No. (%)
Nonserious VAERS reports	**578 (100)**
Symptom, sign, diagnostic result, or condition (MedDRA PT*)	
Product preparation issue	145 (25.1)
Incorrect dose administered	128 (22.2)
No adverse event†	105 (18.2)
Product administered to patient of inappropriate age	55 (9.5)
Product preparation error	53 (9.2)
Expired product administered	46 (8.0)
Fever	45 (7.8)
Pain in extremity	38 (6.6)
Fatigue	28 (4.8)
Headache	22 (3.8)
Injection site pain	22 (3.8)
Product storage error	22 (3.8)
Vomiting	22 (3.8)
Chills	18 (3.1)
Dizziness	18 (3.1)
Serious VAERS reports§,¶	**3 (100)**
Clinical impression	
Generalized pain, fatigue, and malaise requiring hospitalization	1 (33.3)
New onset type 1 diabetes	1 (33.3)
Facial swelling	1 (33.3)

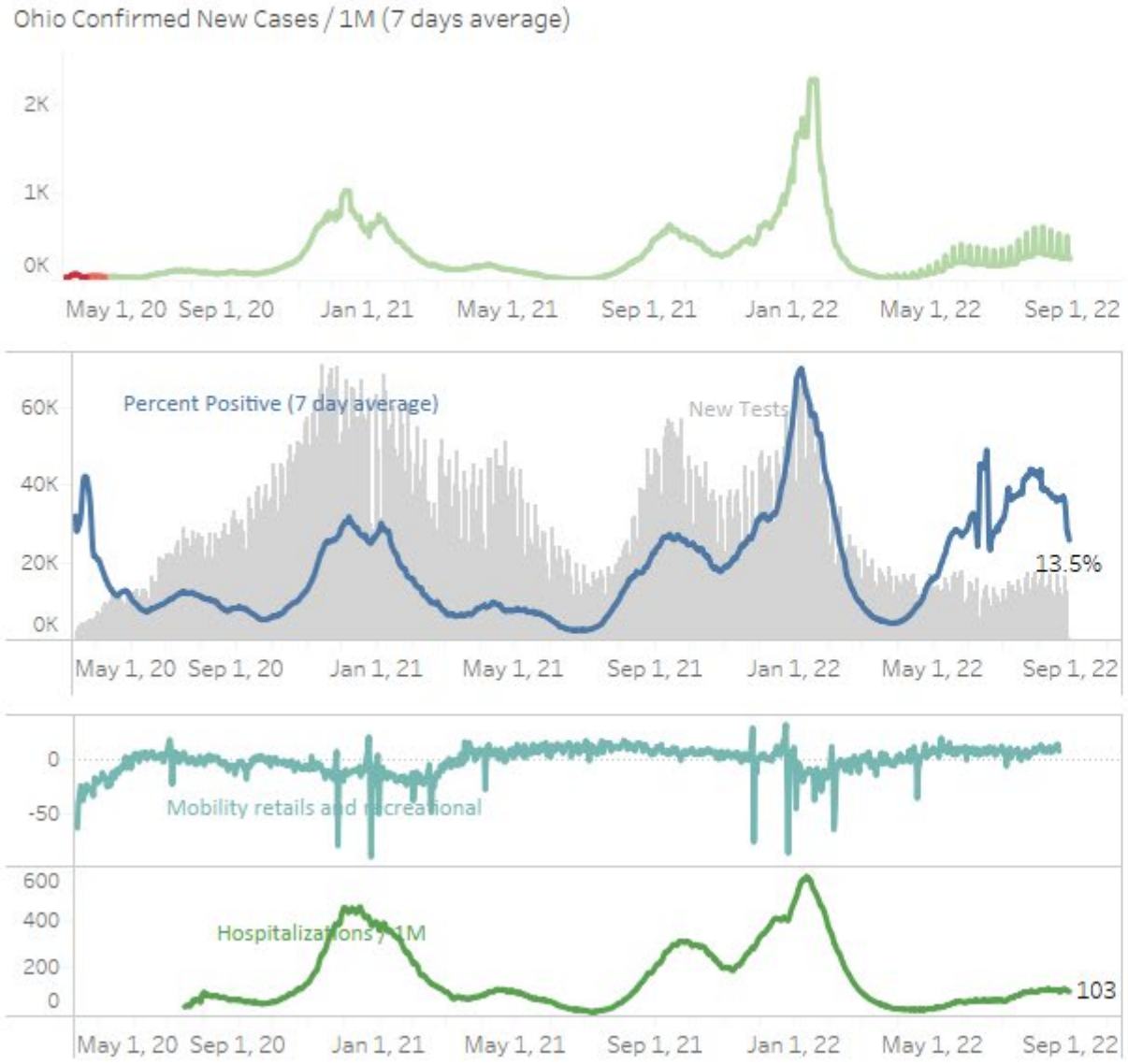
Key Messages

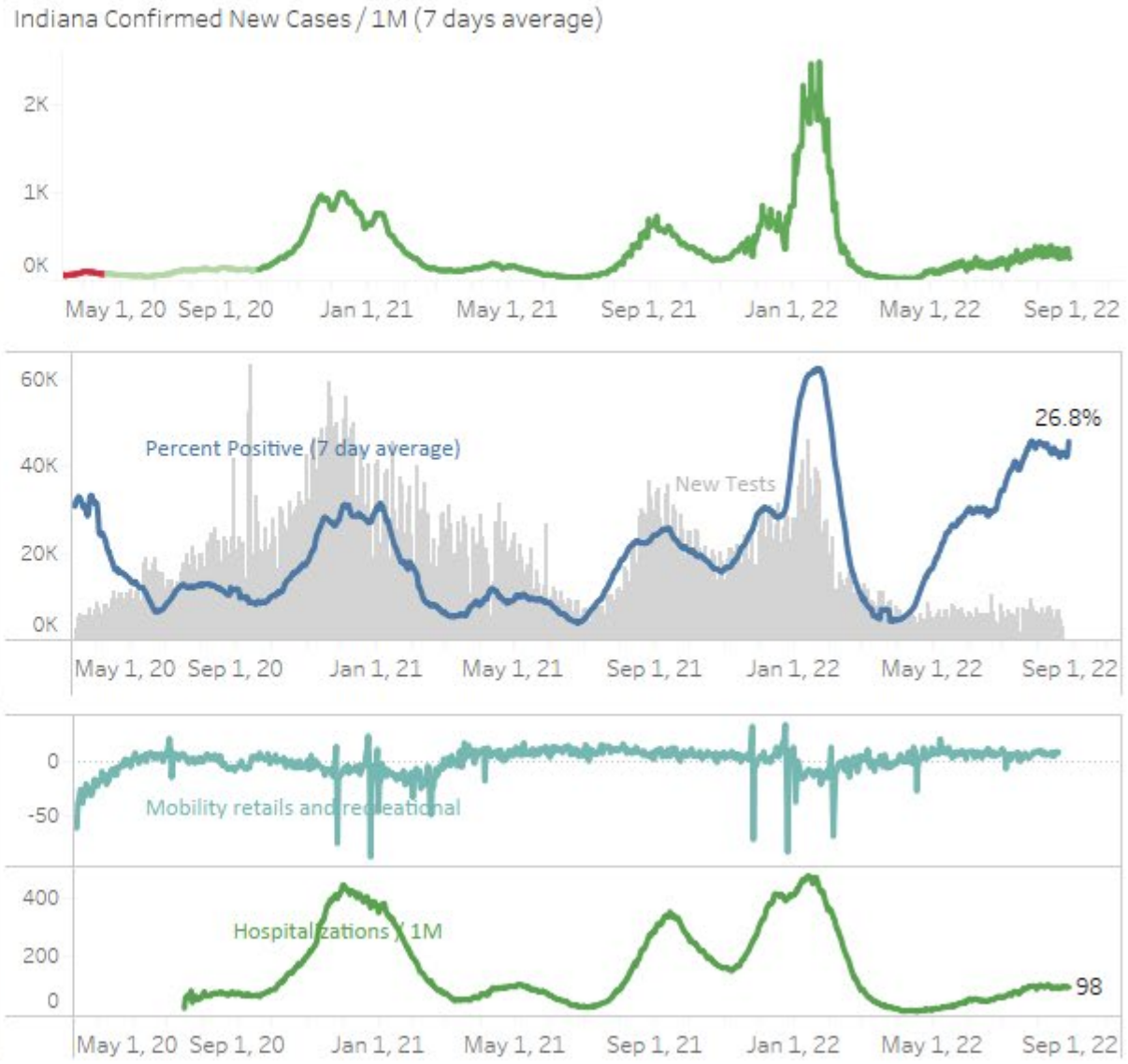
- COVID-19 mRNA vaccine booster dose is recommended for children aged 5–11 years
- Between May and July 2022, approximately 657,302 third doses were administered to children in this age group
- Vaccine reactions after dose 3 were reported to v-safe with similar frequency to that after doses 2
- Serious adverse events after dose 3 are rare, and no reports of myocarditis or death after receipt of dose 3 were received

Sources: Hause AM, Baggs J, Marquez P, et al. Safety Monitoring of Pfizer-BioNTech COVID-19 Vaccine Booster Doses Among Children Aged 5–11 Years — United States, May 17–July 31, 2022. MMWR Morb Mortal Wkly Rep 2022;71:1047–1051. DOI: http://dx.doi.org/10.15585/mmwr.mm7133a3

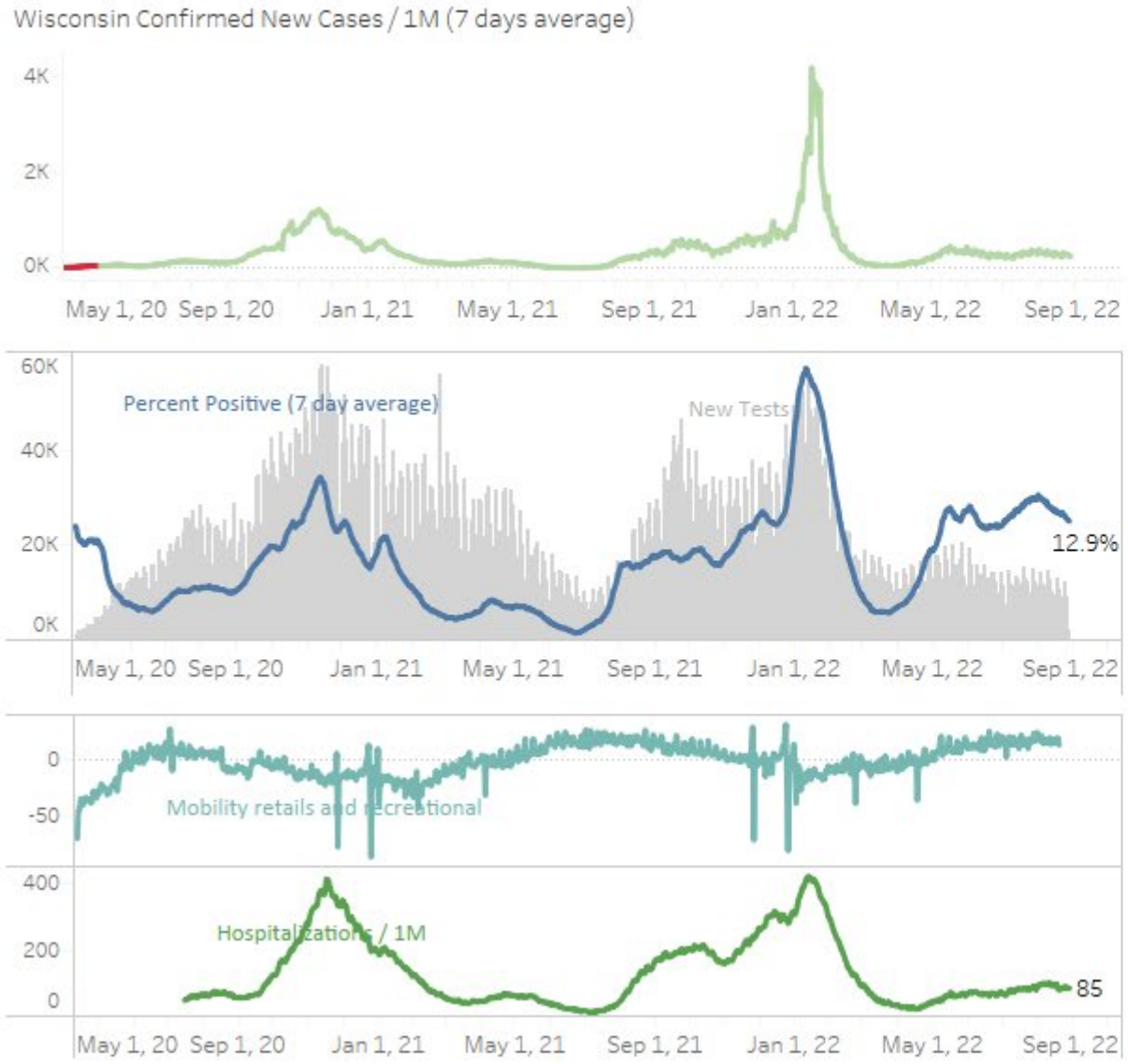
APPENDIX

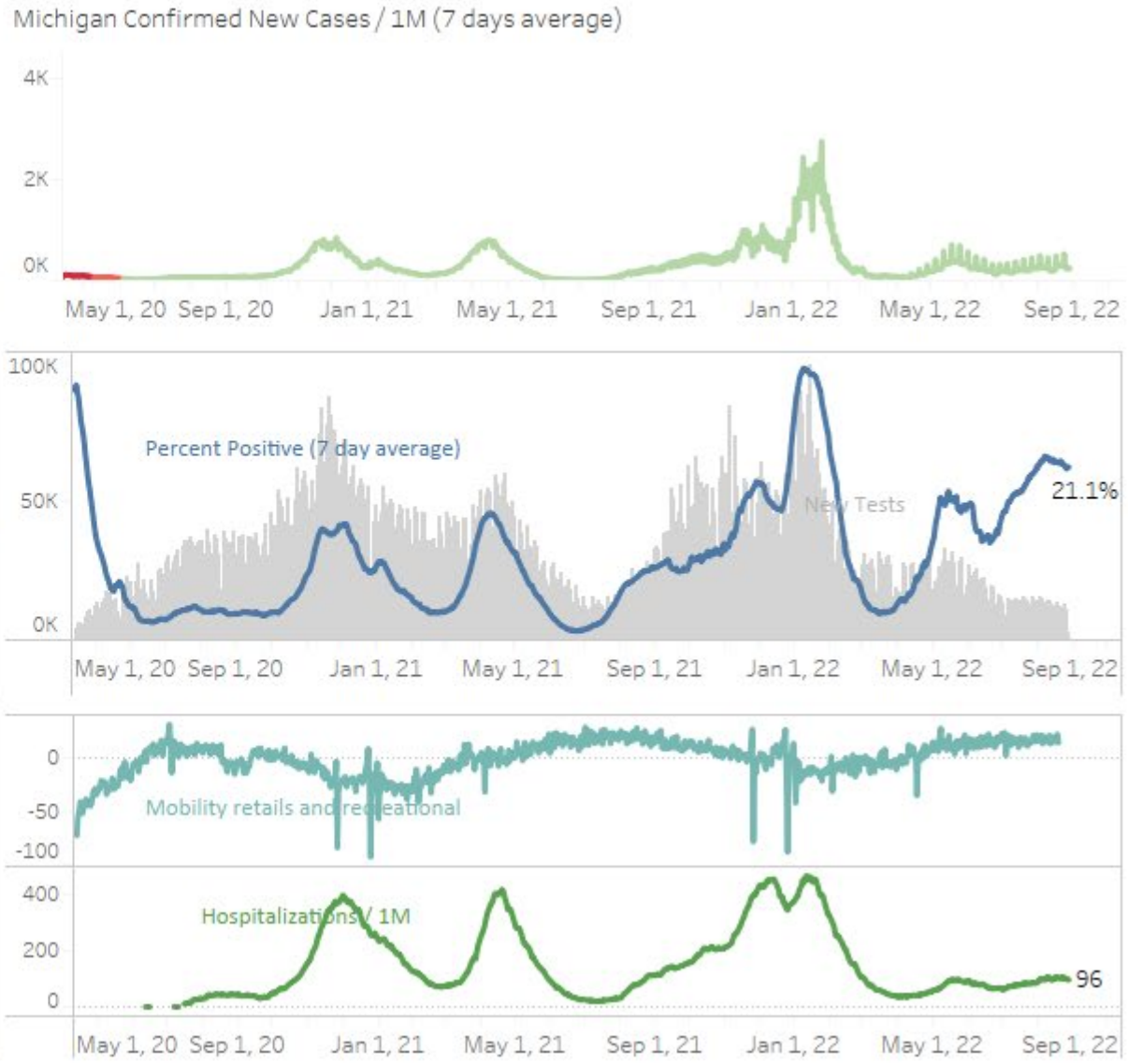
Ohio, Indiana



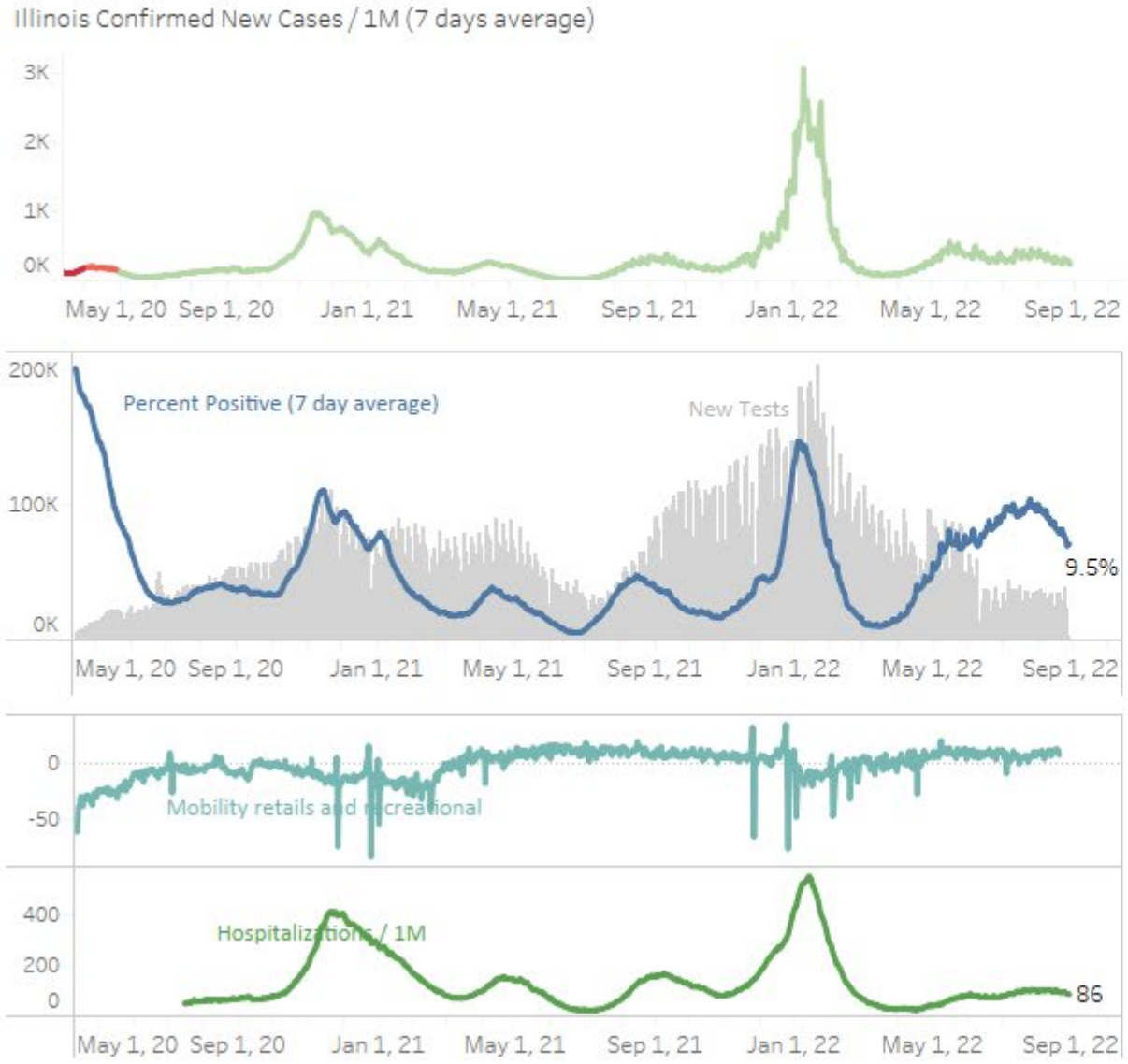


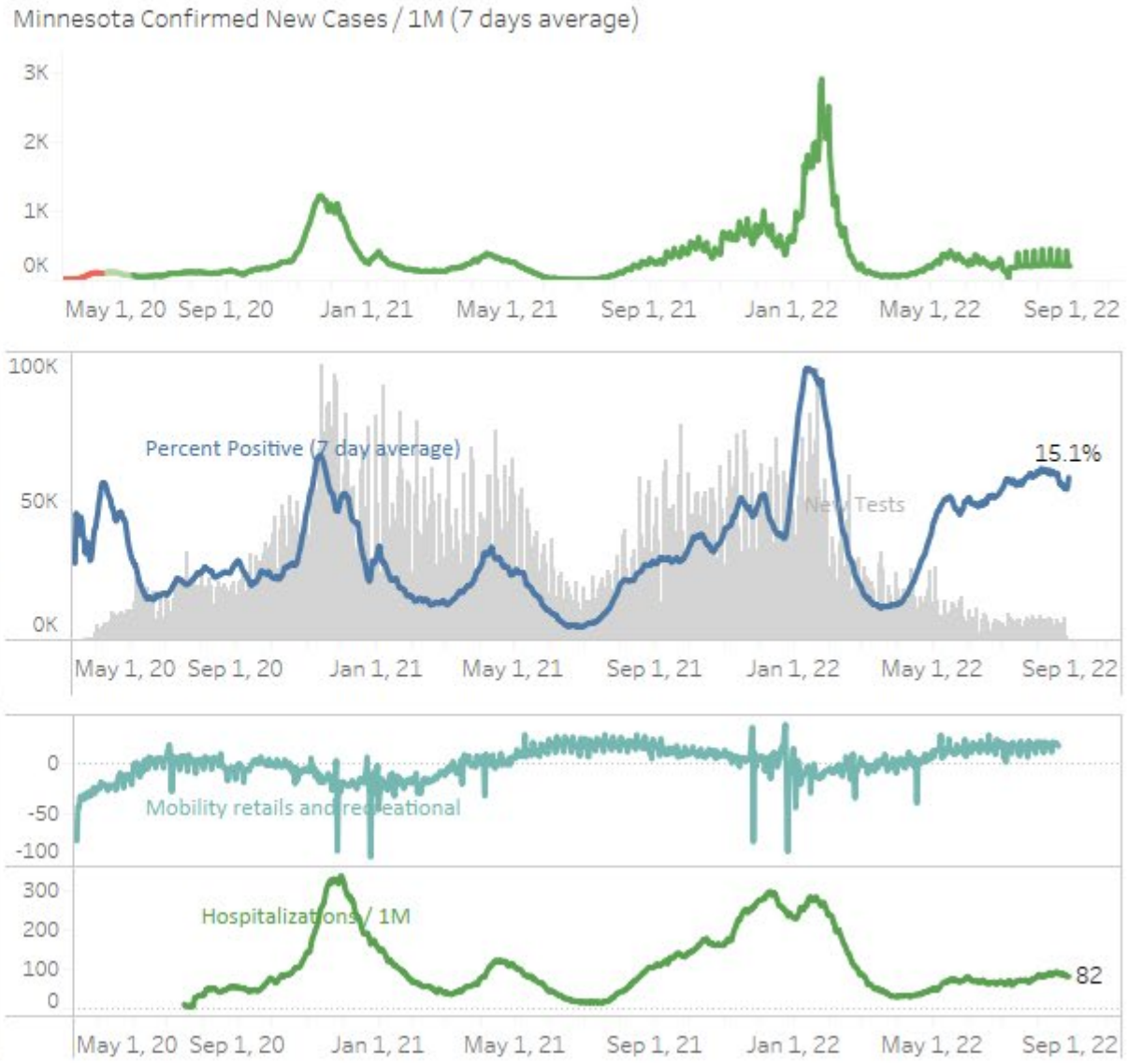
Wisconsin, Michigan





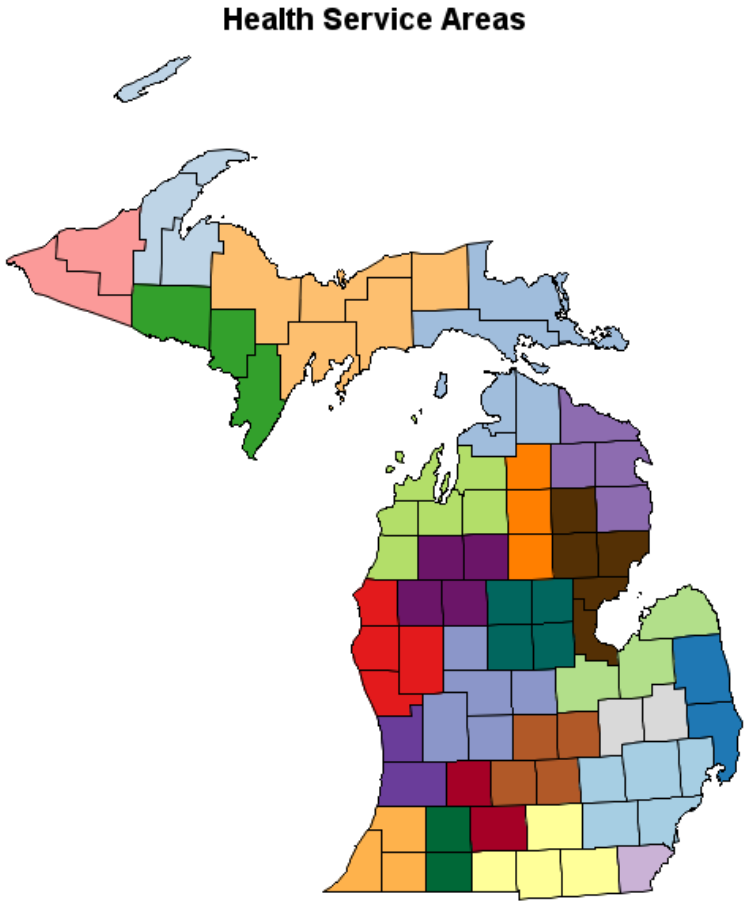
Illinois, Minnesota





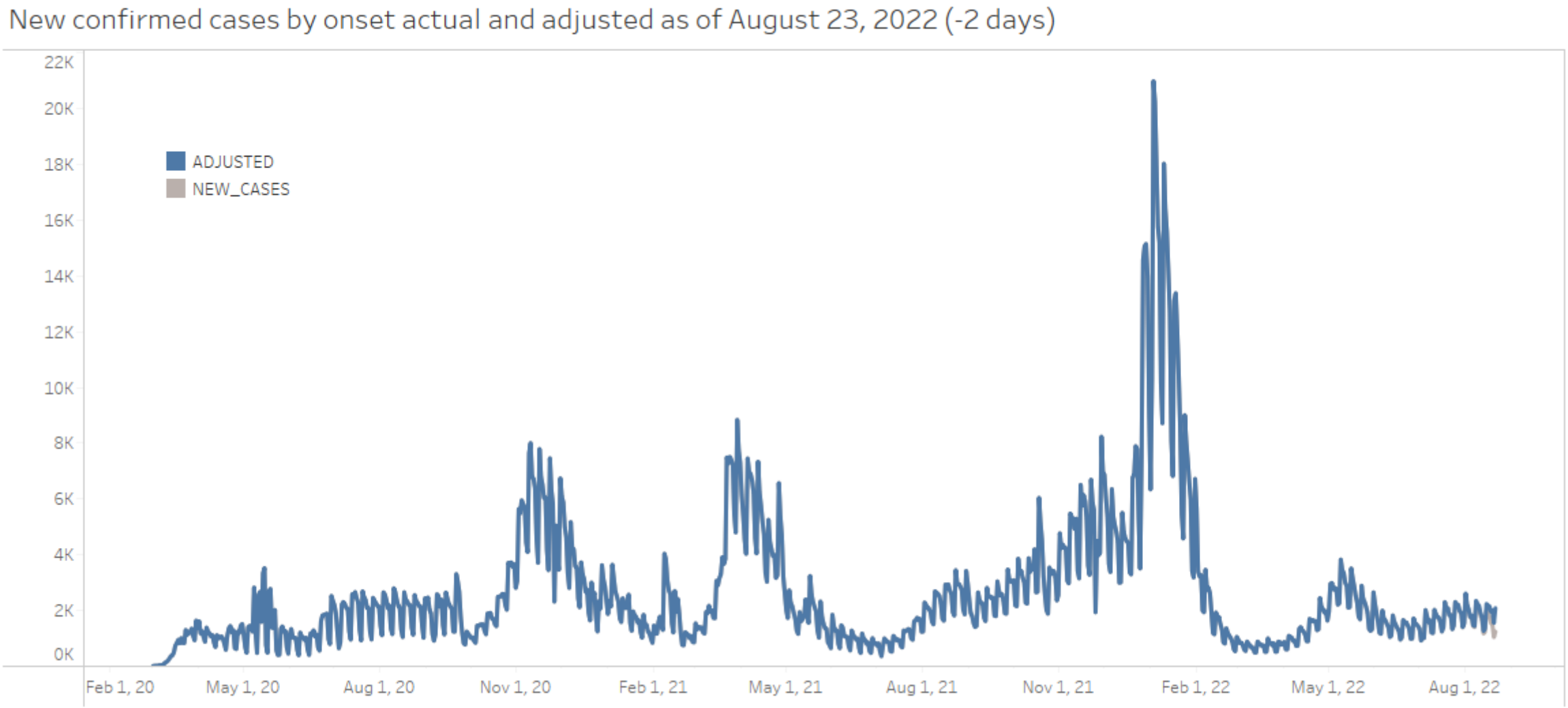
CDC COVID-19 Community Levels are defined by County Case Rates and Health Service Area (HSA) Hospitalizations

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%

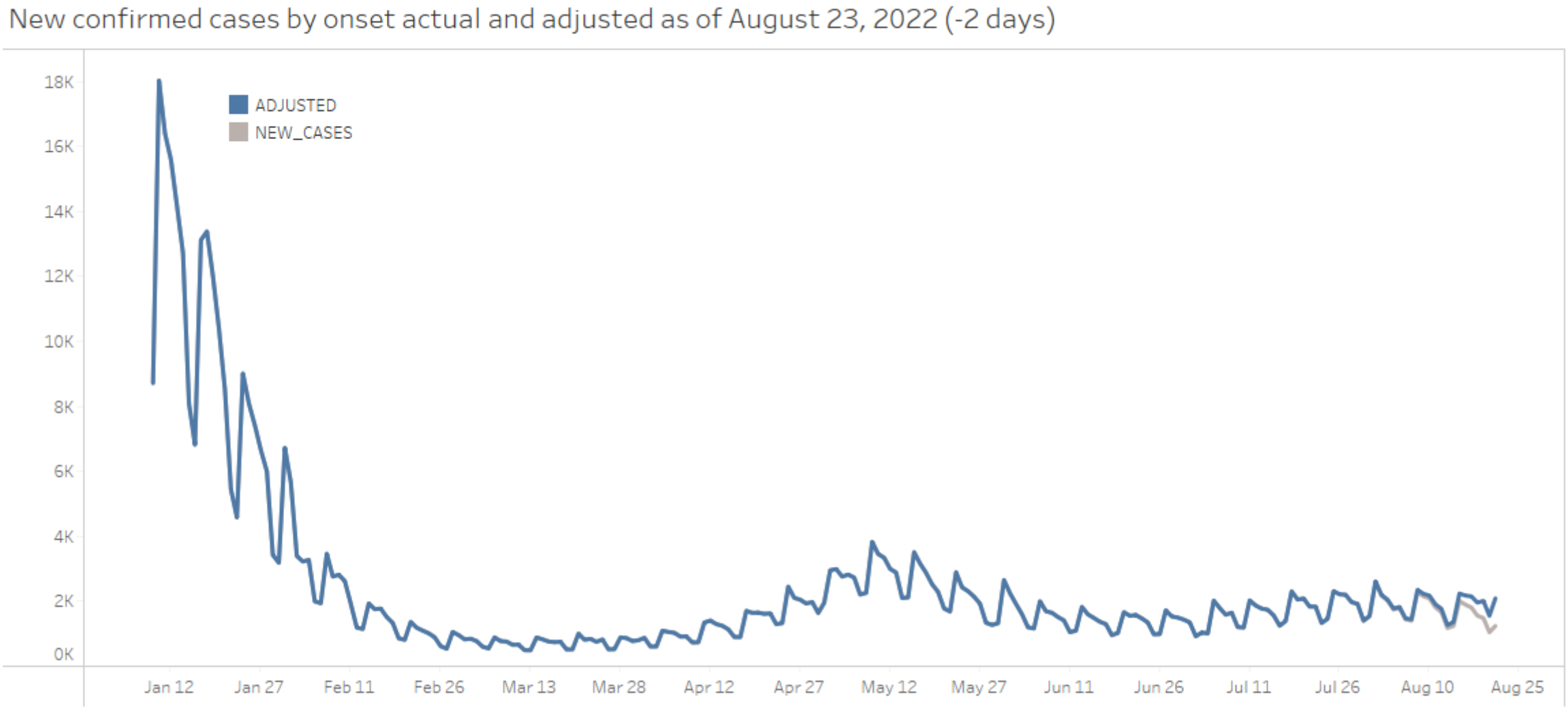


Source: CDC COVID-19 Community Levels https://www.cdc.gov/coronavirus/2019-ncov/science/community-levels.html

Adjusted new cases by on-set

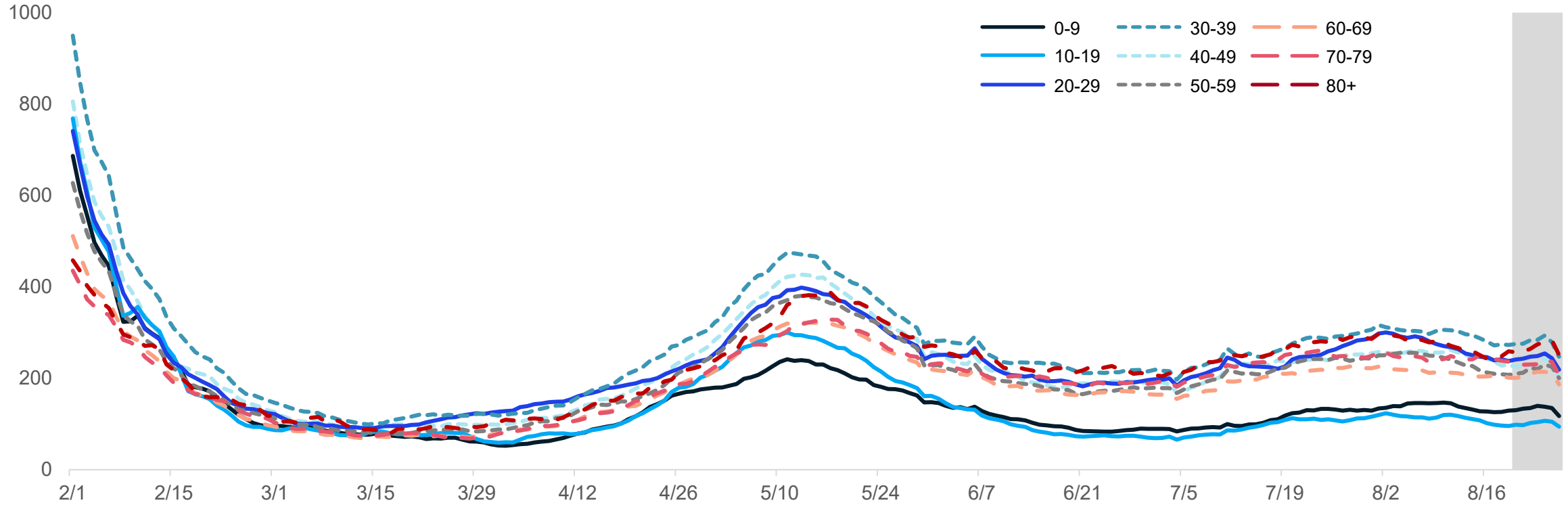


Adjusted new cases by on-set, recent trends



Case Rate Trends by Age Group

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

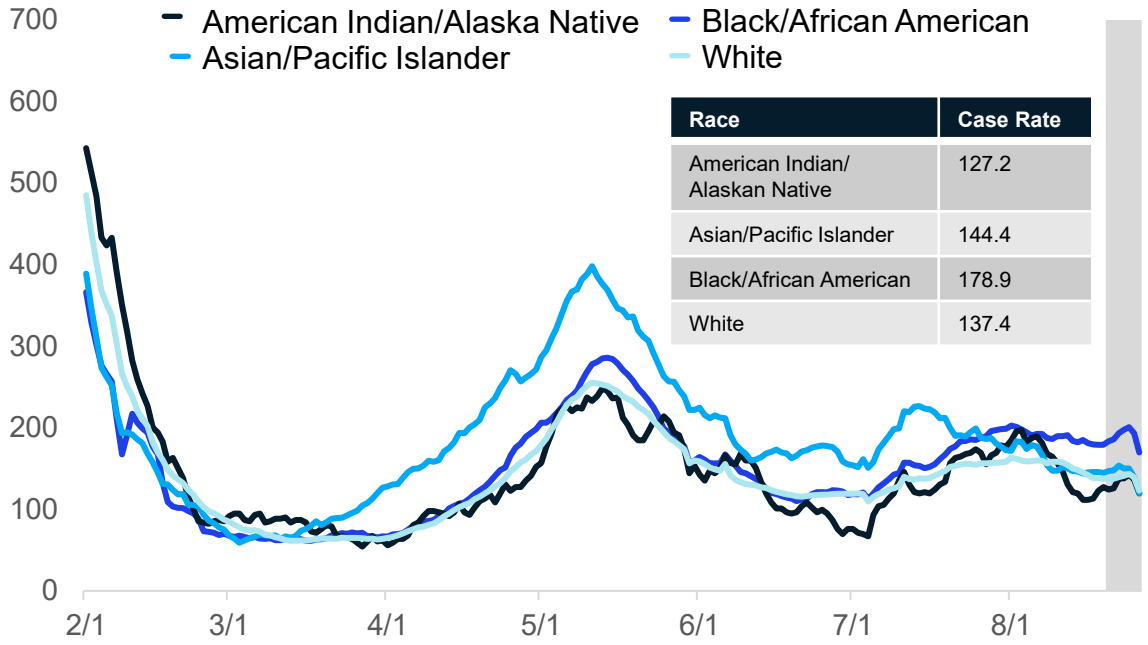


- Case rate trends for all age groups experienced a plateau over the last week
- Case rates by onset date for all age groups are between 95.6 and 272.7 cases per million (through 8/19)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 20-29-year-olds and the 80+-year-olds

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

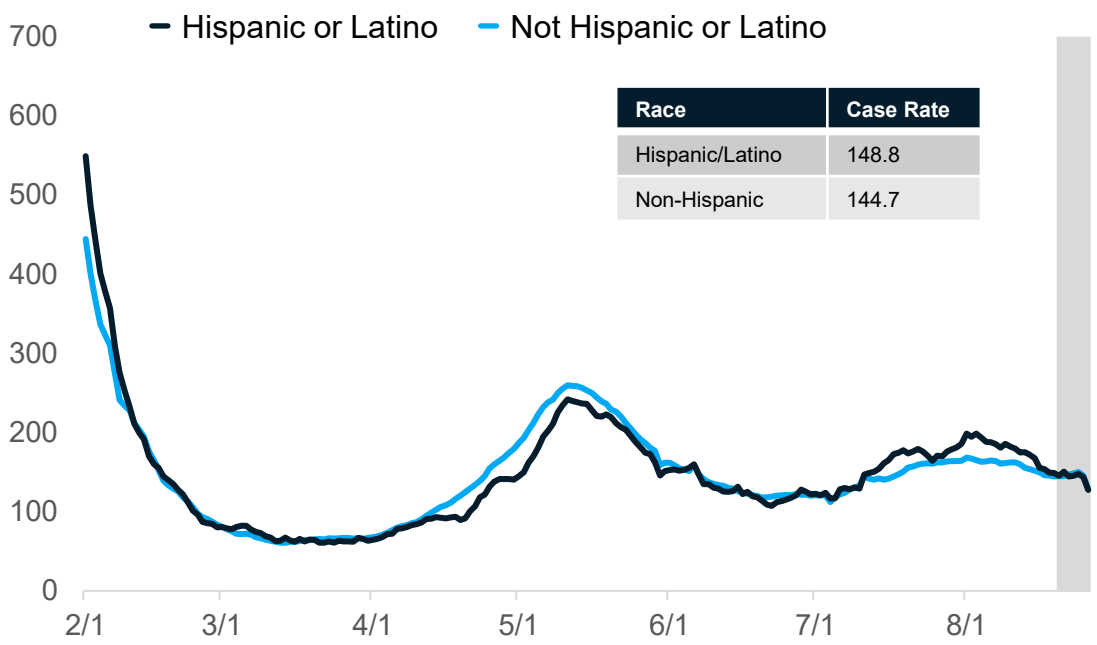
Case Rates by Reported Racial and Ethnic Group

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



Race	Case Rate
American Indian/ Alaskan Native	127.2
Asian/Pacific Islander	144.4
Black/African American	178.9
White	137.4

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



Race	Case Rate
Hispanic/Latino	148.8
Non-Hispanic	144.7

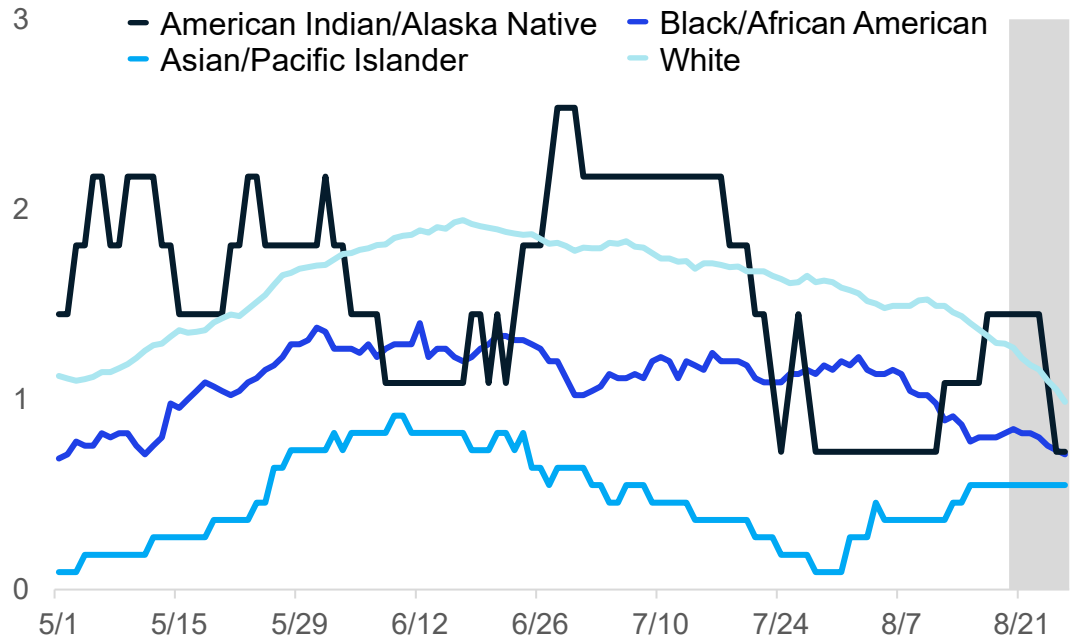
Updates since last week:

- Cases per million have plateaued for nearly all reported racial and ethnic groups
- In the past 30 days, 22.3% (↑ 0.5%)) of race data and 27.7% (↑ 0.3%) ethnicity data was either missing or reported as unknown

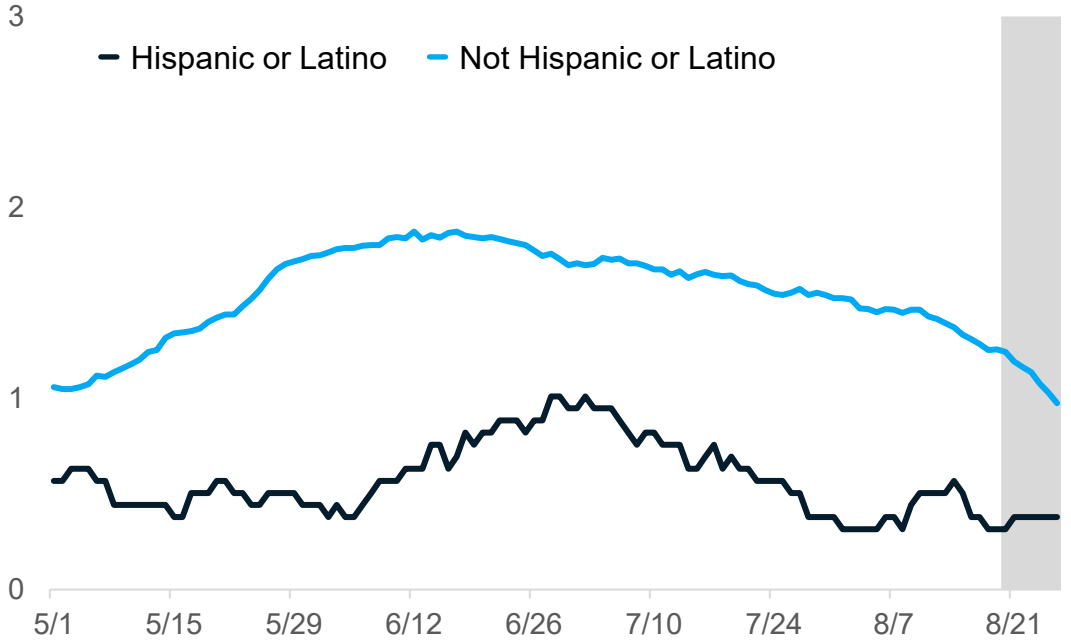
Note: Case information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

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



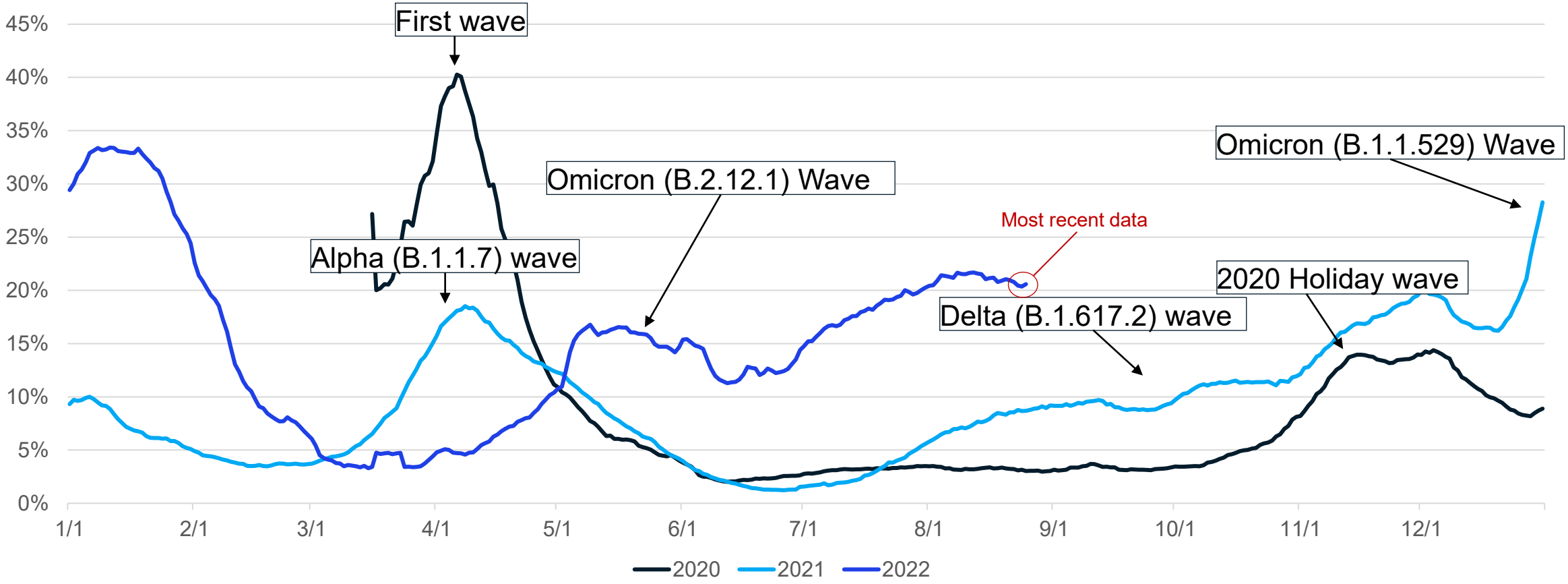
- Deaths are lagging indicator of other metrics
- Currently, the American Indian/Alaska Native population has the highest death rate (1.45 deaths/million)

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

Time Trends – Annual Comparison: Percent Positivity

- Positivity is about half as high as all-time pandemic highs
- However, testing behaviors have shifted, as such comparison year over year should be done so with caution

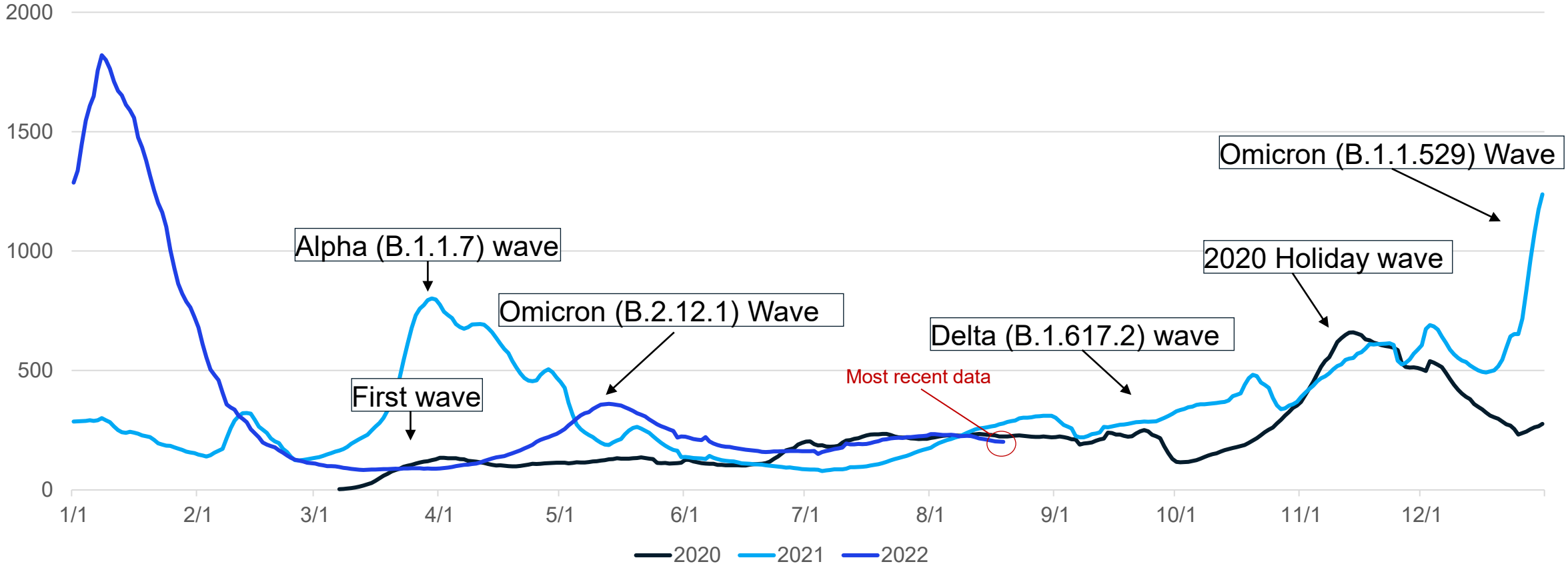
7-day Rolling Average of Positivity



Time Trends – Annual Comparison: Case Rates

- Case rates (by onset date) are increasing but remain lower than surges from past peaks
- Case rate are, however, similar to August levels in 2020 and 2021

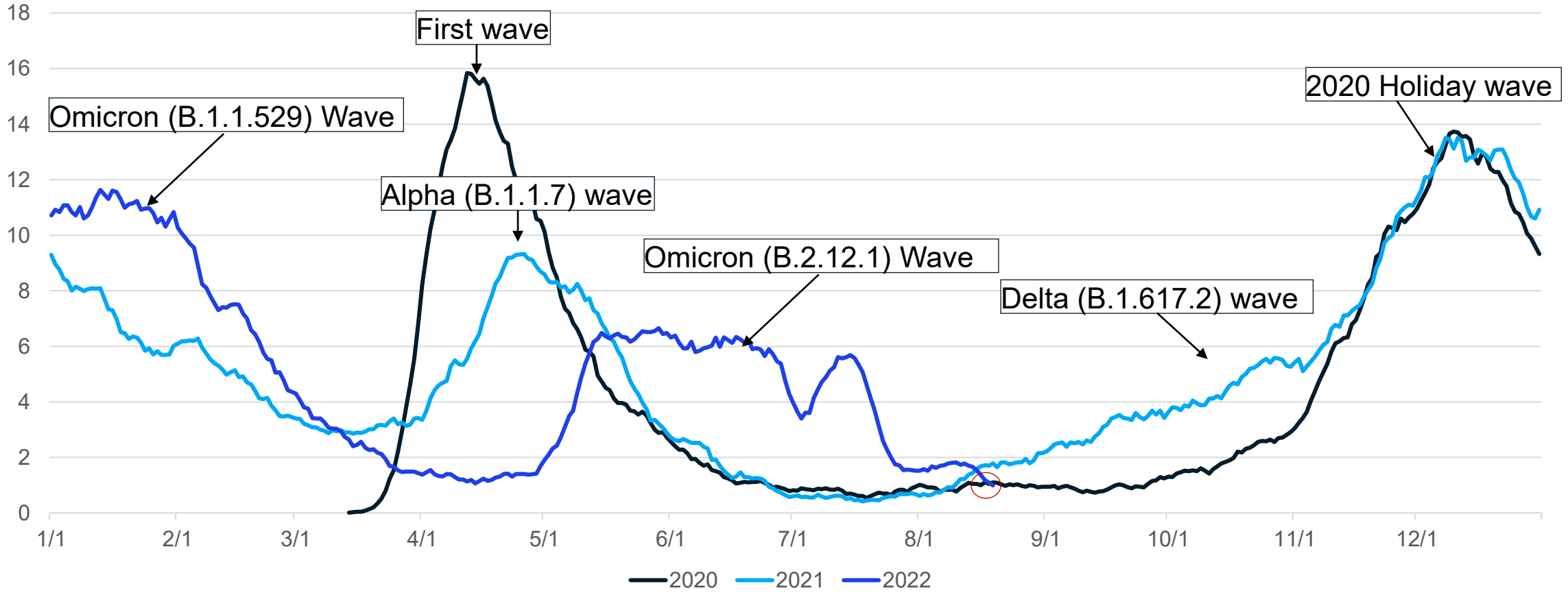
7-day Rolling Average of Case Rates



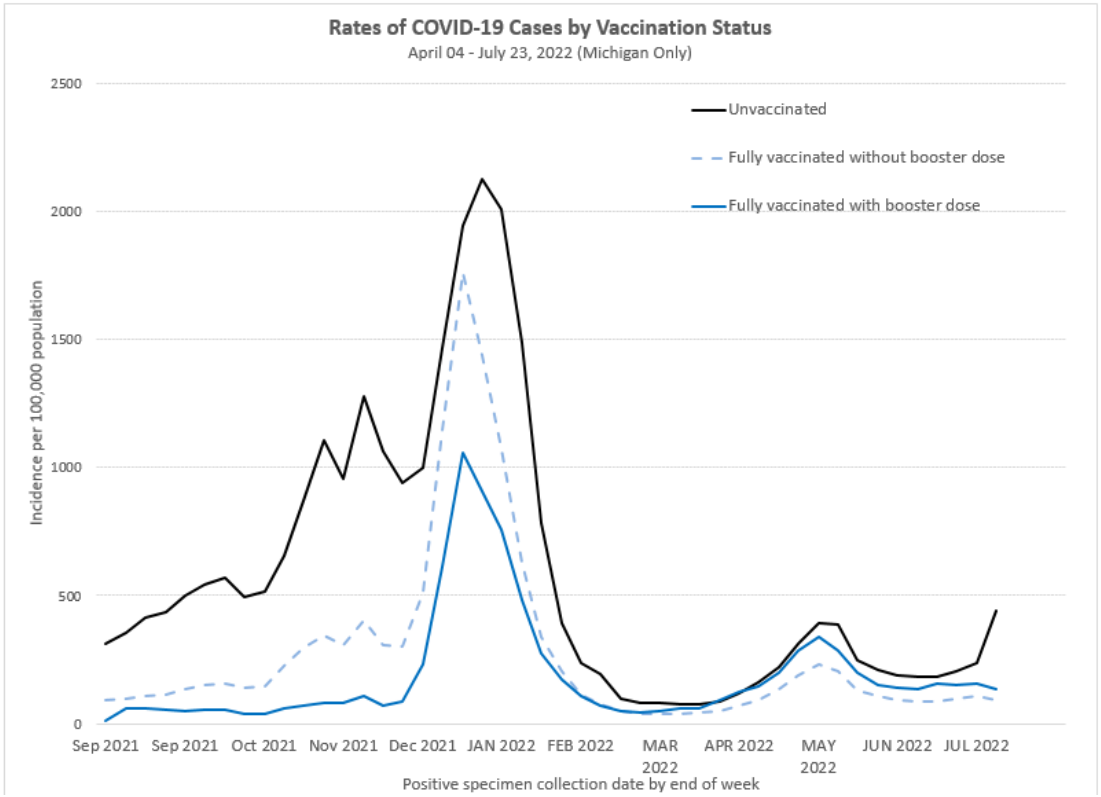
Time Trends – Annual Comparison: Death Rates

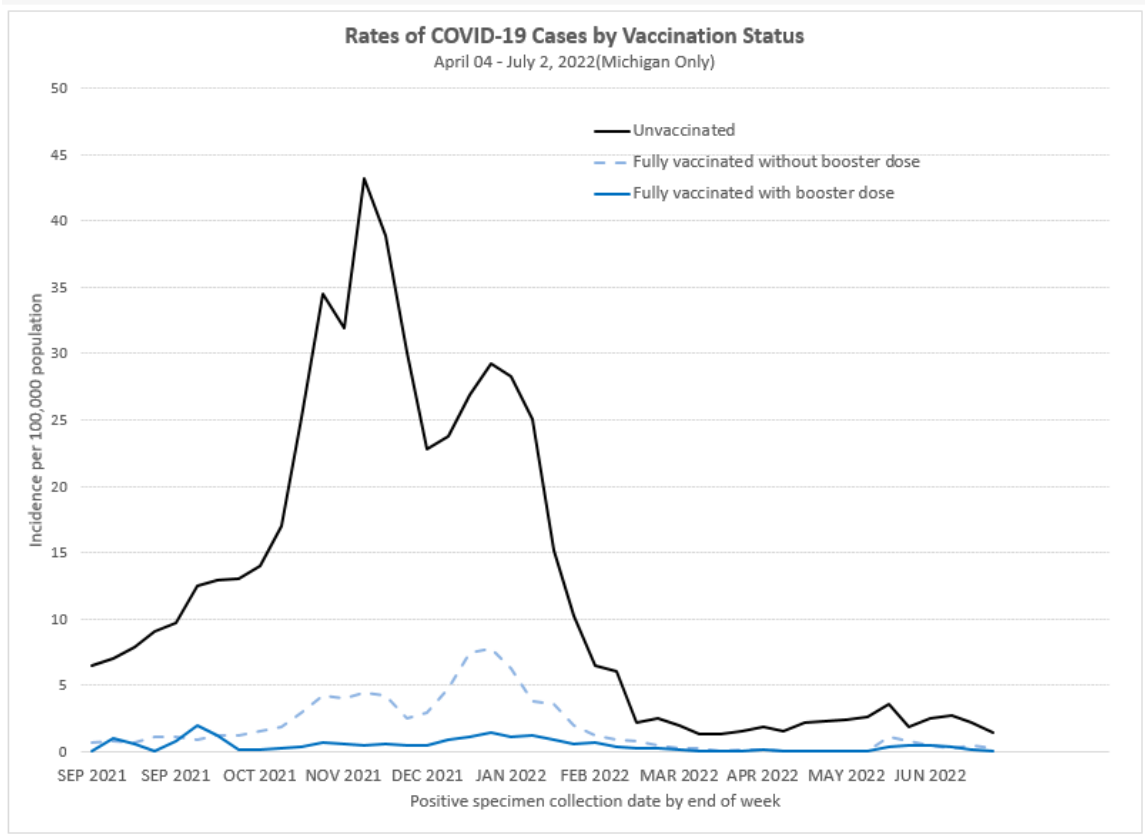
- Death rates (by date of death) are near pandemic all-time lows
- Deaths are lagging indicator, typically trailing case trends by 4 or 6 weeks

7-day Rolling Average of Death Rates (per million residents)



Unvaccinated people in Michigan had 6.1 times the risk of dying from COVID-19 in June compared to people up to date on their vaccination





Unvaccinated people aged 12 years and older had:

1.4 X *Risk of Testing Positive for COVID-19* **AND** **6.1 X** *Risk of Dying from COVID-19* **in June, and**

1.8 X *Risk of Testing Positive for COVID-19* **in July,* compared to people vaccinated with a primary series and a booster dose.****

*****These data reflect cases among persons with a positive specimen collection date through July 23, 2022, and deaths among persons with a positive specimen collection date through July 2, 2022. Please note that these provisional data are subject to change. ******Data on immune status are unavailable, thus an additional dose in an immunocompromised person cannot be distinguished from a booster dose.

Nationally, unvaccinated adults had 4.6 times the risk of hospitalizations from COVID-19 in May compared to people up to date on their vaccination

In June 2022, compared to people who are up to date with COVID-19 vaccination, monthly rates of COVID-19-associated hospitalizations were **4.6x Higher in Unvaccinated Adults Ages 18 Years and Older.**

1.7x Higher	**2.0x** Higher	**2.8x** Higher	**3.6x** Higher	**6.3x** Higher
in Unvaccinated Children Ages 5-11 Years	**in Unvaccinated Adolescents Ages 12-17 Years**	**in Unvaccinated Adults Ages 18-49 Years**	**in Unvaccinated Adults Ages 50-64 Years**	**in Unvaccinated Adults Ages 65 Years and Older**

Reset Filters

View

Age-Adjusted Rates

Age-Specific Rates

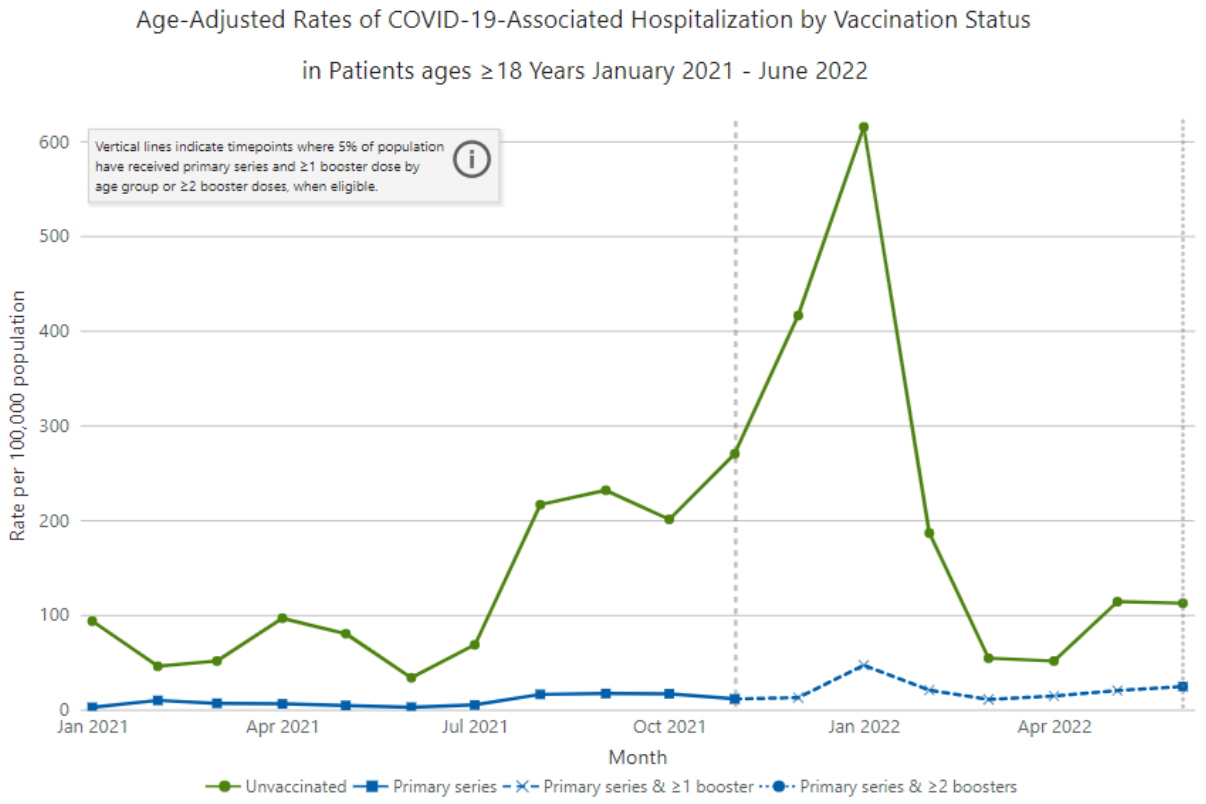
Filters

Season: All

Vaccine Status: All

Age Group: ≥18 Years

CDC Download Data



These data were posted on July 29, 2022, and reflect hospitalizations through June 2022.

Note: "Primary series" refers to hospitalized patients who have completed their primary COVID-19 vaccination series regardless of whether or not they received a booster or additional dose. "Primary series & ≥1 booster" refers to hospitalized patients who have completed their primary COVID-19 vaccination series and received one or more additional or booster dose. "Primary series & ≥2 boosters" refers to hospitalized patients who have completed their primary COVID-19 vaccination series and received two or more additional or booster doses. "Unvaccinated" refers to hospitalized patients with no record of receiving any COVID-19 vaccination. "Up-to-date" refers to persons who have received all doses in the primary COVID-19 vaccination series, in addition to one or more additional dose or booster dose, when eligible.

COVID-19 Rebound after Paxlovid Treatment

- Paxlovid is a prescription oral antiviral drug that reduces risk of hospitalization and death for patients with mild to moderate COVID-19 who are at higher risk of disease progression and severe illness
  - Treatment should be initiated as soon as possible and within 5 days of symptom onset among eligible individuals

- Following Paxlovid treatment, **COVID-19 rebound** has been reported to **occur between 2 and 8 days after initial recovery** and is characterized by a recurrence of COVID-19 symptoms or a new positive viral test after having tested negative

- To date, there is limited information available from case reports who have experience COVID-19 rebound
  - There are **no reported cases of severe disease following COVID-19 rebound**
  - Currently, **no evidence that additional treatment is needed** with Paxlovid or other anti-SARA-CoV-2 therapies in cases where COVID-19 rebound is suspected
  - There is the possibility of transmission of infection during COVID-19 rebound and those experience rebound should continue to follow CDC's guidance on isolation
    - People with rebound should restart isolation and isolate again for at least 5 days

- Providers and patients can get more information from CDC and FDA

Source: CDC Health Advisory CDCHAN-0467, May 24, 2022

Pediatric Vaccination for those 6 months to 5 years: Key Messages

COVID-19 vaccines are now available for ages 6 months and up

- Everyone 6 months and older should also get an age-appropriate COVID-19 booster, when eligible
- Vaccinations remain the best way to protect from COVID-19, especially from severe disease

- The youngest children can get infected and suffer from severe outcomes
  - Hospital admissions due to COVID-19 for children follow statewide trend with youngest ages accounting for majority of pediatric admissions
  - During the Omicron surge, COVID-19 hospitalizations per capita was higher for those 6 months to 4 years than for children of other ages
  - The proportion of children ages 6 months to 4 years with COVID-19 associated hospitalization were primarily admitted for COVID-19 and over half have no underlying medical conditions
  - Compared to other vaccine preventable diseases, COVID-19 is responsible for more hospitalizations and deaths
  - In Michigan, multisystem inflammatory syndrome in children (MIS-C), over a quarter of all cases have been reported from those under the age of 5
    - Nationally, over 60% of MIS-C cases under the age of 5 have been reported among Non-Hispanic Blacks and Hispanic/Latino
  - COVID-19 is a leading cause of death among all children, including one of the leading causes of death for those under 5 years
    - Based on cumulative total incidence, COVID-19 is the leading cause of death among infectious diseases for people aged 0-19
    - Among children under the age of 5, COVID-19 is the fifth most common of all causes of death

- COVID-19 vaccine has proven to be safe for children in other age groups

COVID-19 vaccines are now available for ages **6 months and up!**

Both the Pfizer and Moderna COVID-19 vaccines are now authorized and recommended for children 6 months and older. Everyone 5 years and older should also get an age-appropriate COVID-19 booster, when eligible.

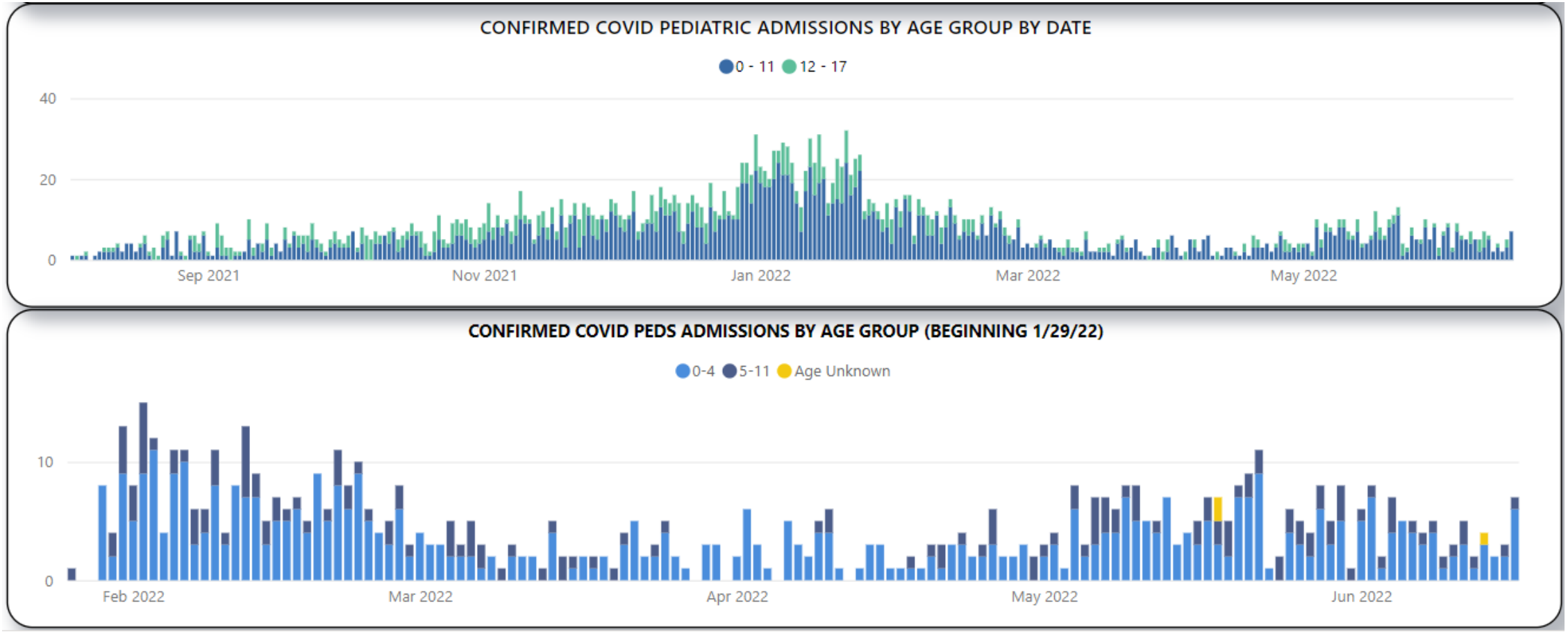
More than **4,000** providers across Michigan can administer the COVID-19 kids vaccine, including:

- Family physicians and pediatricians
- Some pharmacies (ages 3+)
- Local health departments and federally qualified health centers
- Urgent cares (ages 5+)

MDHHS
Michigan Department of Health & Human Services

For more information, visit Michigan.gov/KidsCOVIDvaccine or talk to a health care provider.

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



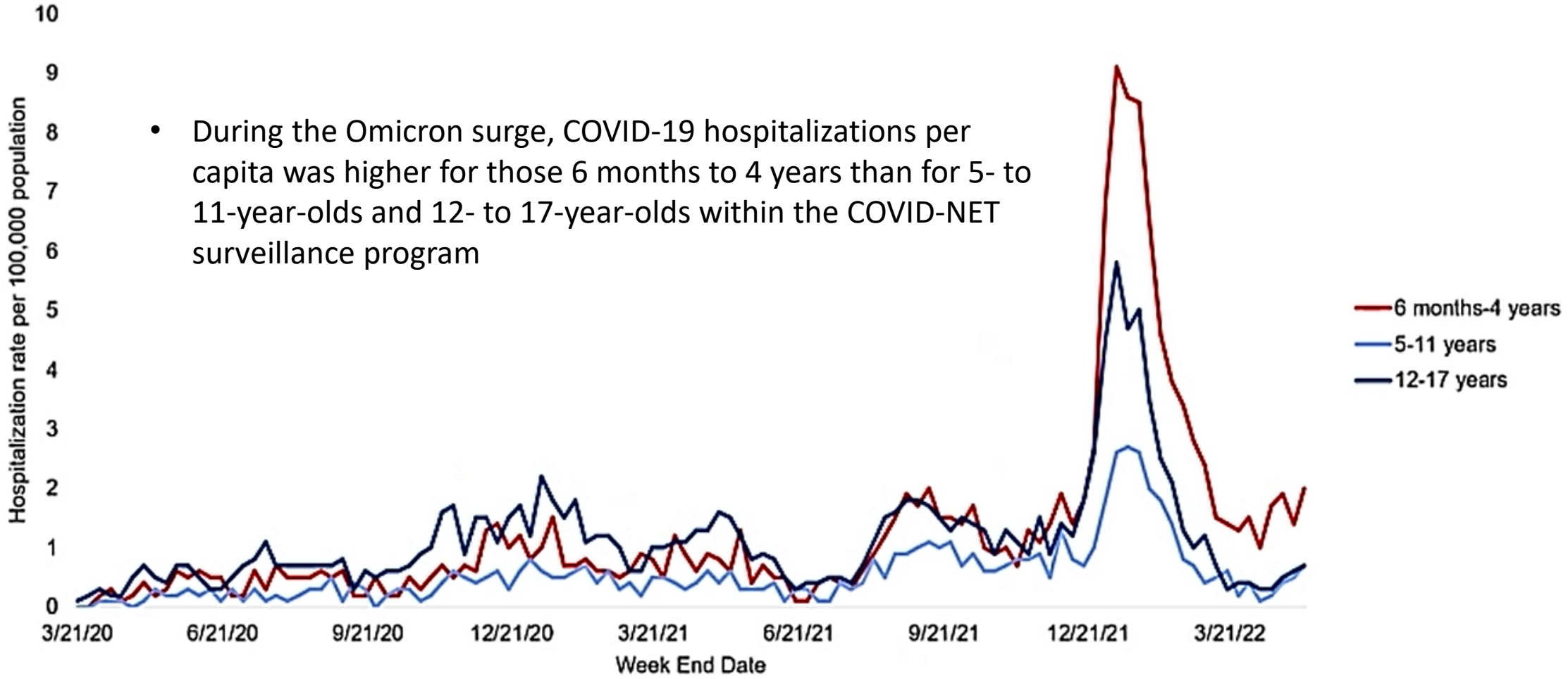
- Hospital admissions reflect statewide infection trends where admissions are higher during surges of SARS-CoV-2 transmission
- Among those under 18 years of age, the majority of hospital admissions occurred in those 0-11 in Michigan
- Among those under 12 years of age, the majority of hospital admissions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

Source: CHECC & EM Resource

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

March 2020 – March 2022

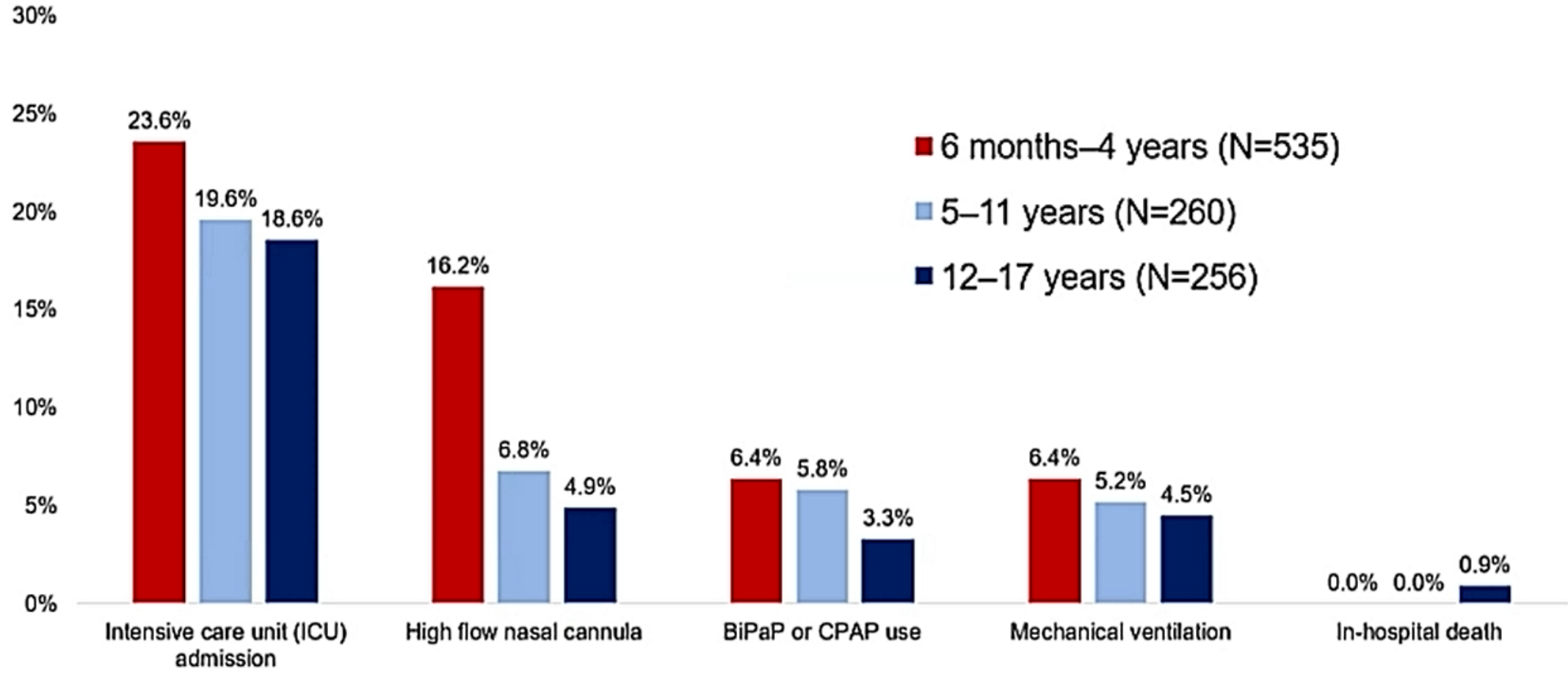
- During the Omicron surge, COVID-19 hospitalizations per capita was higher for those 6 months to 4 years than for 5- to 11-year-olds and 12- to 17-year-olds within the COVID-NET surveillance program



Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

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

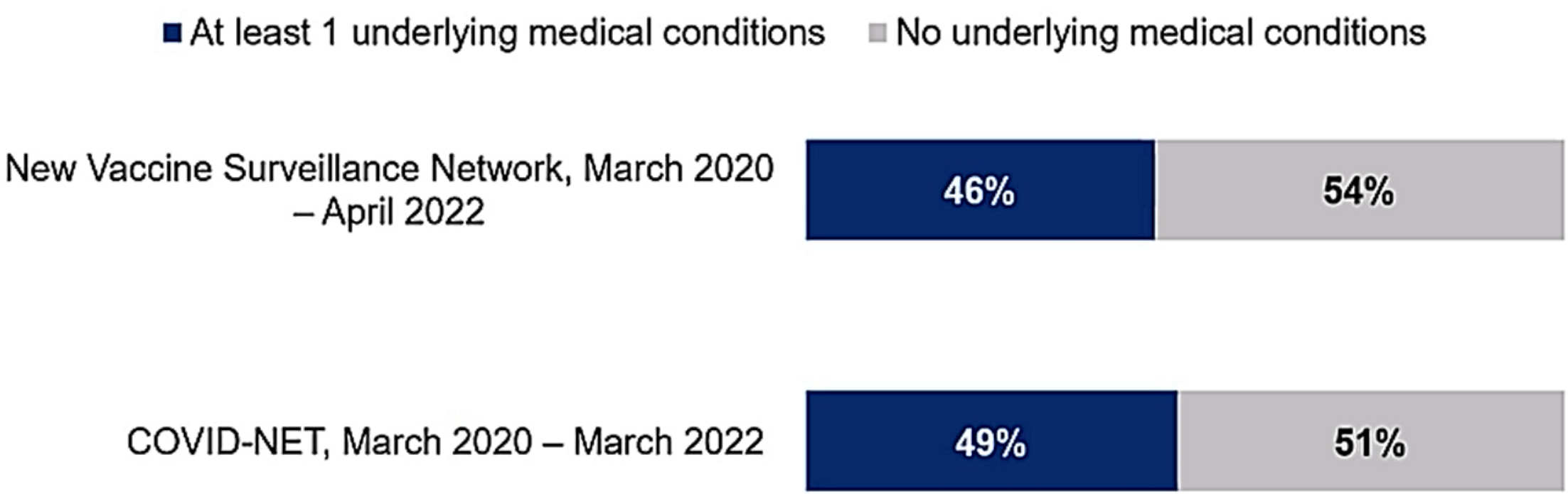
Severity of COVID-19-associated hospitalizations among children and adolescents 6 months–17 years, COVID-NET, December 19, 2021 – March 31, 2022 (Omicron period)



BiPAP: bilevel positive pressure, CPAP: continuous positive pressure

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

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



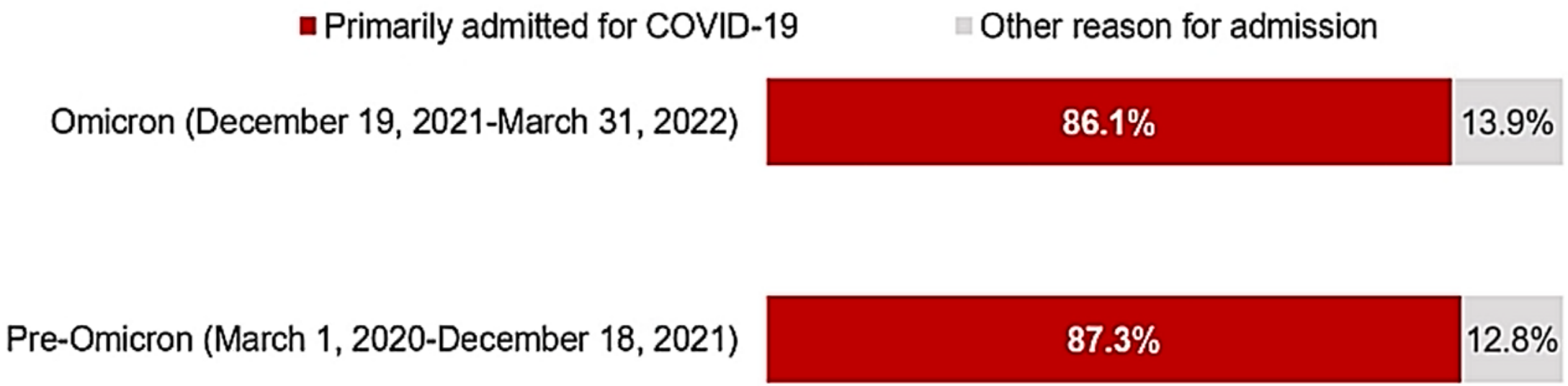
Source: 1. New Vaccine Surveillance Network. Preliminary data as of May 25, 2022, reflecting data from March 2020–April 2022

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

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 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.

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Multisystem Inflammatory Syndrome in Children (MIS-C)

Michigan Surveillance

- Higher community transmissions is followed by higher incidence of MIS-C cases
- 304 cases identified in Michigan: highest numbers have occurred after most recent Omicron surge
- More than 25% of those children are those under 5 years of age
- Black/African American children are disproportionately impacted
- 63.5% (193) children with MIS-C are treated in the ICU
- Among Michigan's MIS-C cases that were eligible for vaccine (N=113), a majority of children (89.4%, n=101) were unvaccinated
  - **Scientific evidence has shown that unvaccinated kids are at much higher risk of severe MIS-C outcomes[1]**

Age Group	Count	%
<1	11	3.6%
1-4	74	24.3%
5-11	146	48.0%
12-15	54	17.8%
16-20	19	6.3%

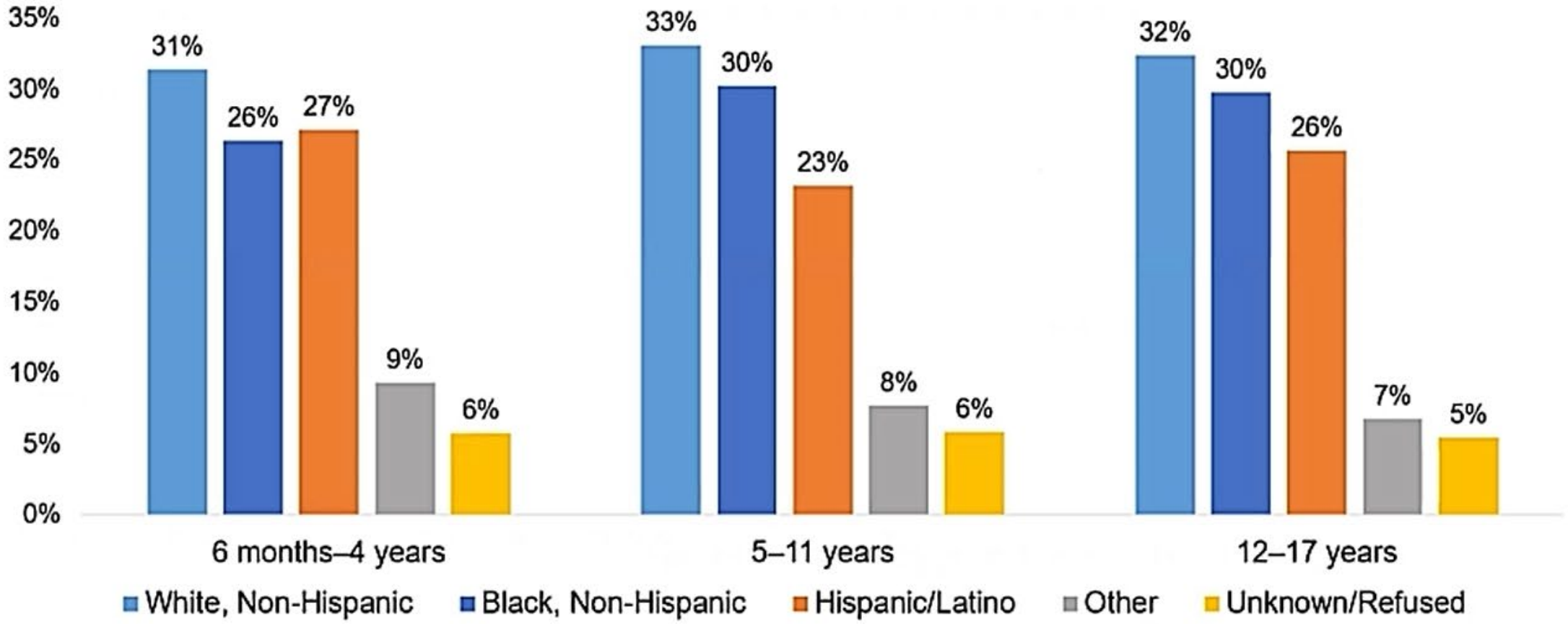
Race	Count	%
Black/African American	106	34.9%
Caucasian	146	48.0%
All Others/Unknown	52	17.1%

Ethnicity		
Not Hispanic/Non-Latino	227	74.7%
Hispanic/Latino	27	8.9%
Unknown	50	16.4%

Sources: MDHHS and MIS-C Data and Reporting; Data through 6/30; 1. Zambrano LD, Newhams MM, Olson SM, et al. Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem Inflammatory Syndrome in Children Among Persons Aged 12–18 Years — United States, July–December 2021. MMWR Morb Mortal Wkly Rep 2022;71:52–58. DOI: http://dx.doi.org/10.15585/mmwr.mm7102e1

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

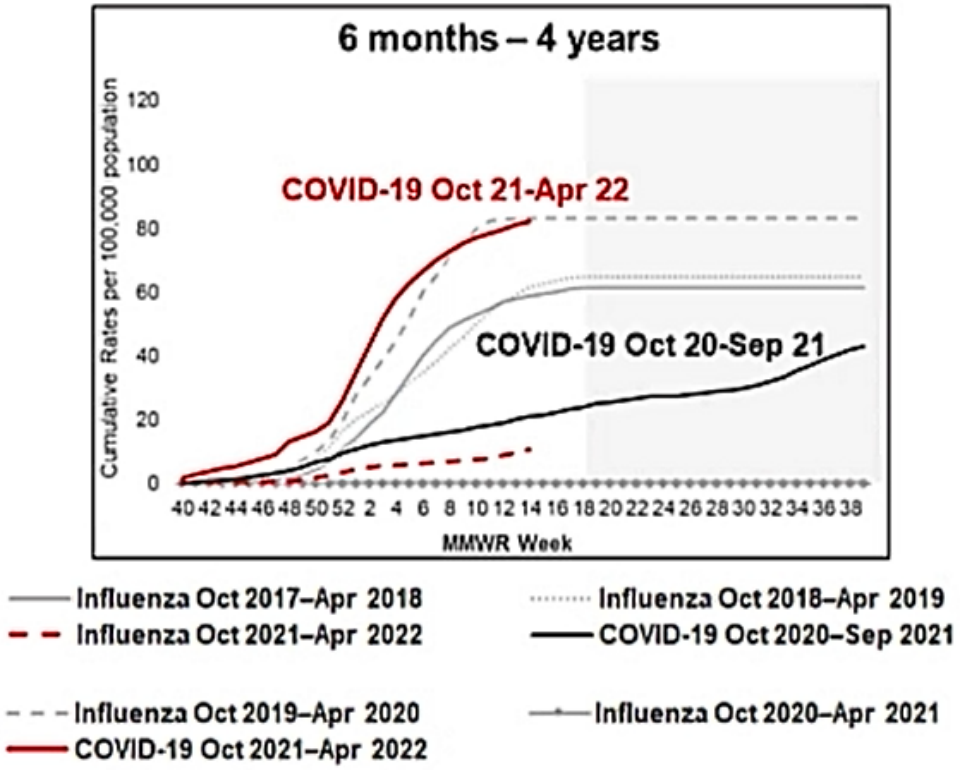
February 1, 2020 – May 31, 2022



Age is missing for 1 case.

Source: CDC data. Accessed June 7, 2022

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

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

Source: Delahoy MJ, Ujamaa D, Taylor CA, et al. Comparison of influenza and COVID-19-associated hospitalizations among children < 18 years old in the United States-FluSurv-NET (October-April 2017-2021) and COVID-NET (October 2020-September 2021). Clin Infect Dis. 2022 May 20:ciac388. doi: 10.1093/cid/ciac388.

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.

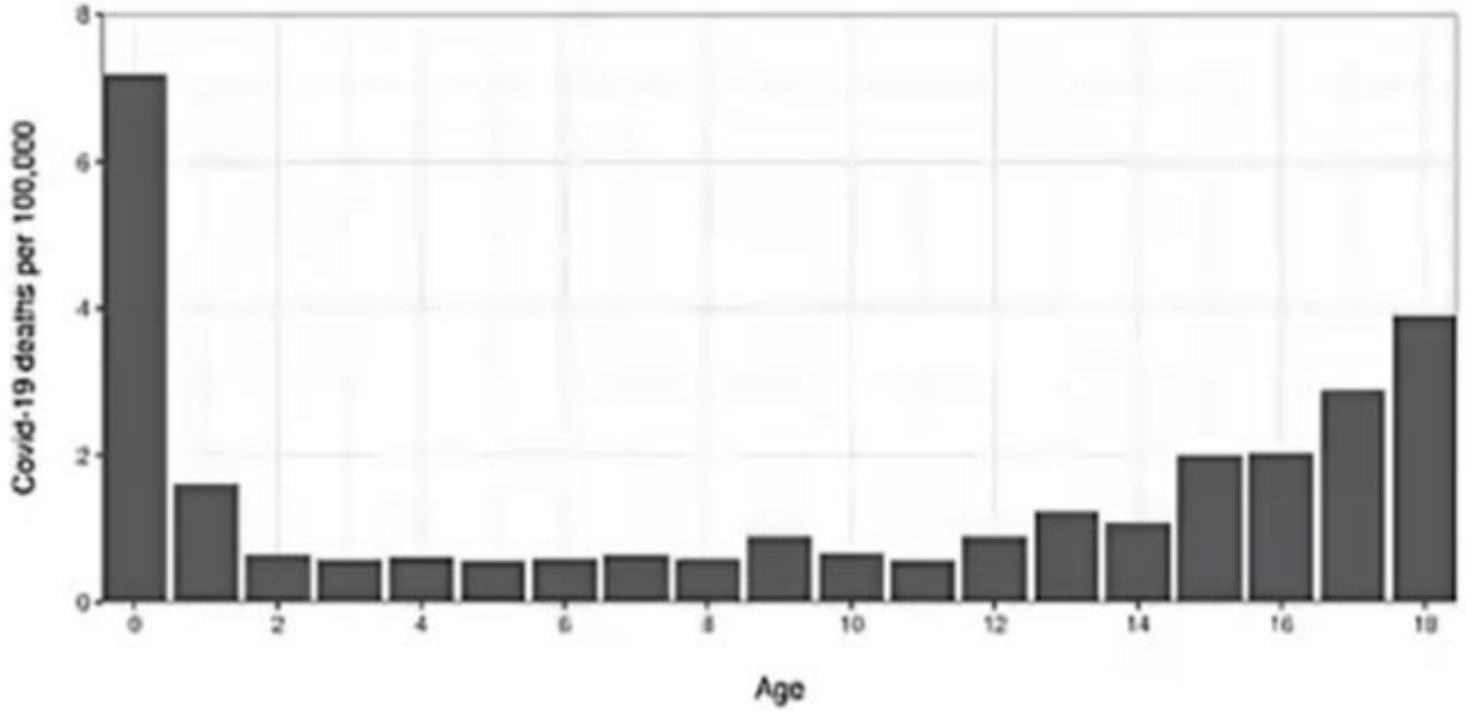
[4] COVID-NET data, Accessed May 21, 2022.

[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.

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

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

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

Reported by the CDC at the Meeting of the Advisory Committee on Immunization Practices (ACIP) to discuss immunizations for 6 months to 5 years (Moderna and Pfizer), June 22-23, 2022

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

Pediatric vaccine preventable diseases:

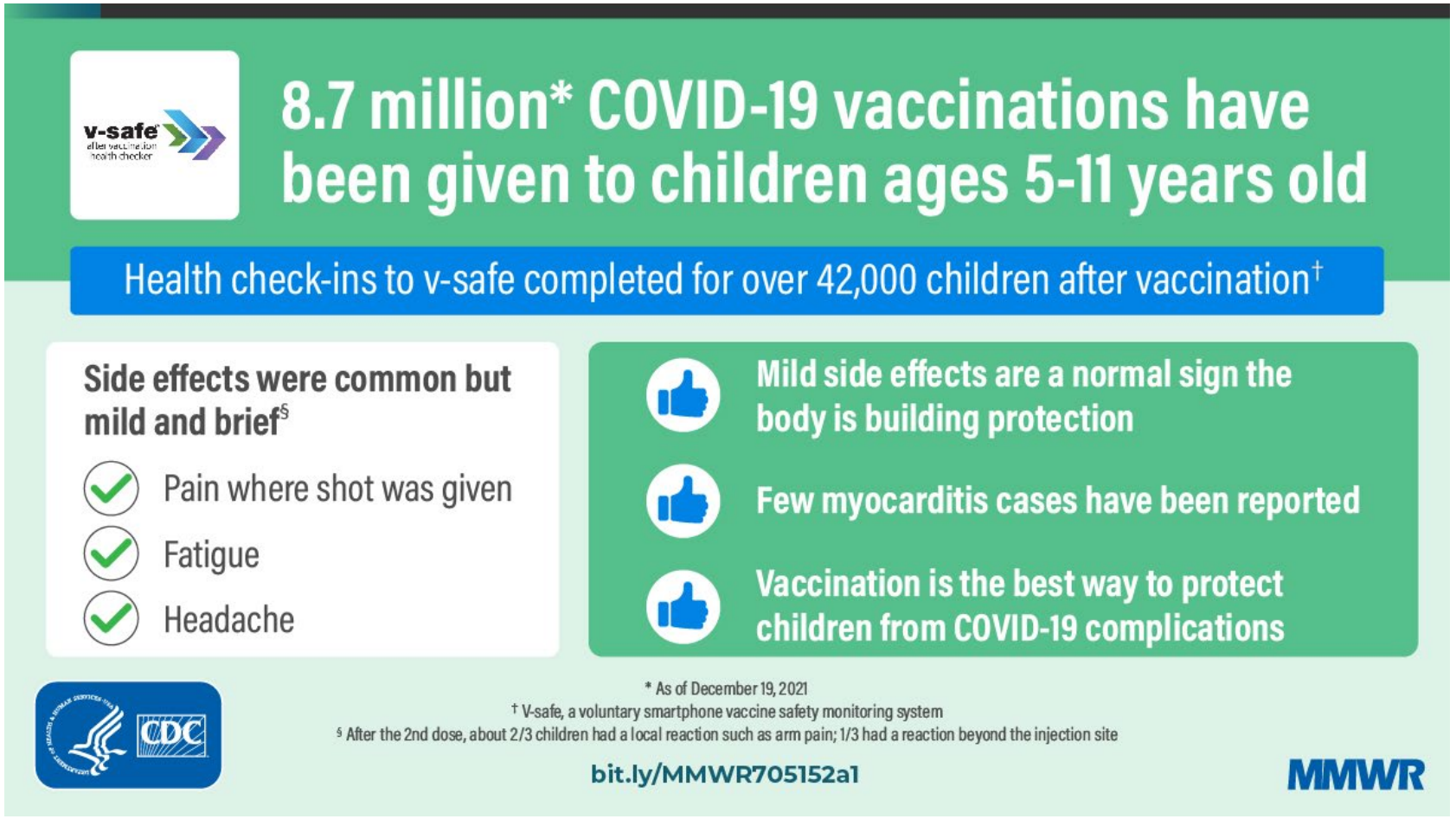
Deaths per year in the United States prior to recommended vaccines

	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**

[1]Vogt TM , Wise ME, Bell BP, Finelli L. Declining hepatitis A mortality in the United States during the era of hepatitis A vaccination. J Infect Dis2008; 197:1282-8.
[2]National Notifiable Diseases Surveillance System with additional serogroup and outcome data from Enhanced Meningococcal Disease Surveillance for 2015-2019.
[3]Meyer 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
[4]Roush SW , Murphy TV; Historical comparisons of morbidity and mortality for vaccine-preventable diseases in the United States. *JAMA* 2007; 298:2155-63.
[5] Glass 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-4u4f/data.

COVID-19 Vaccine Has Proven to be Safe for Children in Other Age Groups

- In *preauthorization* trials for Pfizer-BioNTech COVID-19 vaccine, vaccinated children aged 5–11 years reported mild to moderately severe local and systemic reactions
  - **No serious vaccination-related events were noted**
- *After authorization* of Pfizer-BioNTech COVID-19 vaccine for children aged 5–11 years during October 2021, and administration of approximately 8 million doses, local and systemic reactions after vaccination were reported to VAERS and v-safe for vaccinated children aged 5–11 years.
  - **Serious adverse events were rarely reported**
- Parents and guardians of children should be advised that local and systemic reactions are expected after vaccination and are more common after the second dose

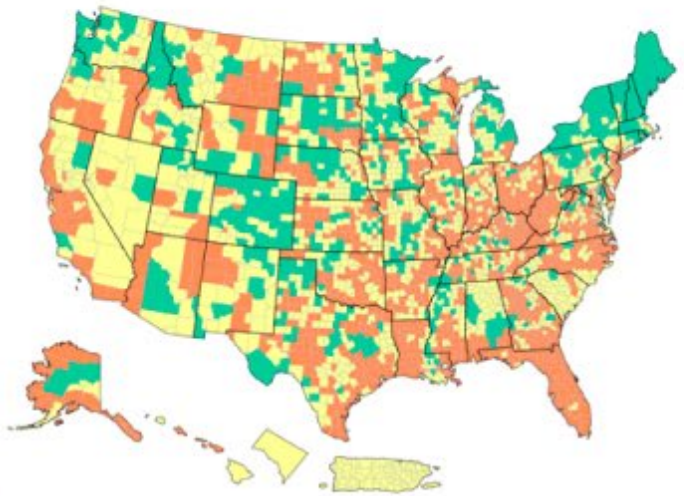


Source: Hause AM, Baggs J, Marquez P, et al. COVID-19 Vaccine Safety in Children Aged 5–11 Years — United States, November 3–December 19, 2021. MMWR Morb Mortal Wkly Rep 2021;70:1755–1760. DOI: http://dx.doi.org/10.15585/mmwr.mm705152a1

Know your risk for serious illness with COVID-19

Check out CDC's list of conditions that may increase your risk for serious illness

Use your COVID-19 Community Level to decide what protective actions to take



bit.ly/MMWR7133

AUGUST 11, 2022

MMWR

Guidance to help you make informed decisions to prevent severe COVID-19

1

Know your risk

2

Protect yourself

3

Take action if exposed

4

Take action if you are sick or test positive

bit.ly/MMWR7133

AUGUST 11, 2022

MMWR

Source: CDC

Take action if you're exposed to COVID-19

EVERYONE:

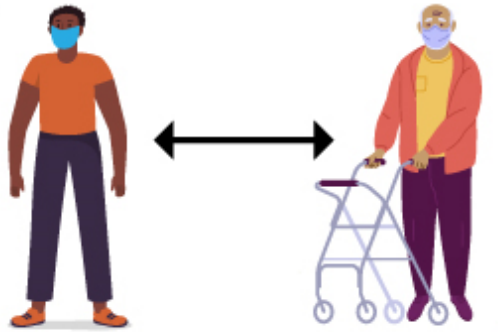
Watch for symptoms for 10 days

Wear a mask around others indoors for 10 days

Test 5 days after exposure (or sooner if you have symptoms)

If positive, follow isolation guidance

Take extra precautions for 10 days when around people more likely to get very sick



bit.ly/MMWR7133

AUGUST 11, 2022

MMWR