MI COVID response

Data and modeling update

December 21, 2021

Executive Summary

Michigan remains at <u>High Transmission</u>

Percent positivity (16.2%) is decreasing for 2 weeks (last week: 16.9%)

Case rate (477.3 cases/million) is decreasing for 17 days (593.0 cases/million prior week)

In the last 7 days, Michigan reported the 5th **most cases** (last week's rank: 3rd highest) and the 12th highest **case rate** (last week: 6th highest)

Cases among pediatric populations < 12 years have decreased 19% since last week

Percent of inpatient beds occupied by individuals with COVID (20.8%) is decreasing for 1 week (last week 22.4%)

In the last 7 days, no other state or territory has reported a higher inpatient bed utilization than Michigan (last week: highest) and 5th highest adult ICU bed utilization (2nd highest last week)

Daily pediatric hospital census have plateaued but remain near 2021 highs

Death rate (9.5 deaths/million) is decreasing for one week (9.7 last week). There were 659 COVID deaths between Dec 7-Dec 13

Michigan has the 6th most deaths (6th highest last week), and T16th highest death rate (16th highest last week) in the last 7 days

7-day average **state testing rate** is 4367.2 tests/million/day. **Daily diagnostic tests (PCR)** is 43.5K per day, and the weekly average for PCR and antigen tests conducted in Michigan is 54.7K.

Nearly 13.7 million **COVID-19 vaccine** doses administered, 56.3% of the population is fully vaccinated (5.6 million people)

164,118 initial dose administrations in 5- to 11-year-olds as of 12/20

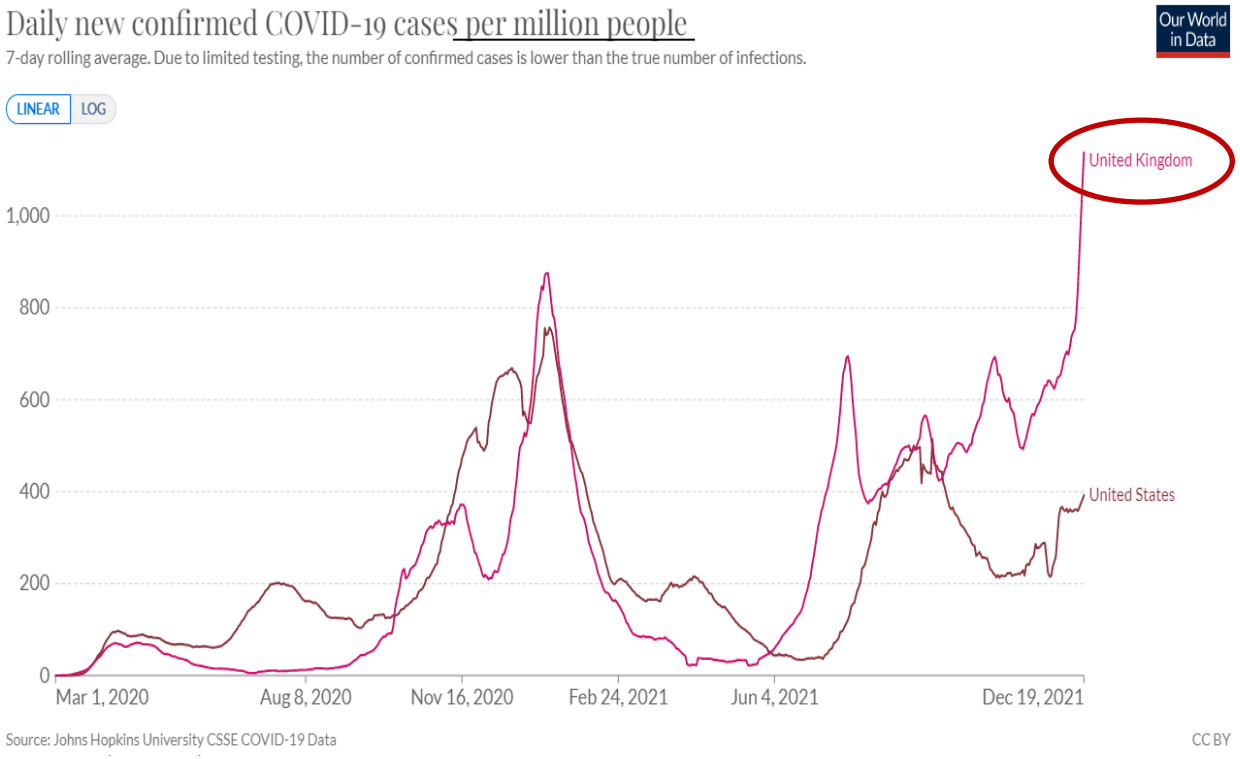
Year in Numbers

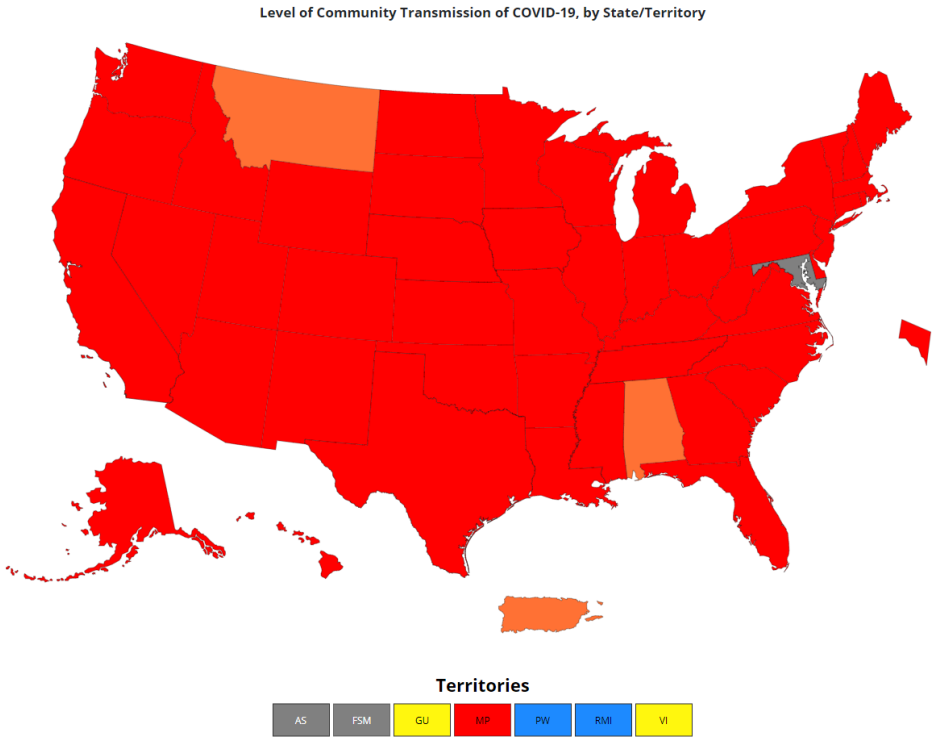
In 2021, Nearly 1 in every 10 Michiganders were reported with COVID-19, and more than 1 in every 1,000 Michiganders died from COVID-19

Public Health responded with over 13.6 million COVID vaccines administrated, 4.6 million rapid antigen tests distributed, and $275 million allocated to local health departments to support COVID-19 efforts

Global, National and Michigan Trends

Global and National Trends





Globally, 274,840,959 cases and 5,356,978 deaths (Data* through 12/20/2021)

- European case rates recently plateaued but are levels of ≥500 cases/million; & cases in many European countries are increasing rapidly with Omicron variant

United States: Nearly all US jurisdictions have High or Substantial community transmission¶

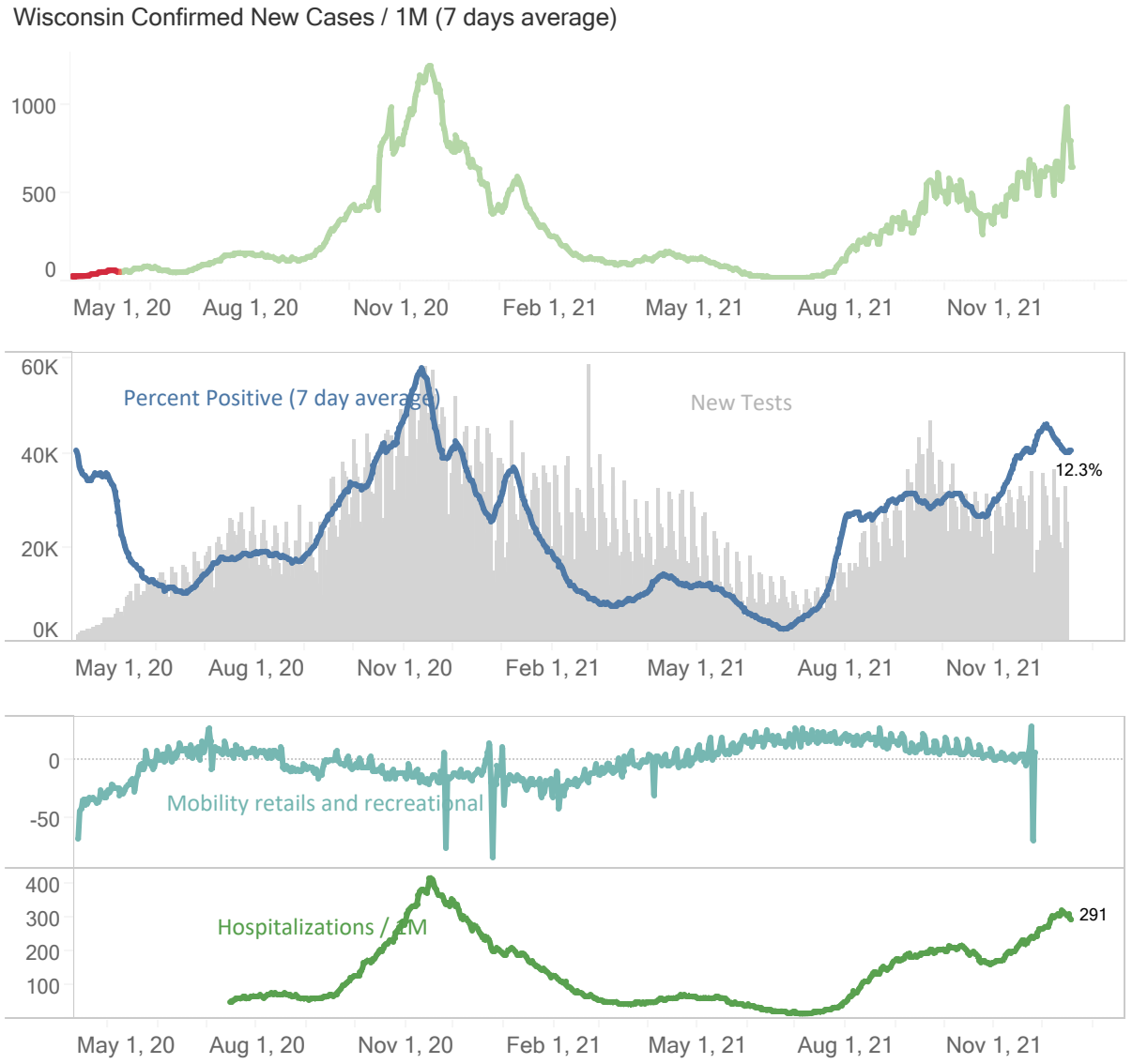
- The U.S. is at High transmission level (265.2 cases/100,000 in last 7 days)

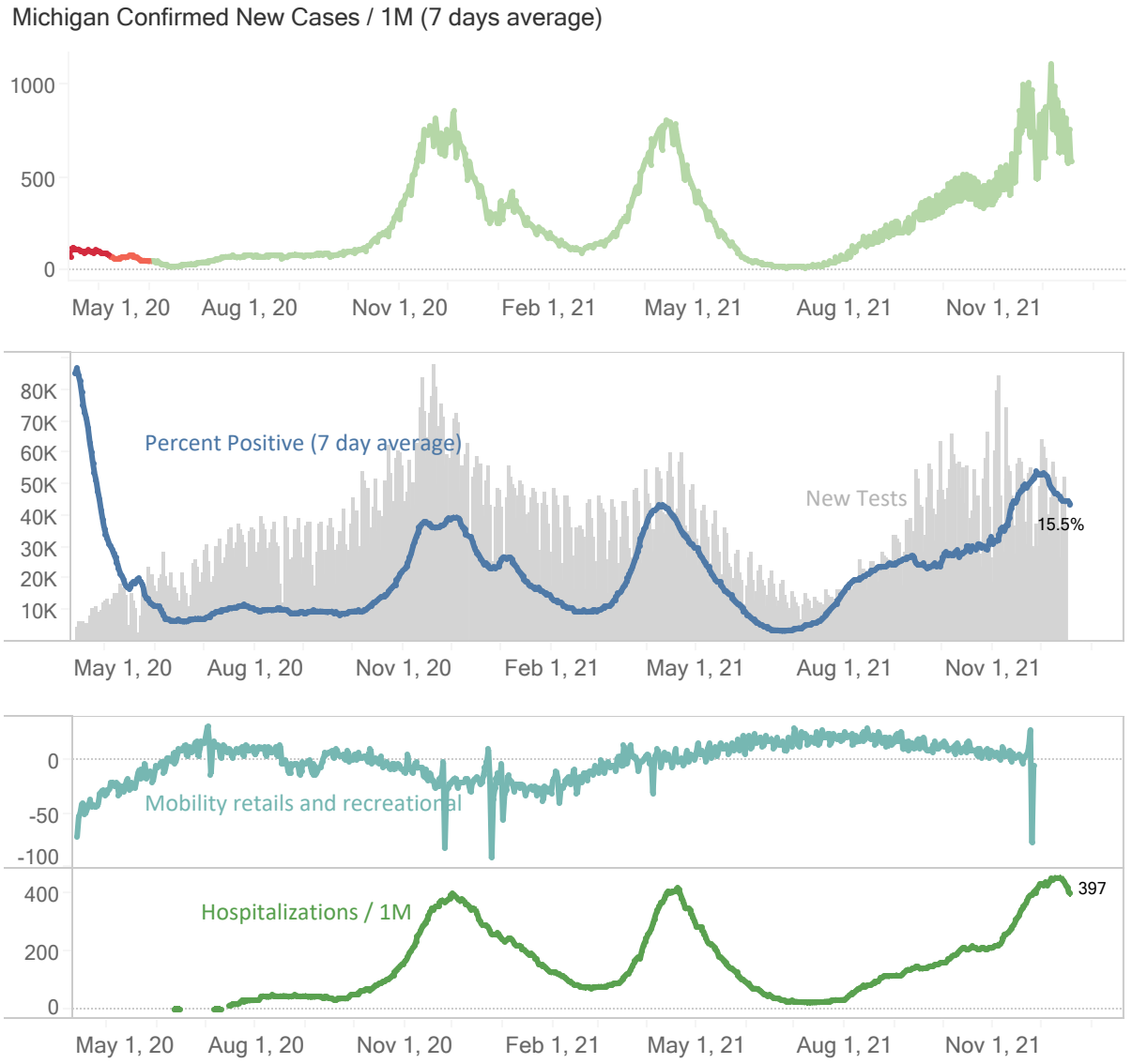
Midwest states maintain High transmission levels† and are increasing

- Wisconsin and Ohio have the highest case rates *in Midwest* Michigan is 4th highest in the Midwest

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

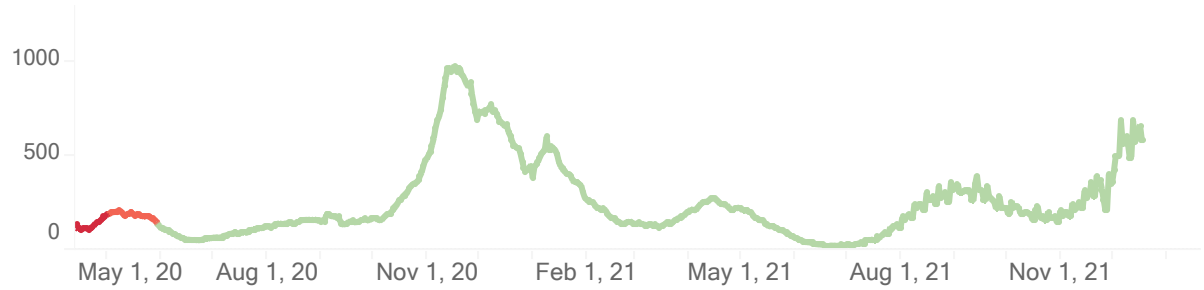
State Comparisons: Wisconsin and Michigan

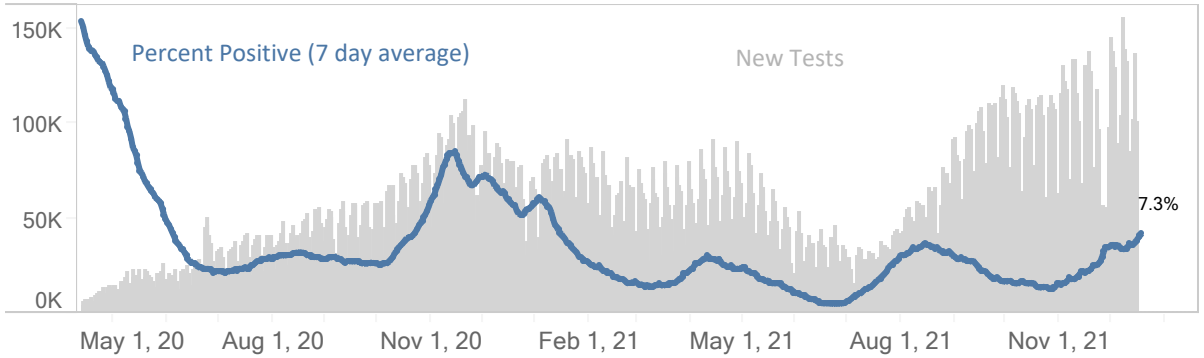


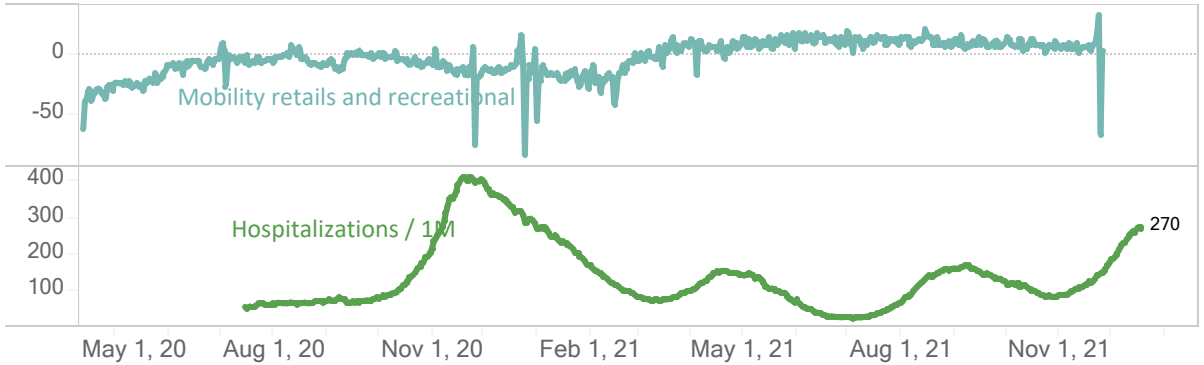


State Comparisons: Illinois and Minnesota

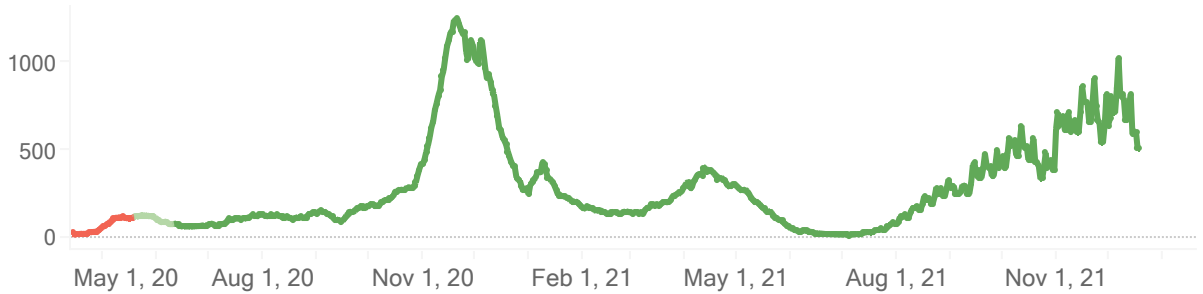
Illinois Confirmed New Cases / 1M (7 days average)

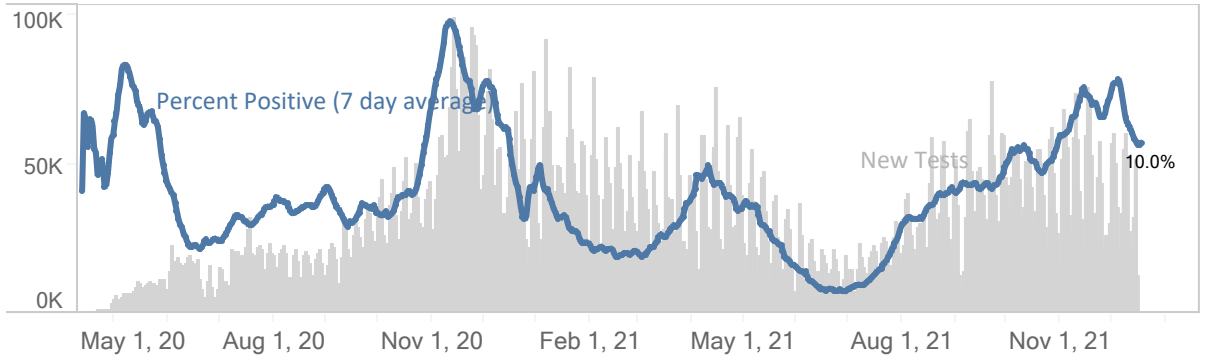


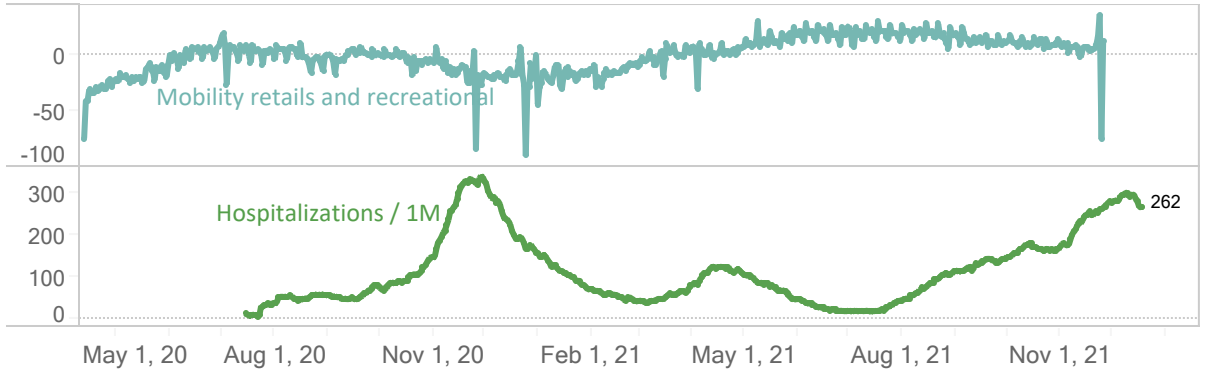




Minnesota Confirmed New Cases / 1M (7 days average)

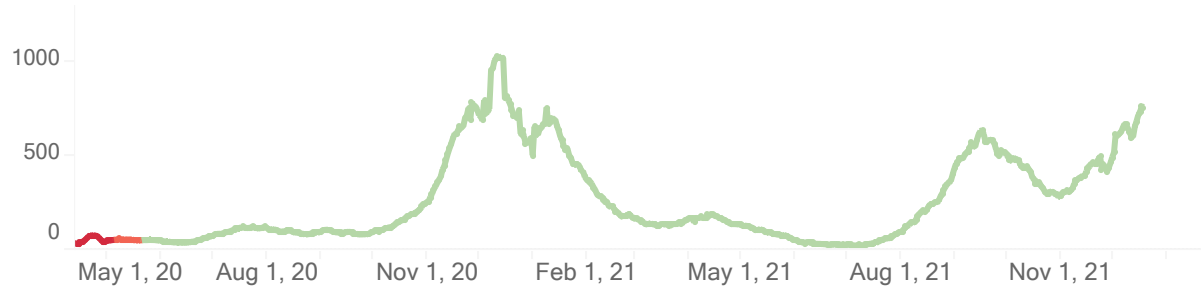




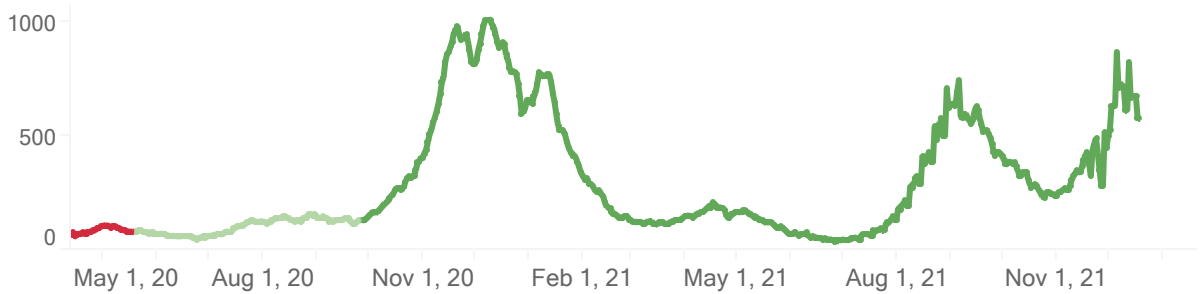


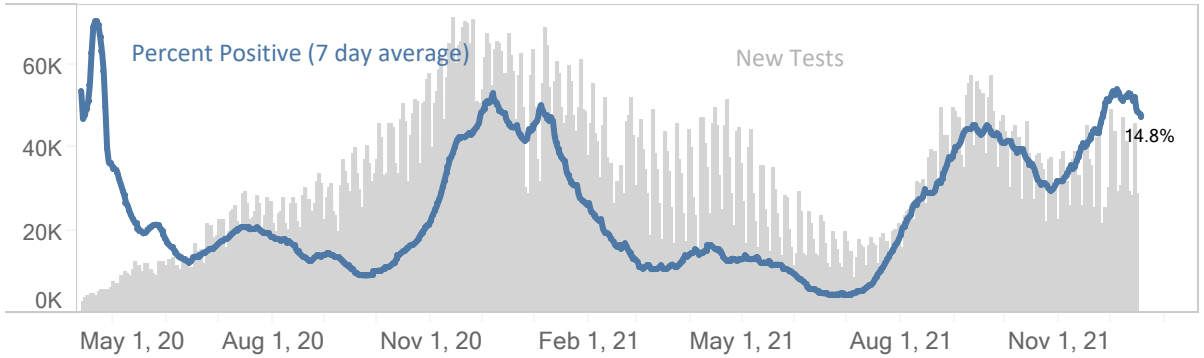
State Comparisons: Ohio and Indiana

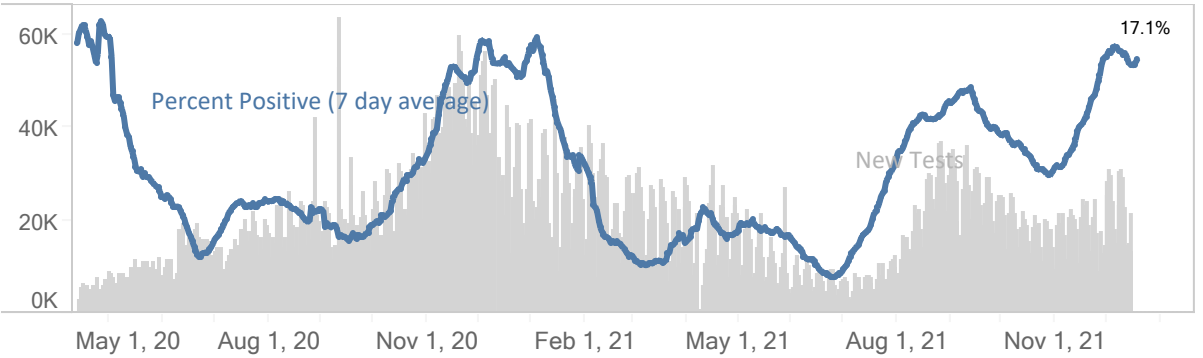
Ohio Confirmed New Cases / 1M (7 days average)

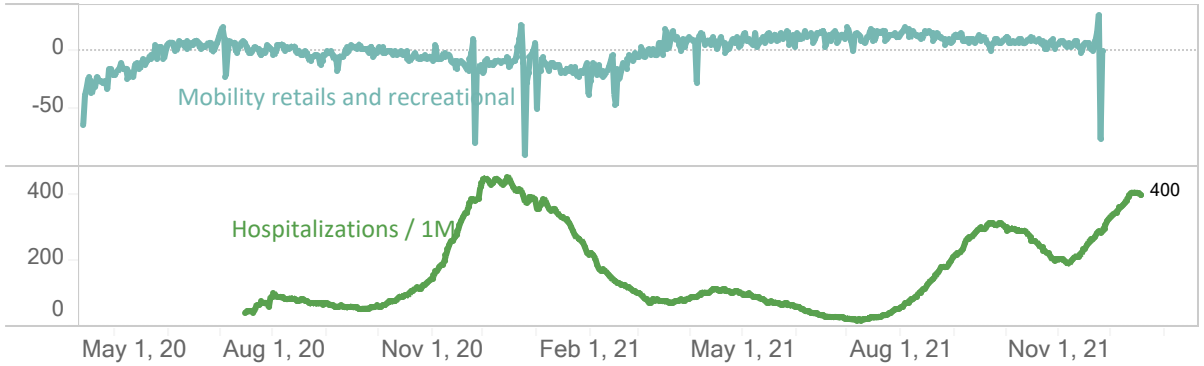


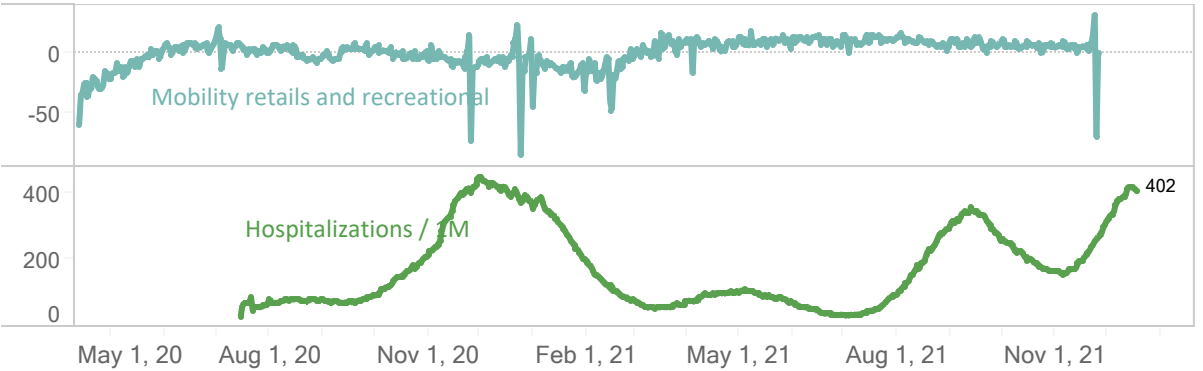
Indiana Confirmed New Cases / 1M (7 days average)











Key Messages: All COVID-19 Transmission Metrics Decreasing

Michigan continues above the High Transmission level

- Nearly all counties in Michigan are at High transmission level
- CDC recommends all individuals, regardless of vaccination status, should mask indoors

Statewide positivity is 16.2% (last week: 16.9 %)

- The trend is decreasing for 2 weeks and within all MERC regions

Case rate is 477.3 cases/million (last week: 593.0 cases/million):

- The trend is decreasing for 17 days but is expected to increase after holidays with Omicron
- Cases per million are decreasing among all age groups

Cases and outbreaks saw decreases in school and the long-term care setting

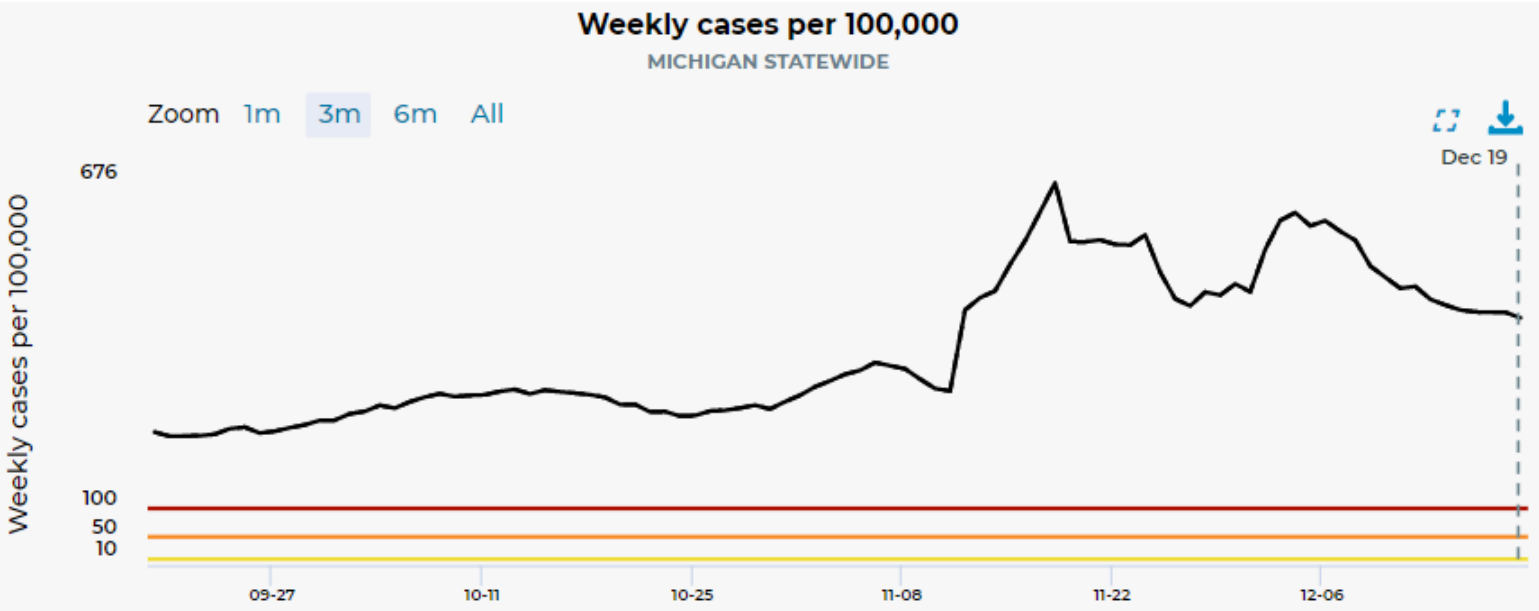
- Within the K-12 setting, the most cases and outbreaks continue to be in pre-kindergarten and elementary schools
- Case counts in LTCF have more staff case count than residents case count, week over week

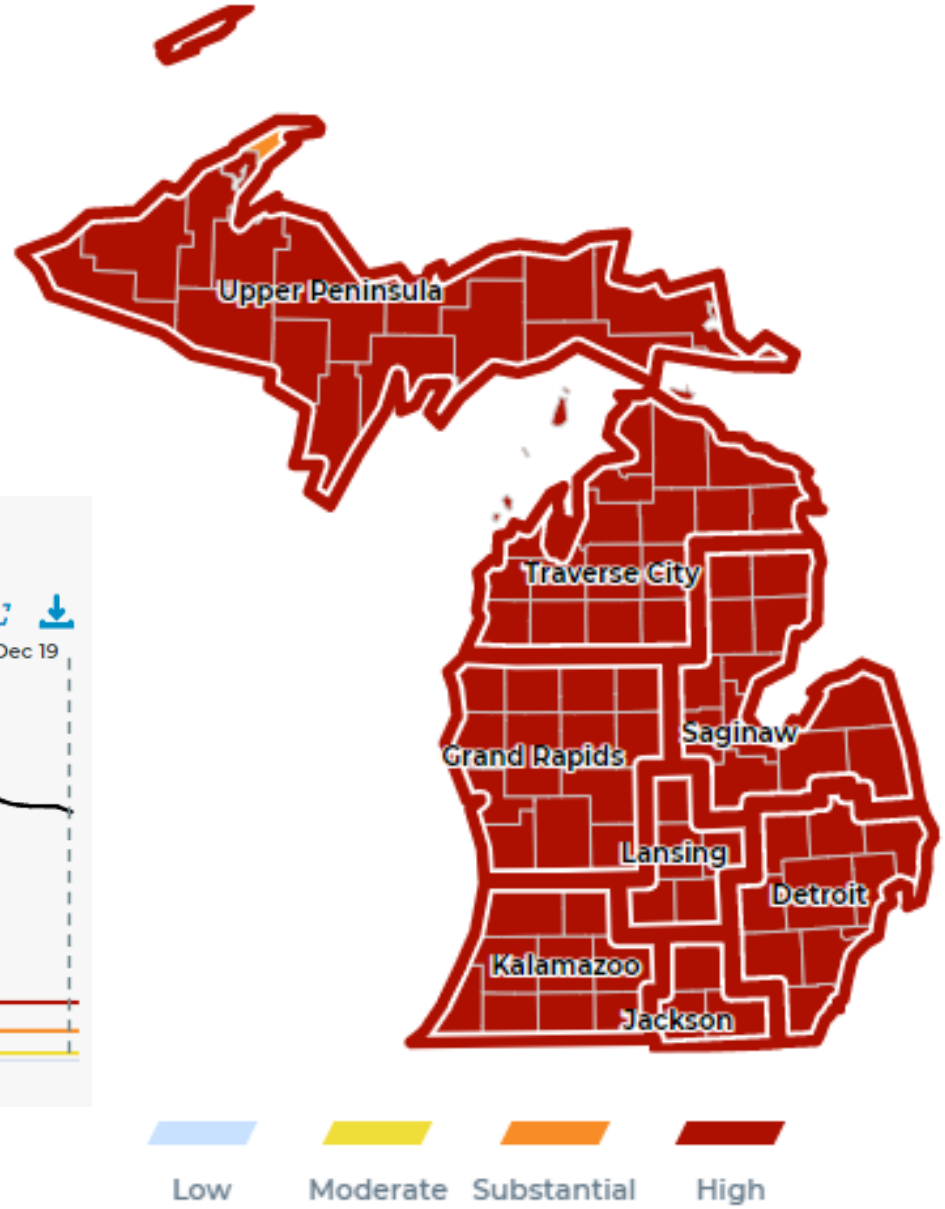
Breakthrough

- Approximately 2.0% of people who were fully vaccinated have been reported with a breakthrough infection
- Unvaccinated persons in Michigan had 4.3 times the risk of testing positive for COVID-19 and 13.2 times the risk of dying from COVID-19 compared to fully vaccinated persons

Michigan continuing to experience high daily case count during the pandemic

[Dashboard | CDC | MI Start Map](#) for most recent data by reporting date





- Referrals declining since December 4

Confirmed and probable case indicators

Table Date: 12/20/2021 (7 days from date table was produced: 12/13/2021)

Risk levels: Low | A | B | C | D | E

	CDC Transmission Risk Level	Absolute Cases (per million)	CDC Case Trend	Average Percent Positivity	Positivity Trend	Tests (per million)	% IP Beds Occupied by COVID-19 Cases	% Occupied IP Beds Trend	Absolute Deaths (per million)	Death Trend
Detroit	High	493.5	decline [13 days]	15.4	Decrease - 2wk	5065.0	20.1	Increase - 22wk	9.1	Increase - 5wk
Grand Rapids	High	440.1	decline [24 days]	17.7	Decrease - 2wk	3706.9	24.1	Increase - 1wk	7.5	Decrease - 1wk
Kalamazoo	High	500.9	decline [17 days]	18.9	Decrease - 2wk	3483.0	23.3	Decrease - 1wk	10.4	Decrease - 1wk
Saginaw	High	491.7	decline [18 days]	18.4	Decrease - 2wk	3097.9	18.2	Decrease - 1wk	9.3	Decrease - 1wk
Lansing	High	469.9	decline [25 days]	16.0	Decrease - 2wk	3622.3	25.3	Decrease - 1wk	13.9	Increase - 2wk
Traverse City	High	417.0	decline [26 days]	15.4	Decrease - 2wk	2532.8	18.2	Decrease - 1wk	12.0	Decrease - 2wk
Jackson	High	448.1	decline [28 days]	15.6	Decrease - 4wk	3781.8	30.3	Increase - 2wk	12.2	Decrease - 1wk
Upper Peninsula	High	409.6	decline [24 days]	13.0	Decrease - 2wk	2476.2	13.0	Decrease - 1wk	8.0	<20 wkly deaths
Michigan	High	477.3	decline [17 days]	16.2	Decrease - 2wk	4367.2	20.8	Decrease - 1wk	9.5	Decrease - 1wk

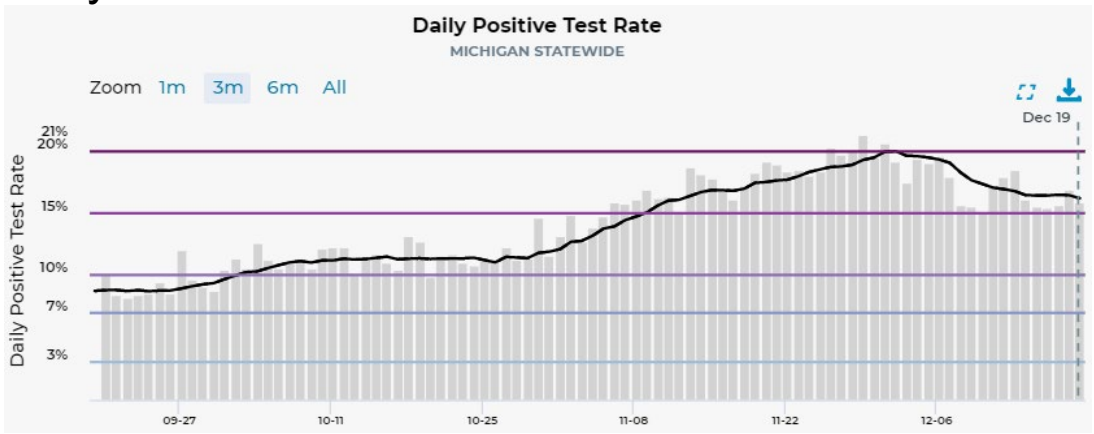
Cases: Low: <7 | A: 7-20 | B: 20-40 | C: 40-70 | D: 70-150 | E: >=150

Positivity: Low: <3% | A: 3-7% | B: 7-10% | C: 10-15% | D: 15-20% | E: >=20%

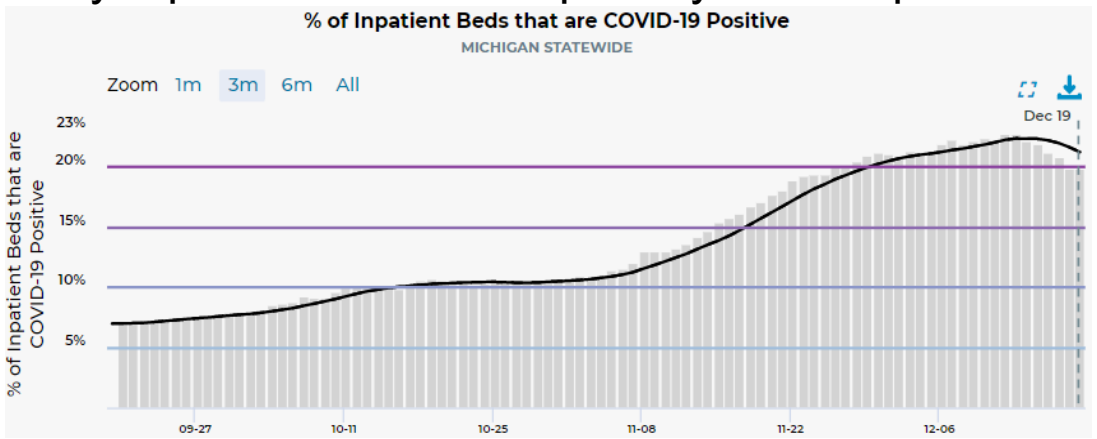
Time Trends – Positivity, Case Rates, Hospitalizations, Deaths

- COVID-19 indicators are declining, but burden remains high in MI and likely to increase with Omicron

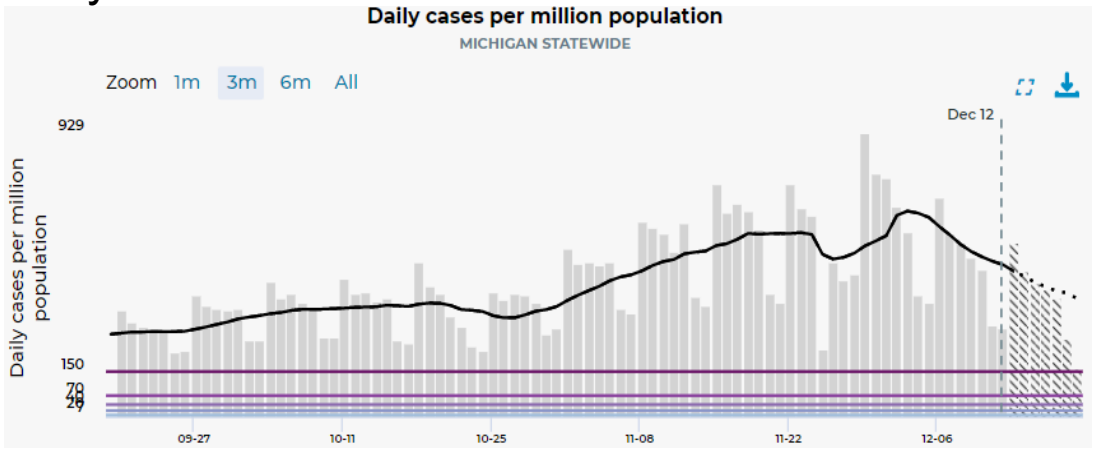
Daily Positive Test Rate



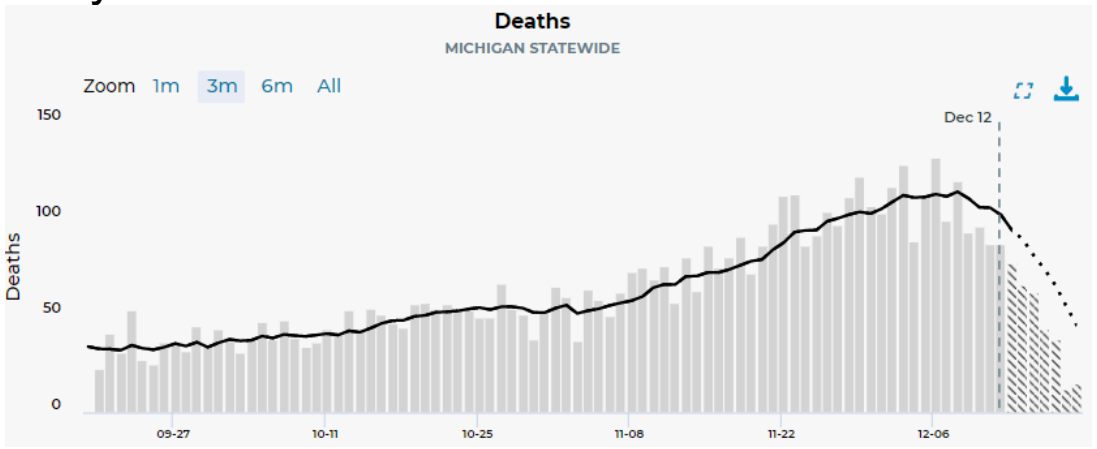
Daily Inpatient Beds Occupied by COVID patients



Daily Case Rate



Daily Deaths

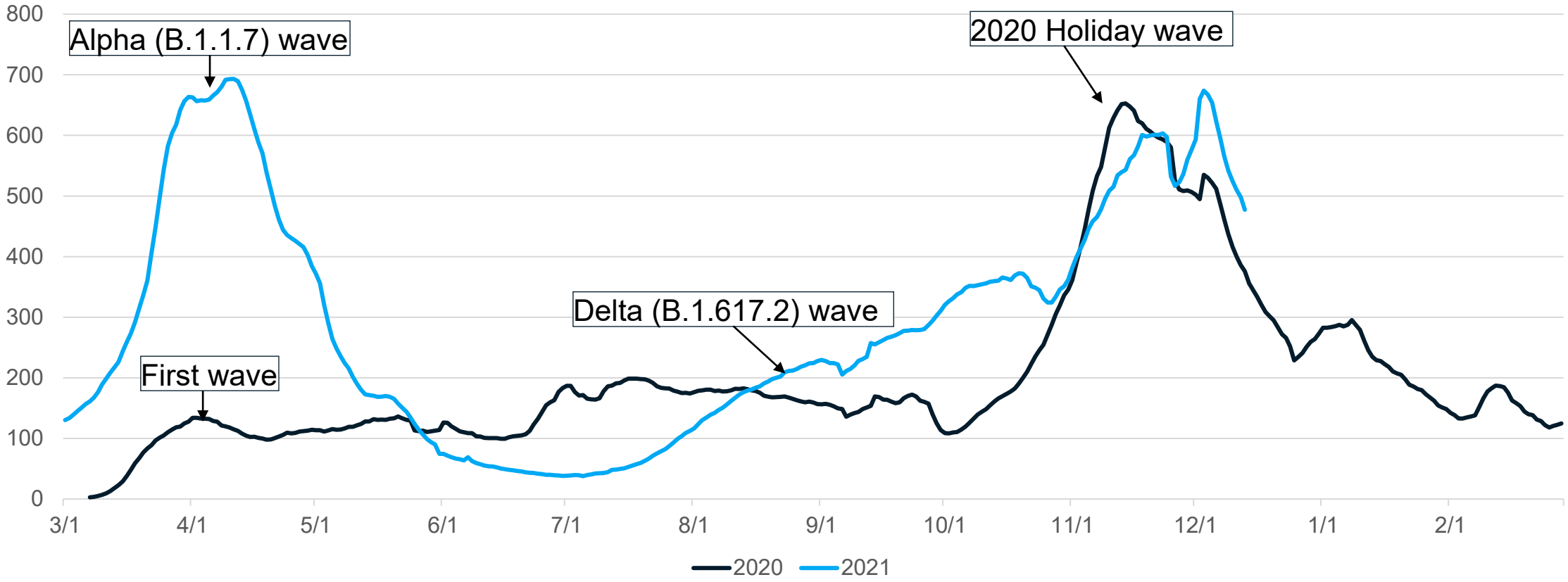


Source: Michigan Disease Surveillance System and https://www.mistartmap.info/mism-indicators

Time Trends – Annual Comparison

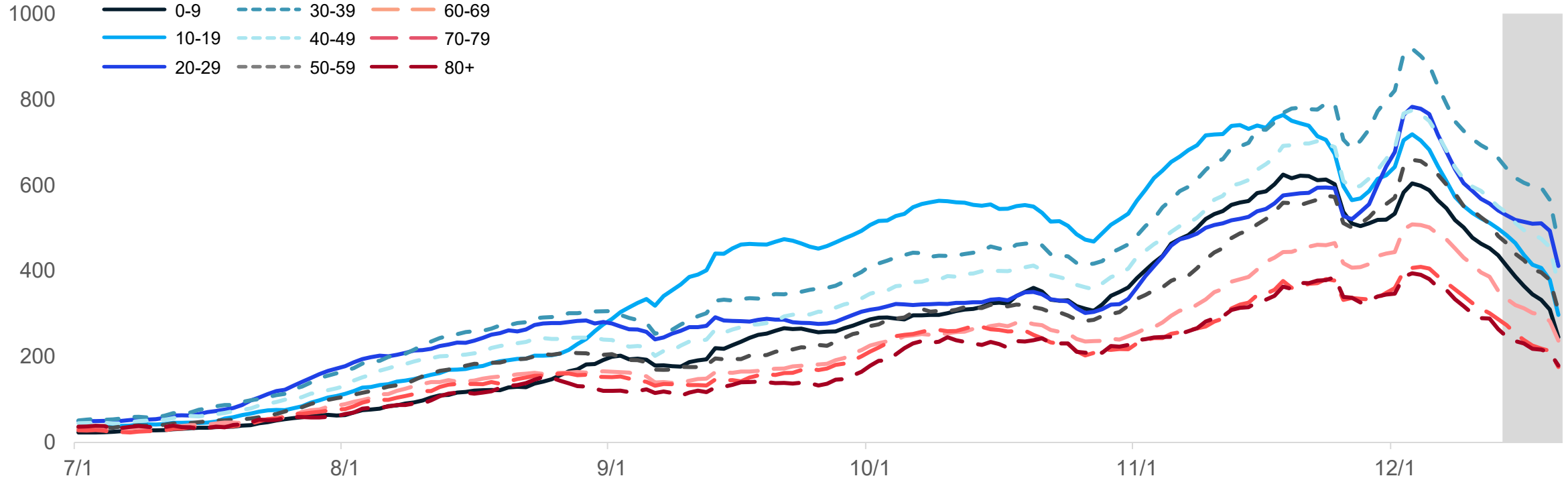
- Case rates are higher than this time last year (by onset date)
- Declines following the Thanksgiving are expected to continue for the next week or so with the upcoming holiday, but increases are expected after the holidays with spread of the Omicron variant

7- day rolling average of Rates 2020 vs 2021



Case Rate Trends by Age Group

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



- Previous case rate trends can be found in previous slide decks
- Case rate trends for all age groups saw decreases over the past week
- Case rates by onset date for all age groups are between 265 and 663 cases per million (through 12/13)
- Case counts and case rates are highest for 30-39-year-olds this week

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

Number of Cases and Case Rates by Age Group, data as of Dec 20

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

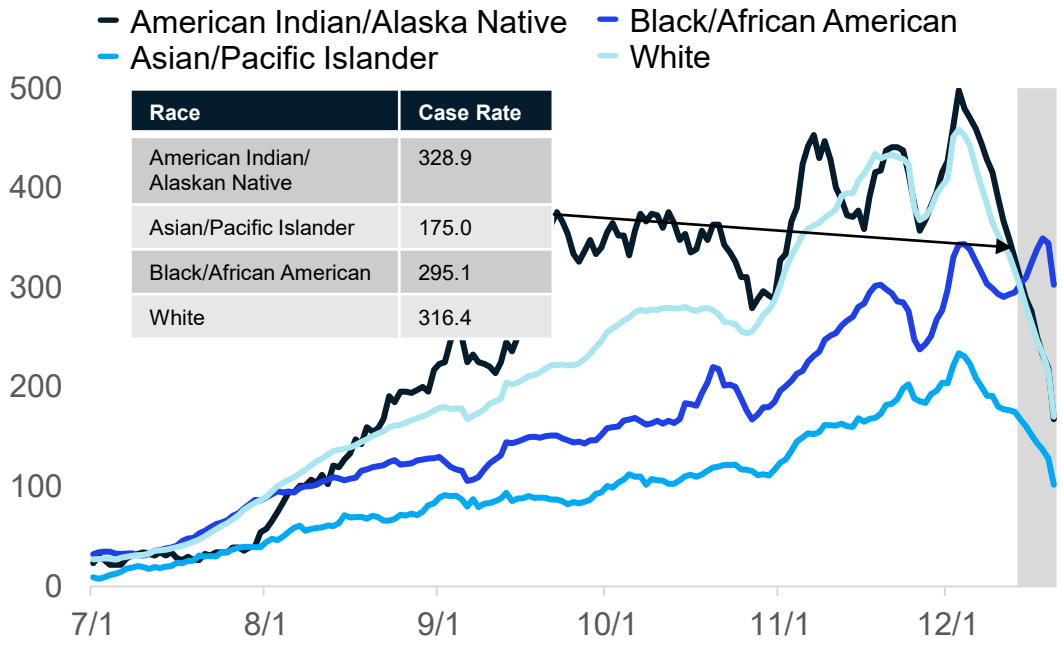
Age Group	Average† daily cases	Average† Daily Case Rate	One Week % Change (Δ #)*
0-9	503.3	436.6	-23% (-148)
10-19	625.3	**498.3**	-23% (-183)
20-29	746.3	**541.0**	-25% (-243)
30-39	**804.1**	**662.9**	-20% (-204)
40-49	648.7	**550.0**	-23% (-197)
50-59	650.4	**481.7**	-23% (-193)
60-69	451.7	354.1	-27% (-168)
70-79	220.3	287.3	-26% (-77)
80+	109.6	264.5	-27% (-40)
Total¶	**4,773.1**	**477.3**	**-23% (-1,454)**

† Rolling 7-day average; ¶ Total may not reflect state due to missing age data
Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System

- **Trend numbers and comparisons are being impacted by longer backfill times – the data in this table are comparing the two time points from the most recent data file**
- Average daily number of cases (804.1) and average daily case rate (662.9 case/mil) are highest for those aged 30-39
- Case rates for all age groups have decreased ≥20% between the weeks of Dec 6 and Dec 13.

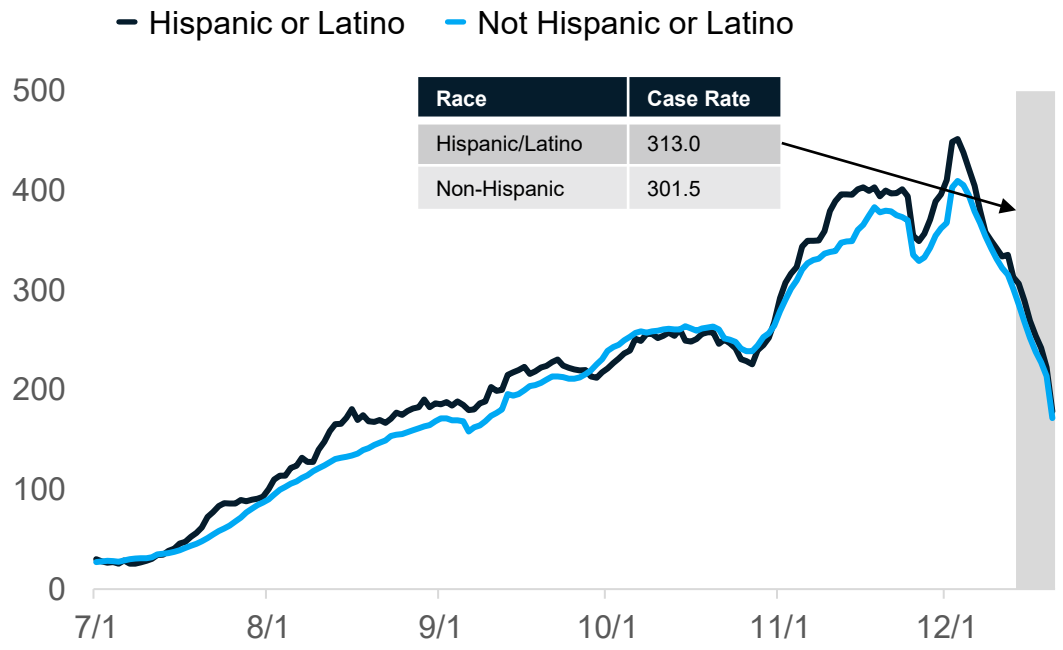
Case Rates by Reported Racial and Ethnic Group

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



Race	Case Rate
American Indian/ Alaskan Native	328.9
Asian/Pacific Islander	175.0
Black/African American	295.1
White	316.4

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



Race	Case Rate
Hispanic/Latino	313.0
Non-Hispanic	301.5

Updates since last week:

- Cases per million are decreasing for most reported racial and ethnic groups
- The high number of cases with missing race/ethnicity data, and those multiracial or other are also impacting the case rates shown here
- In the past 30 days, 29% (↔) of race data and 39% (↔) 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

Omicron – Update December 21, 2021

How easily does Omicron spread? Omicron variant likely will spread more easily

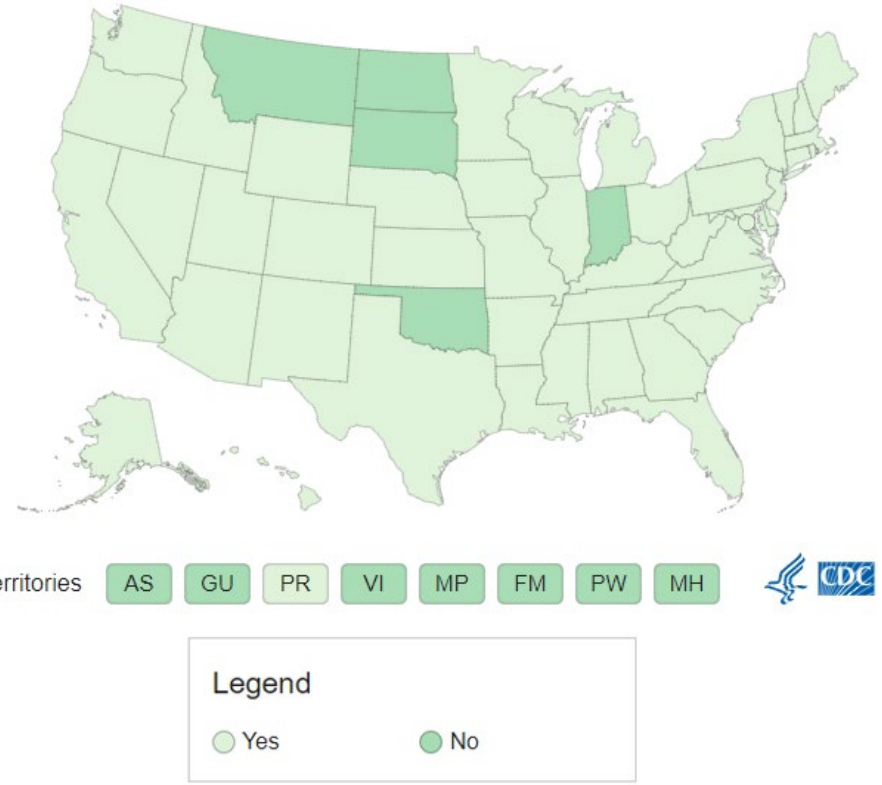
Will Omicron cause more severe illness? More data are needed

Will vaccines work against Omicron? Current vaccines, especially with booster, are expected to protect against severe illness, hospitalizations, and deaths

Will treatments work against Omicron? More data needed, but some treatments are likely to remain effective while others may be less effective

We have the Tools to Fight Omicron

- Vaccines especially with booster
- Masking
- Avoiding large indoor crowded settings
- Testing for COVID-19
- Using multiple levels of mitigation are more effective to prevent transmission

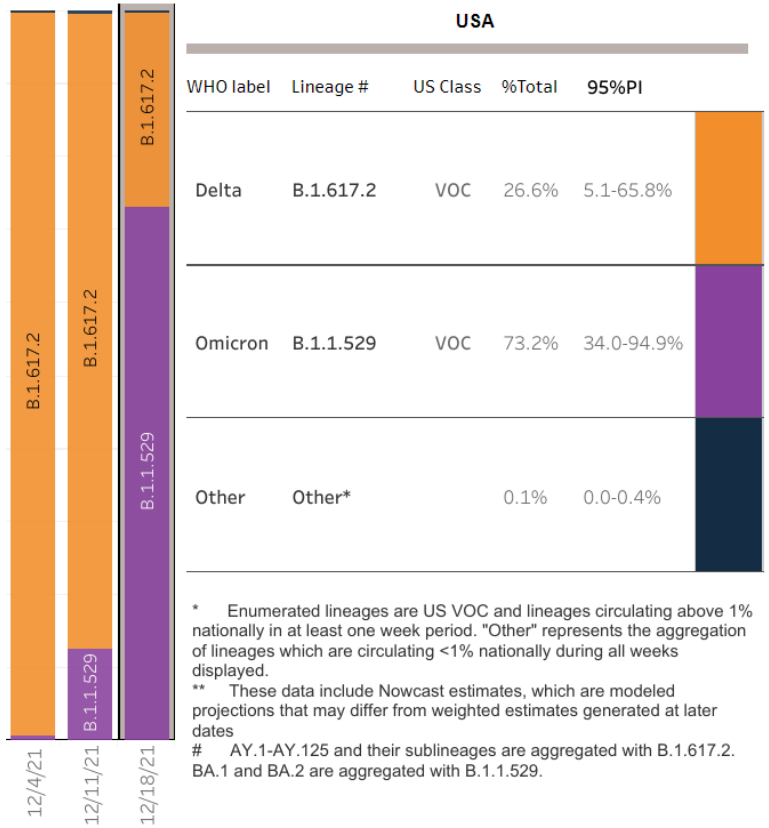


- As of Dec 14, 2021, 46+ states and territories have reported identification of the Omicron variant (CDC is retiring this map due to the widespread activity of Omicron)
- As of Dec 13, 2021, at least six counties in Michigan has identified a case with the Omicron variant

Source: CDC Omicron Variant: What You Need to Know; N.B. CDC swapped colors for their Omicron map

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

SARS-CoV-2 Variants Circulating in the United States, Nov 28 – Dec 18 (NOWCAST)



USA

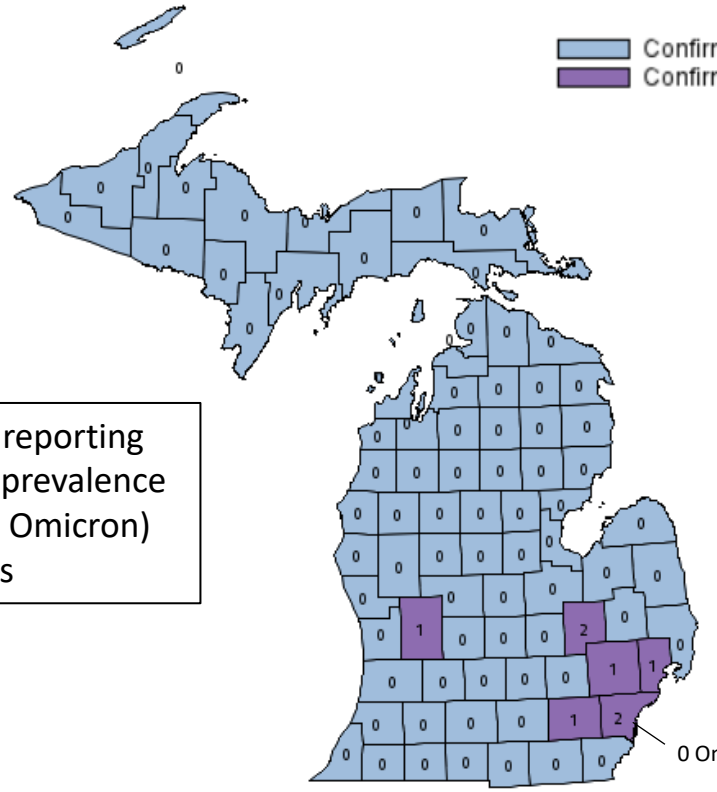
WHO label	Lineage #	US Class	%Total	95%PI
Delta	B.1.617.2	VOC	26.6%	5.1-65.8%
Omicron	B.1.1.529	VOC	73.2%	34.0-94.9%
Other	Other*		0.1%	0.0-0.4%

* 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.125 and their sublineages are aggregated with B.1.617.2. BA.1 and BA.2 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 3 weeks

Data last updated Dec 20, 2021
Source: MDSS

Variants of Concern in Michigan, Dec 20



0 Omicron cases in Wayne County attributed to Detroit City

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

Variant	MI Reported Cases¶	# of Counties	MDHHS VOC Sequenced Prev.
B.1.617.2 (delta)	24,412	83	>99%
B.1.1.529 (omicron)	8	6	<1%

Overview of metrics for individuals < 12 and <18

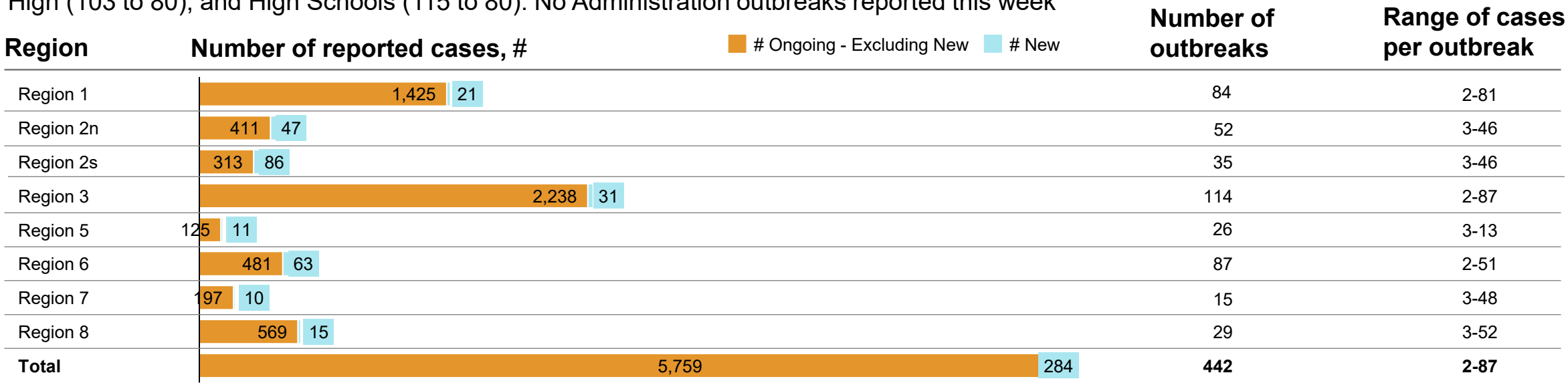
Region	Population (<12 yrs)	Population (<18 yrs)	Cumulative Case Count (<12 yrs)	7-day Average Daily Case Count (<12 yrs)	7-day Average Daily Case Rate per Million (<12 yrs)	7-day Average Daily Pediatric Hospitalization Count (<18 yrs)*	7-day Average Daily Pediatric Hospitalization Rate per Million (<18 yrs) *	7-day Average Daily Death Count (<12 yrs)	30-day Average Daily Death Count (<12 yrs)
Detroit	735529	1134247	67148	375.9	511.1	31.7	27.9	0	0.03
Grand Rapids	230120	350652	24027	81.6	354.6	10.4	29.7	0	0.00
Kalamazoo	140422	214801	12474	63.6	452.9	3.1	14.4	0	0.00
Saginaw	78759	122834	7895	37.3	473.6	0.3	2.4	0	0.00
Lansing	78140	119915	8107	36.7	469.7	1.3	10.8	0	0.00
Traverse City	53099	83462	4338	18.7	352.2	0.1	1.2	0	0.00
Jackson	41274	64091	4020	12.7	307.7	1.0	15.6	0	0.03
Upper Peninsula	34645	53875	4049	15.7	453.2	0.0	0.0	0	0.00
Michigan	1391988	2143877	132186	642.3	461.4	48.0	22.4	0	0.07

- Each day, 642 children under age 12 become infected with COVID-19, 152 fewer than last week
- Pediatric case rates increased to 461.4 cases/million (last week: 571.6 cases/million)
- Pediatric (<18) hospital census* is averaging approximately 48 per day (last week: 47 per day)

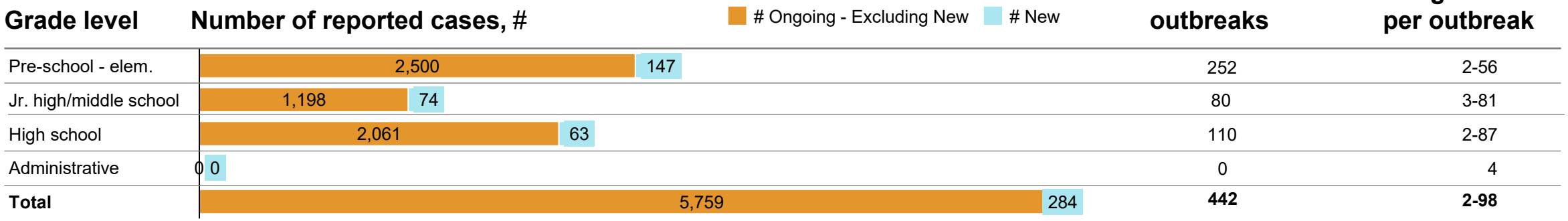
Note: Data as of 12/20; case data 12/13, hospitalization data 1/20. Hospitalization data is for pediatric patients (<18); * includes only confirmed COVID-19

K-12 school clusters and outbreaks, recent and ongoing, week ending Dec 16

Number of reported outbreaks/clusters decreased since last week (523 to 442), with decreases in Pre K-Elementary (305 to 252), Middle/Jr High (103 to 80), and High Schools (115 to 80). No Administration outbreaks reported this week



Region	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Region 1	1,425	21	84	2-81
Region 2n	411	47	52	3-46
Region 2s	313	86	35	3-46
Region 3	2,238	31	114	2-87
Region 5	125	11	26	3-13
Region 6	481	63	87	2-51
Region 7	197	10	15	3-48
Region 8	569	15	29	3-52
Total	5,759	284	**442**	**2-87**



Grade level	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	2,500	147	252	2-56
Jr. high/middle school	1,198	74	80	3-81
High school	2,061	63	110	2-87
Administrative	0	0	0	4
Total	5,759	284	**442**	**2-98**

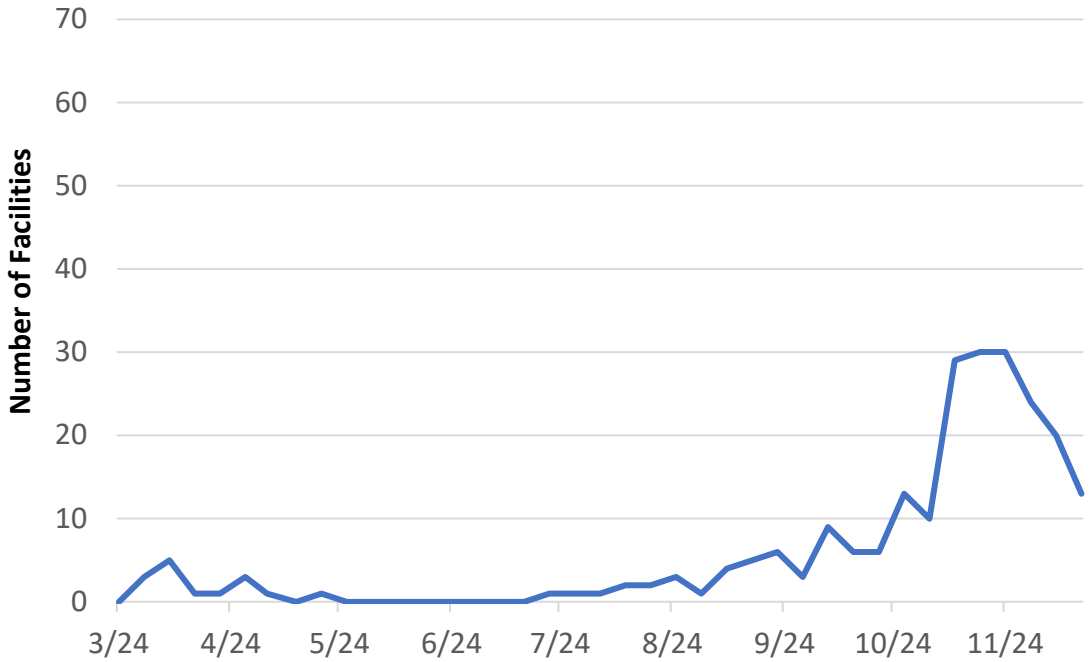
Many factors, including the lack of ability to conduct effective contact tracing in certain settings, may result in significant underreporting of outbreaks. This chart does not provide a complete picture of outbreaks in Michigan and the absence of identified outbreaks in a particular setting in no way provides evidence that, in fact, that setting is not having outbreaks. Week of 12/16 98% LHDs reporting due to technical difficulties.
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

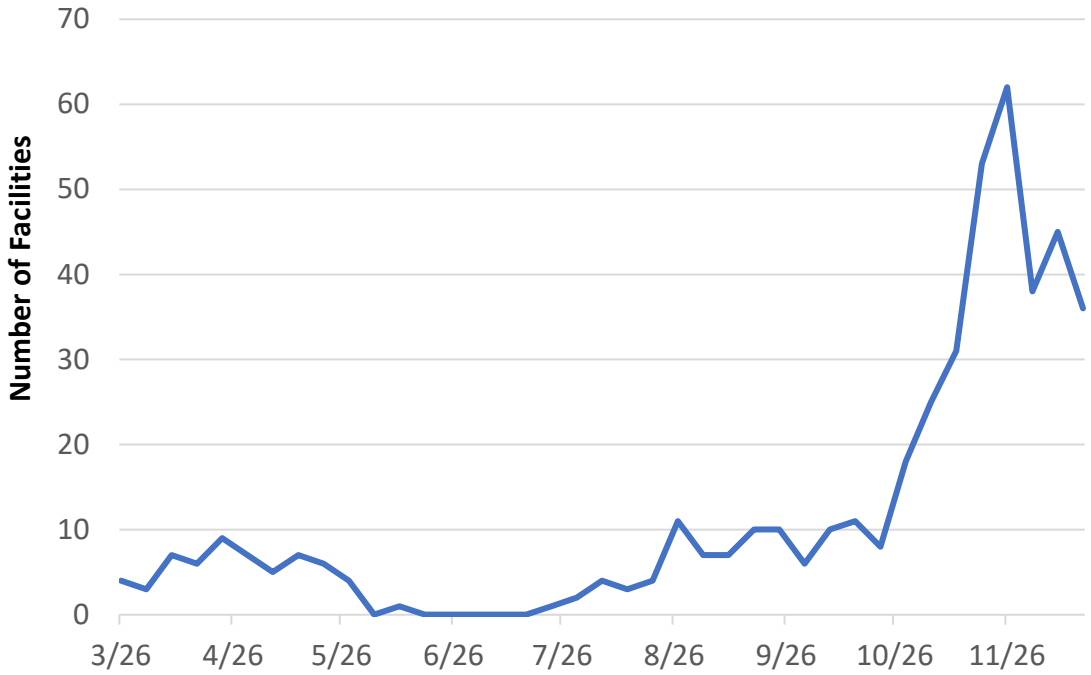
Long Term Care Facility Focus

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

Number of AFC/HFAs with 3 or more Confirmed Cases



Number of SNFs with 3 or more Confirmed Cases



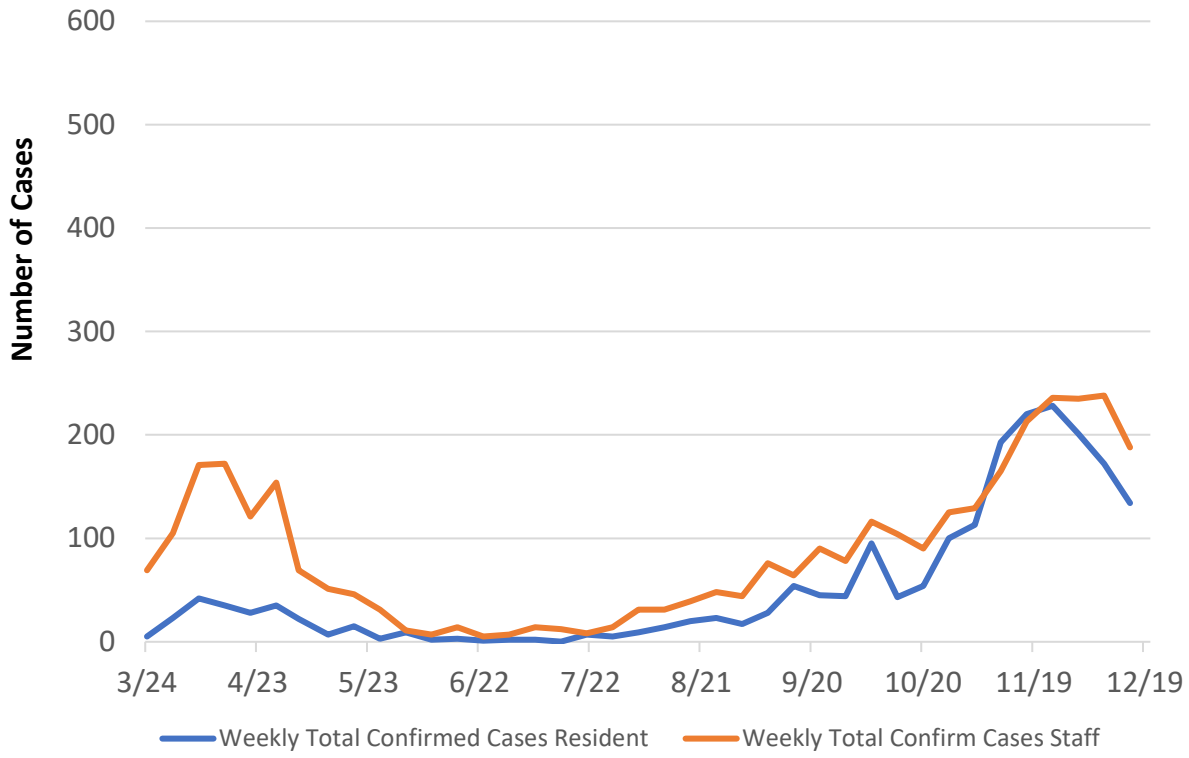
- The number of Long-Term Care Facilities reporting 3 or more cases within a single reporting period continued to decline to a 6-week low of 13 for AFC/HFA facilities and 5 week low of 36 in SNF in most recent data.

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)

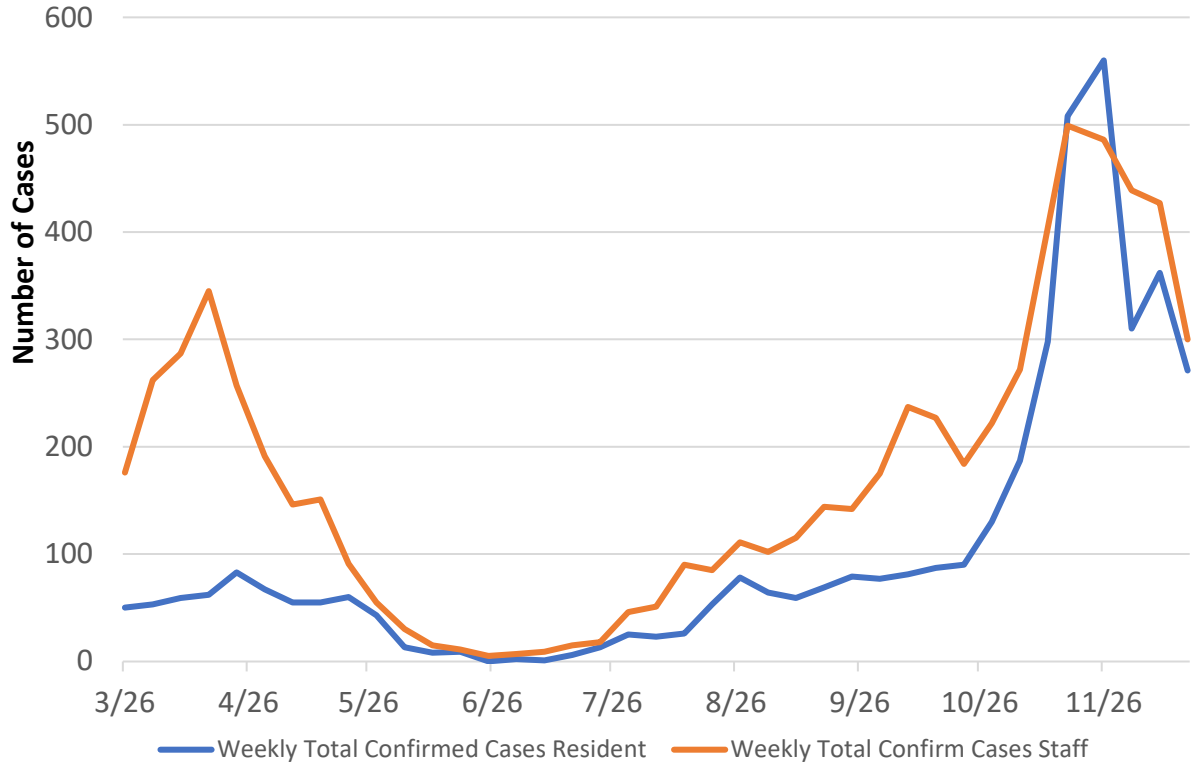
The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

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 12/15/2021



STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN SNF RESIDENTS AND STAFF
03/26/2021 TO 12/17/2021



- Case count in residents and staff are trending downwards within LTCF among both residents and staff
- Case counts in LTCF have maintained the typical pattern of more staff case count than residents case count

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

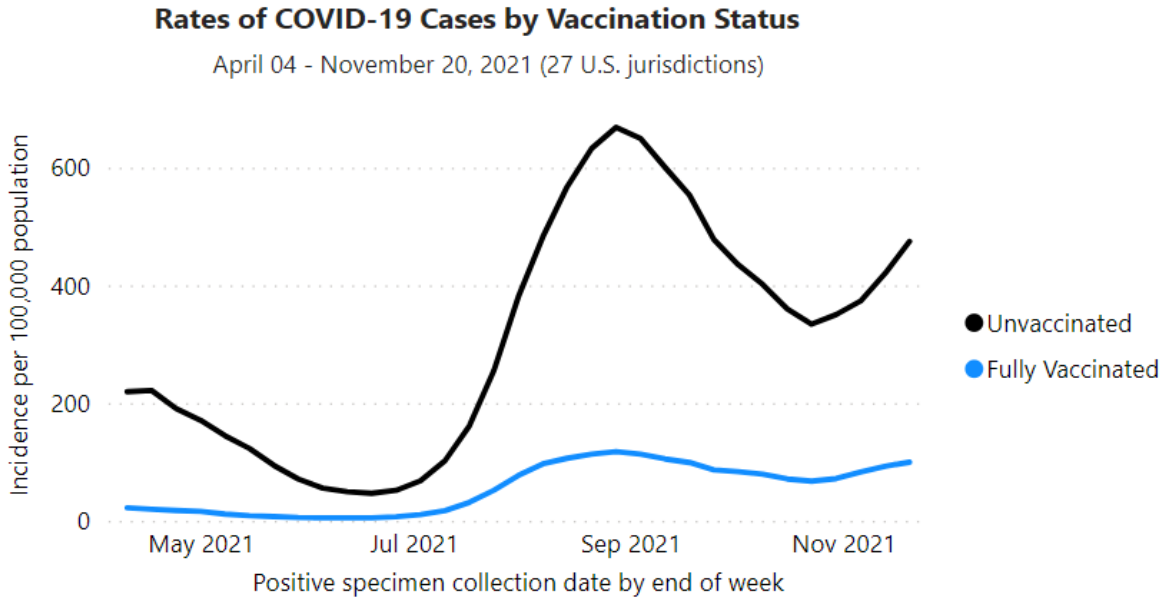
Breakthrough Cases

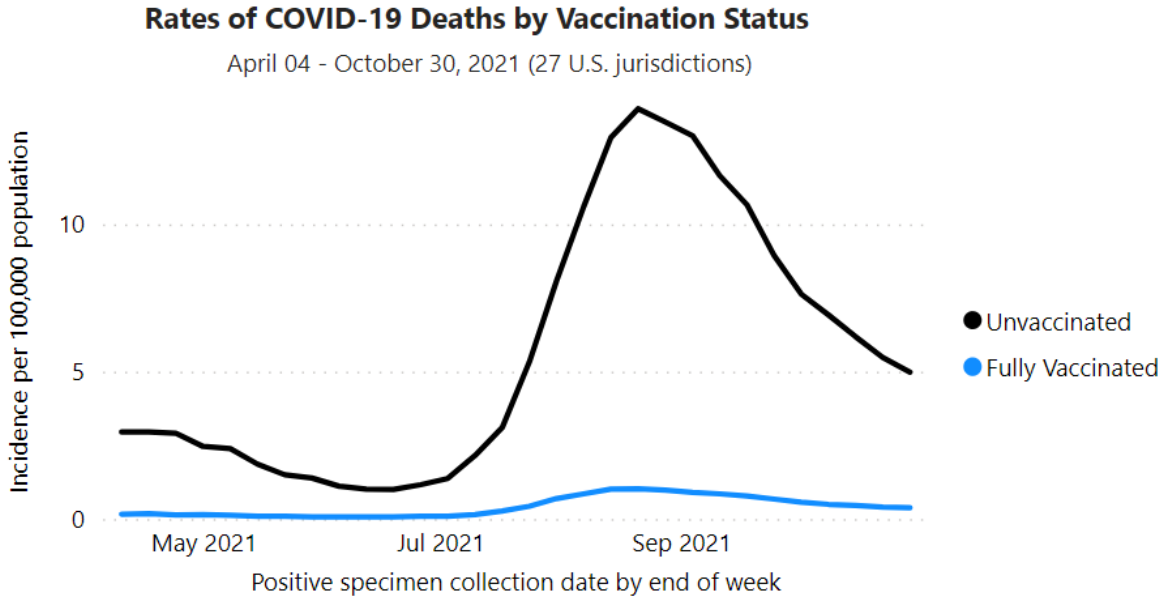
Cumulative COVID-19 Cases by Vaccination Status, Michigan, Jan 15 – Dec 3

Fully Vaccinated People (5,154,846)		
Cases	**Hospitalization**	**Deaths**
Percent of Cases In People Not Fully Vaccinated (711,227 / 835,960) **85.1%**	Percent of Hospitalizations In People Not Fully Vaccinated (17,706 / 20,101) **88.1%**	Percent of Deaths In People Not Fully Vaccinated (8,733/ 10,216) **85.5%**
711,227 Total Cases Not Fully Vaccinated	**17,706** Total Hospitalized Not Fully Vaccinated	**8,733** Total Deaths Not Fully Vaccinated
Total Breakthrough Cases **124,733**	Total Breakthrough Hospitalizations **2,395**	Total Breakthrough Deaths **1,483**
2.420% Percent of Fully Vaccinated People who Developed COVID-19 (124,733/ 5,154,846)	**0.046%** Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (2,395 / 5,154,846)	**0.029%** Percent of Fully Vaccinated People Who Died of COVID-19 (1,483 /5,154,846)
14.9% Percent of Cases Who Were Fully Vaccinated (124,733 / 835,960)	**11.9%** Percent of Hospitalizations Who Were Fully Vaccinated (2,395 / 20,101)	**14.5%** Percent of Deaths Who Were Fully Vaccinated (1,483 /10,216)
Total Cases: **835,960**	Total Hospitalizations: **20,101**	Total Deaths: **10,216**

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

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





In October, unvaccinated persons had:

5X
Risk of Testing Positive for COVID-19

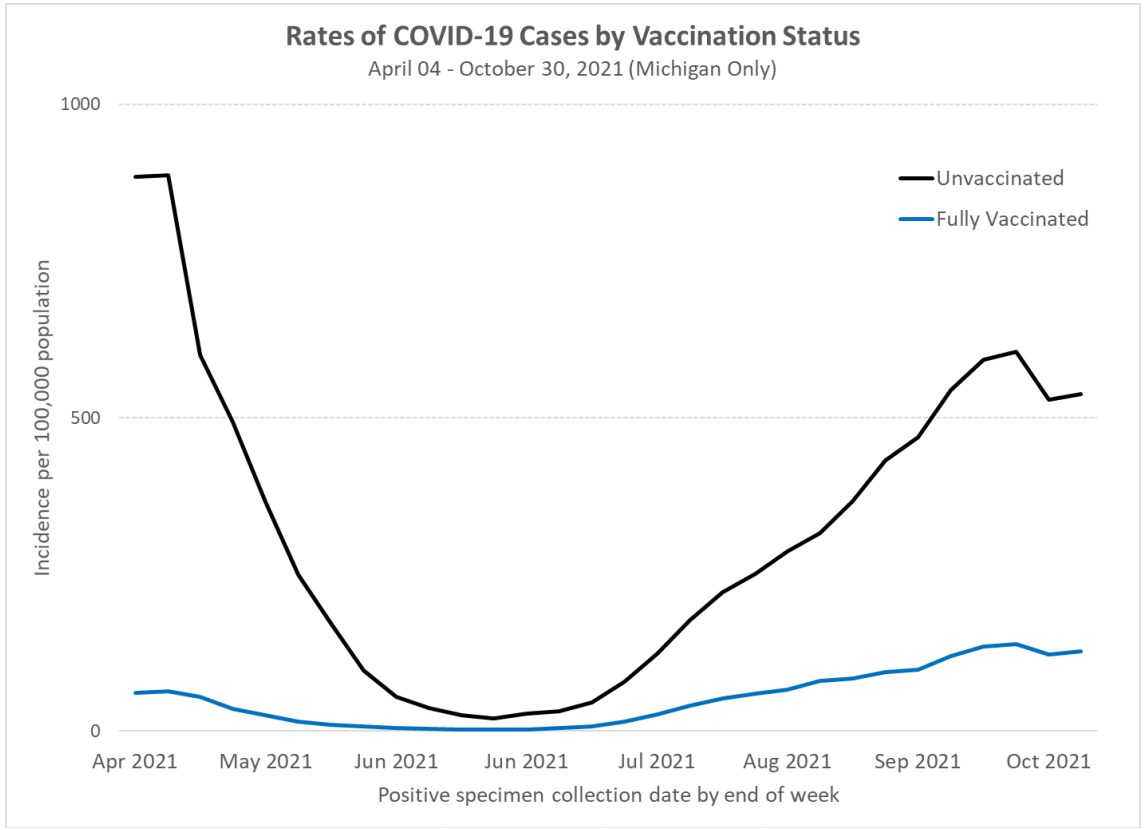
AND

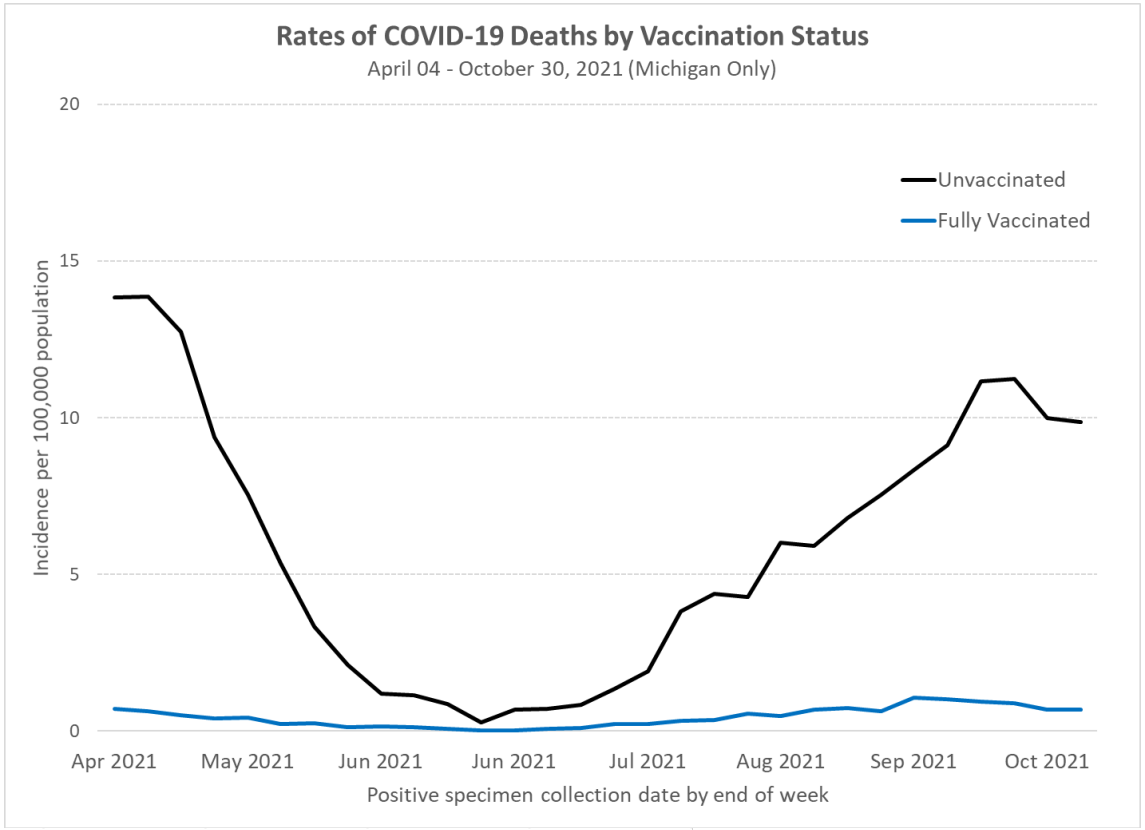
14X
Risk of Dying from COVID-19

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.

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





In October, unvaccinated persons had:

4.3 X
Risk of Testing Positive for COVID-19

AND

13.2 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.

Risk of becoming ill or dying much higher in unvaccinated individuals

In October 2021:

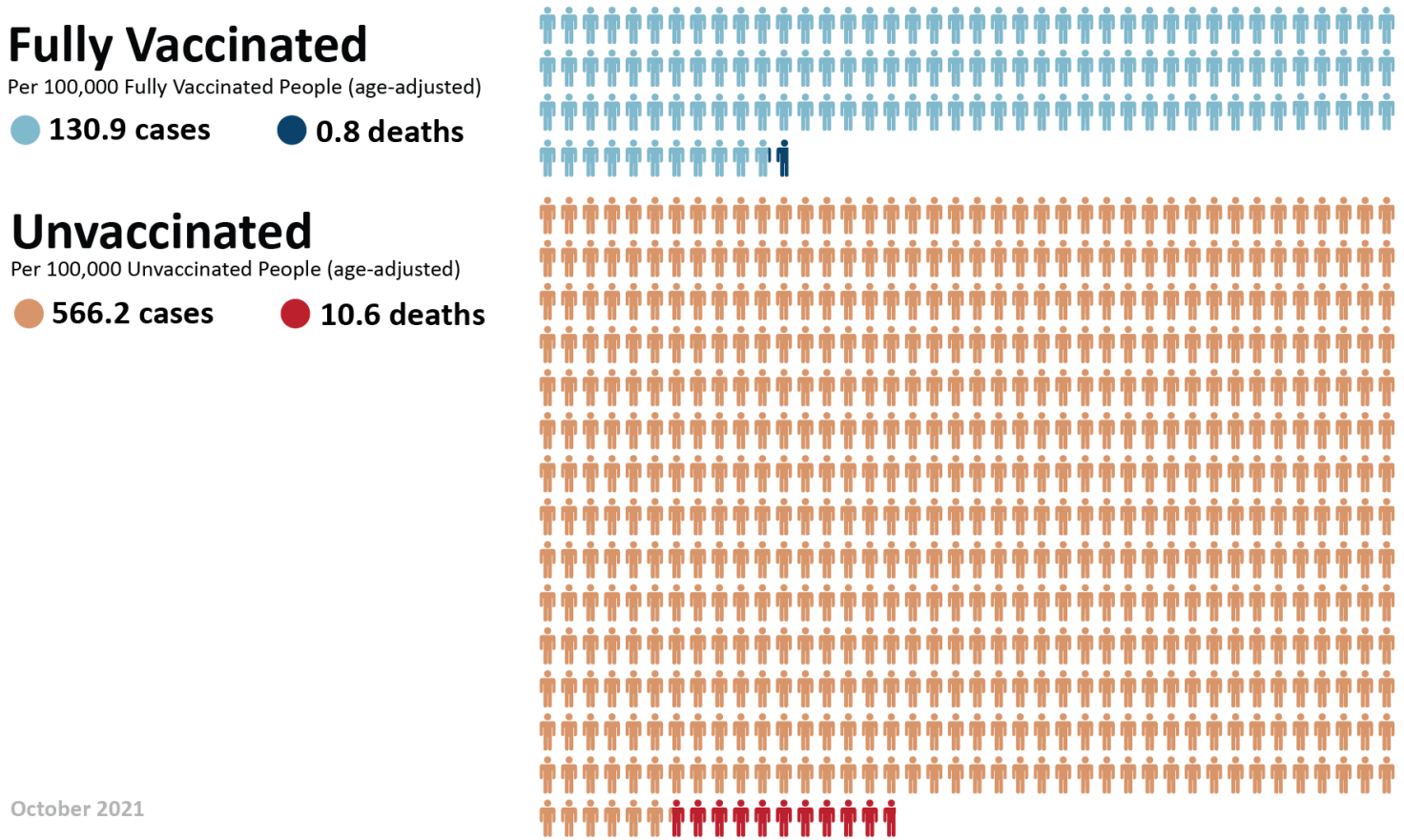
Unvaccinated persons in Michigan had **4.3 times** the risk of testing positive for COVID-19 compared to fully vaccinated persons

- 566.2 cases per 100,000 unvaccinated persons compared to 130.9 cases per 100,000 fully vaccinated persons

Unvaccinated persons in Michigan had **13.2 times** the risk of dying from COVID-19 compared to fully vaccinated persons

- 10.6 deaths per 100,000 unvaccinated persons compared to 0.8 deaths per 100,000 fully vaccinated persons

Age-Adjusted Case and Death Rates per 100,000 People by Vaccination Status, October 2021



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.

Key Messages: Healthcare Capacity and COVID Severity

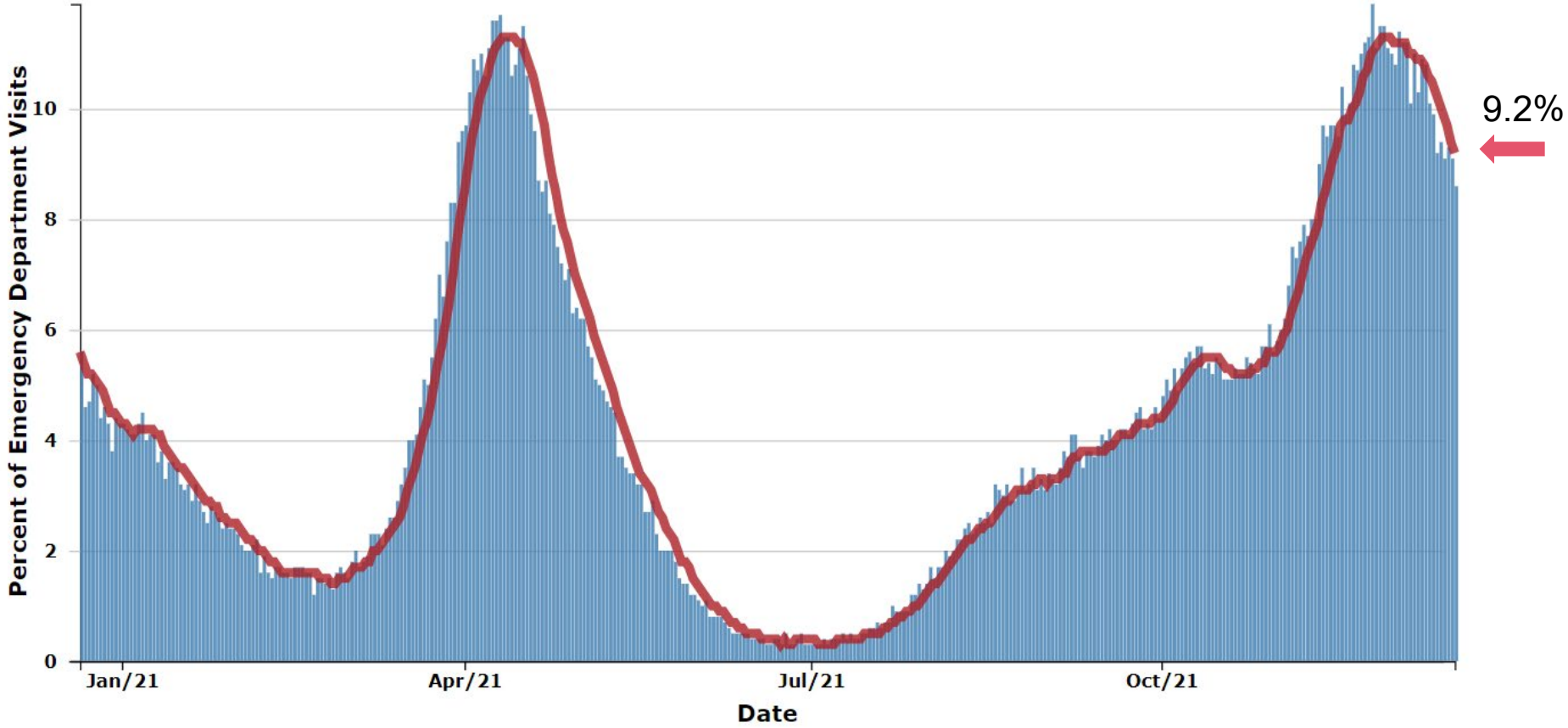
Emergency Department visits, Hospital Admissions, and Hospital Census for COVID are mostly decreasing

- 9.2% of ED visits are for COVID diagnosis (down from 10.3% last week)
- Hospital admissions for most age groups are decreasing over the past week
- Hospital census has decreased 14% since last week (vs. 3% increase week prior)
- Regions trends in hospital census this week are declining
  - Three preparedness regions (2N, 2S, 3) have greater than 400/Million population hospitalized
- Overall, volume of COVID-19 patients in intensive care has increased 5% (vs. 2% increase last week)
  - All regions except 2N and 8 have overall adult ICU occupancy greater than or equal to 85%, with Regions 3, 6 and 7 at or above 90% occupancy

Death rate is 9.5 daily deaths/million residents over last 7 days (Last week: 9.7 deaths/million)

- Trends for daily average deaths are decreasing for most reported racial and ethnic groups
- In the past week, Whites have the highest death rate (9.5 deaths/million)
- In the past 30 days, the proportion of deaths among those over 60 is steady

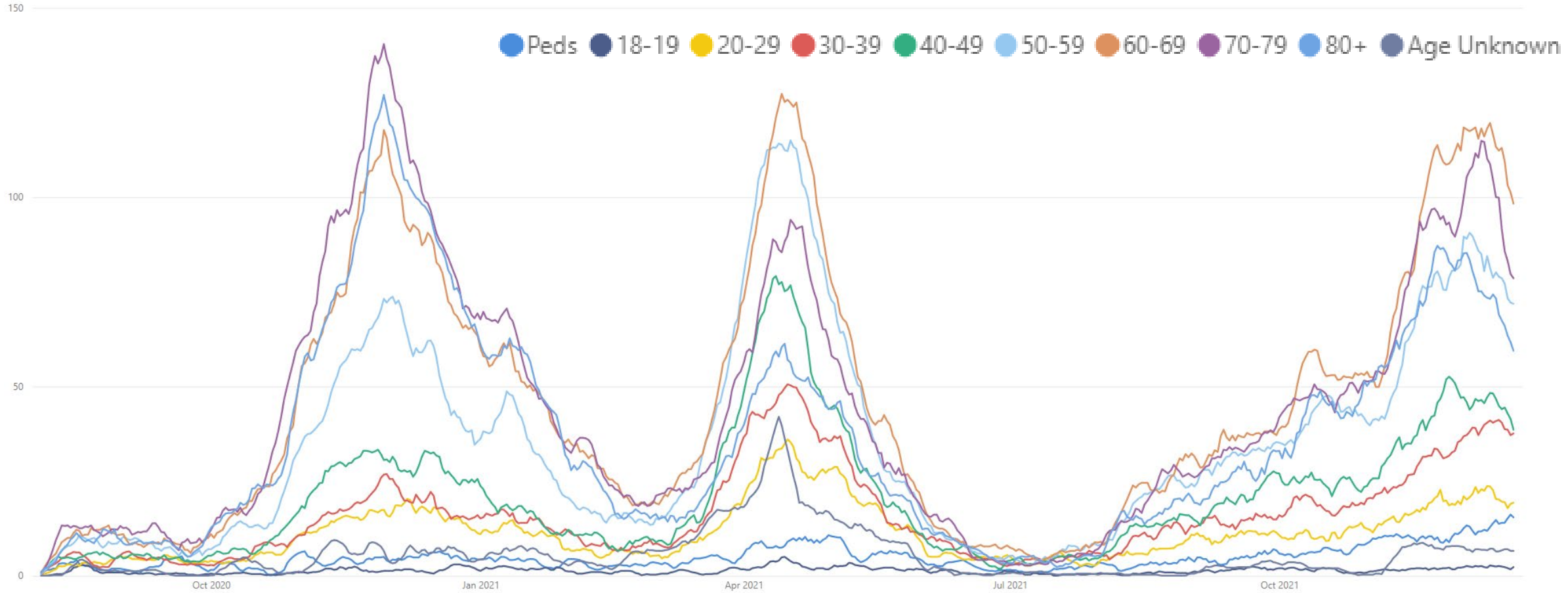
Michigan Trends in Emergency Department (ED) Visits for Diagnosed COVID-19



- Trends for ED visits have decreased to 9.2% since last week (down from 10.3% last week
- Over past week, those 50-64 years saw highest number of avg. daily ED CLI visits (12.5%), but those between 25-74 all above state average

Source: https://covid.cdc.gov/covid-data-tracker/#ed-visits; data extracted on 10/18/2021

Average Hospital Admissions Are Increasing for all Age Groups



- Trends for daily average hospital admissions have decreased 17% since last week (vs. 2% decrease prior week)
- Most age groups saw decreases this week with largest declines among the oldest age groups
- More than 50 daily hospital admissions was seen for each of the age groups of 50-59, 60-69, 70-79, and 80+

Source: CHECC & EM Resource

Hospital Admissions and Admission Rates by Age Group

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

Age Group	Average† daily number of hospital admissions	Average† Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	7.4	5.3	-28% (-3)
12-17	5.0	6.6	+21% (+1)
18-19	2.3	8.7	-11% (-<1)
20-29	19.3	14.0	-15% (-3)
30-39	37.6	31.0	-7% (-3)
40-49	38.6	32.7	-20% (-10)
50-59	**71.9**	**53.2**	**-9% (-7)**
60-69	**98.3**	**77.0**	**-16% (-18)**
70-79	**78.6**	**102.5**	**-25% (-26)**
80+	**59.4**	**143.5**	**-20% (-15)**
Total¶	**424.9**	**42.5**	**-17% (-85)**

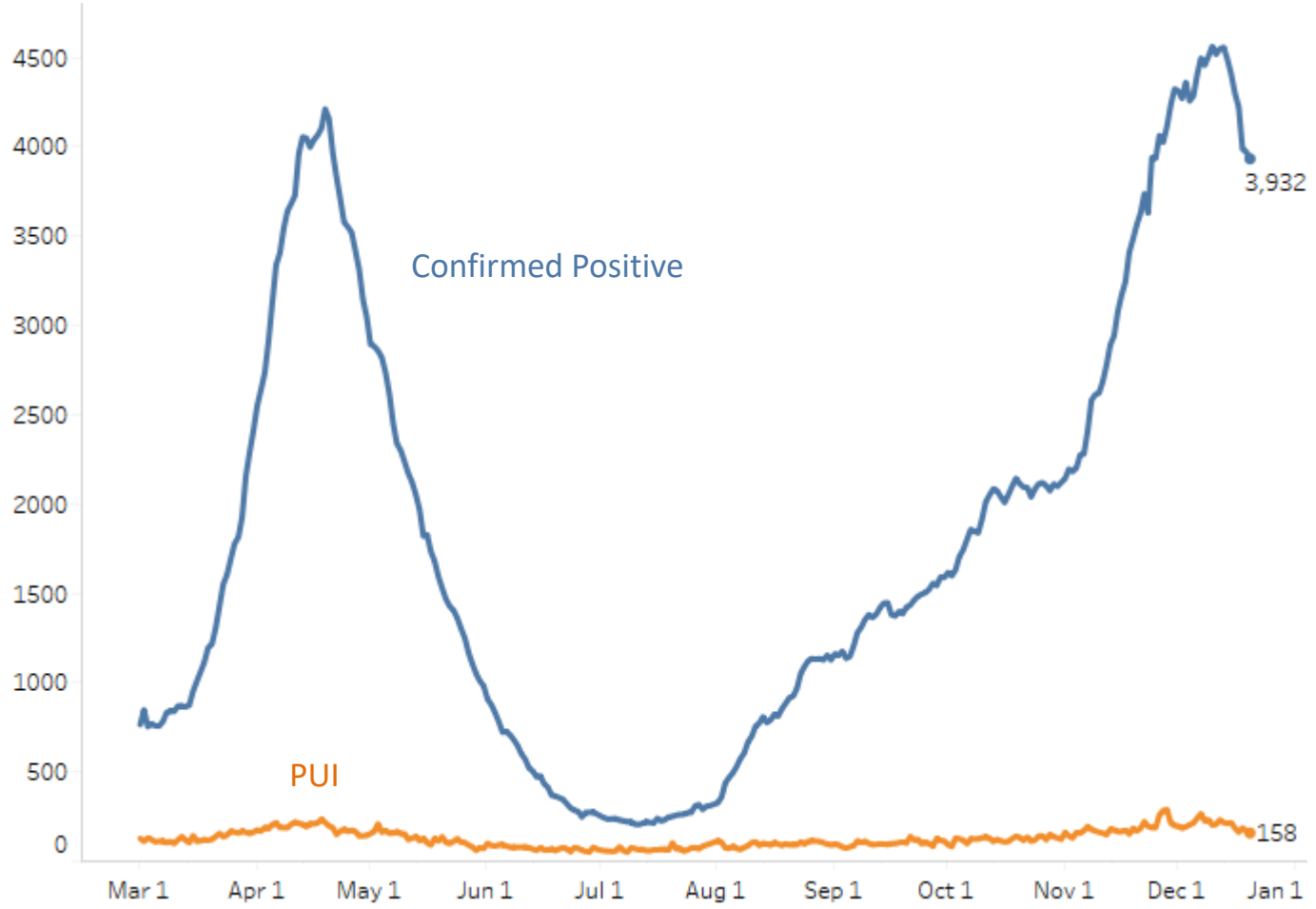
* Rate per 1 million residents; † Rolling 7-day average; ¶ Total may not reflect state due to missing age data
Note: Hospital Admission data reflects date data was submitted
Source: CHECC and EM Resource

- Through Dec 25, there were an average of 424.9 hospital admissions per day due to COVID-19; a decrease from last week (-17%, -85)
- Most age groups saw decreases this week with largest declines among the oldest age groups
- The largest one-week decreases were among those 70-79 (-26, -25%)
- Average daily hospital admission count (98 hospital admissions per day) are highest among those 60-69
- Average daily hospital admission rate (143.5 hospital admissions/million) are highest for those aged 80+
- More than 50 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

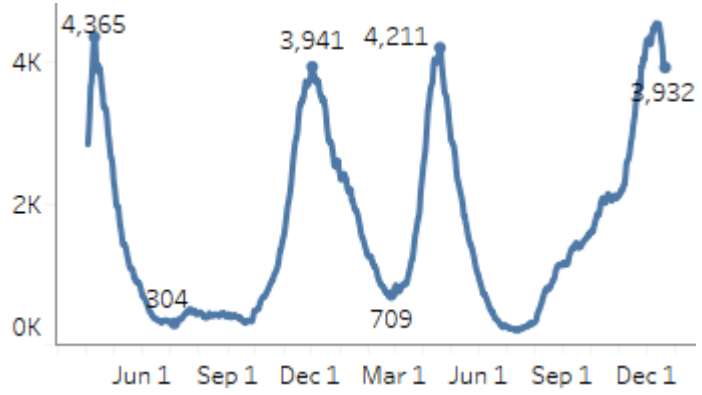
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 12/20/2021
Confirmed Positive & Persons Under Investigation (PUI)



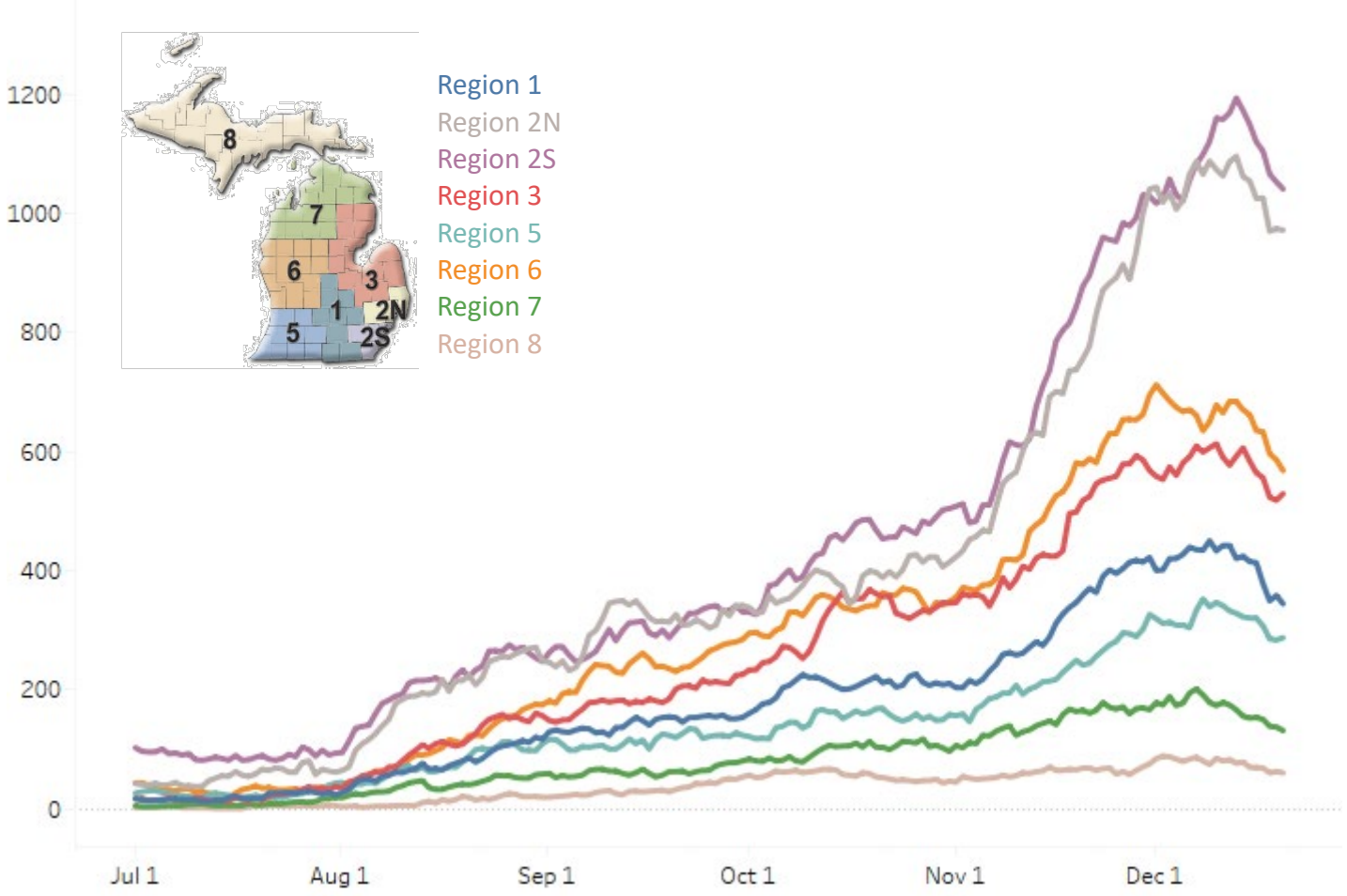
The COVID+ census in hospitals has dropped by 14% in the past week after peaking December 10 at 4,561 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 6/1/2021 – 12/20/2021
Confirmed Positive by Region



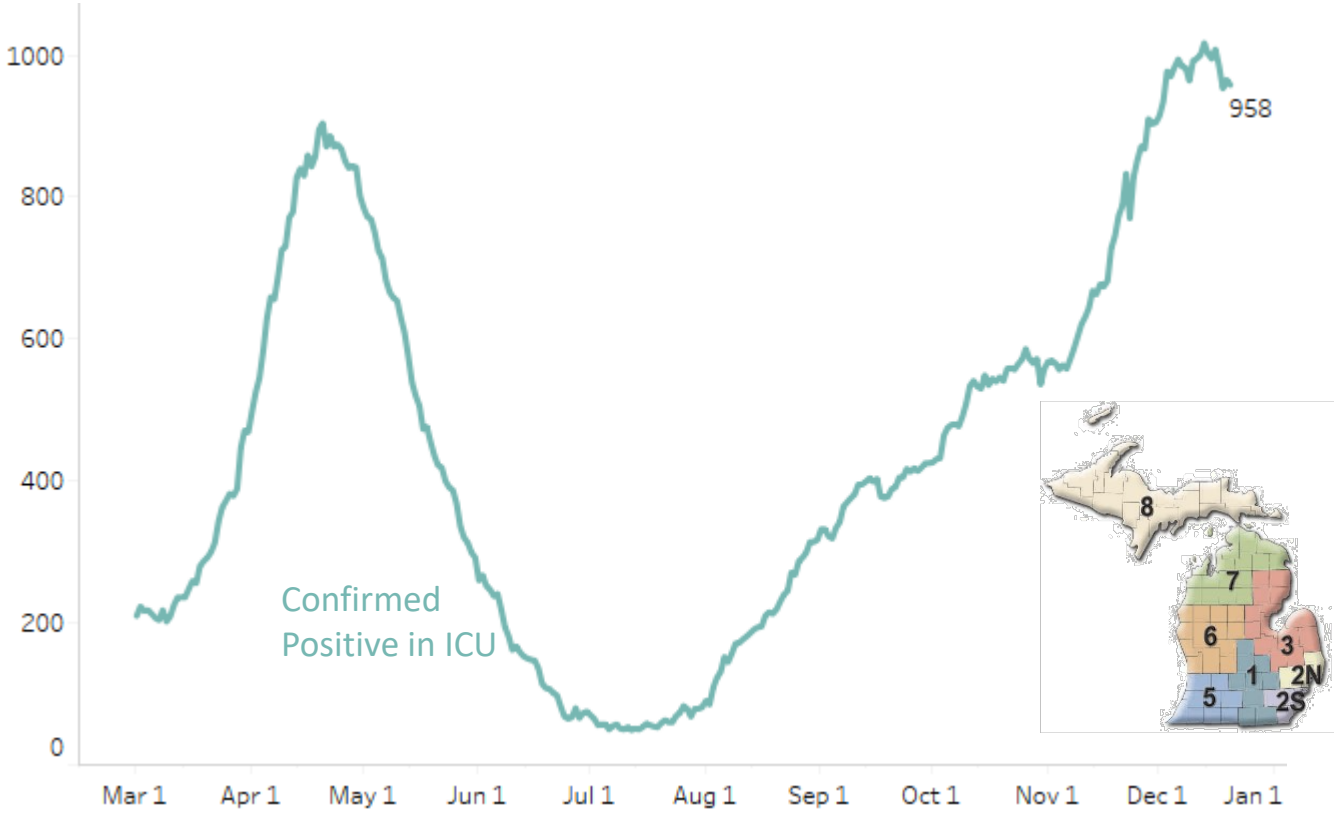
Hospitalizations have declined across all regions.

Regions 2N, 2S, and 3 are the most impacted with greater than 400/Million population currently hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	344 (-18%)	318/M
Region 2N	972 (-11%)	439/M
Region 2S	1041 (-13%)	467/M
Region 3	529 (-11%)	467/M
Region 5	287 (-13%)	301/M
Region 6	568 (-17%)	387/M
Region 7	131 (-21%)	262/M
Region 8	60 (-21%)	193/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 12/20/2021
Confirmed Positive in ICUs

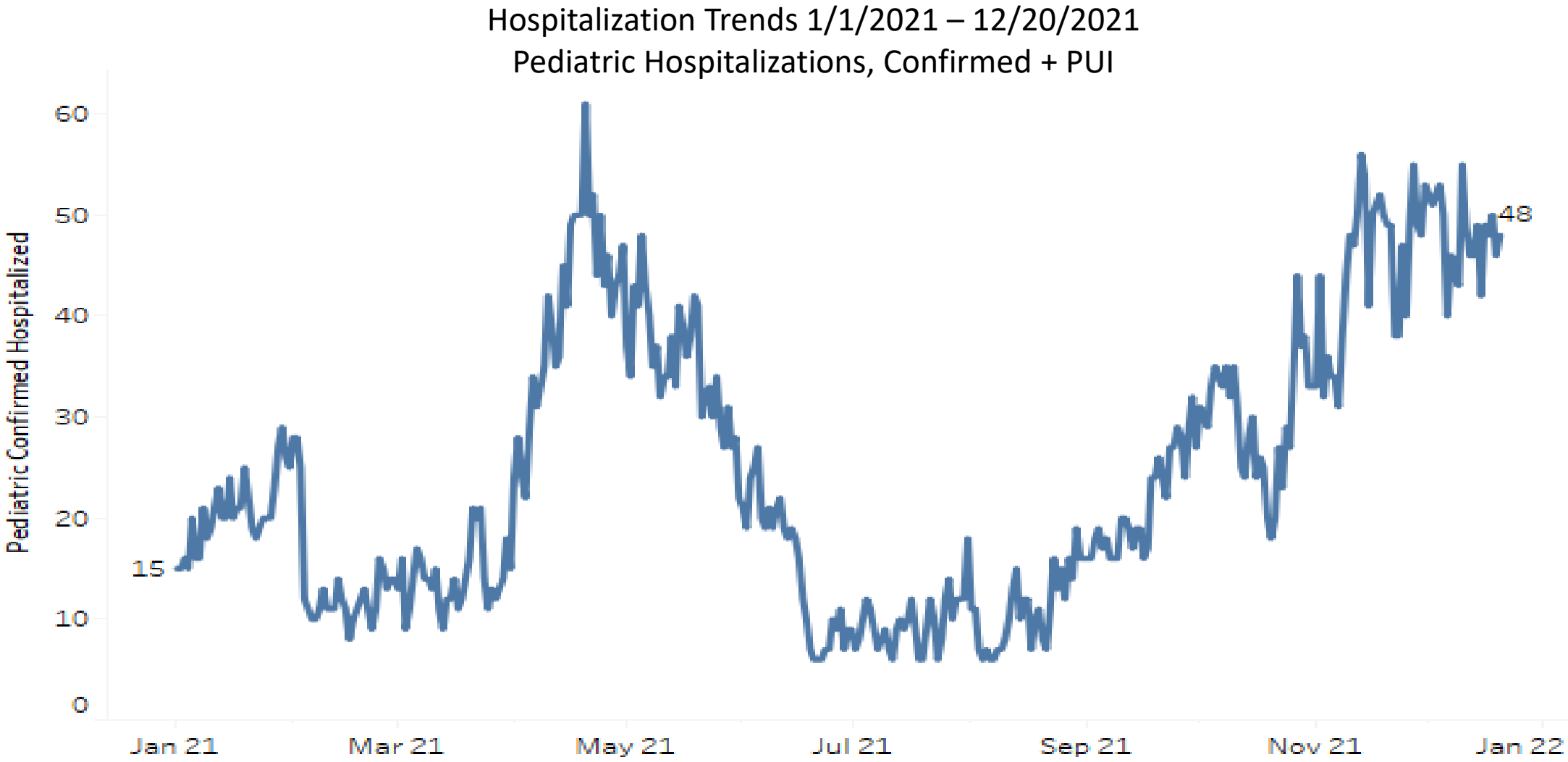


The census of COVID+ patients in ICUs has decreased 5% from last week. Census in ICUs has decreased in all regions except for Region 2N.

All regions except 2N and 8 have overall adult ICU occupancy greater than or equal to 85%, with Regions 3, 6 and 7 at or above 90% occupancy.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	94 (-2%)	89%	45%
Region 2N	188 (7%)	81%	33%
Region 2S	240 (-6%)	89%	34%
Region 3	139 (-13%)	94%	41%
Region 5	52 (-22%)	88%	34%
Region 6	165 (-3%)	92%	56%
Region 7	60 (-12%)	91%	43%
Region 8	20 (-20%)	79%	32%

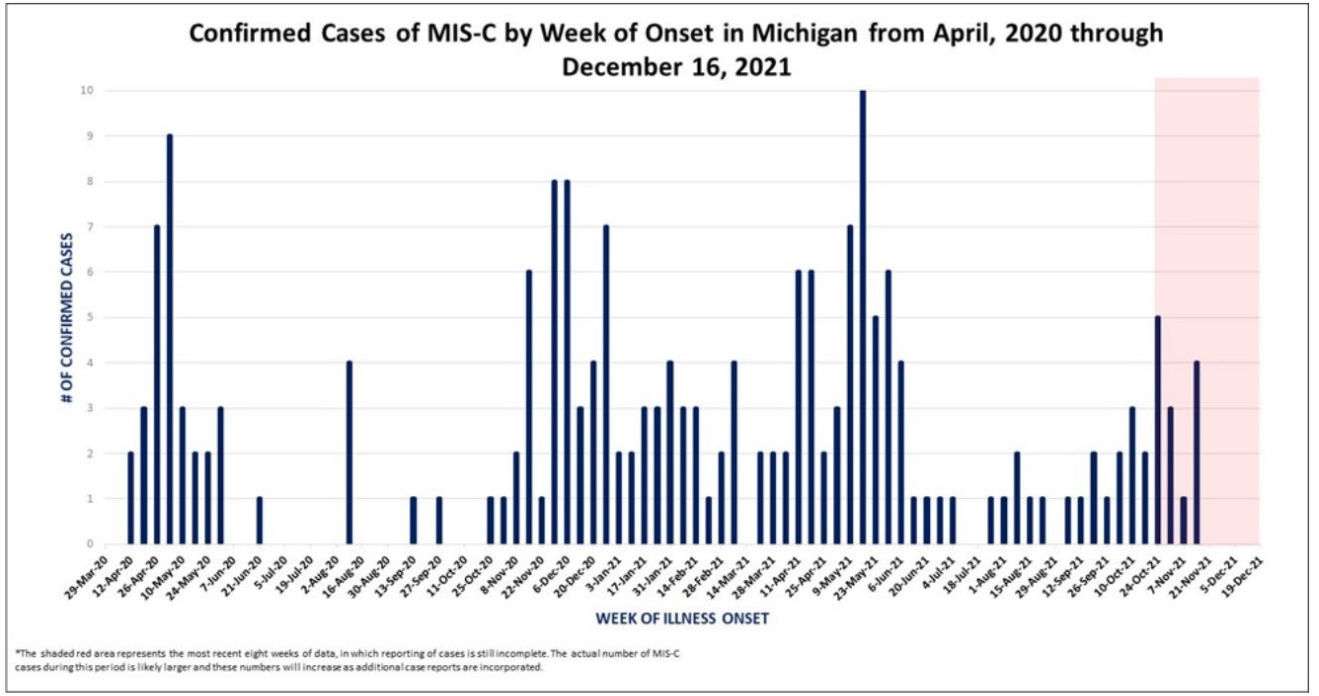
Statewide Hospitalization Trends: Pediatric COVID+ Census



Multisystem Inflammatory Syndrome in Children (MIS-C)

Michigan Surveillance

- Higher community transmissions is followed by higher incidence of MIS-C cases
- 196 cases identified in Michigan
- More than 60% of those children are elementary and pre-school aged
- Black/African American children are disproportionately impacted
- 70.4% children with MIS-C are treated in the ICU



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

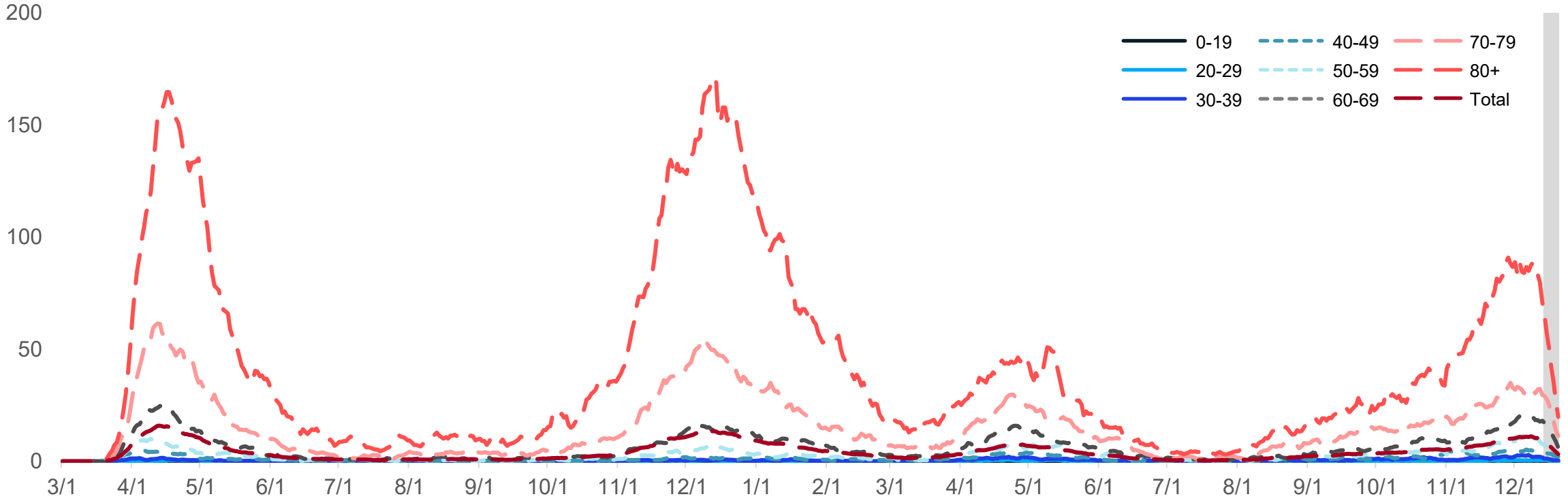
DEMOGRAPHIC INFORMATION (N=196)

Age Group	Count	%	Race	Count	%
0-4 yrs	50	25.5%	Black/African American	78	39.8%
5-10 yrs	79	40.3%	Caucasian	83	42.3%
>10 yrs	67	34.2%	All Others / Unknown	35	17.9%
Gender	Counts	%	Ethnicity	Count	%
Male	117	59.7%	Not Hispanic or Latino	142	72.4%
Female	79	40.3%	Hispanic or Latino	16	8.2%
Unknown	0	0.0%	Unknown	38	19.4%

Source: MDHHS and MIS-C Data and Reporting; Data through 12/16

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)

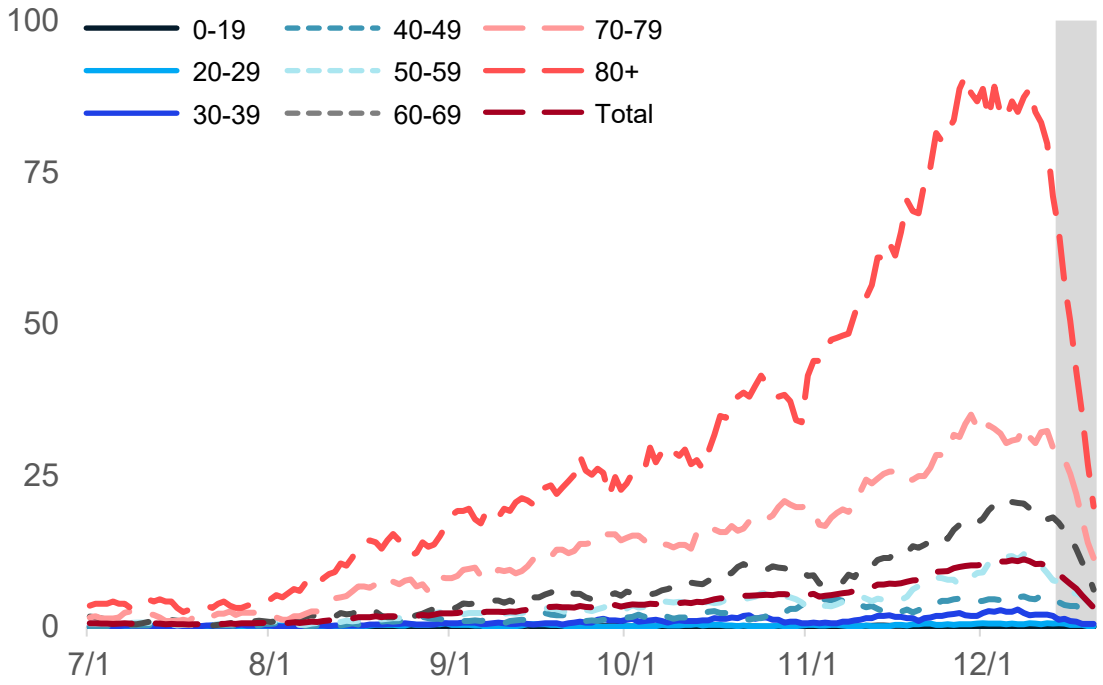


- Through 12/13, the 7-day avg. death rate is more than 70 daily deaths per million people for those over the age of 80
- COVID-19 death rates for all age groups, except 20–29-year-olds, are now higher than the death rates during the Alpha (B.1.1.7) wave and nearly all younger age groups (<60) are experiencing pandemic high death rates

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

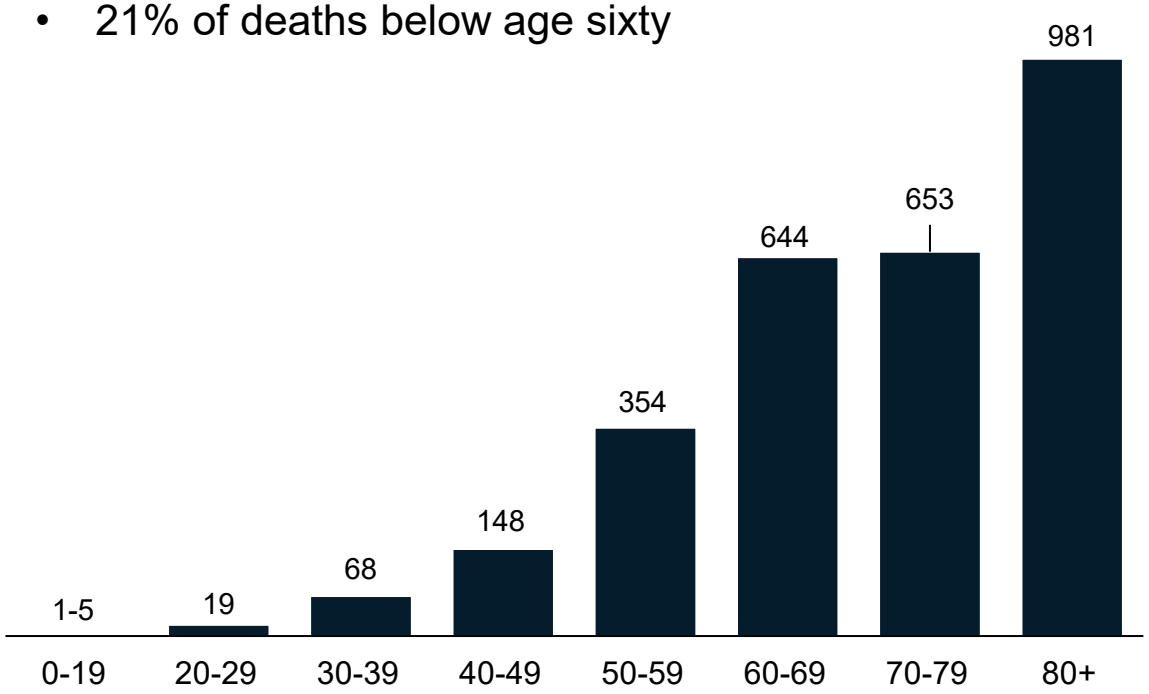
Average and total new deaths, by age group

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



Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 12/13/2021)

- 21% of deaths below age sixty

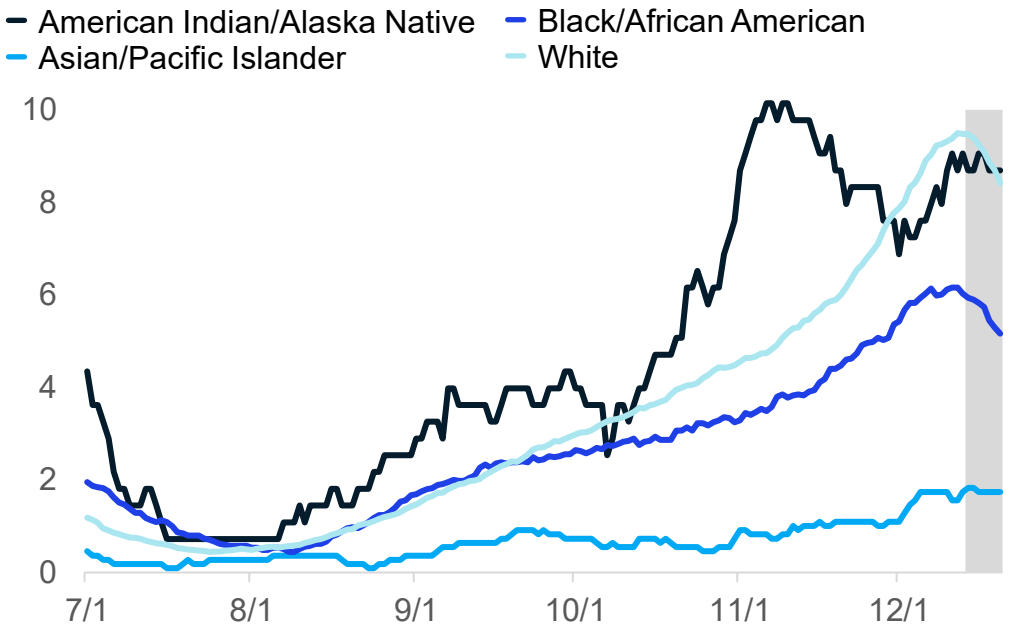


- Through 12/13, the 7-day avg. death rate is more than 70 daily deaths per million people for those over the age of 80
- In the past 30 days, the proportion of deaths among those over 60 is steady

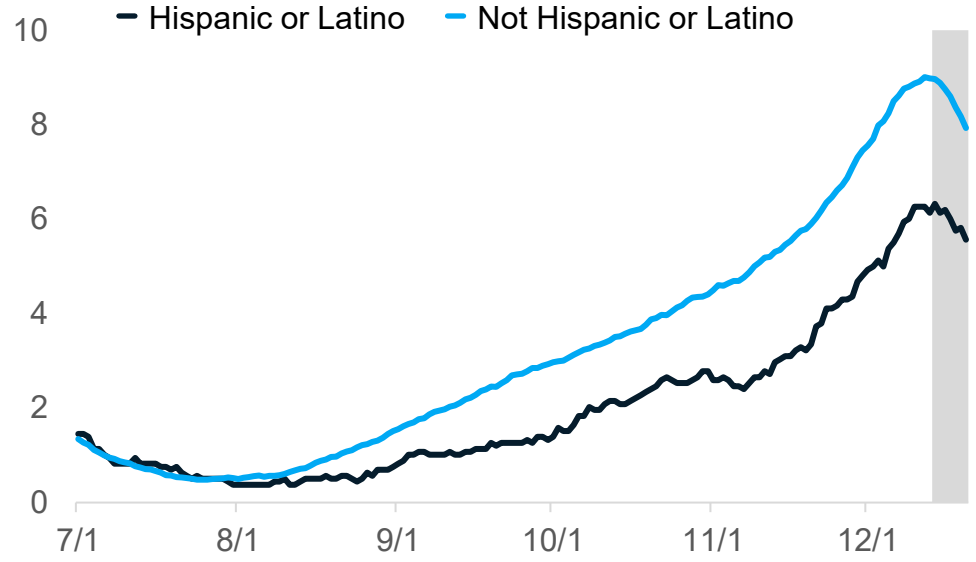
Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System (MDSS)

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

Average daily deaths per million people by race



Average daily deaths per million people by ethnicity



- Deaths are lagging indicator of other metrics
- Overall trends for daily average deaths are increasing for most reported races and ethnicities
- Currently, Whites have the highest death rate (9.5 deaths/million)

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

Key Messages: Public Health Response

COVID-19 Vaccination

- 5,952 first doses administered each day (7-day rolling average)
- Over 5.6 million people (56.3% of the population) in the state are fully vaccinated

COVID-19 Boosters

- Over 2.1 million people have received an additional/booster dose in Michigan
- More than 62.9% of fully vaccinated Michiganders over the age of 65+ have been administered a booster dose

Pediatric Vaccination

- Interactive dashboard now includes pediatrics vaccination doses (live updates effective 11/5)
- 164,118 initial dose and 107,885 second dose administrations in 5- to 11-year-olds as of 12/20

5.6 Million Michiganders fully vaccinated and 56.3% of total population fully vaccinated

Vaccination Coverage

5.6 million people in the state are fully vaccinated*

86.2% of people aged 65 and older have completed the series*

62.9% of total population initiated*

Booster Coverage

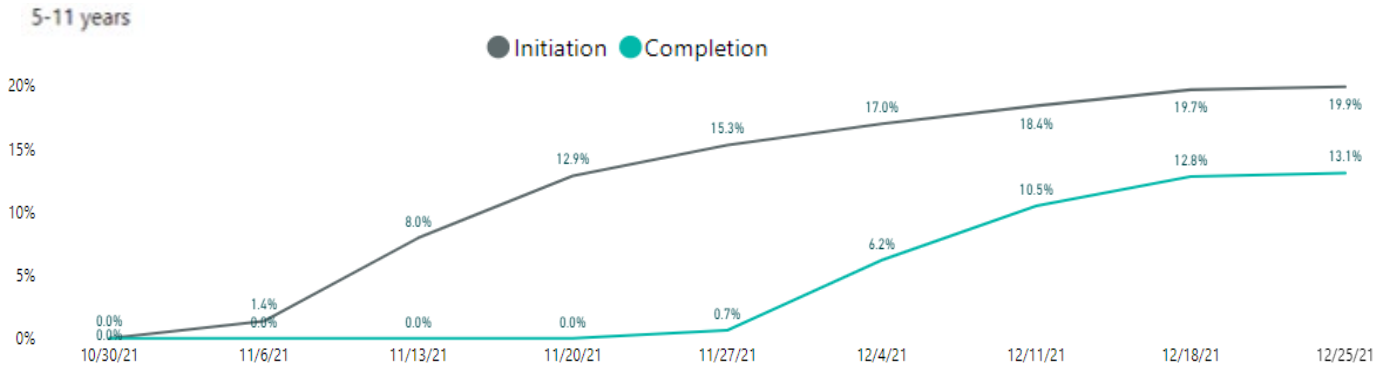
64.1% of fully vaccinated people aged 65 and older have received a booster dose

38.2% of Michiganders in the state who are fully vaccinated have received their booster dose

Vaccination Coverage in Michigan as of 12/12/21

Age Group	% At Least One Dose	% Fully Vaccinated	% Boosted**	Number Fully Vaccinated
Total Population	62.9%	**56.3%**	**38.2%**	5,626,837
≥ 5 years	66.6%	59.7%	N/A	5,626,787
≥ 12 years	71.1%	64.3%	N/A	5,522,413
≥ 18 years	73.3%	66.3%	41.2%	5,200,727
≥ 65 years	94.2%	86.2%	64.1%	1,521,754

**Percentage of the fully vaccinated population



Source: *CDC COVID Data Tracker > Vaccinations in the US, ¶ MCIR COVID-19 Vaccine Dashboard

Key Messages: Science Round Up

Year End Review: Epidemic Summary

- Nearly 1 in every 10 Michiganders were reported with COVID-19 in 2021
- More than 1 in every 1,000 Michiganders died from COVID-19 in 2021

Year End Review: Public Health Response Summary

- Over 13.6 million COVID vaccines administrated
- 6.2 million with at least one dose
- 4.6 million rapid antigen tests distributed
- $275 million went to local health departments to support COVID-19 efforts

Year in Review – Pandemic in Numbers

Data 1/1/2021 through 12/20/2021

- *Nearly 1 in every 10 Michiganders were reported with COVID-19 in 2021*
  - *4.6 more children 0-9 were reported infected with COVID-19 in 2021 compared to 2020, the highest relative increase of any age group*

- *More than 1 in every 1,000 Michiganders died from COVID-19 in 2021*
  - *4.7 more children 0-19 died from COVID-19 in 2021 compared to 2020, the highest relative increase of any age group*
  - *More than 1 in every 100 Michiganders over 80 years old died from COVID-19 in 2021*

Source: Michigan Disease Surveillance System (MDSS); these number include confirmed and probable

Year in Review – Public Health Response in Numbers

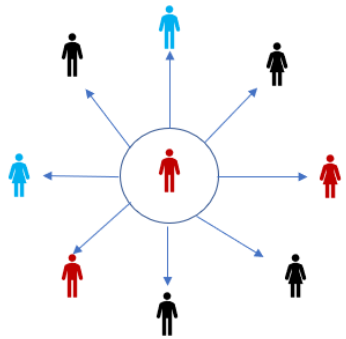
Case Investigation and Contact Tracing

Cases (Cumulative since March 1, 2020)

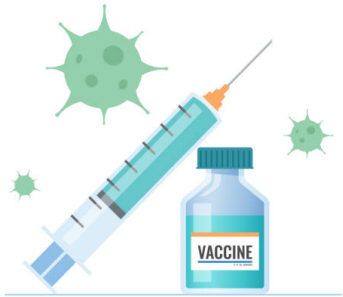
- 917,000 interview attempted
- 663,000 interview completed
- 243,000 cases with contacts elicited

Contacts

- 592,000 contacts
- 351,000 contacts successfully reached

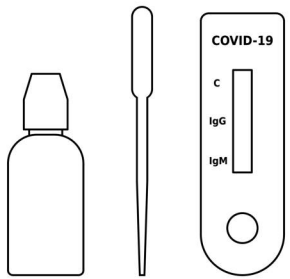


Vaccination



- Over 13.6 million COVID vaccines administrated
- 6.2 million with at least one dose
- 5.6 million fully vaccinated
- Over 2.1 million booster doses administered
- 3.613 mobile vaccine events in 2021 with 30,351 vaccines administered

Testing



- 4.6 million rapid antigen tests distributed
  - 2.6 million to schools and for school-based and sports-based testing
  - 554K to Corrections
  - 913K to Long Term Care Facilities
- 5,731 testing events and 323K tests at points of entry, community, and neighborhood sites
- MI Backpack Over the Counter Test Project
  - 118 schools and 120,000 at home tests

Funding

Total of $275 million went to local health departments to support COVID-19 efforts through fiscal year 2022.

Source: Michigan Department of Health and Human Services