

MI COVID RESPONSE DATA AND MODELING UPDATE

February 8, 2022

Executive Summary

Current statistics and where we may be going

- All regions experiencing declines for positivity and cases rates; all regions are seeing declines in hospitalization census
- Coming off highest case numbers of entire pandemic: 30–39-year-olds currently have the highest case rate of any age group
- Omicron reported in 74 counties in Michigan; Models suggest we have peaked for cases and hospitalizations and are at or near peak for deaths
- Michigan wastewater dashboard publicly available to monitor trends and burden throughout Michigan

Preventing Death and Severe Outcomes

- Deaths rates have a longer lag period than previous times in the pandemic
- Cases in long term care facilities are decreasing, crucial to get LTC residents and staff up to date on vaccination
- Long-COVID is impacting high burdens of Americans, including Michiganders

Protect Health Care Capacity

- COVID+ census in hospitals, including pediatric census, is declining statewide
- Several federal support teams have completed their rotations supporting hospitals

Keep Vital Infrastructure Functioning

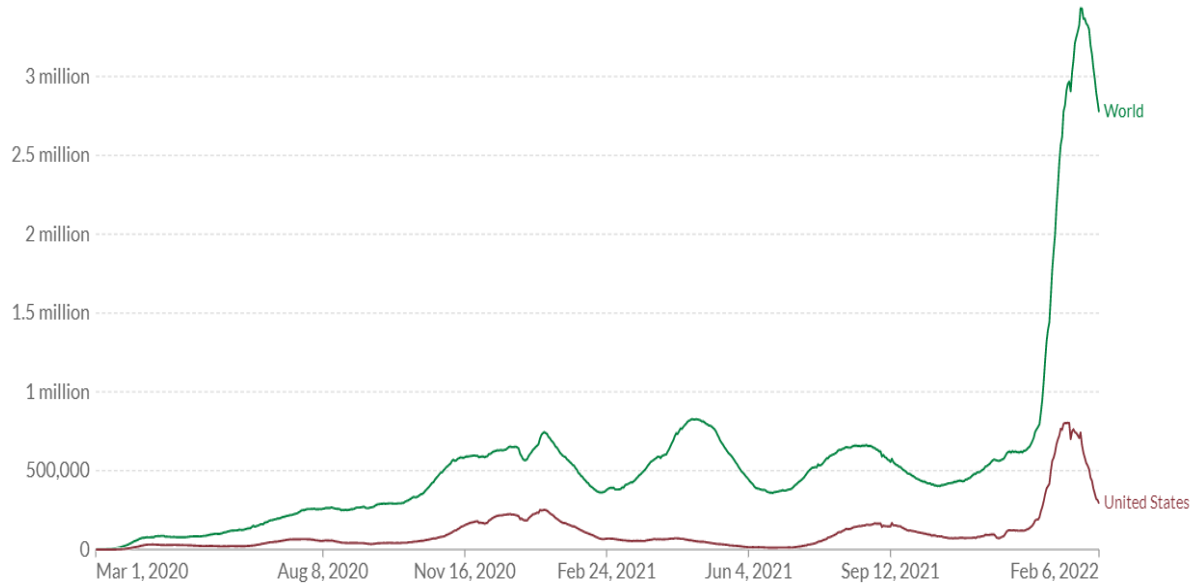
- Vaccination, Masking, Testing and Therapeutics are critical tools in our fight against the impact of COVID-19
- Public health capacity is shifting to investigation and mitigation of COVID-19 outbreaks in priority settings like schools and long-term care facilities
- Masks and respirators are effective at reducing transmission of SARS-CoV-2 when worn consistently and correctly

Global and National Trends

Daily new confirmed COVID-19 cases

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

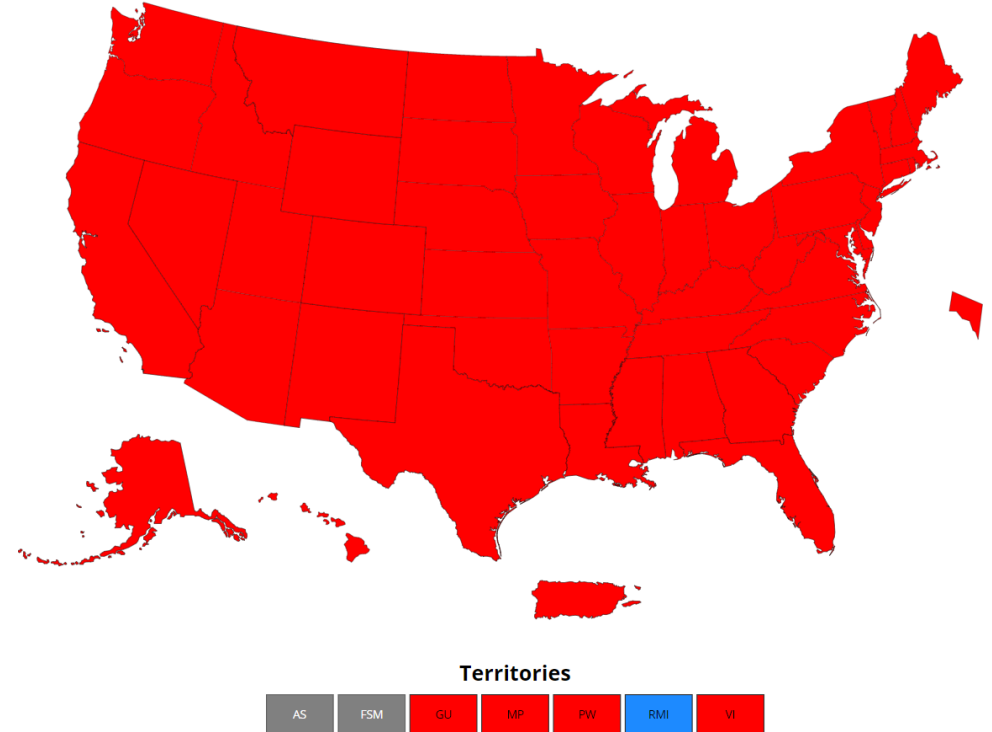
LINEAR LOG



Source: Johns Hopkins University CSSE COVID-19 Data

Our World in Data

Level of Community Transmission of COVID-19, by State/Territory



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Globally, 395,609,522 cases and 5,742,044 deaths (Data* through 2/7)

- Globally, cases are declining

United States: Reported cases (7-day average) have decreased nearly 40% since the prior week[†]

- However, the U.S., and all 50 states, remain at High transmission level (**660.2** cases/100,000 in last 7 days; last week: 1,144.9 cases per/100,000)

Most Midwestern states are declining

- Minnesota and Indiana have the highest case rates *in Midwest*; Michigan has returned to mid-December 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

Current Trends and Projections

Prevent Death and Severe Outcomes

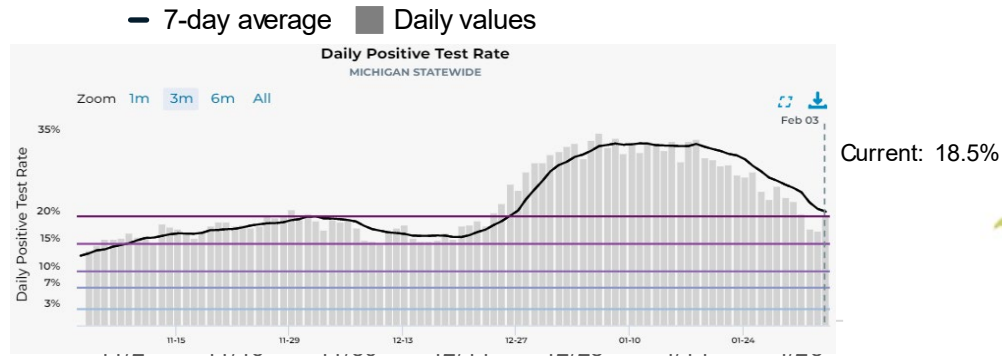
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

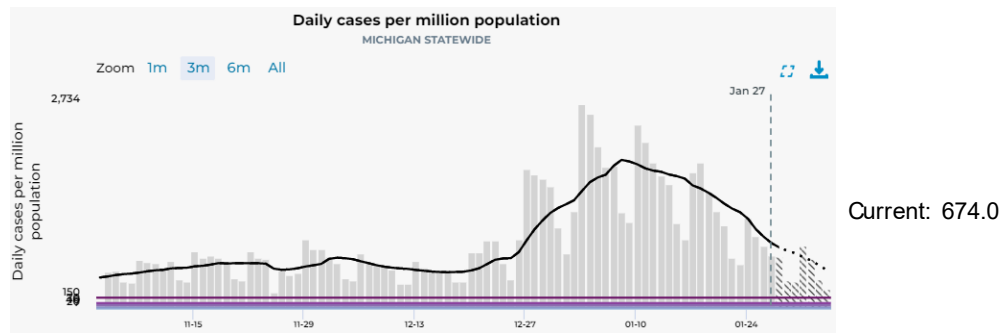
Recent statewide trends

Statewide trends

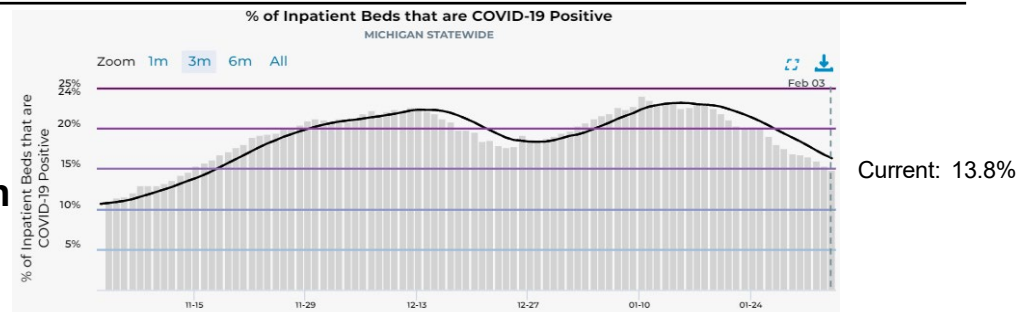
Positivity, %



Daily cases per million



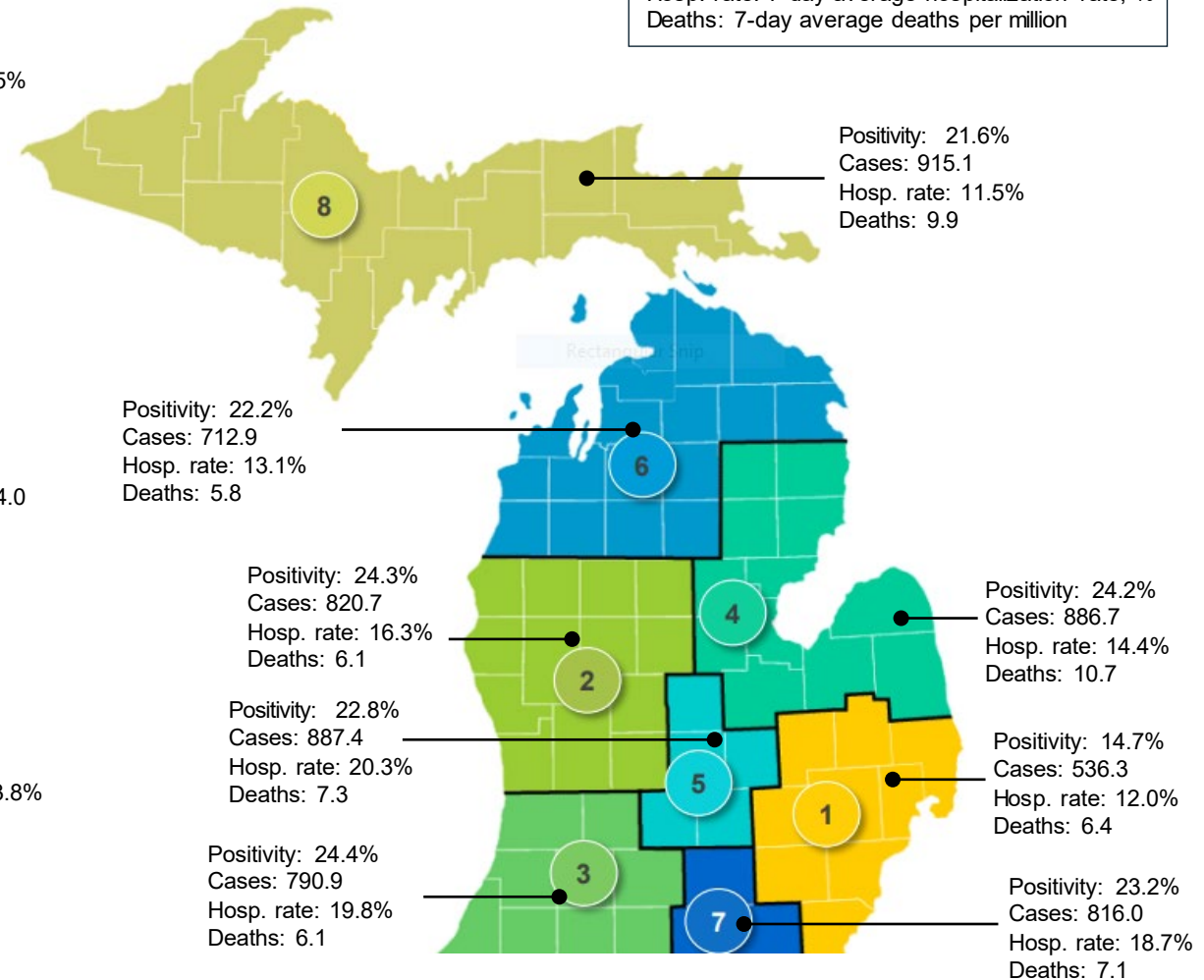
Daily hospitalization rate, %



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



Current Trends and Projections

Prevent Death and Severe Outcomes

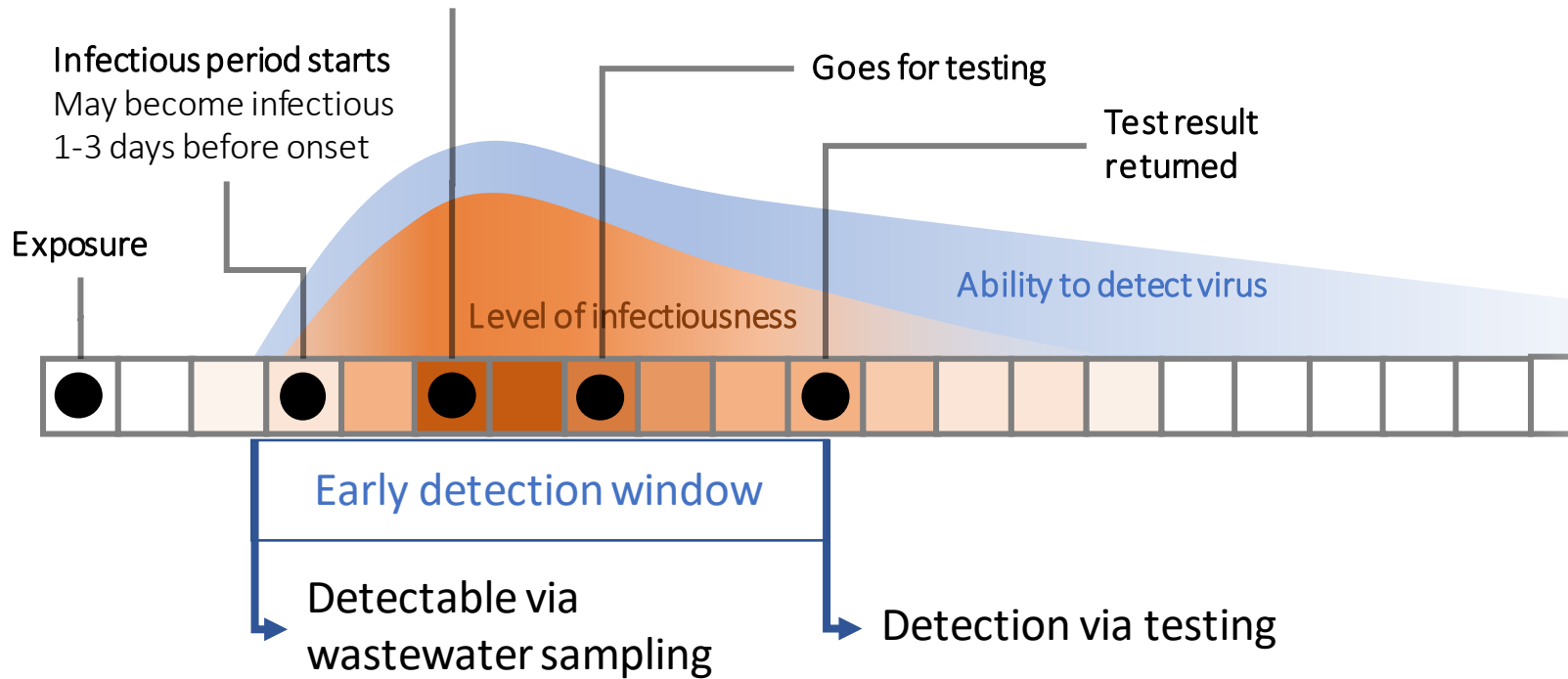
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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

Symptom Onset (if symptomatic)

- 2-14 days after exposure, typically 5 days
- Highest viral load around day of onset



- 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](#)

Current Trends and Projections

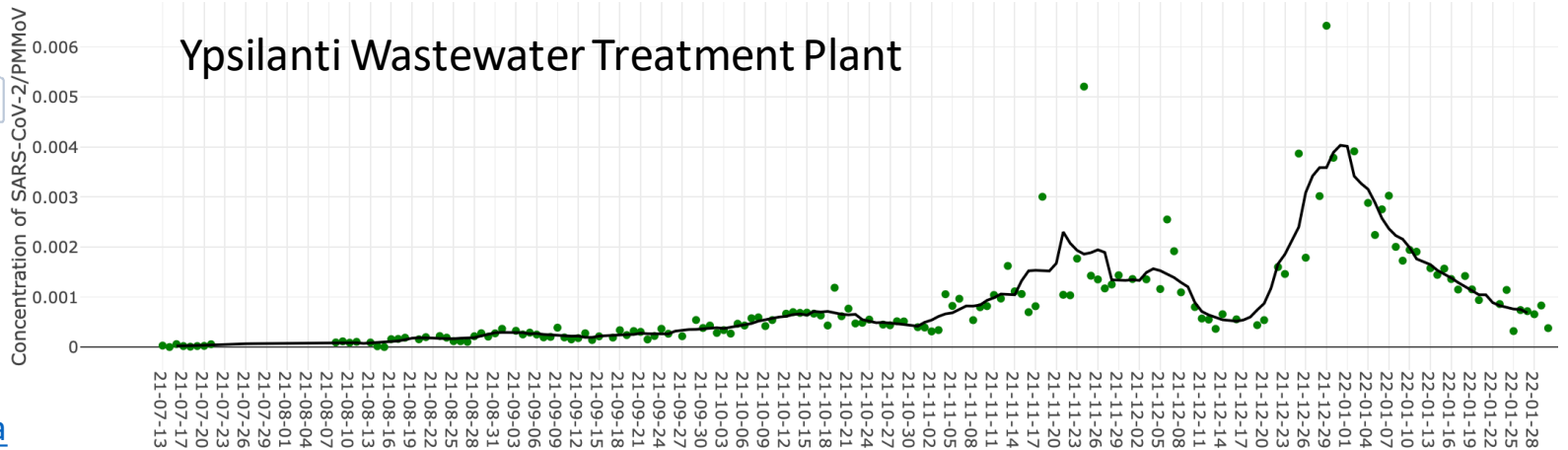
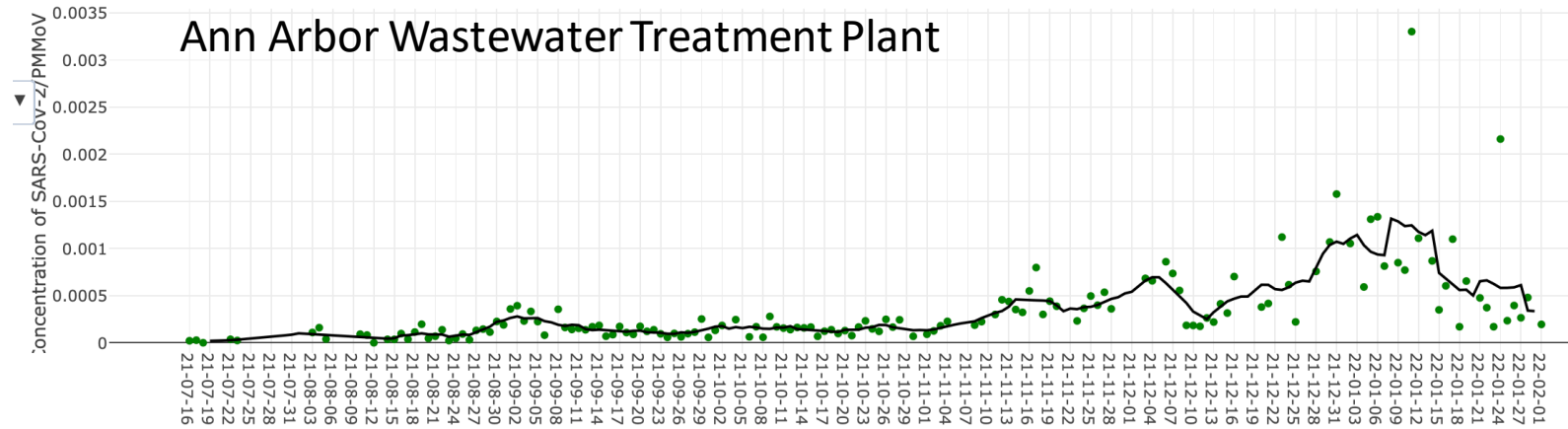
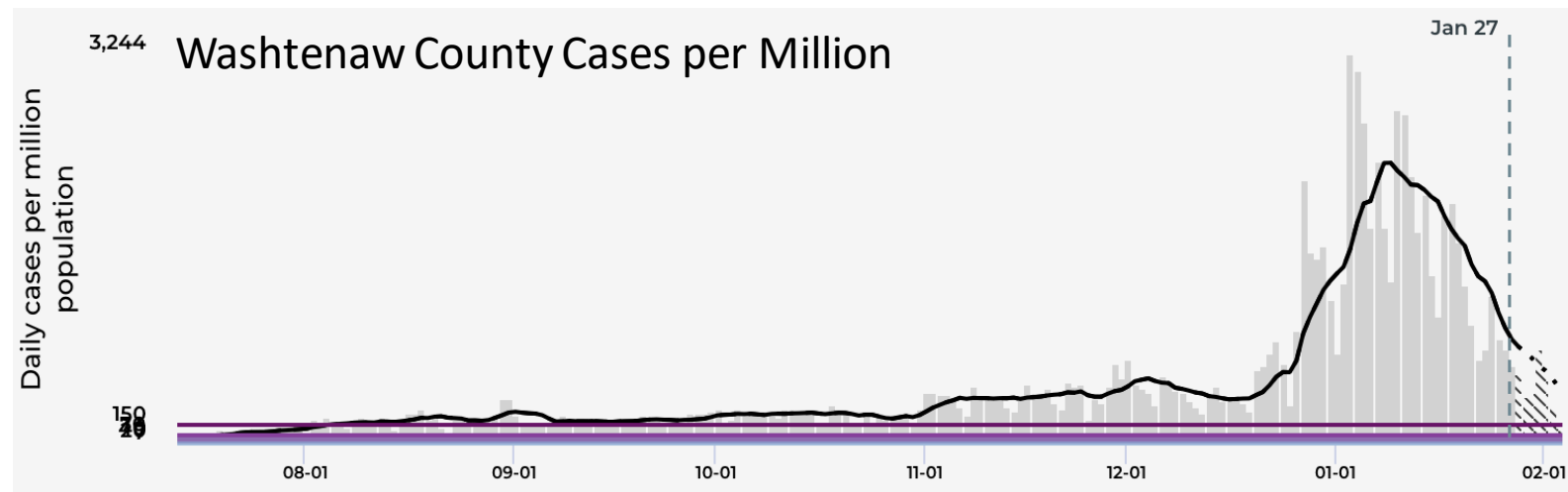
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Keep Vital Infrastructure Functioning

Wastewater data correlates with case data at the community level

- Washtenaw County COVID-19 cases show matching time trends compared to normalized SARS-CoV-2 levels at the Ann Arbor and Ypsilanti wastewater treatment plants (Bakker/Wigginton labs, UM)
- Wastewater monitoring provides an alternate view of transmission levels in a community, and can capture some of the heterogeneity across the community

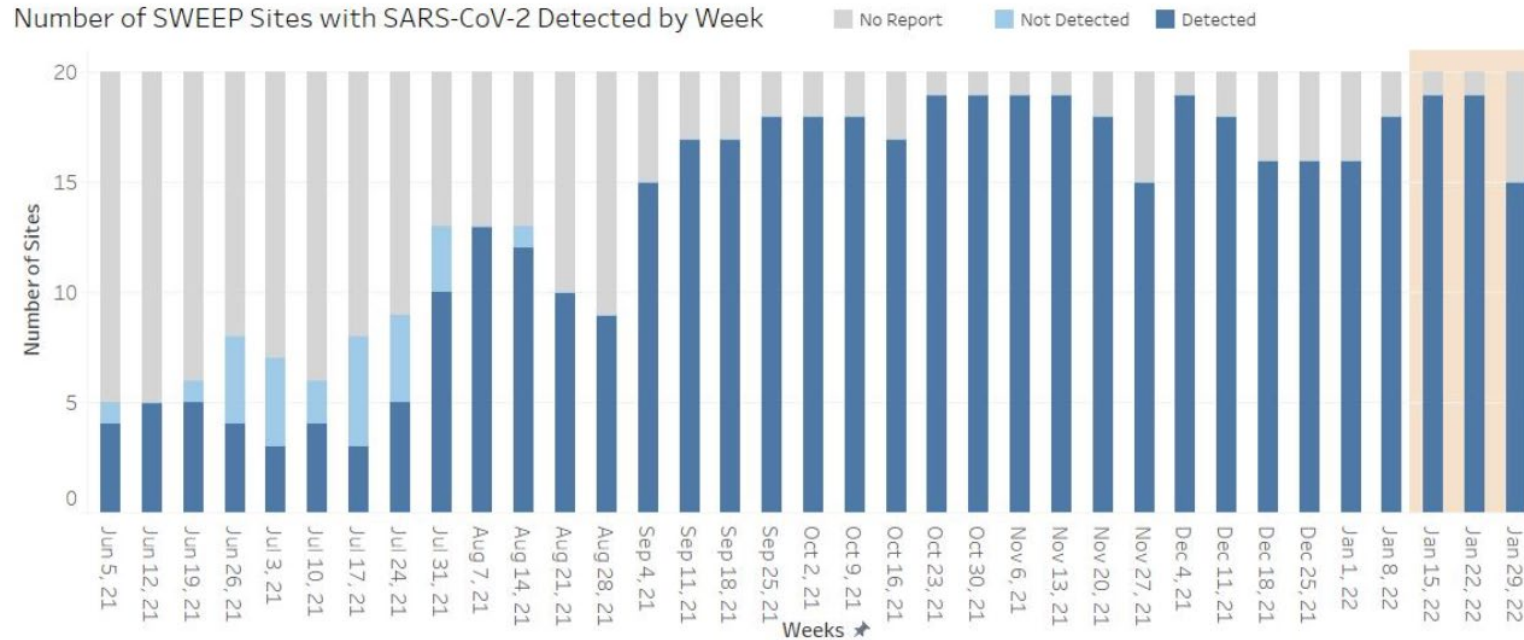


Data sources: mstartmap.info, [Bakker/Wigginton wastewater dashboard](#), [MDHHS/EGLE wastewater data](#)

Michigan COVID-19 Sentinel Wastewater Dashboard

SARS-CoV-2 Detection

The graph below shows the presence or absence of SARS-CoV-2 at the 20 SWEEP sites over time. A detection of the virus indicates that at least one person in the sampled community is shedding the virus. If the virus is not detected, this indicates that either there is no virus in the sampled community, or the concentration of the virus in the sample is below the level that can be detected by the test.



The orange shaded region represents a period of delayed reporting. Data may change as additional reports are received.

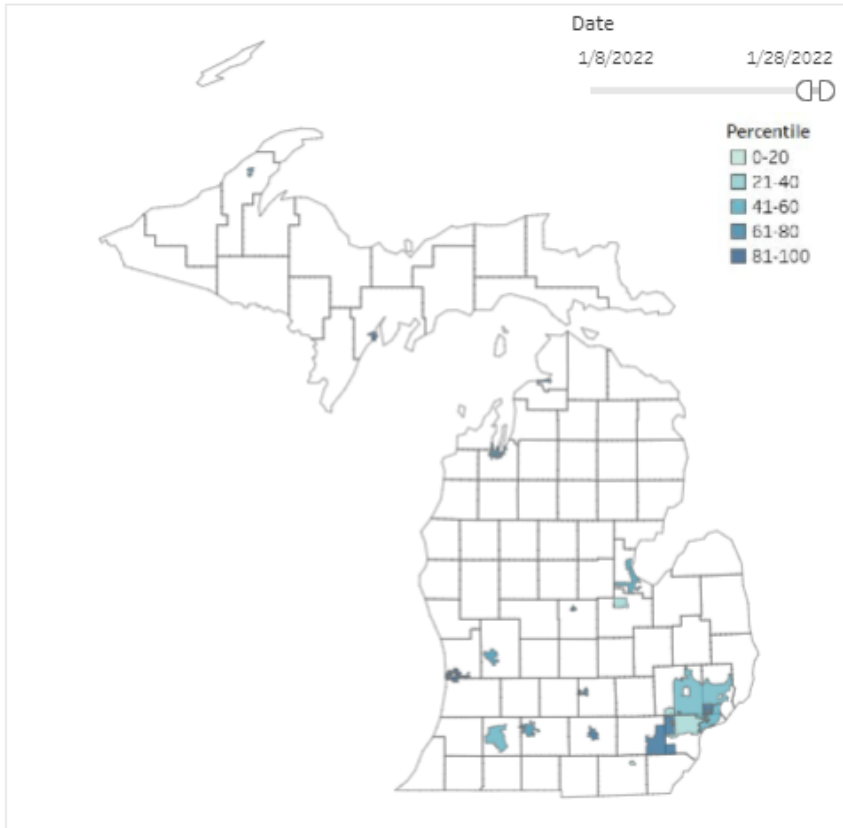
Wastewater sampling at each site started on different dates. All sites were sampling by 1/13/22.

- Virus Detection tab which displays the number of sites reporting positive and negative test results to MDHHS each week

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. 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	21	1/24/2022	↑
Battle Creek WWTP	51093	15	1/26/2022	↓
Bay City WWTP	34000	22	1/27/2022	↑
Delhi Township WWTP	22500	18	1/20/2022	↓
Escanaba WWTP	12600	22	1/26/2022	↑
GLWA Detroit River Interceptor	492000	66	1/19/2022	↑
GLWA North Interceptor-East	1482000	43	1/19/2022	→
GLWA Oakwood-Northwest-Way..	840600	67	1/19/2022	→
Grand Rapids WWTP	265000	25	1/27/2022	↓
Holland WWTP North	45606	27	1/26/2022	↓
Holland WWTP South	36912	27	1/26/2022	↓
Jackson WWTP	90000	27	1/27/2022	↓
Kalamazoo WWTP	150000	22	1/27/2022	↓
Petoskey WWTP	7900	27	1/27/2022	↑
Portage Lake WWTP	14000	20	1/26/2022	↓
Saginaw Township WWTP	40000	24	1/27/2022	↓
Tecumseh WWTP	8680	1	1/28/2022	↓
Traverse City WWTP	45000	25	1/27/2022	↓
Warren WWTP	135000	19	1/20/2022	↓
Ypsilanti WWTP	330000	27	1/26/2022	↓

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 2/2/2022. 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.

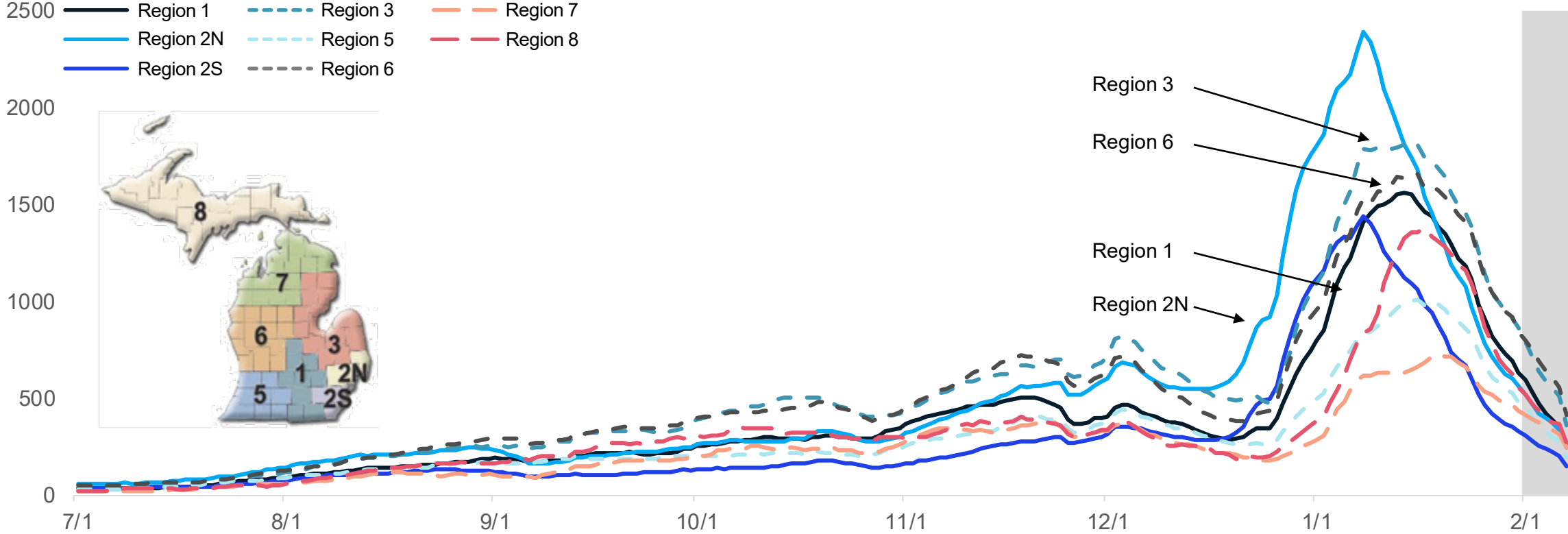


- Among the 400 wastewater testing sites, a subset of wastewater facilities are used to weekly monitor the presence of SARS-CoV-2 (n=20)
- The Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) was created to give a regional and statewide overview of these efforts

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

Case Rate Trends by Emergency Preparedness Region

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



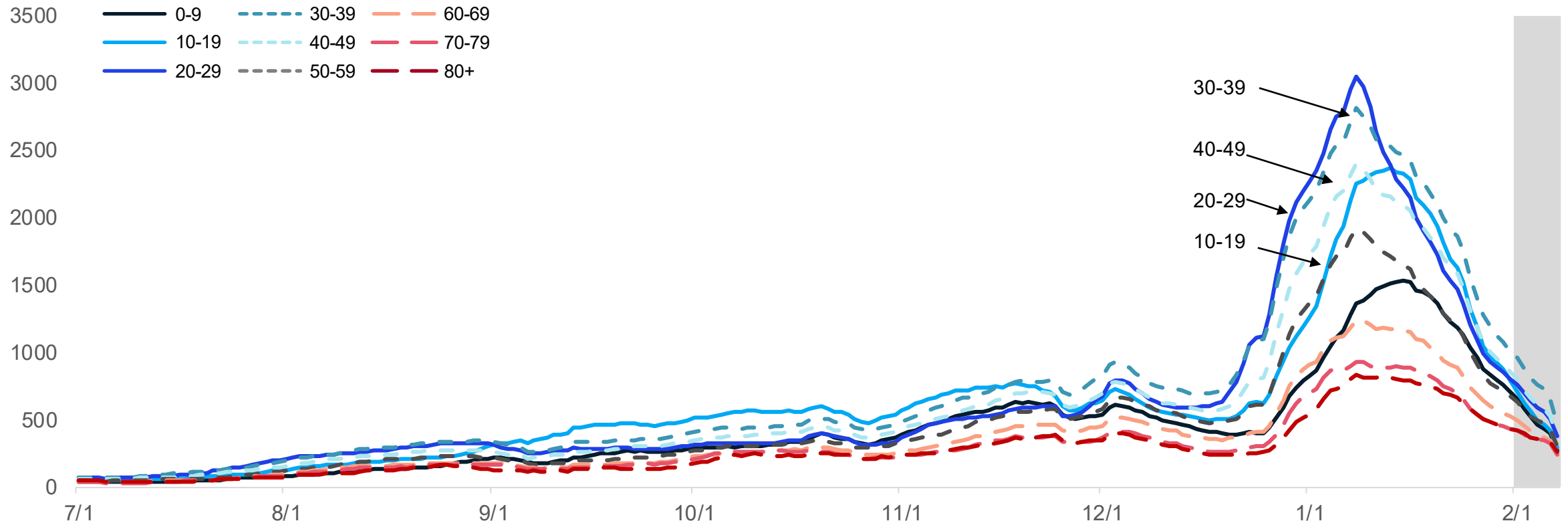
- Case rate trends for all preparedness regions are declining
- Case rates by onset date for all preparedness regions are between 330 and 865 cases per million (through 1/31)
- Case rates are highest in Region 3, followed by Region 6, 1, and 2N

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



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 435 and 1,010 cases per million (through 1/31)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 40-49, 20-29, and 10-19

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

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

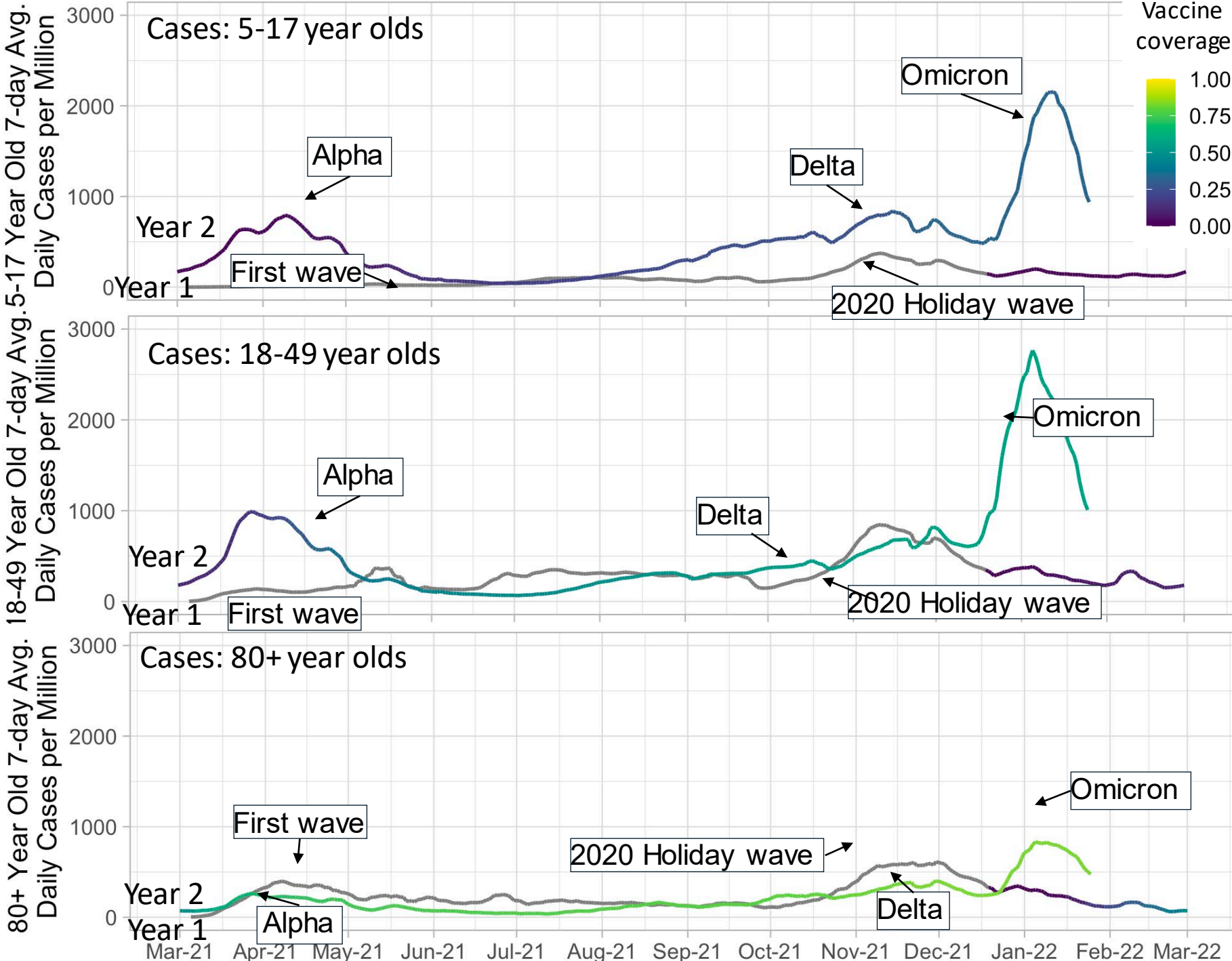
Year-over-year comparisons by age group

All age groups have seen 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

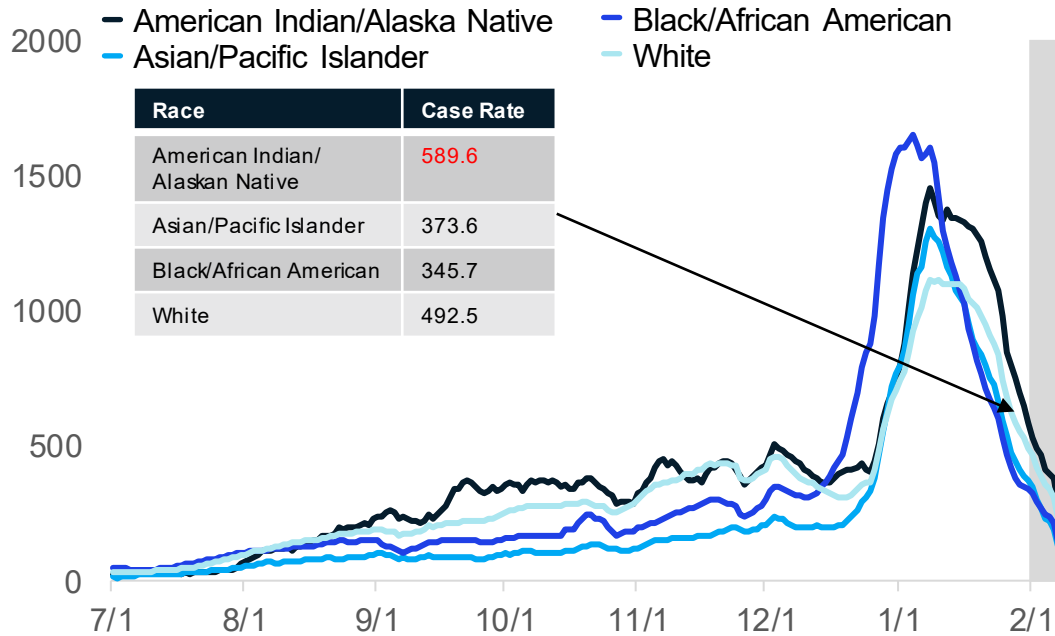
Older age groups have higher vaccine coverage and relatively lower case rates during the omicron wave

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

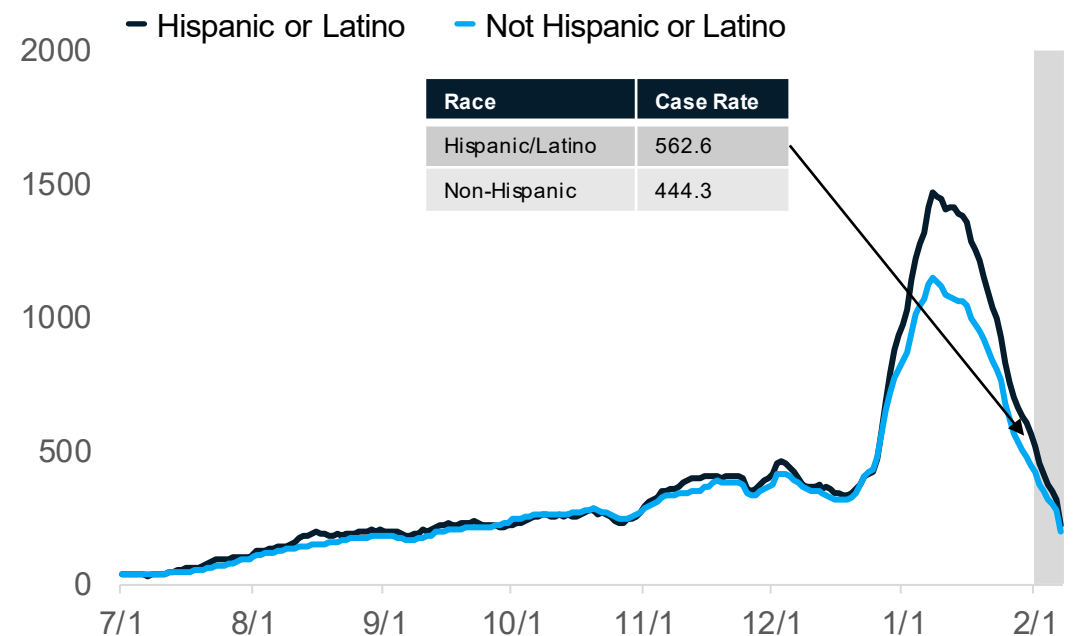


Case Rates by Reported Racial and Ethnic Group

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



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



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, 30% (↓1%) of race data and 39% (↓1%) 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

Current Trends and Projections

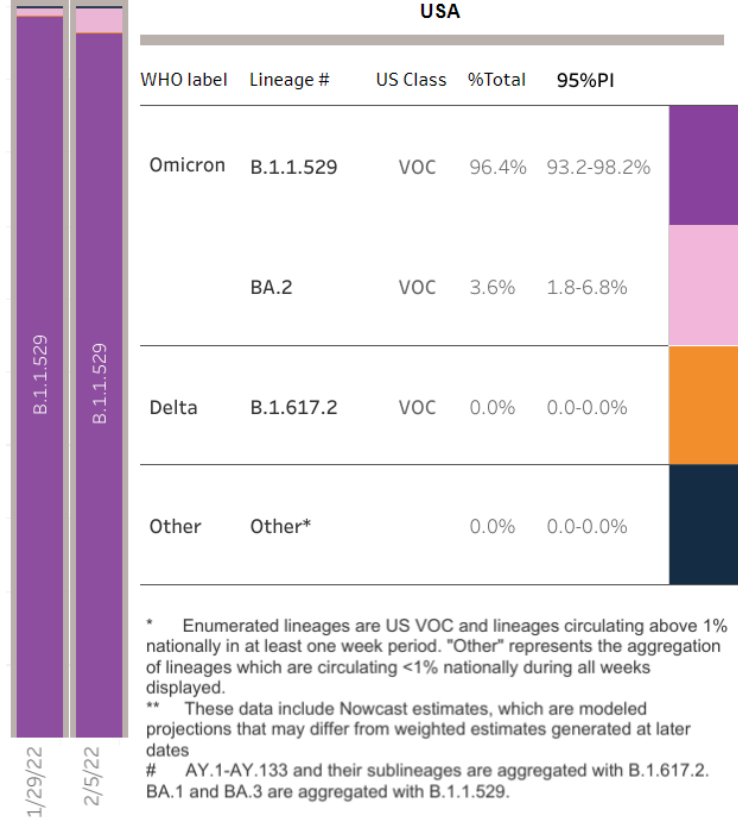
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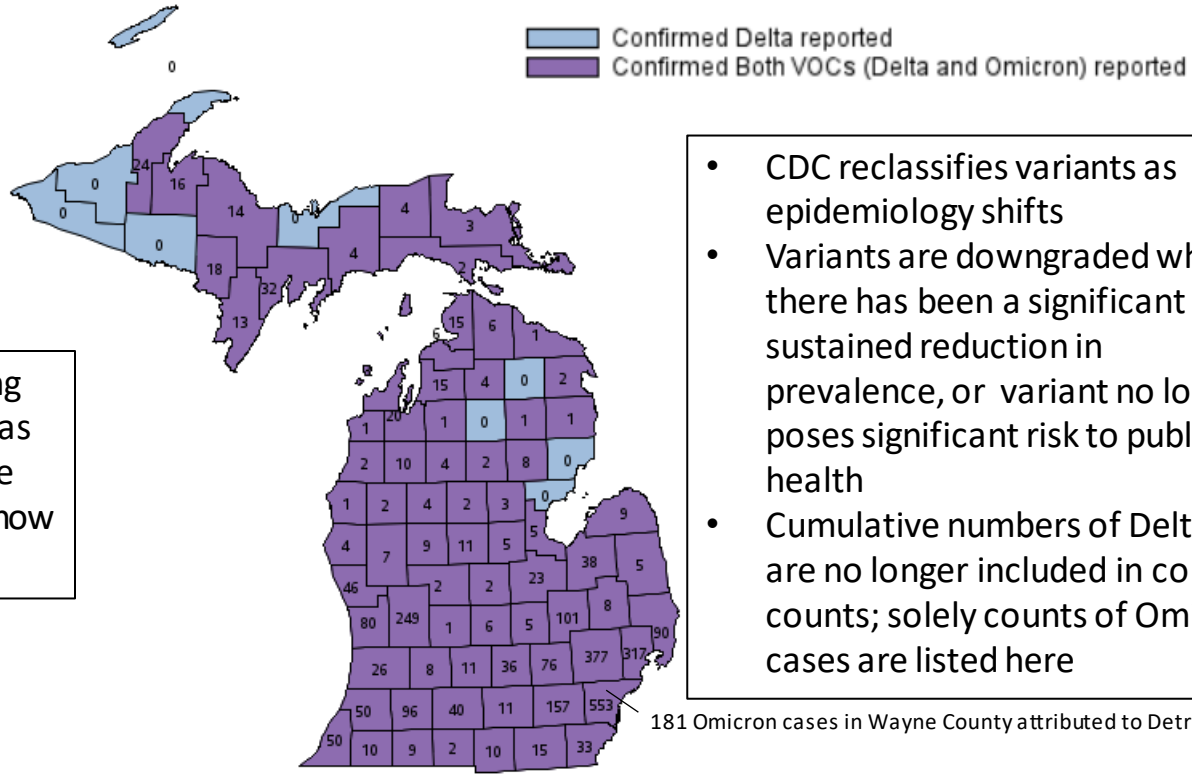
Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan

SARS-CoV-2 Variants Circulating in the United States, Jan 23 – Feb 5 (NOWCAST)



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 7



- 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. ¹
B.1.617.2 (delta)	30,919	83	2%
B.1.1.529 (omicron)	2,882	74	98%

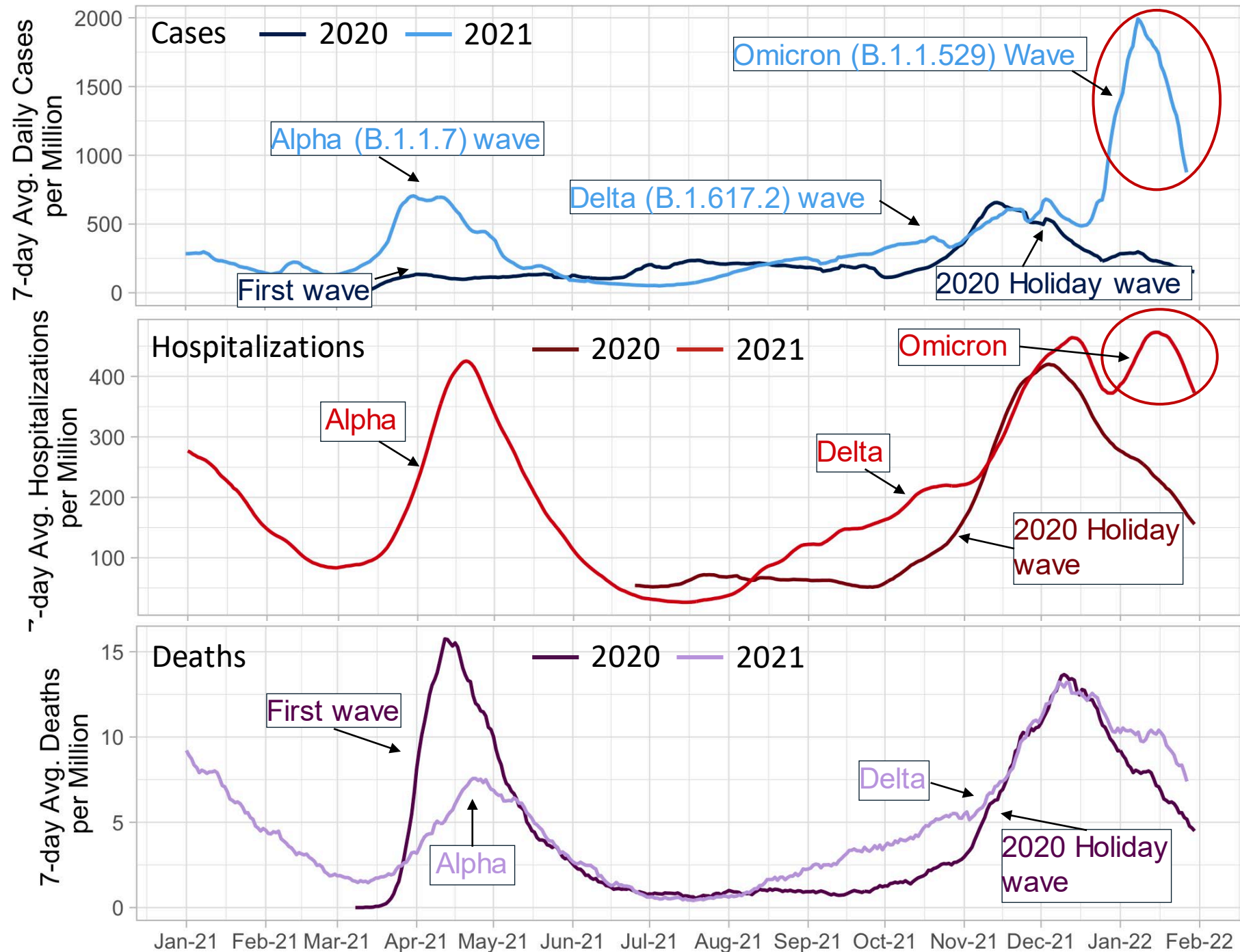
Data last updated Feb 7, 2022
 Source: MDSS

¹ Sequence specimens are from the most recent week by onsetdate which may change as more specimens are sent in



Year-over-year comparisons: cases and hospitalizations are higher than last year

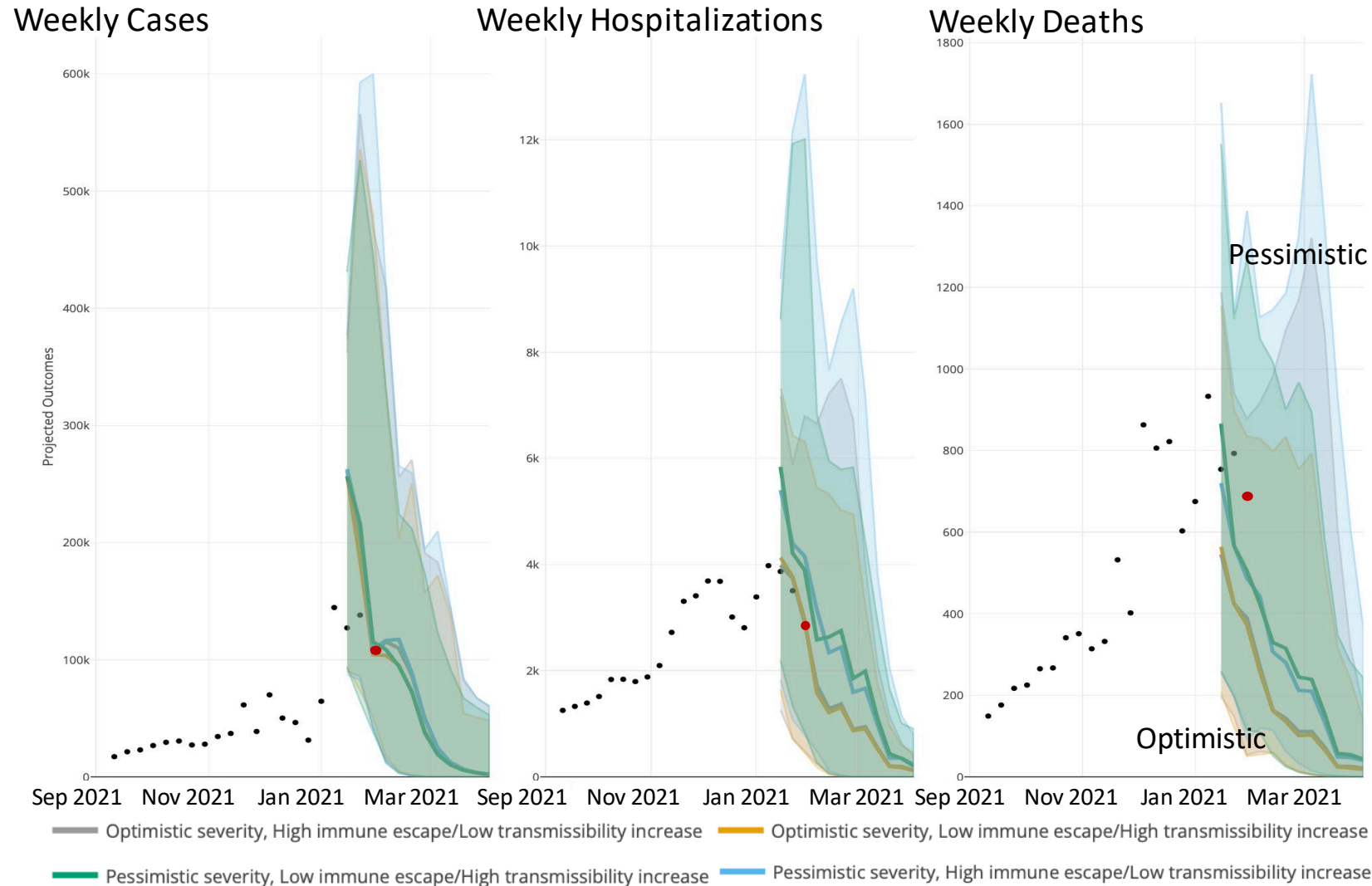
- Cases are still more than 2-3x the levels last year
- Hospitalizations are also much higher than last year
- Deaths are currently slightly higher than last year



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

Model Specific Projections, by Scenario - Round 12 - Michigan

- Updated Model Scenarios (Round 12)
- Suggest we are declining or soon to decline for all three metrics, though in some scenarios there is potential for a second peak in hospitalizations and deaths (in the 95% confidence intervals)
- Cases and hospitalizations appear consistent with all four scenarios
- Deaths appear more consistent with the more pessimistic scenarios so far
- All projections suggest that cases, hospitalizations and deaths will still be high over the coming weeks, even if declining



Source: [COVID Modeling Scenario Hub](https://www.covidmodeling.com/). Uncertainty levels: 95%

Current Trends and Projections

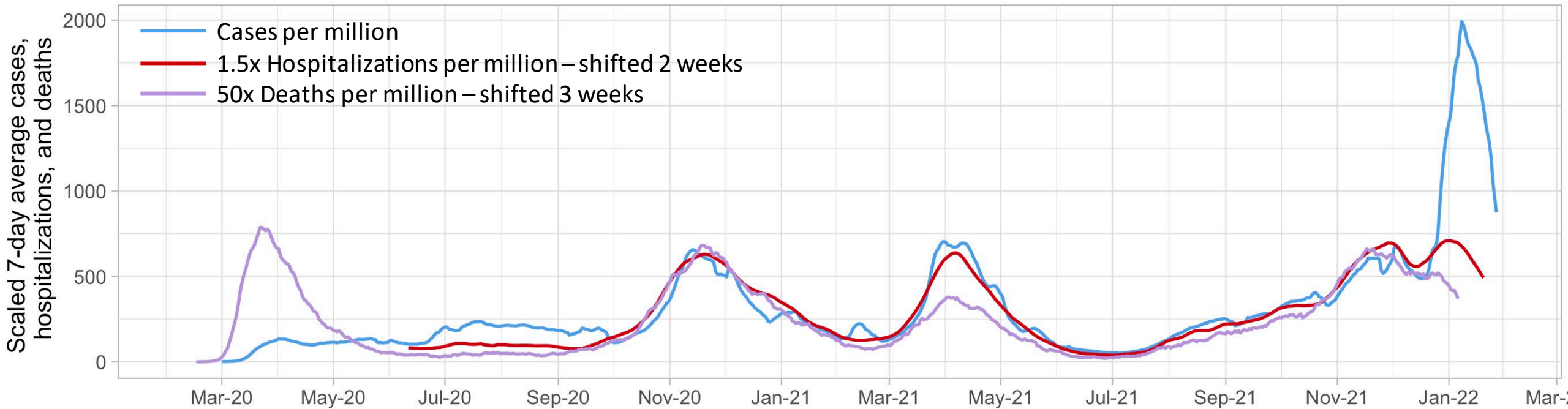
Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Cases, hospitalizations and deaths change together—but lagged by up to 3 weeks

- Hospitalizations remain high, but appear to be showing a lower trend than cases, and potentially moving toward a decline
- Deaths also remain high but lower than would be expected based on previous surges, and appear to be plateauing or declining (will depend on data backfill)



Source: MDSS and EM Resource data

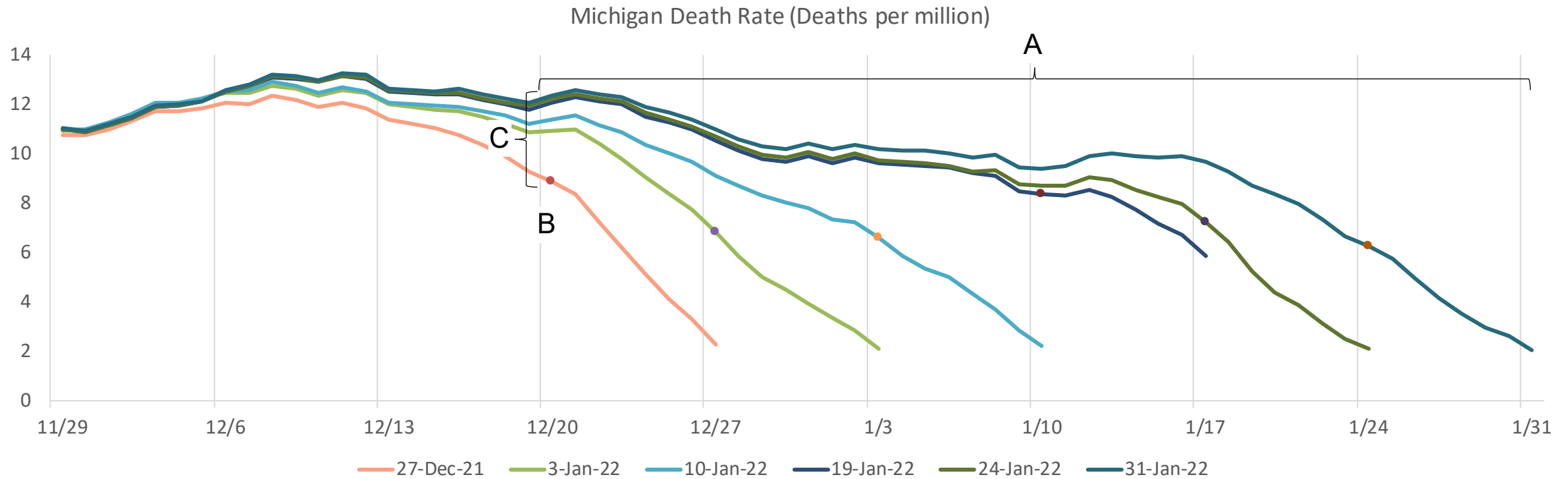
Current Trends and Projections

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Longer backfill times are delaying reliable deaths per million (7-day rolling average) by more than 7 days



- Each vertical line represents 7 days and the reporting lag for deaths by date of death is 7 days (indicated by the dot on each trend line)
- Longer backfill times are impacting trend numbers and weekly comparisons as data 7 days prior is further updated [shown in A]
- Data continues to be updated after 7 days. For example, the **12/20 death rate** was reported to be 8.9 on 12/27 (traditional 7-day lag) but was updated to 10.9 as of 1/3 (14-day lag) and continues to update to 12.4 as of 1/31 (5-week lag; difference 3.5; 40% change) [shown in B]
- While absolute change isn't high, percent changes can be fairly high and alter trend analysis [shown in C]

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

Current Trends and Projections

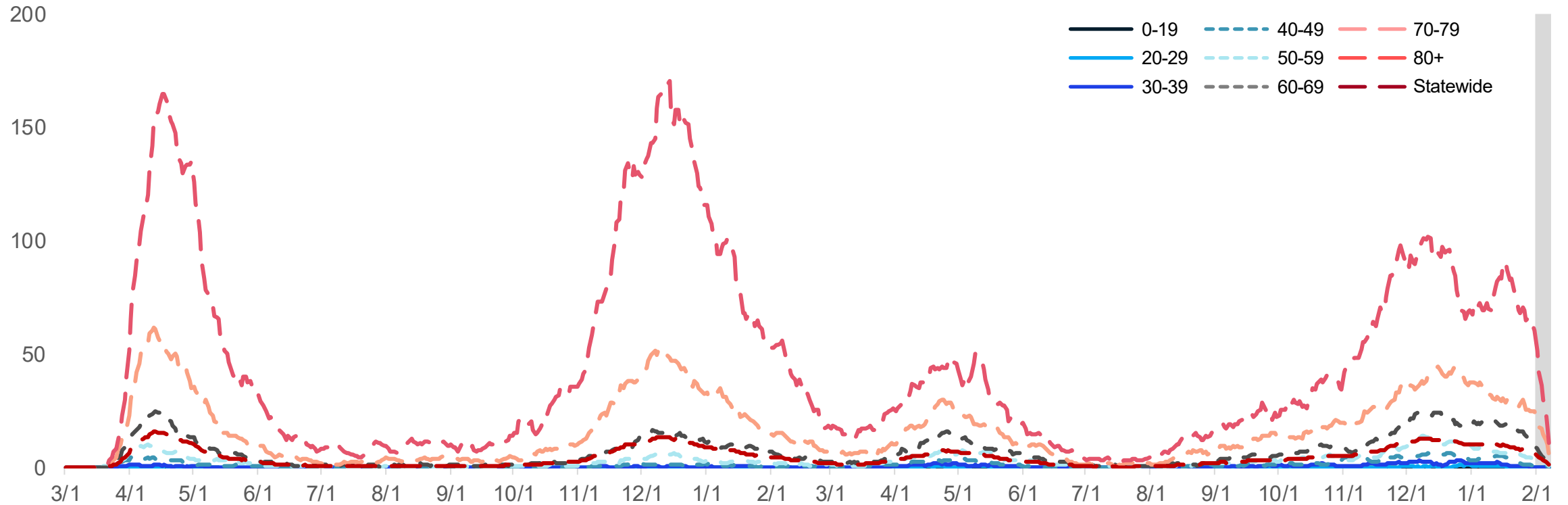
Prevent Death and Severe Outcomes

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Average daily death rates, by age group

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



- Deaths are a lagging indicator
- Through 1/31, the 7-day avg. death rate is 50 daily deaths per million people for those over the age of 80

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

Current Trends and Projections

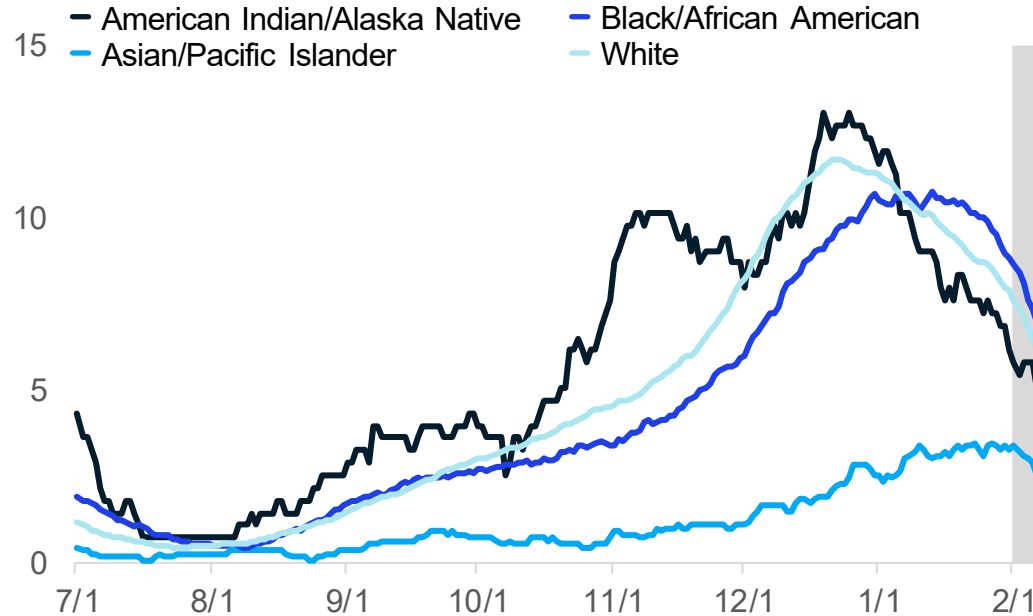
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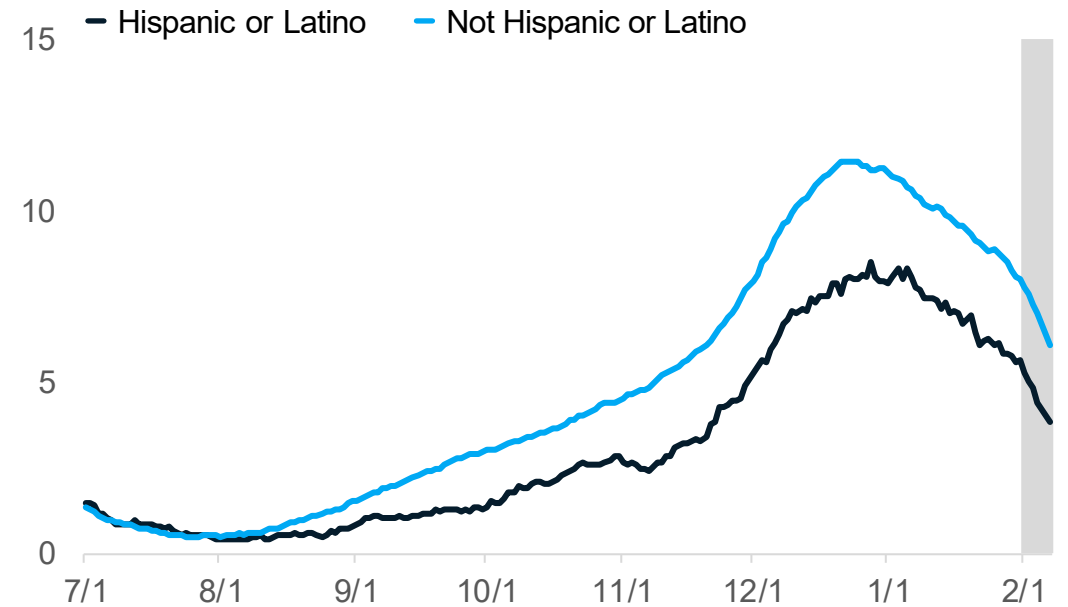
Keep Vital Infrastructure Functioning

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 (8.8 deaths/million)

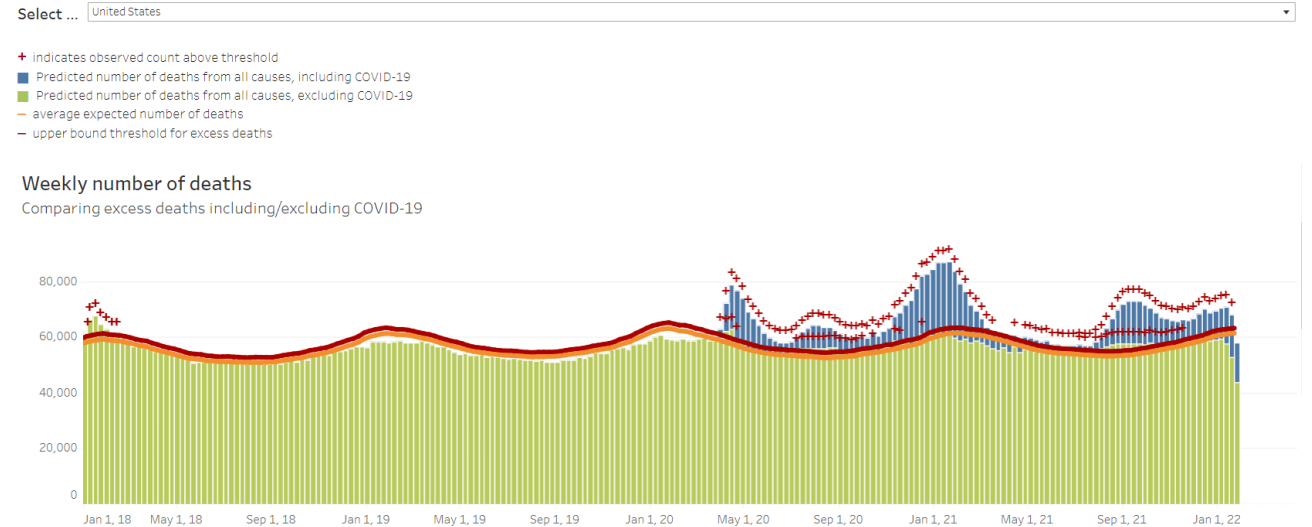
Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

900,000 American Deaths from COVID-19

Statement by President Joe Biden on 900,000 American Deaths from COVID-19

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BRIEFING ROOM



- As many Americans have died from COVID-19 as approximately live in Columbus, Indianapolis, Charlotte, or San Francisco²
- More American have died from COVID-19 than the number of Michiganders who live in cities Grand Rapids, Warren, Sterling Heights, Ann Arbor, Lansing, and Dearborn *COMBINED*²
- Over 200,000 U.S. children have lost a parent or caregiver to the pandemic^{3,4}

Sources: ¹[White House Statement on 900,000 COVID deaths](#), ²[U.S. 2020 Census](#), ³[COVID-19—Associated Orphanhood and Caregiver Death in the United States](#), ⁴[Newsweek COVID Orphans—Over 200,000 U.S. Children Have Lost A Parent or Caregiver to the Pandemic](#)

Current Trends and Projections

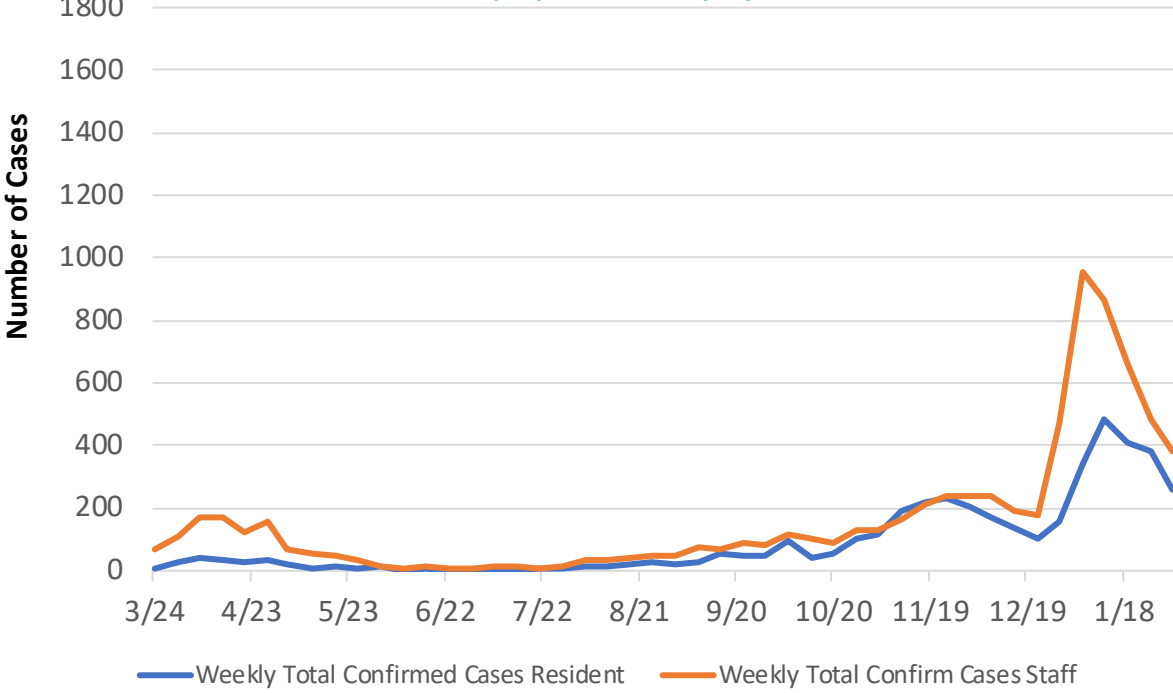
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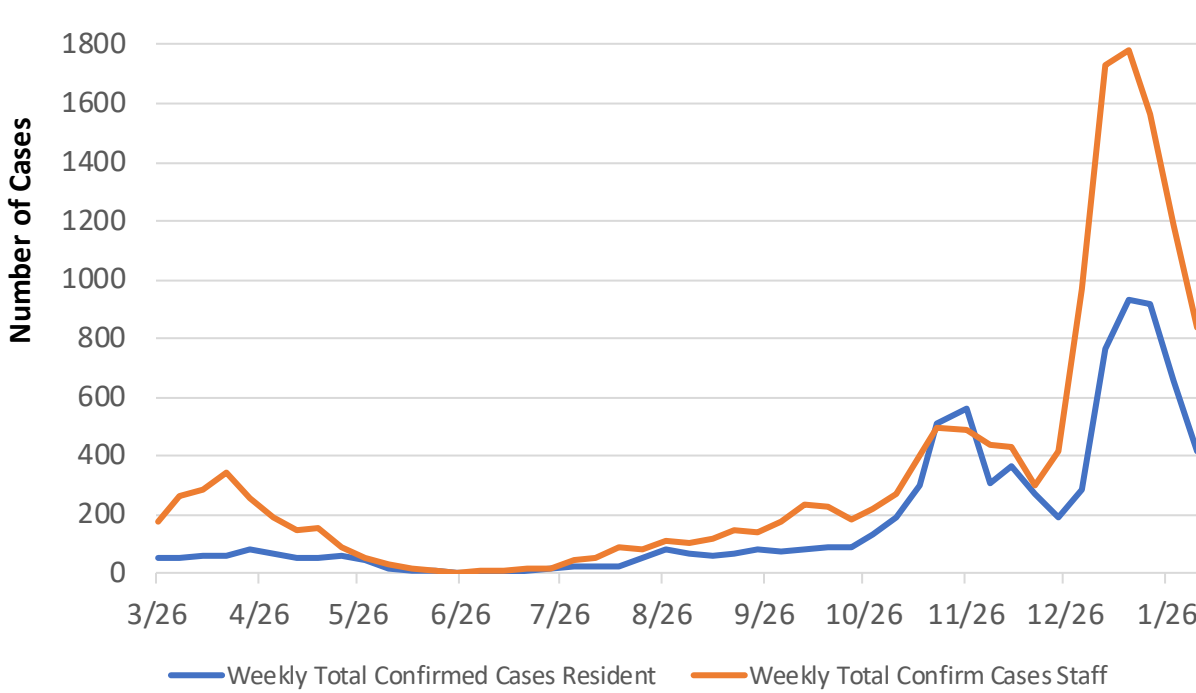
Keep Vital Infrastructure
Functioning

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

STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN AFC/HFA RESIDENTS AND STAFF
03/24/2021 TO 02/02/2022



STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN SNF RESIDENTS AND STAFF
03/26/2021 TO 02/04/2022



- Case counts in residents trending downwards in both AFC/HFA (258) and SNF(417)
- Case counts in staff trending downwards in both AFC/HFA (380) and SNF (834)
- 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.



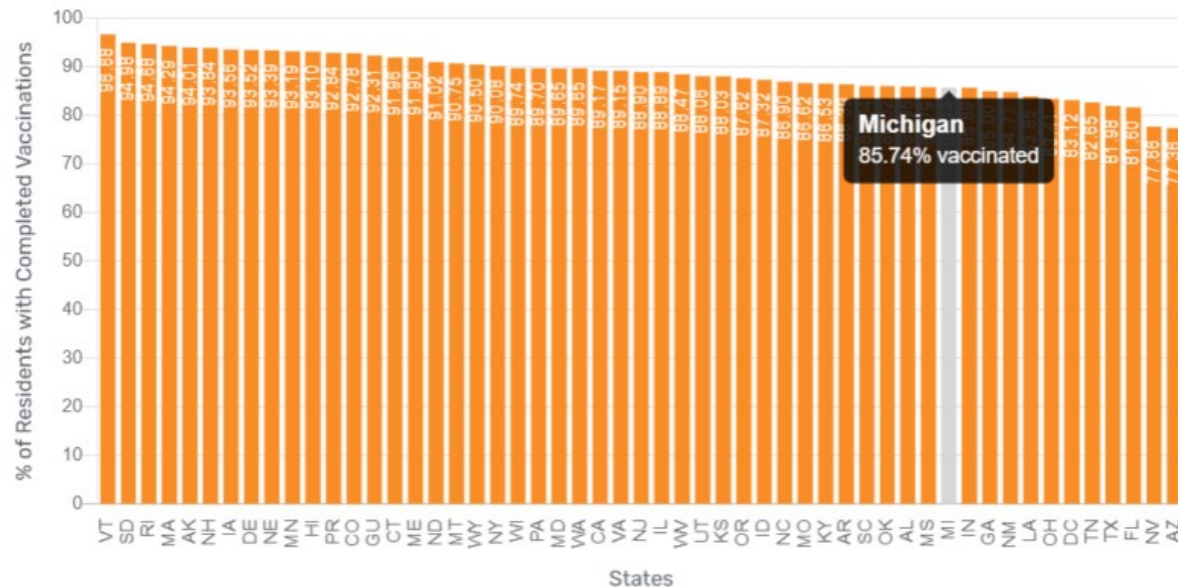
Completed vaccination among Skilled Nursing Cases for Residents and Staff

85.7% of SNF residents are fully vaccinated; 42 of 53 states/territories

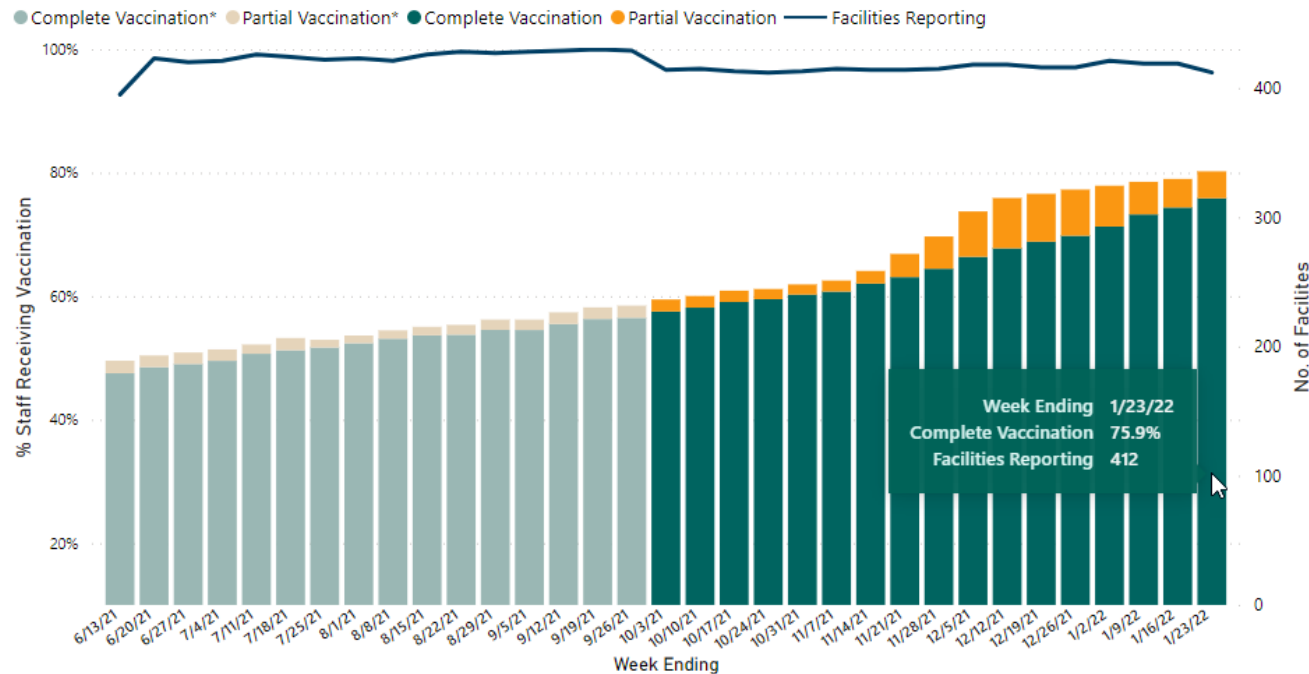
78.6% of SNF staff are fully vaccinated, 47 of 53 states/territories
4.3% on SNF staff have initiated primary series

Percent of Current Residents with Completed COVID-19 Vaccinations per Facility

Note: This shows the average percentage among facilities who have reported vaccination data in the current or prior week.



COVID-19 Vaccination Coverage and Reporting among Staff in Nursing Homes, by Week

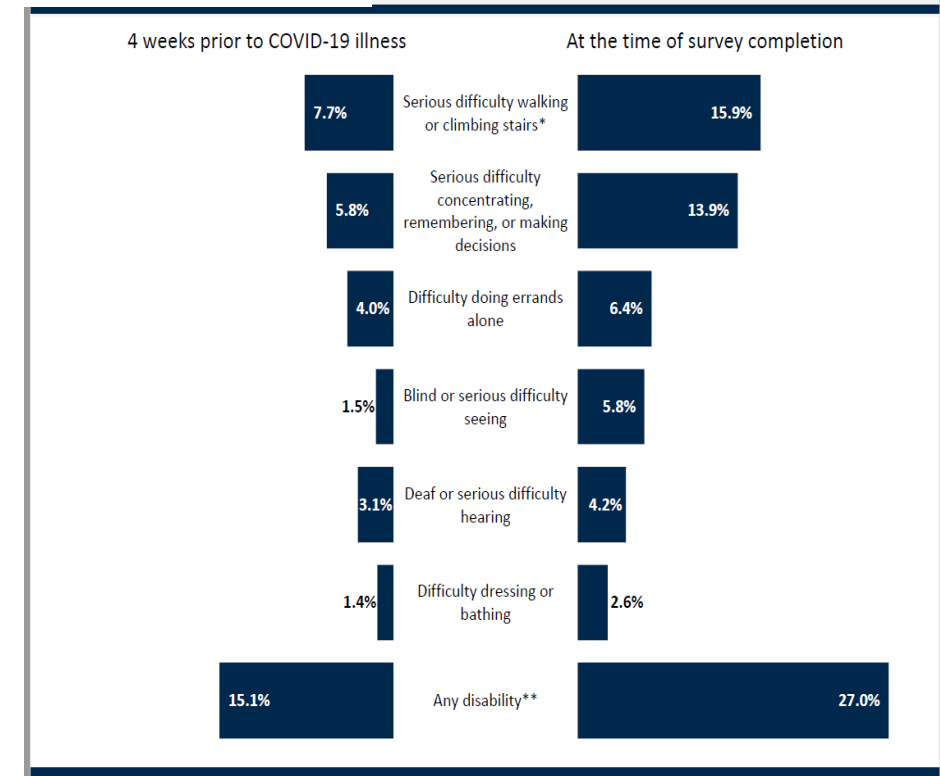


<https://data.cms.gov/covid-19/covid-19-nursing-home-data>
<https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html>

Disability status before and after COVID-19 illness in Michigan, 2020



- 27% of cases reported some type of disability after illness, compared to 15% before.
 - Serious difficulty walking or climbing stairs, or serious difficulty concentrating, remembering, or making decisions after illness
- ~30% of Black cases reported post COVID mobility disability post COVID.
- Mobility disability significantly higher after illness among cases classified as obese or having diabetes, hypertension, or asthma.
- Half of respondents with COPD had mobility disability after illness, compared to 27% before.



Cardiovascular risk after COVID 19 infection, national cohort

- Large national cohort in Veteran's Affairs' health care databases.
- Risk and 12-month burden of incident cardiovascular disease are substantial and span several cardiovascular disease categories
- Evident even among those whose acute COVID-19 did not necessitate hospitalization.
- Care pathways of people who survived the acute episode of COVID-19 should include attention to cardiovascular health and disease.

Source: Xie et al, Long-term cardiovascular outcomes of COVID-19. *Nature Medicine*. January 2022.
<https://doi.org/10.1038/s41591-022-01689-3>

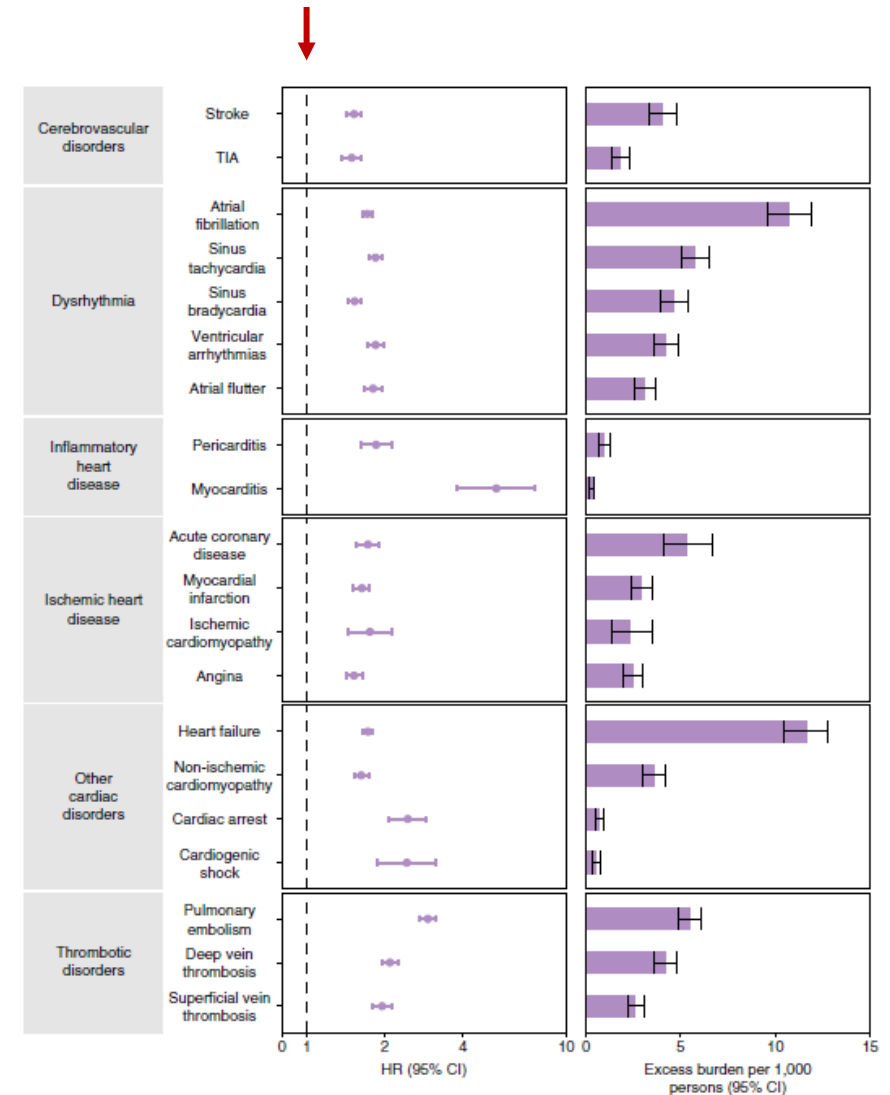
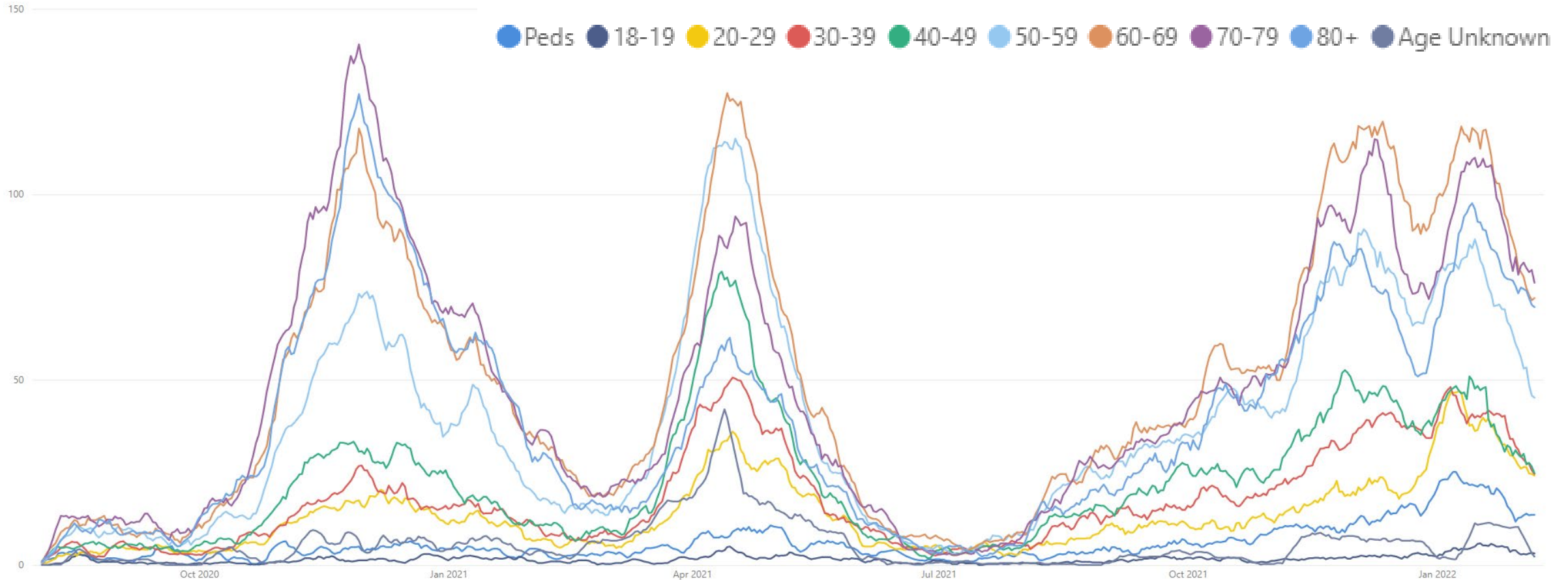


Fig. 2 | Risks and 12-month burdens of incident post-acute COVID-19 cardiovascular outcomes compared with the contemporary control cohort. Outcomes were ascertained 30 d after the COVID-19-positive test until the end of follow-up. COVID-19 cohort ($n=153,760$) and contemporary control cohort ($n=5,637,647$). Adjusted HRs and 95% CIs are presented. The length of the bar represents the excess burden per 1,000 persons at 12 months, and associated 95% CIs are also shown.

Average Hospital Admissions by Age Group



- Trends for daily average hospital admissions declined (-14%) since last week (vs. -19% prior week)
- Overall, most age groups saw declines this week
- More than 70 daily hospital admissions was seen for each of the age groups of 60-69, 70-79, and 80+

Source: CHECC & EM Resource

Current Trends and Projections

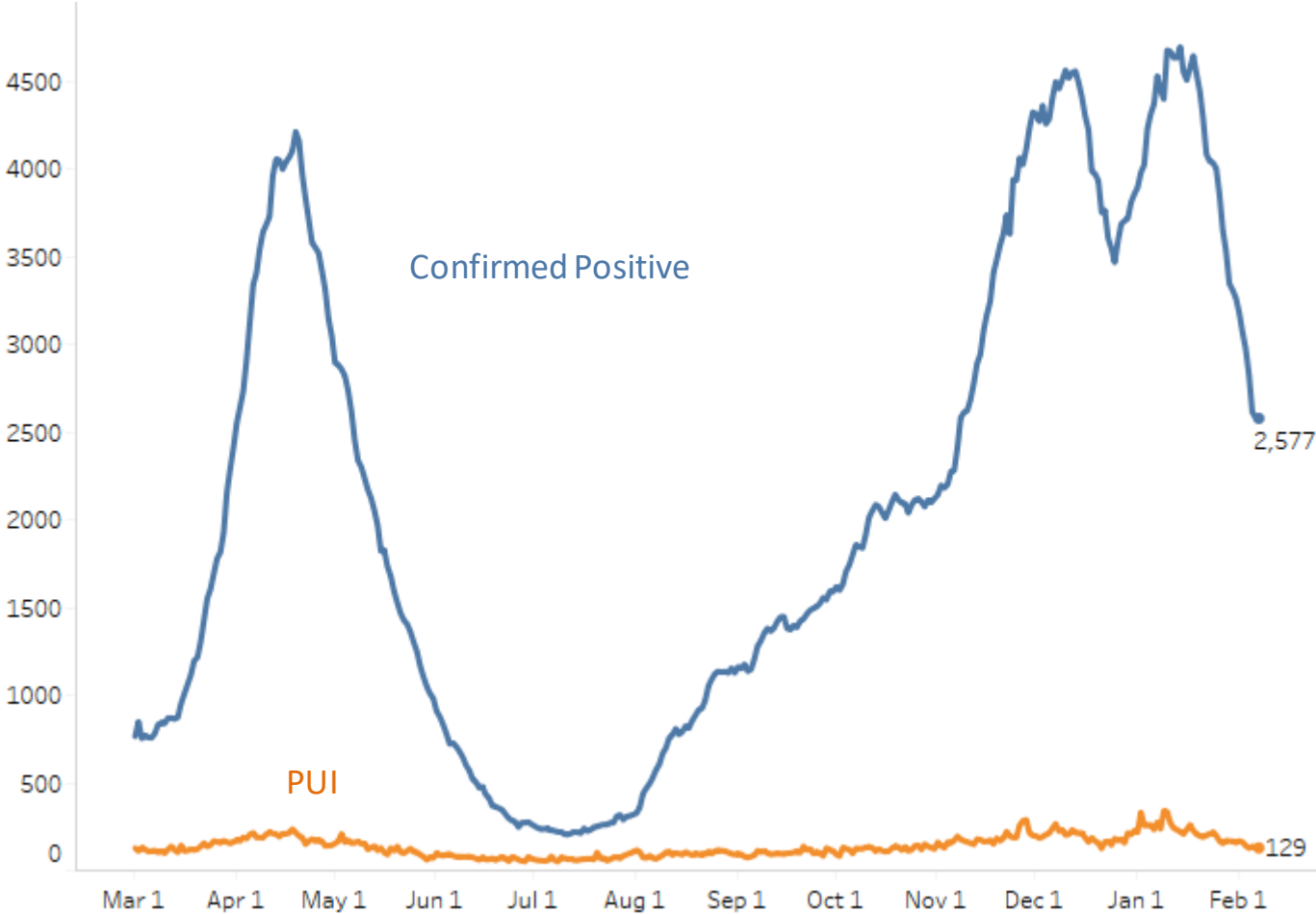
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Keep Vital Infrastructure Functioning

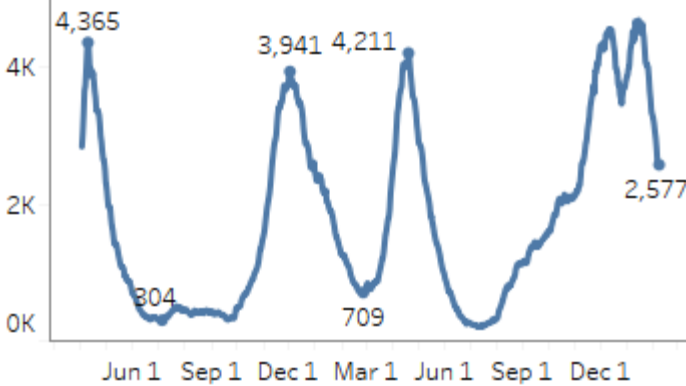
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 2/7/2022
Confirmed Positive & Persons Under Investigation (PUI)



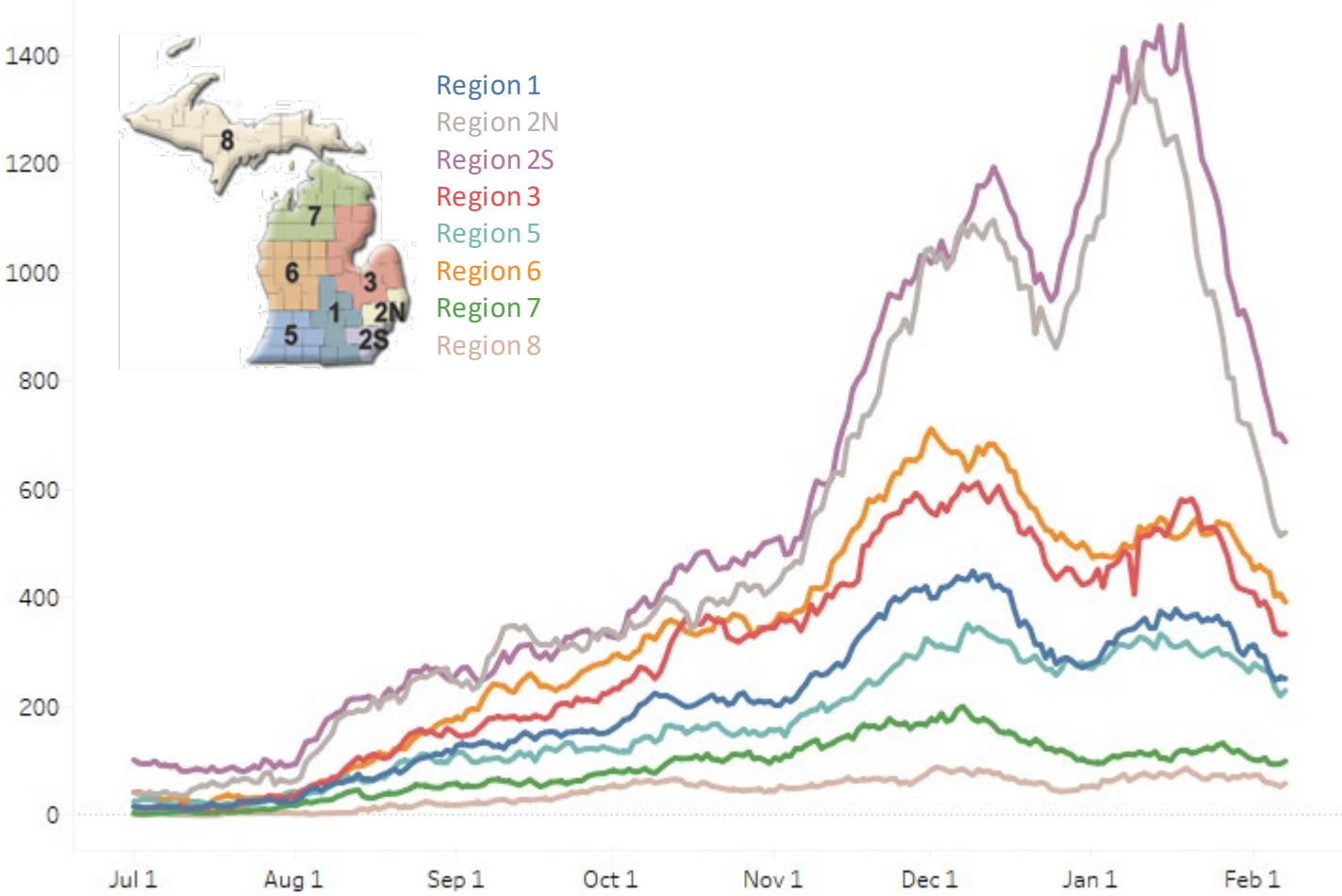
COVID+ census in hospitals continues to decrease and is down 21% from last week (previous week was down 20%)

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 2/7/2022
Confirmed Positive by Region



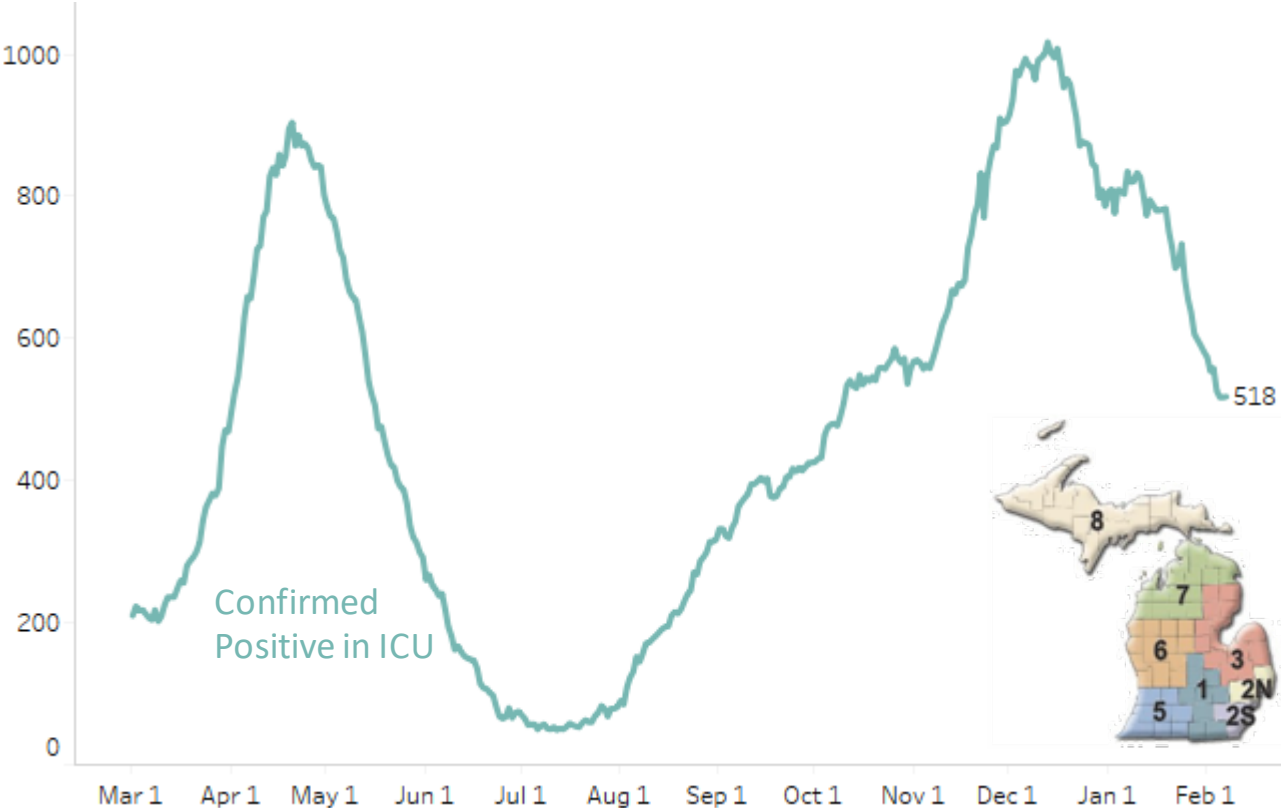
This week hospitalizations have decreased in all regions.

All regions except Region 2S have fewer than 300 hospitalizations/M (Region 2S has 309/M).

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	252 (-19%)	233/M
Region 2N	521 (-28%)	235/M
Region 2S	688 (-24%)	309/M
Region 3	334 (-19%)	295/M
Region 5	230 (-13%)	241/M
Region 6	393 (-17%)	268/M
Region 7	100 (-6%)	200/M
Region 8	59 (-17%)	190/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 2/7/2022
Confirmed Positive in ICUs

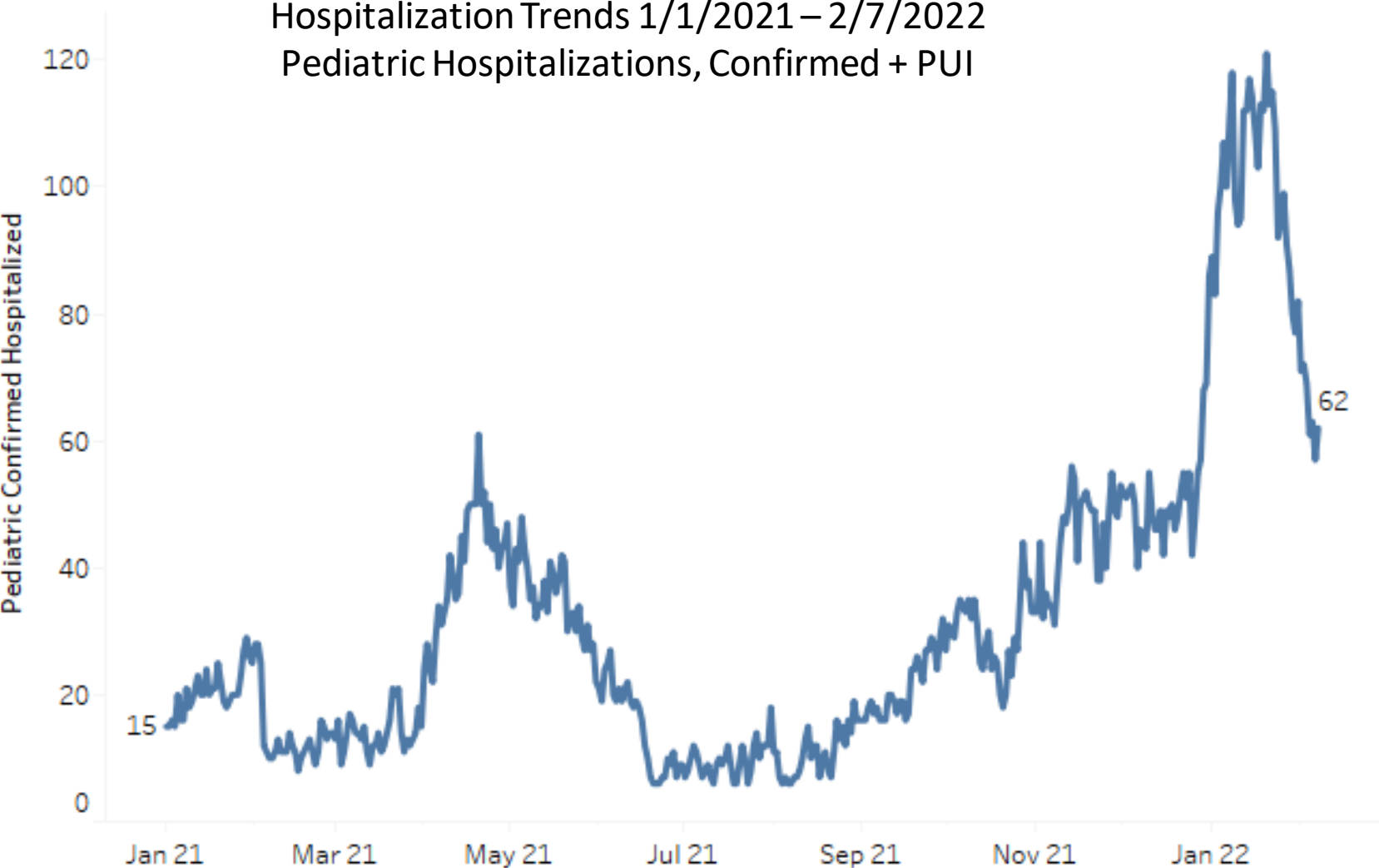


Overall, volume of COVID+ patients in ICUs has decreased by 11% from last week (previous week was down by 6%). While most regions show decreasing or flat trend, ICU census in Regions 1 has increased from last week.

Regions 2S and 3 have ICU occupancy greater than 85%.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	45 (10%)	83%	23%
Region 2N	100 (-16%)	72%	18%
Region 2S	138 (-7%)	86%	20%
Region 3	79 (-14%)	92%	25%
Region 5	40 (3%)	76%	22%
Region 6	71 (-21%)	81%	26%
Region 7	26 (-4%)	80%	20%
Region 8	19 (-21%)	73%	30%

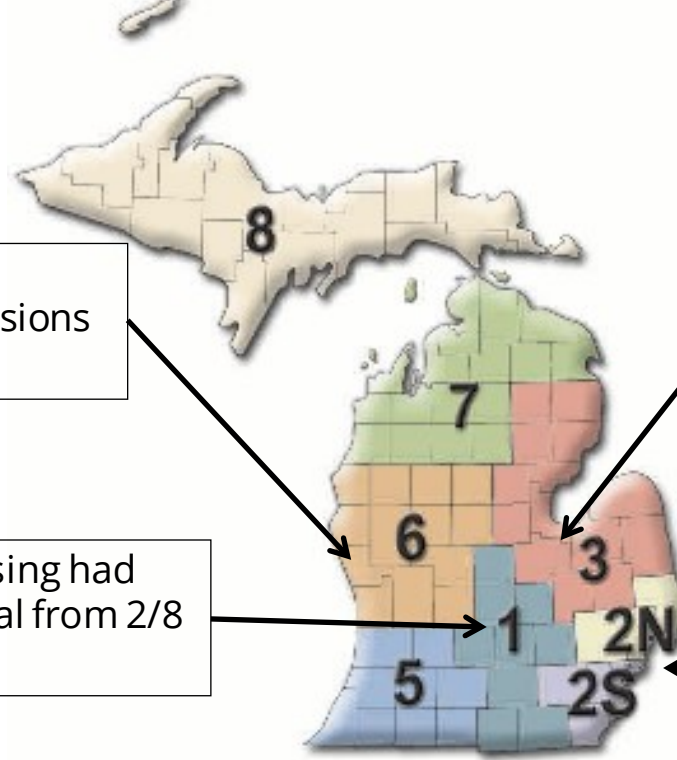
Statewide Hospitalization Trends: Pediatric COVID+ Census



Michigan Strategy to Allocate Federal Staffing Resources

The regional strategy addresses:

- COVID hotspots
- Challenges with increased admissions
- Facilitating regional decompression and patient transfers from outlying areas to the appropriate level of care



• DoD teams at Spectrum and Mercy Muskegon (R6) completed their missions on 2/3 and 1/28, respectively

• DoD team allocated to Covenant Saginaw in R3 extended 14 days to 2/23

• DoD team allocated to Sparrow Lansing had arrived on 2/4 and is fully operational from 2/8 through 3/9

• DoD team at Beaumont Dearborn in R2S completed their mission on 1/29
• Henry Ford Wyandotte DoD was fully operational as of 1/24 and will be through 2/22

Source: Emergency Preparedness and Response

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Vital Infrastructure: K-12 school clusters and outbreaks, week ending Feb 3

Number of reported outbreaks/clusters increased since last week (410 to 490), with increases in Pre K-Elementary (211 to 238), and High Schools (115 to 142), and Middle/Jr High (83 to 110). Only Administration declined (1 to 0).

Region	Number of reported cases, #	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Region 1	830	138		89	3-83
Region 2n	382	22		26	3-67
Region 2s	186	24		31	3-19
Region 3	3,589	86		157	3-120
Region 5	222	32		35	3-20
Region 6	559	326		86	3-65
Region 7	429	64		32	2-105
Region 8	663	3		34	3-60
Total	6,860	695		490	2-120

Grade level	Number of reported cases, #	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	2,720	208		238	3-75
Jr. high/middle school	1,421	230		110	3-92
High school	2,719	257		142	2-120
Administrative	0	0		1	0
Total	6,860	695		490	2-140

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.

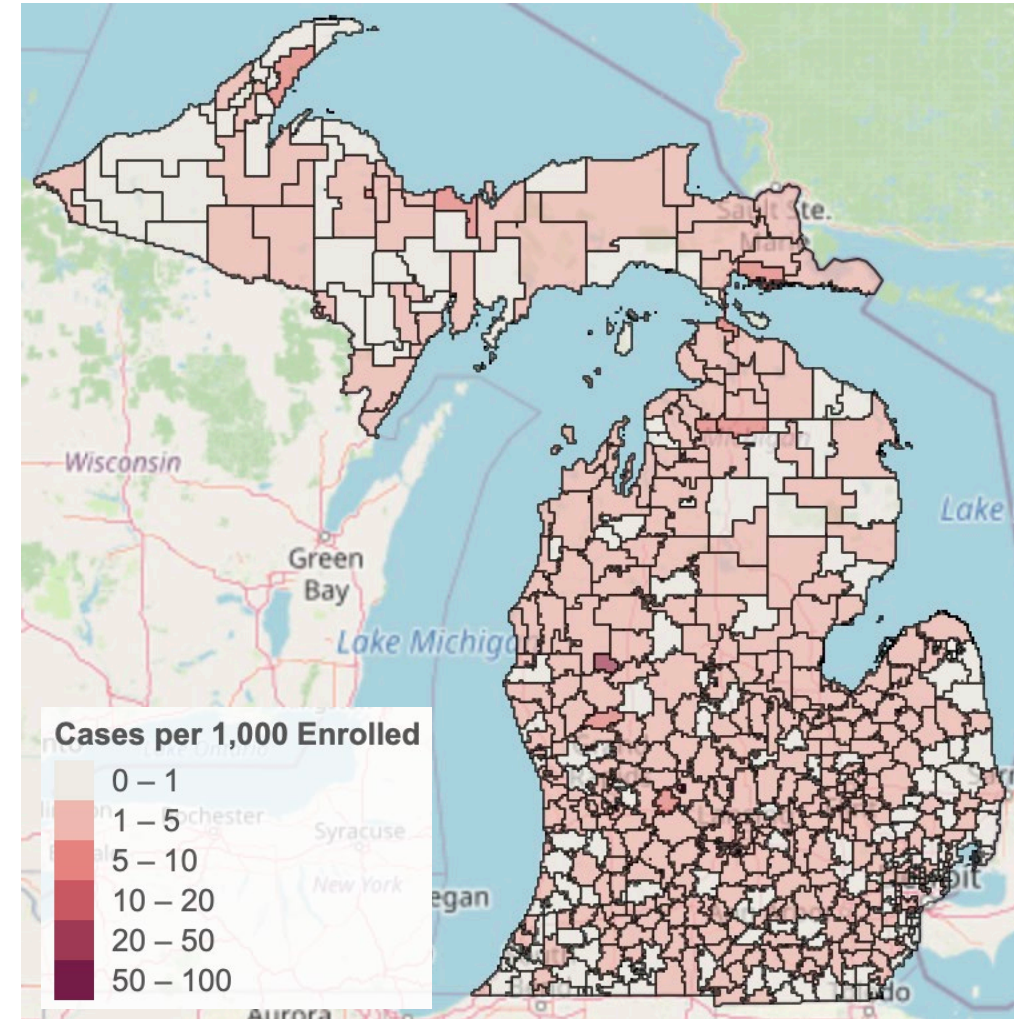
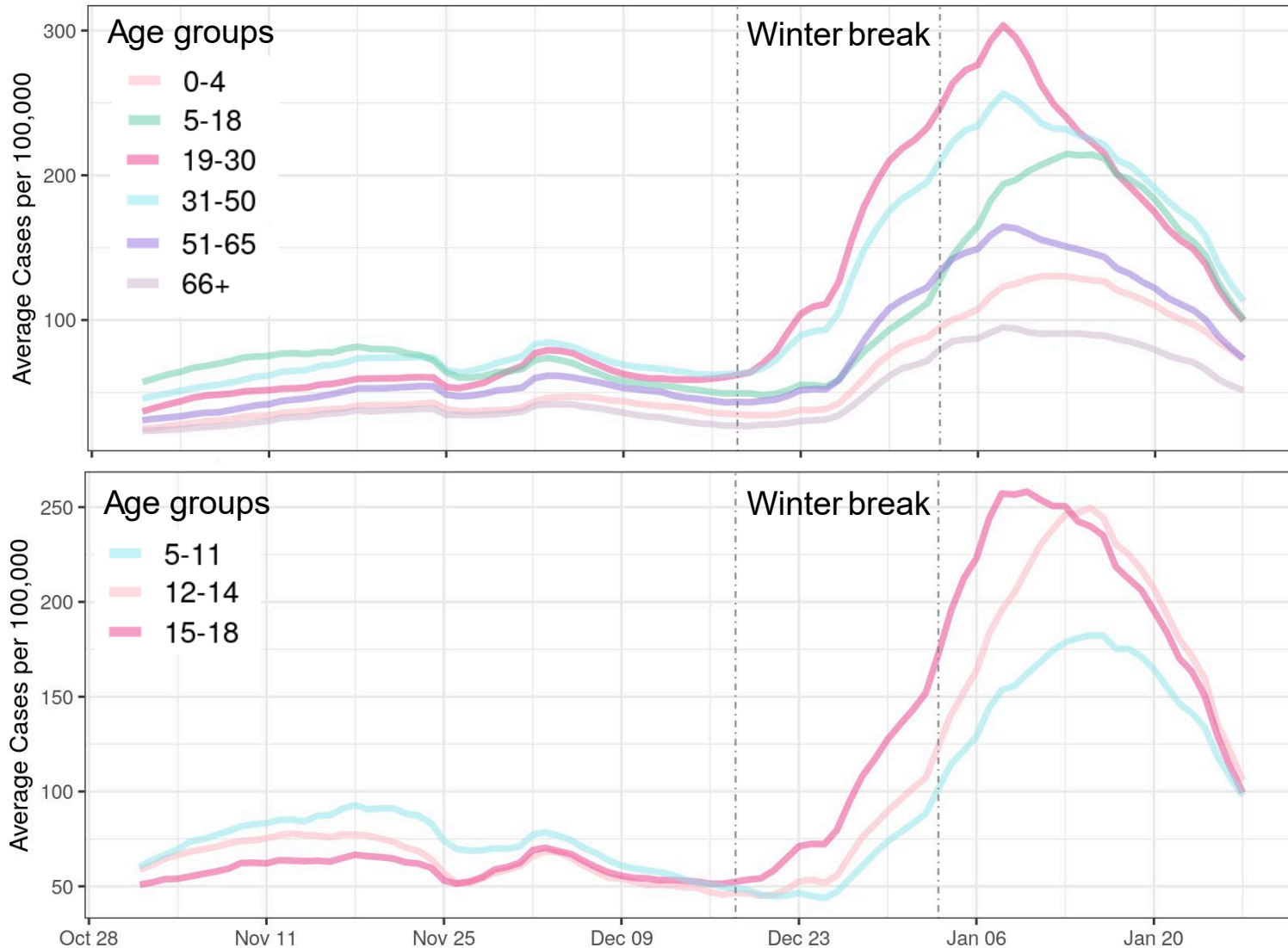
NOTE (10/4): MDHHS adopted the new [CSTE school cluster and outbreak definition](#) which impacts how transmissions within school-sponsored settings are reported to the health department

Source: LHD Weekly Sitreps



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 1/26/2022 (data through 1/19/22), line charts use statewide age group population, map uses ISD enrolled populations from EOG mask tracker data.

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: <https://dx.doi.org/10.15585/mmwr.mm7106e1>

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

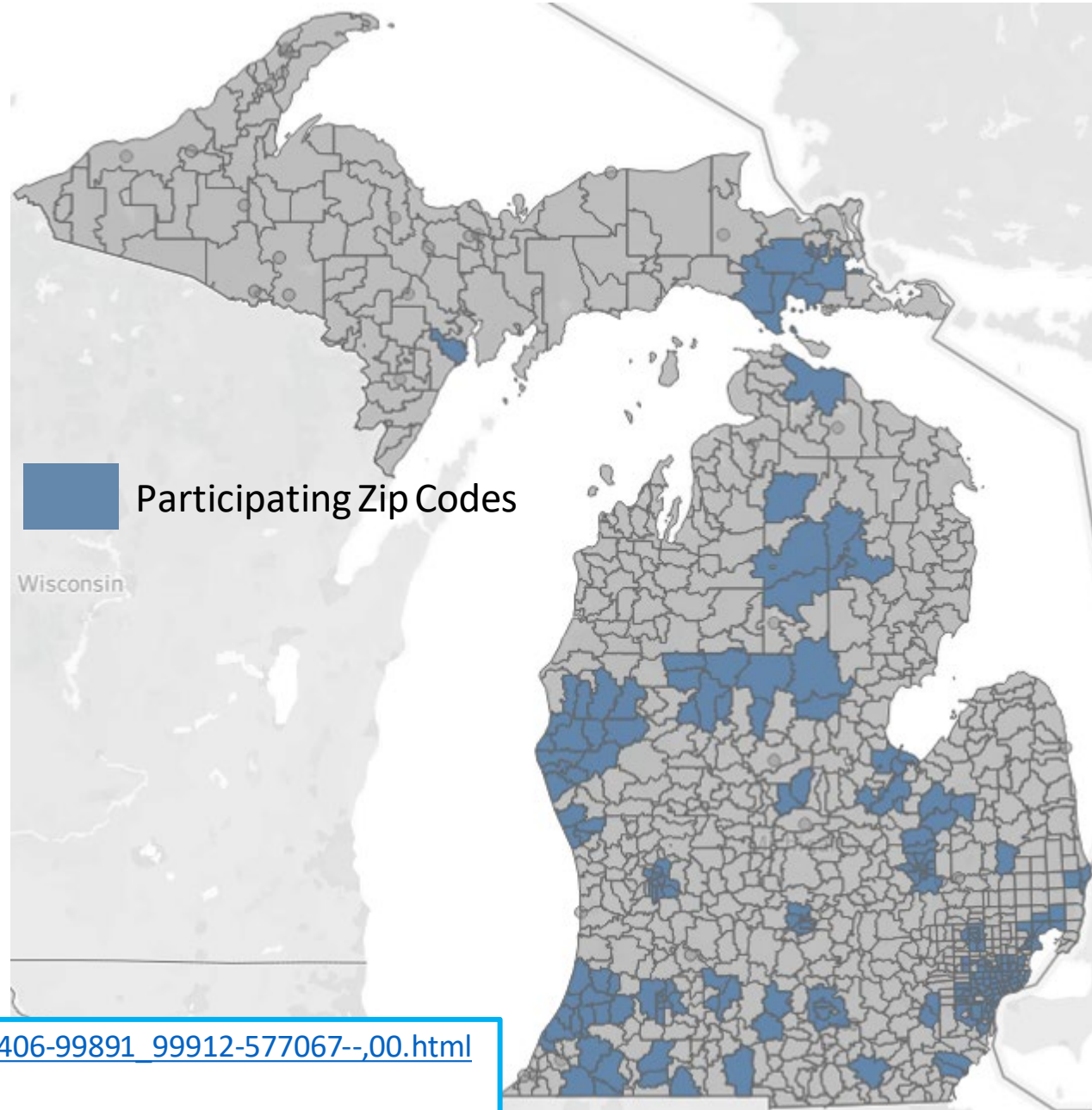
Keep Vital Infrastructure Functioning

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

- 250,000 test kits available at no cost
 - Over 92,000 tests already ordered
- Each order contains 5 test kits
- Currently 253 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/>

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Recommendations and Guidance when Testing Positive (including for At Home Tests)

COVID-19 Self-Testing Fast Facts

COVID-19 self-tests, also referred to as home tests or over-the-counter (OTC) tests, are one of many risk reduction measures, along with vaccination, masking, and physical distancing, that protect you and others by reducing the chances of spreading SARS-CoV-2, the virus that causes COVID-19.

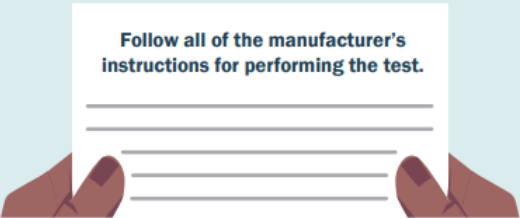


Self-tests can be taken at home or anywhere, are easy to use, and produce rapid results.

You can use self-tests, regardless of vaccination status, whether or not you have symptoms, or if you have had a known or unknown exposure.



Follow all of the manufacturer's instructions for performing the test.



Consider using a self-test immediately before indoor gatherings, if you develop symptoms, or if you feel you were exposed to someone with COVID-19 (testing 3-7 days after exposure is best).



A positive self-test result means that the test detected the virus, and you are very likely infected.

You do not need to get a PCR test to confirm this result, unless advised by your health care provider or public health personnel.

You should:

1. **NOTIFY** your close contacts* and ask them to **QUARANTINE** (see bit.ly/MiContainCOVID)
2. **ISOLATE** at home for a minimum of 5 days

If no symptoms or you are feeling better after 5 days, you can stop isolating, but must wear a well-fitting mask around others for an additional 5 days.

Testing again at day 5 is recommended. If testing is positive, or you still have symptoms on day 5, continue to isolate for a total of 10 days.



https://www.michigan.gov/documents/coronavirus/Self-Testing_Fast_Facts_v5_744280_7.pdf

IF YOU TEST POSITIVE FOR COVID-19

With the increase in COVID-19 cases in our state, you might not hear from the health department. We ask everyone to follow these steps to help stop the spread.



CONTAIN COVID
TEST. TRACE. PROTECT.
MICHIGAN.GOV/CONTAINCOVID

DID YOU TAKE YOUR COVID-19 TEST AT HOME?

Visit Michigan.gov/ContainCOVID for more information about at-home testing.

ISOLATE RIGHT AWAY.

Isolation keeps someone who is infected with the virus away from others, even in their home. If you get a positive test result, tell your close contacts so they know to quarantine (see quarantine instructions below). If you downloaded the MI COVID Alert phone app, call 211 to get your PIN and anonymously alert close contacts. You could also use tellyourcontacts.org. If your child tests positive, notify their school.

Find out if you are eligible for COVID-19 therapies at Michigan.gov/COVIDtherapy.

NOTIFY YOUR CLOSE CONTACTS IMMEDIATELY SO THEY CAN START TO QUARANTINE THEMSELVES.

Close contacts: People who were within 6 feet or less for at least 15 minutes in a 24-hour period.

Contagious: You can be contagious two days before symptoms appear (or two days before test date if positive and no symptoms), through the end of the isolation period.

IF YOU ARE ABLE TO PROPERLY WEAR A MASK COVERING YOUR NOSE AND MOUTH, YOU CAN RESUME NORMAL ACTIVITIES WHEN...

It has been five days since symptoms began or, if you don't have symptoms, five days since your positive test date. If you resume activities after day five, you must continue to wear a mask for an additional five days. If you are unable to wear a mask around others, even in your home, you should wait 10 days before resuming activities.

AND
You have been fever-free for 24 hours without taking fever-reducing medication.

AND
Other symptoms, like cough or shortness of breath, have improved.

Questions? Dial 211 or call the MI COVID Hotline at 888-535-6136.

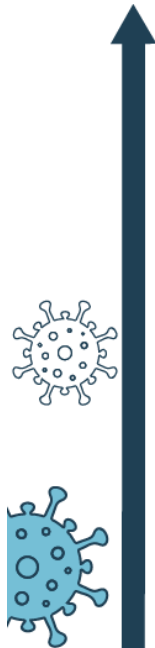
https://www.michigan.gov/documents/coronavirus/2020_MDH_HS_COVID_Tracing_IsolationGraphic_3.2_709657_7.pdf

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	Treatment window after symptoms appear:	Paxlovid PO	Sotrovimab IV	Remdesivir IV	Molnupiravir PO
		5 days	10 days	7 days	5 days
<ul style="list-style-type: none"> 75+ years old and not up to date* Moderately or severely immunocompromised regardless of vaccine status 		✓	✓	✓	✓ <i>If other therapies not available or appropriate</i>
<ul style="list-style-type: none"> 65-74 years old and not up to date* with MI priority risk factor** Pregnant and not up to date* 		✓	✓	✓	✓ <i>If other therapies not available or appropriate</i>
<ul style="list-style-type: none"> 65-74 years and not up to date* Under 65 years old and not up to date* with MI priority risk factor** 		✓	✓	✓	✓ <i>If other therapies not available or appropriate</i>
<ul style="list-style-type: none"> 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	✓ <i>If other therapies not available or appropriate</i>
<ul style="list-style-type: none"> 65-74 years old and up to date* with <u>CDC risk factors</u> 		Not currently eligible	Not currently eligible	Not currently eligible	✓
<ul style="list-style-type: none"> 65-74 years old and up to date* Younger than 65 years old and up to date* with <u>CDC risk factors</u> 		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.



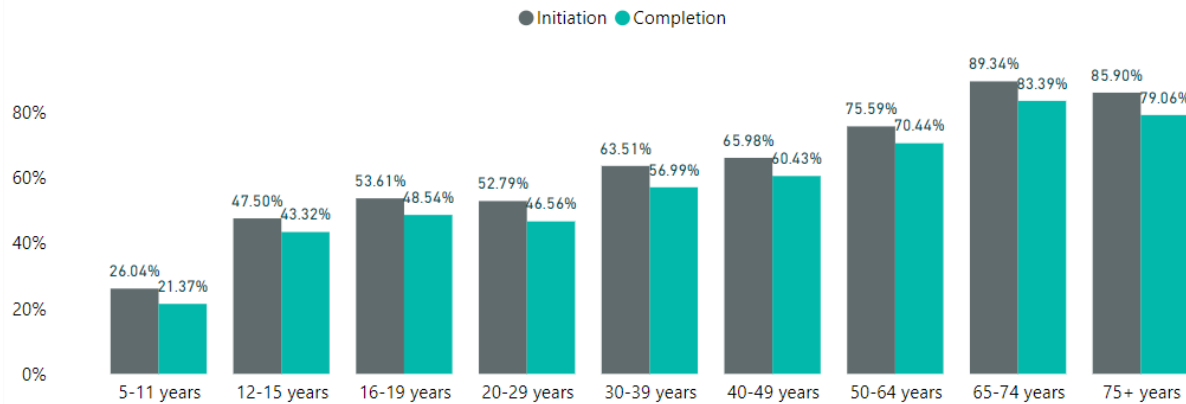
Talk to your health care provider or visit Michigan.gov/COVIDtherapy to learn more.



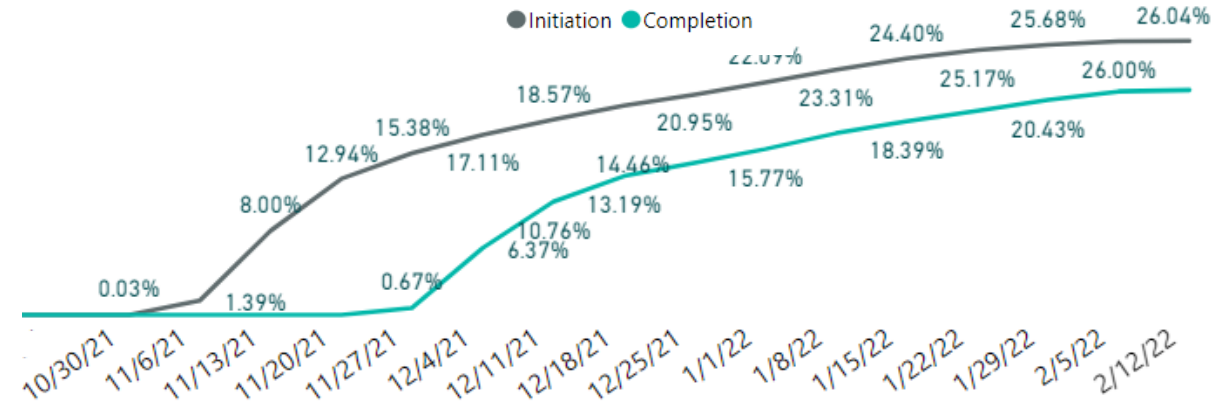
Vaccinations and Boosters

- Over 14.8 million COVID-19 vaccine doses have been administered in Michigan
 - Over 6.5 million Michiganders have received at least one dose (65.4%)
 - Over 5.8 million Michiganders have completed a primary series (58.5%)
 - Nearly 2.9 million additional/booster doses have been administered in Michigan
 - 49.2% of the fully vaccinated population has received a booster
 - 72.7% of the fully vaccinated population 65 years of age or older has received a booster

COVID Vaccine Coverage by Age Group



Initiation and Completion Trends in 5-11-year-olds



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

https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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



Protect Yourself, Protect Your Community



Tests

Prevent spread

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

Treatment

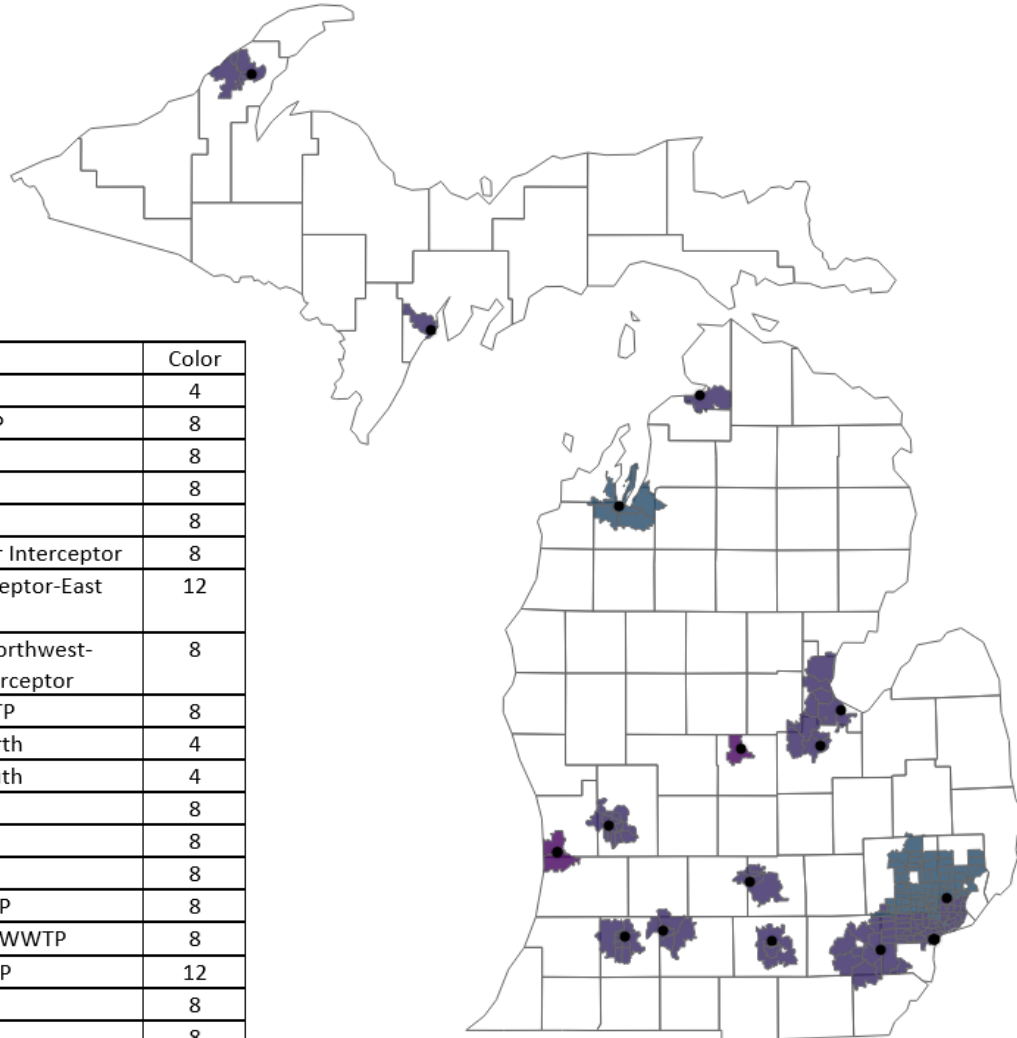
Protect against severe outcomes

Oral antivirals and monoclonal antibody infusions are available

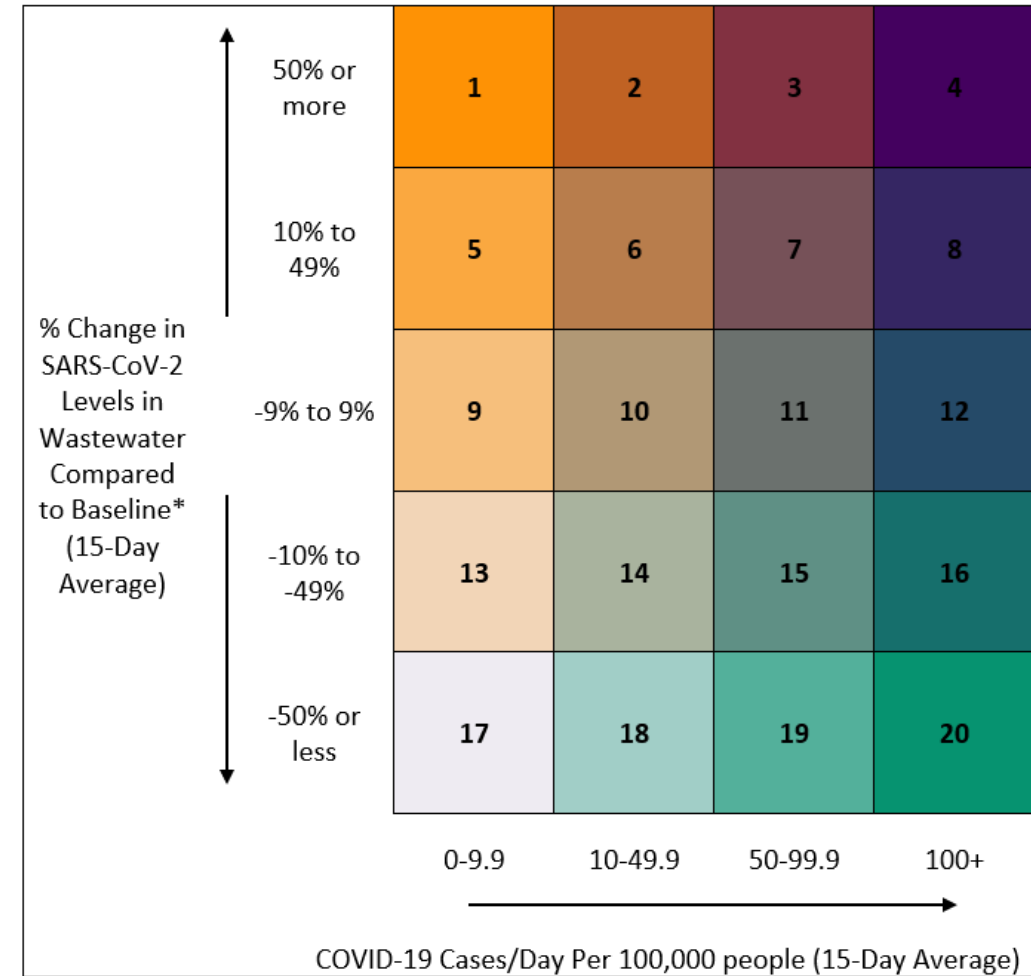


APPENDIX

Using Wastewater SARS-CoV-2 Surveillance in Michigan to Better Understand Case Rates and Trends



Site	Color
Alma WWTP	4
Battle Creek WWTP	8
Bay City WWTP	8
Delhi TWP WWTP	8
Escanaba WWTP	8
GLWA Detroit River Interceptor	8
GLWA North Interceptor-East Arm	12
GLWA Oakwood-Northwest-Wayne County Interceptor	8
Grand Rapids WWTP	8
Holland WWTP North	4
Holland WWTP South	4
Jackson WWTP	8
Kalamazoo WWTP	8
Petoskey WWTP	8
Portage Lake WWTP	8
Saginaw Township WWTP	8
Traverse City WWTP	12
Warren WWTP	8
Ypsilanti WWTP	8



*Baseline is the 2-week period with the lowest average virus levels for each site as determined on 1/10/22.

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

Current Trends and Projections

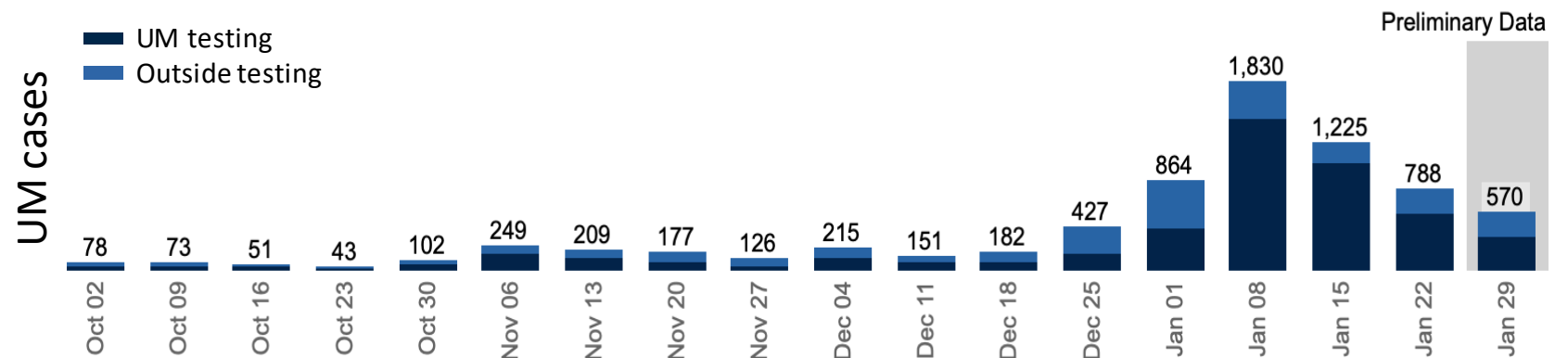
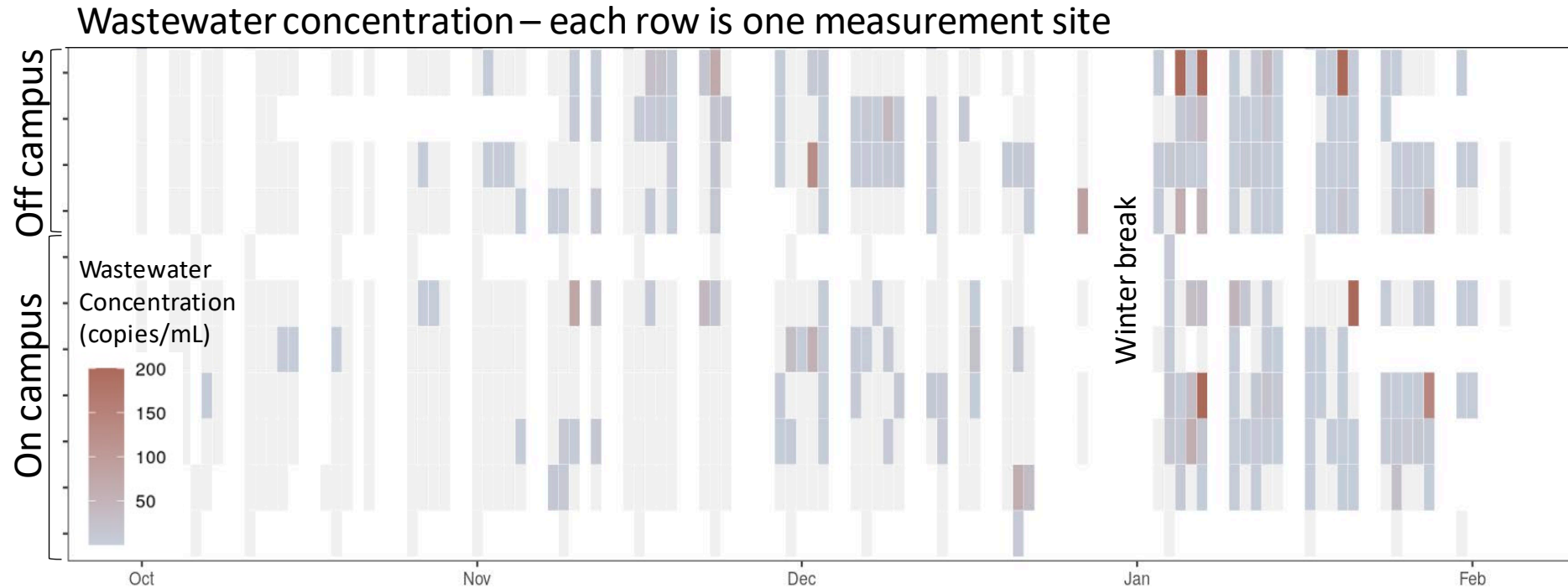
Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

UM building level monitoring: Wastewater can be used at the building level to track local transmission patterns

- UM building level monitoring shows similar patterns to cases, for both on campus and off campus sampling sites
- Wastewater data from Wu et al. group (UM)



Data sources: [UM COVID-19 Dashboard](#), Wu et al. UM wastewater data. Light grey squares indicate a sample was collected but no virus genome was detected.



Cumulative COVID-19 Cases by Vaccination Status, Michigan, 1/15/21–1/28/22

Fully Vaccinated People (5,469,137)		
Cases	Hospitalization	Deaths
Percent of Cases In People Not Fully Vaccinated (1,293,416 / 1,683,256) 76.8%	Percent of Hospitalizations In People Not Fully Vaccinated (26,312 / 31,249) 84.2%	Percent of Deaths In People Not Fully Vaccinated (13,577 / 16,589) 81.8%
1,293,416 Total Cases Not Fully Vaccinated	26,312 Total Hospitalized Not Fully Vaccinated	13,577 Total Deaths Not Fully Vaccinated
Total Breakthrough Cases 389,840	Total Breakthrough Hospitalizations 4,937	Total Breakthrough Deaths 3,012
7.13% Percent of Fully Vaccinated People who Developed COVID-19 (389,840 / 5,469,137)	0.090% Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (4,937 / 5,469,137)	0.055% Percent of Fully Vaccinated People Who Died of COVID-19 (3,012 / 5,469,137)
23.2% Percent of Cases Who Were Fully Vaccinated (389,840 / 1,683,256)	15.8% Percent of Hospitalizations Who Were Fully Vaccinated (4,937 / 31,249)	18.2% Percent of Deaths Who Were Fully Vaccinated (3,012 / 16,589)
Total Cases: 1,683,256	Total Hospitalizations: 31,249	Total Deaths: 16,589

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 COVID-19 (the same as breakthrough COVID-19).
- Individuals who get hospitalization will lag after infection and may occur after case investigation.

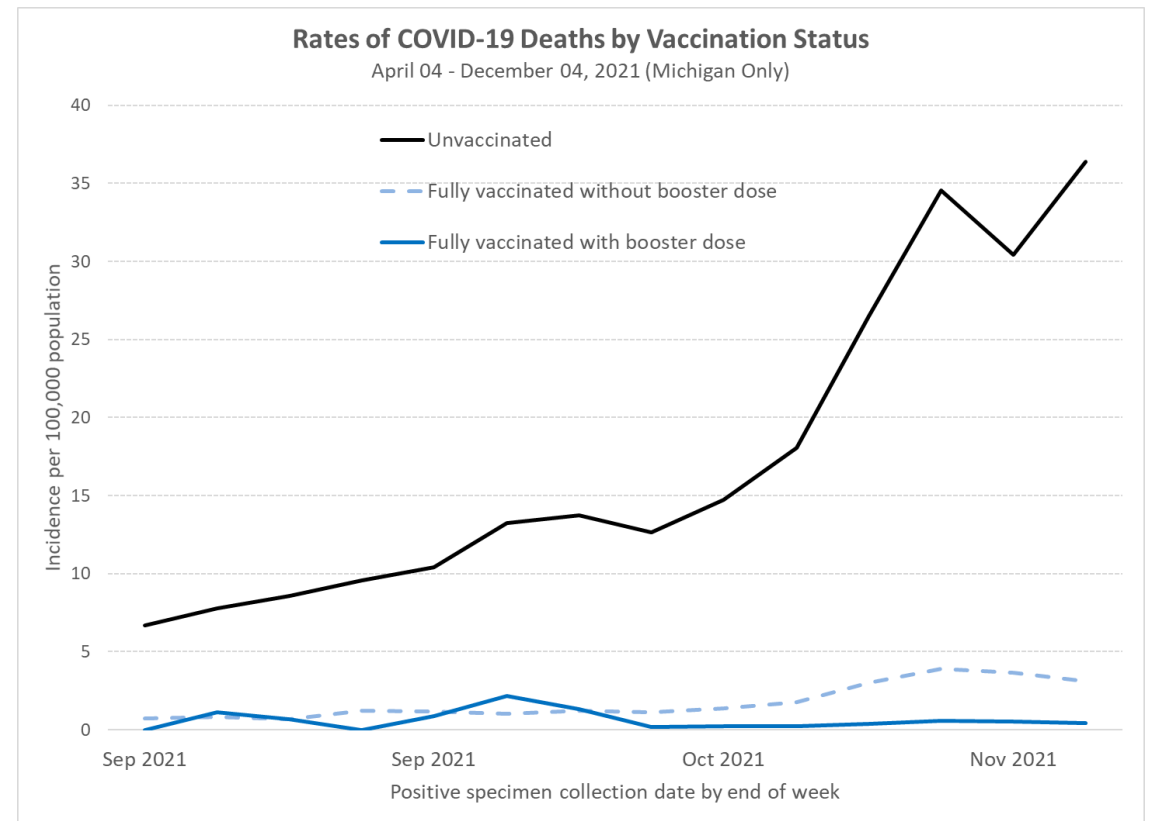
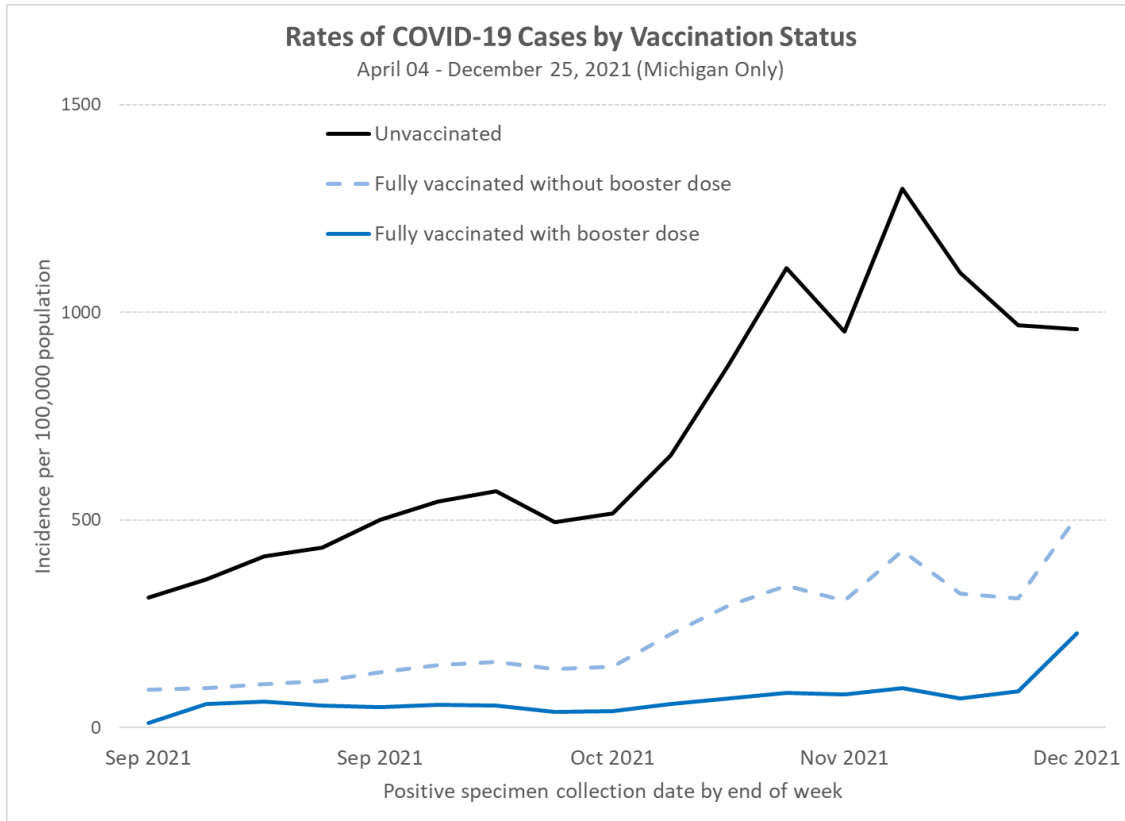
Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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



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

11.7 X
Risk of Testing Positive for COVID-19

AND

59.2 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.

Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning