

MI COVID RESPONSE DATA AND MODELING UPDATE

January 25, 2022

Executive Summary

Current statistics and where we may be going

The Detroit MERC Region (Preparedness Regions 2N and 2S) are declining, but other regions are mixed

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 60 counties in Michigan; Models suggest we are at or near peak for cases and hospitalizations

Preventing Death and Severe Outcomes

- Deaths rates have decreased over the last week for all age groups
- Cases in long term care facilities are decreasing, crucial to get LTC residents and staff up to date on vaccination

Protect Health Care Capacity

- COVID+ census in hospitals has declined statewide; Pediatric COVID+ census down slightly from recent pandemic high
- The peak number of hospitals in Michigan reporting critical staff shortages remains the highest during the pandemic (n=60)
- Federal support teams are deployed and will continue to support surges and hotspots in Michigan

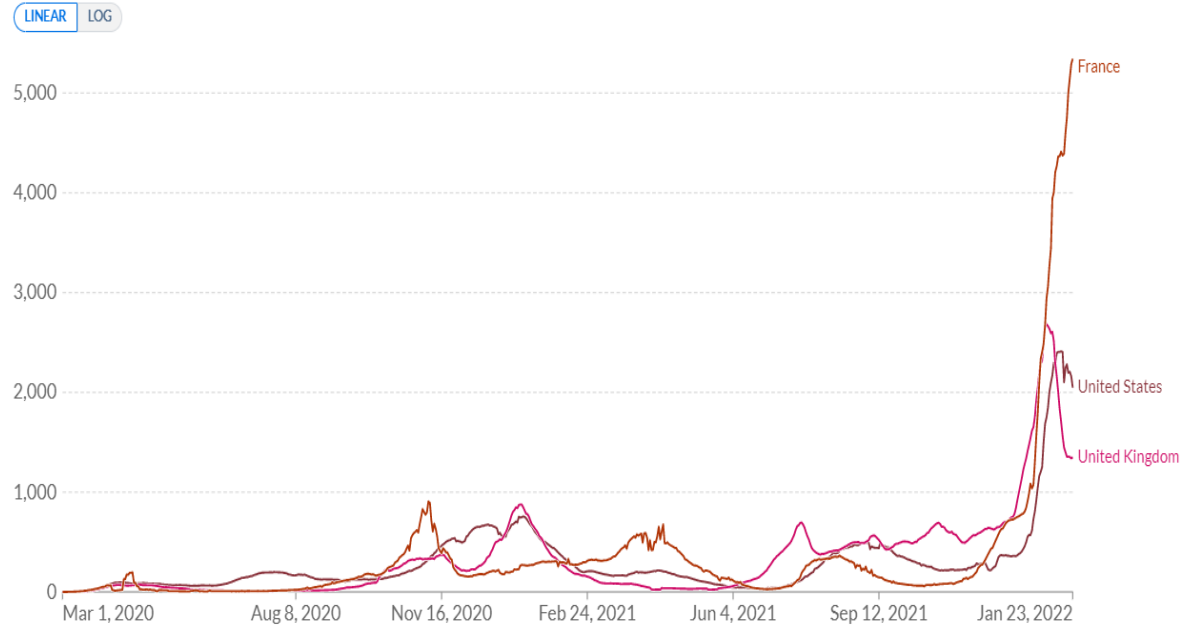
Keep Vital Infrastructure Functioning

- Community transmission is impacting schools
 - Return to school following holiday break and spread of Omicron is seeing rapid growth in cases in several regions (e.g., Region 8)
- 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 per million people

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

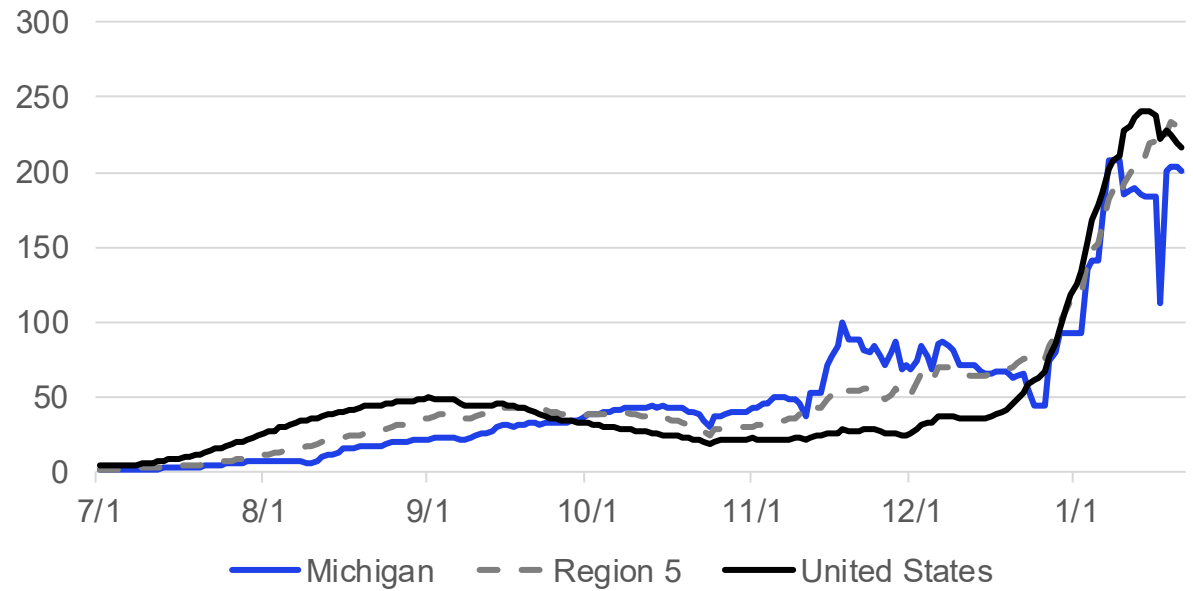


Source: Johns Hopkins University CSSE COVID-19 Data



New cases of COVID-19, reported to CDC in Michigan, Region 5, and the United States

7-day moving average of new cases per 100,000



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Globally, 351,985,355 cases and 5,598,284 deaths (Data* through 1/24)

- Globally, the highest number of cases ever reported on a single day on 1/19 (4.2 million); & cases in many countries are increasing exponentially with Omicron variant

United States: 1.5% of Americans have been infected with COVID-19 in last week[†]

- The U.S. is at High transmission level (**1,511.4** cases/100,000 in last 7 days)

Midwest states are increasing exponentially through January 20; early signs of decline since then

- Illinois and Ohio have the highest case rates in Midwest; California and Texas have highest case rates in U.S.

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

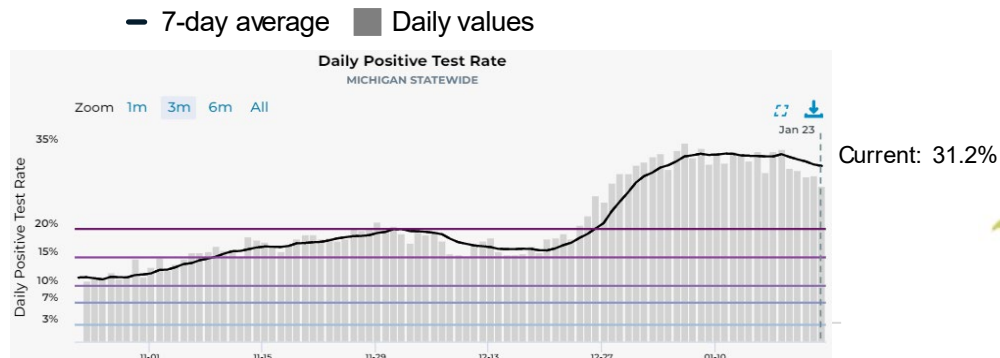
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

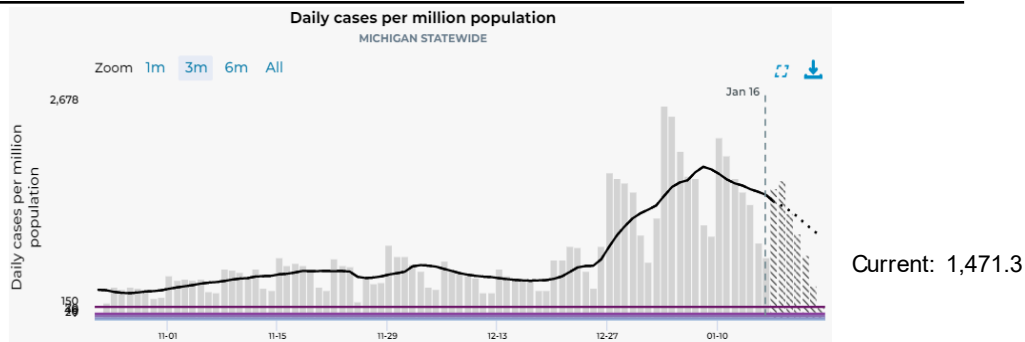
Recent statewide trends

Statewide trends

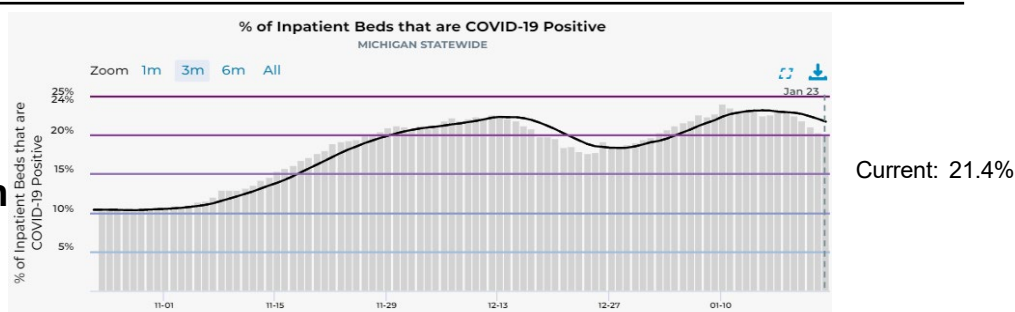
Positivity, %



Daily cases per million



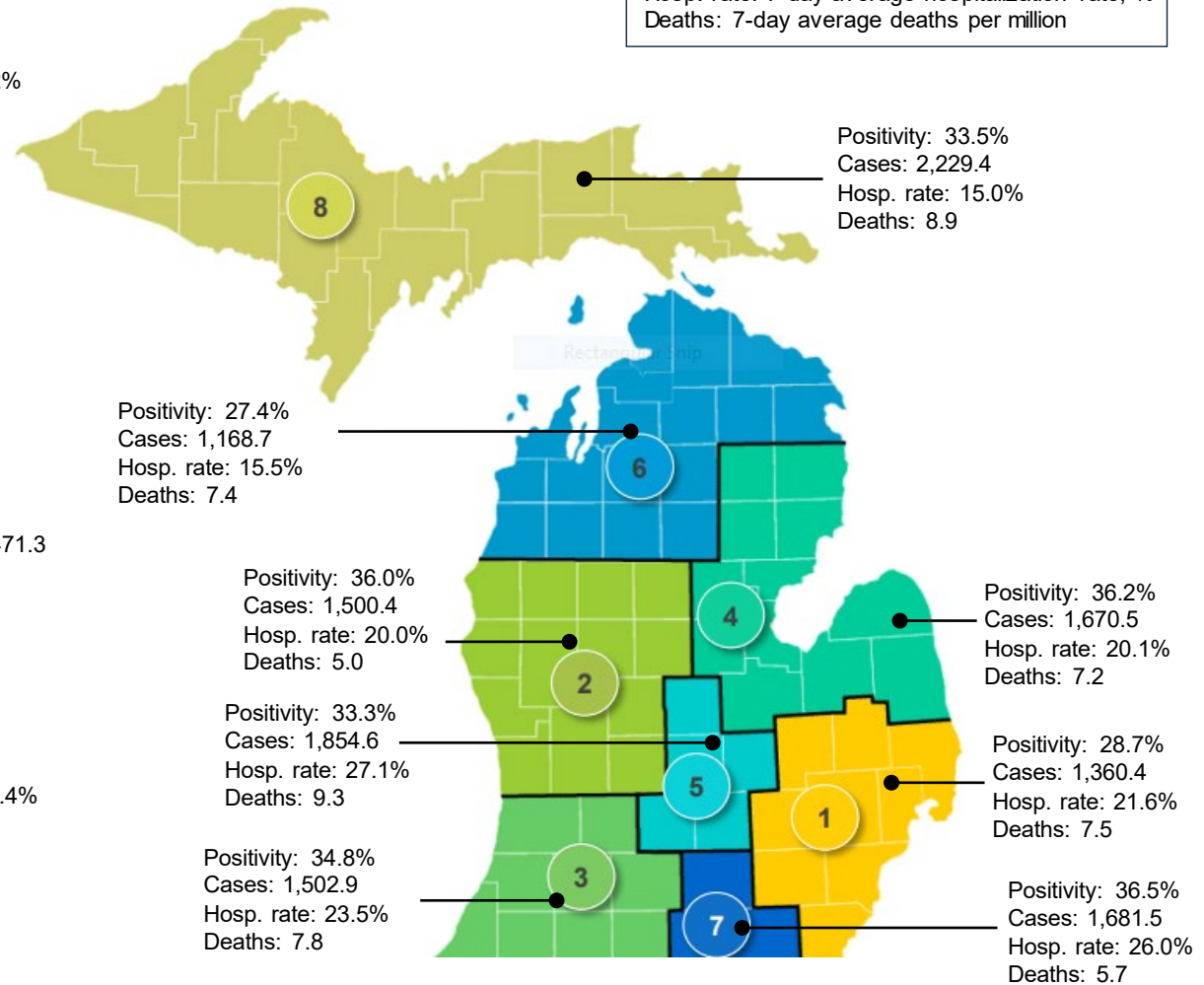
Daily hospitalization rate, %



Source: <https://mistartmap.info/>

MERC Regional breakdown: Cases, hospitalization rate, and positivity

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

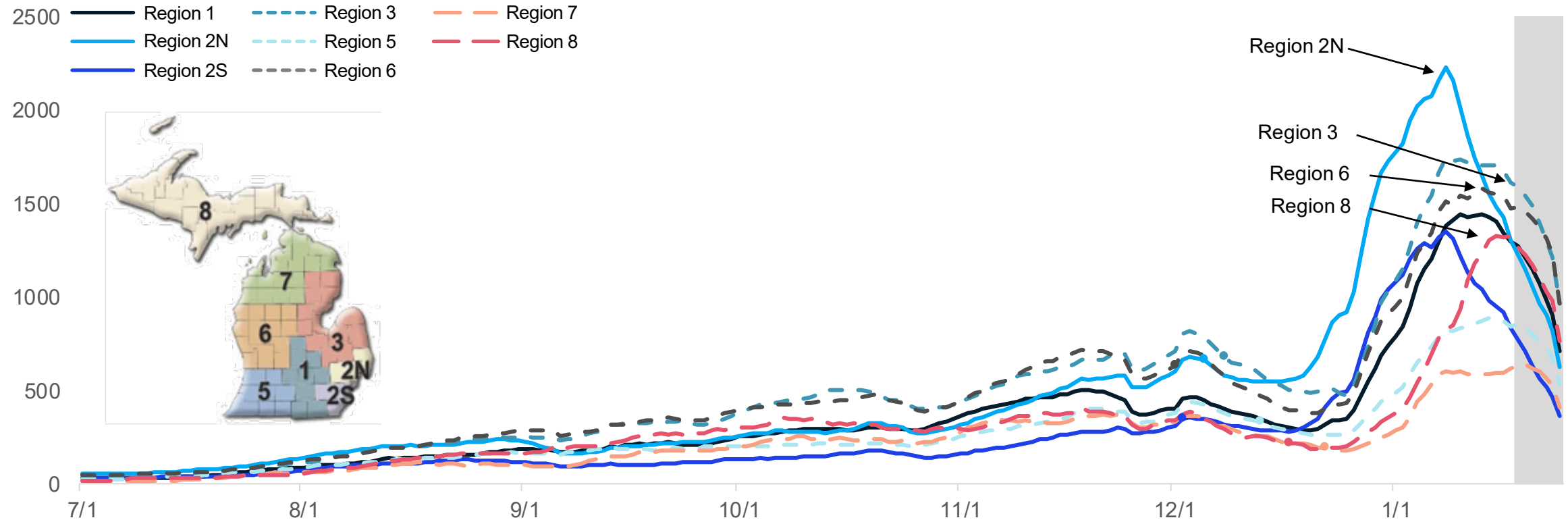
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Case Rate Trends by Emergency Preparedness Region

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



- Case rate trends for most preparedness regions plateaued the past week
- Regions 2N and 2S are declining whereas Region 8 (upper peninsula) is increasing
- Case rates are highest in Region 3, followed by Region 6, and then Regions 8, 2N, and 1

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

Current Trends and Projections

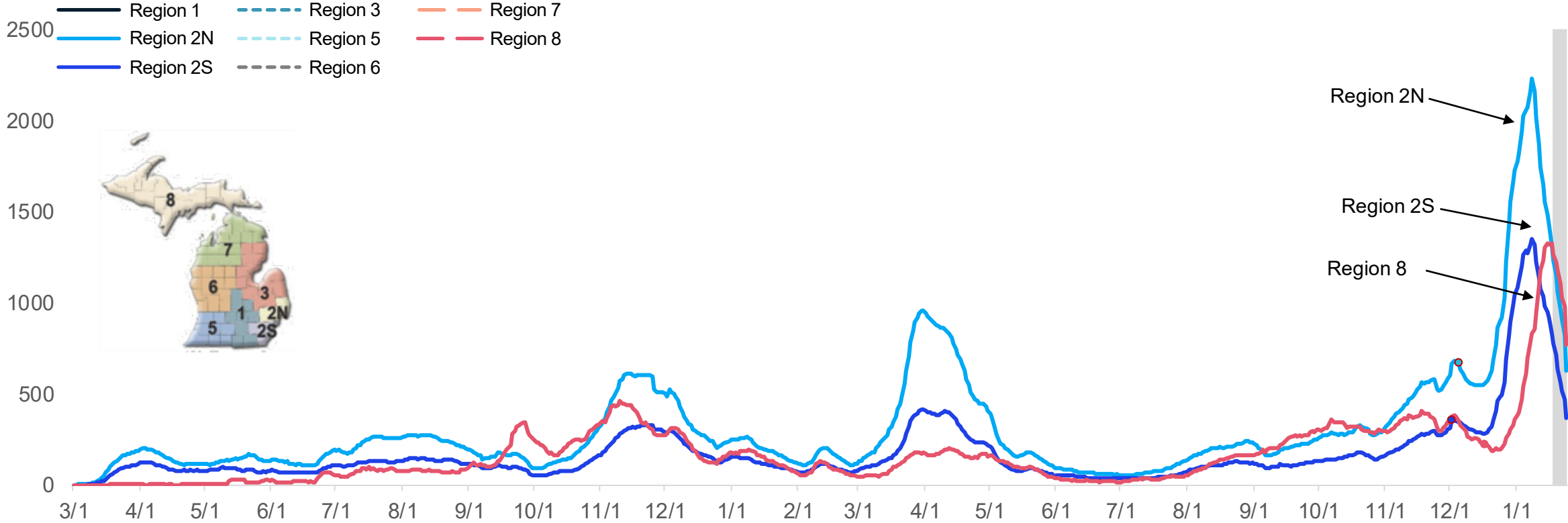
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Case Rate Trends by Emergency Preparedness Region

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



- Case rate trends for most preparedness regions are plateaued the over the last week, with declining case rates in 2N and 2S and increasing case rates in R8

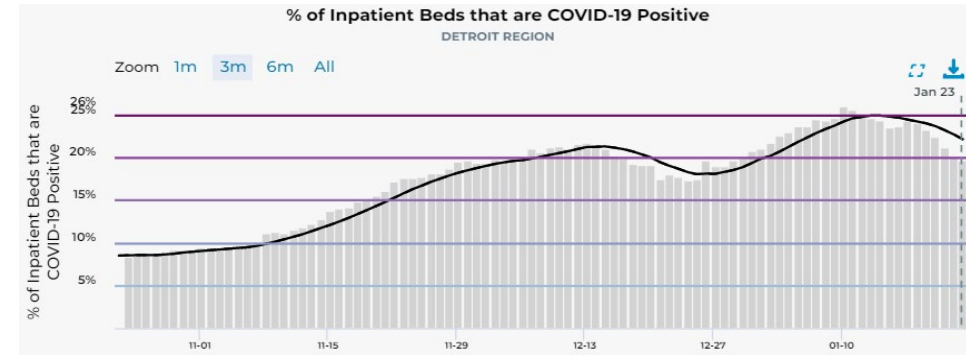
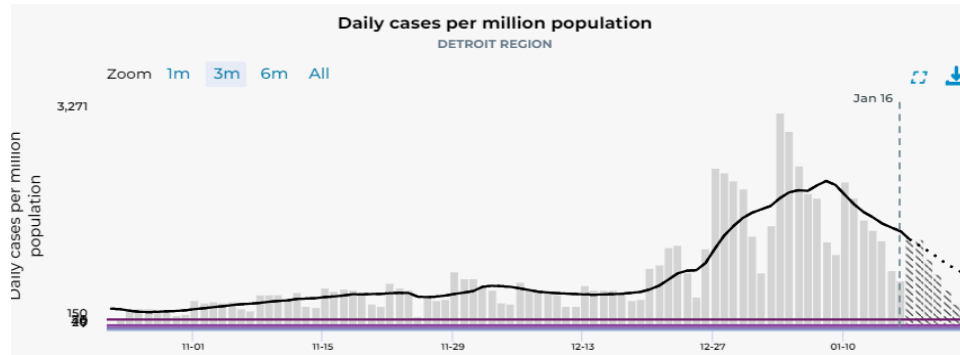
Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System



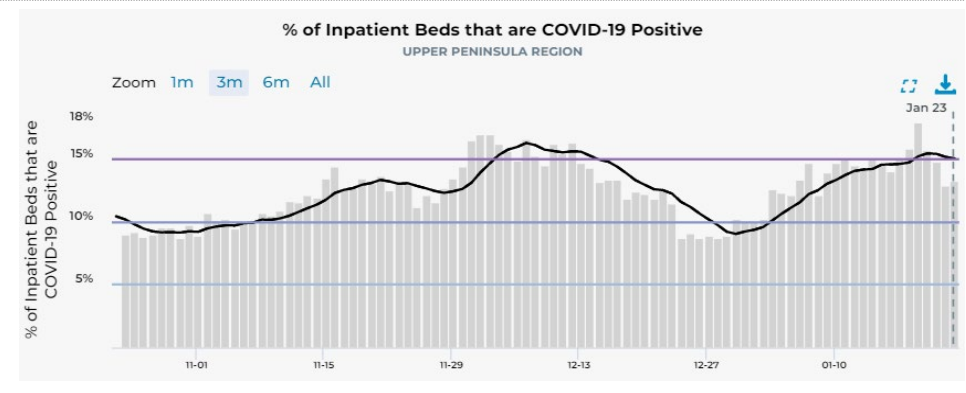
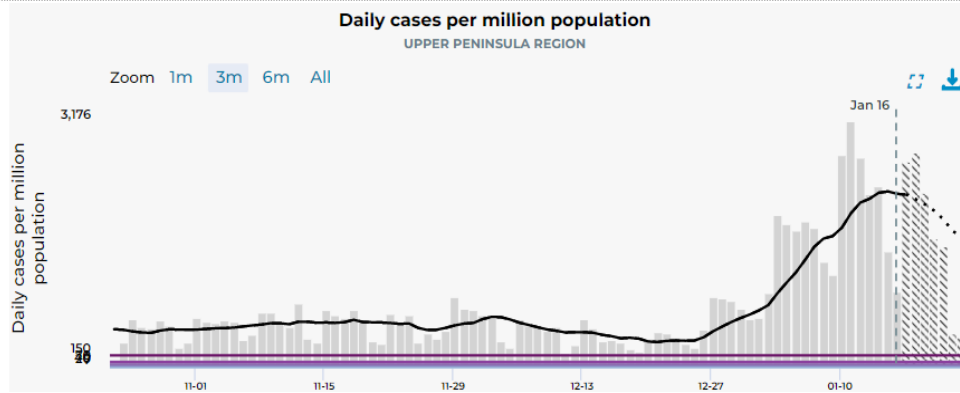
Recent trends: Case Rates

Recent trends: % IP Hospitalization

Detroit Region



Upper Peninsula Region



All charts represent data from 10/17/21 – 01/23/22

- Case rate trends for most MERC regions saw increases over the past week and are expected to increase
- Case rates for Detroit MERC Region are plateauing while case rates are increasing in other MERC Regions (through 1/7)
- Case rates are highest in Region 2N (1,798.3 cases/million)

Source: MI Start Map; MDOC excluded

Current Trends and Projections

Prevent Death and Severe Outcomes

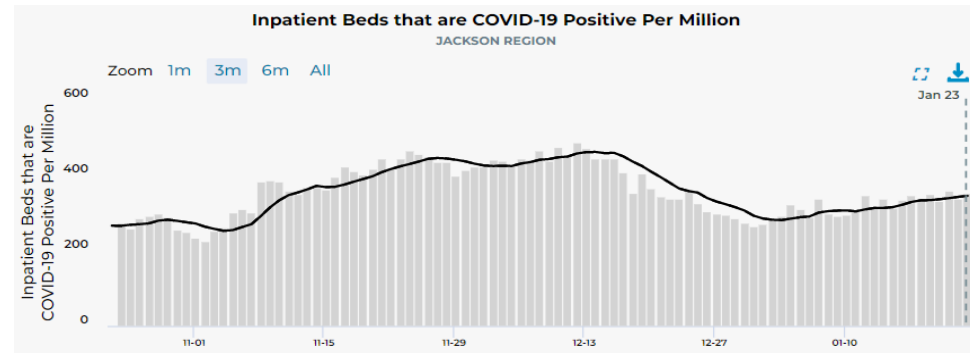
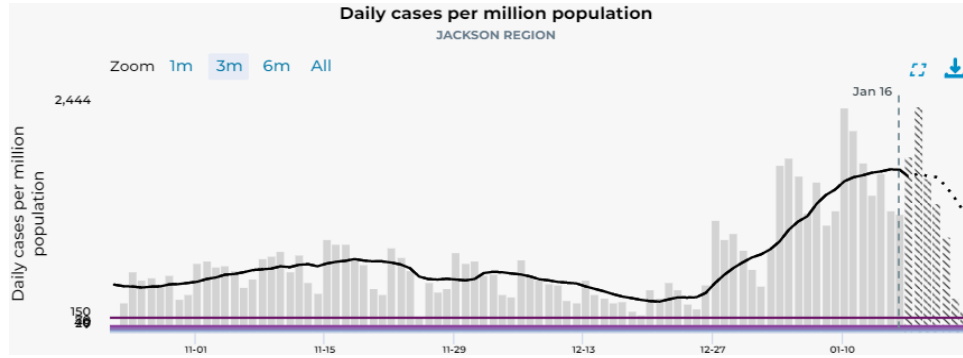
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

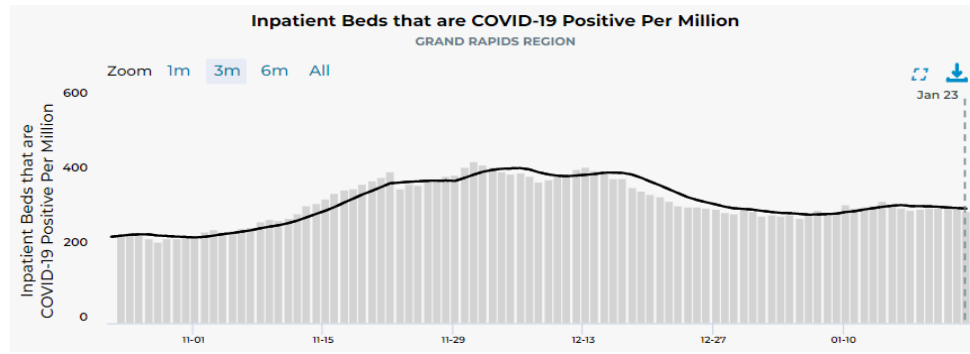
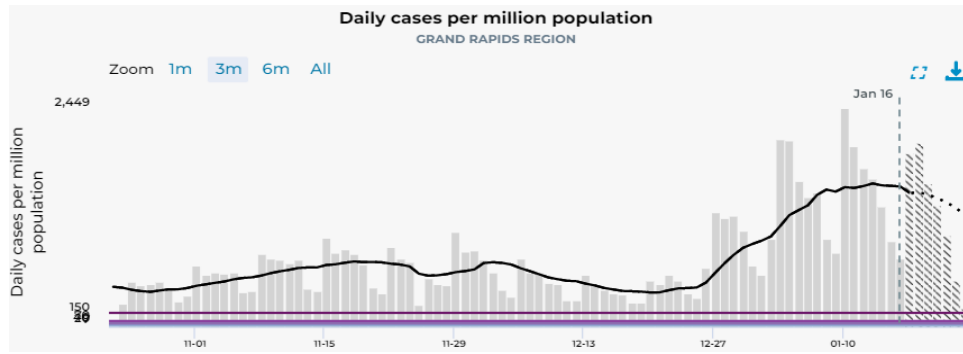
Recent trends: Case Rates

Recent trends: % IP Hospitalization

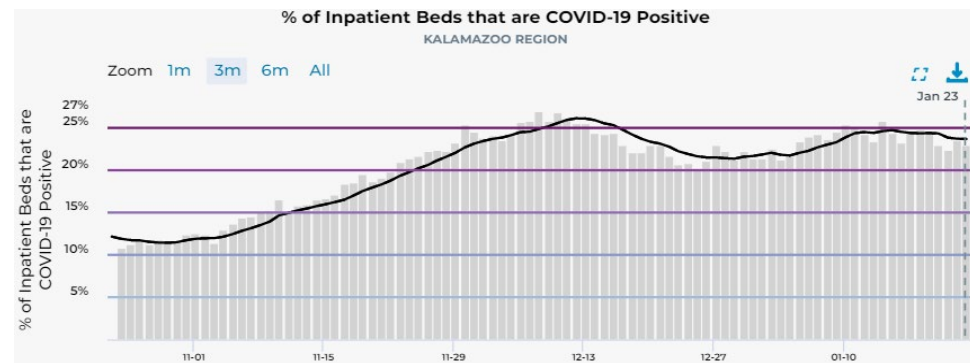
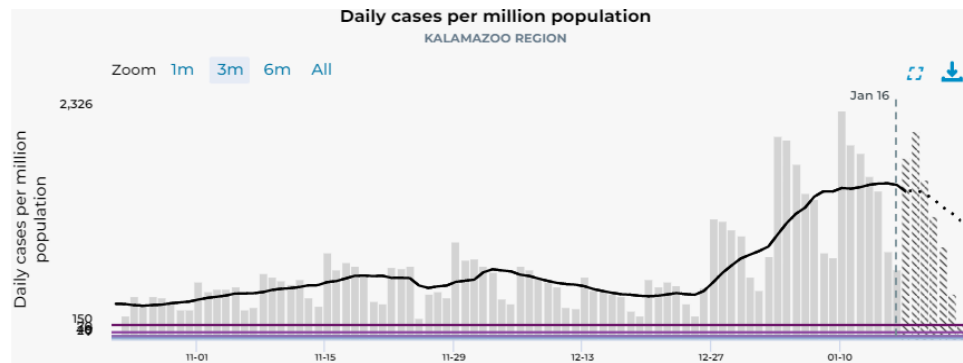
Jackson Region



Grand Rapids Region



Kalamazoo Region



All charts represent data from 10/17/21 – 01/23/22

Source: MI Start Map; MDOC excluded

Current Trends and Projections

Prevent Death and Severe Outcomes

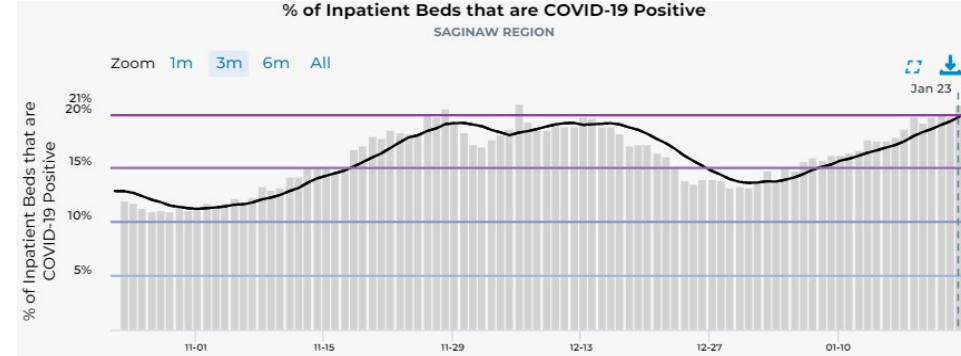
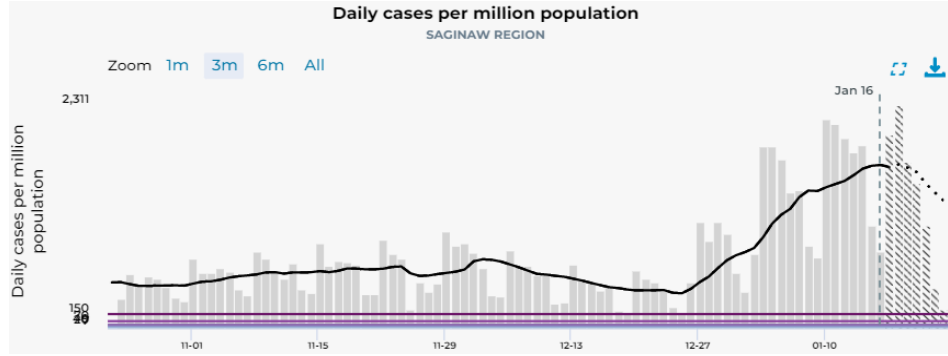
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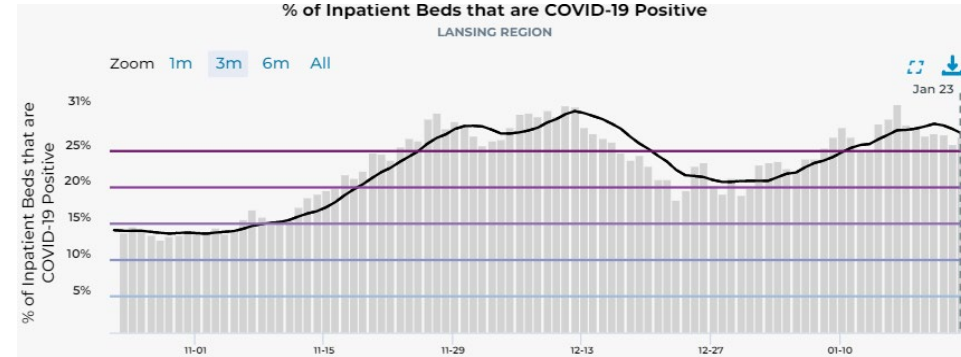
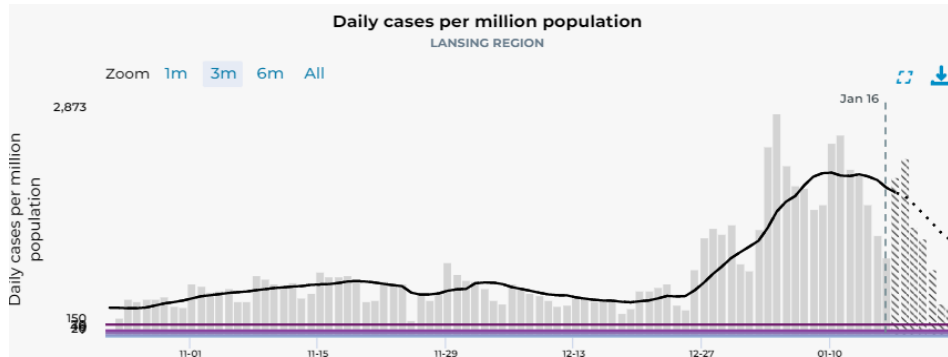
Recent trends: Case Rates

Recent trends: % IP Hospitalization

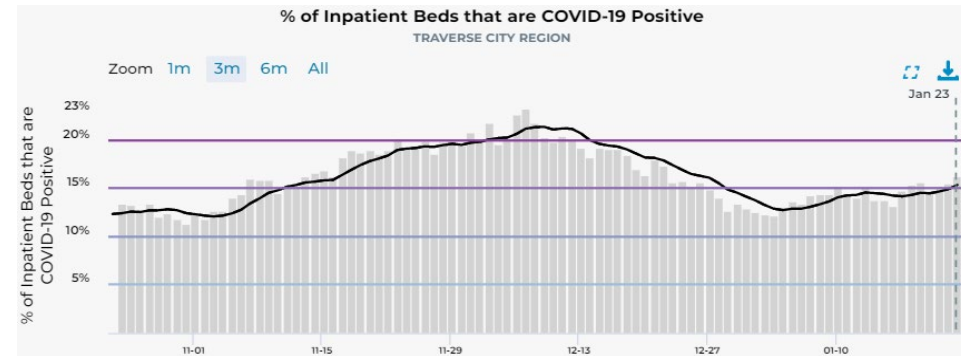
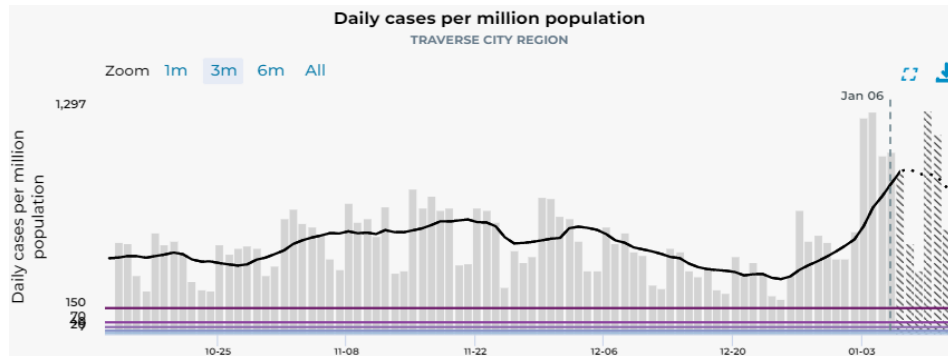
Saginaw Region



Lansing Region



Traverse City Region



All charts represent data from 10/17/21 – 01/23/22

Source: MI Start Map; MDOC excluded

Current Trends and Projections

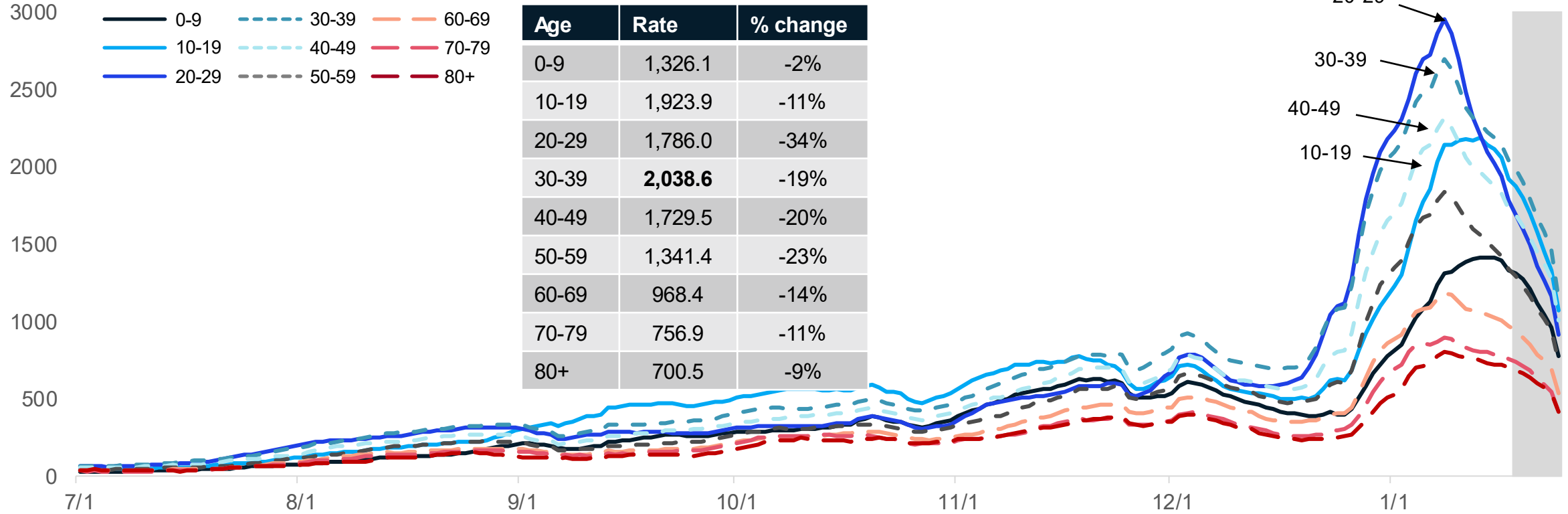
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Case Rate Trends by Age Group

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



- Case rate trends for most age groups saw decreases increases over the past week
- Case rates by onset date for all age groups are between 700 and 2,040 cases per million (through 1/17)
- Case counts and case rates are highest for 30-99-year-olds this week

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

Current Trends and Projections

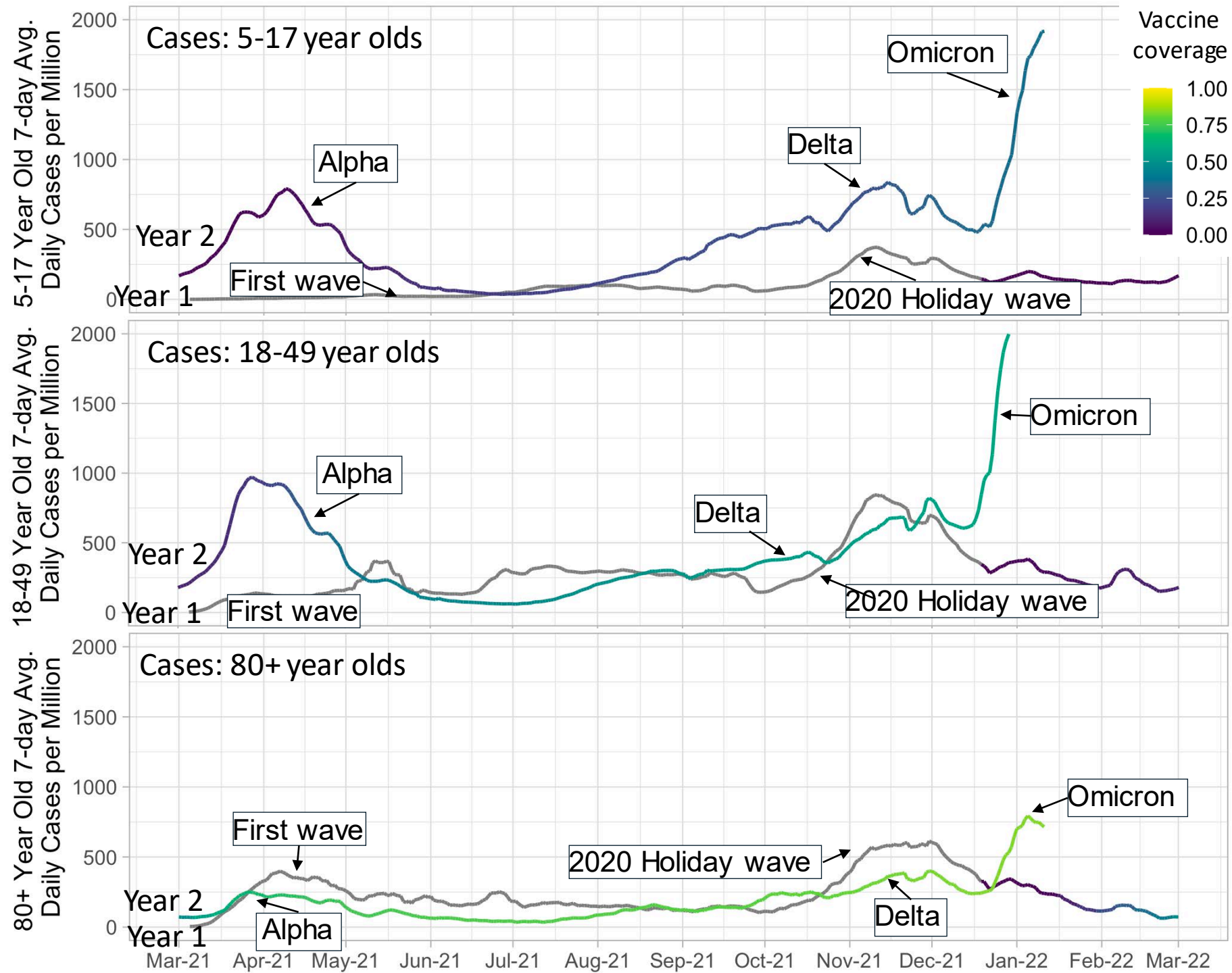
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Year-over-year comparisons by age group

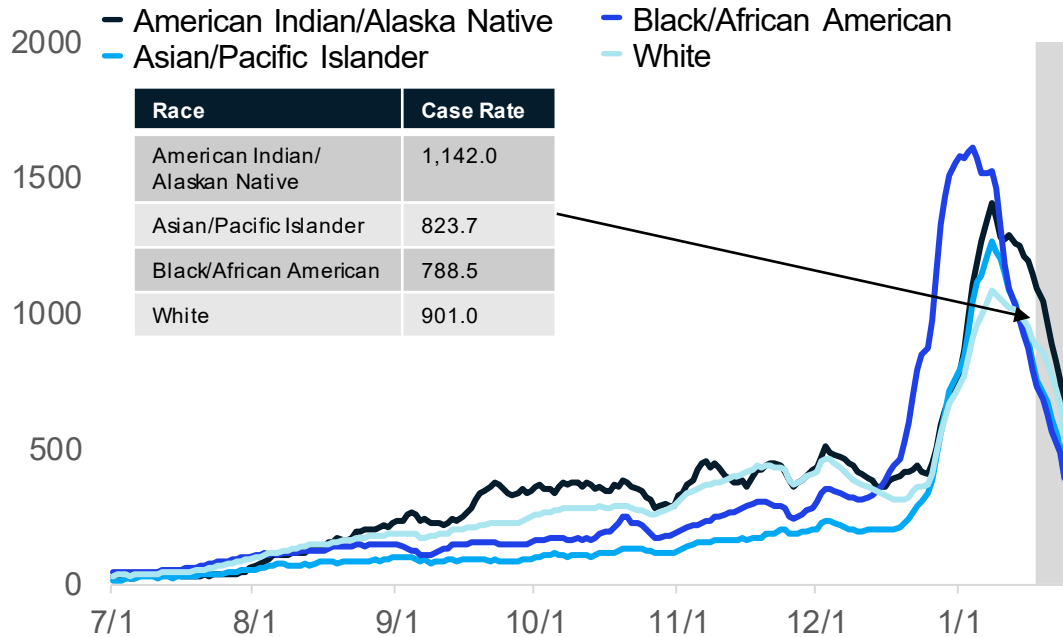
- All age groups are seeing their highest case rates of the entire pandemic
- Vaccine coverage is lower among younger age groups compared to middle and older age groups
- Older age groups have higher vaccine coverage and relatively lower case rates in the second year of the pandemic



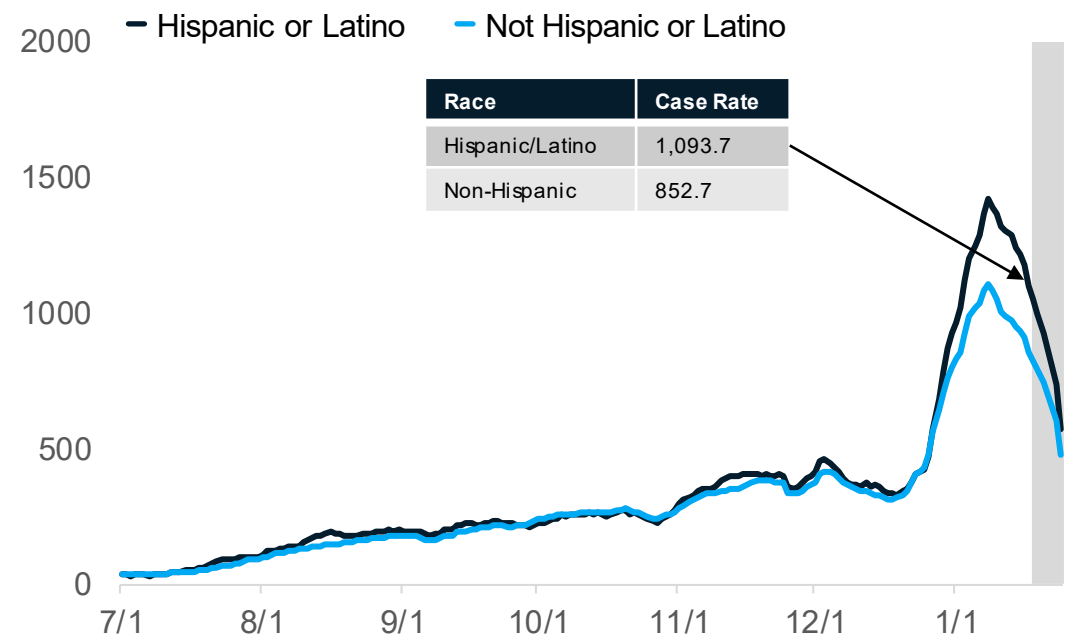
Source: MDSS and MCIR data. Note that the vaccine age groups shown as colors in this plot are 5-19, 20-49, and 75+.

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 nearly all reported racial and ethnic groups and are highest for American Indian and Alaskan Native
- The difference between Hispanic/Latino and non-Hispanic is widening which may reflect differences in exposure settings
- In the past 30 days, 31% (↔) of race data and 41% (↓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

Prevent Death and Severe Outcomes

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

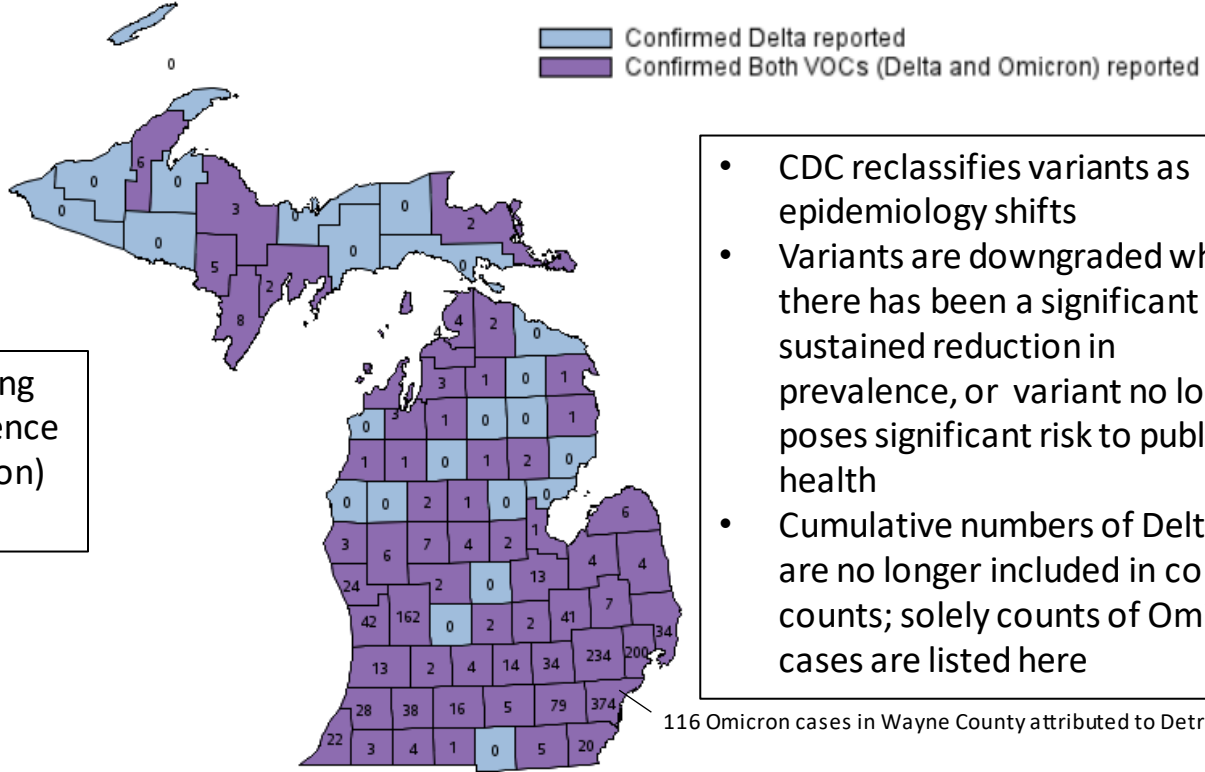
SARS-CoV-2 Variants Circulating in the United States, Jan 16 – Jan 22 (NOWCAST)

USA				
WHO label	Lineage #	US Class	%Total	95%PI
Omicron	B.1.1.529	VOC	99.9%	99.8-99.9%
Delta	B.1.617.2	VOC	0.1%	0.1-0.2%
Other	Other*		0.0%	0.0-0.0%

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
 ** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
 # AY.1-AY.133 and their sublineages are aggregated with B.1.617.2. BA.1, BA.2 and BA.3 are aggregated with B.1.1.529.

Currently, CDC is reporting rapid increase in prevalence of B.1.1.529 (i.e., Omicron) over past 8 weeks

Variants of Concern in Michigan, Jan 24



- 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)	30,841	83	2.7%
B.1.1.529 (omicron)	1,541	60	97.3%

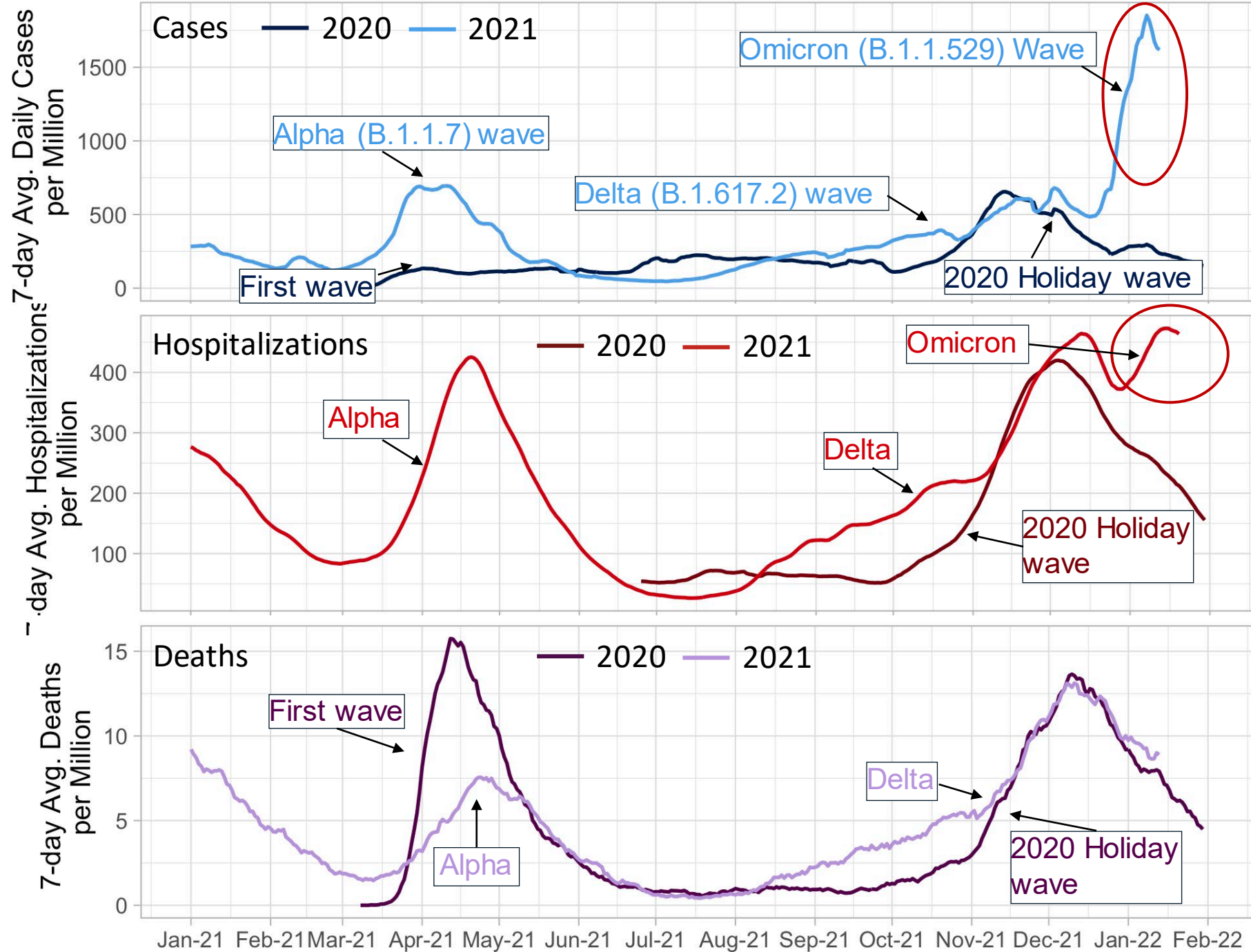
Data last updated Jan 24, 2022
 Source: MDSS

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



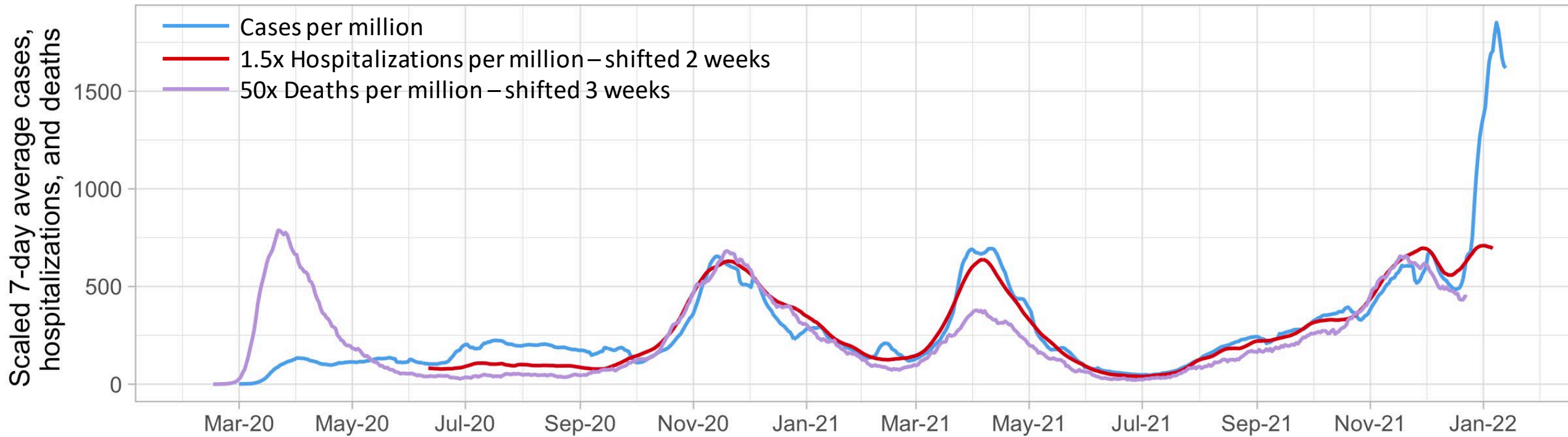
Year-over-year comparisons: cases and hospitalizations are higher than last year

- Cases are showing a sharp increase compared to last year
- Hospitalizations are higher than last year
- Deaths are currently slightly higher than last year



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

- Because deaths lag cases, we will not be able to tell whether deaths will follow the case trends for another week or so
- Hospitalizations appear to be following case trends thus far, although some signs of potentially fewer hospitalizations per case in this wave



Source: MDSS and EM Resource data

Current Trends and Projections

Prevent Death and Severe Outcomes

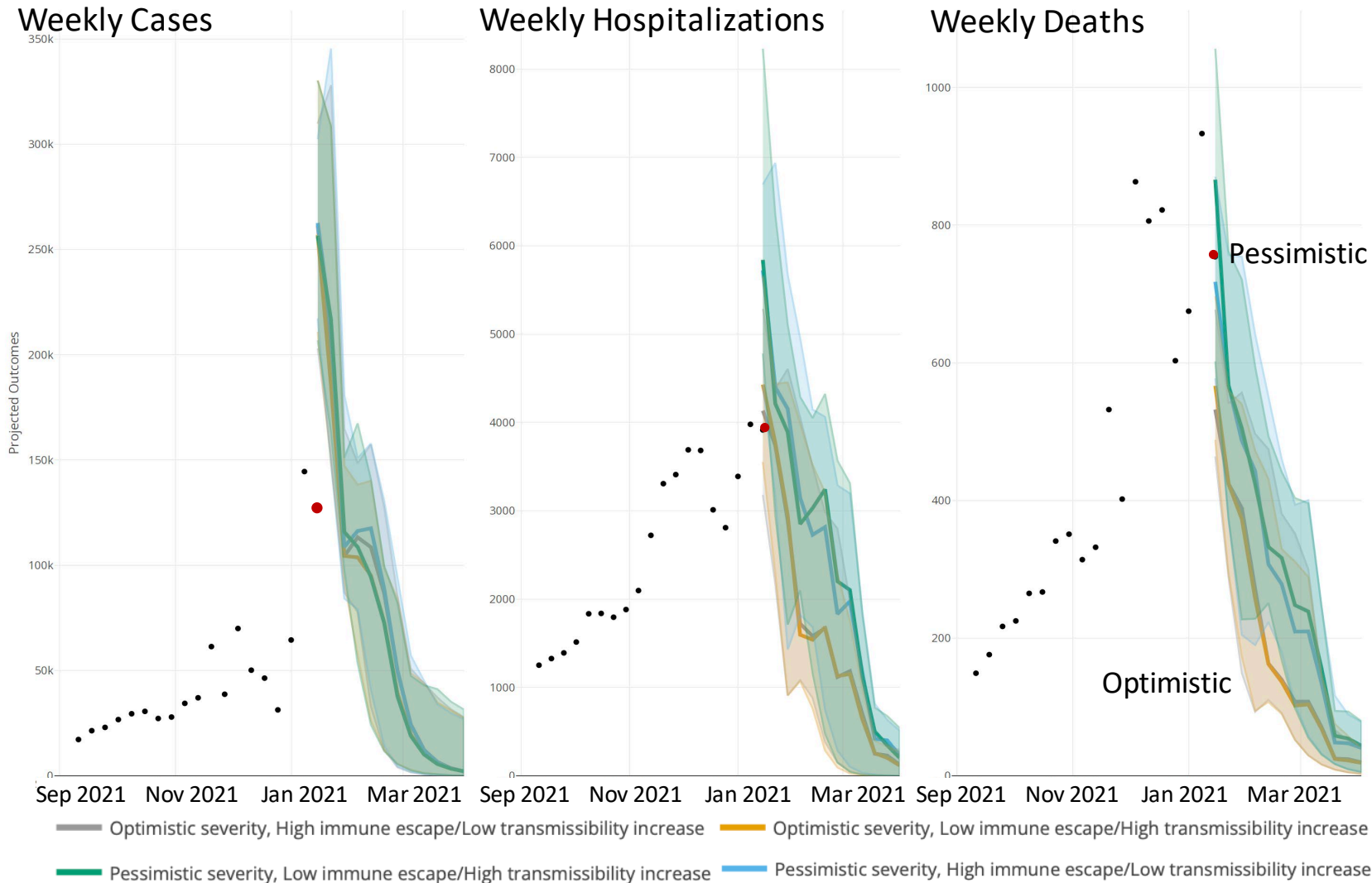
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Where are we headed: models project further increases in cases, hospitalizations, and deaths for Michigan

Model Specific Projections, by Scenario - Round 12 - Michigan

- Updated Model Scenarios (Round 12)
- Suggest we are near or at peak levels for all three metrics
- Deaths appear more consistent with the more pessimistic scenarios so far
- [Round 11 projections are similar](#), but suggest potential for 1-2 additional weeks to peak for hospitalizations and deaths in the more pessimistic scenarios
- All projections suggest that cases, hospitalizations and deaths will still be high over the coming weeks, even if declining



Source: [COVID Modeling Scenario Hub](#). Uncertainty levels: 50%

Current Trends and Projections

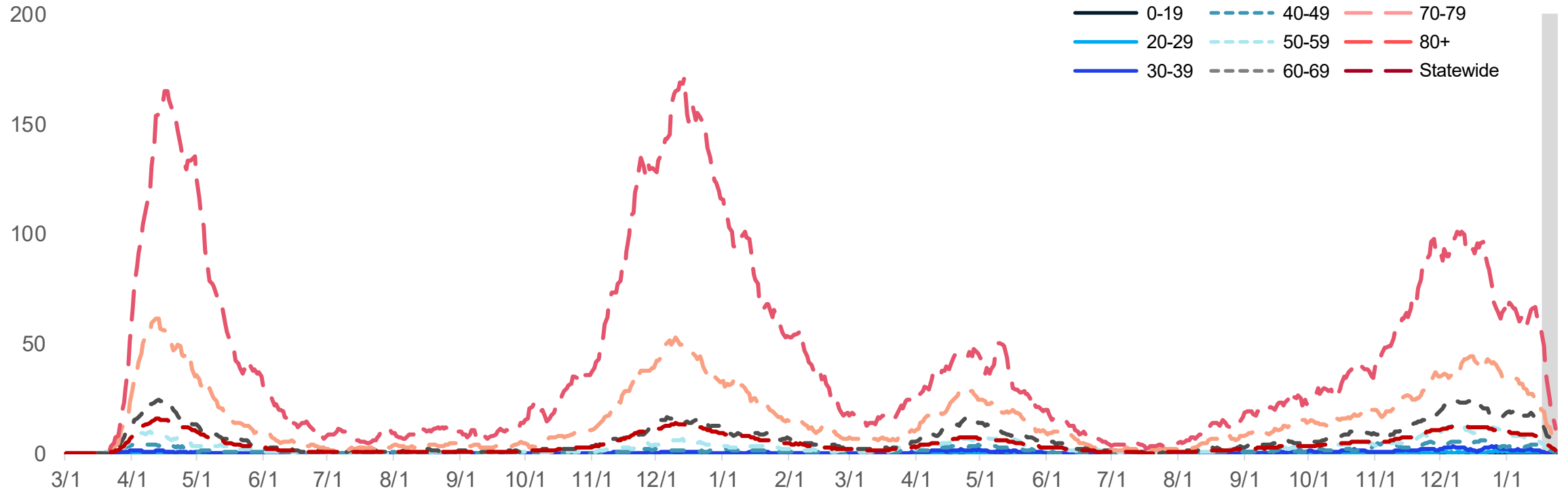
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Average and total new deaths, by age group

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



- Deaths are a lagging indicator
- Through 1/17, the 7-day avg. death rate is 50 daily deaths per million people for those over the age of 80
- Deaths rates have decreased over the last week for most age groups

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

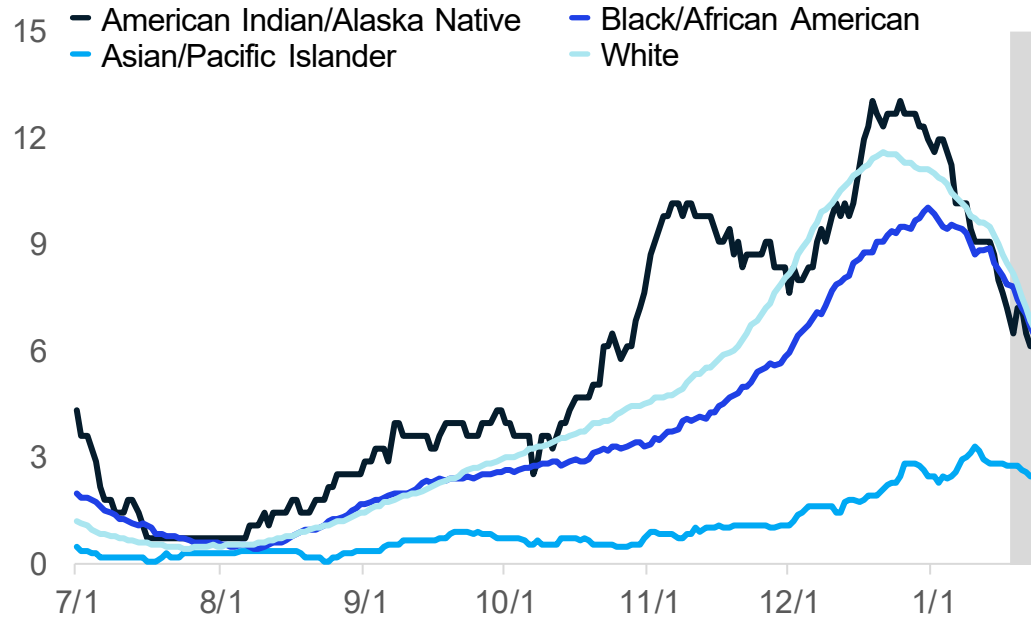
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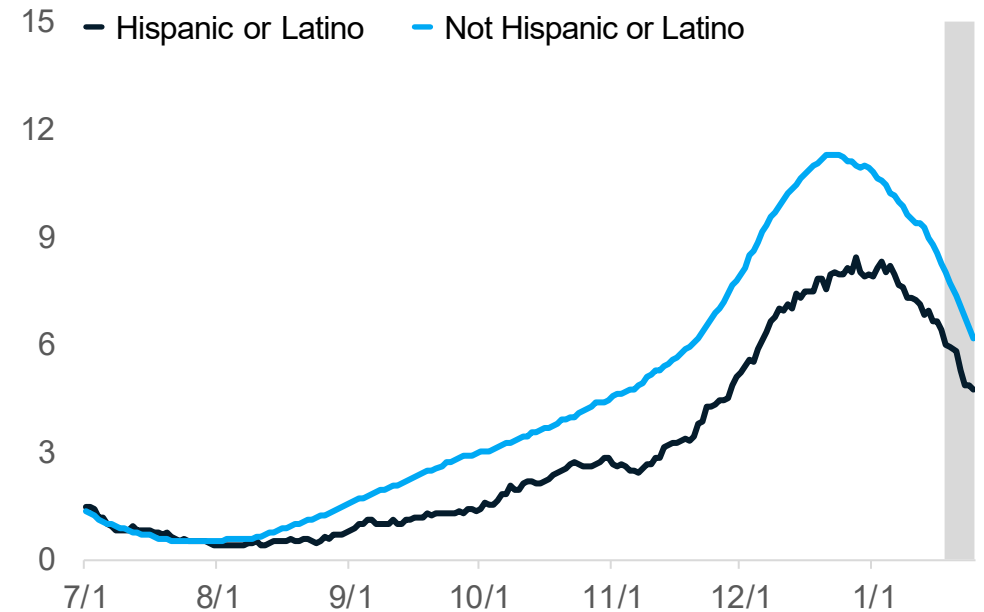
Keep Vital Infrastructure Functioning

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
- Trends for daily average deaths are decreasing for all reported races and ethnicities
- Currently, Whites have the highest death rate (8.4 deaths/million)

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

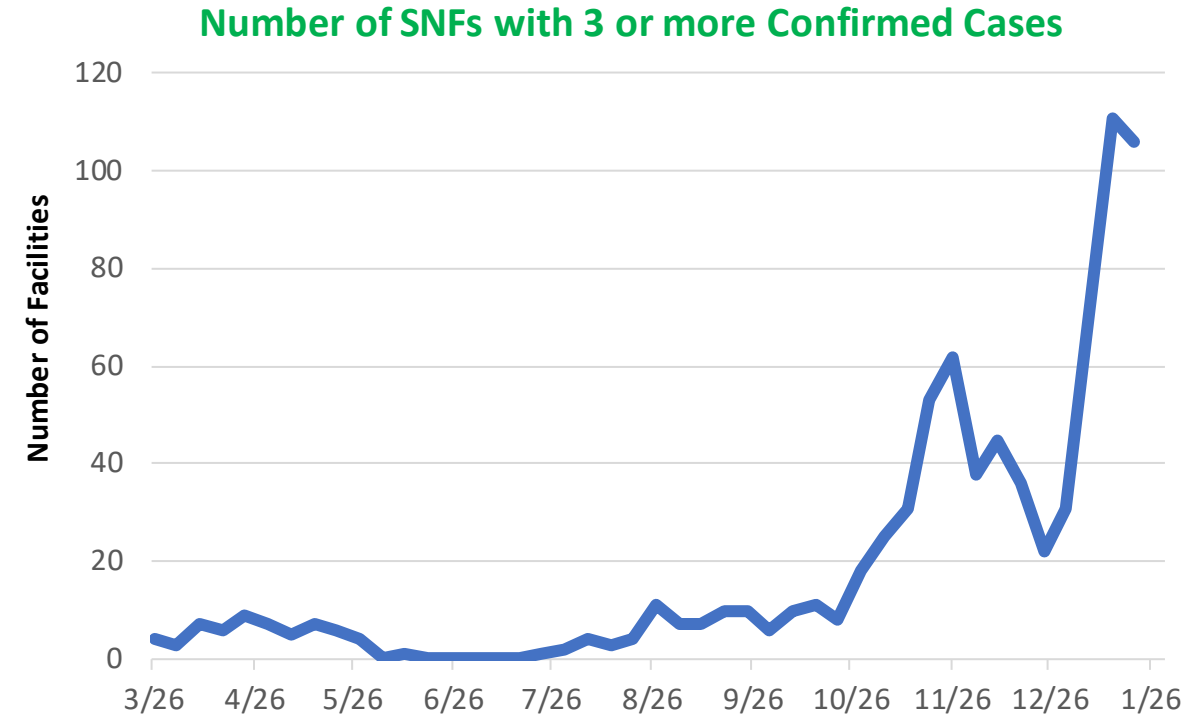
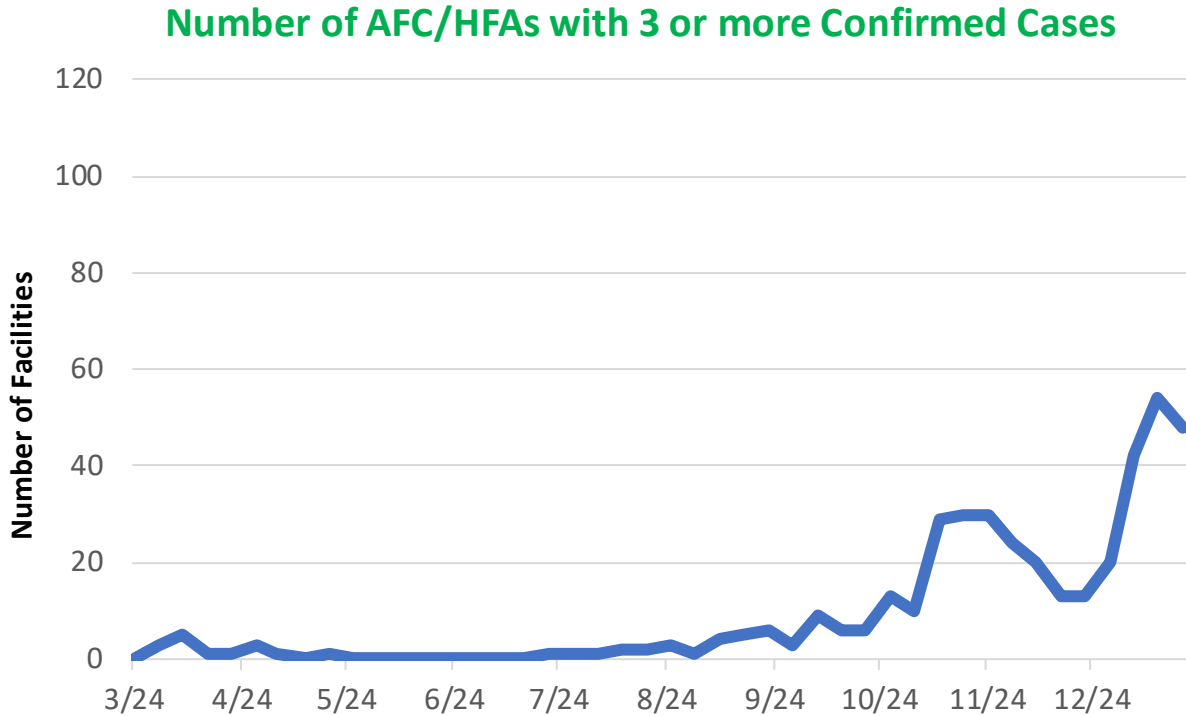
Current Trends and Projections

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



- The number of Long-Term Care Facilities reporting 3 or more cases within a single reporting period increased in both AFC/HFA (48, down from 54 last week) and SNF (106, down from 111 last week) in most recent data

COVID-19 outbreaks within Long-Term Care Facilities are defined as three or more cases with an epidemiological linkage by place and time indicating a shared exposure outside of a household (https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173_102057---,00.html and https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-526911--,00.html)

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

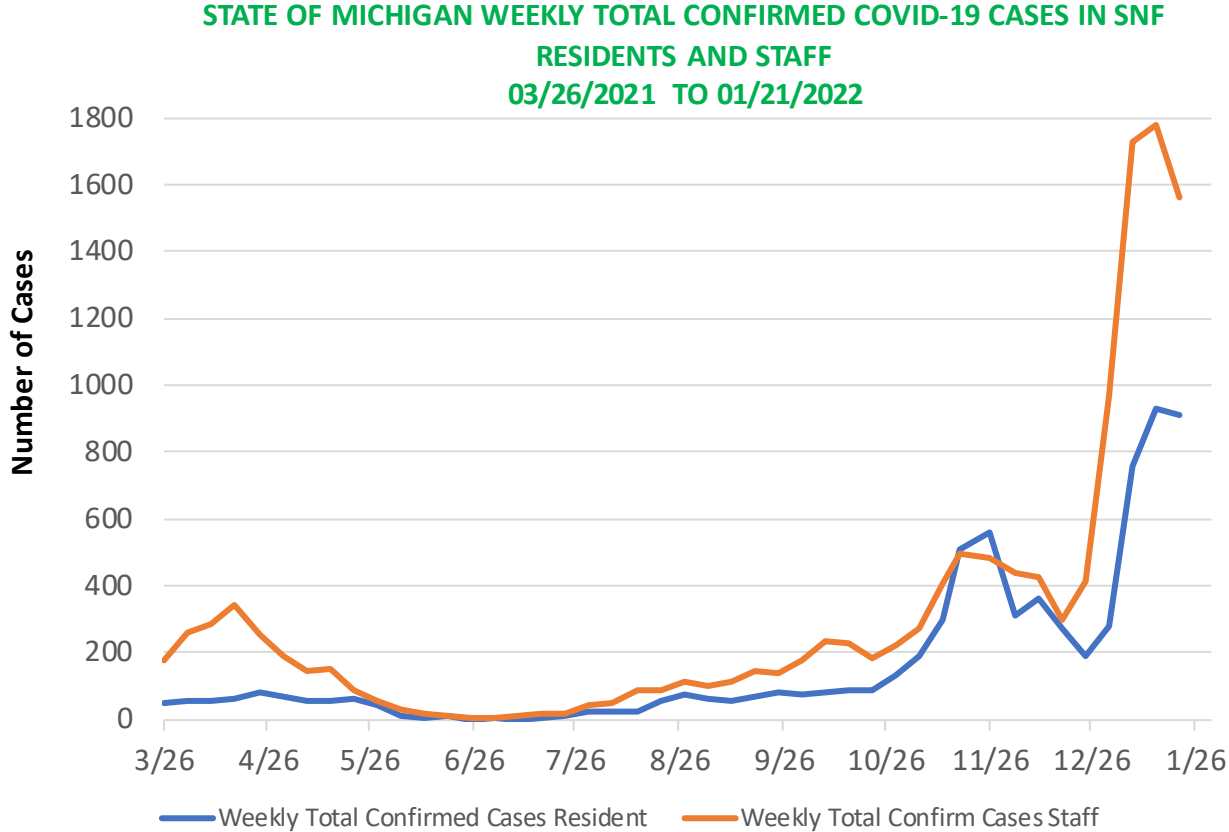
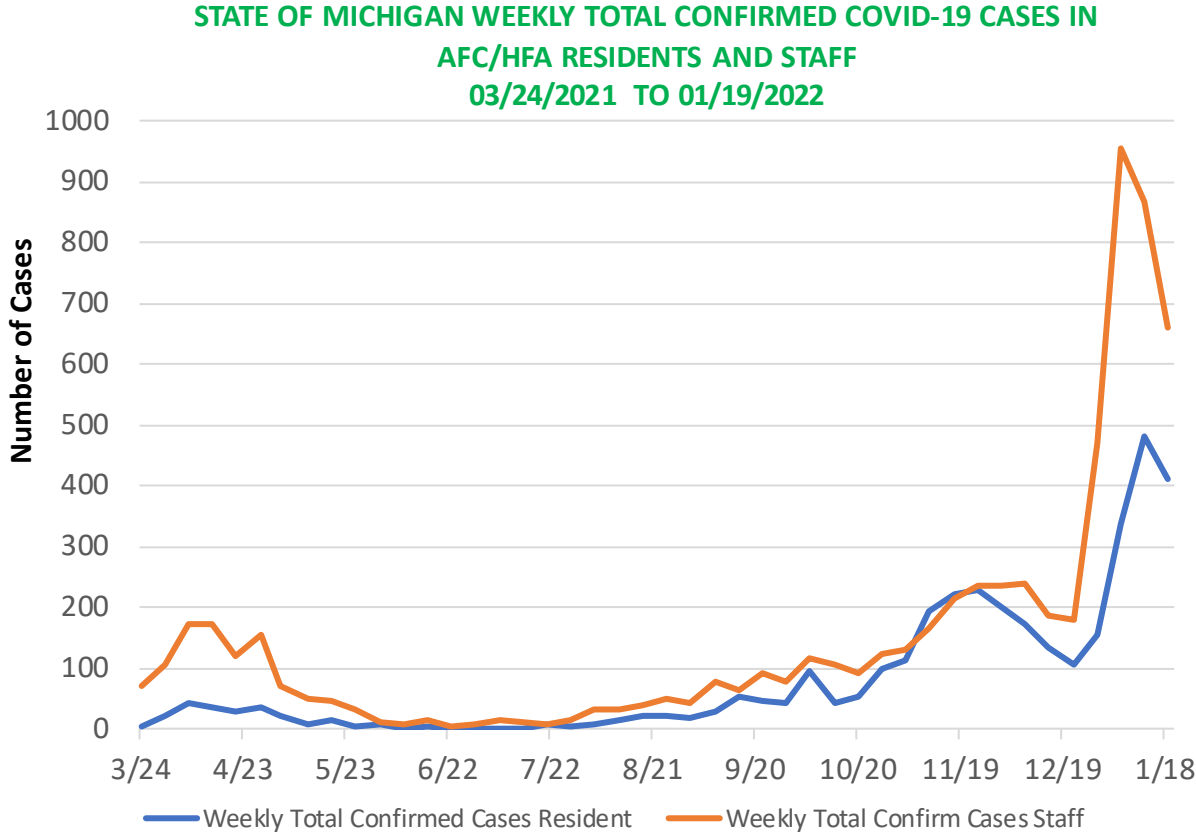
Current Trends and Projections

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

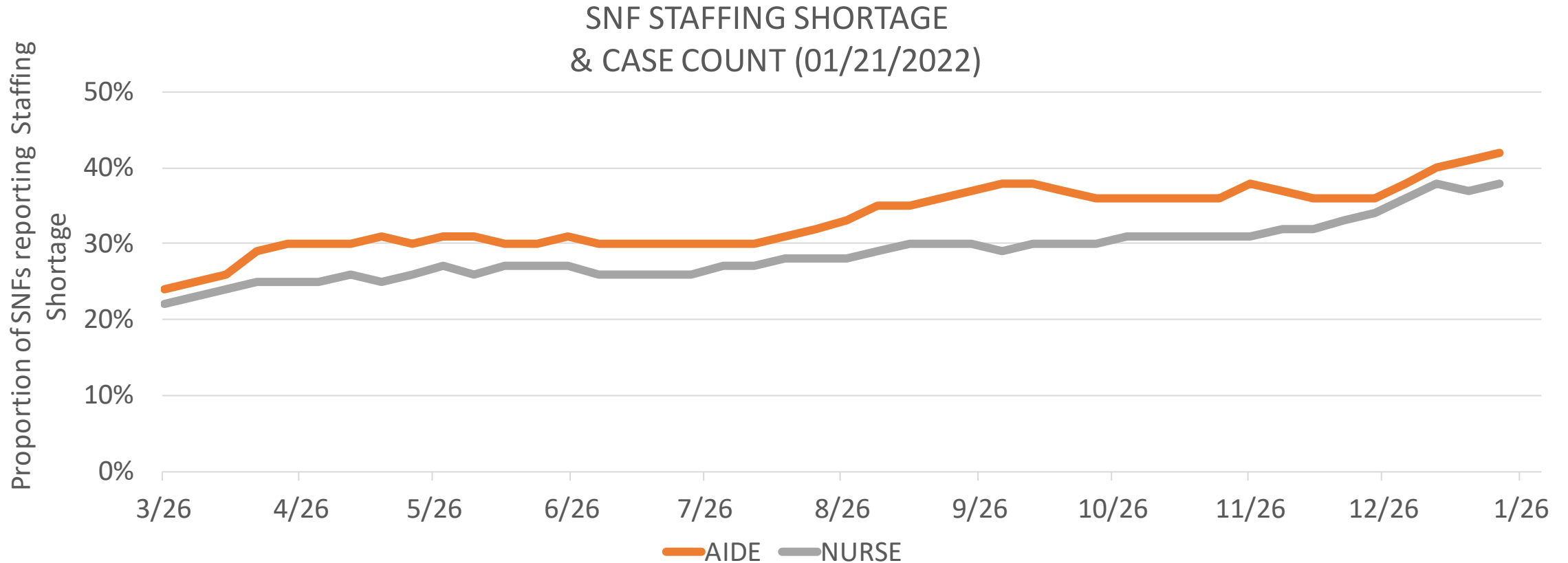


- Case counts in staff are coming down off of a peak (1,779 last week to 1,564 this week in SNFs) and 661 cases in AFC/HFA staff (868 last week)
- Case counts in LTCF continue to record more cases among staff than residents, but resident cases increasing sharply

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



Reported Staff Shortages within Skilled Nursing Facilities



- More Skilled Nursing Facilities (SNF) in Michigan are reporting staff shortages now than ever previously reported during the pandemic
- 42% of SNF report staffing shortages for aides
- 38% of SNF report staffing shortages for nurses

These data are from weekly reporting by facilities with bed occupancy of at least 13 beds.

Current Trends and Projections

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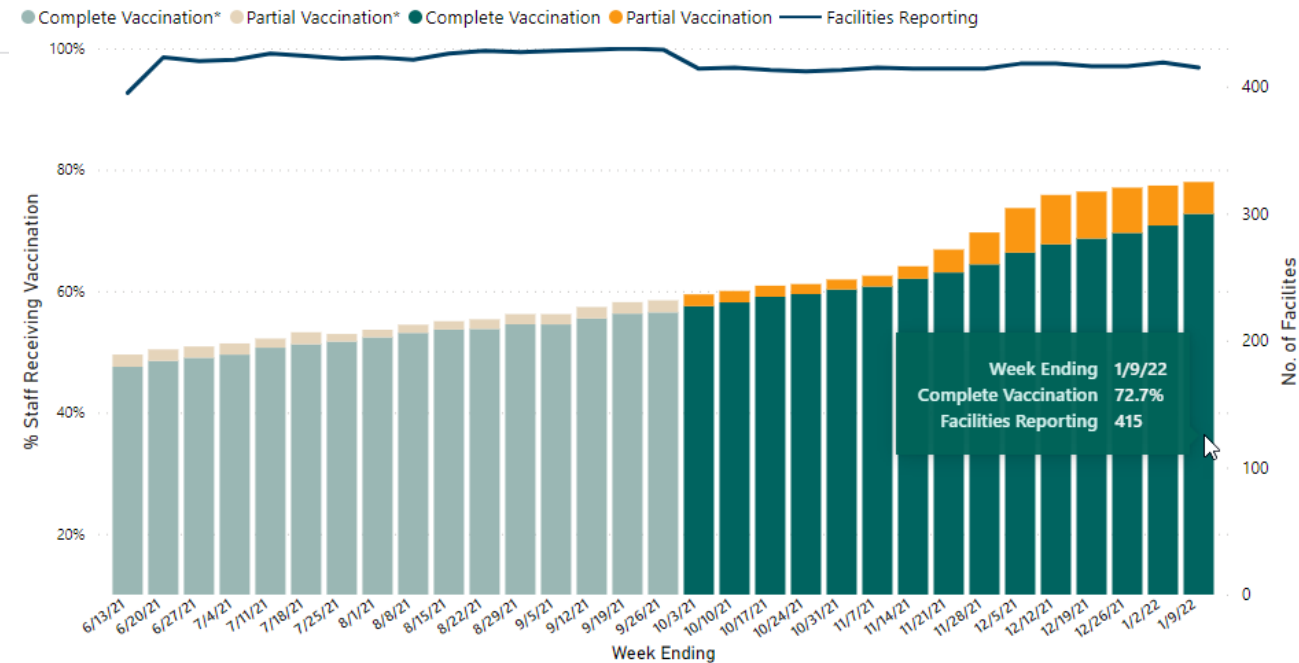
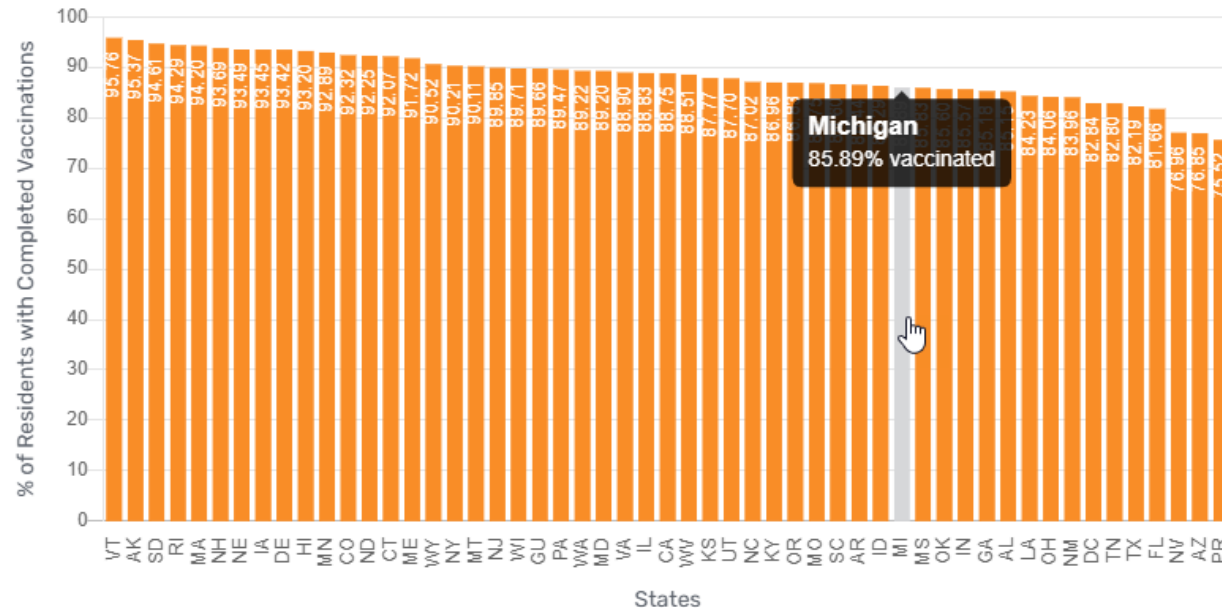
Completed vaccination among Skilled Nursing Cases for Residents and Staff

85.9% of SNF residents are fully vaccinated; 38 of 53 states/territories

72.7% of SNF staff are fully vaccinated, 48 of 53 states/territories
5.3% 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.



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

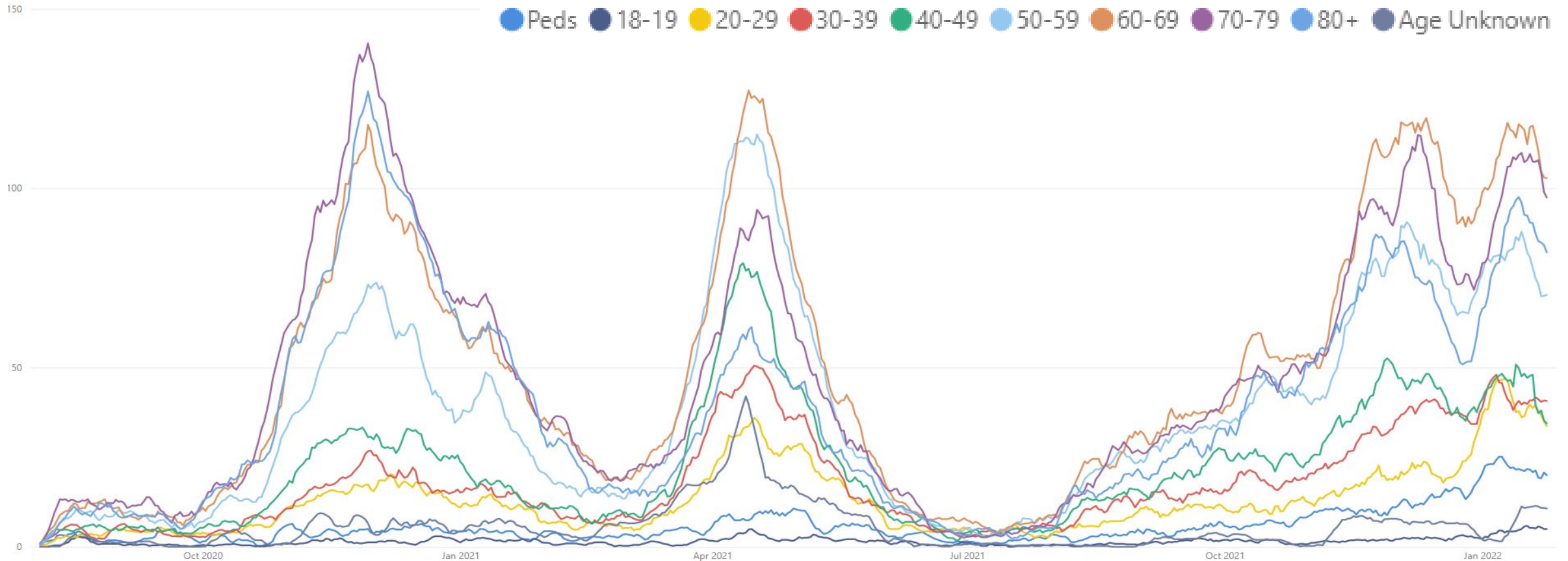
Current Trends and Projections

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Average Hospital Admissions Are Increasing for all Age Groups



- Trends for daily average hospital admissions declined (-10%) since last week (vs. -1% prior week)
- Overall, many age groups saw declines or plateaus this week
- More than 70 daily hospital admissions was seen for each of the age groups of 50-59, 60-69, 70-79, and 80+

Source: CHECC & EM Resource

Current Trends and Projections

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Hospital Admissions and Admission Rates by Age Group

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

Age Group	Average† daily number of hospital admissions	Average† Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	17.0	12.2	+0% (+0)
12-17	6.4	8.5	+5% (+<1)
18-19	5.0	19.0	-15% (-5)
20-29	33.7	24.4	-13% (-1)
30-39	40.7	33.6	+2% (+1)
40-49	34.4	29.2	-16% (-6)
50-59	70.3	52.1	-14% (-12)
60-69	102.9	80.6	-8% (-9)
70-79	97.4	127.1	-10% (-10)
80+	82.1	198.3	-11% (-10)
Total¶	10.7	50.1	-10% (-53)

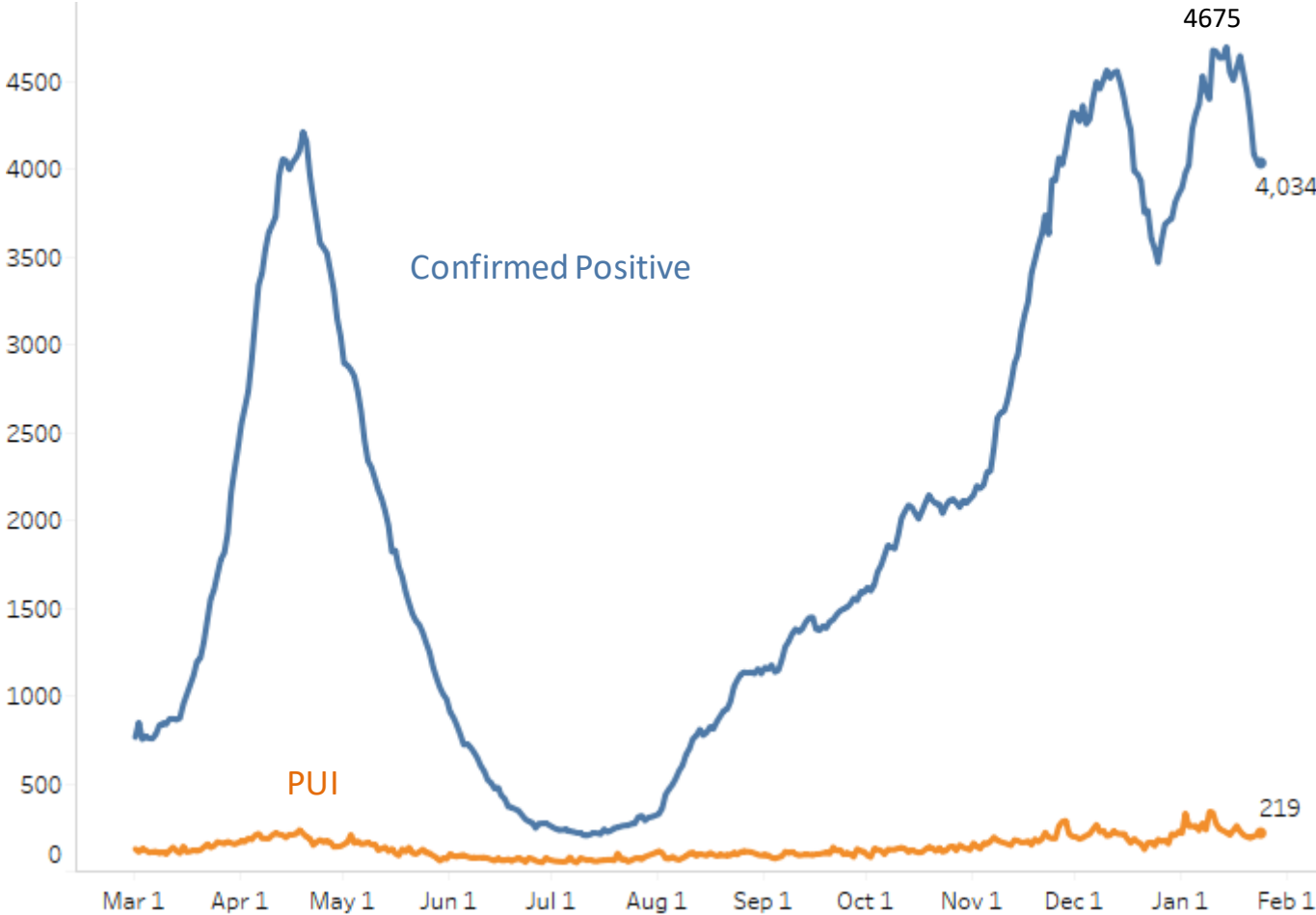
* Rate per 1 million residents; † Rolling 7-day average; ¶ Total may not reflect state due to missing age data
 Note: Hospital Admission data reflects date data was submitted
 Source: CHECC and EM Resource

- Through Jan 24, there were an average of 500.7 hospital admissions per day due to COVID-19; a decrease from last week (-10%, -53)
- Most age groups saw plateaus or decreases this week
- The largest one-week count decrease was among those 50-59 years (-12)
- Average daily hospital admission count (102.9 hospital admissions per day) were highest among those 60-69
- Average daily hospital admission rate (198.3 hospital admissions/million) were highest for those aged 80+
- More than 70 daily hospital admissions were seen for those aged 50-59, 60-69, 70-79, and 80+

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

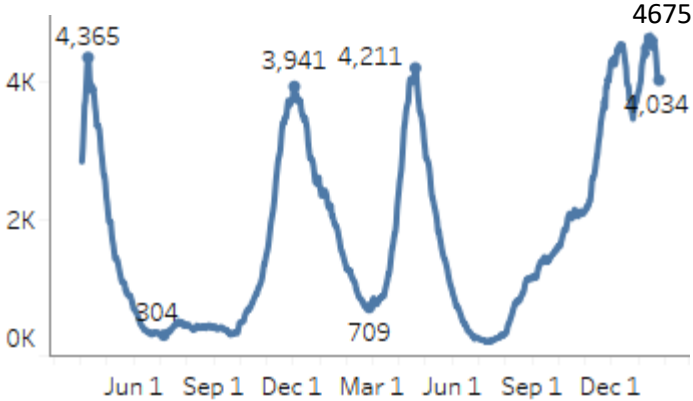
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 1/24/2022
Confirmed Positive & Persons Under Investigation (PUI)



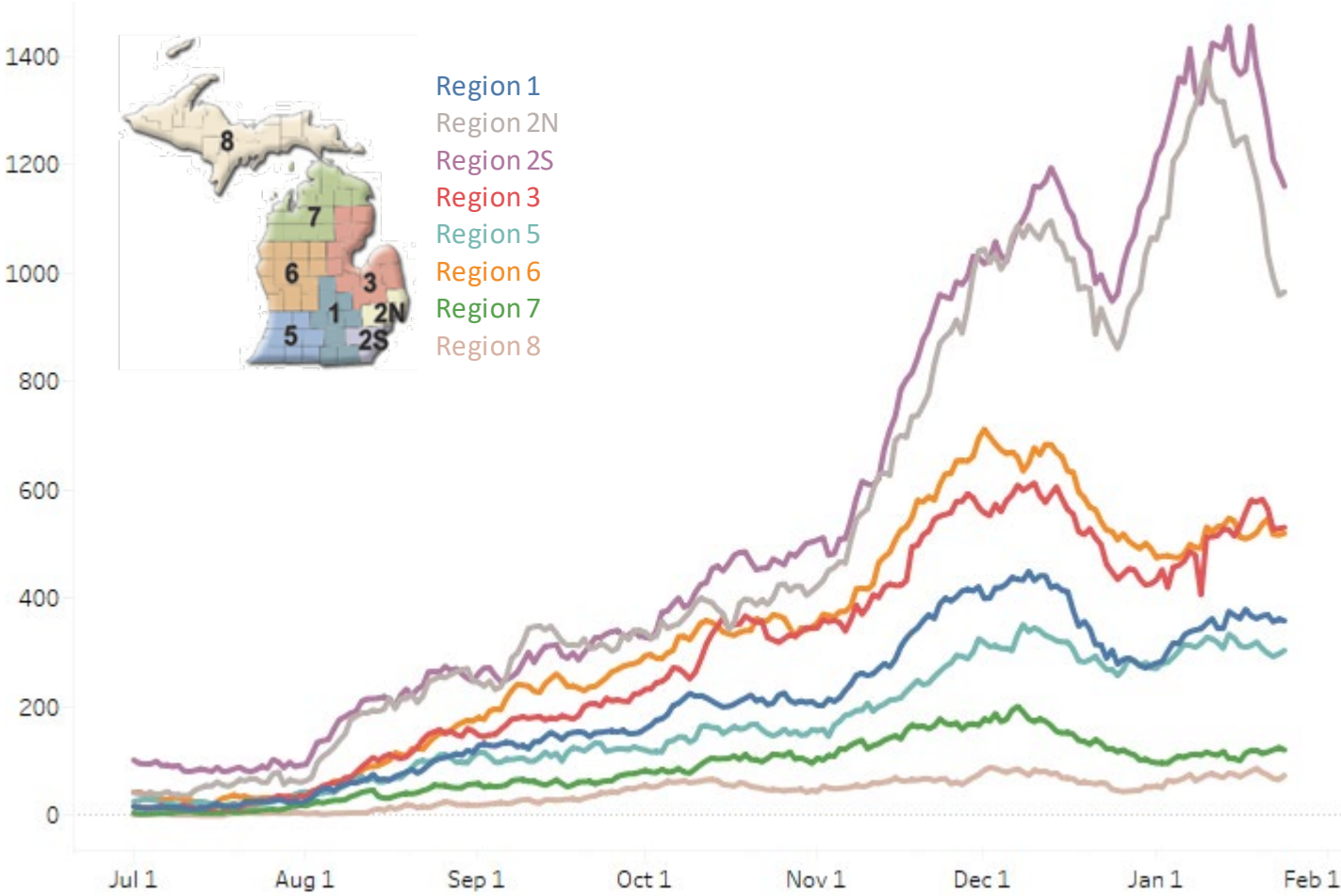
The COVID+ census in hospitals has decreased 12% from last week.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 1/24/2022
Confirmed Positive by Region



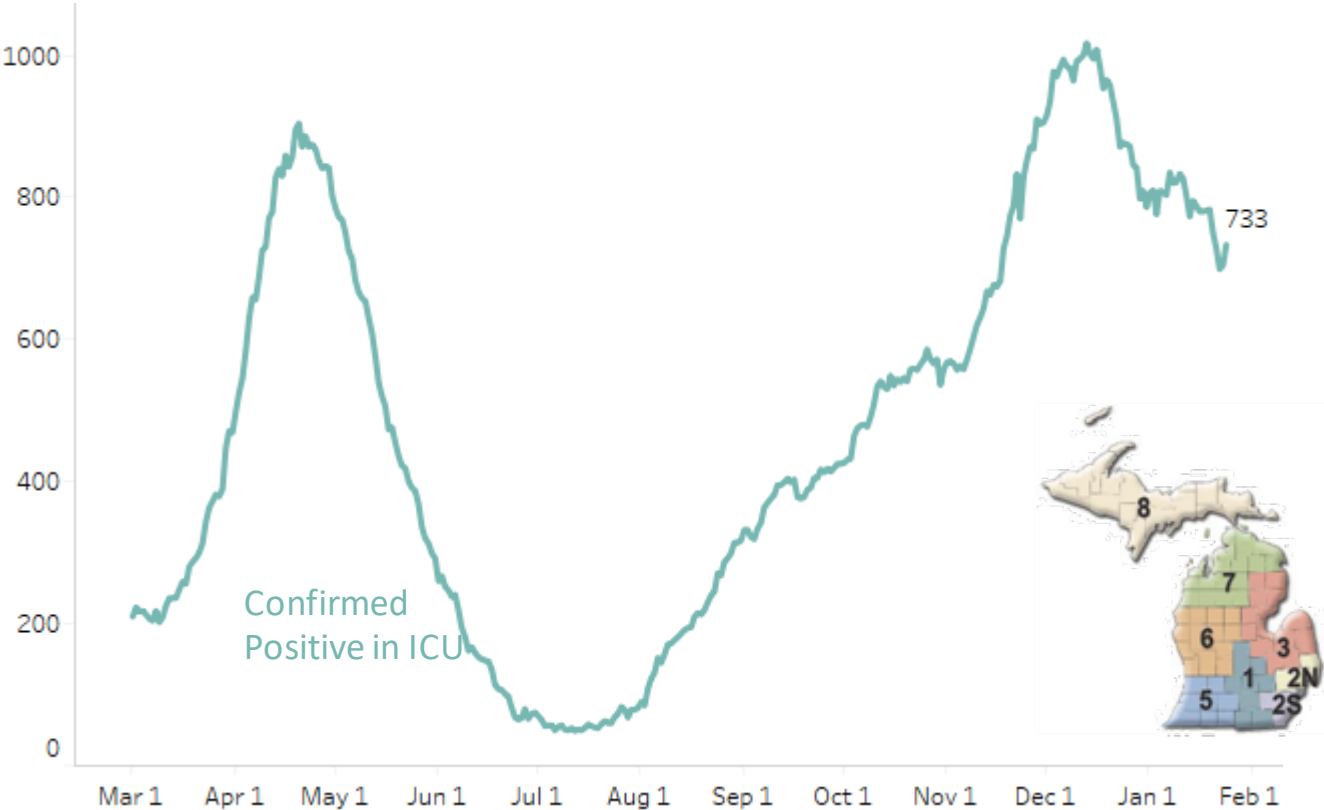
COVID+ hospital census has plateaued or decreased in nearly all regions. Regions 6 and 7 are the only regions showing growth this week. Regions 2N and 2S, which drove the majority of the January increase, have a significant decreasing trend.

Regions 2N, 2S, and 3 have greater than 400/Million population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	359 (-6%)	332/M
Region 2N	965 (-23%)	436/M
Region 2S	1160 (-16%)	521/M
Region 3	531 (-5%)	468/M
Region 5	304 (-2%)	319/M
Region 6	520 (2%)	354/M
Region 7	121 (5%)	242/M
Region 8	74 (-4%)	238/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 1/24/2022
Confirmed Positive in ICUs

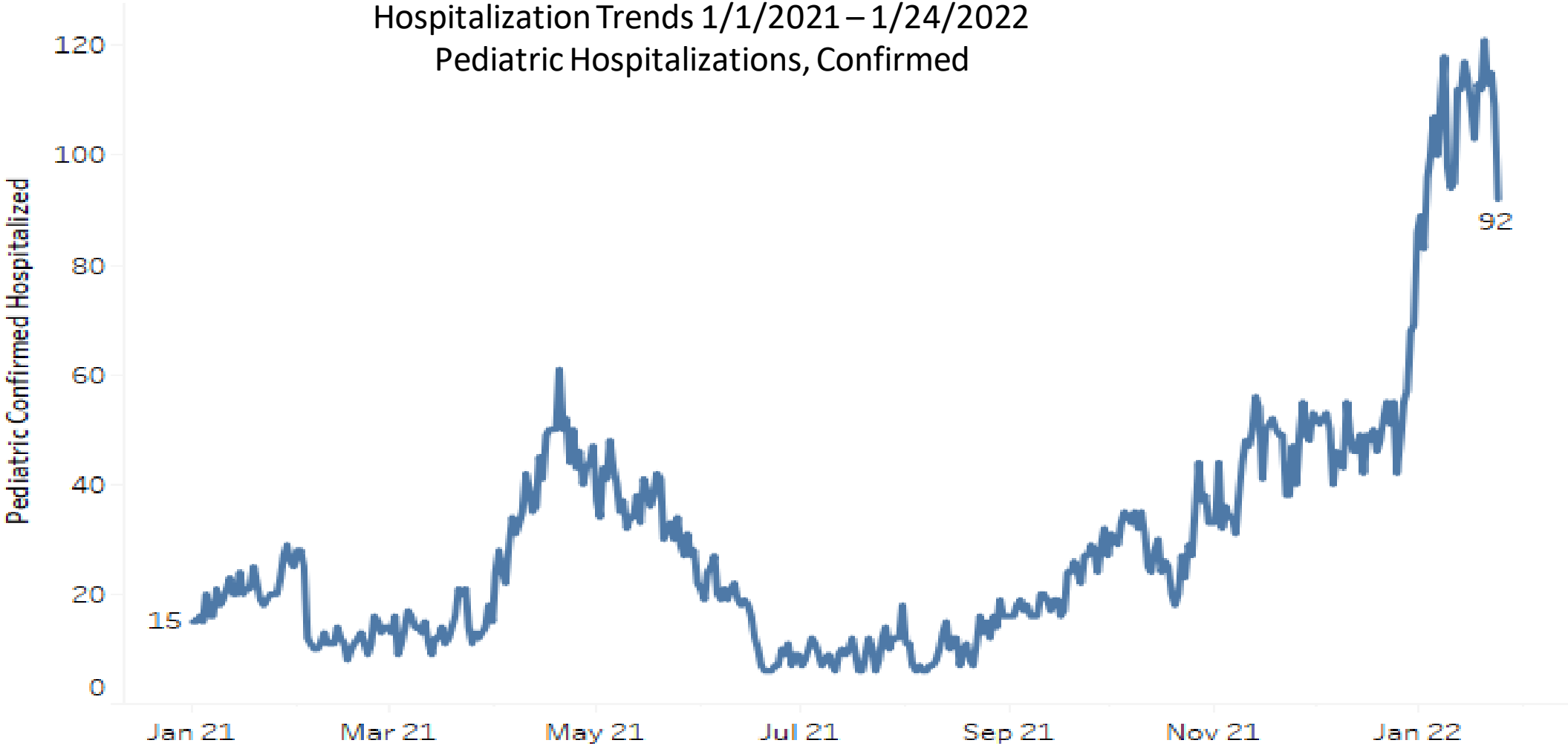


The census of COVID+ patients in ICUs has decreased by 6% from last week. Region 6 and 7 are the only regions showing growth this week with Region 7 showing 24% growth.

Regions 2S, 3 and 6 have ICU occupancy greater than 85%. Regions 1, 2S, 3, and 6 have 30% or more of adult ICU beds filled with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	69 (0%)	82%	33%
Region 2N	148 (-17%)	77%	26%
Region 2S	220 (0%)	86%	32%
Region 3	97 (-16%)	90%	30%
Region 5	43 (-12%)	65%	24%
Region 6	104 (2%)	87%	39%
Region 7	36 (24%)	83%	26%
Region 8	16 (-6%)	75%	25%

Statewide Hospitalization Trends: Pediatric COVID+ Census

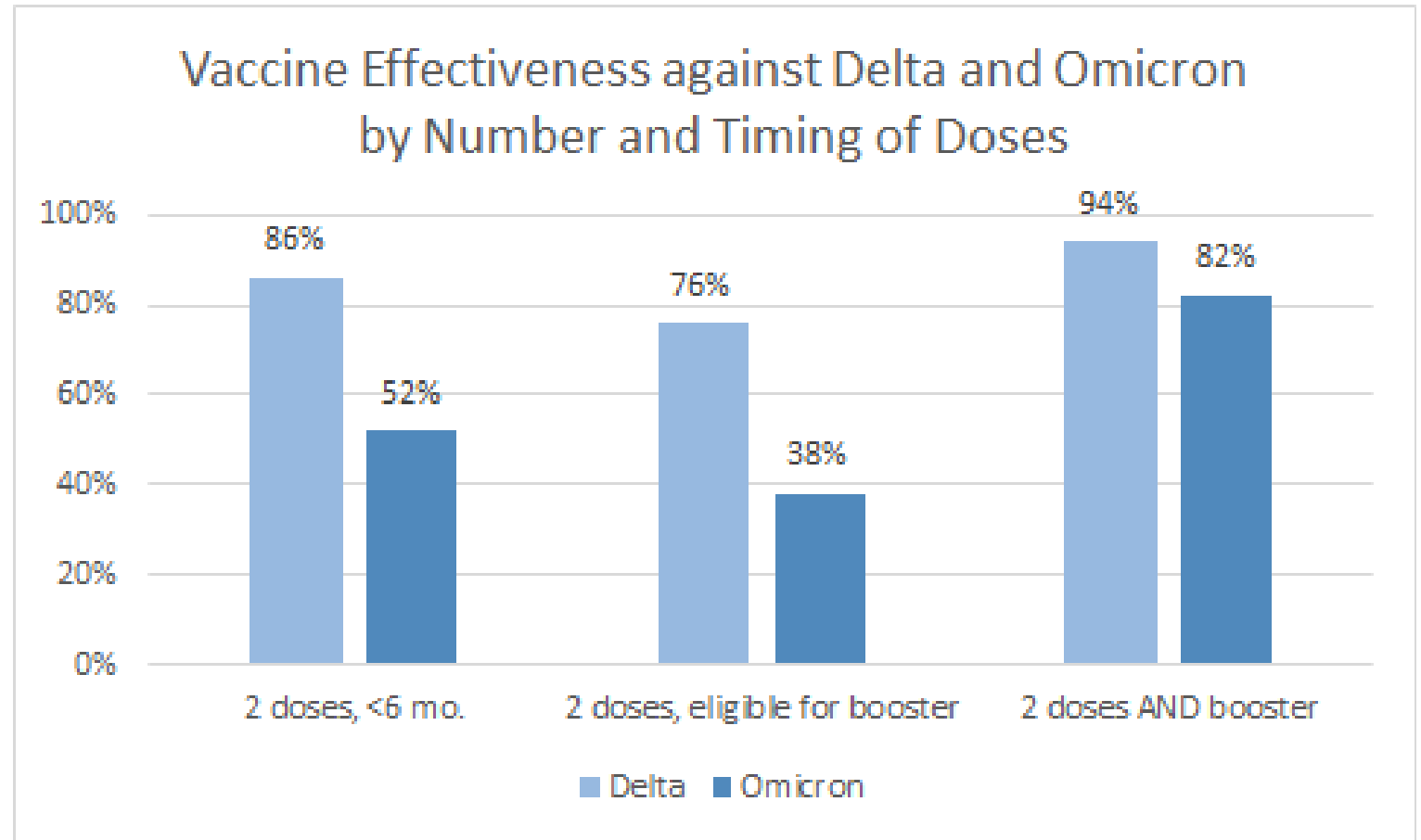


CDC Report – Booster dose is highly effective against Omicron.

CDC study of 222,772 emergency department and urgent care visits and 87,904 hospitalizations.

Vaccine effectiveness was most protective against omicron emergency dept, urgent care visit, or hospitalization after 2 doses plus a booster dose.

Protection was lowest in people eligible for a booster but who had not received it yet.



Thompson MG, Natarajan K, Irving SA, et al. Effectiveness of a Third Dose of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance—VISION Network, 10 States, August 2021–January 2022. MMWR Morb Mortal Wkly Rep. ePub: 21 January 2022. DOI: <http://dx.doi.org/10.15585/mmwr.mm7104e3>

Current Trends and Projections

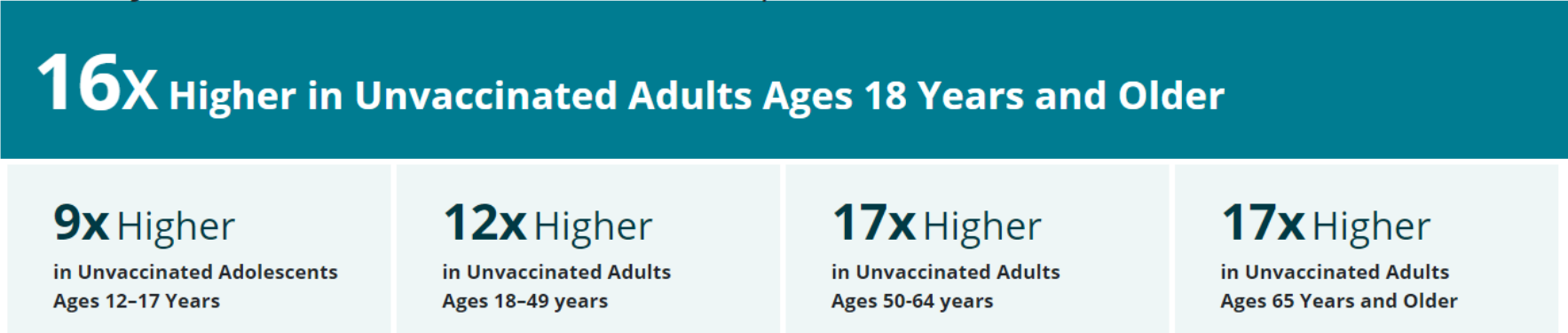
Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

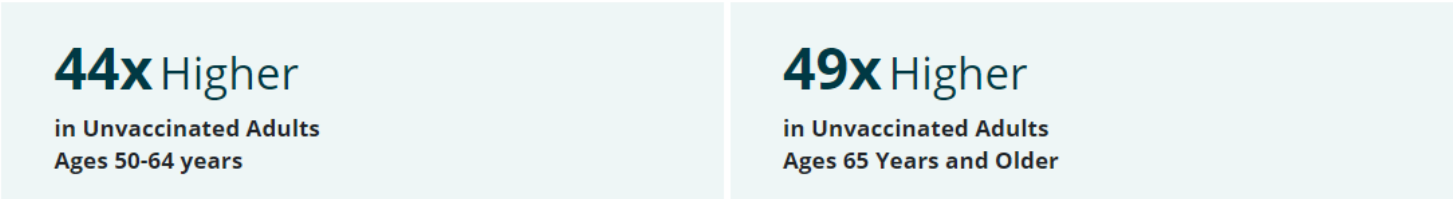
Rates of laboratory-confirmed COVID-19 hospitalizations by vaccination status: COVID-Net

In December, compared to fully vaccinated persons in each group shown below, the monthly rates of COVID-19-associated hospitalizations were:



For more information about COVID-NET, please see <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html>

In December, compared to fully vaccinated persons with additional or booster doses in each age group shown below, the monthly rates of COVID-19-associated hospitalizations were:

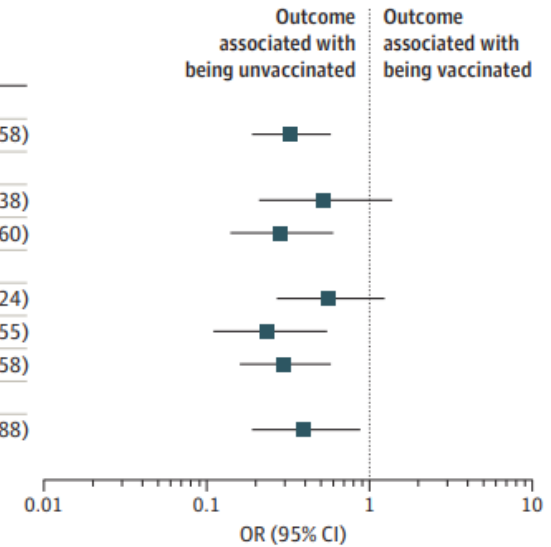


Preventing Severe Disease - Vaccine leads to better outcomes in breakthrough hospitalizations

US study across 21 locations of 4,513 adults hospitalized with COVID-19 respiratory illness from March-August 2021. **Vaccinated patients are less likely to require a ventilator or die during hospitalization.**

Figure 3. Association Between Progression to Severe Disease and Prior Vaccination Among Adults Hospitalized With COVID-19

Subgroup	Fully vaccinated case patients/total breakthrough cases (%)	Unvaccinated case patients/total unvaccinated (%)	Absolute difference (95% CI), %	Adjusted odds ratio (95% CI) ^a
Progression to death or invasive mechanical ventilation				
Overall	17/142 (12.0)	261/1055 (24.7)	-12.8 (-18.7 to -6.8)	0.33 (0.19 to 0.58)
By immunocompromising condition ^b				
Yes (immunocompromised)	8/61 (13.1)	31/146 (21.2)	-8.1 (-18.9 to 2.6)	0.54 (0.21 to 1.38)
No (immunocompetent)	9/81 (11.1)	230/909 (25.3)	-14.2 (-21.6 to -6.8)	0.29 (0.14 to 0.60)
By age group, y				
18-64	9/57 (15.8)	188/814 (23.1)	-7.3 (-17.2 to 2.6)	0.57 (0.27 to 1.24)
≥65	8/85 (9.4)	73/241 (30.3)	-20.9 (-29.4 to -12.4)	0.24 (0.11 to 0.55)
Hypoxemic within 24 h of admission ^c				
Overall	13/96 (13.5)	227/806 (28.2)	-14.6 (-22.1 to -7.1)	0.30 (0.16 to 0.58)
Progression to death				
Overall	9/142 (6.3)	91/1055 (8.6)	-2.3 (-6.6 to 2.1)	0.41 (0.19 to 0.88)



An adjusted odds ratio (aOR) less than 1.0 indicated that progression to death or invasive mechanical ventilation after hospital admission for COVID-19 was associated with being unvaccinated compared with being vaccinated.

^a Models were adjusted for age group (18-49, 50-64, and ≥65 years), sex, self-reported race and ethnicity, and number of chronic medical comorbidities (0, 1, 2, 3, and ≥4). Models stratified by age group were adjusted for continuous age in years.

^b Immunocompromising conditions are defined in the Table.

^c Analysis restricted to COVID-19 case patients with hypoxemia within 24 hours of admission, defined as receiving supplemental oxygen or having an oxygen saturation less than 92% as measured by pulse oximetry.

Source: [Tenforde et al. JAMA. 2021;326\(20\):2043-2054. doi:10.1001/jama.2021.19499](https://doi.org/10.1001/jama.2021.19499)

Mitigation important in preventing breakthrough infections in individuals with chronic conditions

CDC analysis of data from 465 health systems. Severe breakthrough infections most common in:

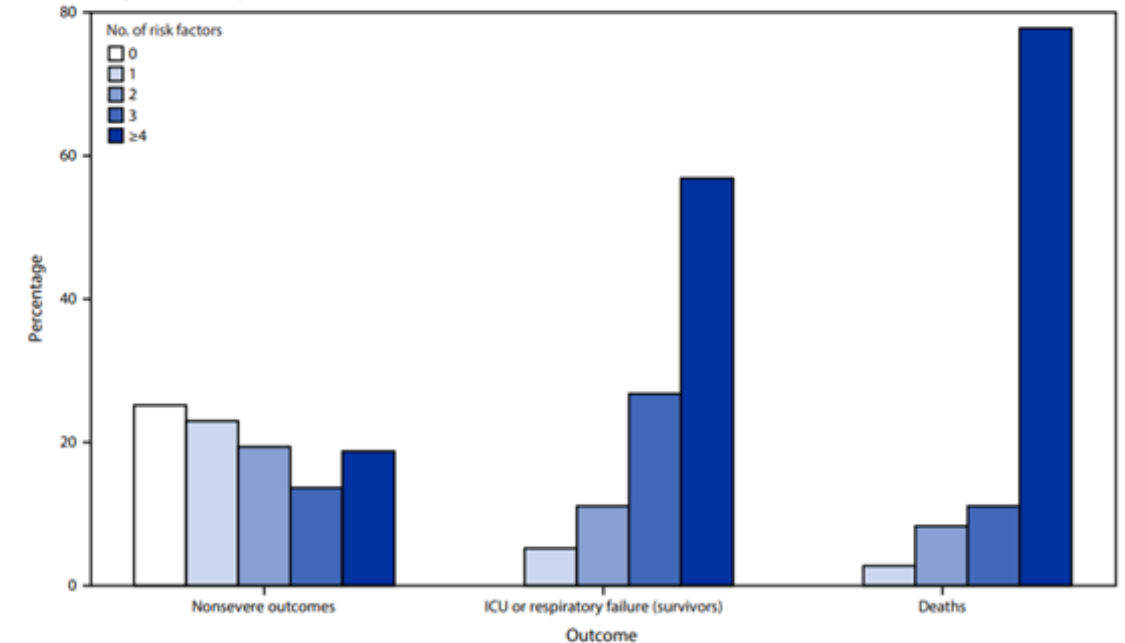
- Older than 65 years of age
- Those with chronic disease (liver, kidney, neurologic, cardiac disease)
- Those with diabetes

No severe outcomes observed in those who received monoclonal antibodies

Severe outcomes were more likely as the number of risk factors increased

Important to use prevention tools in addition to vaccination (masking, testing, distancing, etc.)

FIGURE 2. Frequency of risk factors in persons with COVID-19 after completion of a primary vaccination series, by outcome^{*,†} — 465 health care facilities, United States, December 2020–October 2021



Abbreviation: ICU = intensive care unit.

* Outcome totals: nonsevere = 2,057; ICU/respiratory failure = 153; deaths = 36.

† All persons in the ICU or respiratory failure (survivors) and deceased groups had at least one risk factor.

Cumulative COVID-19 Cases by Vaccination Status, Michigan, 1/15/21–1/14/22

Fully Vaccinated People (5,405,380)		
Cases	Hospitalization	Deaths
Percent of Cases In People Not Fully Vaccinated (1,007,888 / 1,298,080) 77.6%	Percent of Hospitalizations In People Not Fully Vaccinated (24,506 / 28,844) 85.0%	Percent of Deaths In People Not Fully Vaccinated (12,635 / 15,198) 83.1%
1,007,888 Total Cases Not Fully Vaccinated	24,506 Total Hospitalized Not Fully Vaccinated	12,635 Total Deaths Not Fully Vaccinated
Total Breakthrough Cases 290,192	Total Breakthrough Hospitalizations 4,338	Total Breakthrough Deaths 2,563
5.37% Percent of Fully Vaccinated People who Developed COVID-19 (290,192 / 5,405,380)	0.080% Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (4,338 / 5,405,380)	0.047% Percent of Fully Vaccinated People Who Died of COVID-19 (2,563 / 5,405,380)
22.4% Percent of Cases Who Were Fully Vaccinated (290,192 / 1,298,080)	15.0% Percent of Hospitalizations Who Were Fully Vaccinated (4,338 / 28,844)	16.9% Percent of Deaths Who Were Fully Vaccinated (2,563 / 15,198)
Total Cases: 1,298,080	Total Hospitalizations: 28,844	Total Deaths: 15,198

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

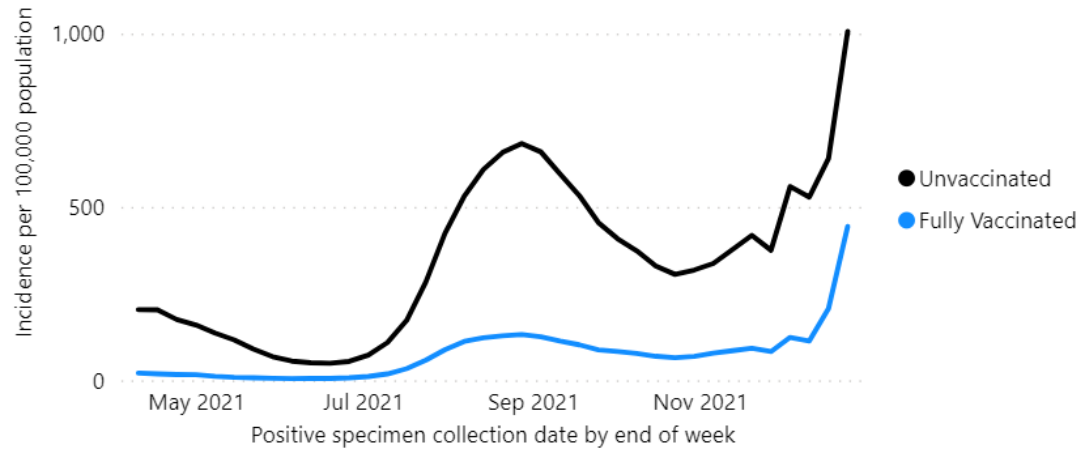
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

National Age-Standardized Rates of COVID-19 Cases and Deaths by Vaccination Status

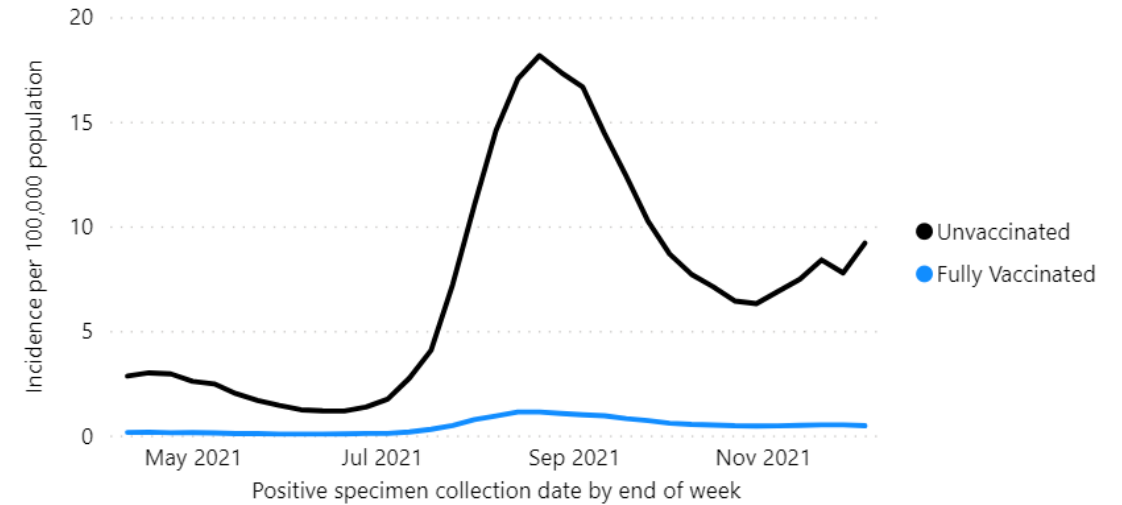
Rates of COVID-19 Cases by Vaccination Status

April 04 - December 25, 2021 (28 U.S. jurisdictions)



Rates of COVID-19 Deaths by Vaccination Status

April 04 - December 04, 2021 (28 U.S. jurisdictions)



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



compared to fully vaccinated adults

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.

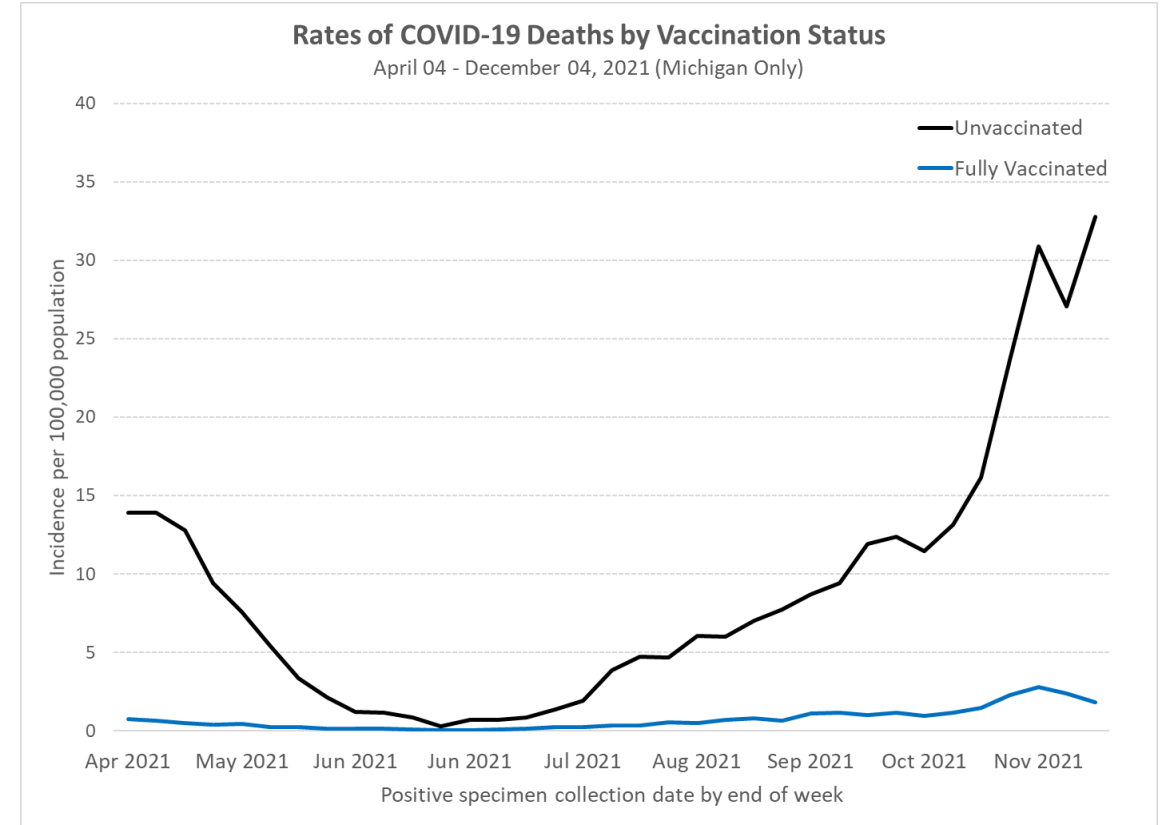
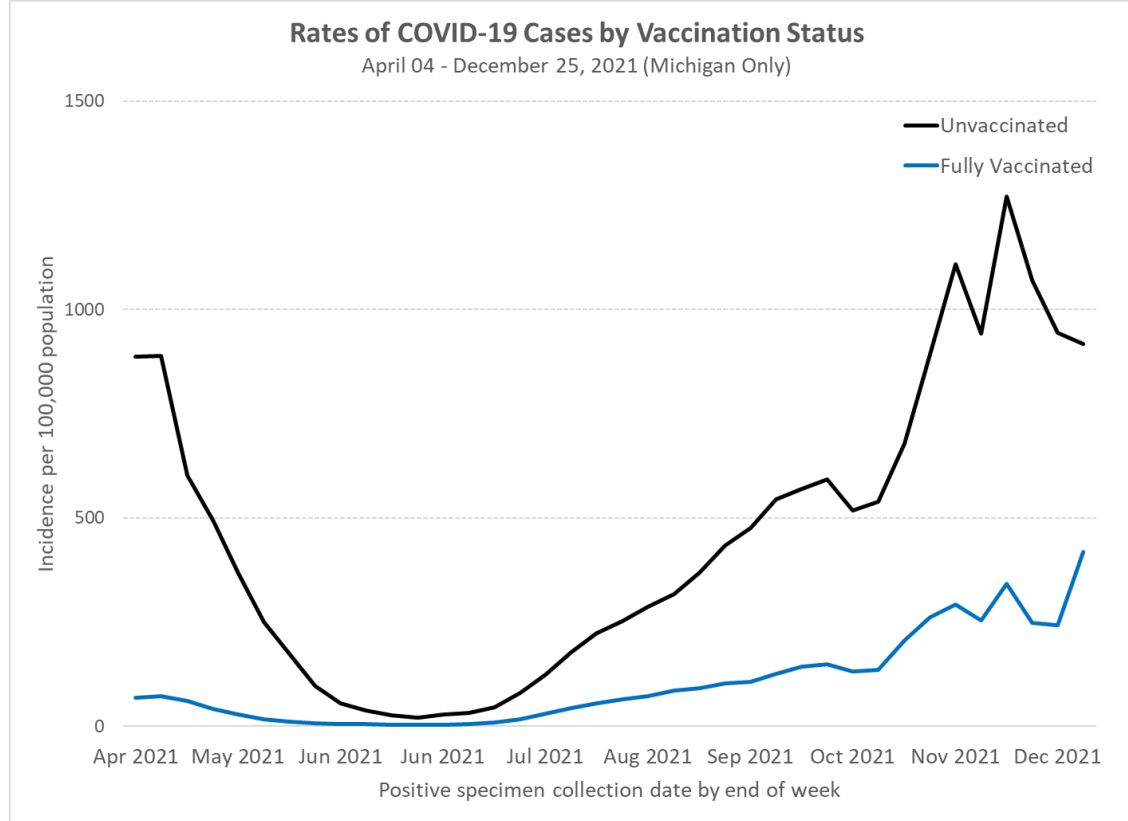
Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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



In November, unvaccinated persons had:

3.6 X
Risk of Testing Positive for COVID-19

AND

10.9 X
Risk of Dying from COVID-19

compared to fully vaccinated persons

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

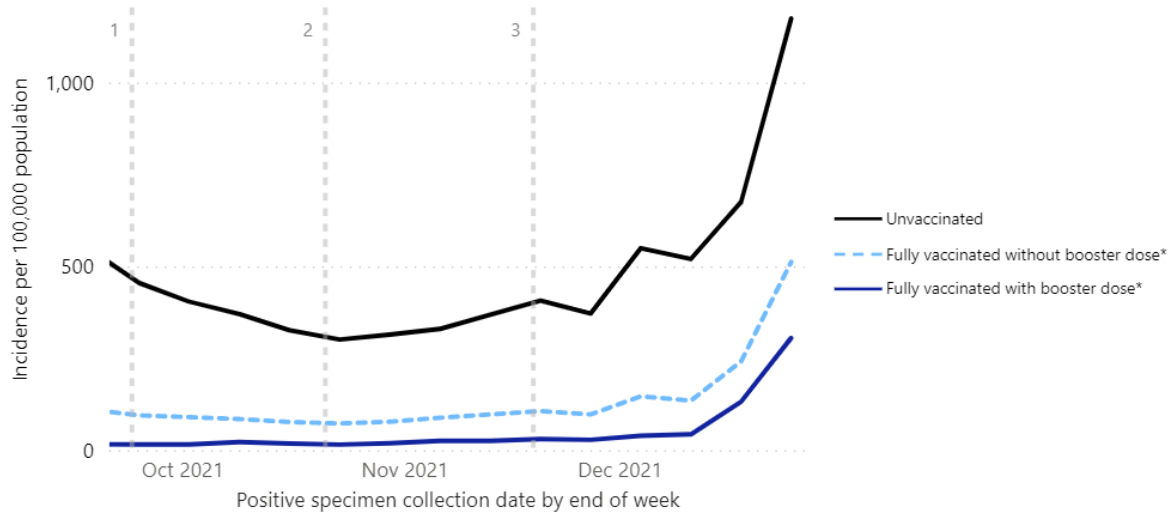
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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

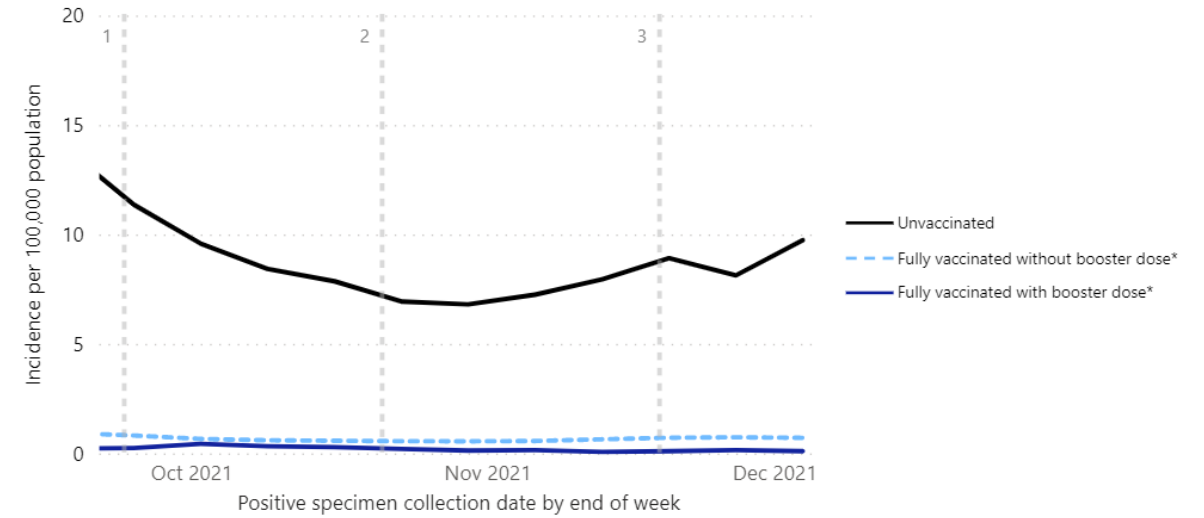
Rates of COVID-19 Cases by Vaccination Status and Booster Dose*

August 29 - December 25, 2021 (25 U.S. jurisdictions)



Rates of COVID-19 Deaths by Vaccination Status and Booster Dose*

August 29 - December 04, 2021 (25 U.S. jurisdictions)



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

13X
Risk of Testing Positive for COVID-19

AND

68X
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.

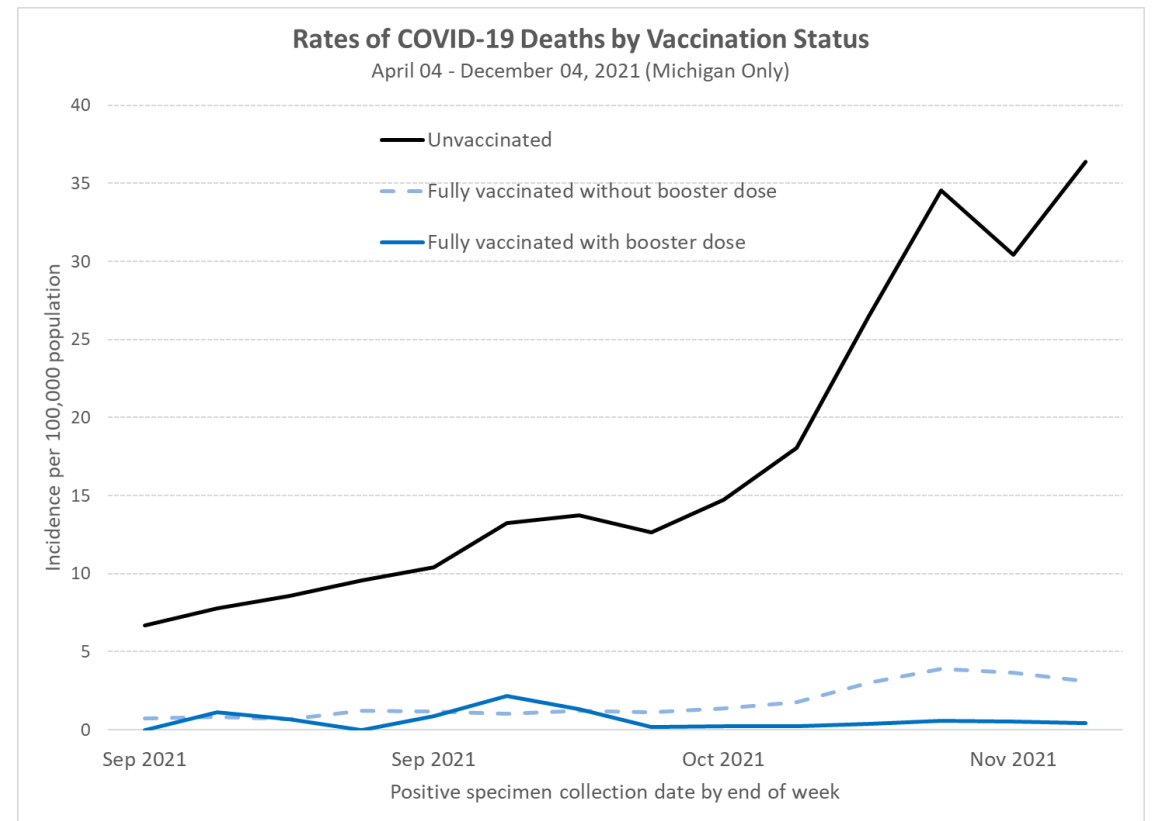
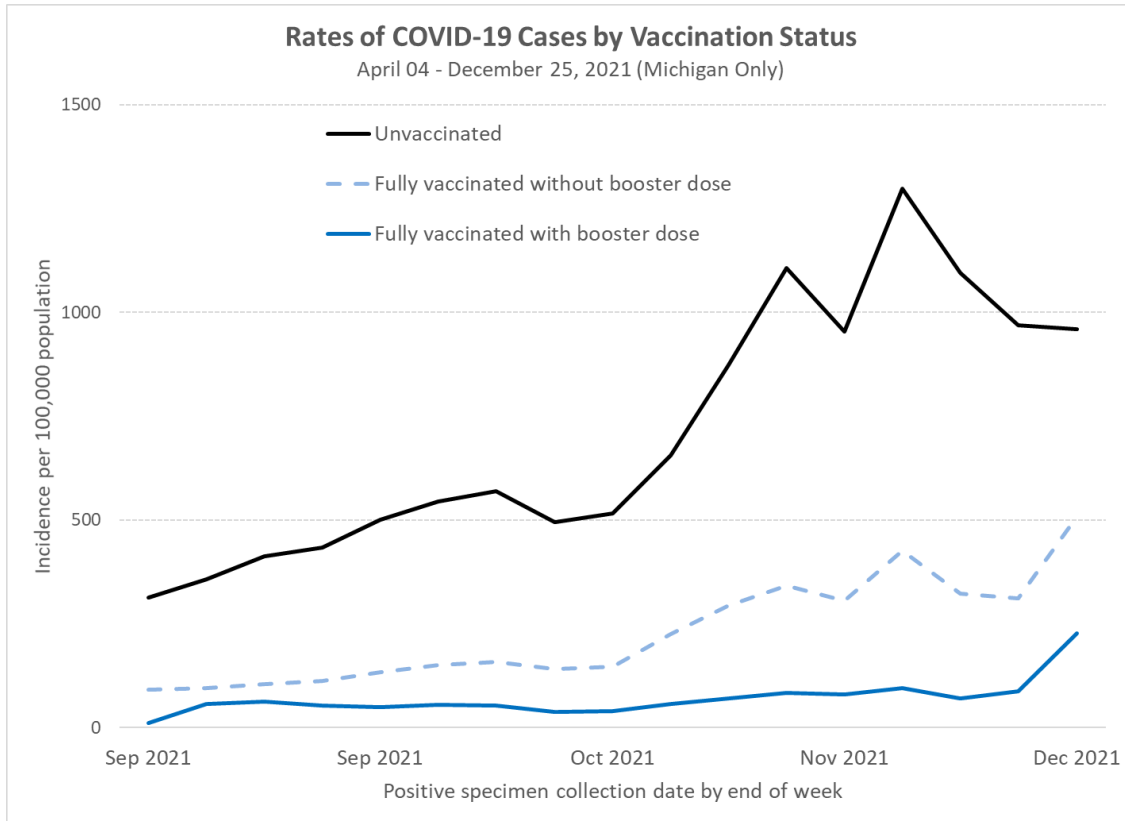
Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

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

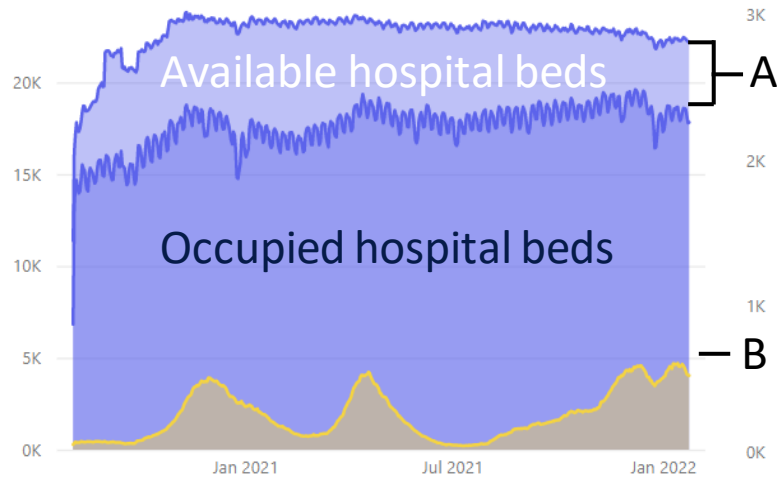
Footnotes: Incidence rates were age-standardized using the 2000 U.S. Census standard population; and rates are not adjusted for time since vaccination, underlying conditions, or other demographic factors besides age. Incidence rate ratios for the past one month were calculated by dividing the average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



Hospital, ICU, Ventilator Utilization, and Staffing Trends

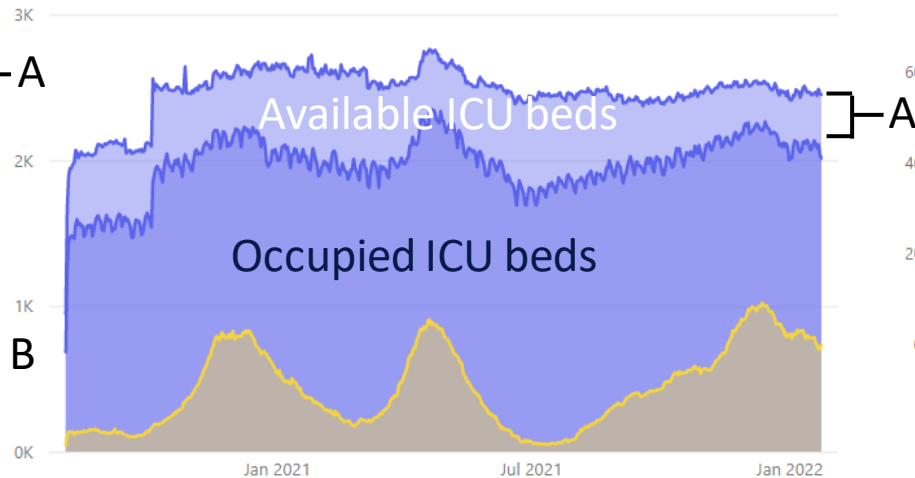
ALL HOSPITAL INPATIENT BED CAPACITY, OCCUPANCY & COVID-RELATED OCC...

● All Hosp Inpatient Beds ● All Hosp Inpatient Bed Occupancy ● COVID Related Occupancy

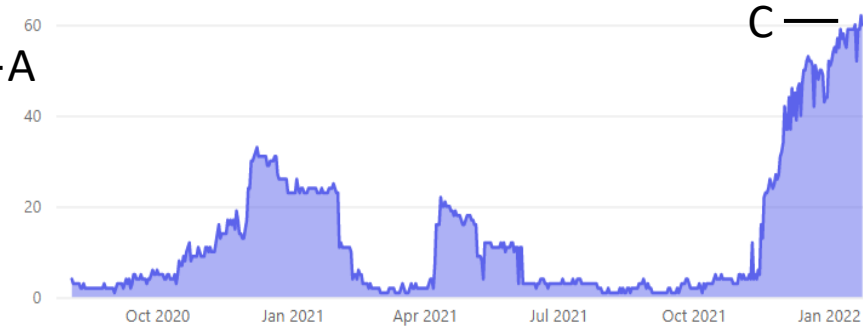


ADULT ICU BED CAPACITY, OCCUPANCY & COVID-RELATED OCCUPANCY

● Adult ICU Beds ● Adult ICU Bed Occupancy ● ICU Adult Confirmed-Positive COVID



NUMBER OF HOSPITALS REPORTING CRITICAL STAFF SHORTAGE TODAY



- Utilization for hospitals, ICUs, and mechanical ventilators are mixed (Ventilators not shown)
- The number of available hospital and ICU beds is decreasing (shown in A)
 - Compared to this time last year, we currently have 1,110 less staffed beds this year (5% decrease)
 - Compared to this time last year, we currently have 250 fewer ICU staffed beds this year (9% decrease)
- At the *start* of the current Omicron surge, we have already peaked for COVID hospitalizations (shown in B) and near peak for ICU; these numbers are expected to rise
- Sufficient staffing remains the most critically limited resource within healthcare, and is at a pandemic high (shown at C)

Source: EM Resource

Current Trends and Projections

Prevent Death and Severe Outcomes

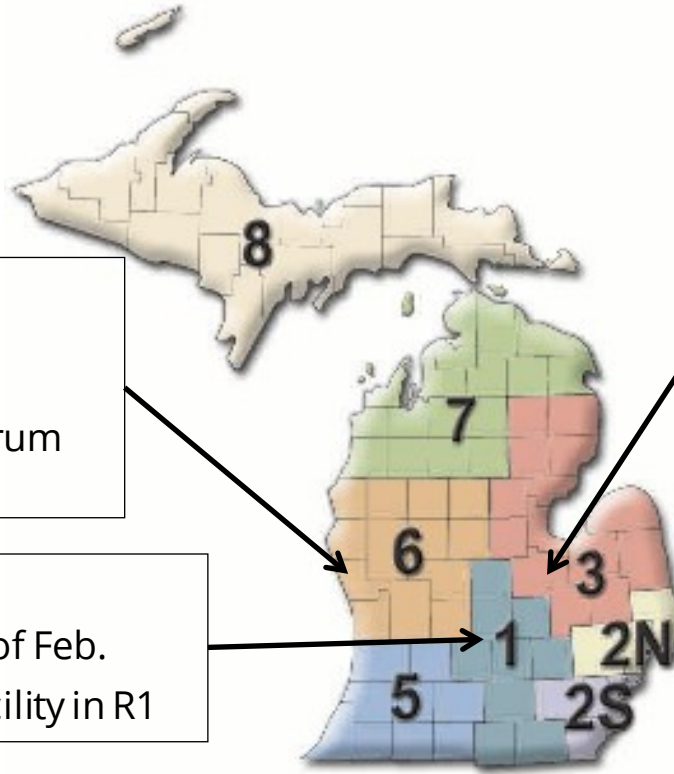
Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Michigan Strategy to Allocate Federal Staffing Resources

The regional strategy addresses:

- COVID hotspots
- Challenges with increased admissions
- Facilitating regional decompression and patient transfers



- North Central has seen an elevated level of COVID cases and hospitalizations.
 - DoD team allocated to Covenant Saginaw in R3
 - Facilities provide for regional decompression allowing for transfers of patients from outlying areas to the appropriate level of care.

- The West side of the state saw the highest initial COVID burden in the current surge.
 - DoD teams allocated to Spectrum and Mercy Muskegon in R6

- DoD team allocated to Sparrow
 - Team will arrive the first week of Feb.
 - Current requests fulfill a second facility in R1

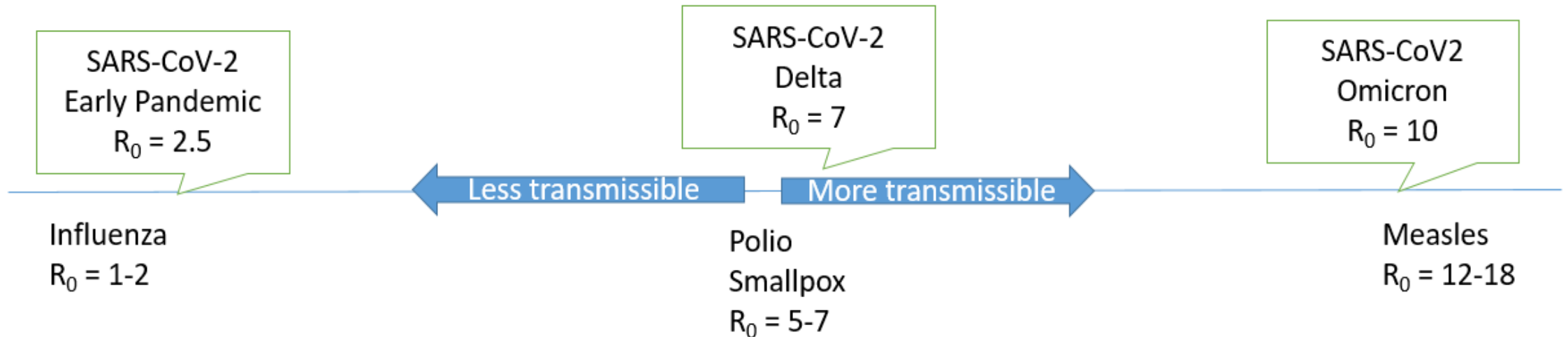
- SE Michigan increased hospitalizations in the current surge and is now experiencing the highest number of cases and positivity in the state.
 - DoD team allocated to Beaumont Dearborn in R2S
- Disaster Medical Assistance Team (DMAT) assigned to Henry Ford – Wyandotte in R2S
 - An additional DoD will backfill the DMAT Team after their 14-day deployment is complete

Source: Emergency Preparedness and Response



Omicron transmissibility

- Omicron transmissibility is higher than Delta and Alpha.
- Outbreaks more likely to link across populations.
- Secondary attack rate (the chance that an exposed person becomes positive) is 50% *more* for Omicron vs Delta – [WHO technical brief](#)



Current Trends and Projections

Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Increased transmissibility leads to spread between communities

- Sports outbreak impacted 67 people across 3 high schools, one middle school.
- Spread connected to one daycare
- Began after the introduction of the alpha variant.
- Reported by Detroit Free Press - [look at the largest COVID-19 youth sports outbreaks this year](#)

How one of Michigan's largest school sports outbreak spread (Jan. 1 - July 15, 2021)

School/Location ● Grand Ledge High School ● Hayes Middle School ● Okemos High School
● Waverly High School ● Daycare



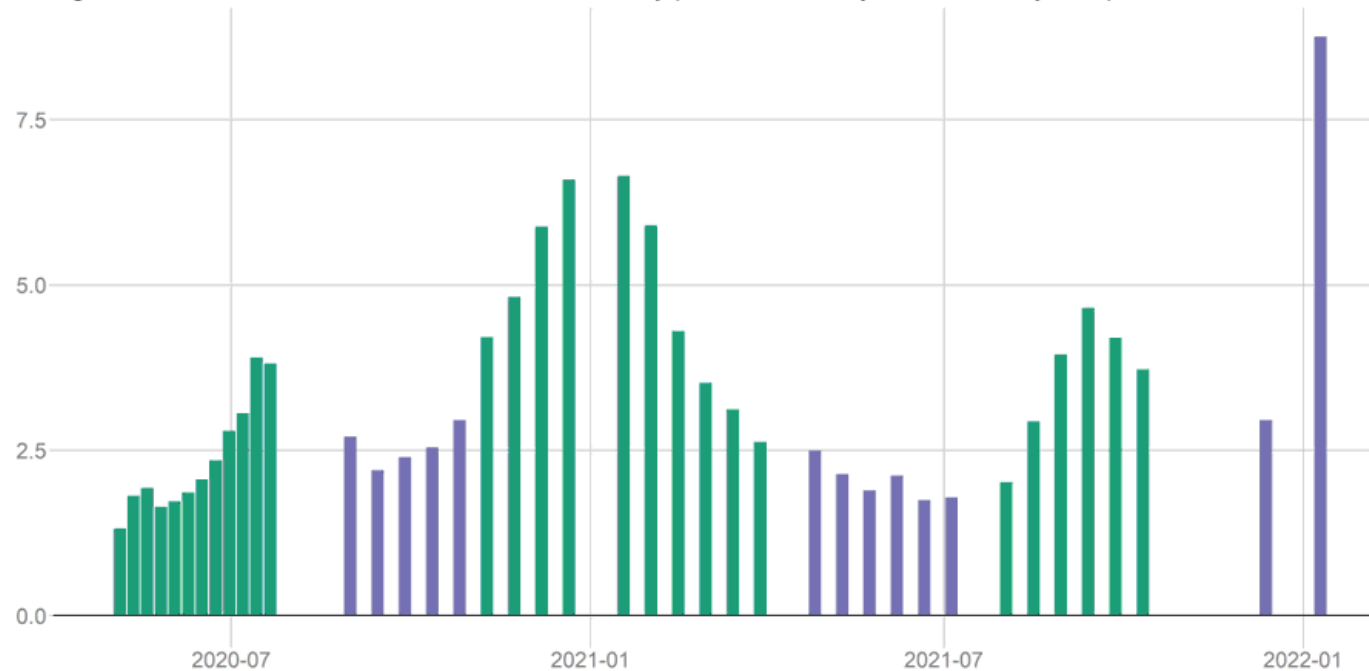
Image: Detroit Free Press

COVID-19 surge and impact on workforce

8.7 million Americans weren't working in December or early January due to COVID-19 illness or caring for someone who was infected.

5.3 million Americans were caring for children who were home from school or childcare.

People not working because they have or were caring for someone with Covid
Ages 18+, in millions. Colors reflect different survey phases and may not be directly comparable.



Source: Census Bureau/Household Pulse Survey

Graph Source - Twitter: @bencasselmann

Census Bureau's Household Pulse survey. [Reported by New York Times](#)

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 Jan 20

Number of reported outbreaks/clusters increased since last week (242 to 309), with increases in Pre K-Elementary (122 to 155), and High Schools (73 to 96), and Middle/Jr High (46 to 57). Administration remained steady (at 1).

Region	Number of reported cases, #	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Region 1	413	133		62	3-34
Region 2n	338	0		13	3-63
Region 2s	94	73		23	3-19
Region 3	2,809	246		116	3-108
Region 5	43	77		23	3-14
Region 6	60	45		22	3-13
Region 7	207	42		15	2-87
Region 8	177	188		35	3-54
Total	4,141	804		309	2-108

Grade level	Number of reported cases, #	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	1,451	366		155	3-62
Jr. high/middle school	824	207		57	3-74
High school	1,859	231		96	2-108
Administrative	7	0		1	7
Total	4,141	804		309	2-108

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.

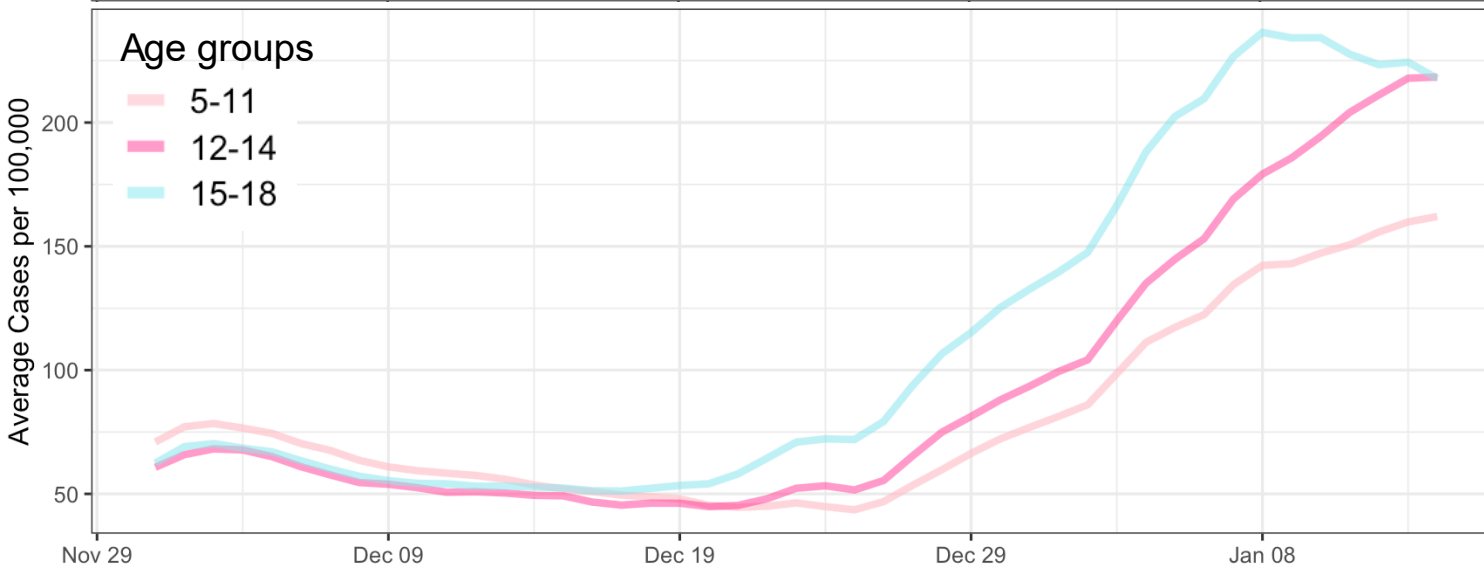
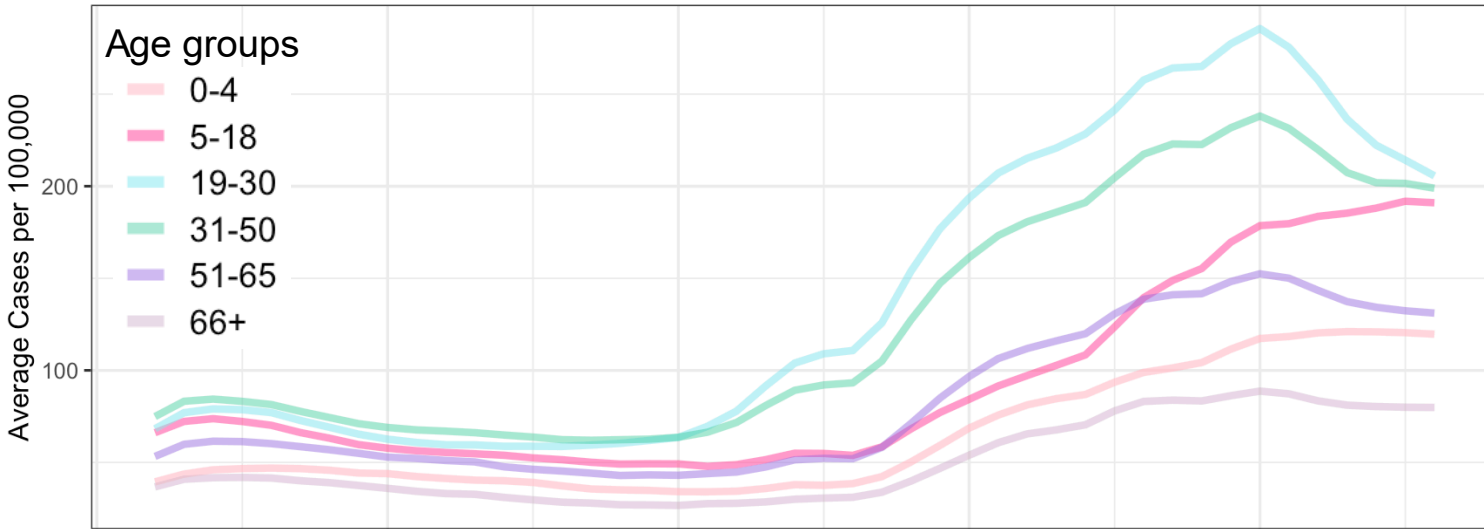
NOTE (10/4): MDHHS adopted the new [CSTE school cluster and outbreak definition](#) which impacts how transmissions within school-sponsored settings are reported to the health department

Source: LHD Weekly Sitreps



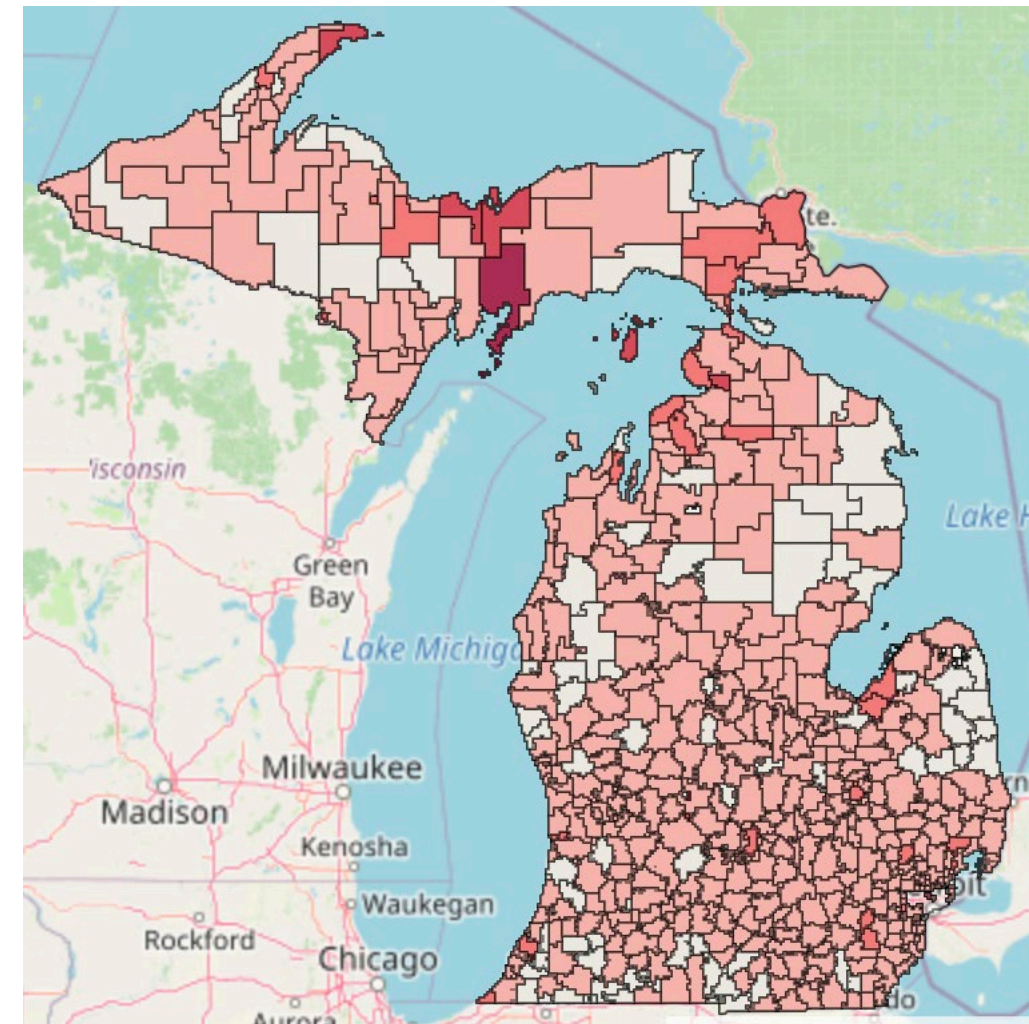
Case rates in the school-aged (5-18y) population statewide and by district

- Case rates in 5–18-year-olds have recently increased more rapidly, becoming more similar to 19–50-year-olds
- Case rates are currently highest among high school (15-18) and middle school (12-14) aged populations, followed by elementary school aged populations (5-11)



7-day avg. cases per 1000 enrolled population:

0-1	1-5	5-10	10-20	20-50	>50
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January 24, 2022

“Public Health Agencies Transitioning Away from Universal Case Investigation and Contact Tracing for Individual Cases of COVID-19”

Reduced utility and feasibility of universal case investigation and contact tracing for each COVID-19 case due to:

1. Large number of asymptomatic and less severe cases.
2. Many infections are never identified by public health agencies.
3. Highest risk of transmission occurs prior to symptom onset and during first few days of symptomatic illness.
4. Shorter incubation period of the Omicron variant

It is appropriate for our public health agencies to transition resources into more effective strategies to lessen the impact of COVID-19 by focusing surveillance and prevention efforts on the most severe outcomes of COVID-19: hospitalizations and deaths



JOINT STATEMENT

Moving forward key public health strategies should include:

1. Increasing number of people up to date with vaccinations
2. Strong messaging about effective mask wearing, especially during increased community transmission
3. Targeting prevention strategies to the most vulnerable persons, populations, and settings
4. Testing as a risk mitigation strategy in congregate residential settings and individual use to isolate appropriately
5. Outbreak investigations and targeted case investigations to prevent or understand transmission in high-risk settings
6. Instituting and improving environmental measures to reduce indoor aerosol transmission of pathogens

It is time to empower the public to act when they suspect

Current Trends and Projections

Prevent Death and Severe Outcomes

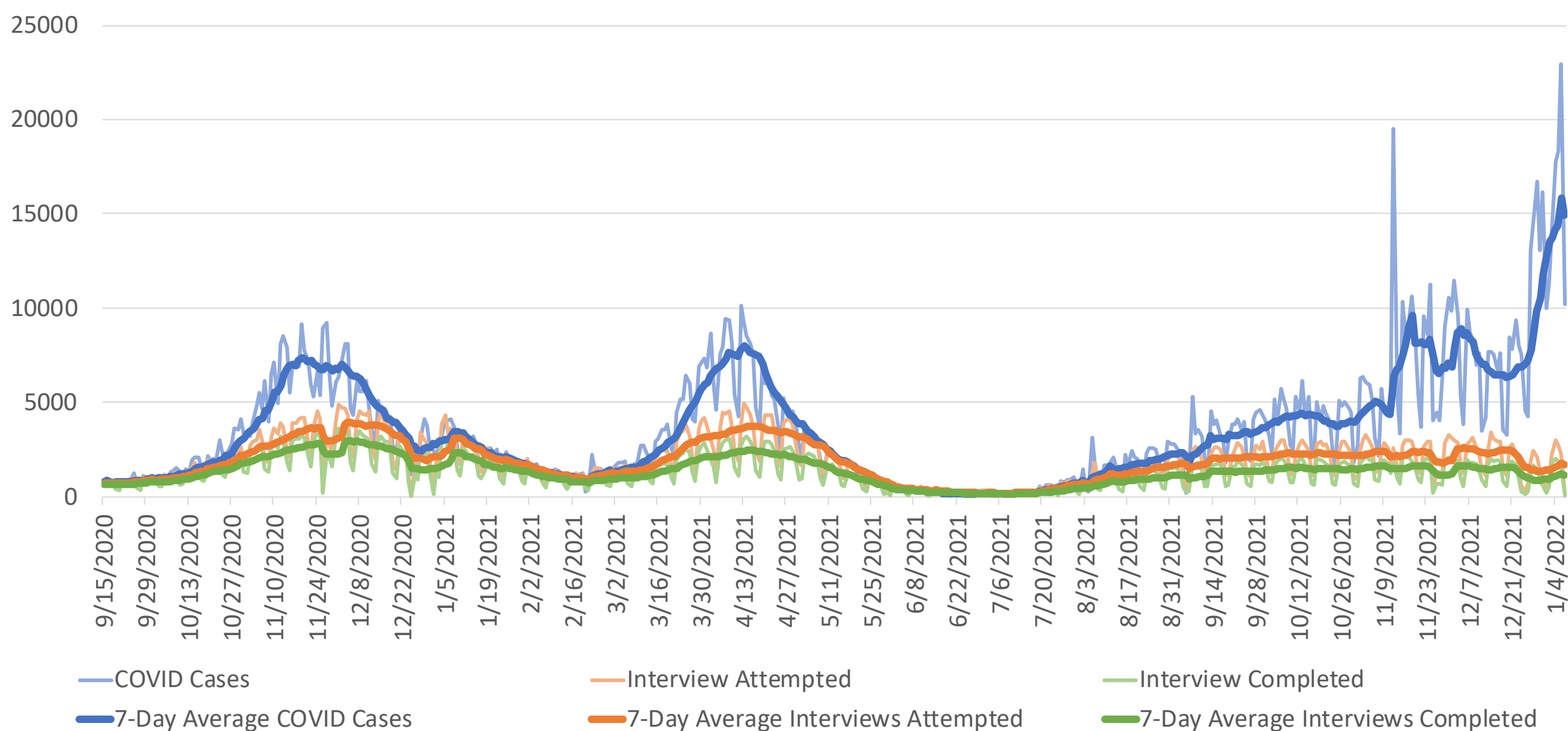
Protect Healthcare Capacity

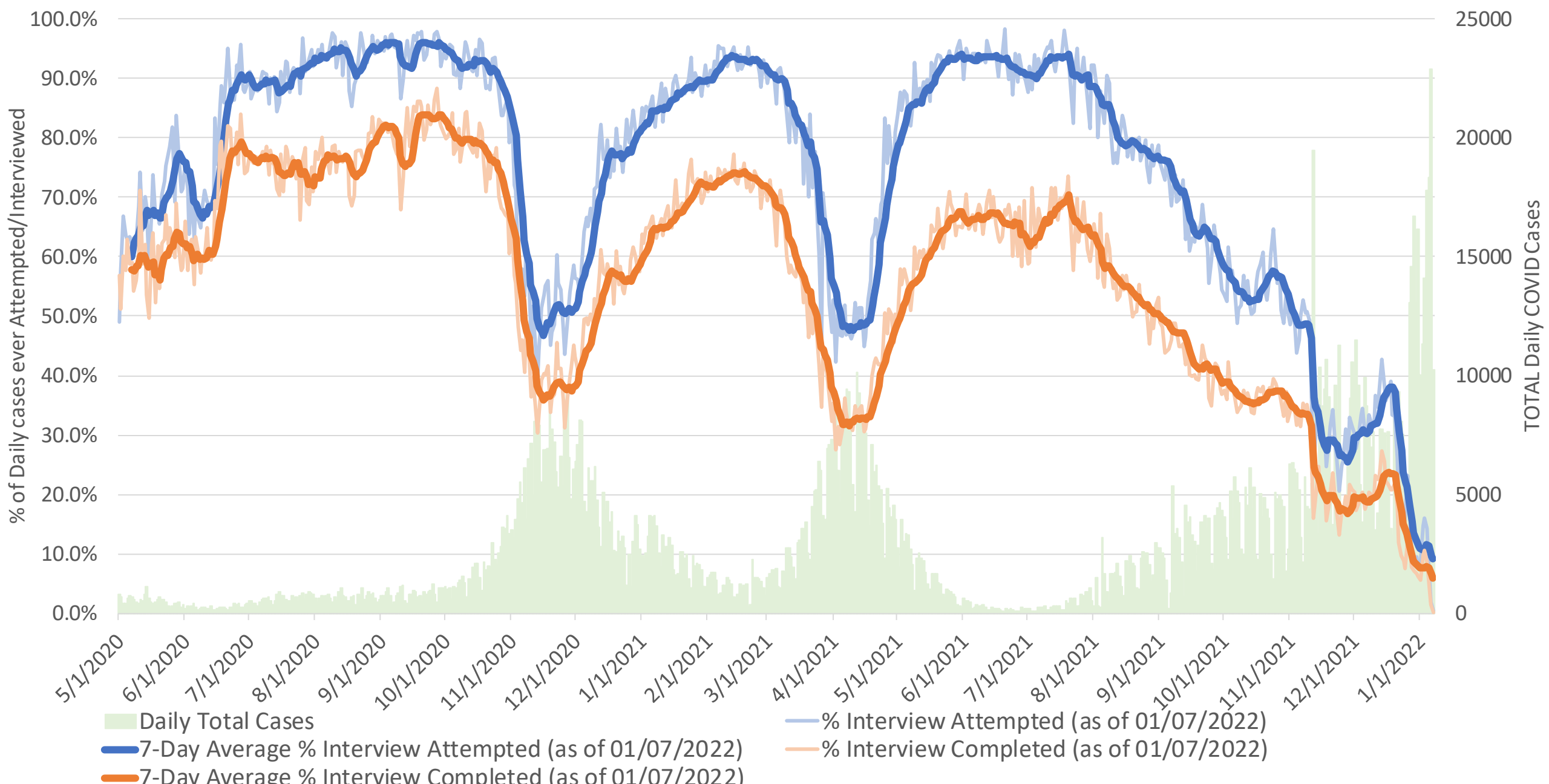
Keep Vital Infrastructure Functioning

Case Investigation and Contact Tracing

- Most cases and contacts are not being reached by public health
 - Of **362,000+** cases reported from December 2021-early January 7, 2022:
 - **4.4%** had named contacts
 - Of the named contacts only **26.7%** were reached successfully
- Therefore, it is necessary for public to take on a larger role in understanding what to do if feeling ill, testing positive (isolation and contact notification), or if being notified as a contact (quarantine)
- Public Health capacity shifts to investigation and mitigation of COVID-19 outbreaks in priority settings like schools and long-term care facilities
 - COVID-19 cases reported to MDHHS will be notified of their result and provided information and education on COVID-19 infection
- Public can call the MDHHS COVID-19 Hotline at 888-535-6136 to discuss their test result or get information on isolation/quarantine

Daily Confirmed + Probable COVID Cases, Interview Attempts, and Interview Completion Volume





Public Guidance

- Updated Materials
 - What to do if testing positive for COVID-19?
 - What to do if waiting for test results?
 - What to do if exposed to COVID-19?
 - Best masking practices
 - What to do after an at home test result?
- Coming Soon
 - What does it mean to be up to date on vaccine
 - Isolation and quarantine timeline/calendar

The public can call the MDHHS COVID-19 Hotline at 888-535-6136 to discuss their test result or isolation/quarantine

Current Trends and Projections

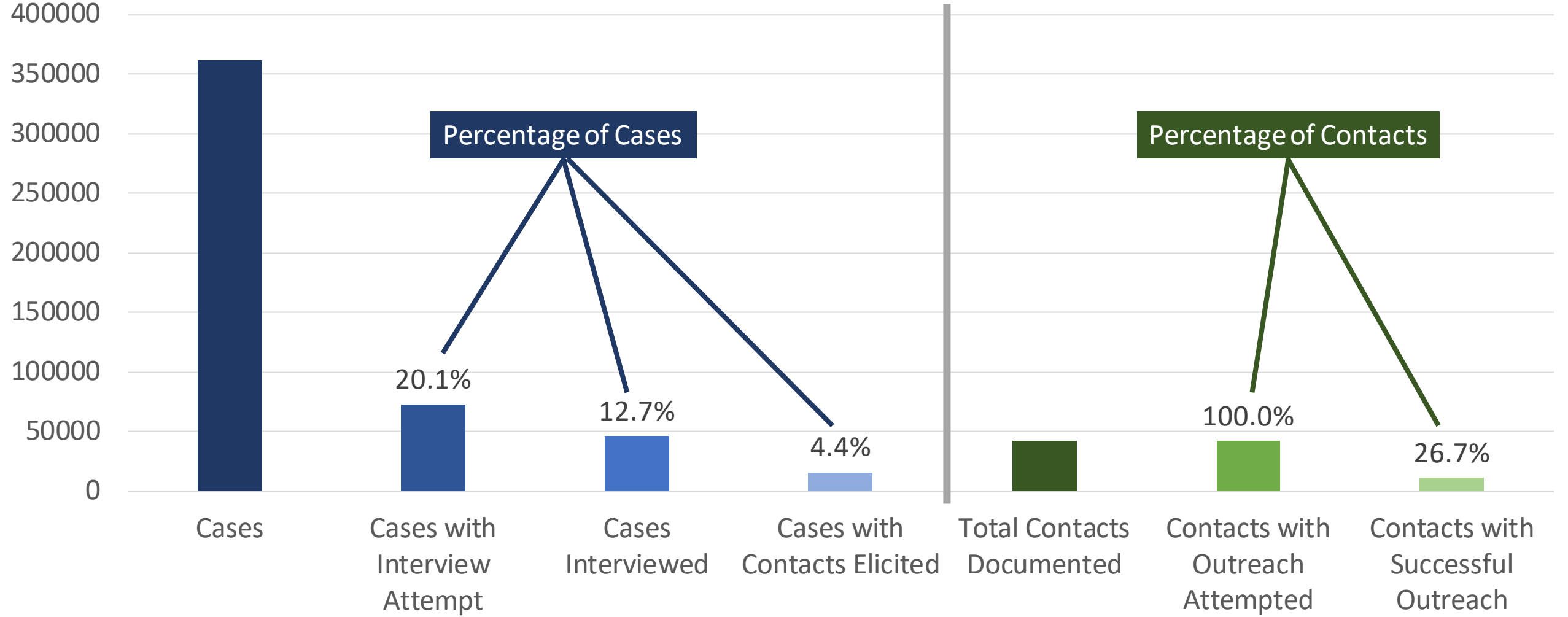
Prevent Death and Severe Outcomes

Protect Healthcare Capacity

Keep Vital Infrastructure Functioning

Case Investigation and Contact Tracing (December-January 7th)

Case Investigation and Contact Tracing Metrics Dec 2021 - Jan 2022



Schools and Contact Tracing

- MDHHS K-12 guidance to have staff and students remain in the classroom if exposed to COVID-19 is predicated on the ability to identify students and staff exposed to COVID-19 in the **school setting** (i.e. contact tracing)

The change in public health approach to case investigation and contact tracing, in no way modifies school reporting requirements or the school's responsibility to notify exposed persons/guardians of an exposure to a communicable disease in the school setting

School Quarantine Guidance

What to do when students or staff are exposed to COVID-19 in a school setting, **but do not have symptoms.**

Students and staff experiencing symptoms should not attend school activities.

MDHHS
Michigan Department of Health & Human Services
Michigan.gov/Coronavirus

Students and staff should monitor for symptoms throughout quarantine period (days 1-10). If symptoms develop, test immediately. Day "0" is day of last close contact with a COVID-19 positive student, teacher or staff.

Actions to Take	
Up to Date on Vaccines No Need to Quarantine	Students and staff without symptoms do not need to quarantine. They should monitor for symptoms and wear a well-fitted mask for 10 days.
Not Up to Date on Vaccines Need to Quarantine	Home quarantine for days 1-5 and test on day 5; and "Mask to Stay"* for days 6-10.
	OR
	"Test to Stay"** for days 1-6 AND "Mask to Stay"* for days 1-10.
	OR
	Home quarantine for days 1-10 if unable/unwilling to mask.

*Mask to Stay: The consistent and correct use of a well-fitting mask when around others in school and public places
**Test to Stay: Test every other day for six days following the exposure and consistent and correct use of a mask

Students and staff who test positive for COVID-19 should not attend school and should isolate at home for five full days after symptom onset (or five days after the positive test if they do not have symptoms). They may return to school on day six if they have no symptoms and can wear a mask for five additional days.

MDHHS continues to recommend universal masking in all K-12 school settings.

Updates to the Contain COVID Webpage

Michigan.gov

FAQ ALTERNATE LANGUAGES HOME MDHHS SEARCH

Coronavirus

MI SAFE START CONTAIN COVID RESOURCES PRESS RELEASES DONATE VIDEO UPDATES

CORONAVIRUS / CONTAIN COVID

What Happens When You Have Or Are Exposed To COVID-19?

If you test positive for COVID-19 or if you are exposed, you may receive a call or letter from your local health department case investigators and contact tracers or MDHHS contact tracers (MI COVID HELP or 866-806-3447) with directions.

Even if you do not receive a call or letter right away, it is important that you immediately take steps to get the care you need and avoid giving COVID-19 to people around you.

I AM:

EXPOSED TO COVID-19 WAITING FOR A COVID-19 RESULT POSITIVE FOR COVID-19

The public can call the MDHHS COVID-19 Hotline at 888-535-6136 to discuss their test result or isolation/quarantine

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Have you been exposed to COVID-19?*

If you are unvaccinated, **OR** not fully vaccinated **OR** not boosted (if eligible),



Get tested on day five after your exposure, even if you don't have symptoms. If symptoms develop after day five, test again.



Stay home and away from others in your home for five days from your last contact with a COVID+ person. Continue to wear a well-fitting mask that covers your nose and mouth around others for an additional five days. Even if you don't get a contact tracing call from the health department, quarantining and mask wearing is important to avoid infecting others.



Watch for fever (100.4 °F), cough, shortness of breath, or other symptoms of COVID-19.



Wear well-fitting mask that covers your nose and mouth anytime you are around other people, even in your home.

If you are fully vaccinated* **AND** boosted (if eligible), **OR** if you tested positive for COVID-19 in the last 90 days,



You do **NOT** need to quarantine unless you have symptoms.



Get tested on day five after your exposure, even if you don't have symptoms. If symptoms develop after day five, test again.



Wear a well-fitting mask that covers your nose and mouth around others for 10 days. Even if you don't get a contact tracing call from the health department, mask wearing is important to avoid infecting others.



* People who received two Pfizer and Moderna vaccines within the last five months or one J&J vaccine within the last two months.

School and health care quarantine guidelines and requirements may be different.

Visit Michigan.gov/Coronavirus for information.

For questions, contact your local health department, dial 211 or call the COVID-19 Hotline at 888-535-6136.



Testing Framework

- Emphasis and maintenance of capacity to perform PCR testing in traditional healthcare/laboratory settings
- MDHHS supported distribution of administered rapid antigen tests to high priority settings (e.g. schools, long term care, corrections, [neighborhood and community pop-up sites](#), etc.)
- MDHHS support for expanded distribution of At-Home or Over-the-Counter (OTC) tests through select venues (schools, community action agencies, libraries)
- Federal distribution of OTC Tests started January 18th : <https://www.covidtests.gov/>



COVID-19 PCR Testing at an All-Time High

Daily COVID-19 Nucleic Acid Amplification Tests (NAATs) Performed in Michigan Reported to CDC



Michigan

New Tests Performed: 52,212

7-day Moving Avg Tests: 73,778

Date: January 16, 2022

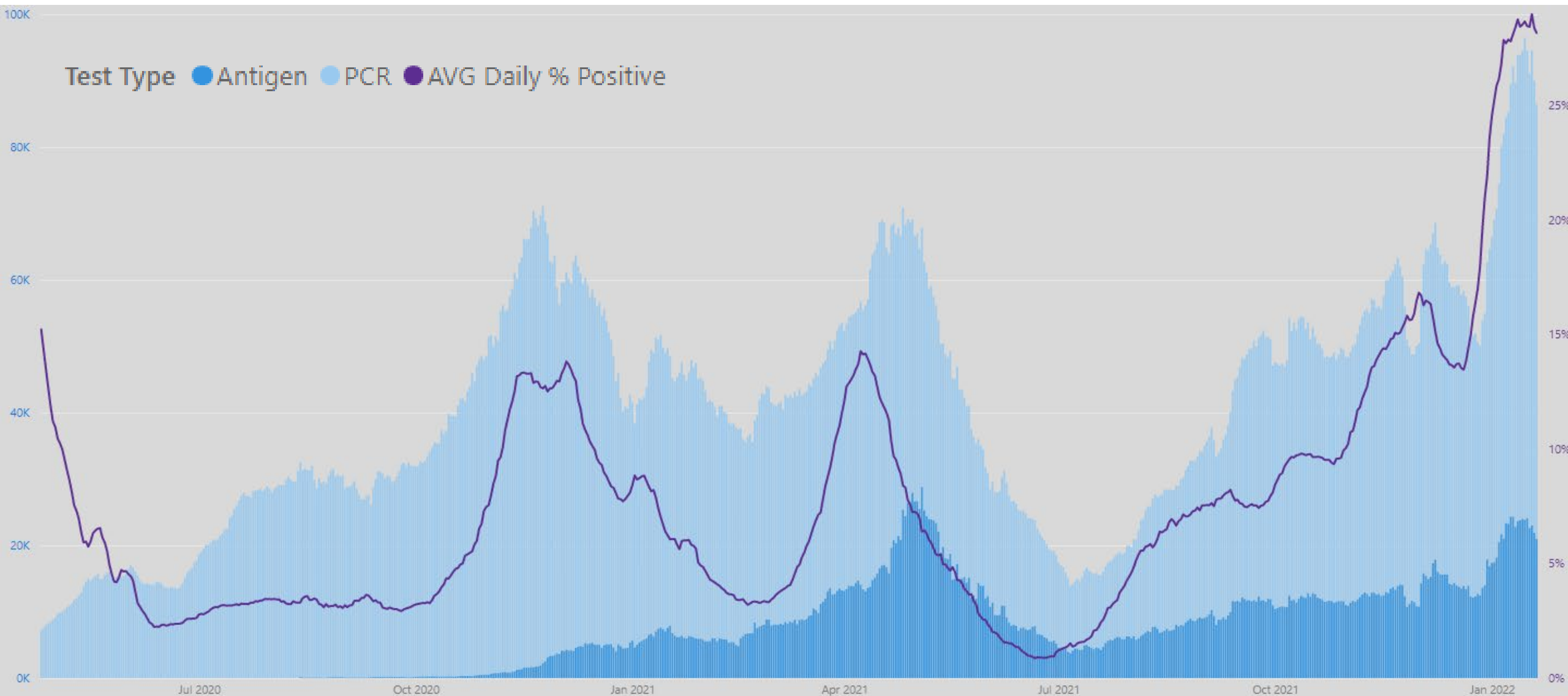
Current Trends and Projections

Prevent Death and Severe Outcomes

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Keep Vital Infrastructure Functioning

COVID-19 Test Type, Volume, and Positivity



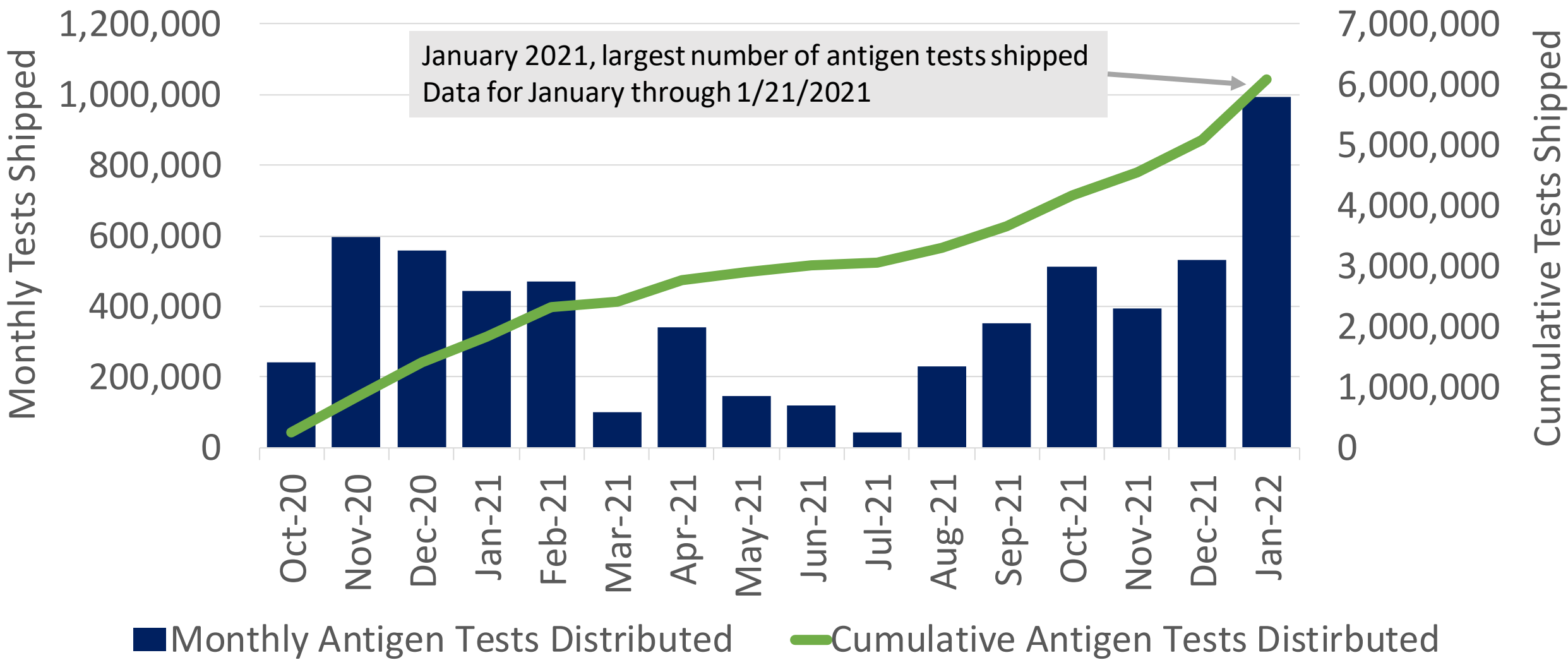
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MDHHS Antigen Test Distribution October 2020 - Present

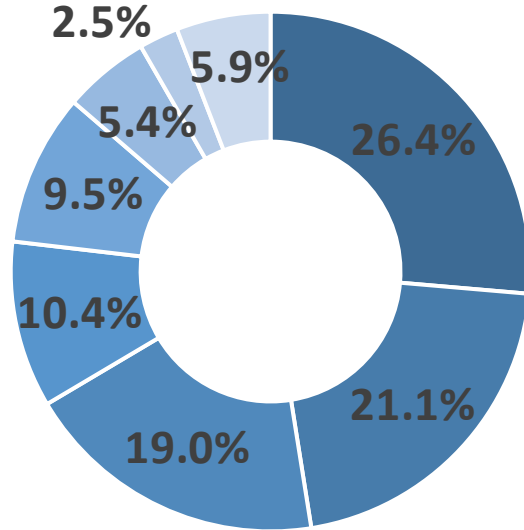


*Excludes tests shipped for Spring 2021 School Sports Testing Mandate



MDHHS Distribution of Antigen Tests October 2020-Present

MDHHS Antigen Test Distribution October 2020 - Current



- Long Term Care
- Spring School Sports Mandate
- Local Health Department
- MI Backpack Program
- Schools
- MI Department of Corrections
- Psych Hospitals
- Other

Other: FQHCs, Jails, Migrant Workers, Camps, Community Action Agencies, Libraries, Shelters, Juvenile Justice Facilities

Project/Facility/Venue	Total Tests Shipped	% of All Tests Shipped
Long Term Care	1,881,420	26.4%
Schools	1,507,102	21.1%
Spring School Sports Mandate	1,355,390	19.0%
MI Department of Corrections	740,035	10.4%
Local Health Departments	674,665	9.5%
Psych Hospitals	383,160	5.4%
MI Backpack Program	174,870	2.5%
Other	418,850	5.9%
TOTAL	7,135,492	100%



Testing Resources in Michigan

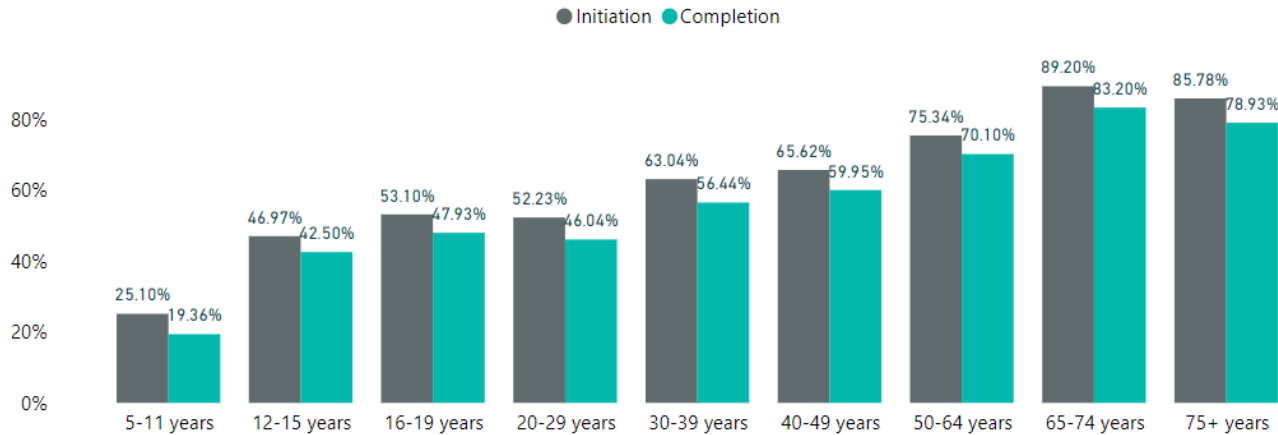
Testing Options:

- Identify a testing location near you using the [Solv website](#)
- Identify an MDHHS supported [Point of Entry/Welcome Center/Airport Testing site, or Neighborhood or Community popup testing site](#)
- [MI Safe Schools Testing program](#) – for schools to administer tests on site for students and staff to ‘test to stay’
 - Schools can order tests through the [Mi Safer Schools: School Antigen COVID Test Ordering form](#)
- MI Backpack Home Test Program – schools can sign up to be distributed ‘At Home’ or ‘Over-the-Counter’ Tests for students to take home for personal use
 - Schools can express interest here: <https://forms.office.com/g/is9FYDMRzn>
- More to come as Michigan sustains and expands At Home Test [distribution through Michigan Libraries](#)
- Order free at home tests through the federal government: <https://www.covidtests.gov/>

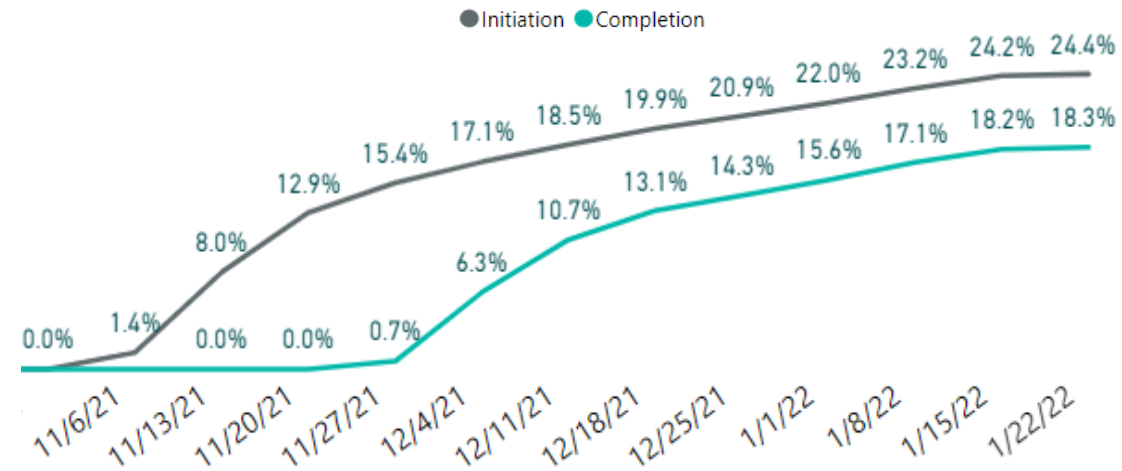
Vaccinations and Boosters

- Over 14.6 million COVID-19 vaccine doses have been administered in Michigan
 - Over 6.5 million Michiganders have received at least one dose (65%)
 - Nearly 5.8 million Michiganders have completed a primary series (58%)
 - Over 2.75 million additional/booster doses have been administered in Michigan
 - 47.5% of the fully vaccinated population has received a booster
 - 71.4% 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

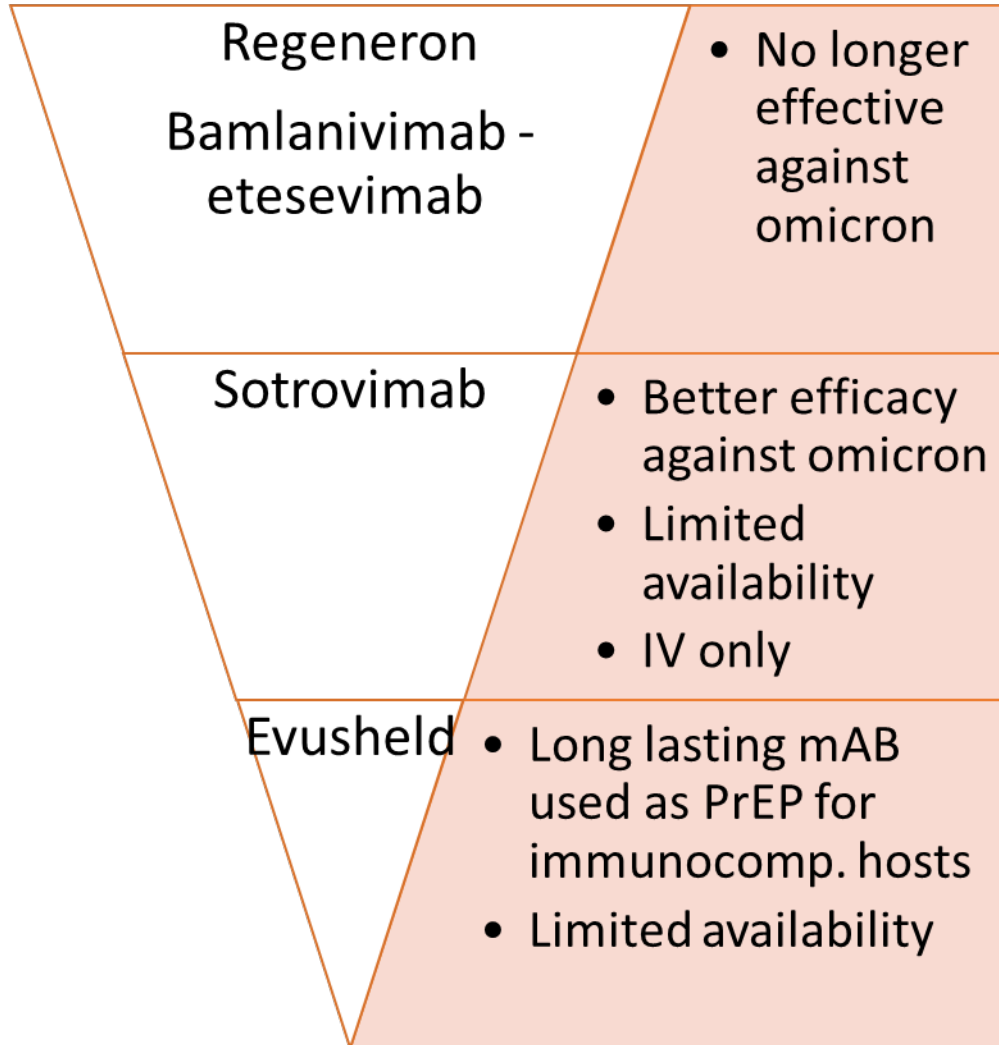
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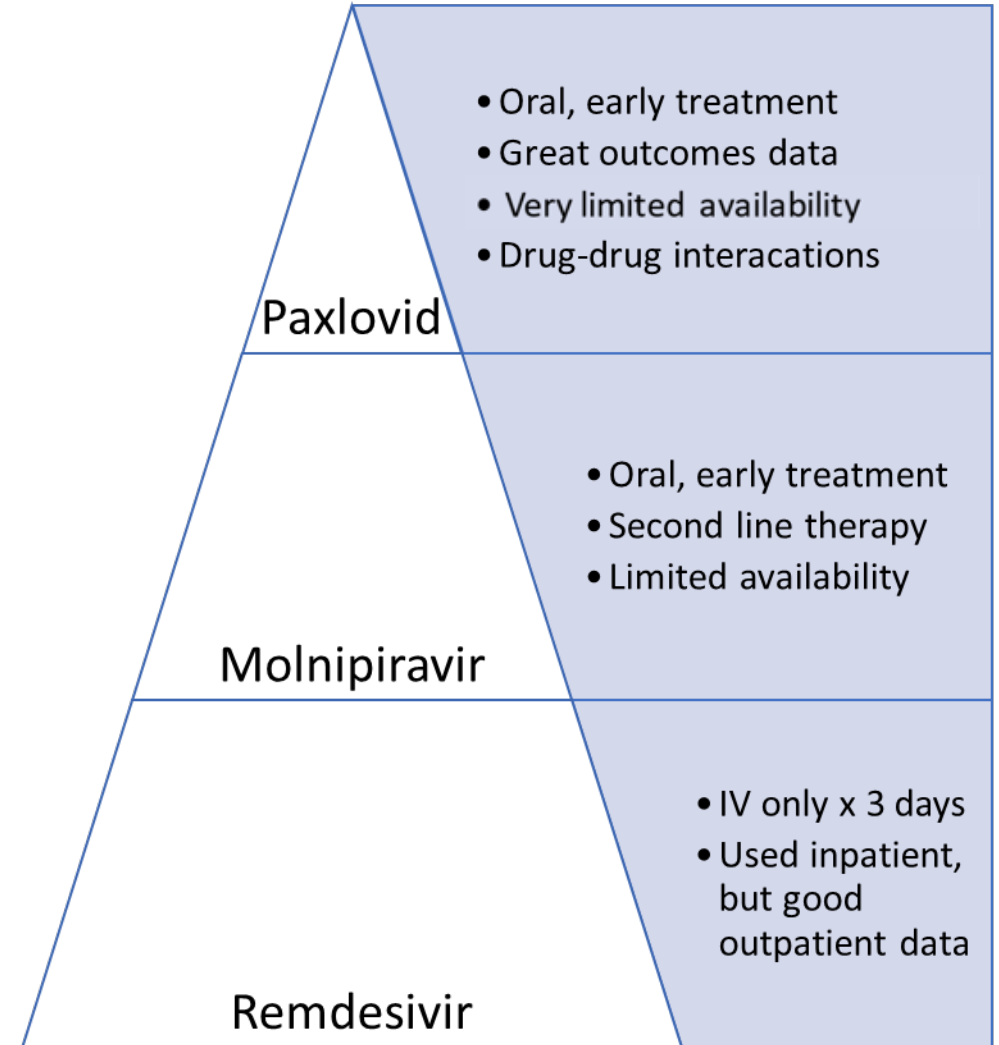
Keep Vital Infrastructure Functioning

Therapeutics

Antibodies



Antivirals



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

