MI COVID RESPONSE DATA AND MODELING UPDATE

February 22, 2022

Executive Summary

Current statistics and where we may be going

- Michigan wastewater dashboard showing declines in majority of sentinel sites
- All regions experiencing declines for positivity, cases rates, and hospitalizations
- Those 30–39-years-old continue to have the highest case rate of any age group

Preventing Death and Severe Outcomes

- Cases in long term care facilities are decreasing, crucial to get LTC residents and staff up to date on vaccination
- Death rates are declining but remain highest among the oldest age groups
- In December, unvaccinated adults aged 18+ had a higher risk of dying from COVID-19 compared to fully vaccinated adults with booster doses

Protect Health Care Capacity

- COVID+ census in hospitals, including pediatric census, is declining in nearly all regions
- Several federal support teams are continuing to support hospitals through March
- The decrease in COVID-19 burden correlates with improving hospitalization metrics (e.g., more available beds and decreases in the number of hospitals reporting staff shortages) indicating potential beginning of recovery phase

Keep Vital Infrastructure Functioning

- Vaccination, Masking, Testing and Therapeutics are critical tools in our fight against the impact of COVID-19
- Newly available testing resources for vulnerable population in Michigan
- MDHHS has resources available for recommendations with quarantine and isolation updates
- Surveillance, data modeling, and preparation of resources are ongoing efforts for all types of pathogens that help protect Michiganders

Draft, for discussion only

Guiding Principles

To prioritize **equity** in each of the following objectives

01

Prevent death and severe outcomes

Prioritize uptake of vaccinations and booster doses.

Protect the most vulnerable

- Mitigate risks in congregate settings using all available tools.

Maximize early access to testing and therapeutics.

02

Protect health care capacity (from hospitals to first responders to LTFS)

Reduce community spread during a surge through all available tools.

Reduce severity of cases, need for ICU/ventilators through vaccines and therapeutics.

03

Keep vital infrastructure (schools, corrections) functioning safely, while planning for recovery

Establish a new normal at every phase of the pandemic.

- Utilizing all available tools and the concept of "risk budget".

Provide tools to the public to protect themselves.

- Including OTC testing and instructions for isolation and contact tracing.

MDHHS
Michigan Department of Health & Human Services

Ongoing response to COVID-19 cycle

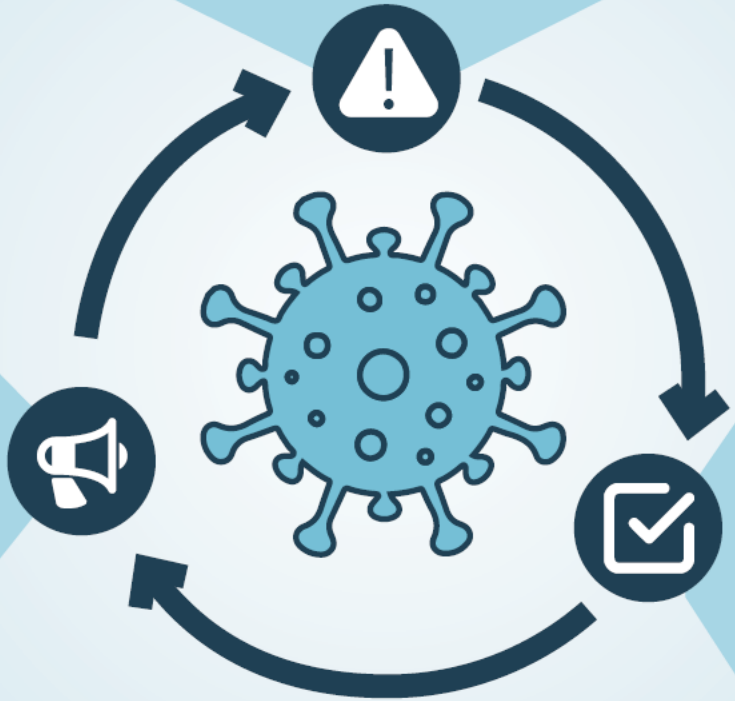
MDHHS
Michigan Department of Health & Human Services

Visit Michigan.gov/Coronavirus for current COVID-19 information.

Response (Surge)

A surge means rapid response by local and state public health.

- Increased supplies for testing, masking and medications.
- Increased masking, testing and social distancing efforts.



Readiness (Pre-Surge)

A surge is expected due to a new variant, local outbreak, seasonal changes.

Expect increased illness severity and overwhelmed hospital capacity.

- Educate public regarding new risks.
- Ensure enough supplies of tests, masks and medications.

Recovery (Post-Surge)

Expect to remain in this phase for longer periods as COVID-19 evolves.

Monitor conditions that may lead to surges, such as a new variant.

- Encourage vaccines to decrease COVID-19 risks.
- Strengthen community support with local stakeholders.
- Empower community members to make best choices for individual situations.

Vaccines

Protect against severe outcomes

Boosters are more important than ever, and available for individuals 12+

Masks, Distancing & Ventilation

Prevent spread

Well-fitting, high-quality masks in all indoor public or crowded settings are more important than ever

Tests

Prevent spread

We encourage testing before gatherings, with symptoms, and after exposure

Treatment

Protect against severe outcomes

Oral antivirals and monoclonal antibody infusions are available

Understanding Personal and Household Risk

Protect yourself from COVID-19 by understanding levels of risk, practicing good hygiene and hand washing, staying home when sick, and staying up to date with vaccinations. Masking is a personal and local community choice. Know your risk; know that others may have a risk different from yours. Respect the choice.

Masking is a proven way to reduce your risk of COVID-19.

When making decisions about risk, consider the setting, your vaccination status and current level of community transmission in addition to the personal and family risk factors* noted below.

	Lower Risk Settings → Higher Risk Settings			
	Outdoor Distanced Spaces (Parks, Trails, Large patios)	Outdoor Crowded Spaces (Concerts, Theme parks, etc...)	Indoor Distanced Spaces (Social distancing ability self-controlled)	Indoor Crowded Spaces (Poorly ventilated and/or social distancing not in personal control)
Lower Risk	Up to date on vaccine, without risk factors			
	Up to date on vaccine, with risk factors			
	Unvaccinated, without risk factors			
Higher Risk	Unvaccinated, with risk factors			

Up to Date on vaccine includes any booster doses as defined by the CDC. Additionally, individuals who have tested positive for COVID-19 in the past 90 days would fall into similar risk categories as those who are up to date on vaccination.

*__Risk factors__ include older adults (60+) and those who have serious chronic medical conditions like heart disease, diabetes or lung disease (at any age), and those who live in high-risk congregate settings (like nursing homes, corrections facilities and shelters). If you live with others who have risk factors, consider their health in addition to your personal health.

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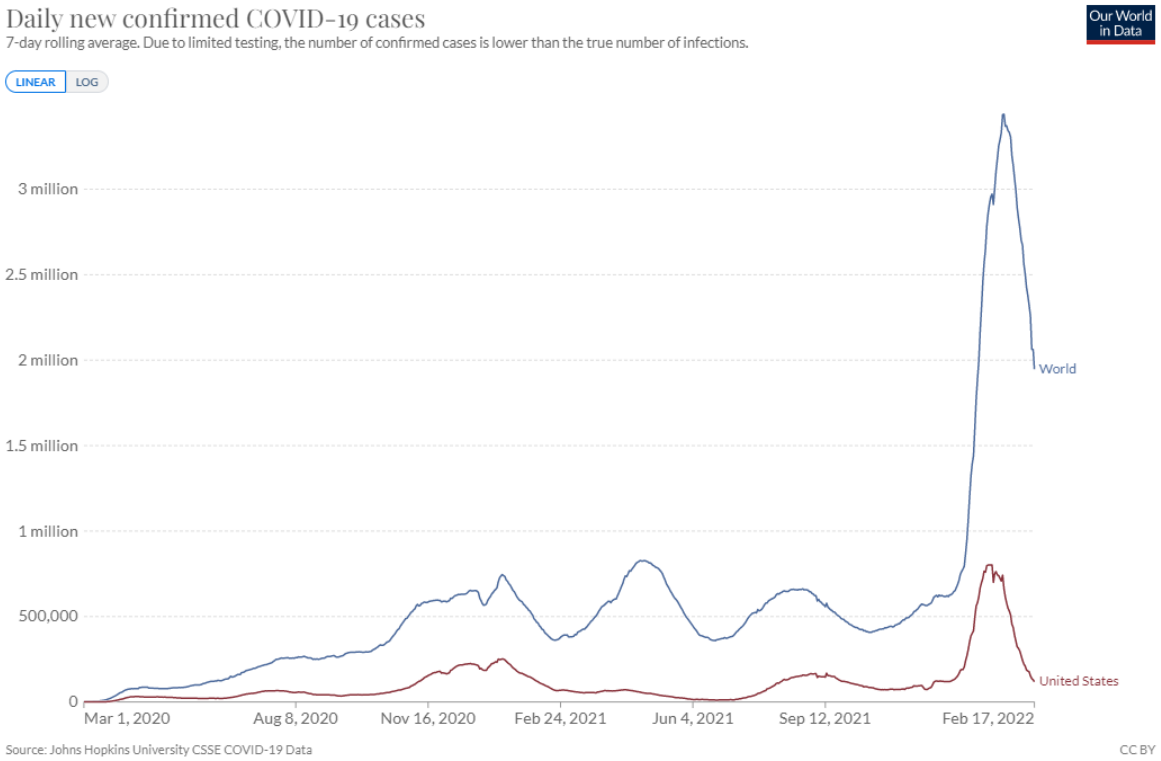
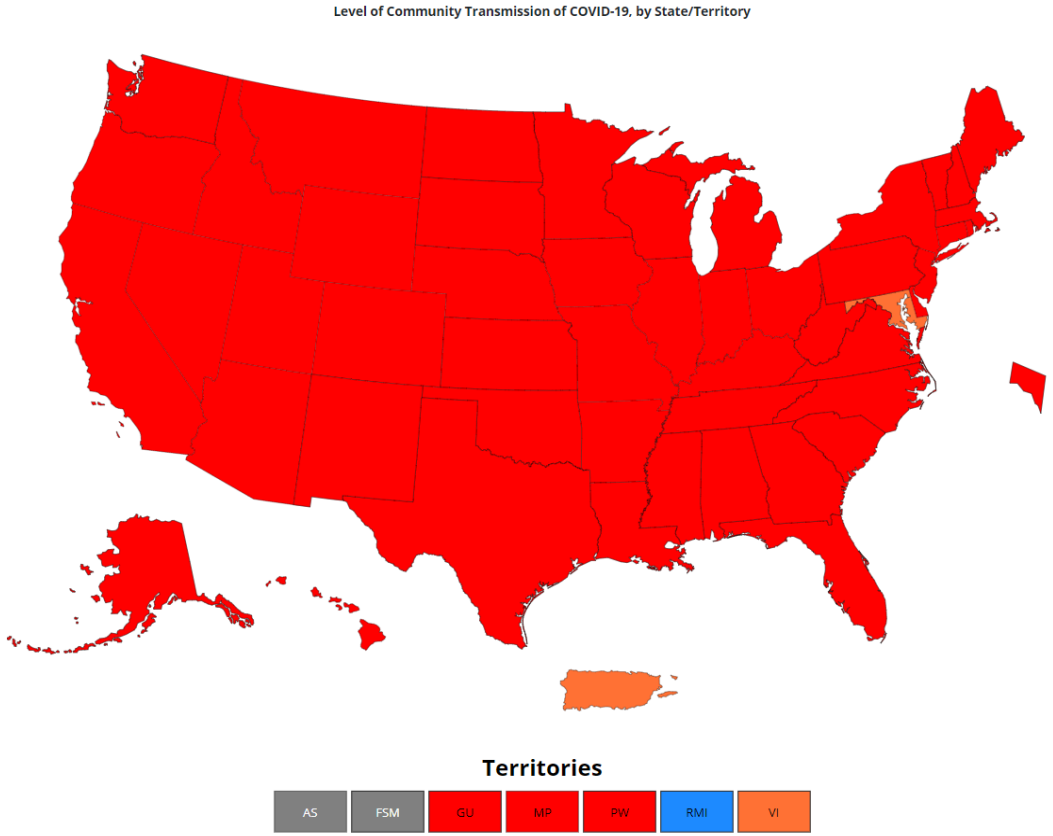
Michigan Department of Health & Human Services

Visit Michigan.gov/Coronavirus for current COVID-19 information.

Global and National Trends





Globally, 421,113,096 cases and 5,871,258 deaths (Data* through 2/18)

- Globally, cases are declining

United States: Reported cases (7-day average) have decreased over 37% since the prior week¶

- However, the U.S., and 49 states, remain at High transmission level (**287.9** cases/100,000 in last 7 days; last week: 369.8 cases per/100,000)

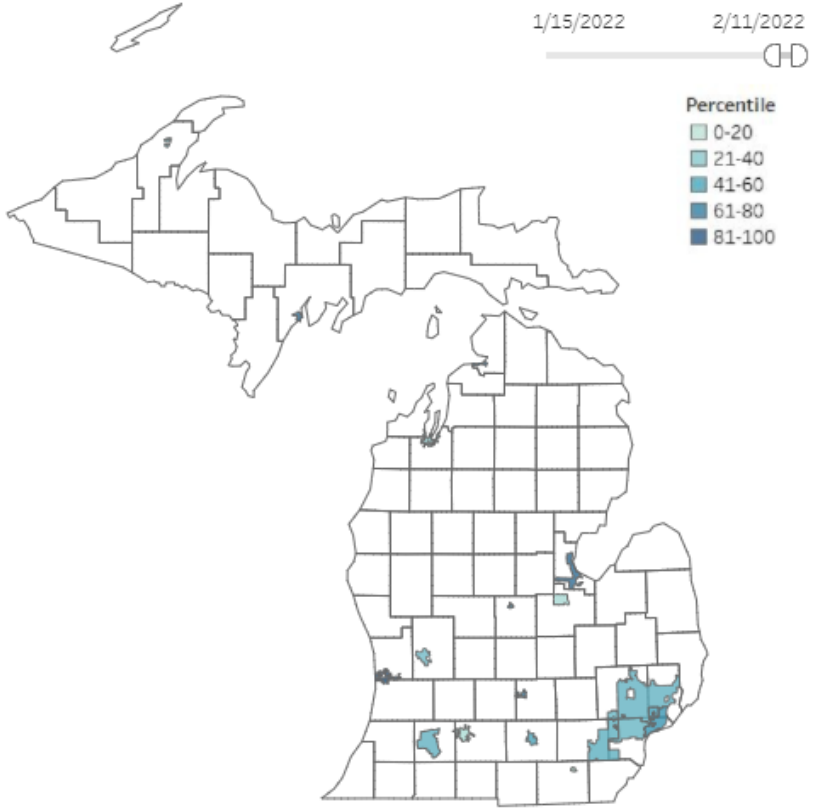
Most Midwestern states are declining

- Minnesota and Wisconsin have the highest case rates *in Midwest* ; Michigan has returned to mid-September case rates and mid-November hospitalization occupancy

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

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. In the top right corner of the map, slide the white buttons to select the time period for which the site-specific percentile is calculated.



Site	Sewershed Population	Consecutive Weeks of Virus Detection	Trend As Of	15-Day Trend
Alma WWTP	8976	23	2/7/2022	
Battle Creek WWTP	51093	17	2/7/2022	
Bay City WWTP	34000	24	2/10/2022	
Delhi Township WWTP	22500	18	1/20/2022	
Escanaba WWTP	12600	24	2/9/2022	
GLWA Detroit River Interce..	492000	68	2/2/2022	
GLWA North Interceptor-	1482000	45	2/2/2022	
GLWA Oakwood-	840600	69	2/2/2022	
Grand Rapids WWTP	265000	27	2/10/2022	
Holland WWTP North	45606	29	2/9/2022	
Holland WWTP South	36912	29	2/9/2022	
Jackson WWTP	90000	29	2/10/2022	
Kalamazoo WWTP	150000	24	2/8/2022	
Petoskey WWTP	7900	29	2/10/2022	
Portage Lake WWTP	14000	22	2/9/2022	
Saginaw Township WWTP	40000	26	2/10/2022	
Tecumseh WWTP	8680	5	2/11/2022	
Traverse City WWTP	45000	27	2/10/2022	
Warren WWTP	135000	22	2/8/2022	
Ypsilanti WWTP	330000	29	2/10/2022	

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 2/16/2022. 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%
- 1% to 9%
- -9% to 0%
- -99% to -10%
- -100% to -999%
- -1000% or less

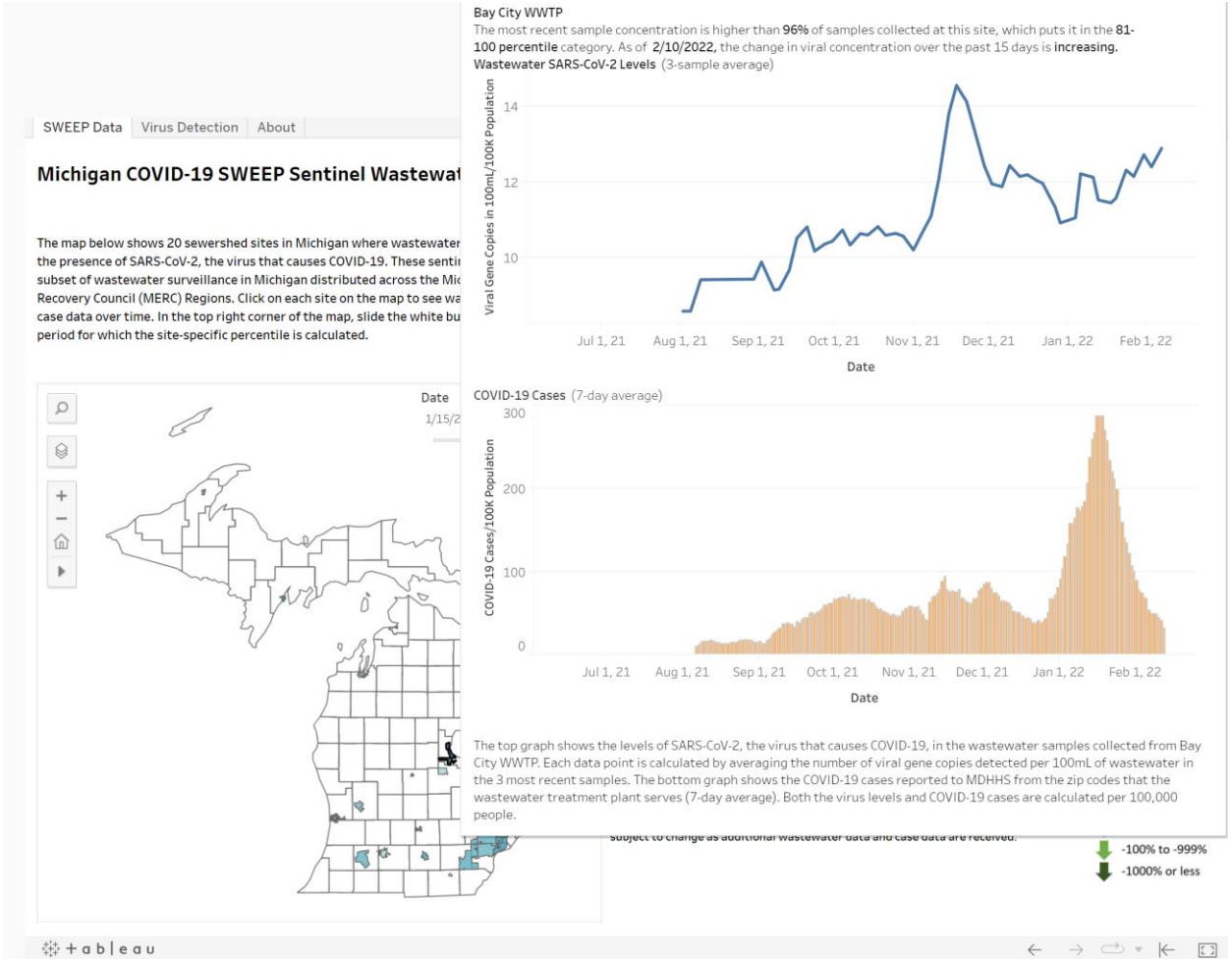
- Recent trends in majority of sites are declining or plateaued

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

Site-Specific Pop-Up

- Within the ‘SWEEP Data’ dashboard tab, additional site-specific is available when selecting individual sites from the map, including:
  - Percentile of the most recent sample collected
  - Rolling 3-day average of wastewater samples collected at the site over time
  - Rolling 7-day average of clinical COVID-19 cases reported from the zip codes that each WWTP serves

Bay City



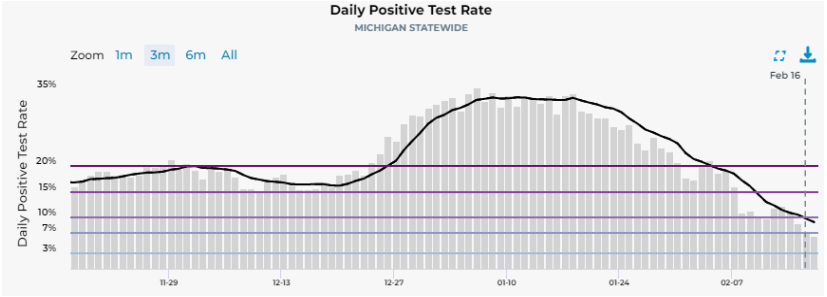
Source: MDHHS – Sentinel Wastewater Epidemiology Evaluation Project - https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-573480--,00.html

Recent statewide trends

Statewide trends

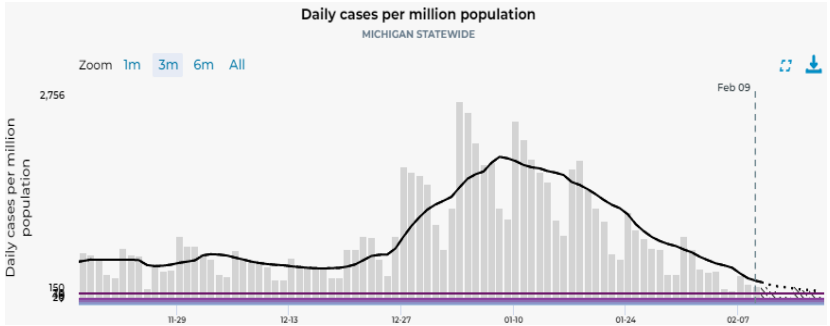
7-day average Daily values

Positivity, %



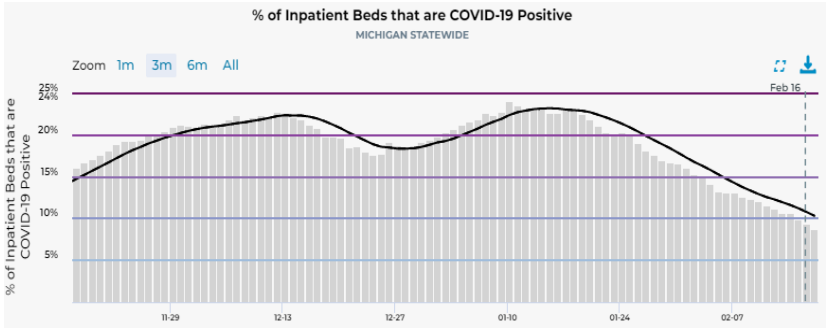
Current: 9.1%

Daily cases per million



Current: 292

Daily hospitalization rate, %

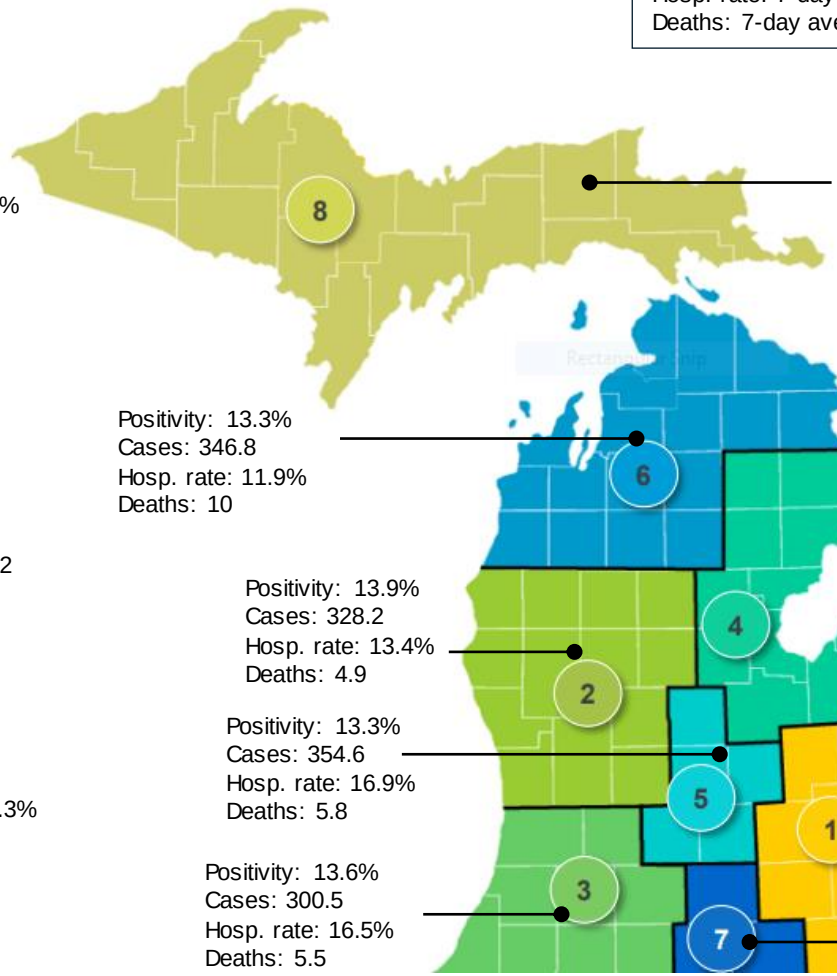


Current: 10.3%

Source: https://mistartmap.info/

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: 11.9%
Cases: 399.7
Hosp. rate: 8.2%
Deaths: 3.8

Positivity: 13.3%
Cases: 346.8
Hosp. rate: 11.9%
Deaths: 10

Positivity: 13.9%
Cases: 328.2
Hosp. rate: 13.4%
Deaths: 4.9

Positivity: 14.3%
Cases: 407.8
Hosp. rate: 10.2%
Deaths: 7.2

Positivity: 13.3%
Cases: 354.6
Hosp. rate: 16.9%
Deaths: 5.8

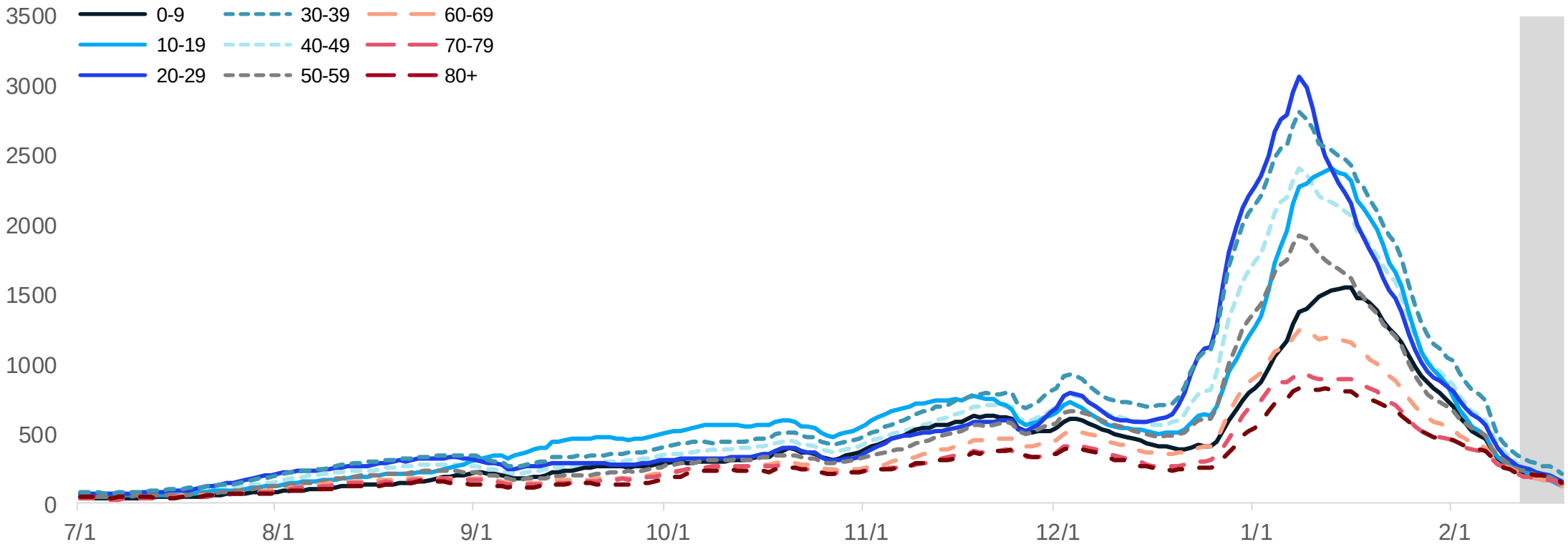
Positivity: 6.7%
Cases: 247.3
Hosp. rate: 8.5%
Deaths: 5.2

Positivity: 13.6%
Cases: 300.5
Hosp. rate: 16.5%
Deaths: 5.5

Positivity: 12.5%
Cases: 315.2
Hosp. rate: 13.6%
Deaths: 7.1

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 saw decreases over the past week
- Case rates by onset date for all age groups are between 207 and 343 cases per million (through 2/11)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 40-49, and 20-29

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

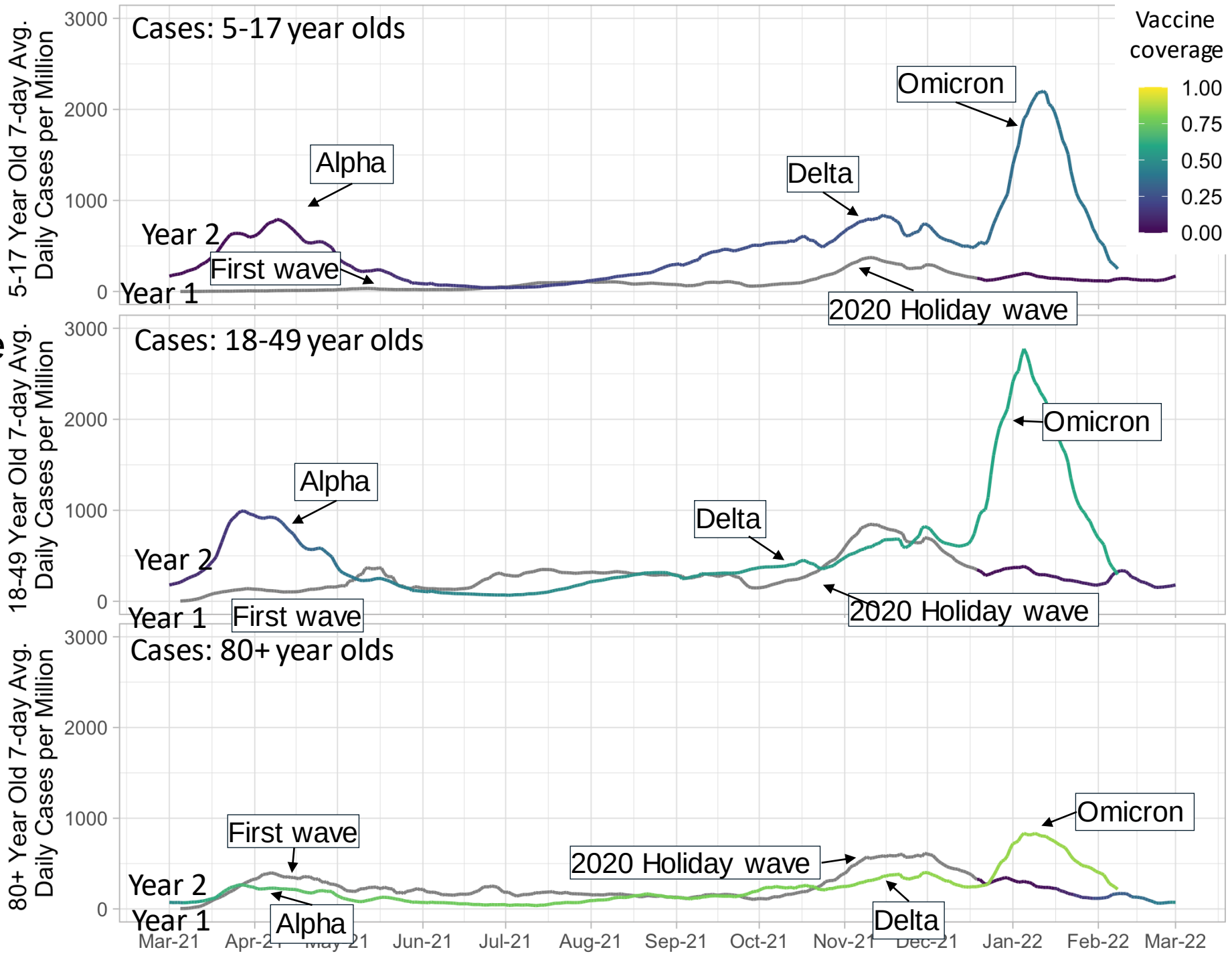
Year-over-year comparisons by age group

All age groups saw their highest case rates of the entire pandemic during the omicron wave

Vaccine coverage is lower among younger age groups compared to middle and older age groups

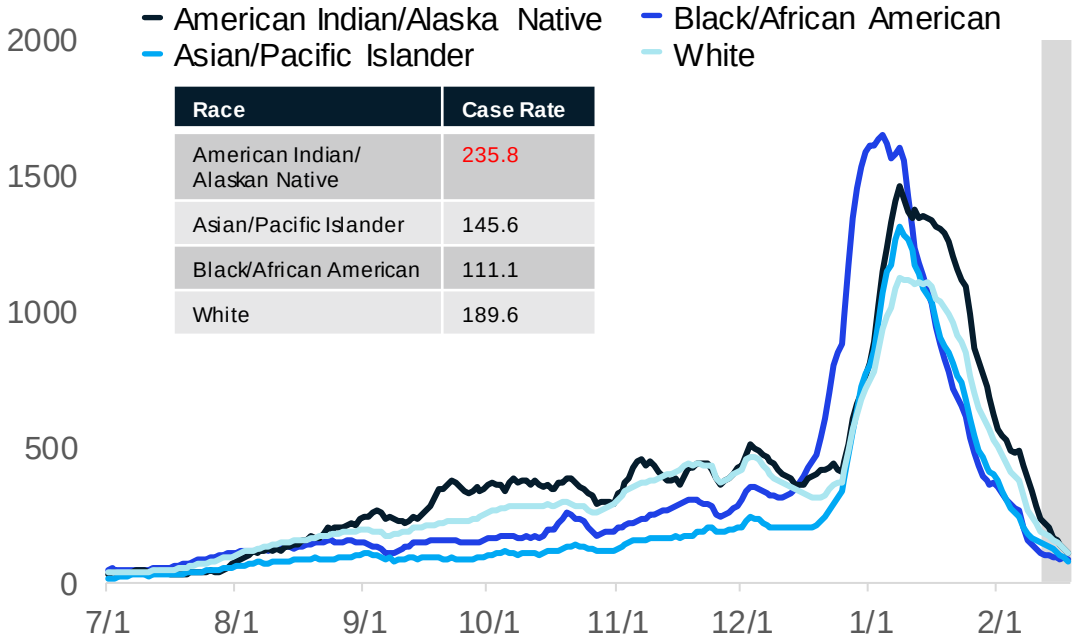
Older age groups had higher vaccine coverage and relatively lower case rates during the omicron wave

Source: MDSS and MCIR data. Note that the vaccine age groups shown as colors in this plot are 5-19, 20-49, and 75+.



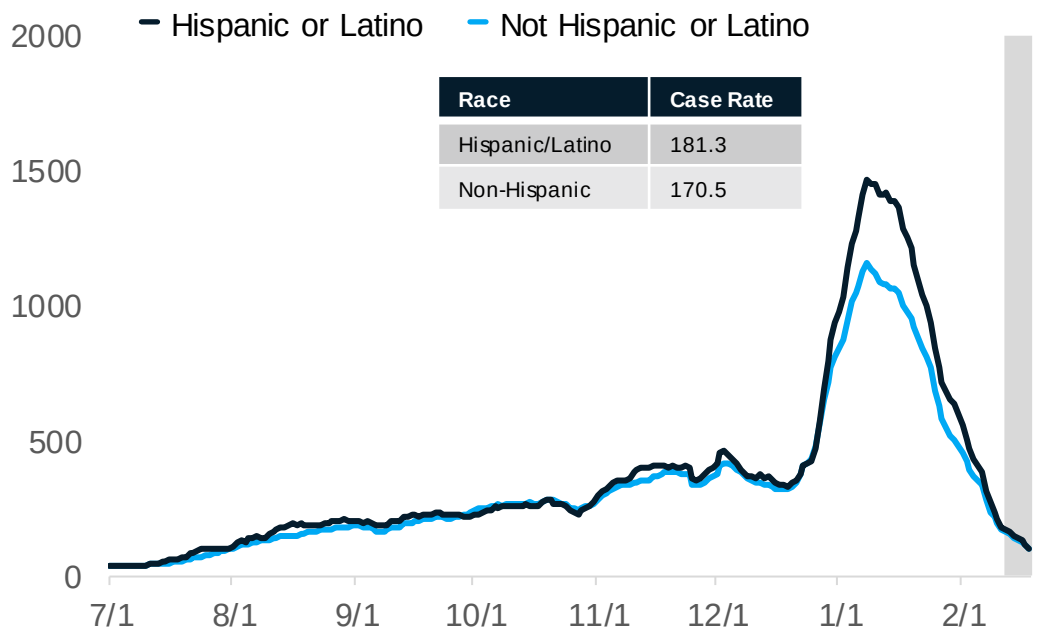
Case Rates by Reported Racial and Ethnic Group

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



Race	Case Rate
American Indian/ Alaskan Native	235.8
Asian/Pacific Islander	145.6
Black/African American	111.1
White	189.6

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



Race	Case Rate
Hispanic/Latino	181.3
Non-Hispanic	170.5

Updates since last week:

- Cases per million are decreasing for all reported racial and ethnic groups and are highest for American Indian and Alaskan Native
- In the past 30 days, 26% (↓2%) of race data and 35% (↓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

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

SARS-CoV-2 Variants Circulating in the United States, Jan 30 – Feb 19 (NOWCAST)

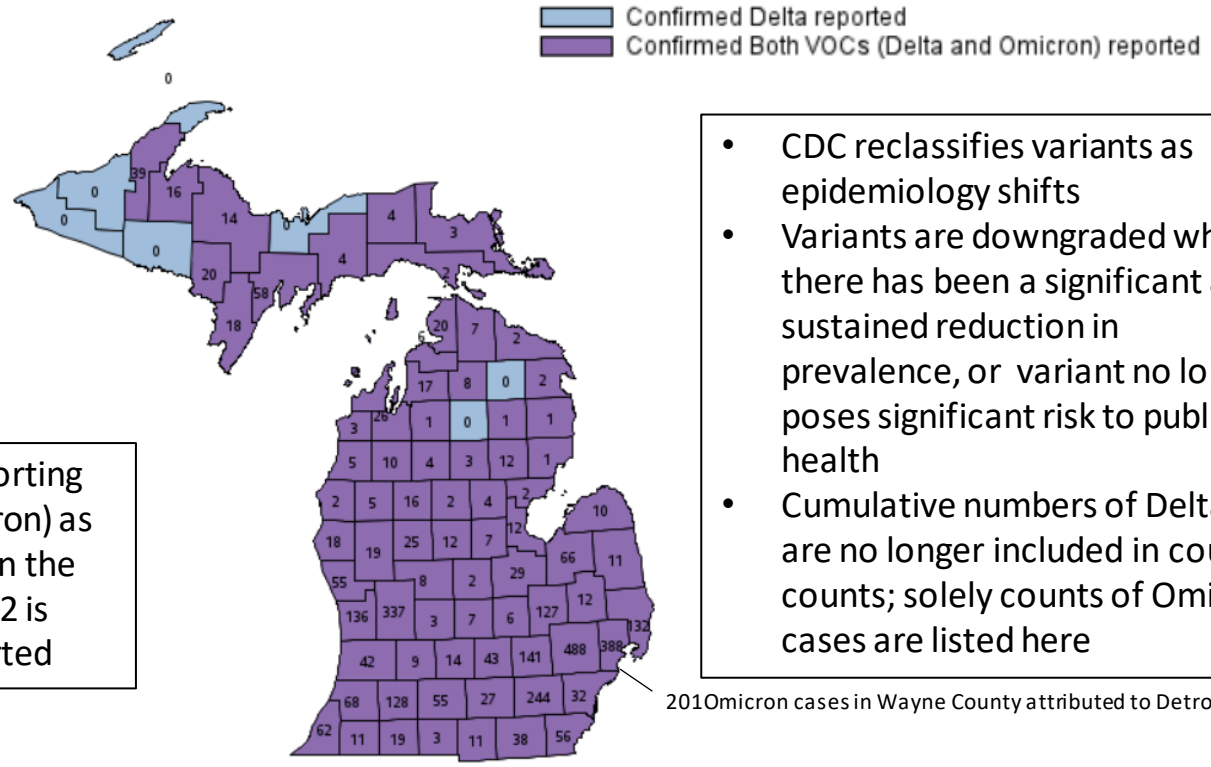
USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.1.1	VOC	75.6%	71.1-79.7%
	B.1.1.529	VOC	20.6%	16.7-25.1%
	BA.2	VOC	3.8%	3.0-4.8%
Delta	B.1.617.2	VOC	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 and BA.3 are aggregated with B.1.1.529. For regional data, BA.1.1 is also aggregated with B.1.1.529, as it currently cannot be reliably called in each region.

Currently, CDC is reporting B.1.1.529 (i.e., Omicron) as the dominant strain in the U.S.; sub-lineage BA-2 is now also being reported

Variants of Concern in Michigan, Feb 18



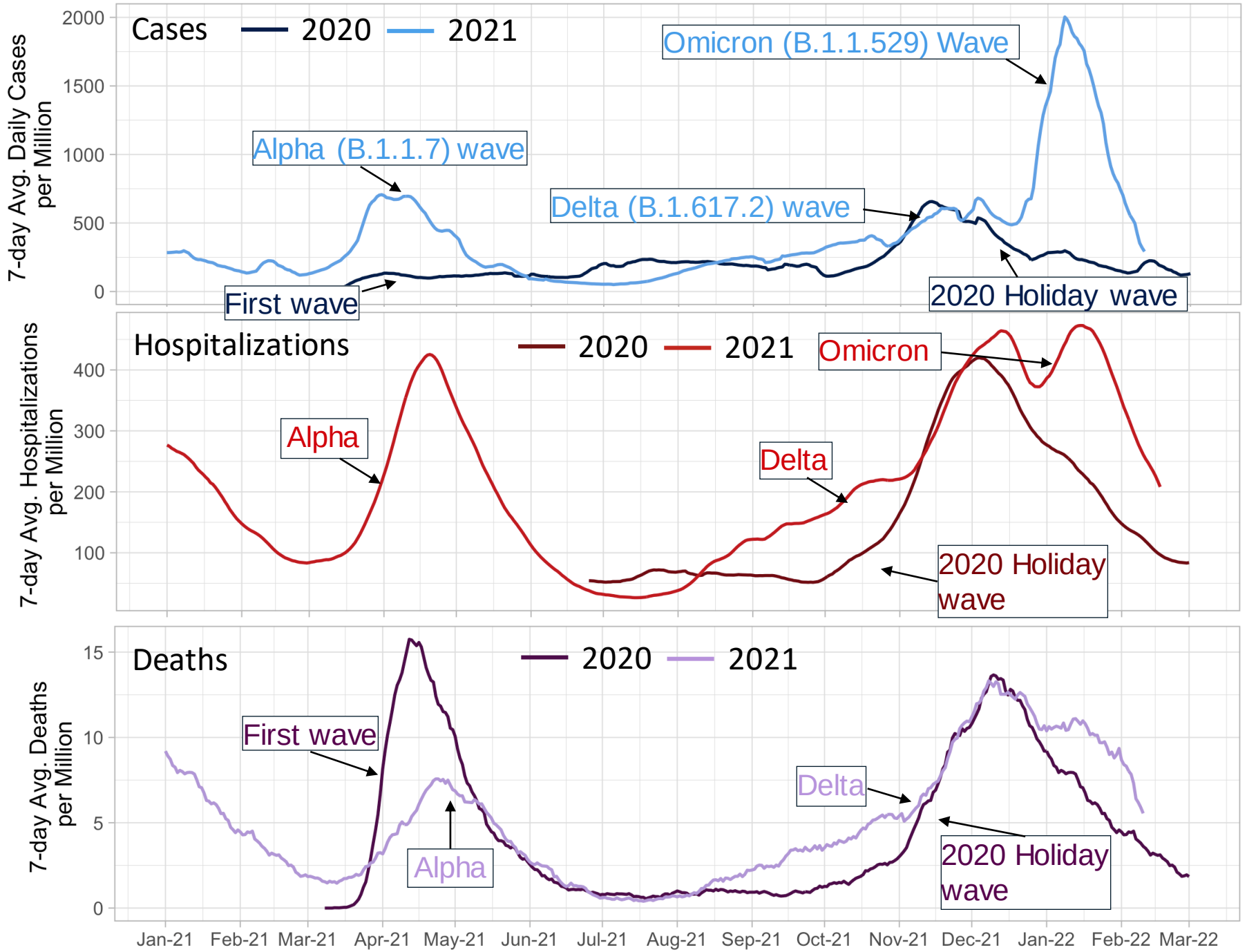
201 Omicron cases in Wayne County attributed to Detroit City

- CDC reclassifies variants as epidemiology shifts
- Variants are downgraded when there has been a significant and sustained reduction in prevalence, or variant no longer poses significant risk to public health
- Cumulative numbers of Delta are no longer included in county counts; solely counts of Omicron cases are listed here

Variant	MI Reported Cases	# of Counties	MDHHS VOC Sequenced Prev. ¶
B.1.617.2 (delta)	30,969	83	0%
B.1.1.529 (omicron)	4,002	76	100%

Data last updated Feb 19, 2022
Source: MDSS
¶ Sequence specimens are from the most recent week by onset date which may change as more specimens are sent in

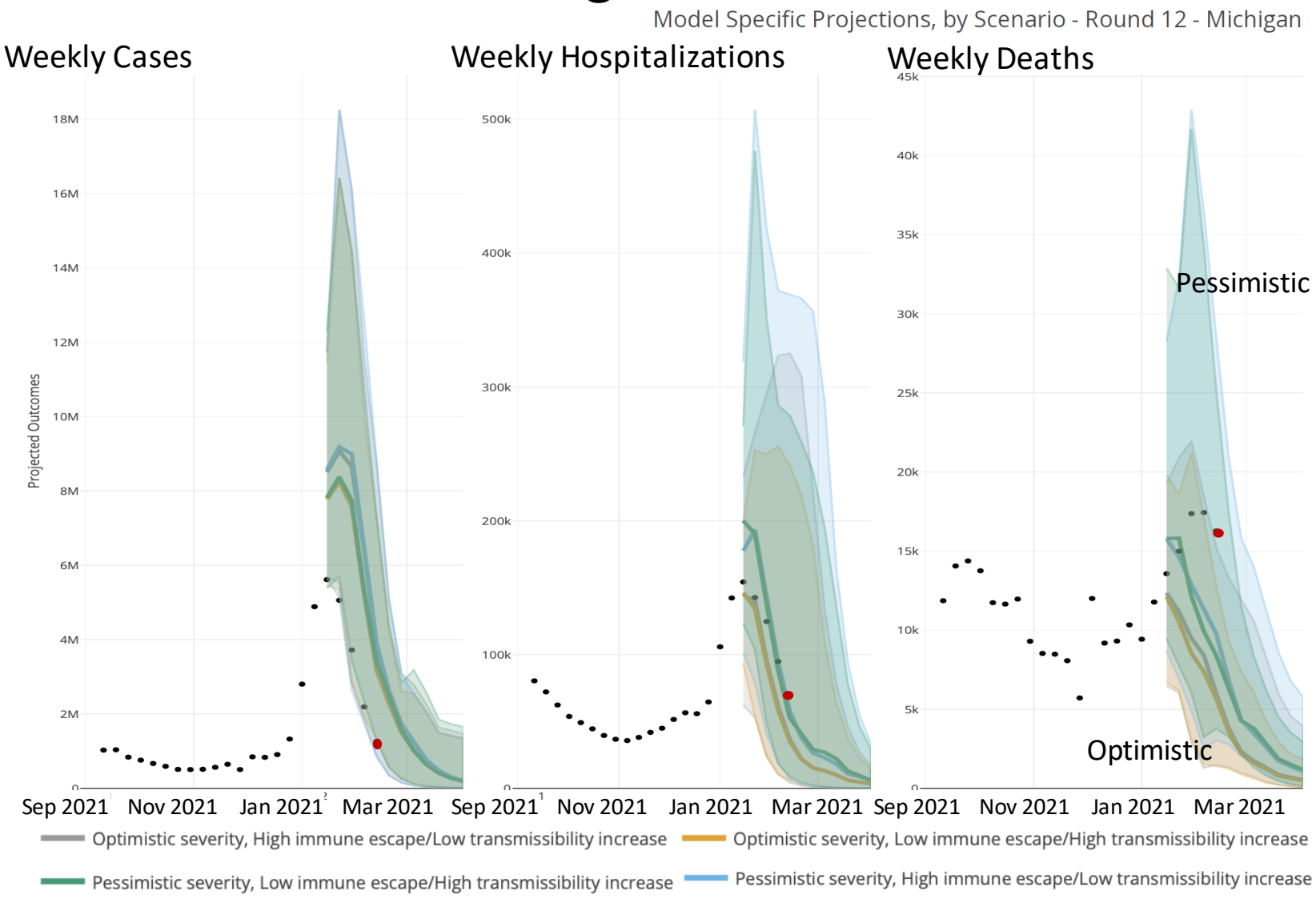
Year-over-year comparisons: cases are near last year's levels; hospitalizations and deaths are higher than last year but decreasing



Source: MDSS and EM Resource data

Where are we headed: models project potential for decreases in cases, hospitalizations, and deaths for Michigan

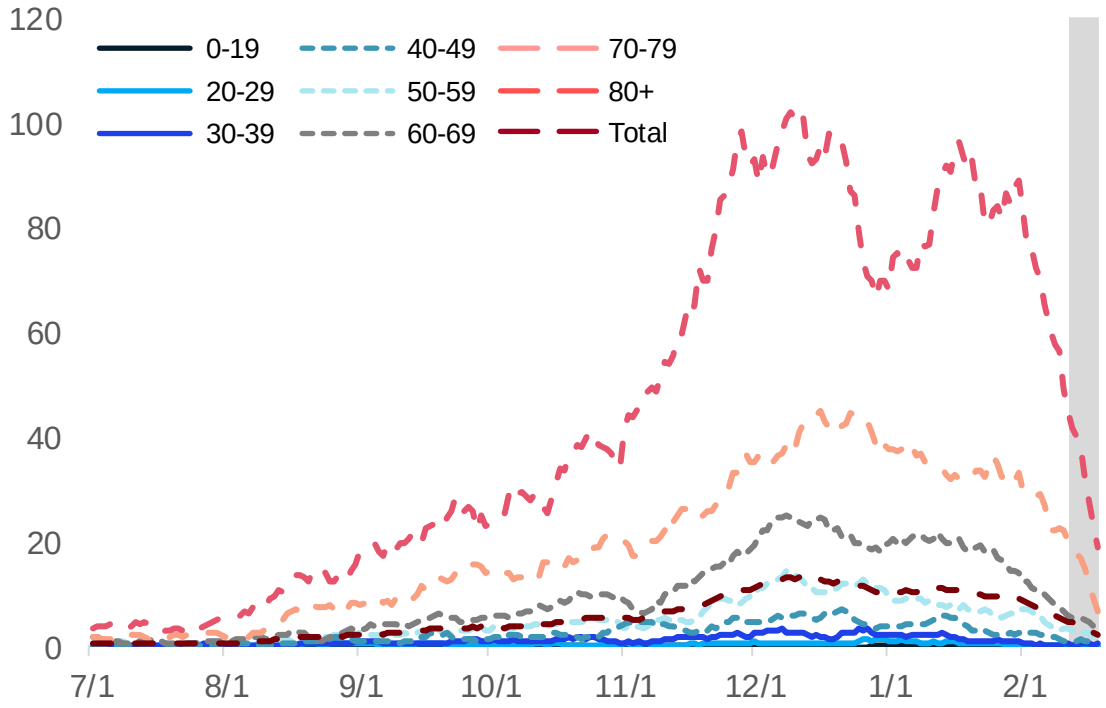
- Updated Model Scenarios (Round 12)
- Suggest we are declining or soon to decline for all three metrics
- Cases and hospitalizations appear consistent with all four scenarios
- Deaths appear more consistent with the more pessimistic scenarios so far



Source: COVID Modeling Scenario Hub. Uncertainty levels: 95%

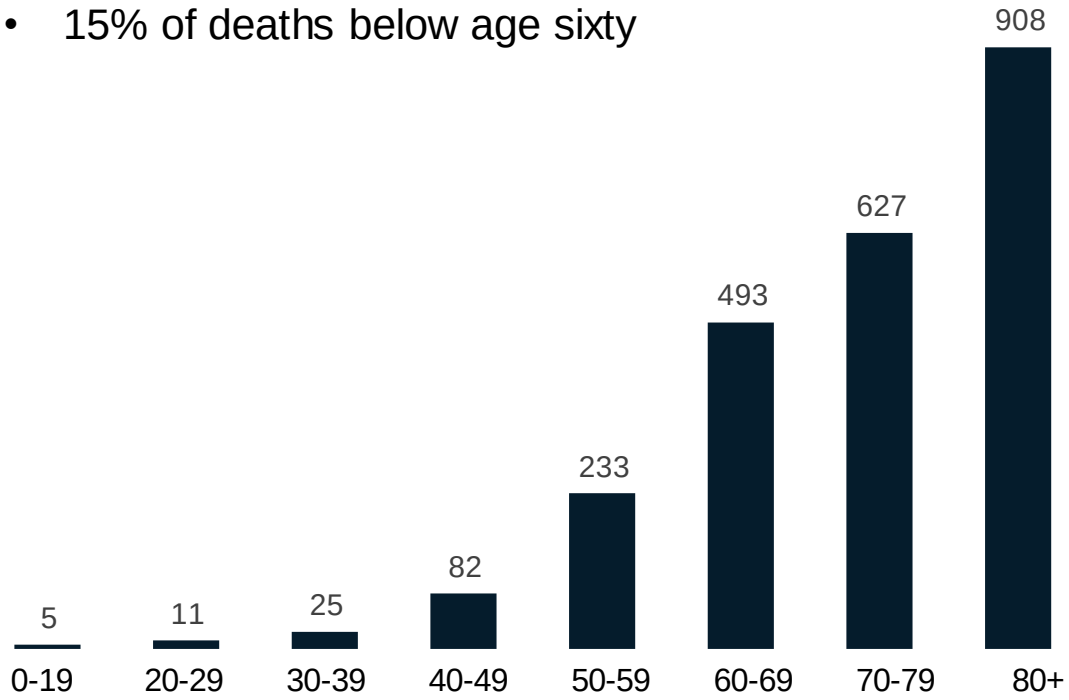
Average and total new deaths, by age group

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 2/11/2022)

- 15% of deaths below age sixty

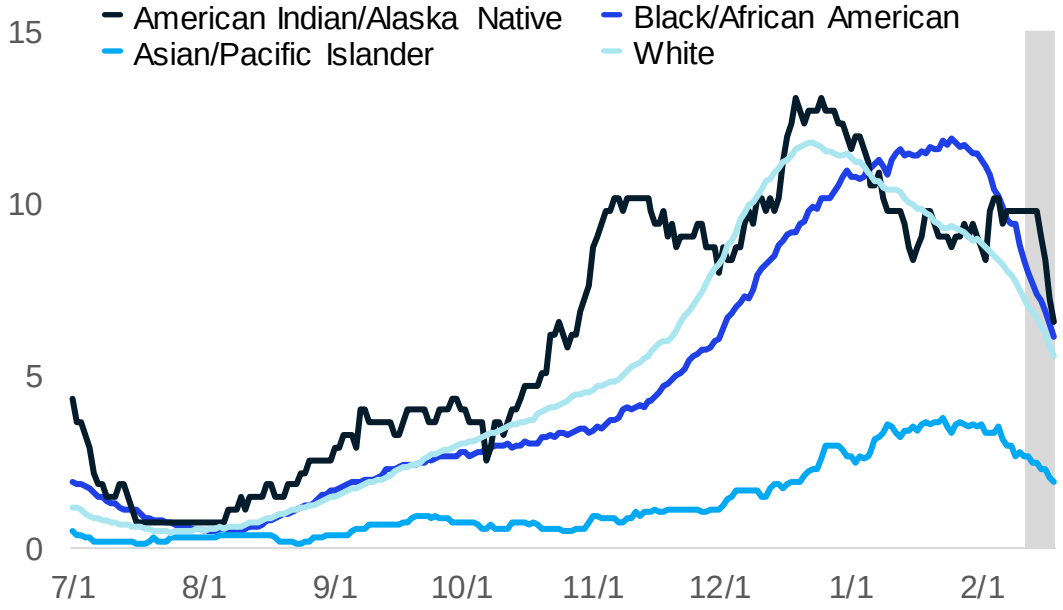


- Through 2/11, the 7-day avg. death rate is more than 45 daily deaths per million people for those over the age of 80
- In the past 30 days, there were 5 deaths among confirmed and probable COVID-19 cases under the age of 20
- 30-day proportion of deaths among those under 60 years of age is 15%

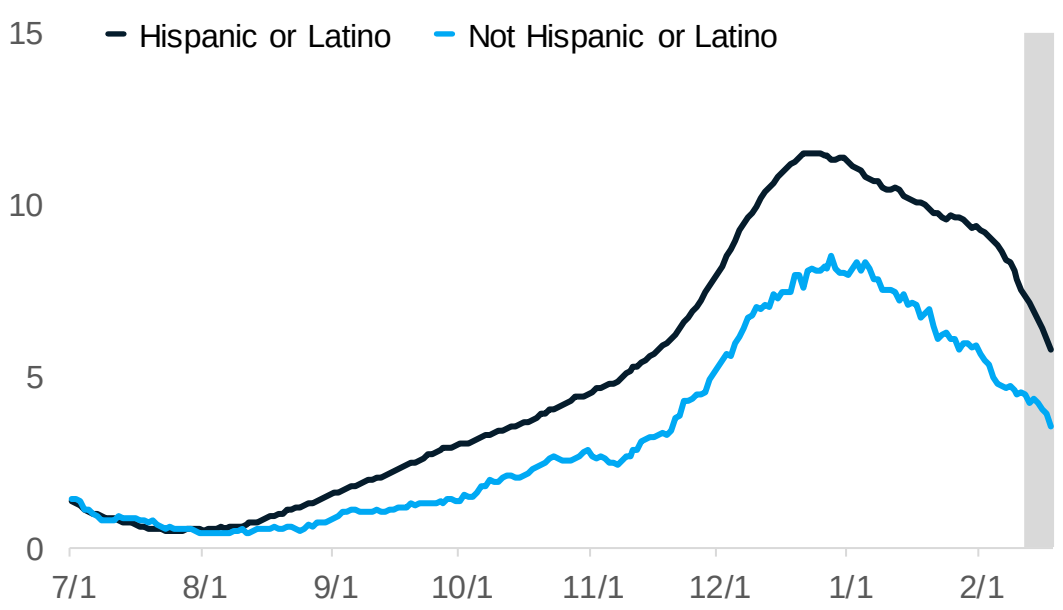
Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System (MDSS)

30-day rolling average daily deaths per million people by race and ethnicity

Average daily deaths per million people by race



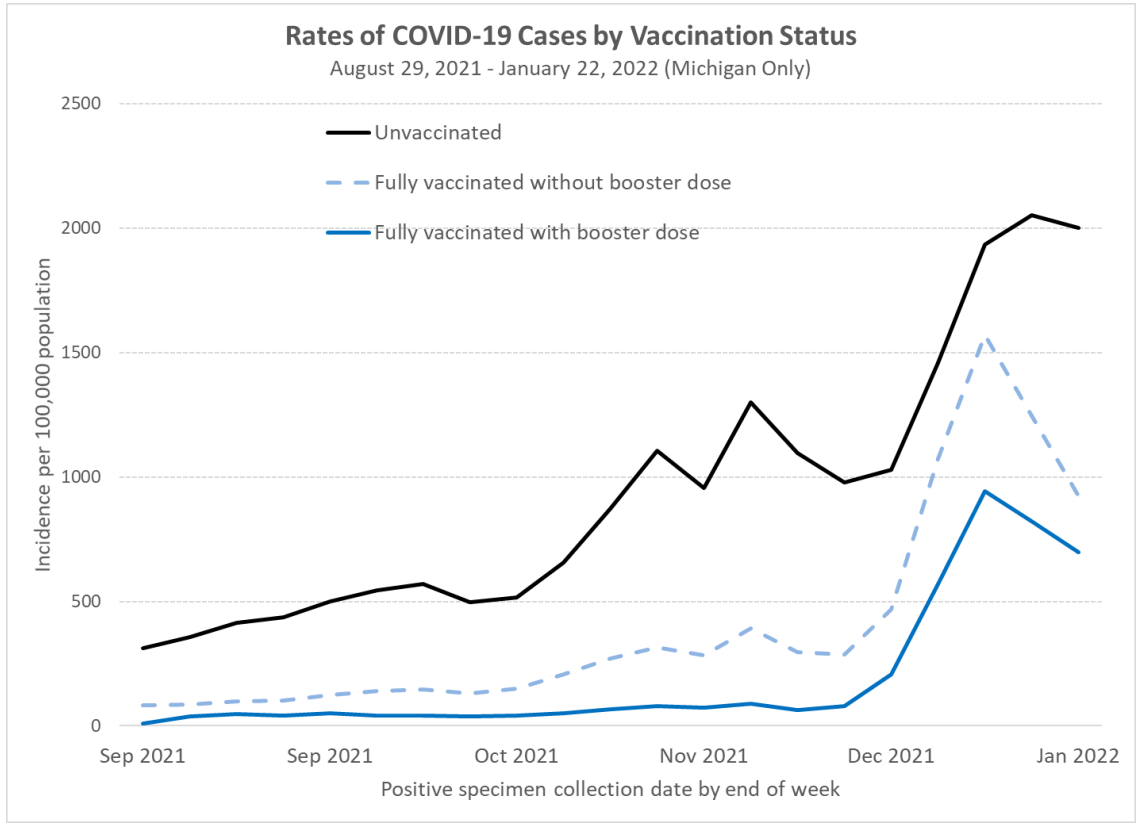
Average daily deaths per million people by ethnicity

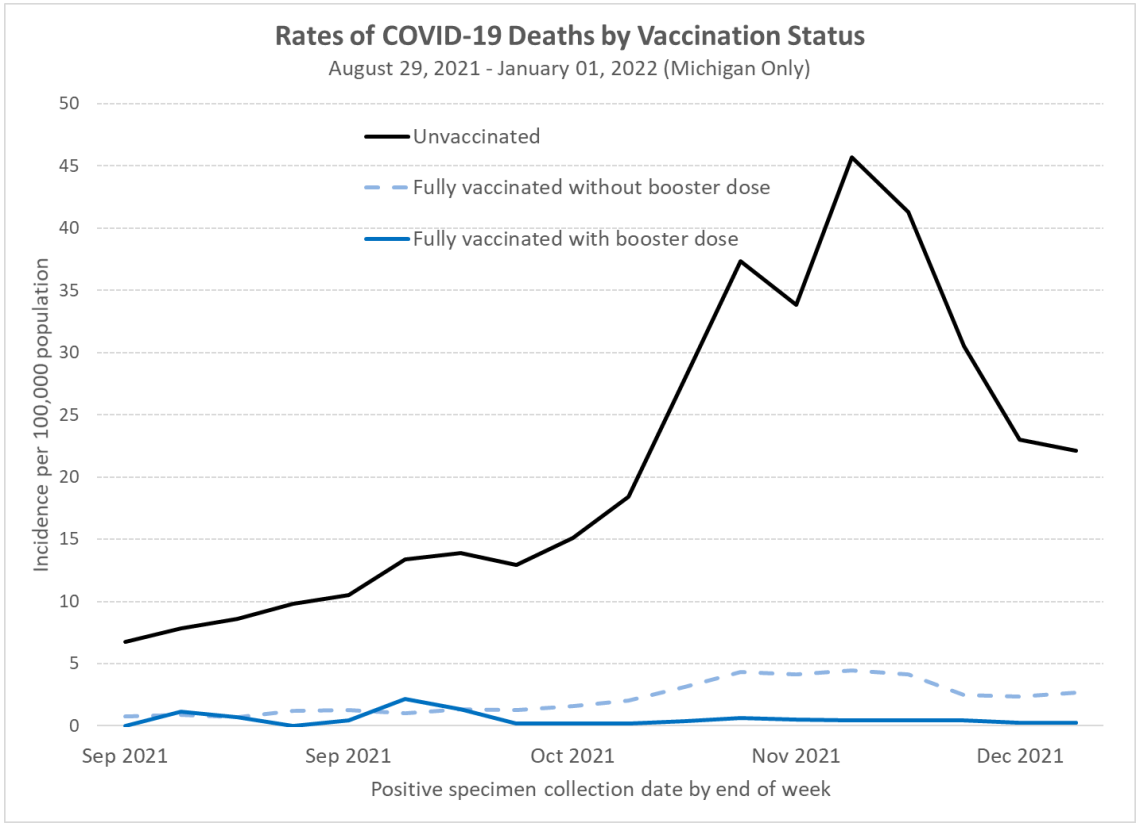


- Deaths are lagging indicator of other metrics
- Currently, Black/African Americans have the highest death rate (8.3 deaths/million)

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

Michigan Age-Standardized Rates of COVID-19 Cases and Deaths by Vaccination + Booster Status





In December, unvaccinated adults aged 18 years and older had:

4.9 X
Risk of Testing Positive for COVID-19

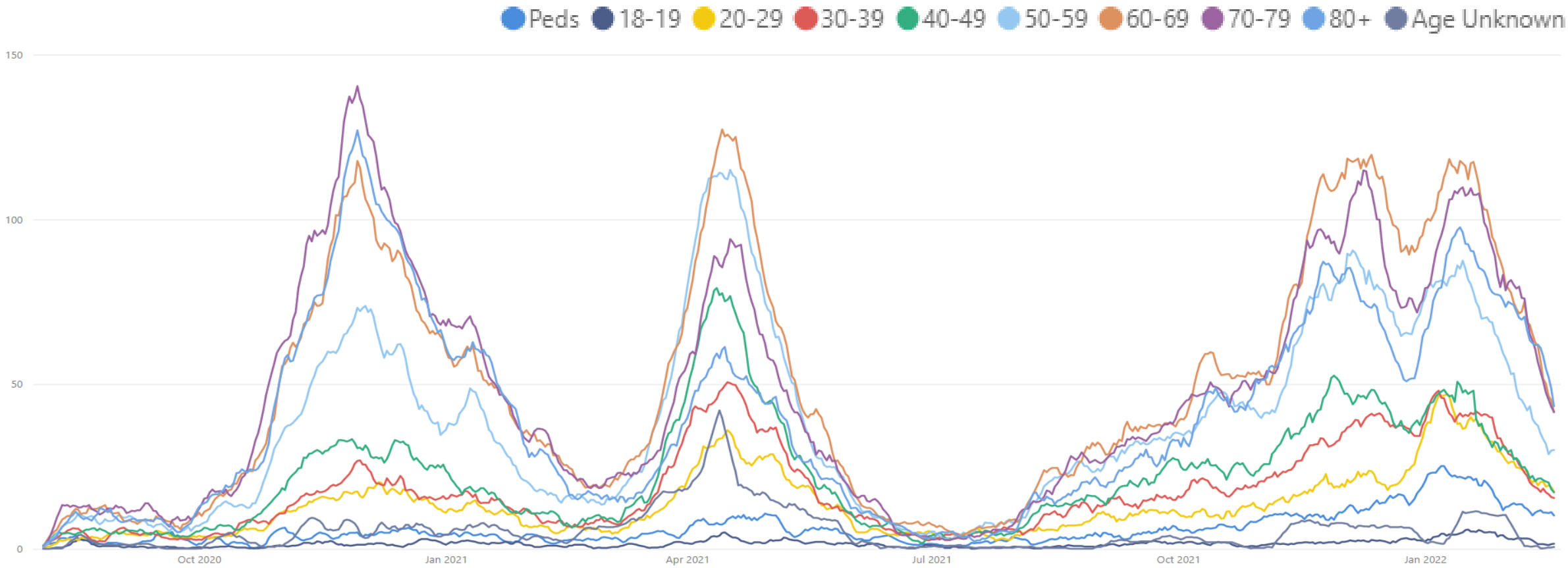
AND

88.5 X
Risk of Dying from COVID-19

compared to fully vaccinated adults with booster doses

Footnotes: Incidence rates were age-standardized using the 2000 U.S. Census standard population; and rates are not adjusted for time since vaccination, underlying conditions, or other demographic factors besides age. Incidence rate ratios for the past one month were calculated by dividing the average weekly incidence rates among unvaccinated people by that among fully vaccinated people.

Average Hospital Admissions by Age Group

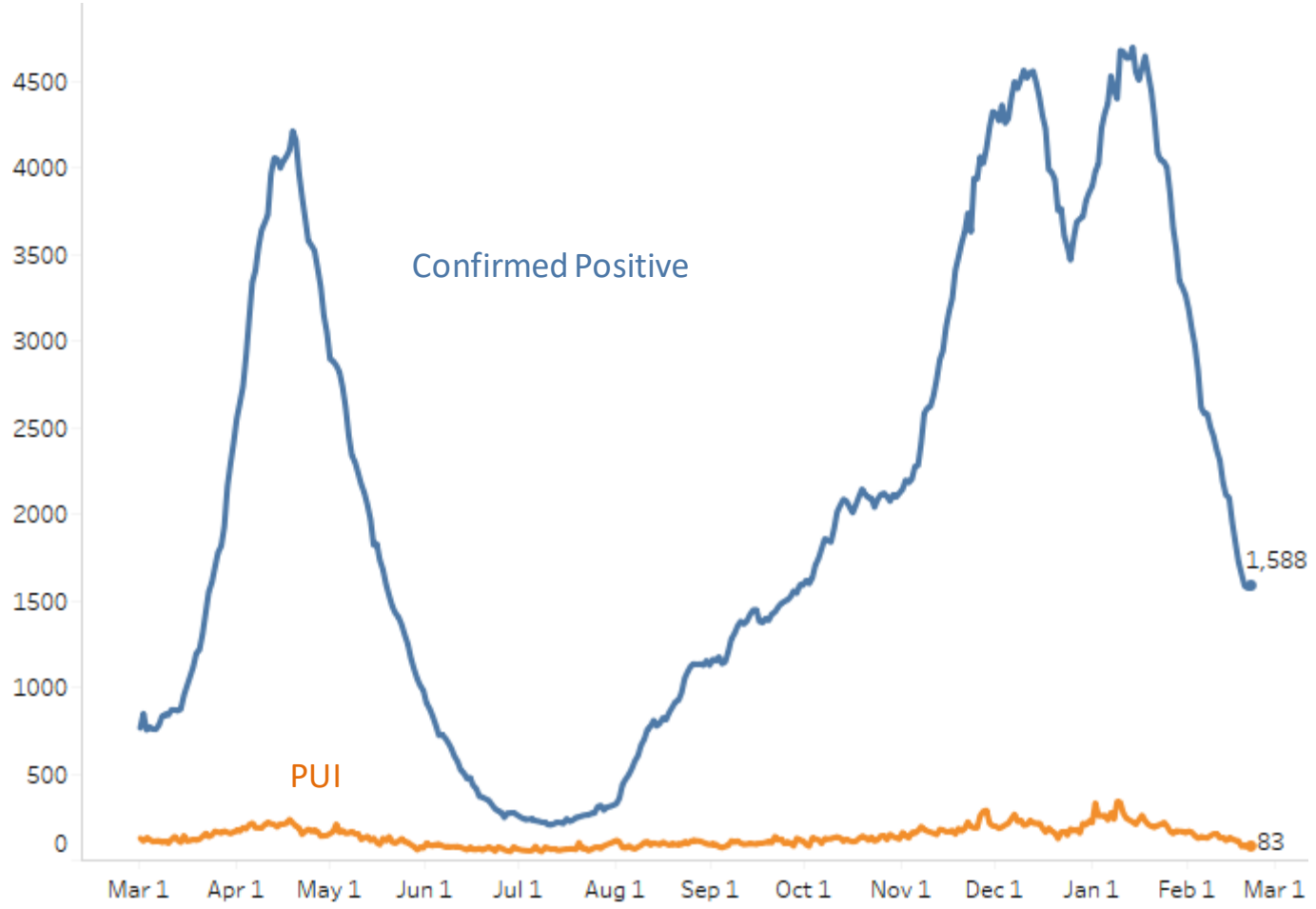


- Trends for daily average hospital admissions declined (-34%) since last week (vs. -25% prior week)
- Overall, most age groups saw declines this week
- More than 40 daily hospital admissions was seen for each of the age groups of 60-69, 70-79, and 80+

Source: CHECC & EM Resource

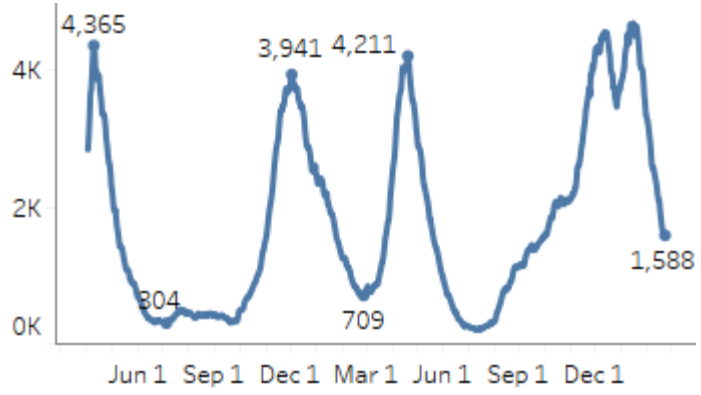
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 2/21/2022
Confirmed Positive & Persons Under Investigation (PUI)

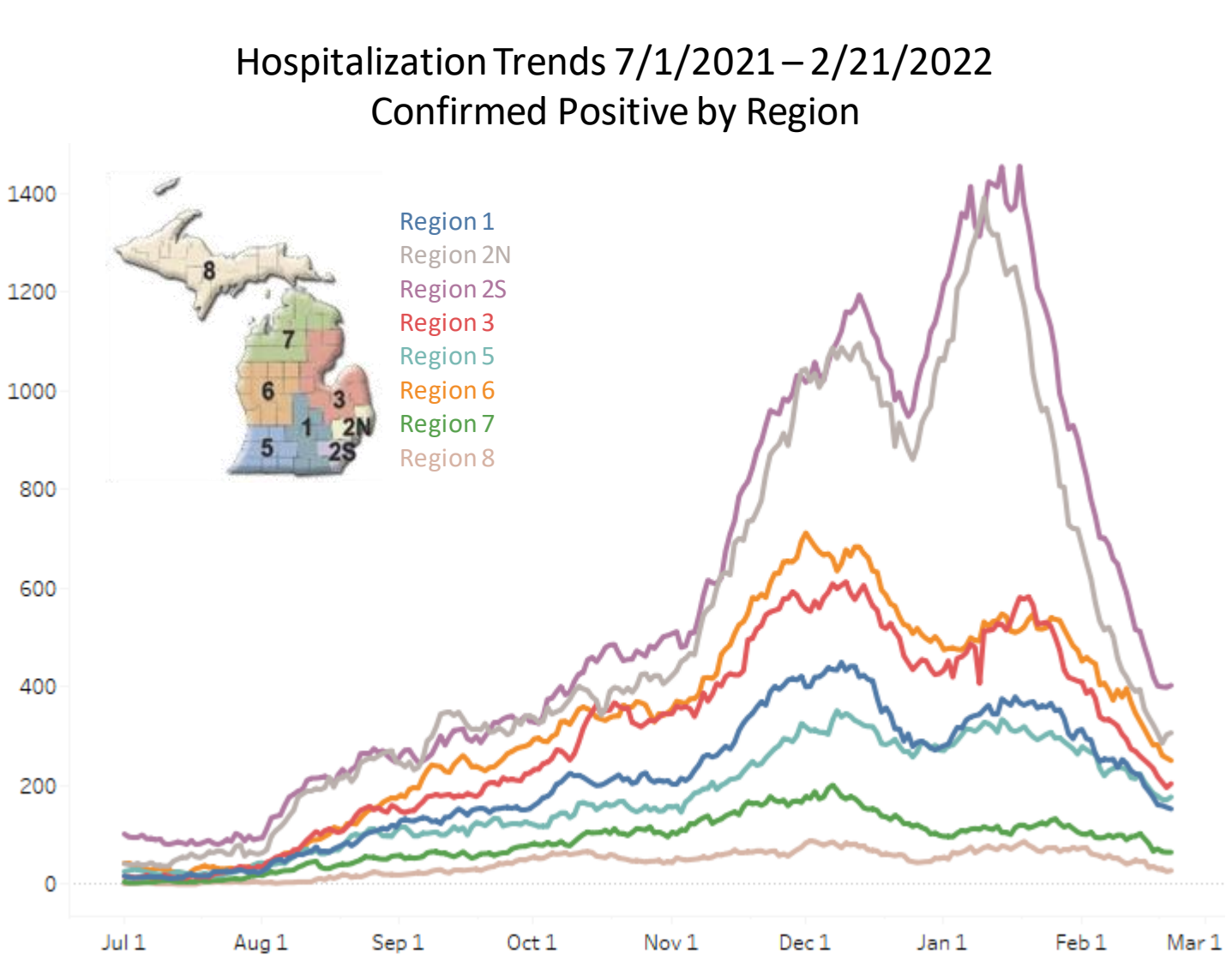


The COVID+ census in hospitals continues to decrease and is down 24% from last week (previous week was down 23%)

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census



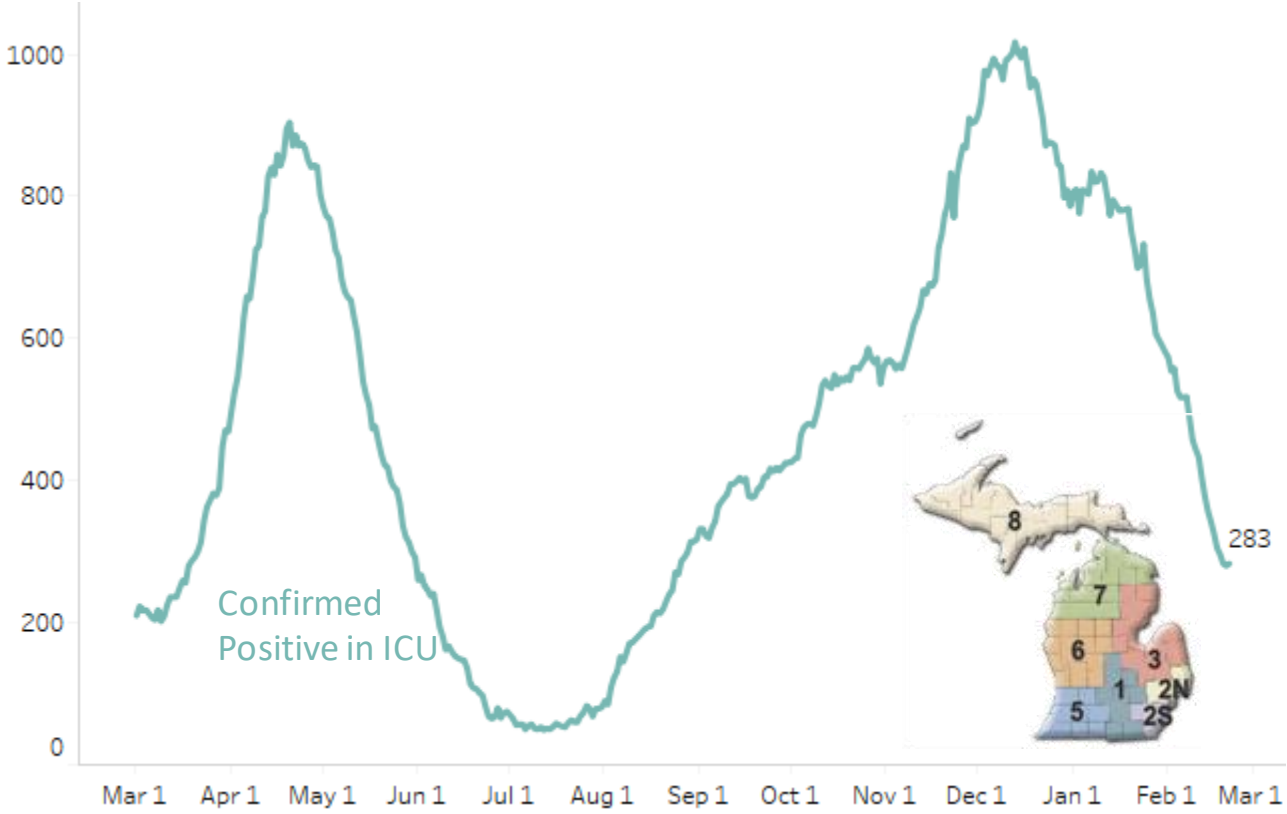
This week hospitalizations have decreased in all regions.

All regions have fewer than 200 hospitalizations/M.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	153 (-31%)	141/M
Region 2N	307 (-22%)	139/M
Region 2S	403 (-21%)	181/M
Region 3	204 (-22%)	180/M
Region 5	177 (-21%)	186/M
Region 6	251 (-24%)	171/M
Region 7	65 (-37%)	130/M
Region 8	28 (-39%)	90/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 2/21/2022
Confirmed Positive in ICUs



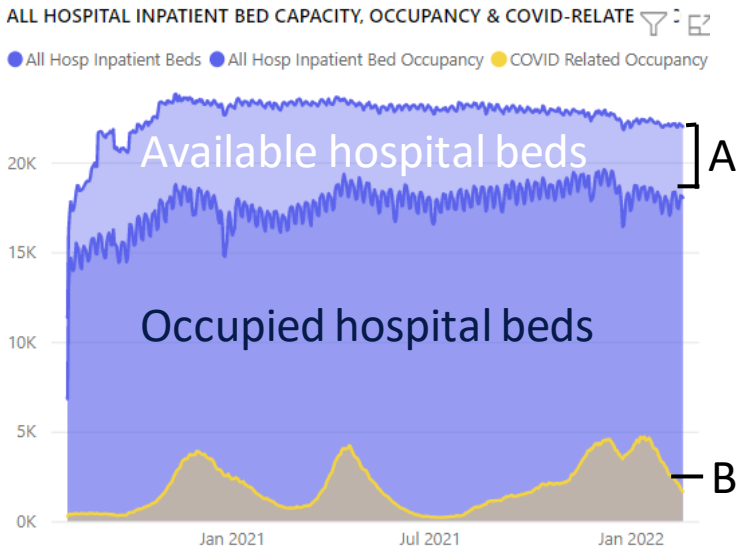
Overall, the census of COVID+ patients in ICUs has decreased by 21% from last week (previous week was down by 31%). All regions show decreasing trends in ICU census.

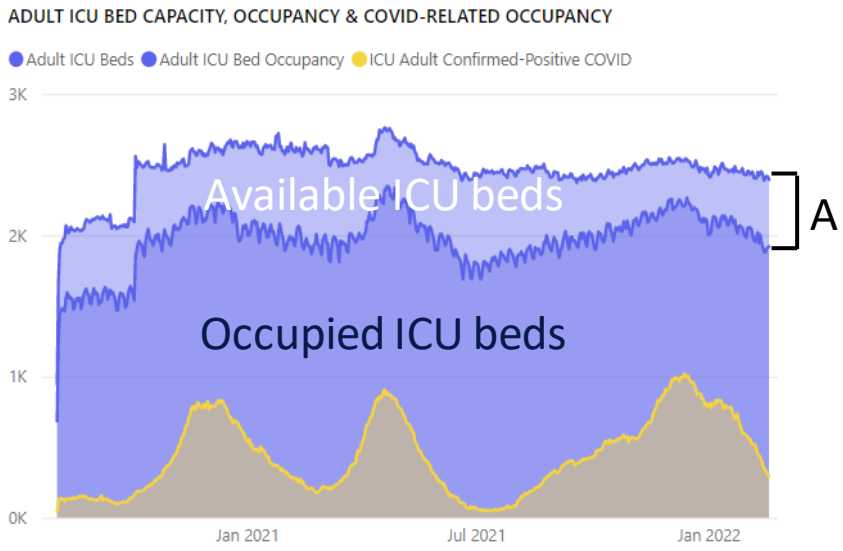
All regions have ICU occupancy below 85%. All regions have less than 20% of ICU beds filled with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	24 (-27%)	72%	13%
Region 2N	44 (-29%)	73%	8%
Region 2S	85 (-12%)	79%	12%
Region 3	44 (-27%)	84%	14%
Region 5	22 (-15%)	70%	12%
Region 6	41 (-20%)	79%	17%
Region 7	17 (-19%)	81%	13%
Region 8	6 (-14%)	57%	10%

Statewide Hospitalization Trends: Pediatric COVID+ Census

Hospital, ICU, Ventilator Utilization, and Staffing Trends

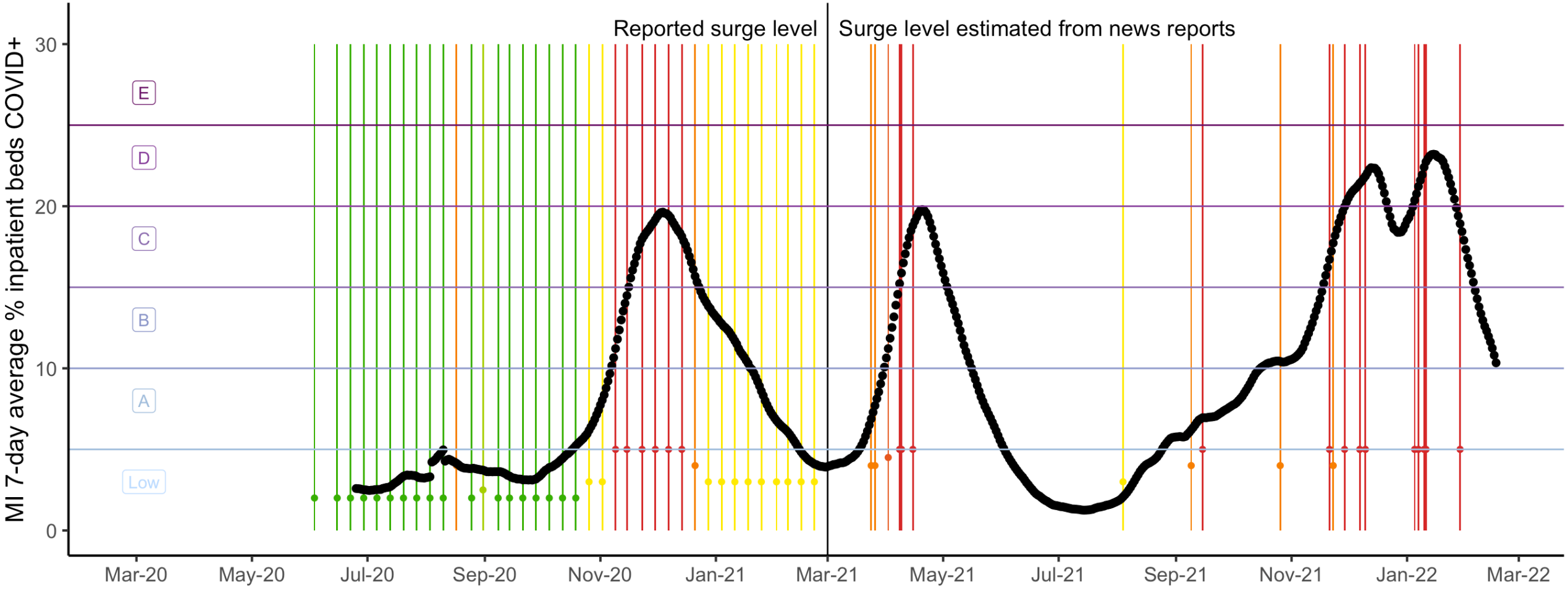




- Utilization for hospitals, ICUs, and mechanical ventilators are improving (Ventilators not shown)
- The number of available hospital and ICU beds is increasing with improving COVID trends (shown in A)
  - Compared to this time last year, we currently have 1,352 less staffed beds this year (6% decrease)
  - Compared to this time last year, we currently have 220 fewer ICU staffed beds this year (8% decrease)
- Following the Delta and Omicron surge over the holidays, COVID hospitalizations (shown in B) and ICU utilization have improved indicating that we are beginning to move into a recovery phase.
- Sufficient staffing (47) remains most critically limited resource within healthcare but is improving since all-time high (C)

Source: EM Resource

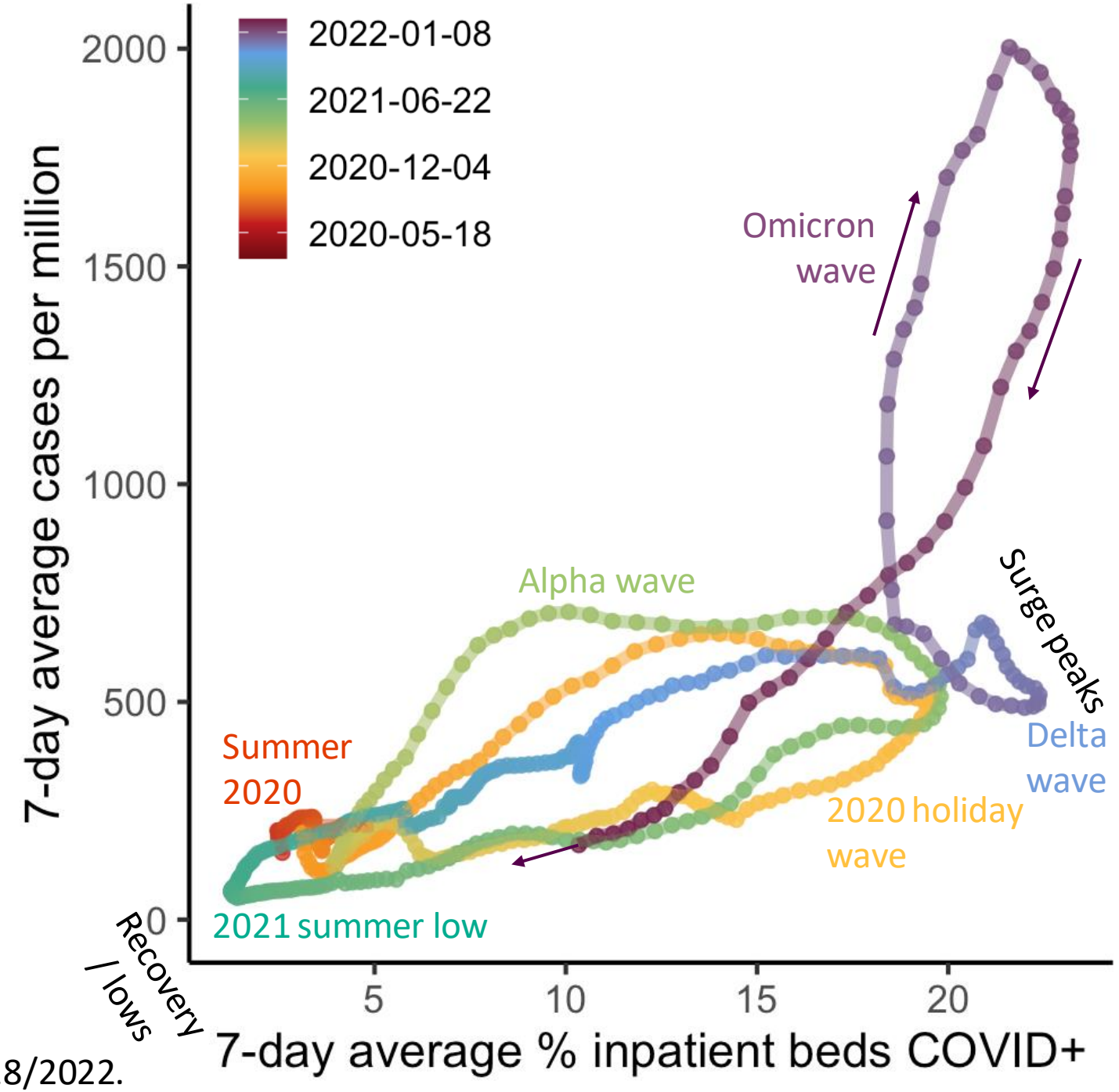
How do % COVID+ inpatient beds correspond with surge levels?



- Color = max surge level reported by healthcare systems across MI
- Hospital surge level data unavailable for more recent dates, so searched news articles on hospital strain reporting to estimate a rough surge level from March 2021 onward

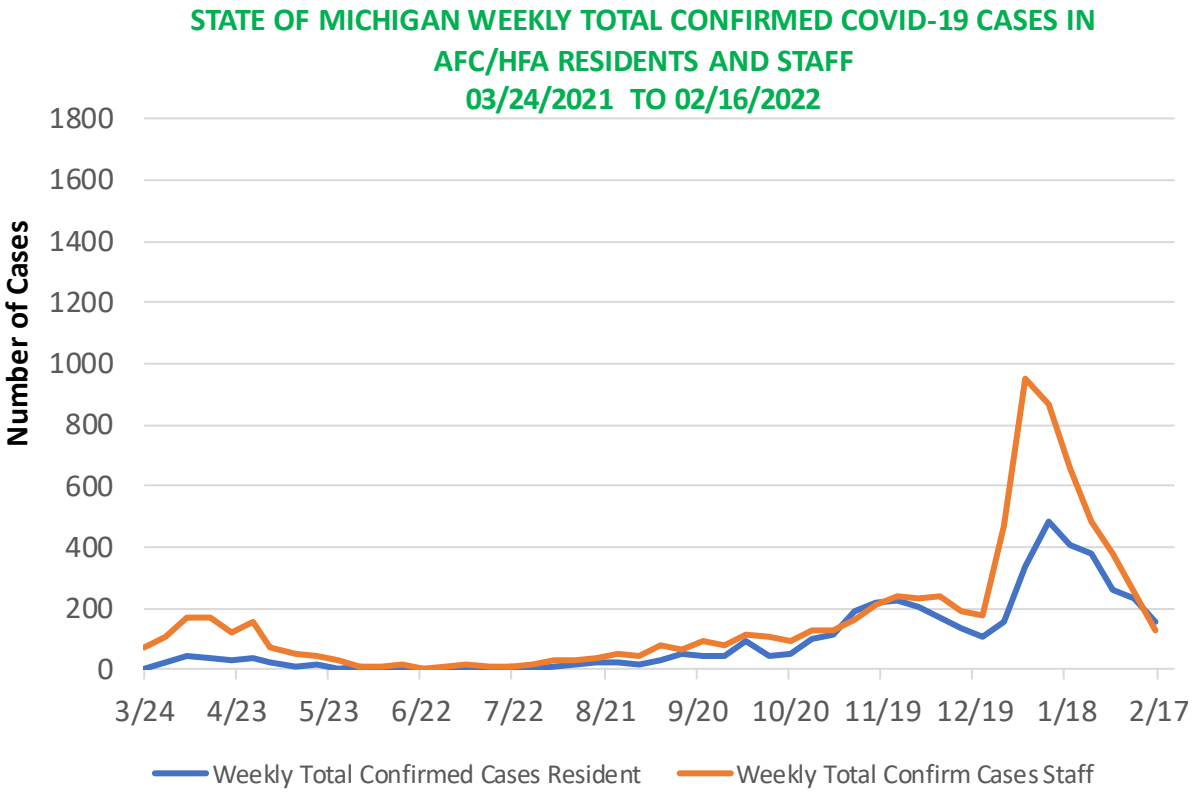
The omicron surge has behaved differently from previous surges

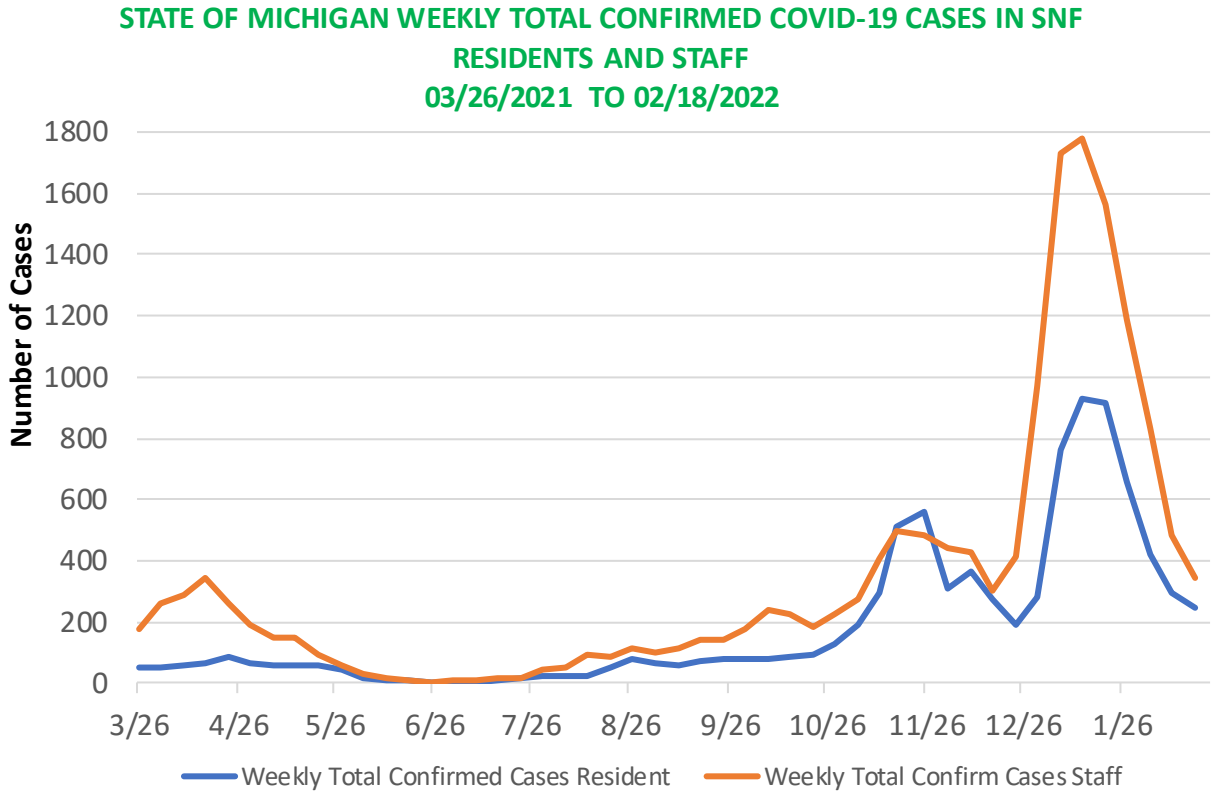
- Color represents the date, with each pandemic wave shown in a different color
- Omicron saw higher cases per million but hospitalization levels more similar to peak hospitalization in previous surges
- Decline in cases and hospitalizations is now similar to previous waves



Data Sources: MDHHS hospital and case data as of 2/18/2022.

Reported Cases within Long Term Care Facilities: Adult Foster Care, Homes for the Aged, and Skilled Nursing Cases for Residents and Staff





- Case counts in residents trending downwards in both AFC/HFA (153) and SNF(245)
- Case counts in staff trending downwards in both AFC/HFA (130) and SNF (342)
- Cases within LTCF continue to be higher among staff than residents

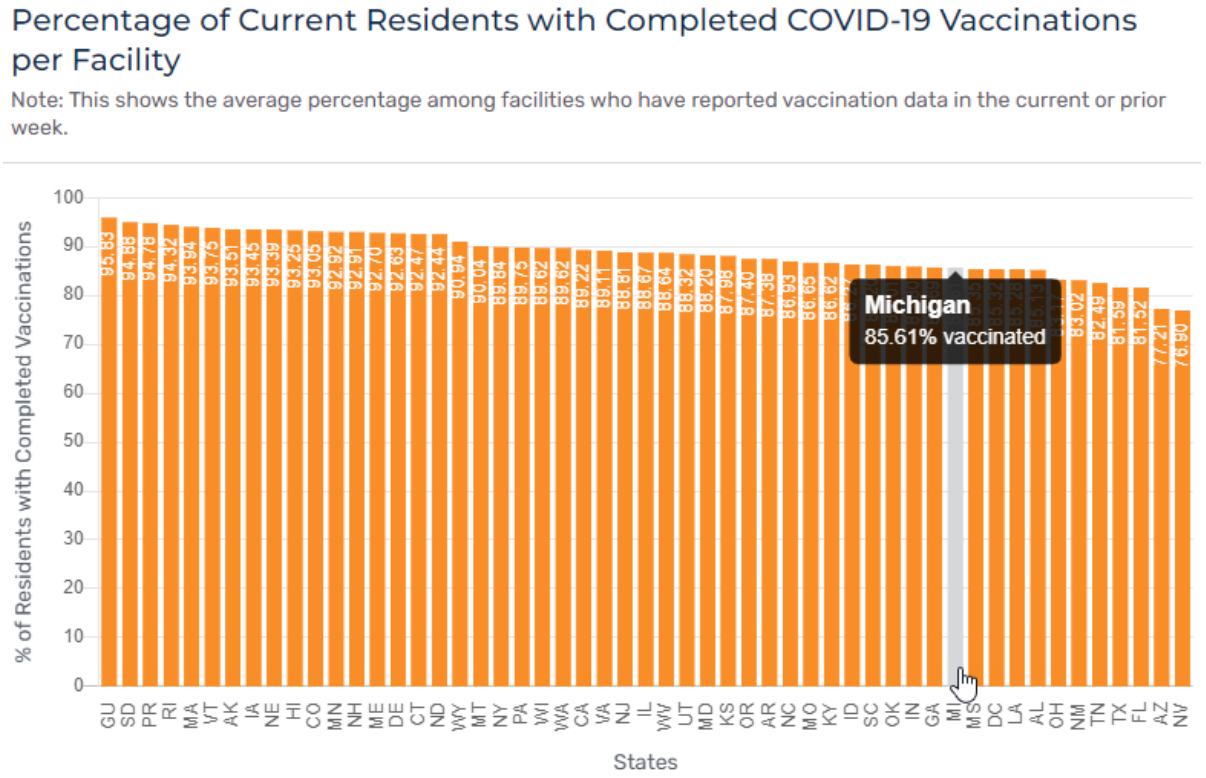
The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

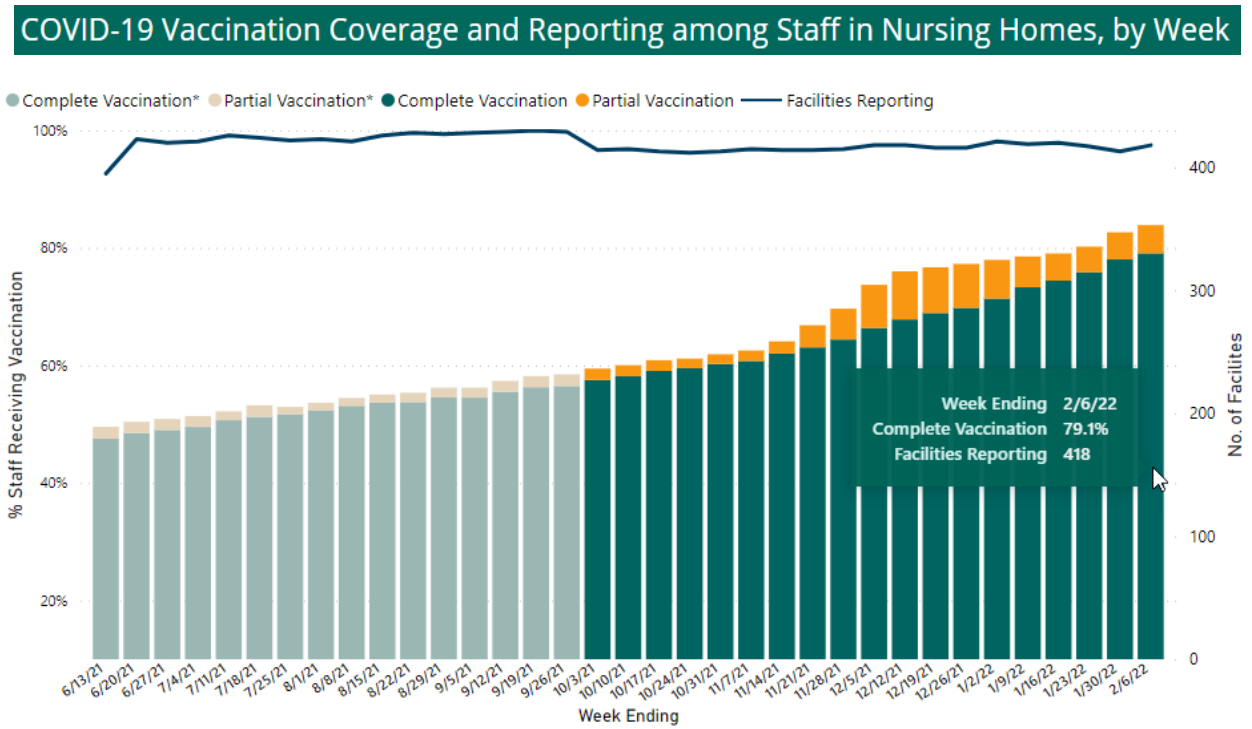
Completed vaccination among Skilled Nursing Cases for Residents and Staff

85.6% of SNF residents are fully vaccinated; 42 of 53 states/territories

79.1% of SNF staff are fully vaccinated, 45 of 53 states/territories

4.8% on SNF staff have initiated primary series





https://data.cms.gov/covid-19/covid-19-nursing-home-data

https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html

Maternal Vaccination with mRNA COVID-19 Vaccine Effective Against Hospitalization of Infants

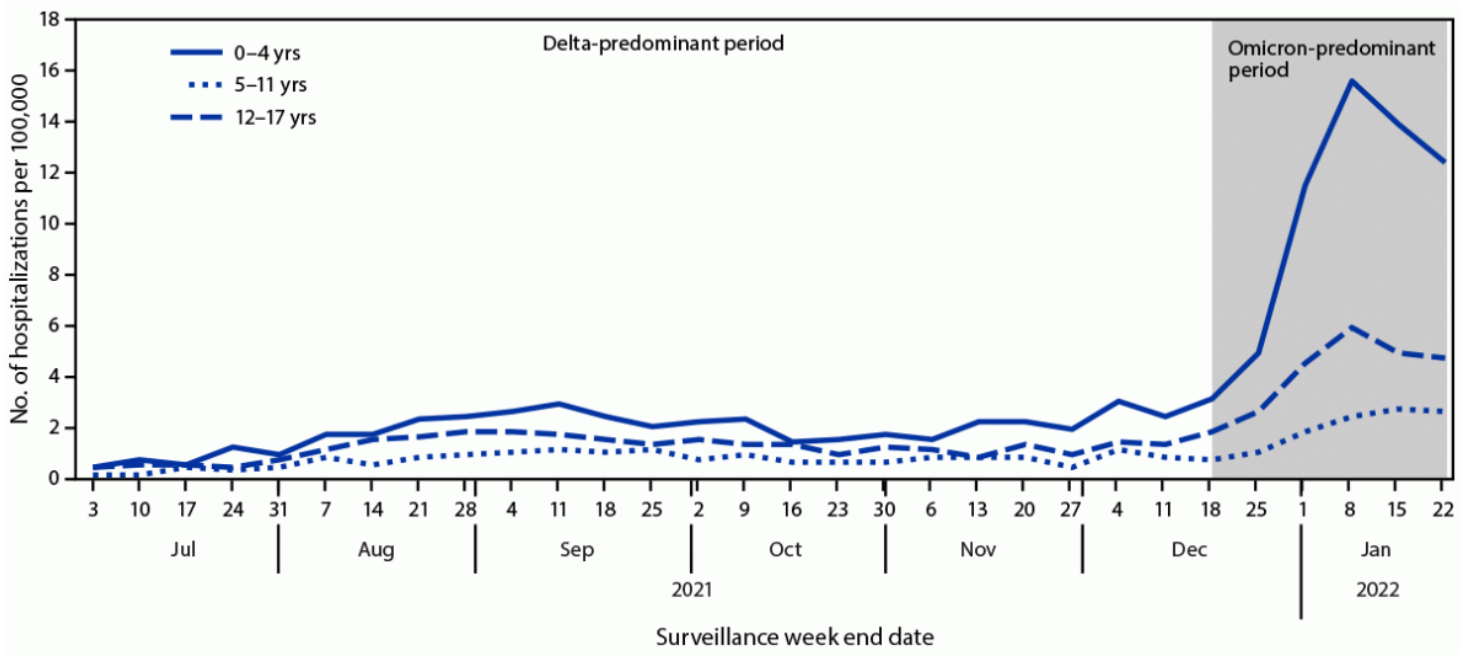
- 2-dose primary mRNA COVID-19 vaccination series during pregnancy is 61% effective against infant hospitalization.
- Completion of COVID-19 vaccine in pregnancy was
  - 32% effective when completed early in pregnancy
  - 80% effective when completed later in pregnancy
- Although booster doses are recommended, vaccine efficacy of maternal booster doses received during pregnancy has not been assessed.

MMWR February 18, 2022/ 71(7);264-270

COVID-19 Hospitalization of Children and Adolescents during the Omicron Surge

- COVID-19 can cause severe illness in children and adolescents.
- The Omicron peak (7.1 per 100,000 children) was four times that of the Delta peak (1.8), with the largest increase observed in children aged 0-4 years.
- Hospitalizations remained lower for vaccinated adolescents aged 12-17 than among unvaccinated adolescents.

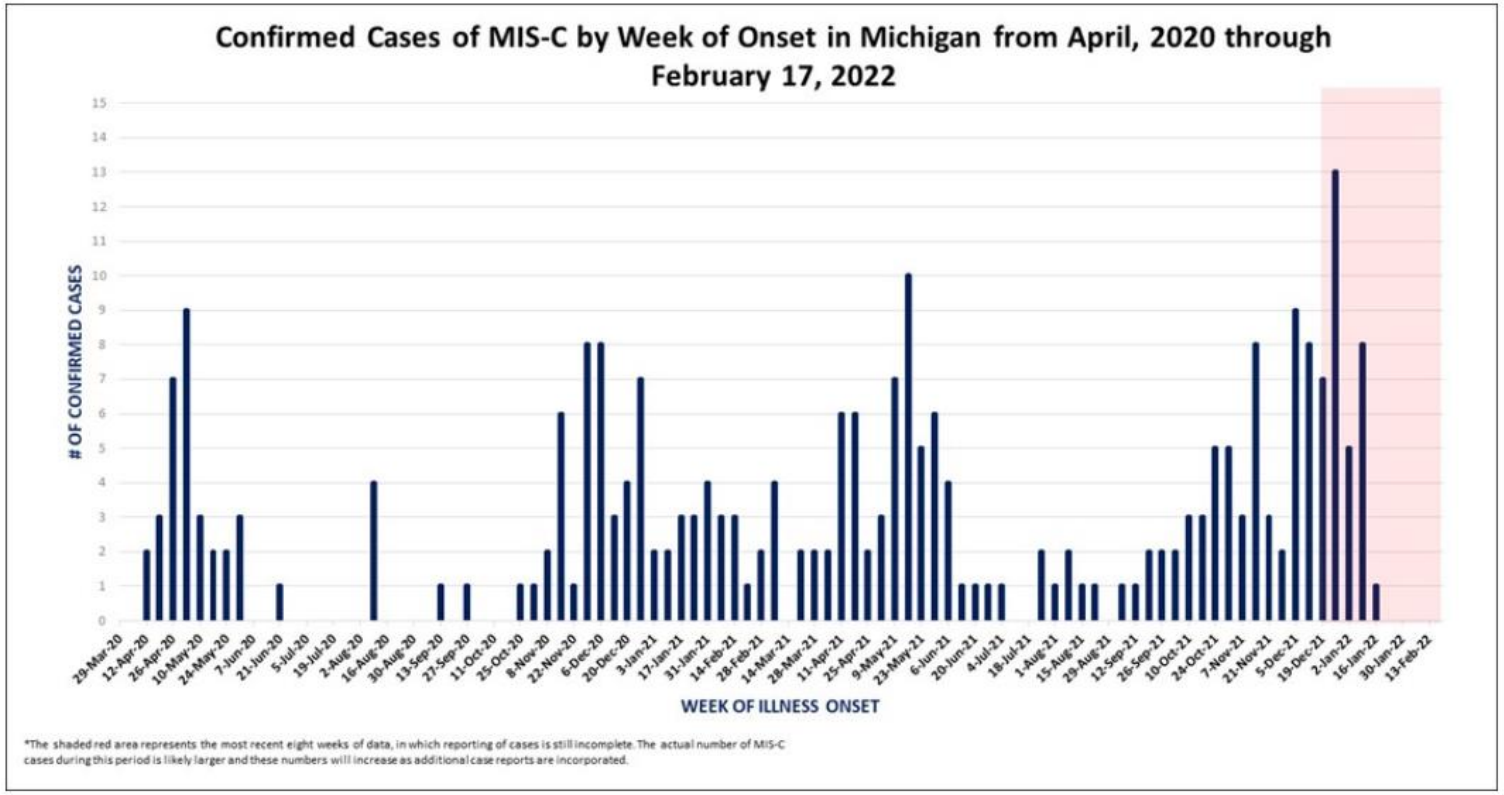
FIGURE. Weekly COVID-19–associated hospitalization rates* among children and adolescents aged 0–17 years, by age group — COVID-NET, 14 states,† July 3, 2021–January 22, 2022



During the Omicron dominate surge, hospitalizations among children and adolescents aged 0-17 years increased rapidly, especially among children aged 0-4.

MMWR February 18, 2022/ 71(7);271-278

Multisystem Inflammatory Syndrome in Children (MIS-C)



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.

MIS-C is a condition in children and adolescents under 21 years of age where multiple organ systems become inflamed or dysfunctional which occurs in association with an illness.

- 263 children and adolescents under 21 years have had MIS-C in Michigan
- 67.3% of MIS-C cases admitted to the ICU
- Majority of cases are under the age of 11 years
- Black/African American children are overrepresented among cases (37%)

Source: MDHHS and MIS-C Data and Reporting

Vaccines

Protect against severe outcomes

Boosters are more important than ever, and available for individuals 12+

Masks, Distancing & Ventilation

Prevent spread

Well-fitting, high-quality masks in all indoor public or crowded settings are more important than ever

Tests

Prevent spread

We encourage testing before gatherings, with symptoms, and after exposure

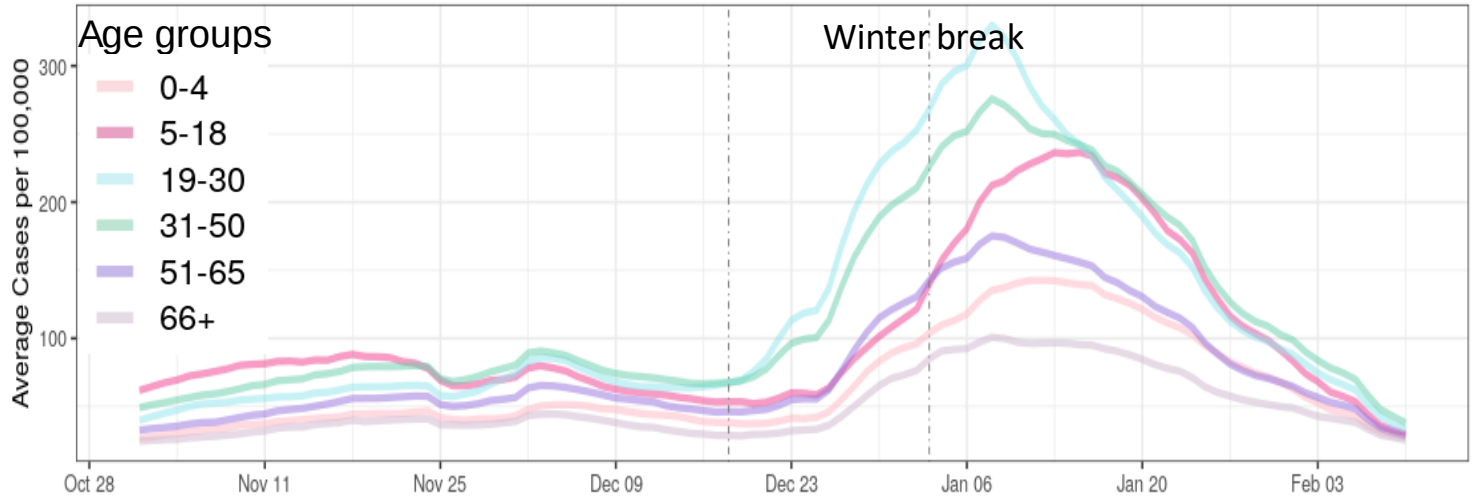
Treatment

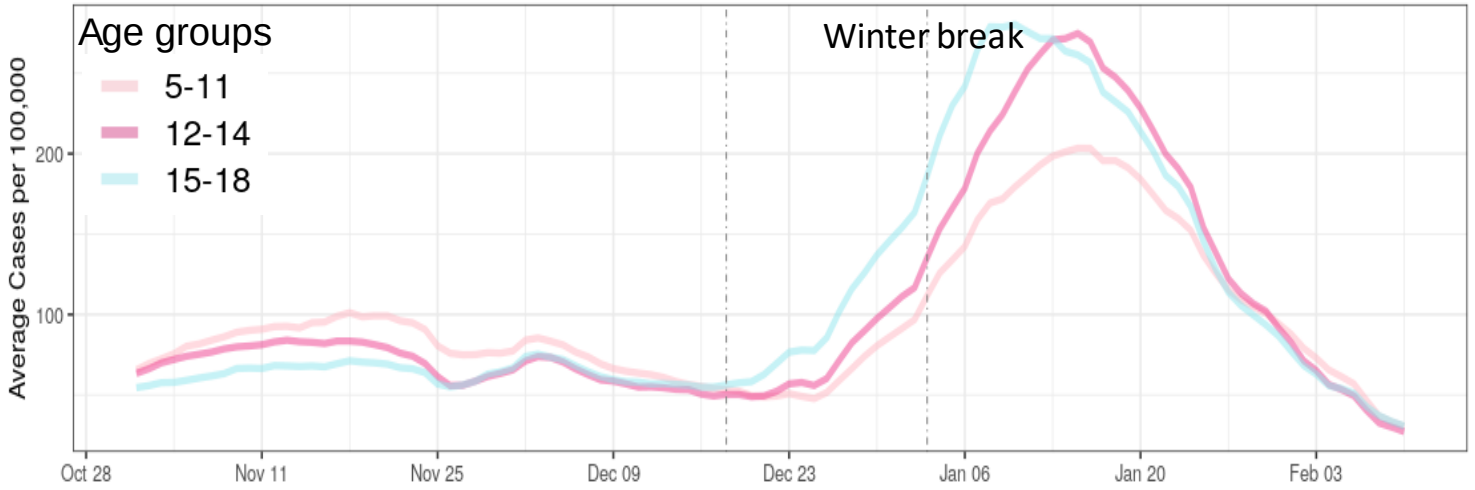
Protect against severe outcomes

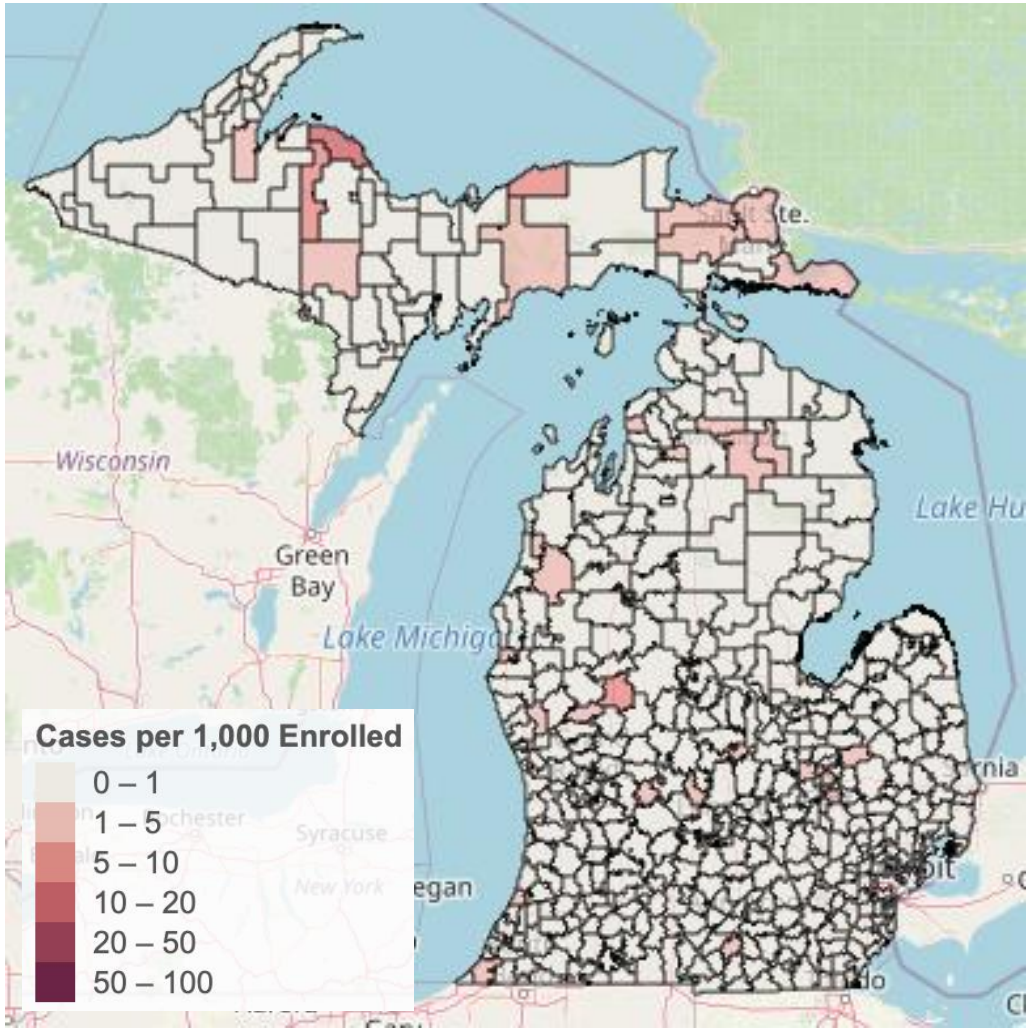
Oral antivirals and monoclonal antibody infusions are available

Case rates in the school-aged (5-18y) population statewide and by district

- Case rates in 5–18-year-olds have recently become more similar to 19–50-year-olds
- Case rates among all populations (school-aged and non) are currently declining







Sources: MDSS case data as of 2/18/2022 (data through 2/10/22), line charts use statewide age group population, map uses ISD enrolled populations from EOG mask tracker data.

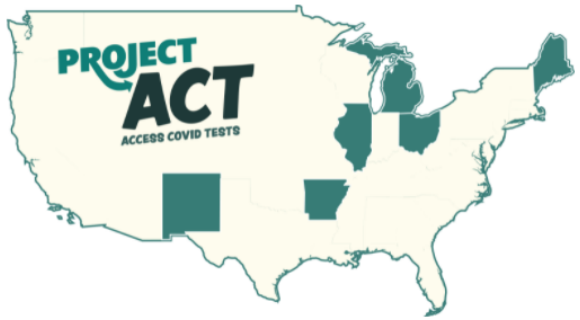
Free Direct-to-Consumer OTC Tests Available for Michigan Residents in High SVI Zip Codes through Partnership with the Rockefeller Foundation

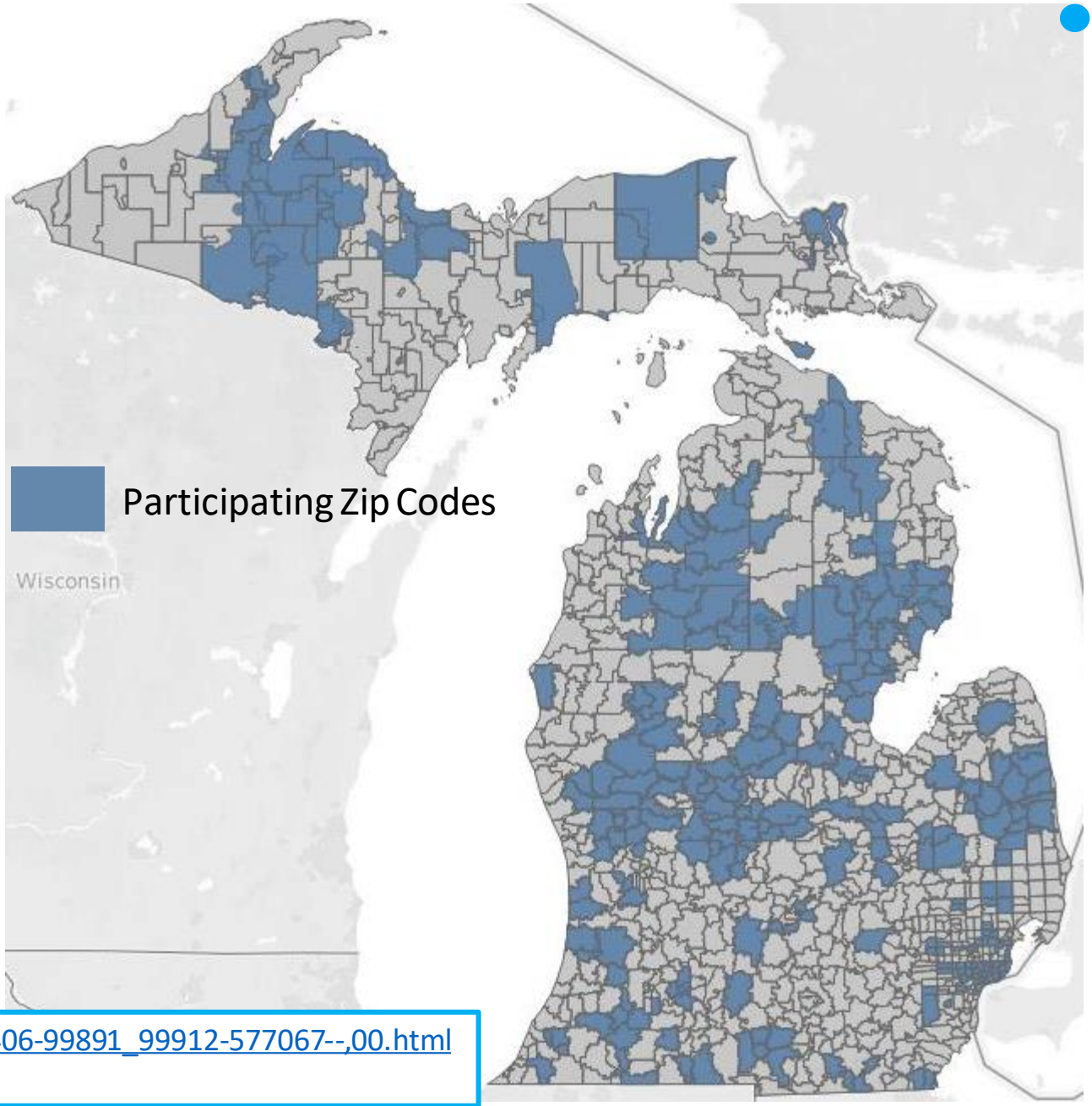
The ROCKEFELLER FOUNDATION

Get your **FREE** at-home test kits!

We are offering free, rapid, at-home COVID-19 test kits to residents of eligible communities while supplies last. **Enter your zip code to see if tests are available in your area:**

Enter zip code

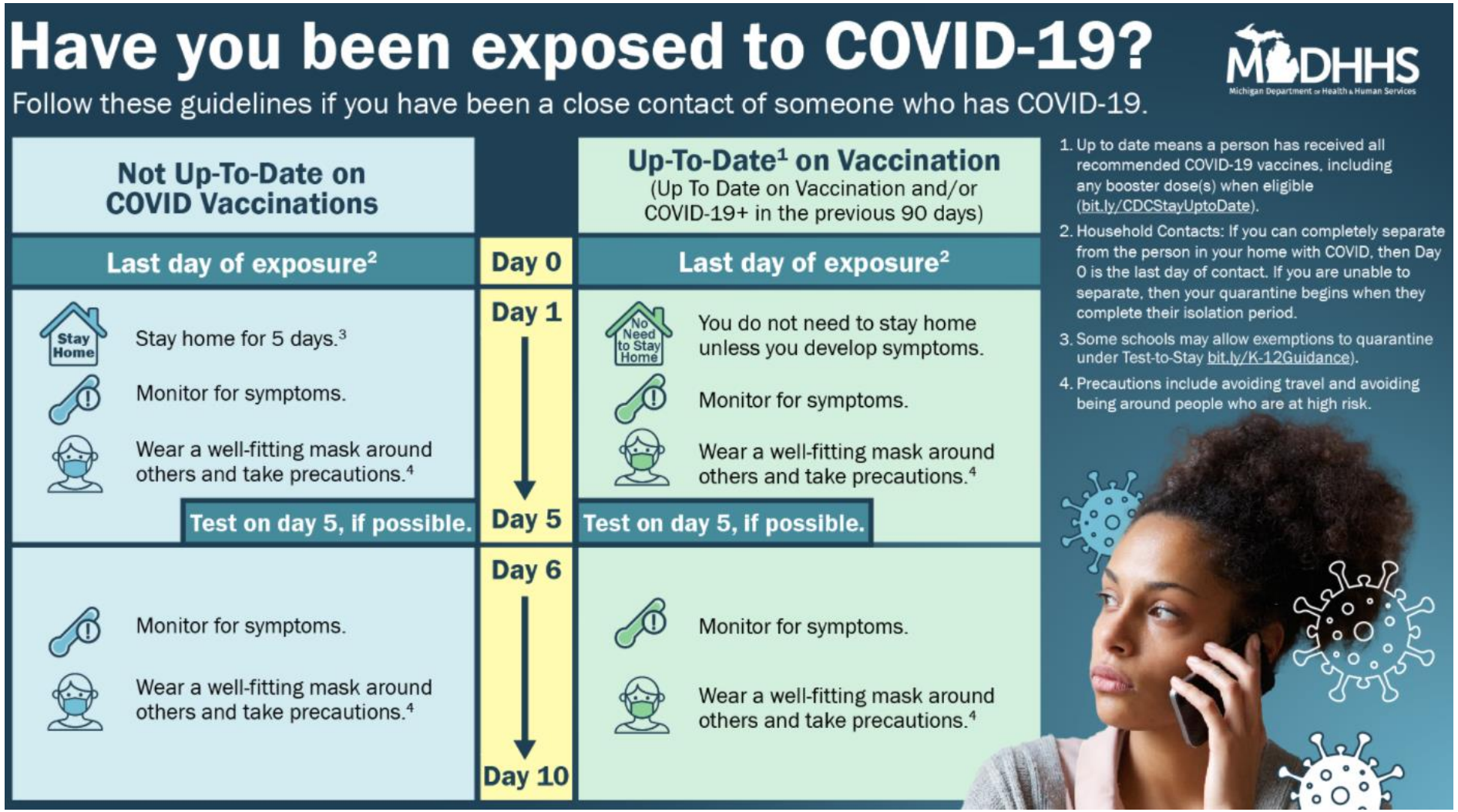




- 250,000 test kits available at no cost
  - Over 216,505 tests already ordered
- Each order contains 5 test kits
- Recently expanded; 478 Zip codes can participate

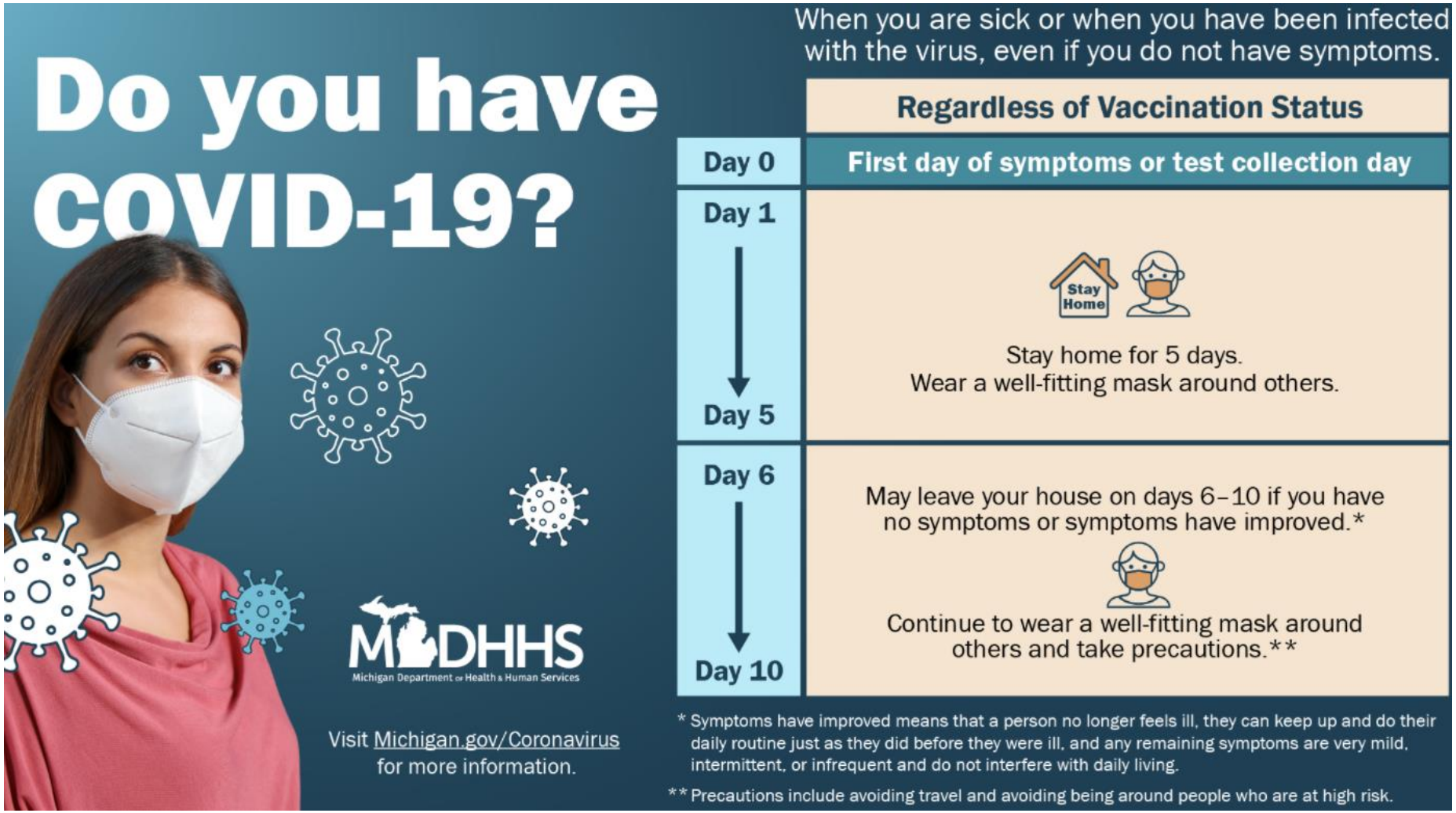
Check Participating Zip Codes: https://www.michigan.gov/coronavirus/0,9753,7-406-99891_99912-577067--,00.html
Order Tests: https://www.accesscovidtests.org/

Exposure/Quarantine Timeline and Recommendations



https://www.michigan.gov/images/coronavirus/Quarantine-04_747970_7.png

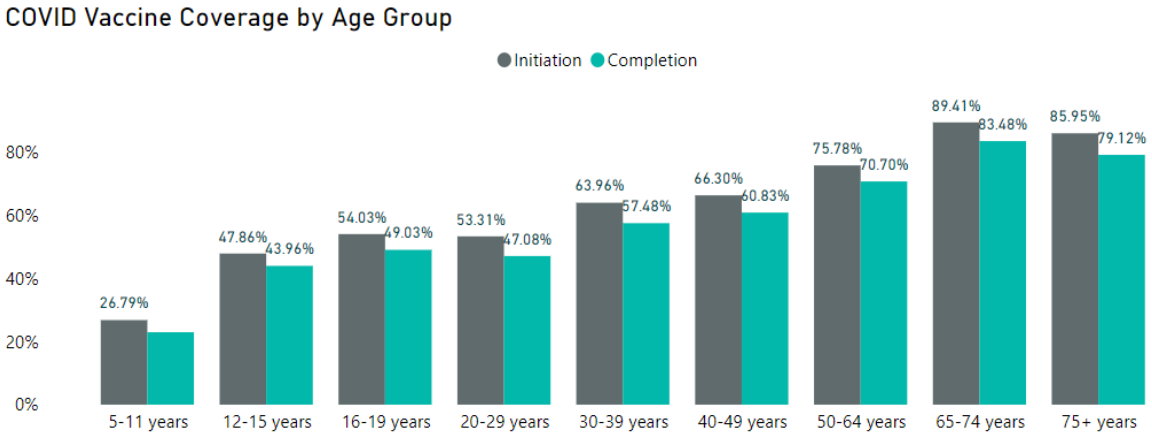
Isolation Timeline and Recommendations

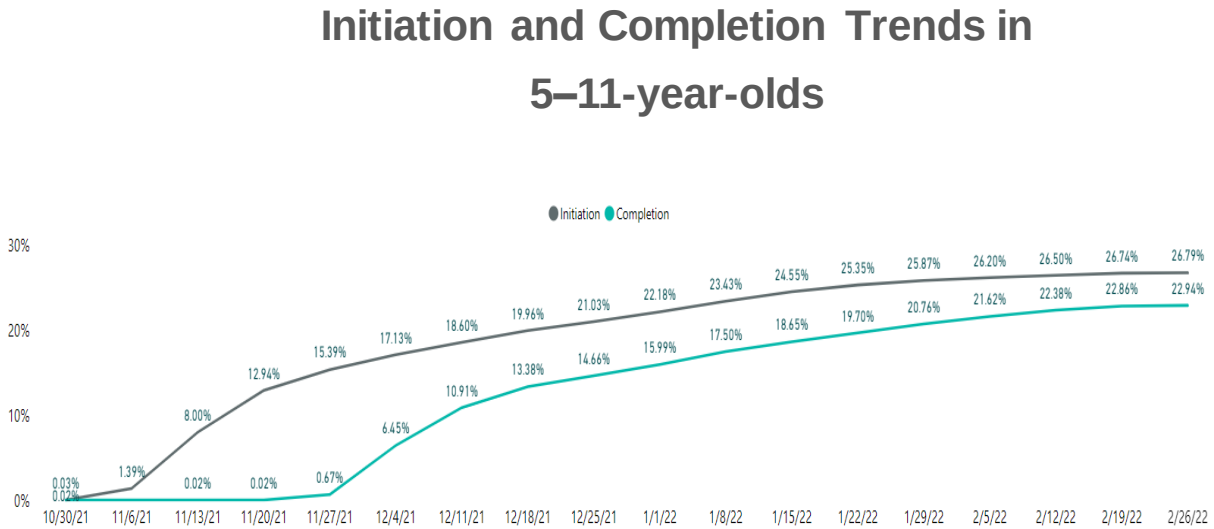


https://www.michigan.gov/images/coronavirus/Isolation-02_747969_7.png

Vaccinations and Boosters

- Over 15 million COVID-19 vaccine doses have been administered in Michigan
  - Over 6.5 million Michiganders have received at least one dose (65.9%)
  - Over 5.8 million Michiganders have completed a primary series (59%)
  - Over 2.98 million additional/booster doses have been administered in Michigan
    - 50.7% of the fully vaccinated population has received a booster
    - 73.8% of the fully vaccinated population 65 years of age or older has received a booster





https://covid.cdc.gov/covid-data-tracker/#vaccinations
https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Detect

Predict

Ready

PulseNet USA

SPHERES

Centers of Excellence for Influenza Research and Response (CEIRR)

A NIAID funded international research network created to study influenza and combat influenza outbreaks.

ISID ProMED

World Health Organization

MDSS

CDC Center for Forecasting and Outbreak Analytics

COVID-19 ForecastHub

MIDAS: Models of Infectious Disease Agent Study

Surveillance systems provide alerts for new pathogens (Zika, *C auris,* SARS-CoV-2) and changes in existing pathogens (Influenza, Polio)

Models created to predict outbreak size, timing, and impact on healthcare systems.

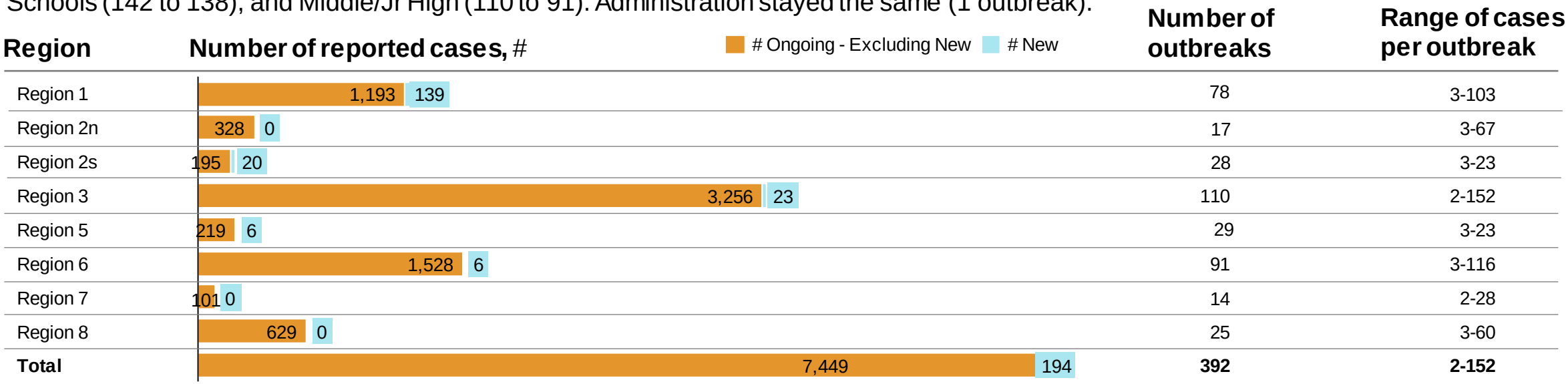
Mobilize Resources (Testing, Treatments).

Implications for individual protection.

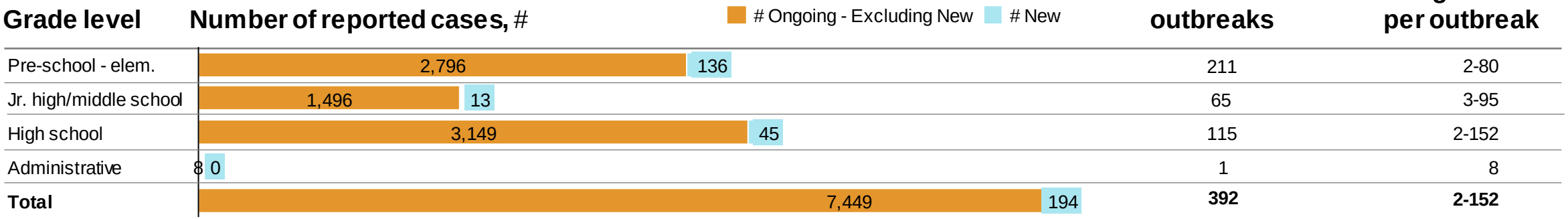
APPENDIX

Vital Infrastructure: K-12 school clusters and outbreaks, week ending Feb 17

Number of reported outbreaks/clusters decreased since last week (490 to 471), with decreases in Pre-K-Elementary (238 to 219), and High Schools (142 to 138), and Middle/Jr High (110 to 91). Administration stayed the same (1 outbreak).



Region	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Region 1	1,193	139	78	3-103
Region 2n	328	0	17	3-67
Region 2s	195	20	28	3-23
Region 3	3,256	23	110	2-152
Region 5	219	6	29	3-23
Region 6	1,528	6	91	3-116
Region 7	101	0	14	2-28
Region 8	629	0	25	3-60
Total	7,449	194	**392**	**2-152**



Grade level	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	2,796	136	211	2-80
Jr. high/middle school	1,496	13	65	3-95
High school	3,149	45	115	2-152
Administrative	8	0	1	8
Total	7,449	194	**392**	**2-152**

Many factors, including the lack of ability to conduct effective contact tracing in certain settings, may result in significant underreporting of outbreaks. This chart does not provide a complete picture of outbreaks in Michigan and the absence of identified outbreaks in a particular setting in no way provides evidence that, in fact, that setting is not having outbreaks.
NOTE (10/4): MDHHS adopted the new CSTE school cluster and outbreak definition which impacts how transmissions within school-sponsored settings are reported to the health department

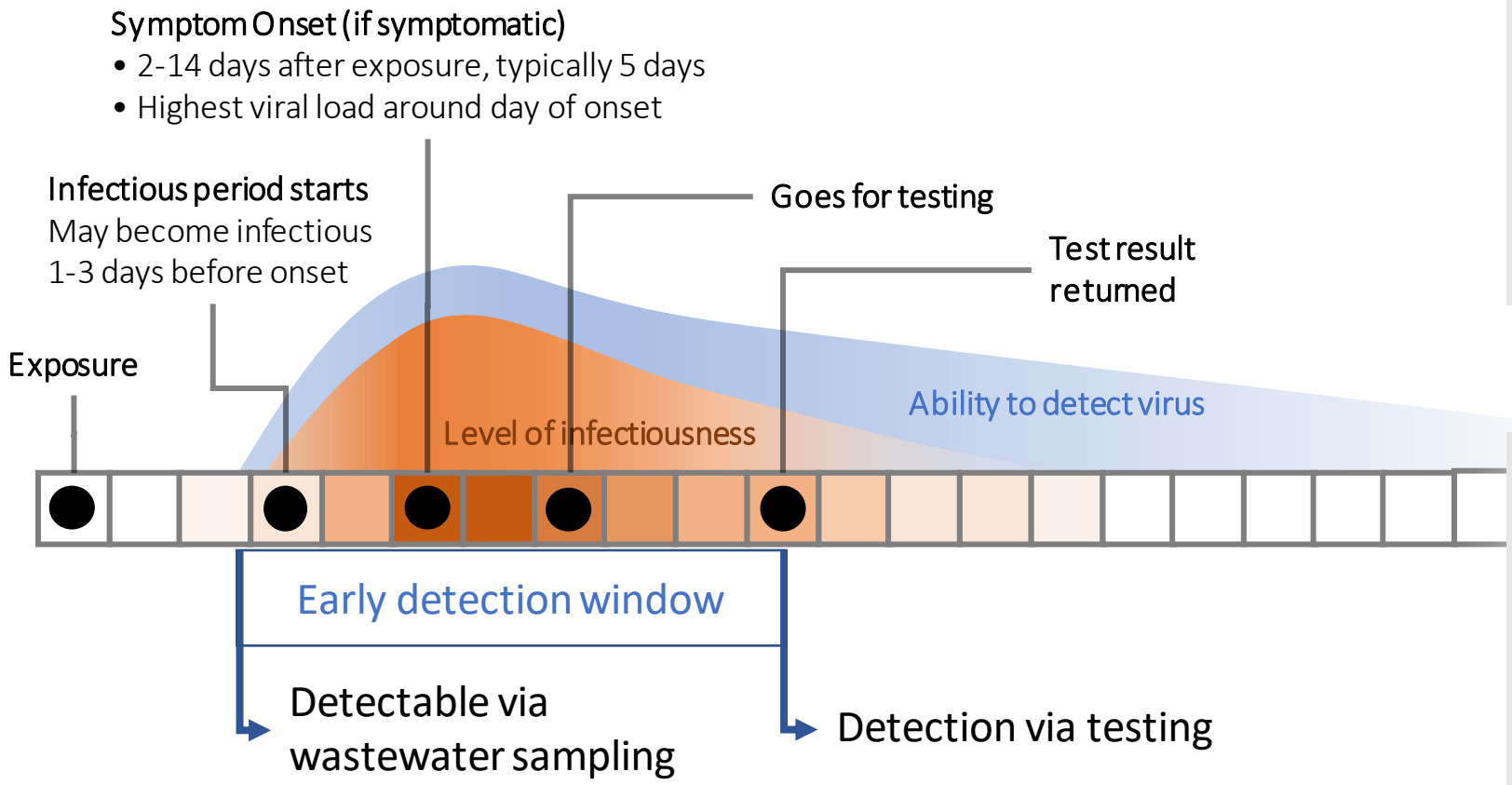
Source: LHD Weekly Sitreps

Cumulative COVID-19 Cases by Vaccination Status, Michigan, 1/15/21–2/11/22

Fully Vaccinated People (5,529,781)		
Cases	**Hospitalization**	**Deaths**
Percent of Cases In People Not Fully Vaccinated (1,202,306 / 1,628,439) **73.8%**	Percent of Hospitalizations In People Not Fully Vaccinated (26,924 / 32,323) **83.3%**	Percent of Deaths In People Not Fully Vaccinated (14,133 / 17,573) **80.4%**
1,202,306 Total Cases Not Fully Vaccinated	**26,924** Total Hospitalized Not Fully Vaccinated	**14,133** Total Deaths Not Fully Vaccinated
Total Breakthrough Cases **426,133**	Total Breakthrough Hospitalizations **5,399**	Total Breakthrough Deaths **3,440**
7.71% Percent of Fully Vaccinated People who Developed COVID-19 (389,840 / 5,529,781)	**0.098%** Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (5,399 / 5,529,781)	**0.062%** Percent of Fully Vaccinated People Who Died of COVID-19 (3,440 / 5,529,781)
26.2% Percent of Cases Who Were Fully Vaccinated (426,133 / 1,628,439)	**16.7%** Percent of Hospitalizations Who Were Fully Vaccinated (5,399 / 32,323)	**19.6%** Percent of Deaths Who Were Fully Vaccinated (3,440 / 17,573)
Total Cases: **1,628,439**	Total Hospitalizations: **32,323**	Total Deaths: **17,573**

Michigan Disease Surveillance System may underestimate the frequency of COVID-19 hospitalizations:
- Case investigation and follow-up is more difficult for individuals who get hospitalized (e.g., they are too ill to speak to investigators, don't answer their phone, or otherwise).
- These hospitalizations include individuals who are hospitalized for issues other than COVID19 (the same as breakthrough COVID-19).
- Individuals who get hospitalization will lag after infection and may occur after case investigation.

Wastewater can provide early warnings and a monitoring system for COVID in communities when testing is low



- Potential to detect clusters early
- Can detect asymptomatic and presymptomatic individuals
- Data not impacted by clinical testing behaviors/availability
- Has been used to detect, intervene and stop transmission—e.g. University of Arizona [1]

- However, wastewater does not capture all populations (e.g. individuals on septic tank systems)
- Can be difficult to directly compare concentrations across different locations due to differences in sampling and processing methods and underlying population sizes

Sources: WHO transmission overview, WHO isolation guidelines, CDC isolation guidelines, [1] Science 2020

Face Mask and Respirator Use in Indoor Public Settings Prevents SARS-CoV-2 Infection

- Face masks or respirators (N95/KN95) effectively filter virus-sized particles
- Consistent use of a face mask/respirator was associated with reduced odds of SARS-CoV-2 positive result
- **Use of respirators with higher filtration capacity was associated with the most protection**
- Consistently wearing a face mask in indoor public settings protects against acquisition of SARS-CoV-2

Source: Andrejko KL, Pry JM, Myers JF, et al. Effectiveness of Face Mask or Respirator Use in Indoor Public Settings for Prevention of SARS-CoV-2 Infection — California, February–December 2021. MMWR Morb Mortal Wkly Rep. ePub: 4 February 2022. DOI: http://dx.doi.org/10.15585/mmwr.mm7106e1

Outpatient therapy now available for those with COVID-19. Supplies may be limited.

Eligibility guidelines ensure those with the highest risks have priority access to treatments.

Those at highest risk	Paxlovid PO	Sotrovimab IV	Remdesivir IV	Molnupiravir PO
Treatment window after symptoms appear:	5 days	10 days	7 days	5 days
● 75+ years old and not up to date* ● Moderately or severely immunocompromised regardless of vaccine status	✓	✓	✓	✓ *If other therapies not available or appropriate*
● 65–74 years old and not up to date* with MI priority risk factor** ● Pregnant and not up to date*	✓	✓	✓	✓ *If other therapies not available or appropriate*
● 65–74 years and not up to date* ● Under 65 years old and not up to date* with MI priority risk factor**	✓	✓	✓	✓ *If other therapies not available or appropriate*
● 75+ years old and up to date* ● 65–74 years old and up to date* with MI priority risk factor**	✓	*Not currently eligible*	*Not currently eligible*	✓ *If other therapies not available or appropriate*
● 65–74 years old and up to date* with CDC risk factors	*Not currently eligible*	*Not currently eligible*	*Not currently eligible*	✓
● 65–74 years old and up to date* ● Younger than 65 years old and up to date* with CDC risk factors	*Not currently eligible*	*Not currently eligible*	*Not currently eligible*	✓

*Up to date means a person has received all recommended COVID-19 vaccines, including booster dose(s) when eligible (bit.ly/CDCStayUptoDate).

**MI priority risk factors include:
Obesity (Body Mass Index >35), chronic respiratory disease, pregnancy (note: in pregnancy, molnupiravir should not be used and Paxlovid and remdesivir should be used with caution when sotrovimab is unavailable), chronic kidney disease (special considerations with Paxlovid), cardiovascular disease, and diabetes.

MDHHS
Michigan Department of Health & Human Services

Talk to your health care provider or visit Michigan.gov/COVIDtherapy to learn more.

Current Trends and Projections → Prevent Death and Severe Outcomes → Protect Healthcare Capacity → **Keep Vital Infrastructure Functioning**