MI COVID RESPONSE DATA AND MODELING UPDATE

November 15, 2022

Epidemiologic Surveillance: Key Messages

COVID and other respiratory viruses will continue to stress the healthcare system this fall and winter

- In Michigan, COVID metrics are mostly plateaued this fall
- Other respiratory illness, however, like cold, influenza, and RSV, are currently increasing in the U.S. and in Michigan
- Together, the impacts of these illnesses may stress the healthcare system and individuals should take precautions to protect themselves

COVID-19 pandemic is plateauing in some parts of the globe but slowly increasing in parts of the United States

- Case rates in Europe have declined following the recent wave in September and October
- Within the U.S., case rates increased 5.9% over the past week
- Most Midwestern states (Region 5) are showing signs of plateaus

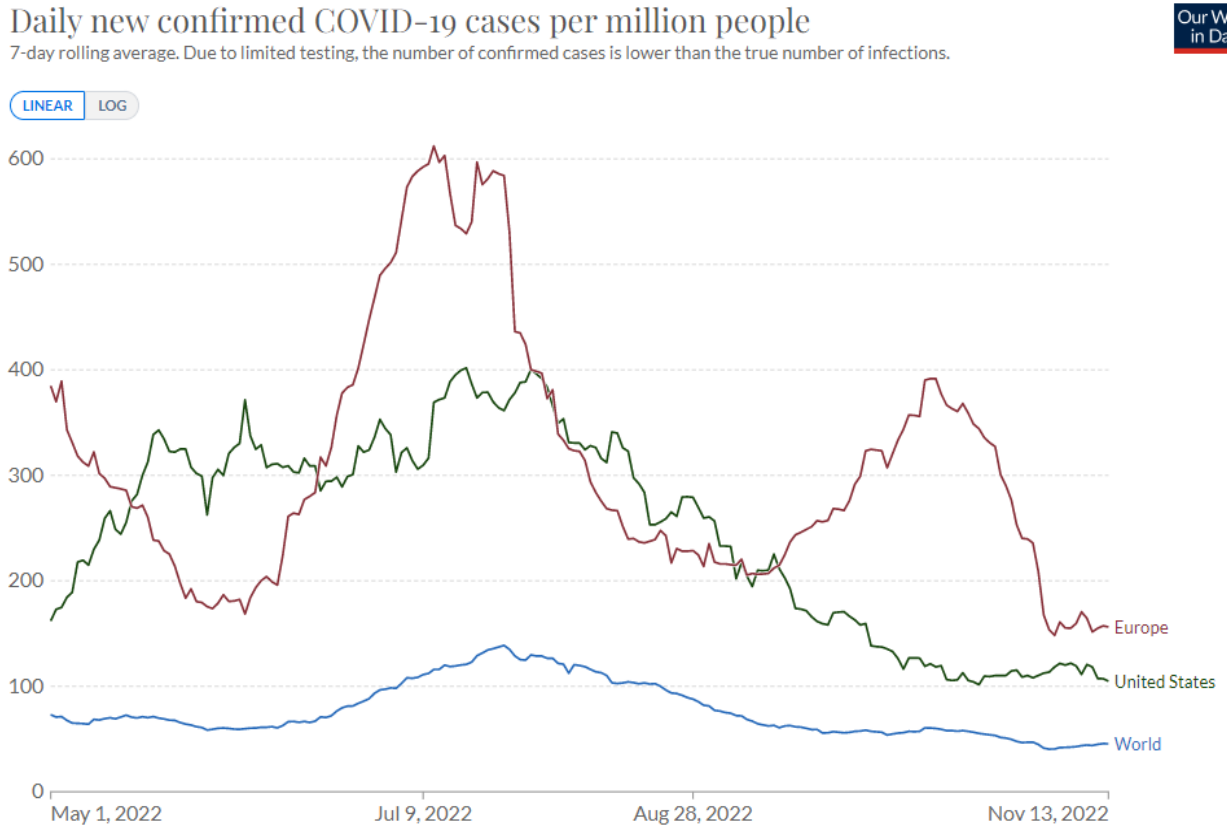
COVID spread in Michigan is slowly declining

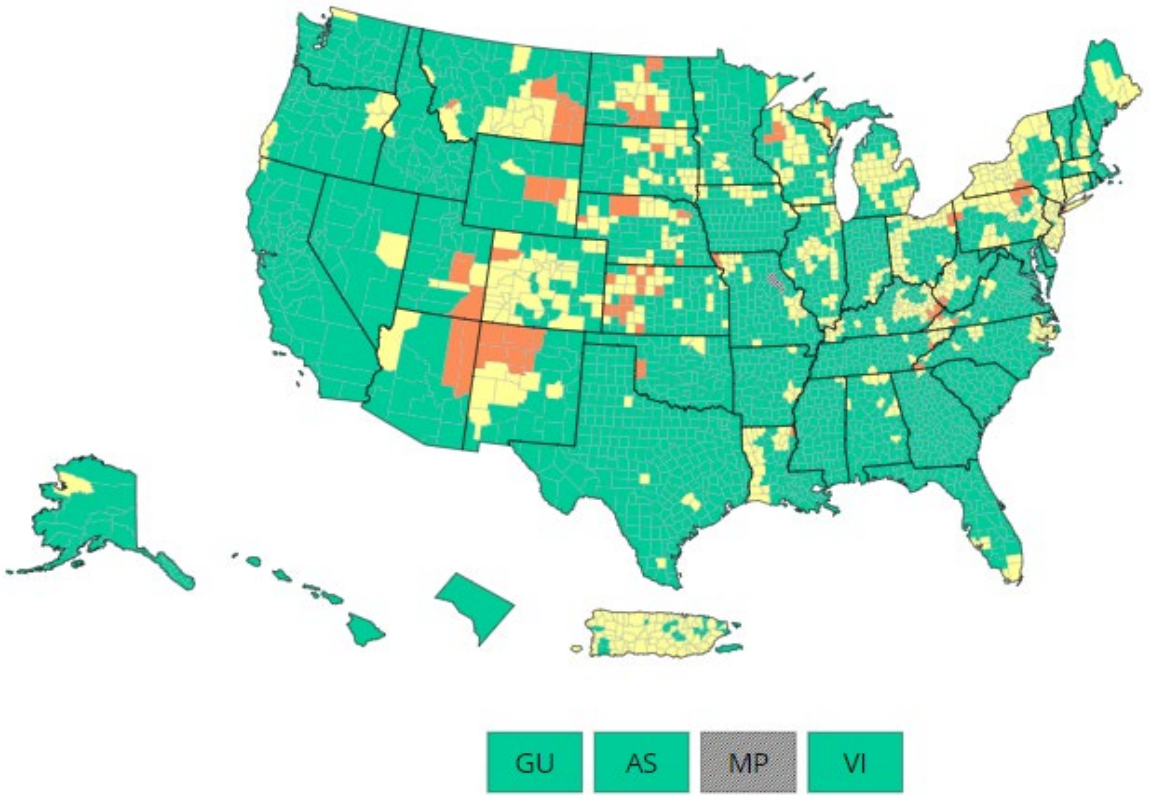
- As of November 10, 47% of Michigan counties are at medium or high COVID-19 community levels
  - One Michigan county classified as High this week according to CDC's Community Levels (1%). Another 38 Michigan counties are currently at Medium level (46%). Together, this represents 68% of the population.
- The R_t for Michigan is slightly below 1, indicating COVID is slowly declining
- The proportion of specimens sequenced and identified as BA.5 or one of it's sublineages in the U.S. and Michigan continues to be the most dominant
- 80% of wastewater SWEEP sites have reported levels that are 20% are higher than baseline threshold levels this week (up from 70% reported last week)

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

- COVID-19 hospital admissions and pediatric census showed decreases this week
- Pediatric hospital metrics overall (inpatient occupancy and ICU occupancy for all causes) have increased

Global and National Trends





Globally, 635,301,081 cases and 6,610,461 deaths (Data* through 11/14/2022)

- Case rates for many countries in Europe are in decline or have plateaued

United States: Reported cases (7-day average) have increased 5.9% since the prior week¶

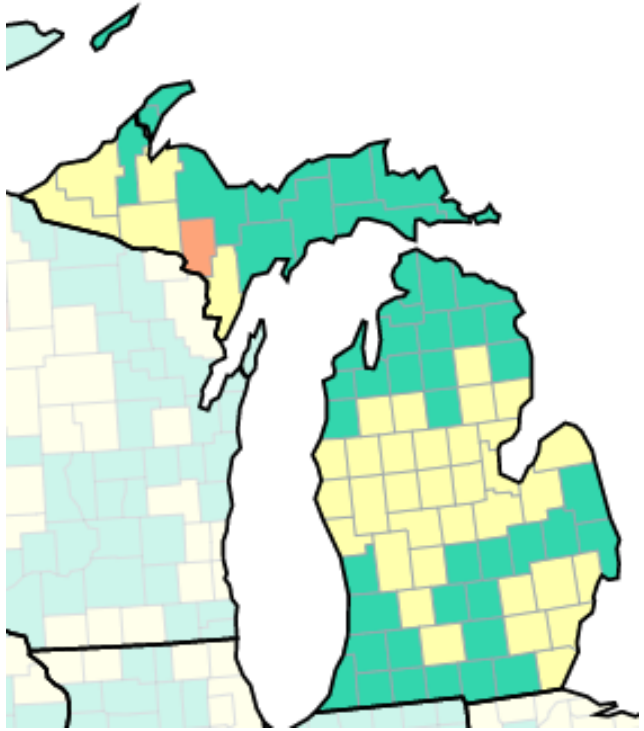
- U.S. case rate is 87.1 cases/100,000 in last 7 days (last week: 82.2 cases per/100,000)

Region 5 (Midwest) states are plateaued

- Wisconsin and Illinois have the highest case rates of states *in Region 5* (11/9/2022)

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

As of Nov 10, 1 Michigan County is at High COVID-19 Community Level



- In the US, 3% of counties have high risk for medically significant disease and healthcare strain
- In Michigan, 1% (1/83) of counties are at high risk. This represents less than 1% of the population
- 38 Michigan counties are currently at Medium level (46%). This represents 67% of the population
- 44 Michigan counties are currently at Low level (53%). This represents 32% of the population

Percent of Counties This Week

	United States	Michigan	Percent of MI Population
Low	76%	53%	32%
Medium	21%	46%	67%
High	3%	1%	<1%

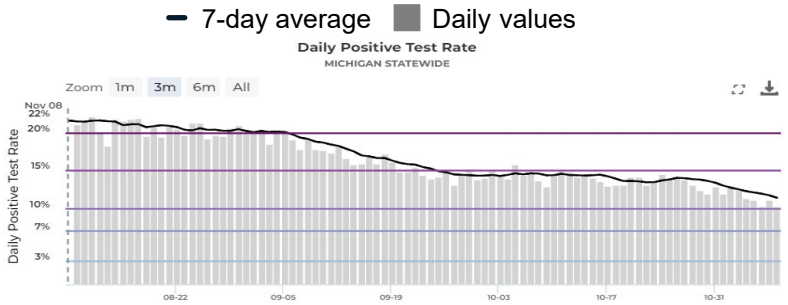
Low	Medium	High
• Stay up to date with COVID-19 vaccines • Get tested if you have symptoms	• If you are at high risk for severe illness, talk to your healthcare provider about whether you need to wear a mask and take other precautions • Stay up to date with COVID-19 vaccines • Get tested if you have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

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

Recent statewide trends are slowly declining

Statewide trends

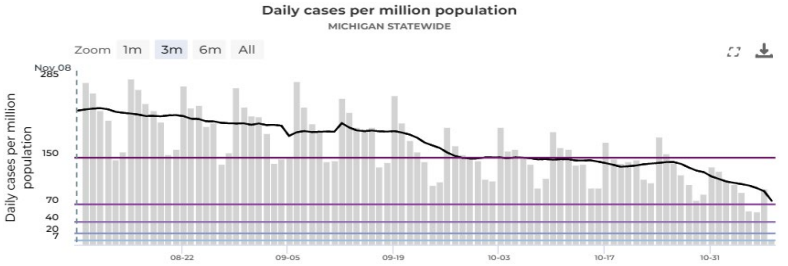
Positivity, %



Current: 11.4%

Last Week: 12.5%

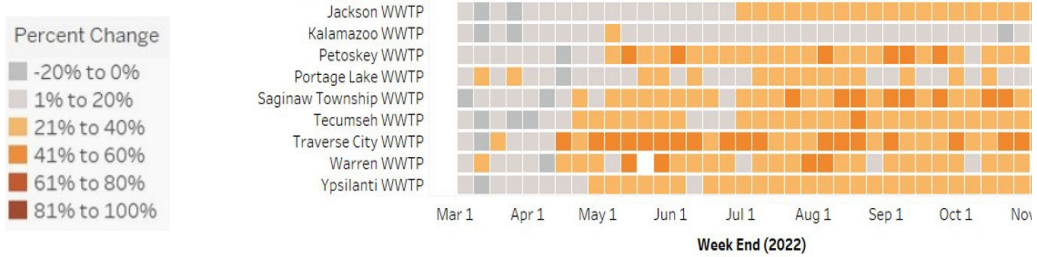
Daily cases per million



Current: 108.8

Last Week: 129.7

Wastewater



Current: 80% of sites are above 20% baseline threshold

Last Week: 70% of sites are above 20% baseline threshold

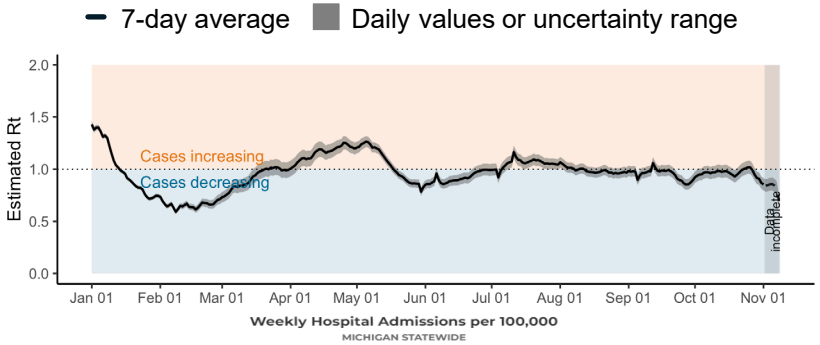
- The two core indicators, test percent positivity, and case rates, are slightly down over the past several weeks
- 10 counties are currently showing increases in cases and an additional 4 reported an elevated incidence plateau in case rates (via mistartmap.info as of 11/9/22, data through 11/1/22)
- 80% (16/20) of wastewater sentinel sites have reported levels that are 20% or higher than baseline threshold levels this week

Source: https://mistartmap.info/

Recent statewide trends are slowly declining

Statewide trends

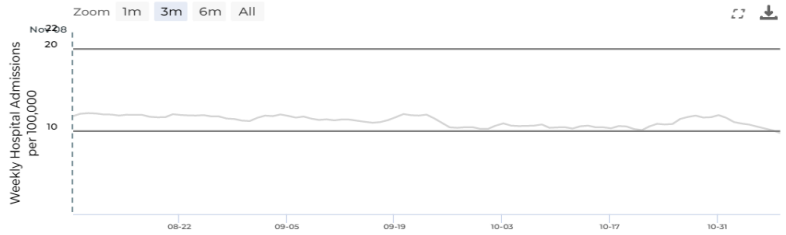
Reproductive Number, R_t



Current: 0.69

Last Week: 0.97

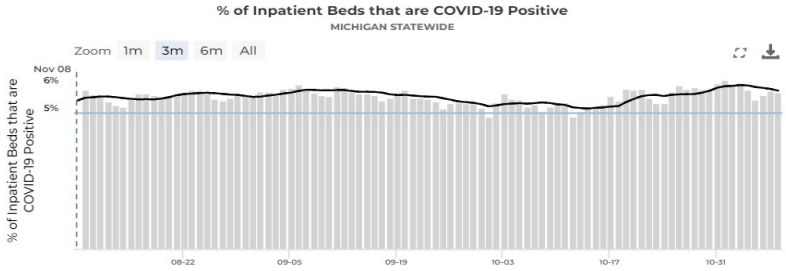
Hospital Admissions



Current: 9.8

Last Week: 11.0

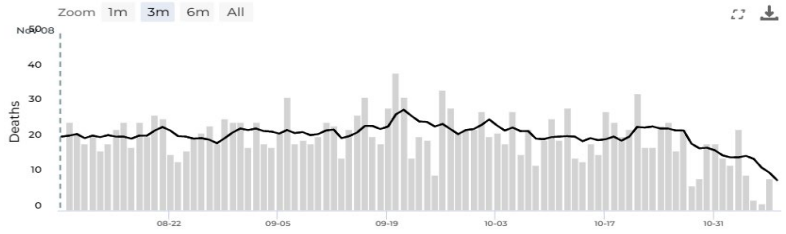
Daily hospitalization rate, %



Current: 5.7%

Last Week: 5.7%

Deaths



Current: 1.5

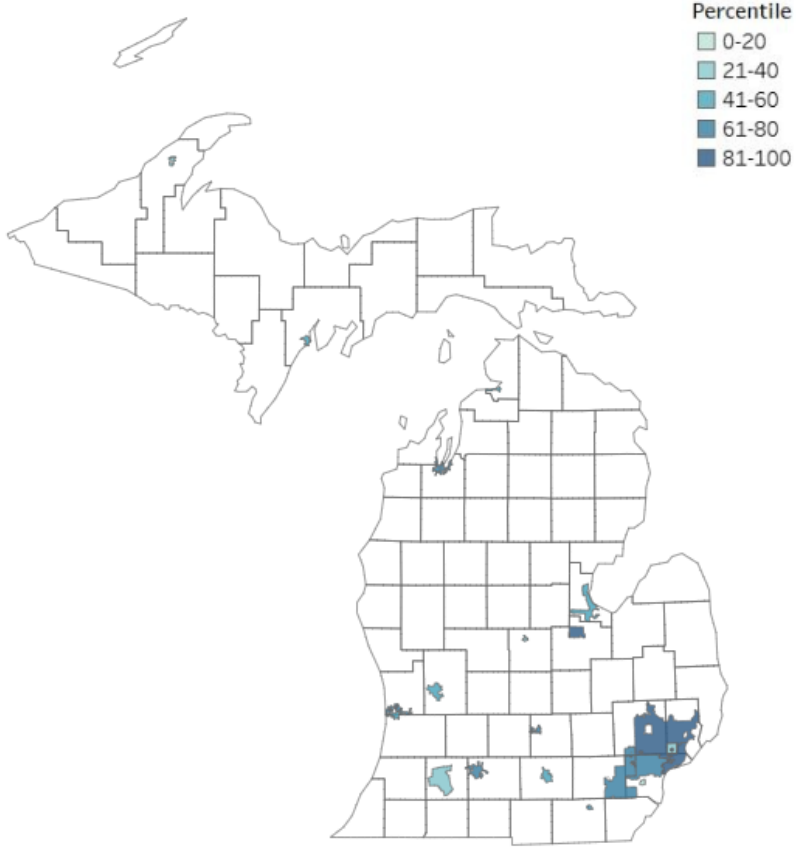
Last Week: 1.5

- The reproductive number (R_t) in Michigan is below 1 indicating that case trends are slowly declining
- There are an average of 9.8 hospital admissions per 100,000 Michiganders day which is slightly lower than last week
- The percent of inpatient beds that have patients diagnosed with COVID-19 are plateaued for the last week
- Deaths are a lagging indicator but remain steady compared to last week

Source: https://mistartmap.info/

Michigan COVID-19 SWEEP Sentinel Wastewater Dashboard

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



Site	Sewershed Population	Consecutive Weeks of Virus Detection	Trend As Of	15-Day Trend
Alma WWTP	8976	29	10/31/2022	
Battle Creek WWTP	51093	29	11/2/2022	
Bay City WWTP	34000	20	11/3/2022	
Delhi Township WWTP	22500	31	10/26/2022	
Escanaba WWTP	12600	27	11/2/2022	
GLWA Detroit River Interce..	492000	17	11/2/2022	
GLWA North Interceptor-Ea..	1482000	84	11/2/2022	
GLWA Oakwood-Northwest..	840600	107	11/2/2022	
Grand Rapids WWTP	265000	65	11/3/2022	
Holland WWTP North	45606	29	11/2/2022	
Holland WWTP South	36912	31	11/2/2022	
Jackson WWTP	90000	68	11/3/2022	
Kalamazoo WWTP	150000	2	11/3/2022	
Petoskey WWTP	7900	28	10/26/2022	
Portage Lake WWTP	14000	60	11/2/2022	
Saginaw Township WWTP	40000	30	11/3/2022	
Tecumseh WWTP	8680	43	11/4/2022	
Traverse City WWTP	45000	34	11/3/2022	
Warren WWTP	135000	28	10/25/2022	
Ypsilanti WWTP	330000	68	11/4/2022	

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

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

Current results reflect data that were uploaded to MDHHS as of 11/9/2022. Labs are required to report test results to local partners within 24 hours. Data is subject to change as additional wastewater data and case data are received.

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

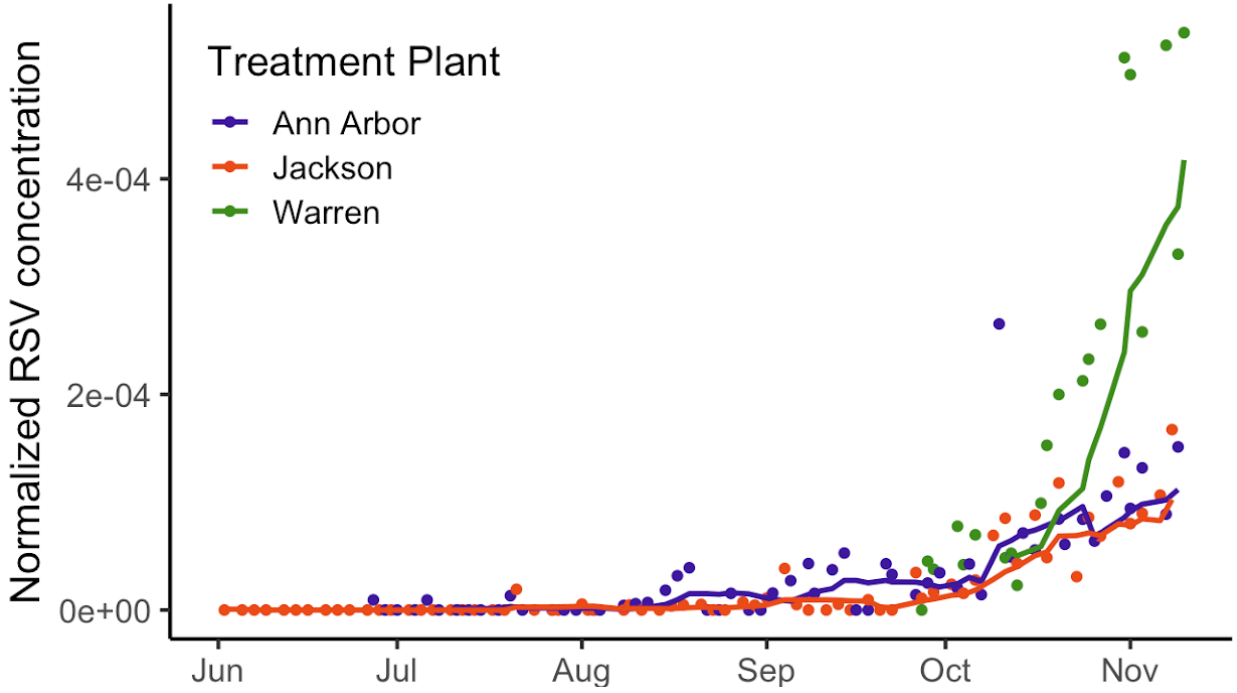
SWEEP Summary

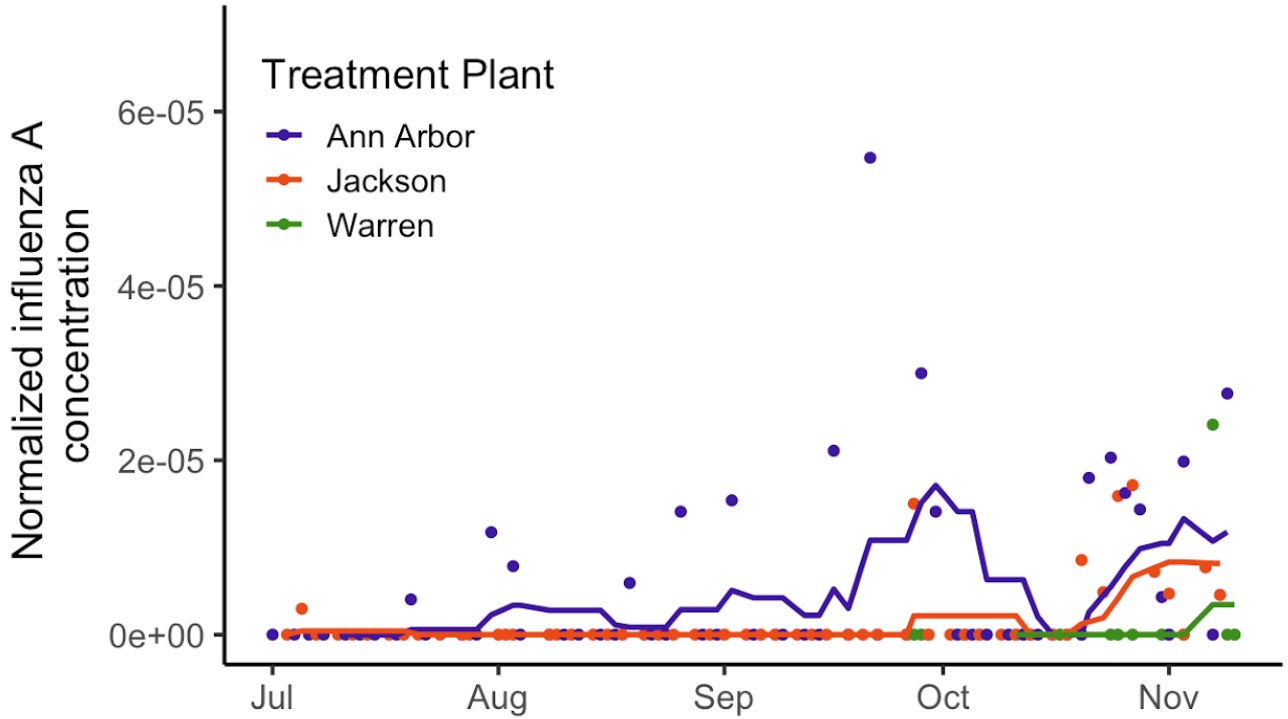
- 45% (9/20) of sentinel sites are showing increasing trends over last 15-days
- 20% (4/20) of sites have plateaued over the last 15 days
- 35% (7/20) of sentinel sites are showing declines in the previous 15-days

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

Seeing increasing RSV levels in wastewater, intermittent flu activity

- Ann Arbor and other sites seeing increasing levels of RSV
- Influenza A showing intermittent activity, now seeing in all three sites

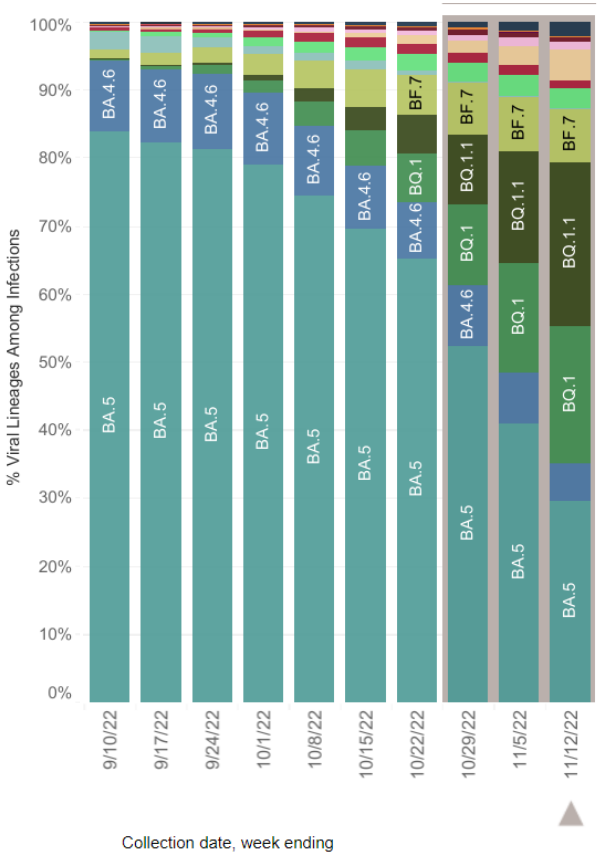




Source: SCAN/Verily Project: http://publichealth.verily.com
All data normalized to PMMoV. Line represents 7-day rolling average.

Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan: Predominately BA.5 and BA.4 sublineages

SARS-CoV-2 Variants Circulating in the United States, Sep 4 – Nov 12 (NOWCAST)

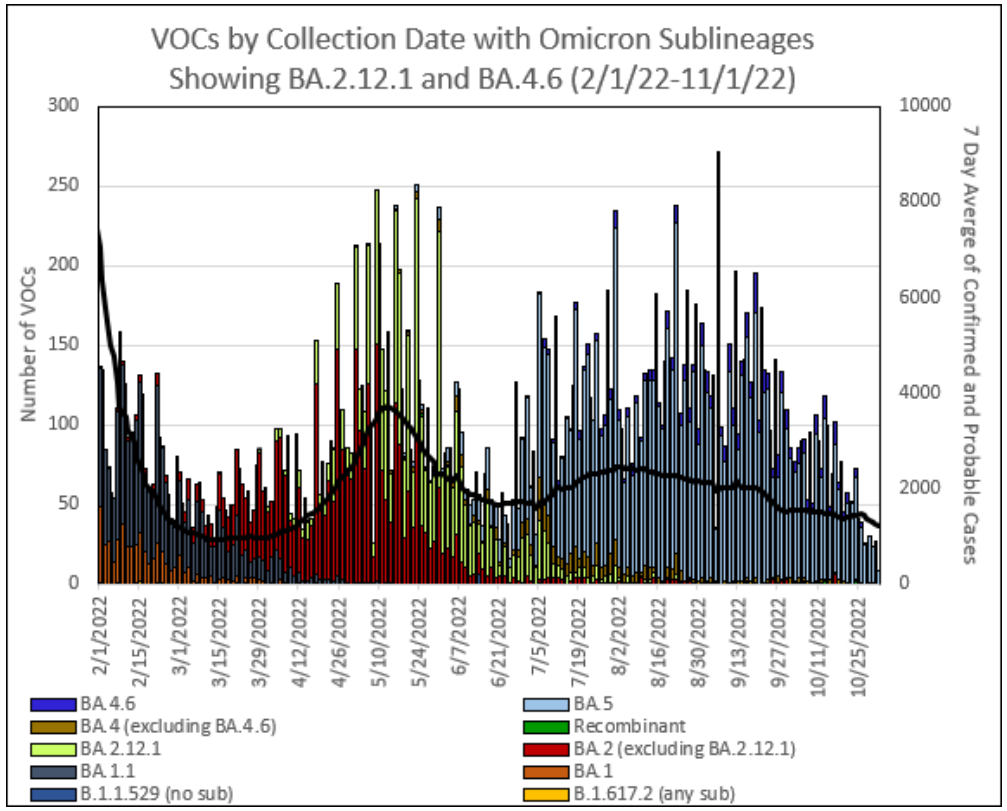


USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.5	VOC	29.7%	27.2-32.3%
	BQ.1.1	VOC	24.1%	21.3-27.3%
	BQ.1	VOC	20.1%	17.2-23.4%
	BF.7	VOC	7.8%	6.8-9.0%
	BA.4.6	VOC	5.5%	5.0-6.2%
	BN.1	VOC	4.3%	3.0-6.2%
	BA.5.2.6	VOC	2.9%	2.5-3.4%
	BA.2	VOC	1.3%	0.8-1.9%
	BA.2.75	VOC	1.2%	1.0-1.5%
	BA.2.75.2	VOC	0.9%	0.6-1.2%
	BA.4	VOC	0.1%	0.1-0.1%
	BA.1.1	VOC	0.0%	0.0-0.0%
	B.1.1.529	VOC	0.0%	0.0-0.0%
	BA.2.12.1	VOC	0.0%	0.0-0.0%
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%
Other	Other*		2.0%	1.1-3.3%

* 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
# BA.1, BA.3 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. Except BA.2.12.1, BA.2.75, BA.2.75.2, BN.1 and their sublineages, BA.2 sublineages are aggregated with BA.2. Except BA.4.6, sublineages of BA.4 are aggregated to BA.4. Except BF.7, BA.5.2.6, BQ.1 and BQ.1.1, sublineages of BA.5 are aggregated to BA.5. For all the lineages listed in the above table, their sublineages are aggregated to the listed parental lineages respectively. Previously, BN.1 was aggregated with BA.2.75. Lineages BA.2.75.2, BN.1, BA.4.6, BF.7, BA.5.2.6 and BQ.1.1 contain the spike substitution R346T.

VOC Distribution in Michigan

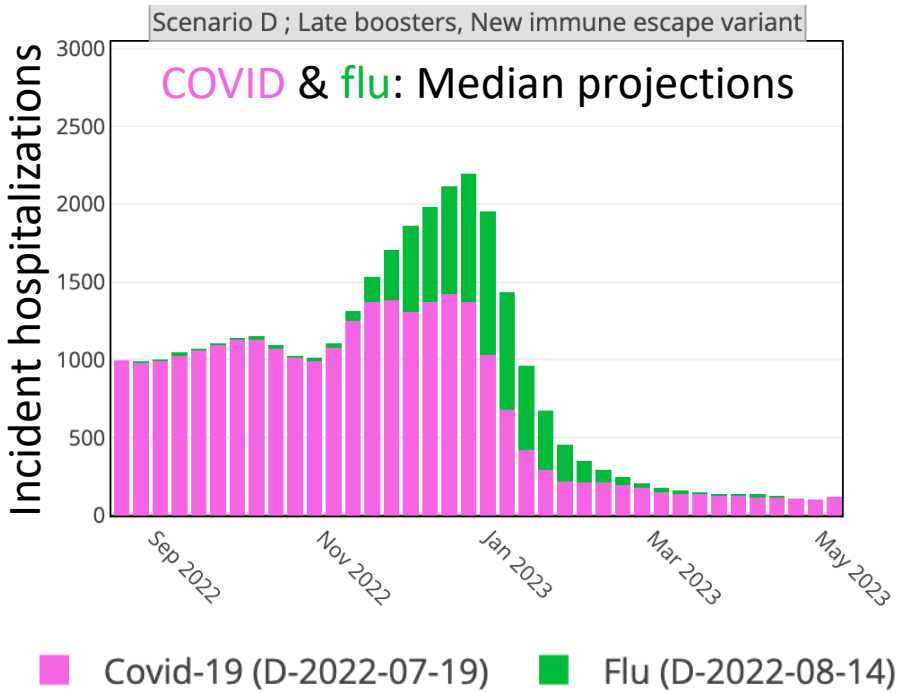


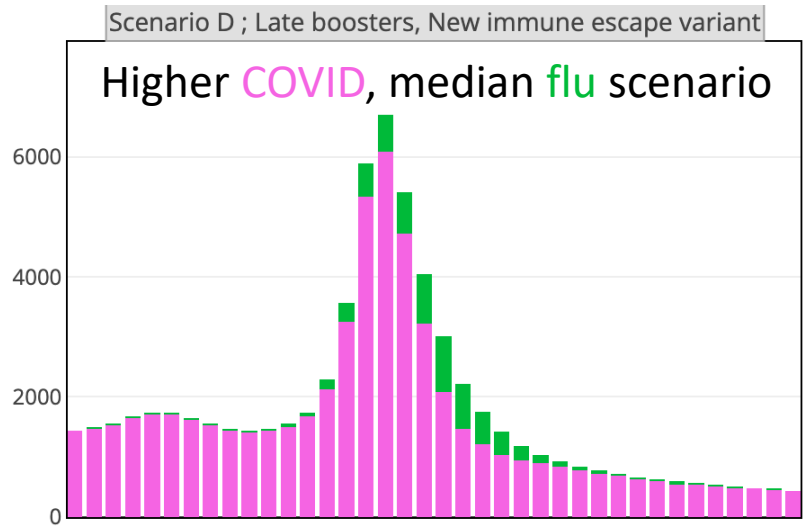
- Since October 1, there have 2,019 VOC specimens sequenced
- 100% of specimens sequenced are Omicron
  - Since October 1, 87% of specimens sequenced and reported (n=1,773) have been identified as BA.5; of which 7.1% of those specimens are BF.7 (n=125); 2.6% of all BA.5 specimens are BQ.1 (n= 46); and 3.2% of all BA.5 specimens are BQ.1.1 (n=57)

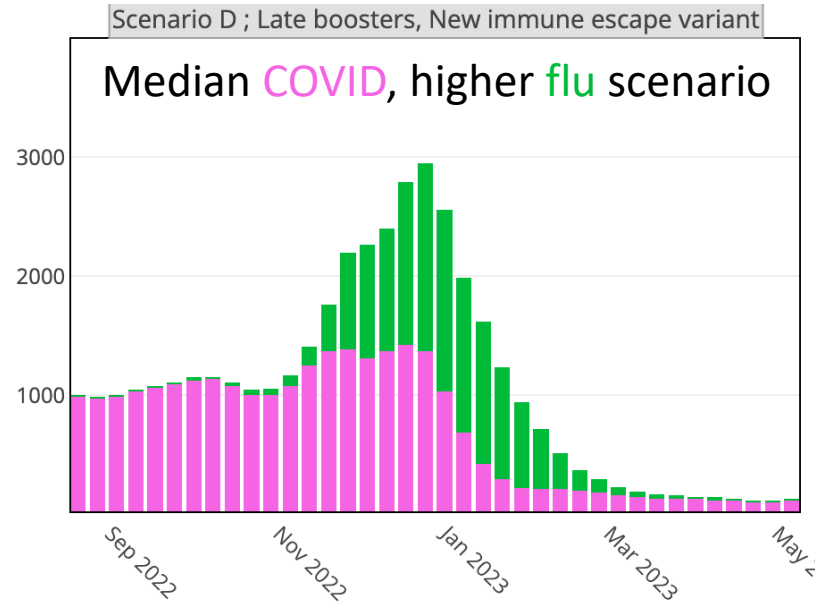
Data last updated Nov 15, 2022
Source: CDC COVID Data Tracker: Genomic Surveillance and Michigan's MDSS; sequence data may take up to four weeks to process and get reported back to health departments

Scenario Hub projections suggest a combined flu/COVID winter hospitalization surge

- Surge size and whether surge is primarily flu, COVID, or a mix depends on new COVID variants and vaccine uptake and effectiveness
- Multiple scenarios simulated (only a few shown here), most show some kind of winter surge
- Did not simulate other respiratory illnesses (e.g. RSV)



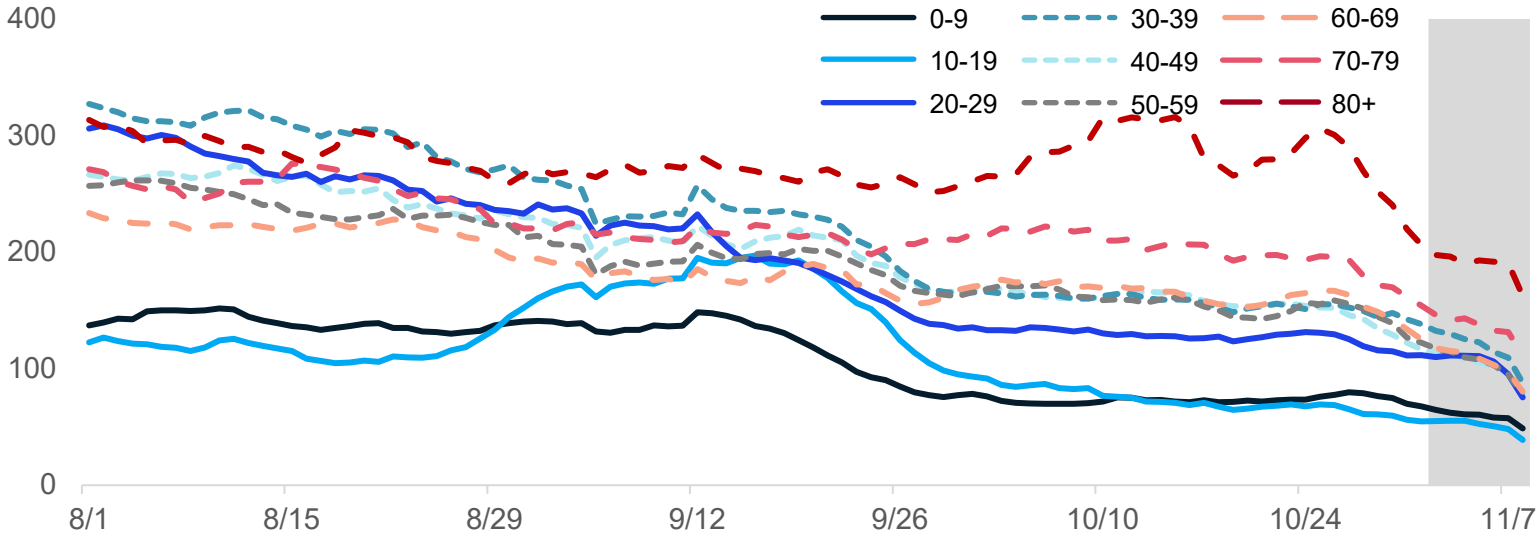




COVID scenario shown: late booster uptake, new immune escape variant; Flu scenario shown: pessimistic immunity and low vaccine protection. Higher scenario is the 0.75 quartile in the uncertainty range.
Source: Round 15 Scenario Modeling Hub Projections

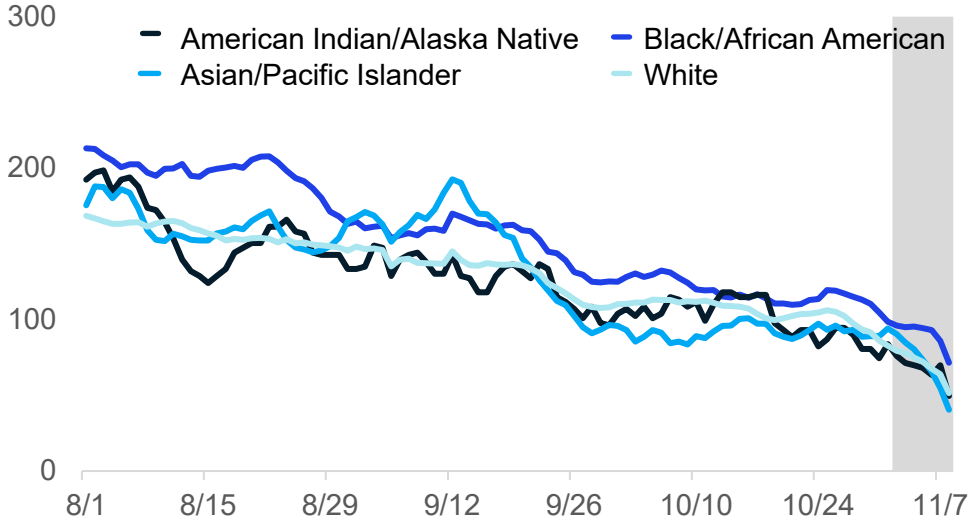
Case rates have declined for most age groups

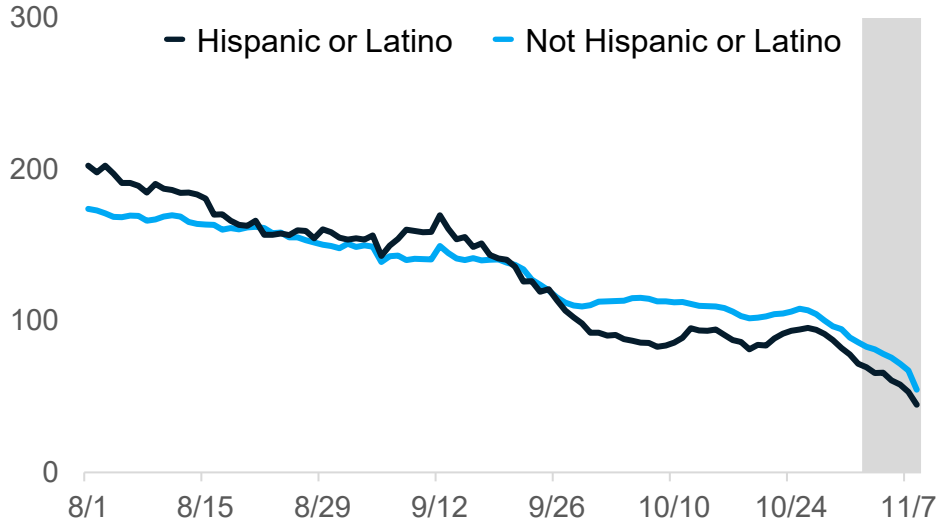
Daily new confirmed and probable cases per million by age group (7-day rolling average)



- Case rates by onset date for all age groups are between 54.6 and 206.2 cases per million (through 11/1)
- Case counts and case rates are highest for 80+-year-olds this week, followed by 70-79-year-olds and the 30-39-year-old age groups

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





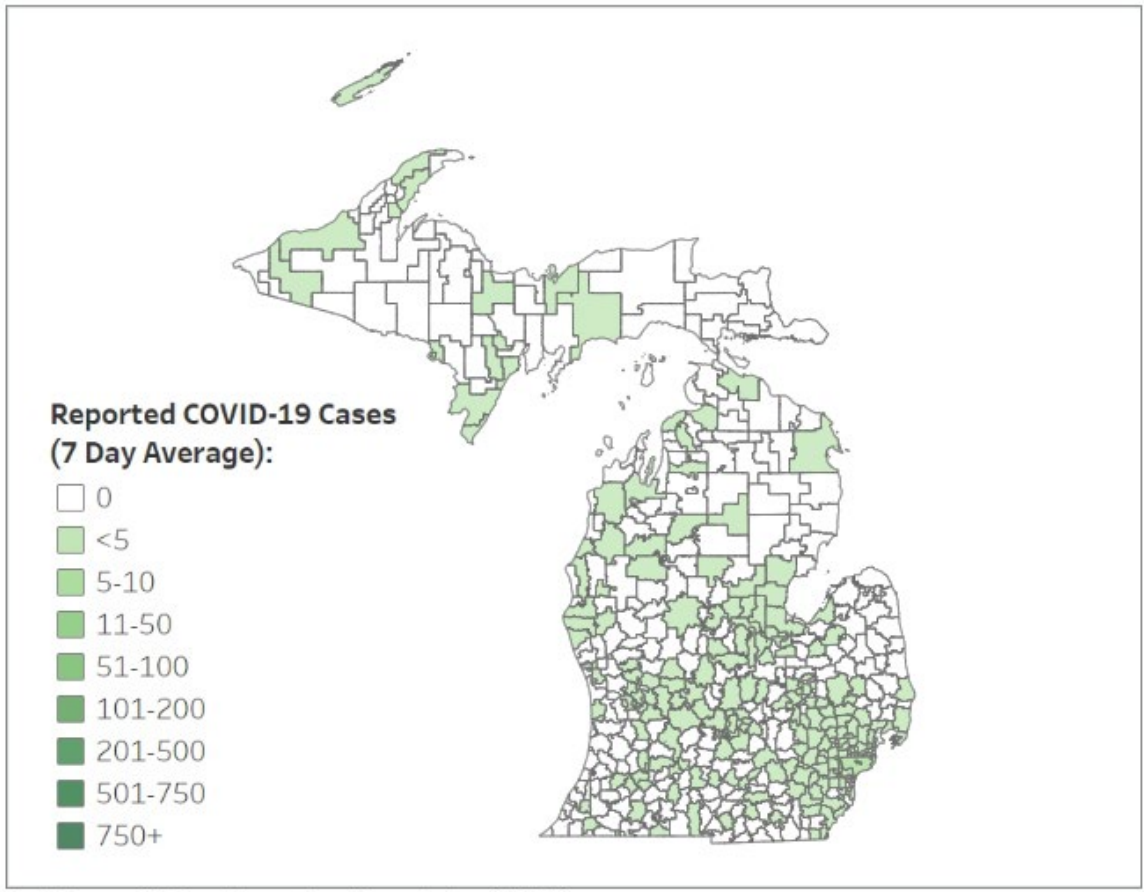
- Case rates are highest for Black populations (98.6 cases/million)
- Between 20-25% of cases in last 30 days have missing race/ethnicity data

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

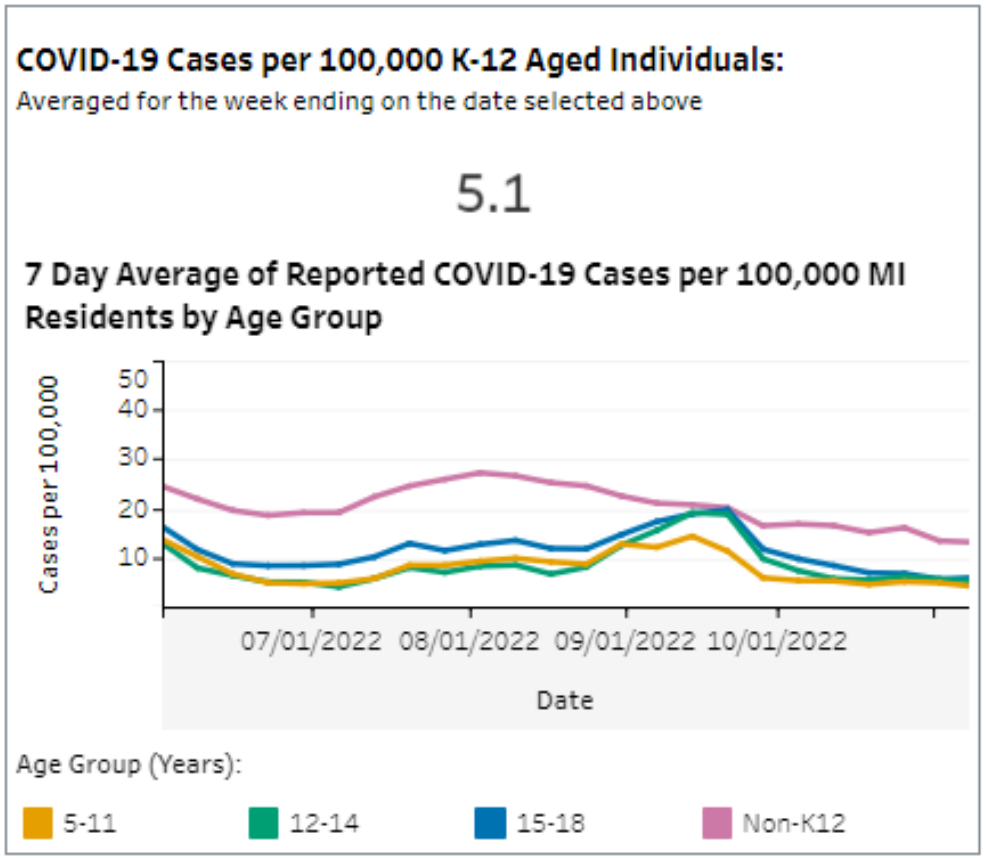
COVID case rates among K-12 age individuals have plateaued

K-12 age population summary:

- Overall case rates among school-aged populations has plateaued (7-day average 5.1)
- 42% (↓) of school district areas have between 1-10 cases
- 4 ISD areas have greater than 5 cases



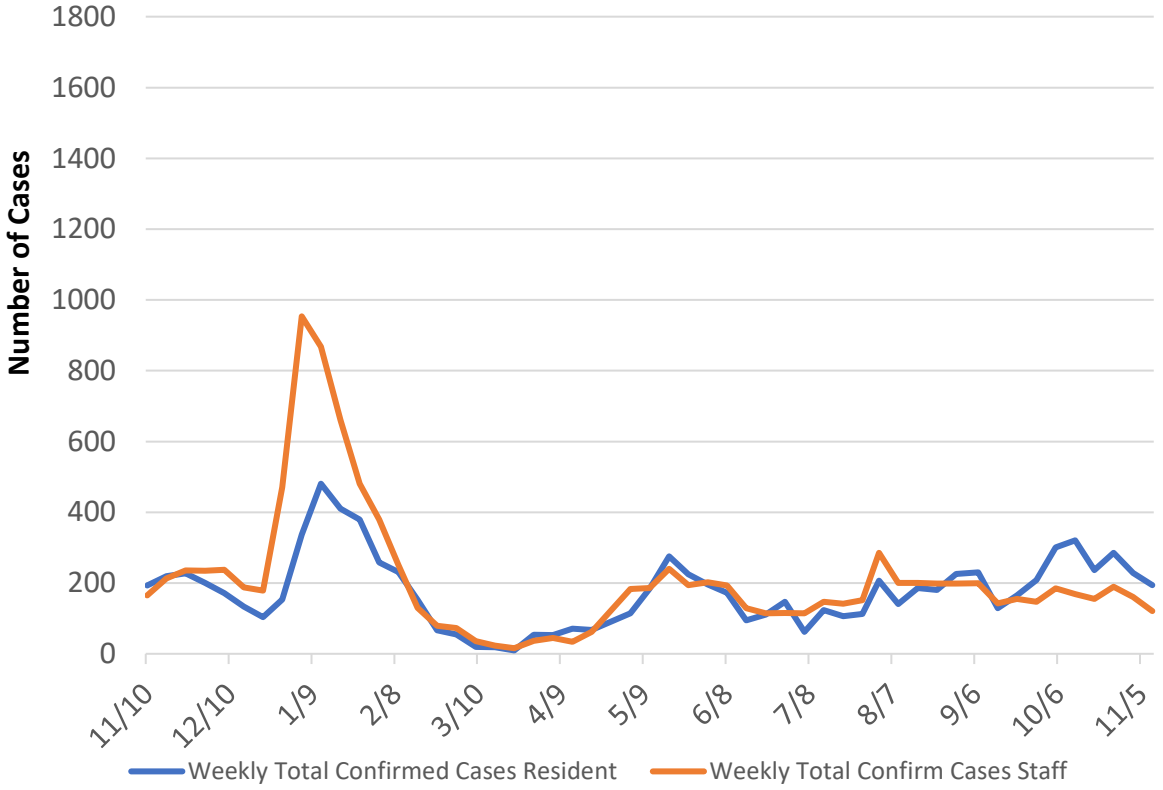
Data Source: Michigan Disease Surveillance System (MDSS)
Last Updated: 11/15/2022



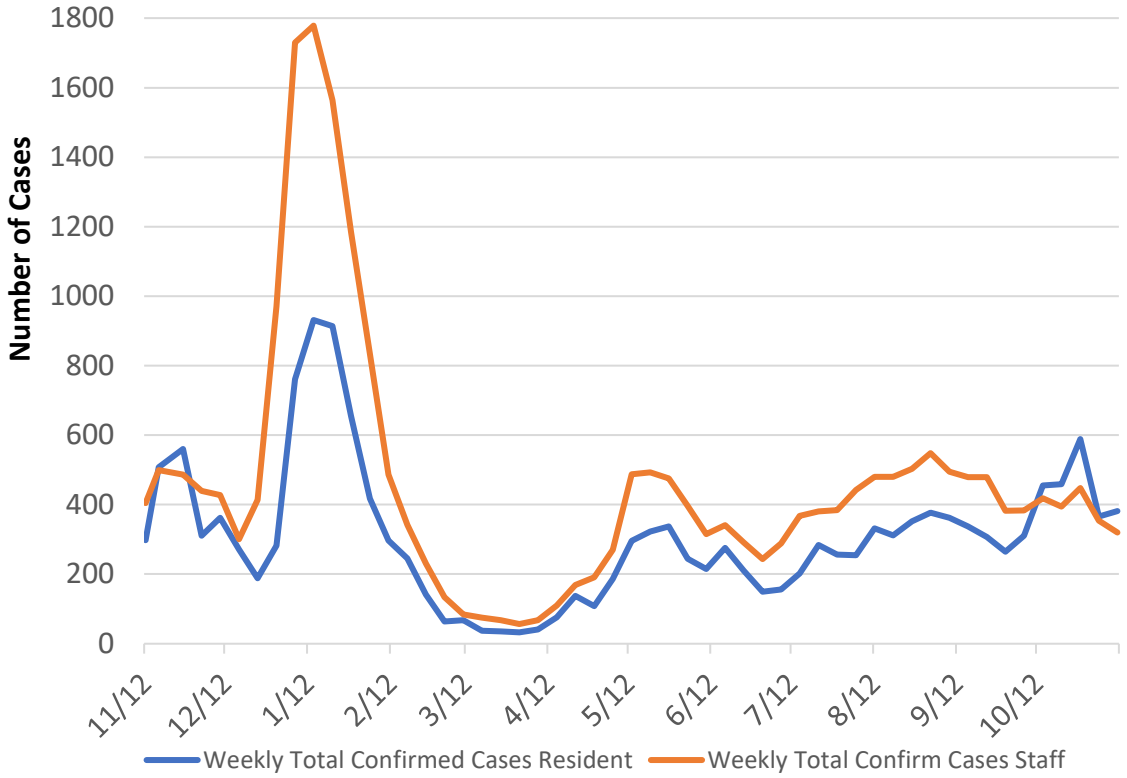
Interactive dashboard and data download can be found at: https://www.michigan.gov/coronavirus/stats/k-to-12-aged-isd-reporting

COVID-19 Cases Among Staff and Residents in Long Term Care Facilities

STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN AFC/HFA RESIDENTS AND STAFF
11/10/2021 TO 11/09/2022



STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN SNF
RESIDENTS AND STAFF
11/12/2021 TO 11/11/2022



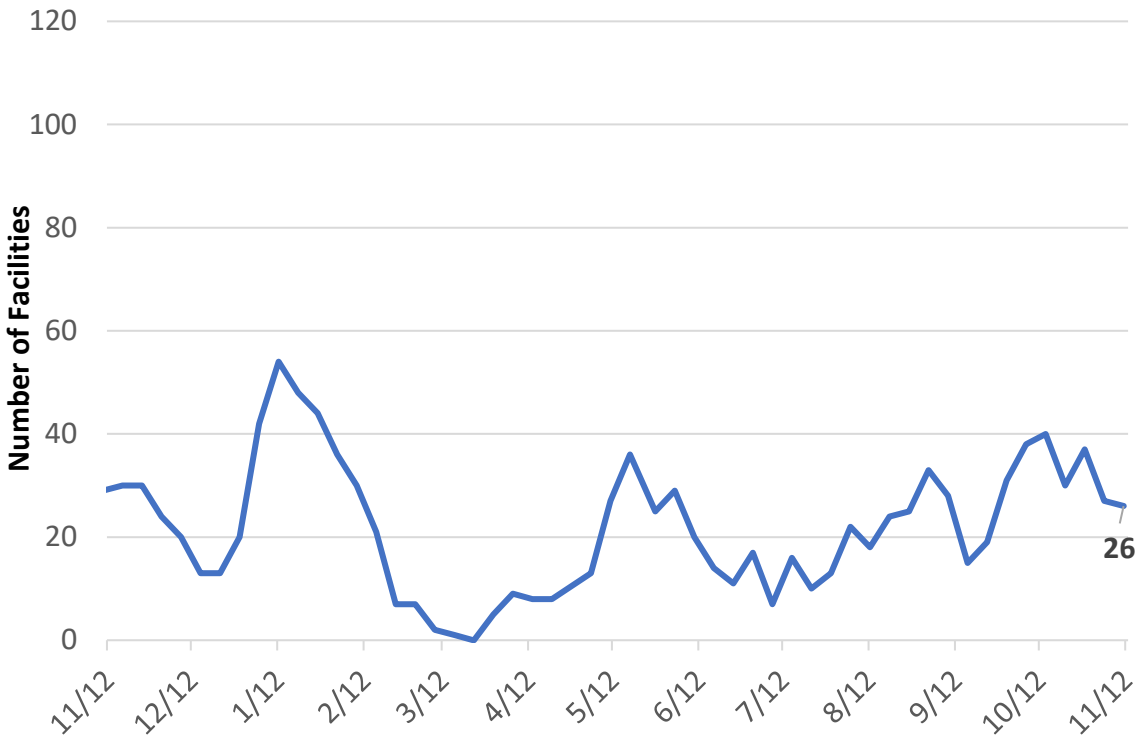
- Case counts in residents decreased in AFC/HFA (229 to 194) and increased in SNFs (366 to 381) since last week
- Case counts in staff decreased in AFC/HFA (161 to 121) and in SNFs (354 to 320) since last week
- **29%** of SNFs are reporting **nursing shortages** and **30%** of SNFs are reporting **aide shortages**, which is plateaued since end of July

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

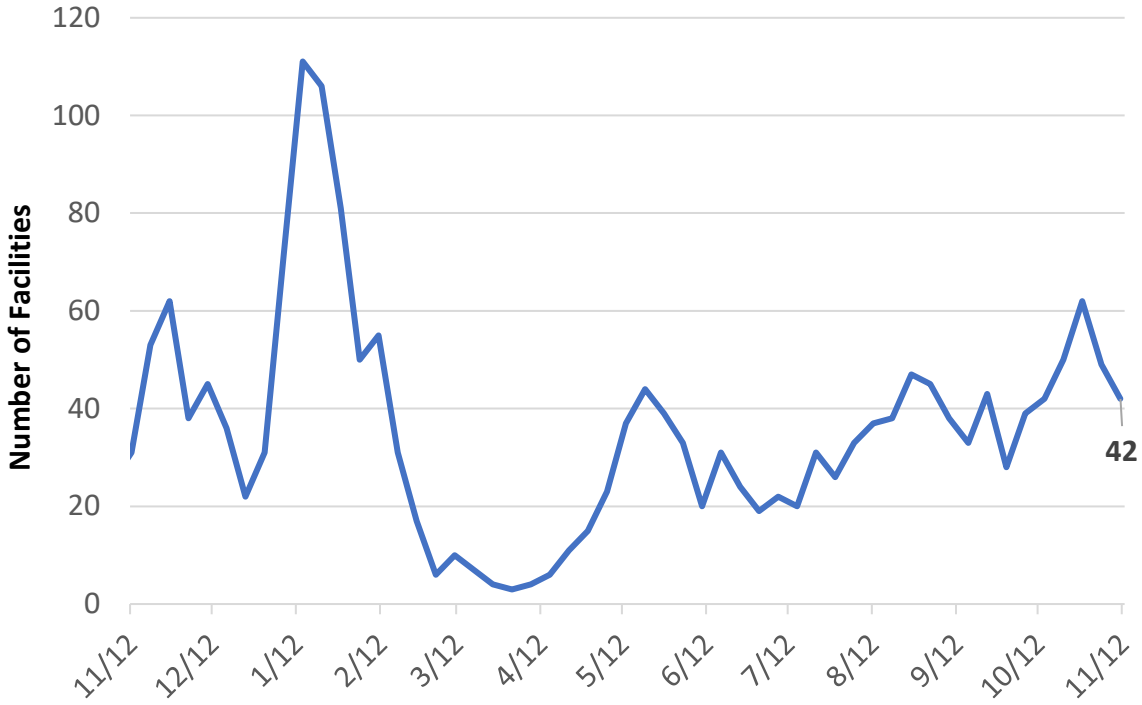
The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

Reported Number of Clusters in Long Term Care Facilities

Number of AFC/HFAs with 3 or more Confirmed Cases



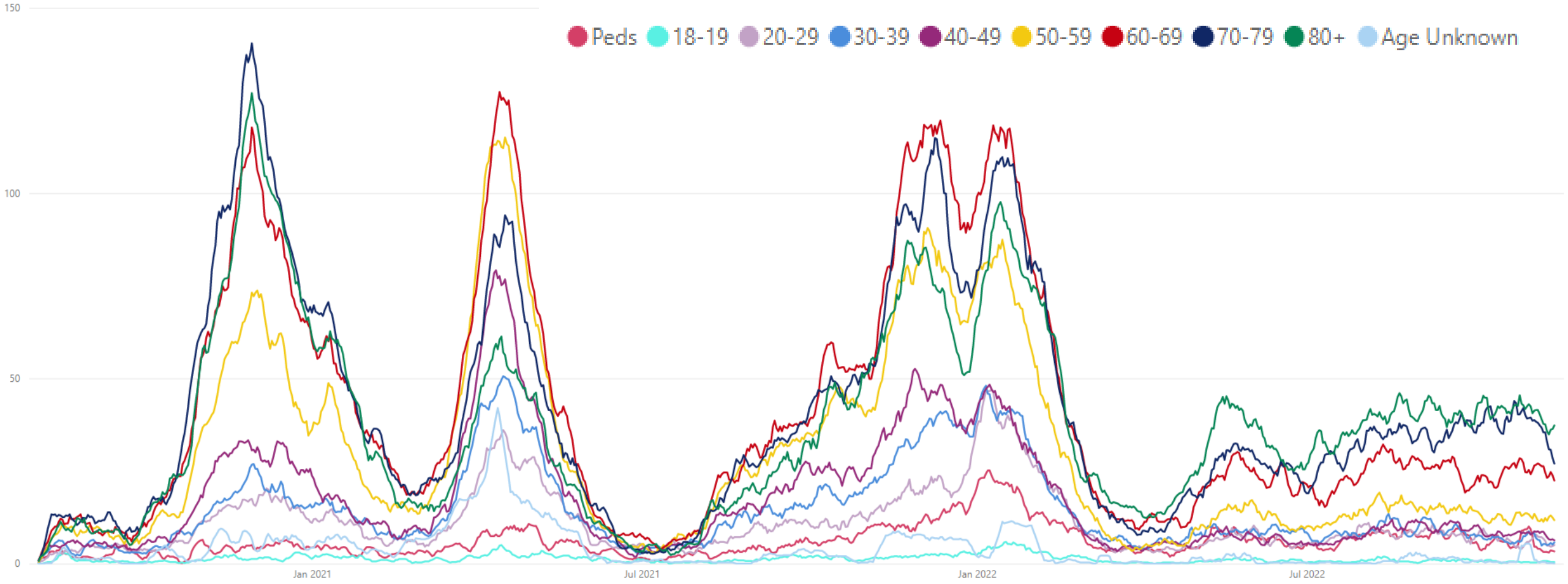
Number of SNFs with 3 or more Confirmed Cases



- The number of Long-Term Care Facilities reporting 3 or more cases within a single reporting period is slowly increasing over the past 4 months with weekly fluctuations
- This week, the number has decreased in **AFC/HFAs (**27 to 26) and in **SNFs** (49 to 42) since the previous week

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

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

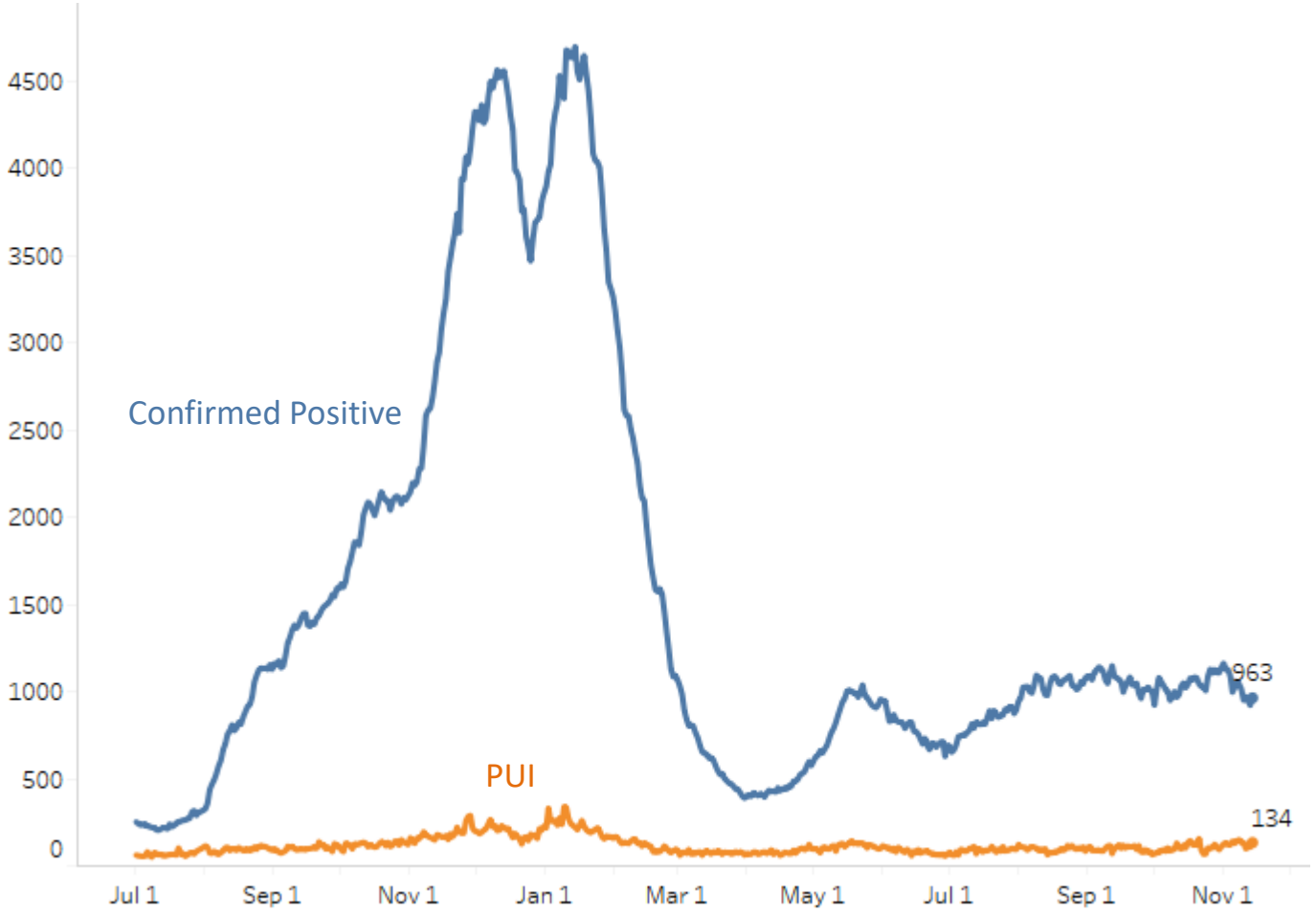


- Trends for daily average hospital admissions decreased (-14%) compared to last week
- This week, those over the age of 80 experienced the highest average daily admission (37.3 admissions/day)
- Those 60-69, 70-79, and 80+ are seeing between 20 and 40 daily hospital admissions

Source: CHECC & EM Resource

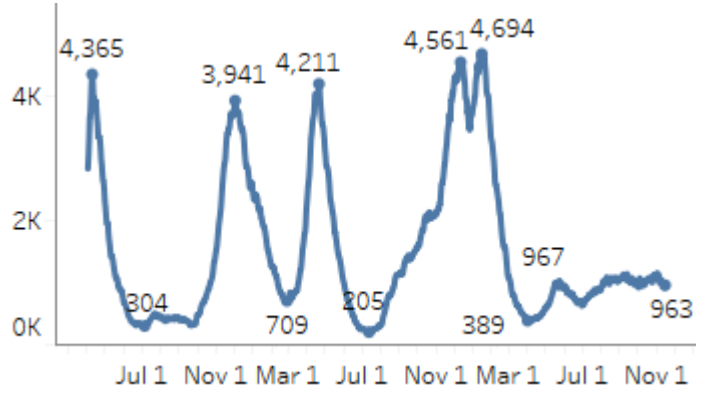
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 7/1/2021 – 11/14/2022
Confirmed Positive & Persons Under Investigation (PUI)



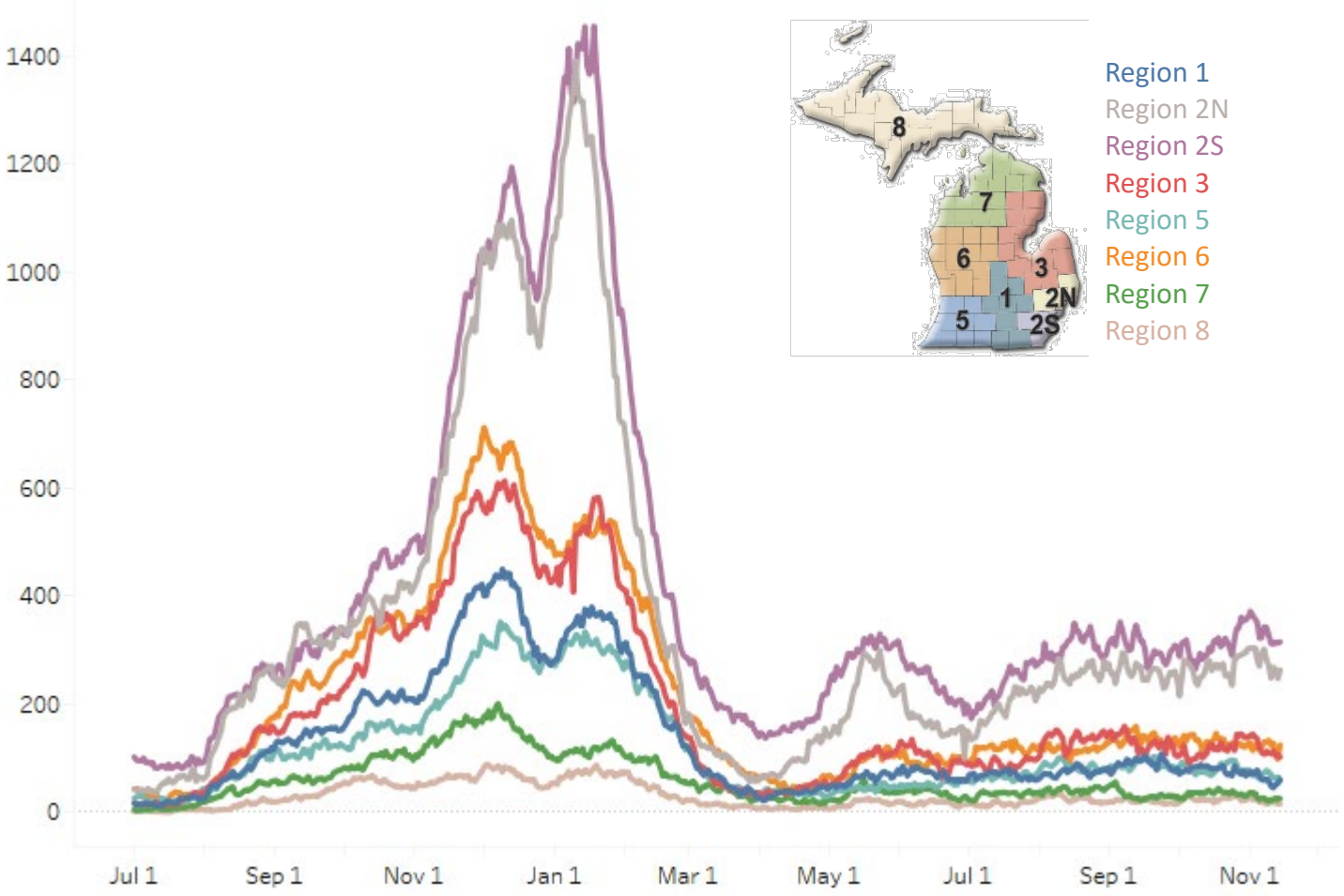
The COVID+ census in hospitals has decreased by 9% from last week. Overall census is currently 963 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 11/14/2022
Confirmed Positive by Region



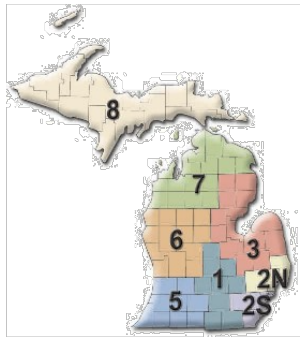
This week hospitalizations have decreased or remained flat in Regions 2N, 2S, 3, 5, 6, 7 and 8. Hospitalizations have increased slightly in Region 1.

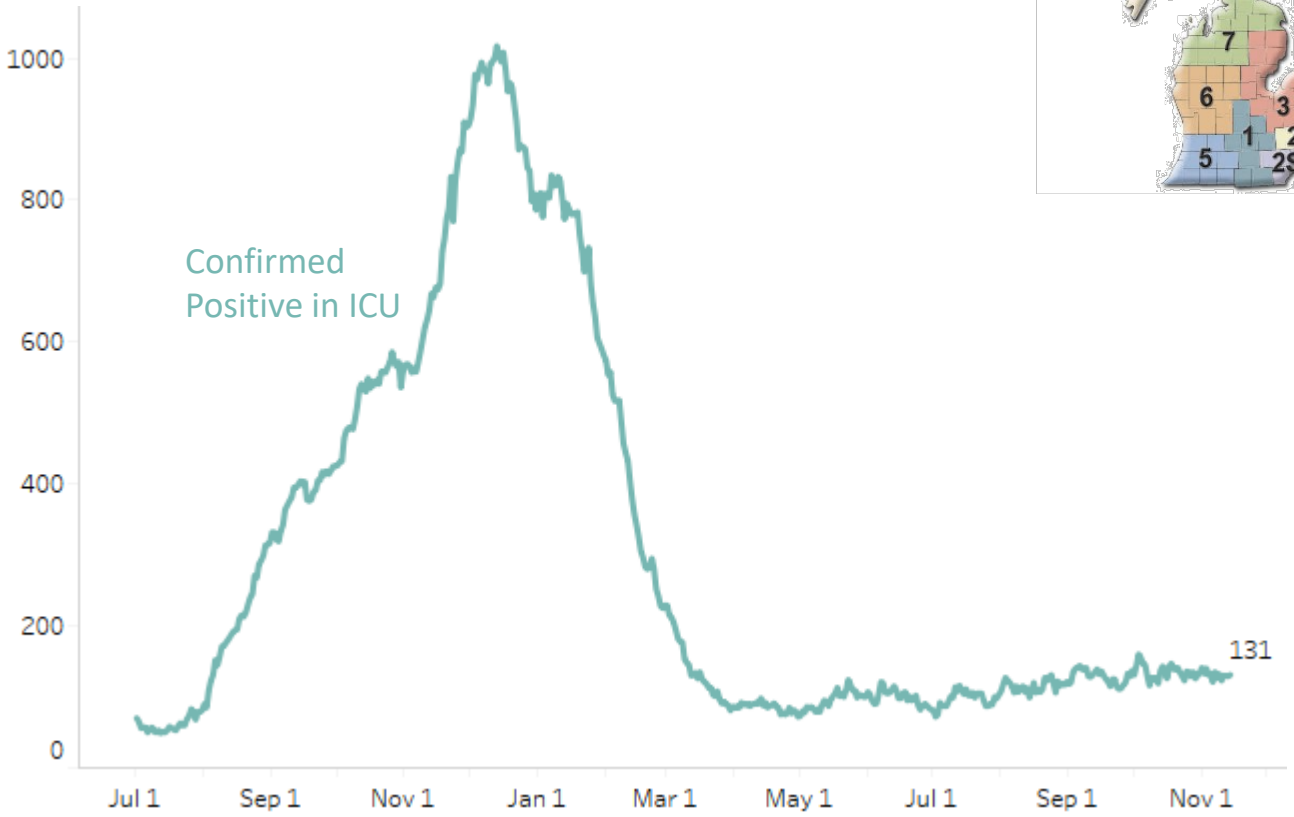
Regions 2N and 2S have greater than 100/Million population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	60 (2%)	55/M
Region 2N	263 (-13%)	119/M
Region 2S	315 (-8%)	141/M
Region 3	102 (-5%)	90/M
Region 5	59 (-19%)	62/M
Region 6	124 (-5%)	85/M
Region 7	25 (-4%)	50/M
Region 8	15 (-12%)	48/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 7/1/2021 – 11/14/2022
Confirmed Positive in ICUs





Overall, the volume of COVID+ patients in ICUs has decreased by 3% from last week. There are 131 COVID+ patients in ICU beds across the state.

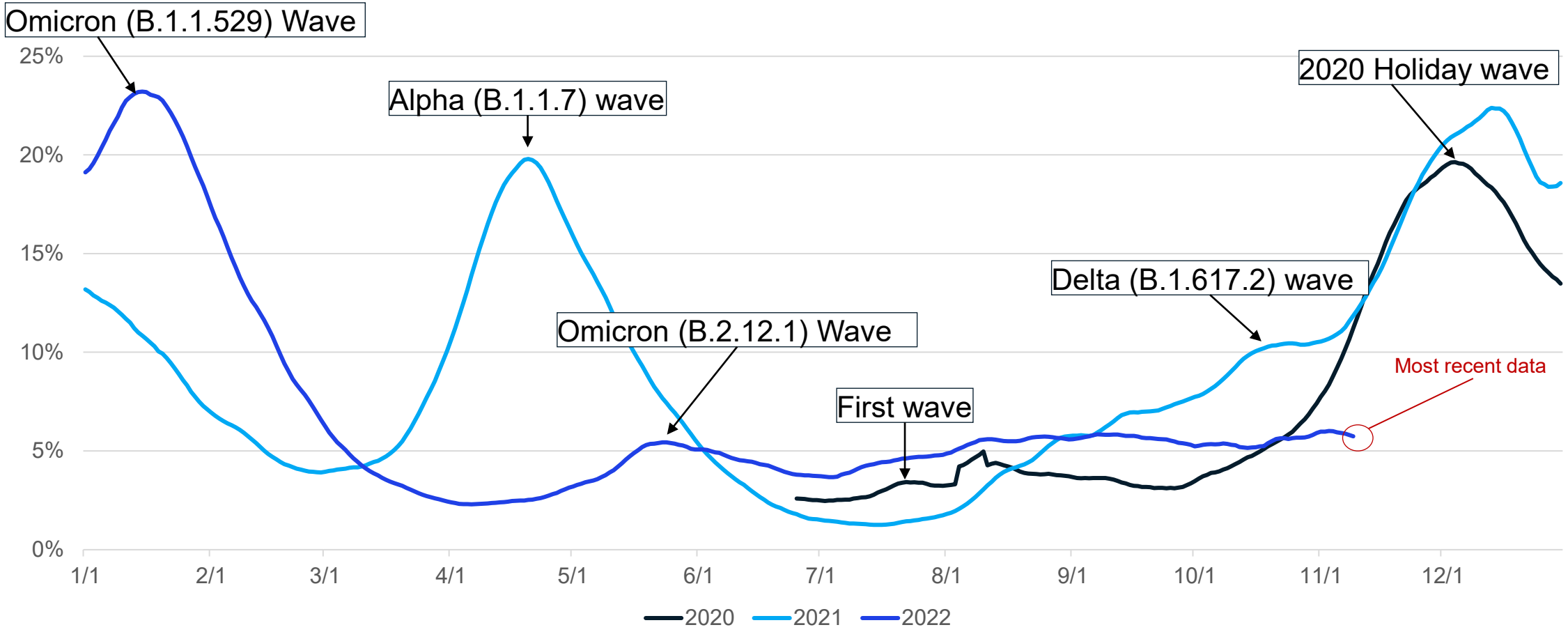
ICU occupancy is greater than 85% in Regions 1 and 3. All regions have fewer than 10% of ICU beds occupied by COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	11 (38%)	86%	6%
Region 2N	27 (-36%)	68%	5%
Region 2S	48 (-8%)	76%	7%
Region 3	16 (33%)	89%	5%
Region 5	9 (50%)	65%	5%
Region 6	12 (50%)	80%	5%
Region 7	6 (20%)	83%	4%
Region 8	2 (0%)	60%	3%

Percent of Inpatients with COVID is Currently Lower than the Past Two Years

- The percent of inpatients who are COVID+ remains lower than Alpha, Omicron, and holiday wave peaks
- Current hospital levels are fairly plateaued, and below levels in fall 2020 and fall 2021

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

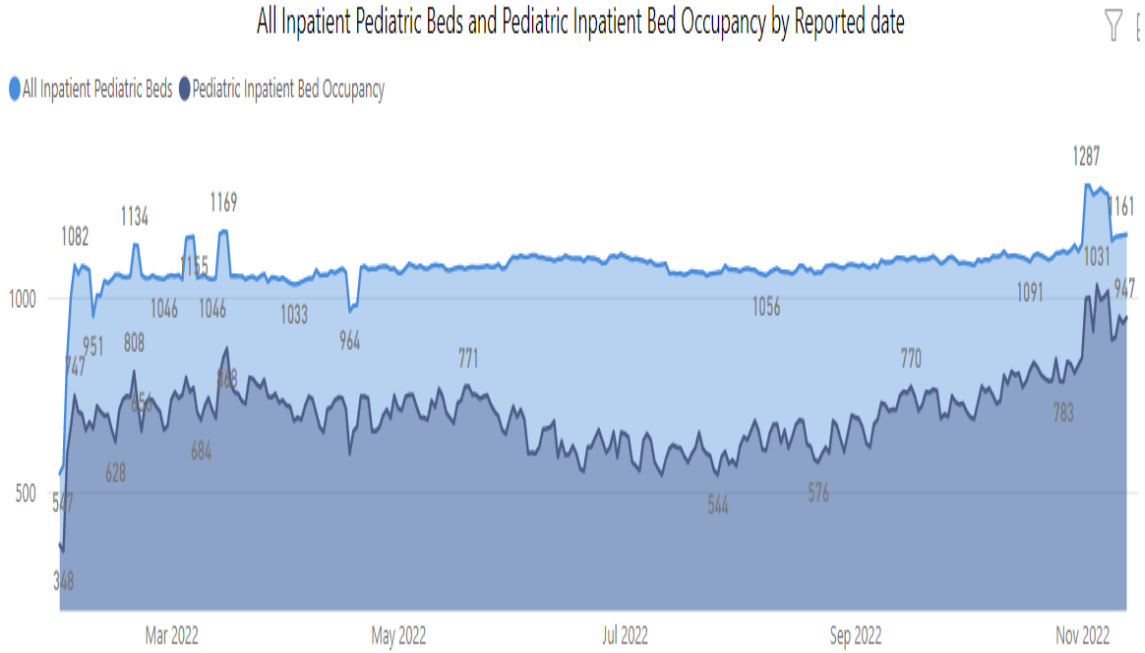


Statewide Hospitalization Trends: Pediatric COVID+ Census

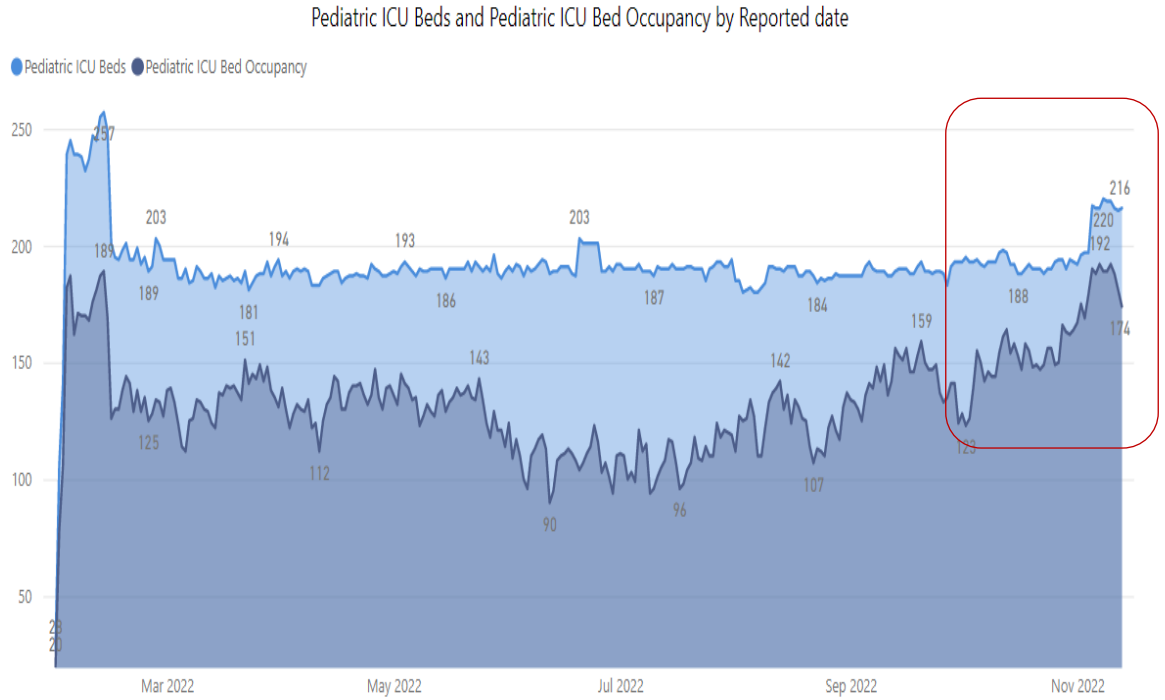
Hospitalization Trends 1/1/2021 – 11/14/2022
Pediatric Hospitalizations, Confirmed

All Inpatient Pediatric Hospitalization (COVID and non-COVID related)

All Inpatient Pediatric Beds Available and Pediatric Inpatient Bed Occupancy, Jan 2022 - Present



Pediatric ICU Bed Availability and Pediatric ICU Bed Occupancy by report date, Jan 2022 - Present

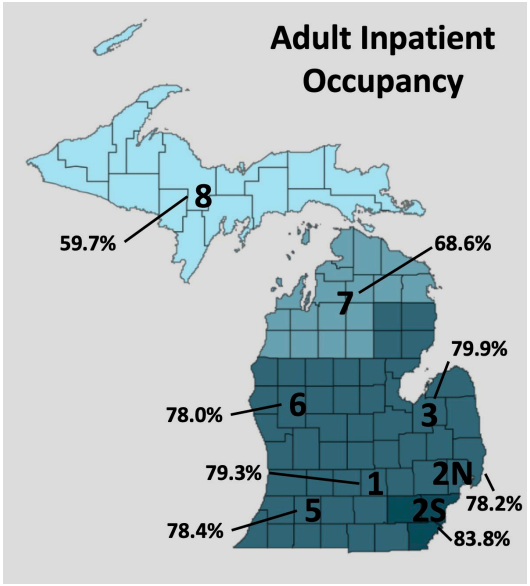


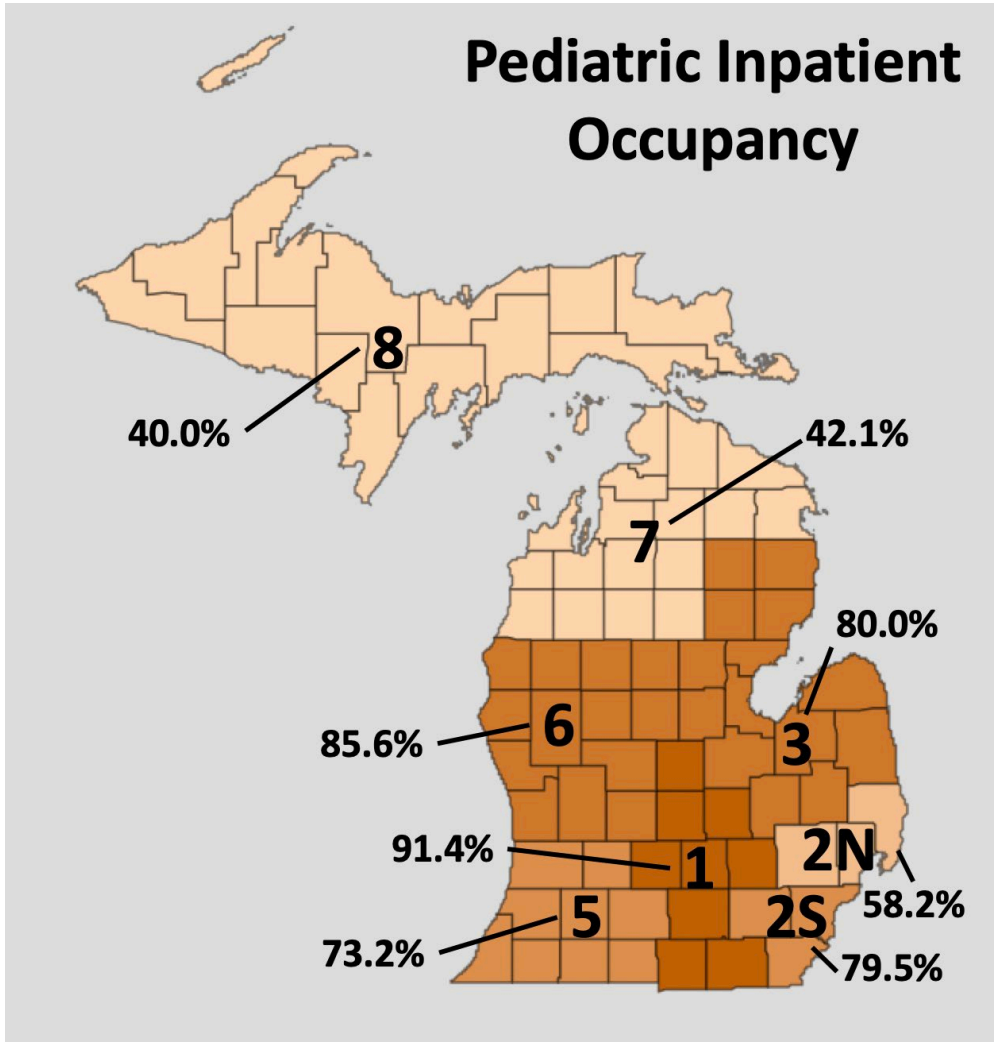
- Statewide pediatric COVID inpatient census is plateaued (previous slide), however, overall inpatient census has increased since September (figure on left)
- Pediatric ICU bed occupancy is increasing since September and at 1 year high (figure on right)
- In some regions, pediatric inpatient and ICU occupancy are at or near capacity (figures in appendix)

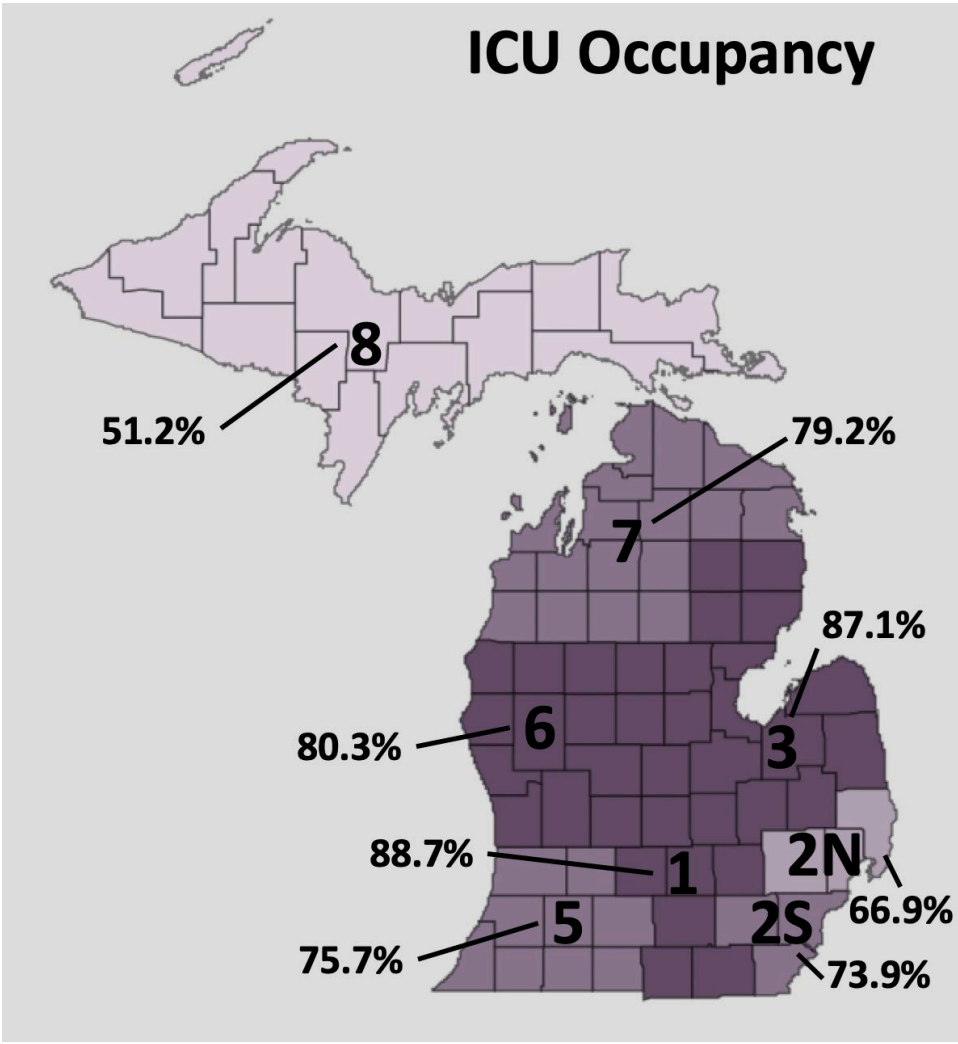
Source: MDHHS – EM Resource

High pediatric inpatient and ICU occupancy (all cause) particularly in Region 1, also Regions 3, 6, and 2S

- Note Regions 7 and 8 have small numbers of total pediatric beds (19 and 5 as of 11/14), so % occupancy is highly variable
- Data as of 11/14/22

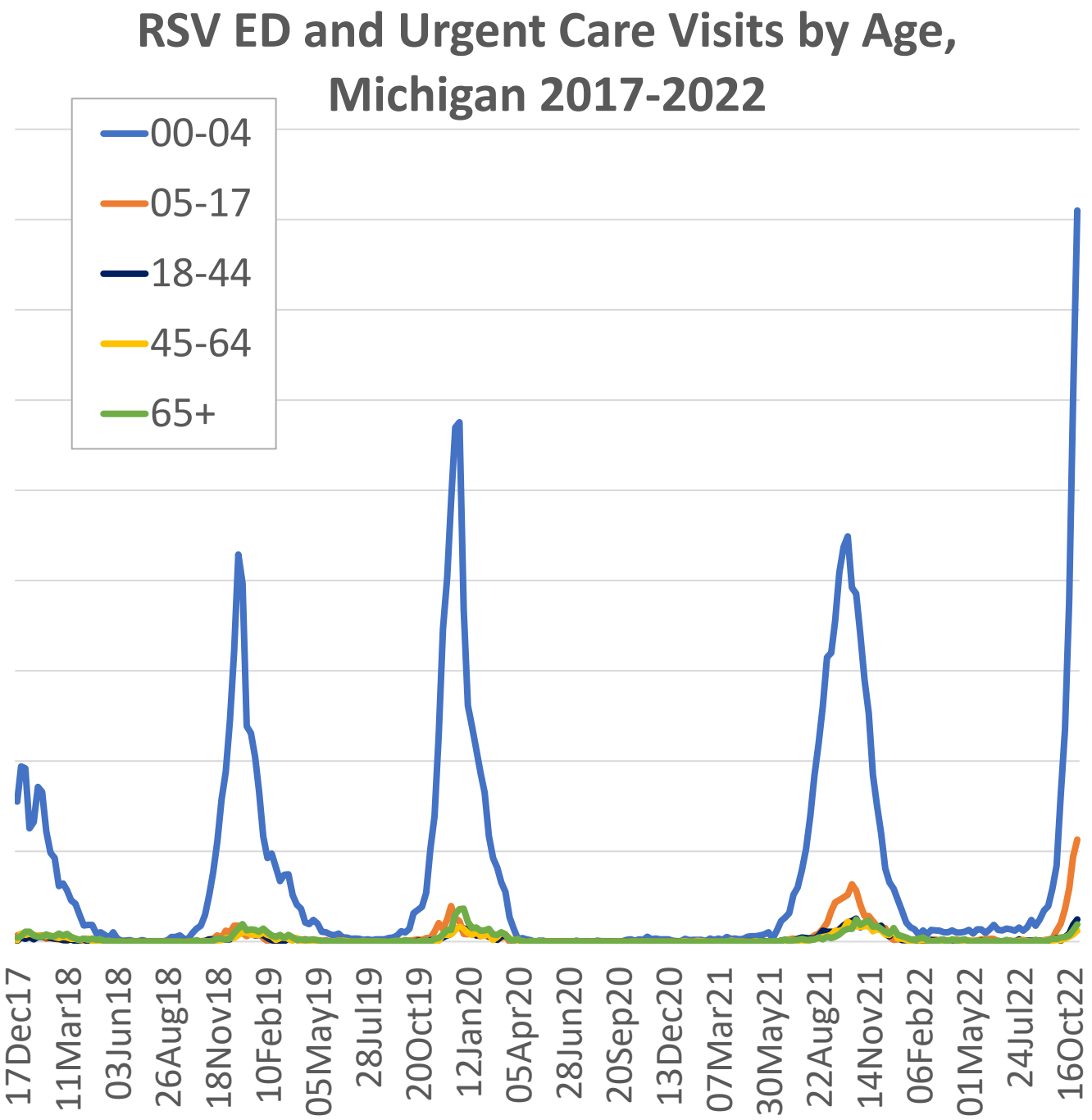






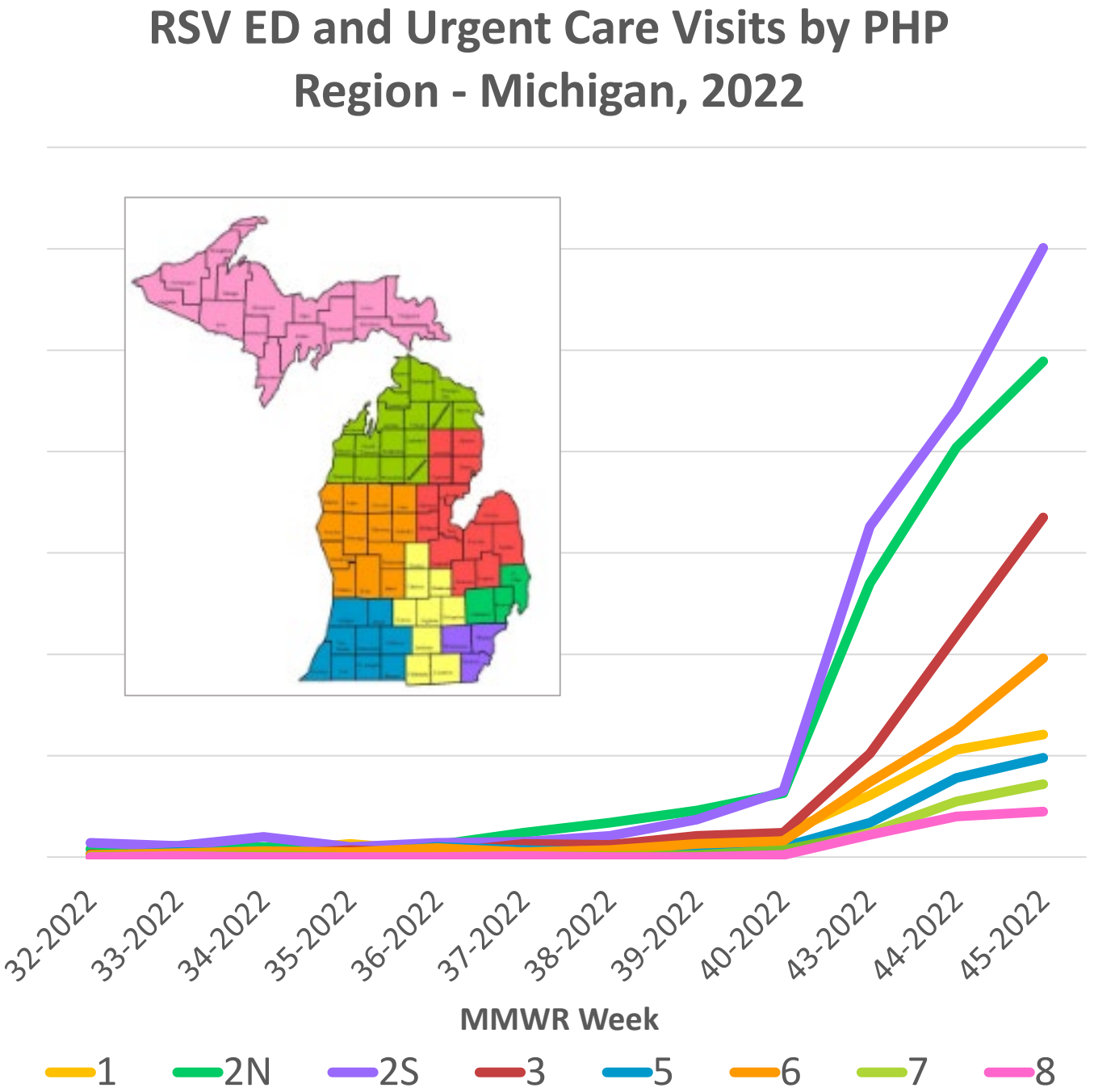
Respiratory Syncytial Virus (RSV)

- RSV is not routinely notifiable meaning MDHHS doesn't get individual reports of cases and deaths
- One way of measuring burden is by using Emergency Department and Urgent Care Syndromic Surveillance
- EDs and UCs may report to our syndromic surveillance network
- Not every facility reports into the network and the number of reporters to the network changes over time as do the quality of their feeds
    - Therefore, focus less on comparing trends across years, but rather seasonal nature of RSV and intra-season trend
- Data are representative of visits not persons
- Data are representative of diagnoses, not lab-confirmed cases
    - Laboratory testing and/or diagnoses may be subject to ascertainment/clinical bias



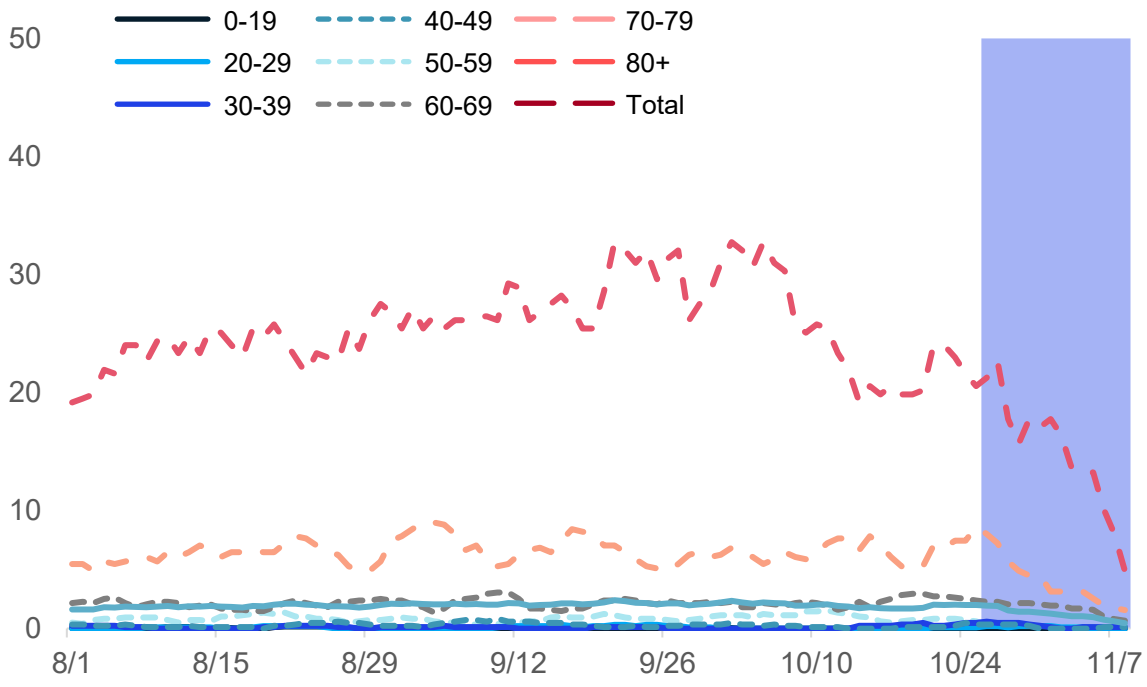
RSV

- RSV season appears to be hitting early and impacting those <5 years of age
- While difficult to conclude from these data alone, indications would suggest there may be more RSV illness than in previous seasons
- Visits to urgent cares and EDs are increasing, and in all PHP regions
- Take advantage of opportunities to protect ourselves from severe illness caused by respiratory viruses



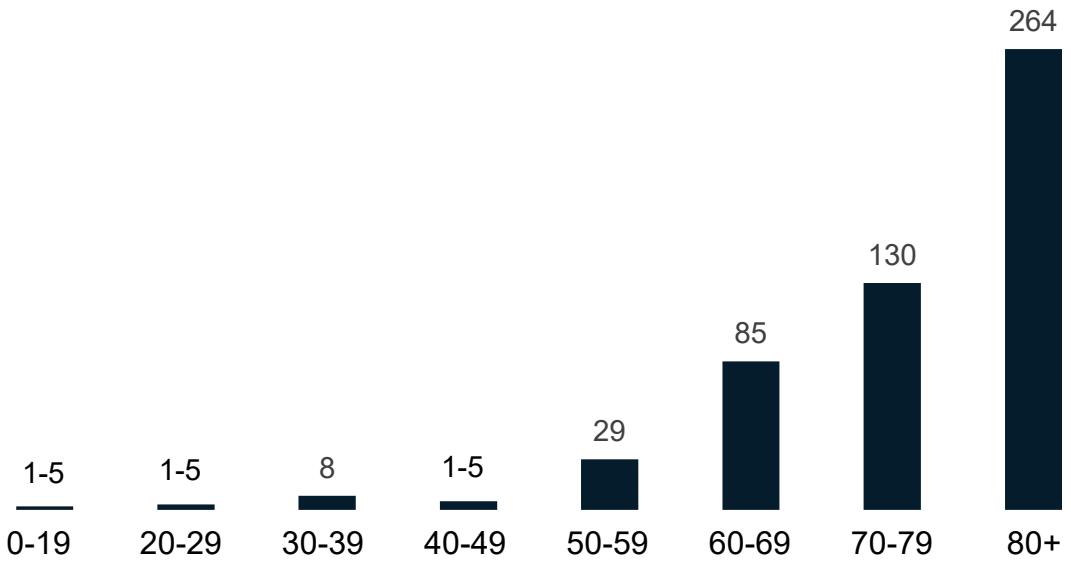
Average new deaths have declined for those over the age of 80

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



Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 11/1/2022)

- 8.9% of deaths below age sixty



- Through 10/25, the 7-day avg. death rate has declined (20.5 deaths per million people) for those over the age of 80
- In the past 30 days, there are fewer than 20 confirmed and probable COVID-19 deaths under the age of 50
- 30-day proportion of deaths among those under 60 years of age is 8.9%.

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

Harm Reduction: Key Messages

Empowering community members to make best choices for their individual circumstances and to be prepared by making a COVID, cold, and flu plan this season

- Children ages 6 months to 4 years should get a flu shot and complete their COVID-19 primary series.
- Everyone ages 5 years and older should get a flu shot and be up to date on COVID-19 vaccines (e.g., bivalent boosters)
- It's important to protect ourselves and others from COVID-19 and other respiratory illnesses through the use of masks, testing, and other layered prevention measures

- Get tested, and if positive, seek care with therapeutics (e.g., antibodies or antiviral medications)
  - Cumulative therapeutic availability and administration has slowly declined since early September
  - Talk to your doctor or pharmacist about whether you should get antibody or antiviral treatment, and where you can find treatment
  - Therapeutics are authorized for people who meet select criteria

- Vaccinations remain the best way to protect from COVID-19, especially from severe disease
  - COVID-19 vaccines are now available for ages 6 months and up
    - Everyone 6 months and older should also get an age-appropriate COVID-19 booster, when eligible
  - CDC has published new recommendations for the being up to date with COVID-19 vaccination
  - Over 6.8 million Michiganders have received at least one dose (68.9%)
  - The percentage of Michiganders who have received the updated (bivalent) booster is higher than national percentages for all reported age groups, but the overall uptake of the booster remains low
    - 11.8% of Michiganders ages 5 years and older, and 31.9% of the population 65 years of age or older, have received their updated (bivalent) booster dose

Make a Plan for Cold and Flu Season

MDHHS
Michigan Department of Health & Human Services

Get vaccinated and boosted for COVID-19 and the flu.

- COVID-19 and flu vaccines are available for ages 6 months and older.
- Updated COVID-19 boosters are available for ages 5 years and older.
- COVID-19 and flu vaccines can be given at the same visit.

Learn more about vaccines at Michigan.gov/COVIDVaccine or Michigan.gov/Flu.

Keep a supply of over-the-counter COVID-19 tests.

- Tests are useful for early detection of COVID-19, especially if you have symptoms or have been exposed.
- If you are unwell and test negative for COVID-19, it is still important to stay home when you are sick.

Learn more about COVID-19 testing at Michigan.gov/COVIDTest.

Prevent the spread of illness.

- Stay home if you have symptoms.
- Masks are helpful tools to stop the spread of colds, flu and COVID-19. Understand that others may have different risks than yours and respect their mask choice.
- Cover coughs and sneezes, and wash hands.

Learn more about masking at Michigan.gov/MaskUp.

Learn if you are eligible for therapeutics for COVID-19 or flu.

- Talk to a primary care provider about whether you are eligible for antivirals for the flu or COVID-19, if you test positive.

Learn more about COVID-19 therapeutics at Michigan.gov/COVIDTherapy.

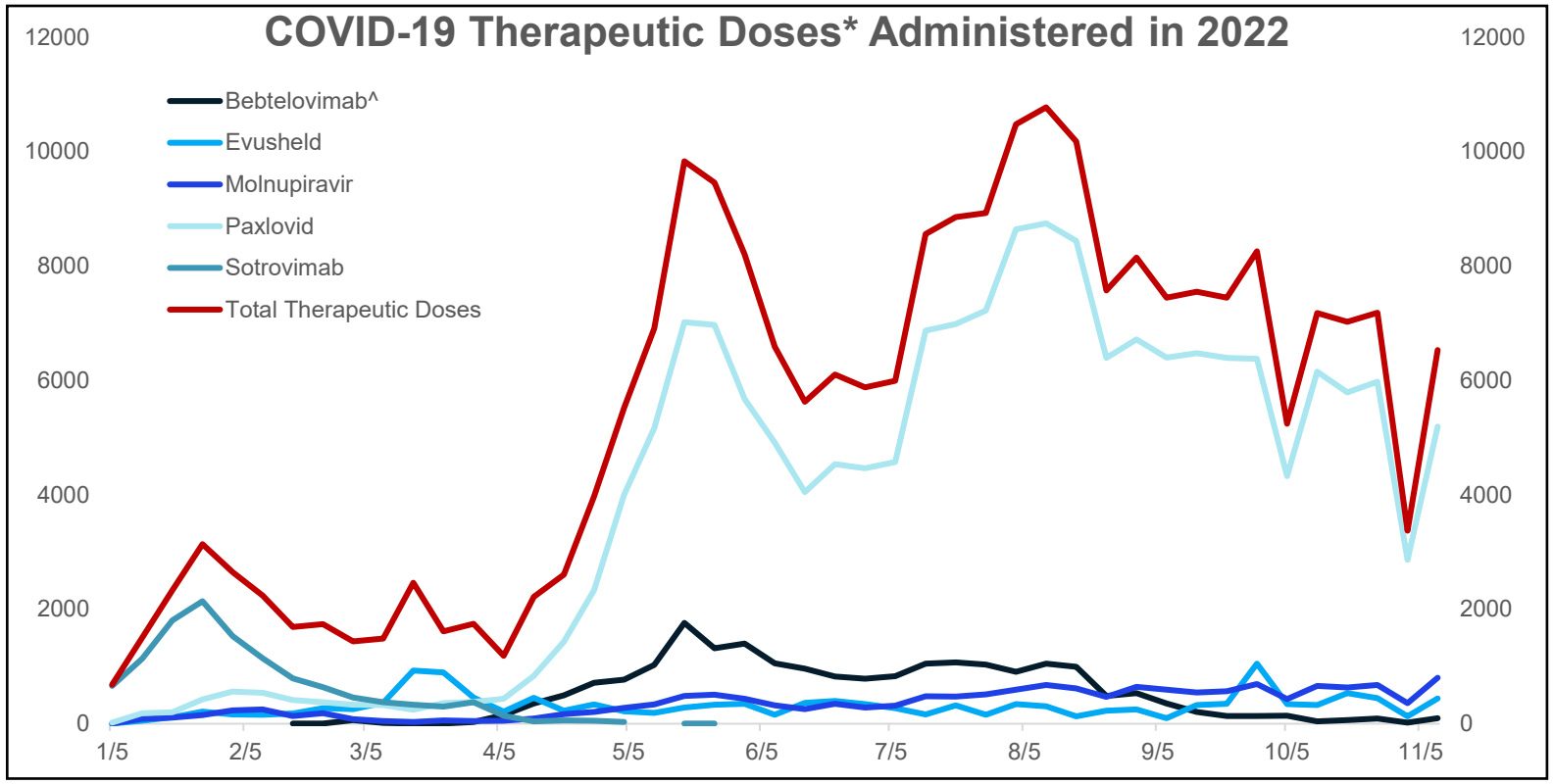
Visit Michigan.gov/Coronavirus and Michigan.gov/Flu for current information.

Federal & Michigan websites assist COVID positive residents find treatment

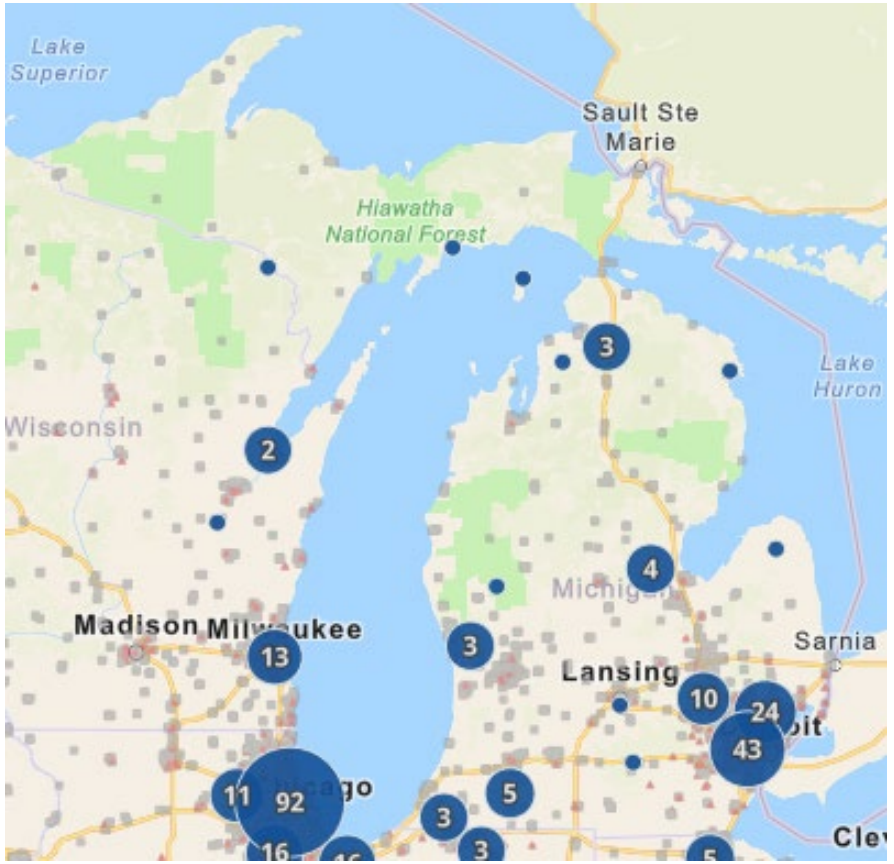
COVID-19 resources available on federal website: COVID.gov

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

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



Source: HHS – Tiberius. Data Updated November 14
*Data is reported as a single patient course, except for Evusheld, which is reported as the number of 300mg doses administered.
^Federally supplied Bebtelovimab has concluded, and product has transitioned to the commercial marketplace



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

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

Over 6.1 Million Michiganders have completed the primary series – 61.9% of the total population

Vaccination Coverage

Over 6.1 million people in the state are fully vaccinated*

90.8% of people aged 65 and older have completed the primary series*

68.9% of total population have initiated the primary series*

Race/Ethnicity¶ for those 6 months and older:

- Initiation coverage is highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (63.9%), then NH American Indian (56.3%), NH White (54.4%), NH Black or African American Races (43.5%).
- Initiation is at 60.9% for those of Hispanic ethnicity

Updated Booster Coverage

The percentage of Michiganders who have received the updated (bivalent) booster is higher than national percentages for all reported age groups

31.9% of the population 65 years of age or older has received an updated (bivalent) booster

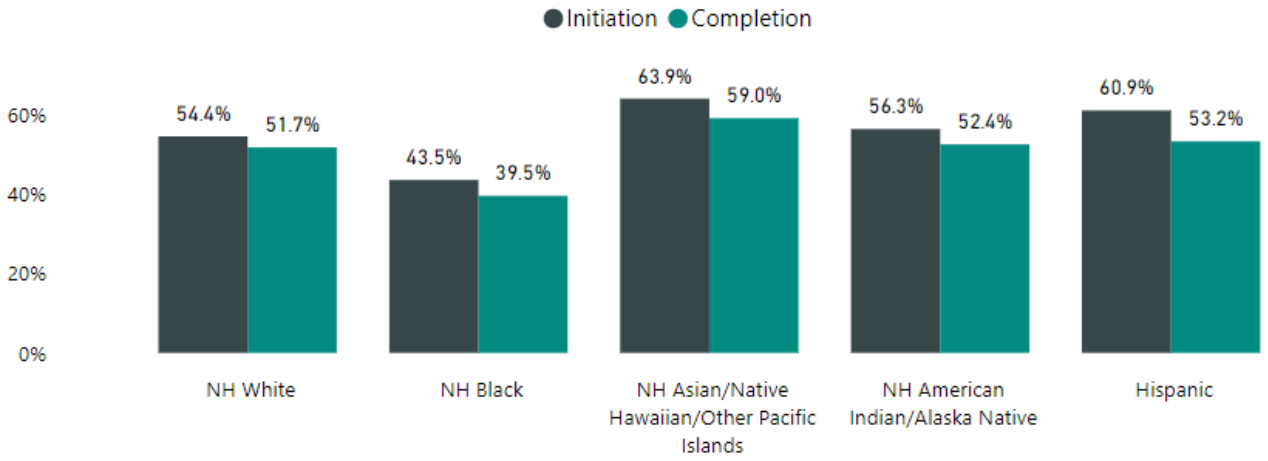
11.8% of Michiganders ages 5 years and older have received their updated (bivalent) booster dose

Vaccination Coverage in Michigan as of 11/10/2022

Age Group	% At Least One Dose	% Completed Primary Series	% Updated Booster**	U.S. % Boosted**	Primary Series Total
Total Population	68.9%	61.9%	NA	NA	6,178,563
≥ 5 years	72.8%	65.5%	11.8%	10.1%	6,168,180
≥ 12 years	76.8%	69.1%	12.8%	11.0%	5,937,190
≥ 18 years	79.0%	71.0%	13.7%	11.7%	5,571,530
≥ 65 years	95.0%	90.8%	31.9%	26.9%	1, 603,764

**This shows the percentage of all residents ages 5 years and older in a jurisdiction (state, territory, national) with an updated (bivalent) booster dose. Non-residents who received vaccine are attributed to their jurisdiction of residence.

Coverage by Race*



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

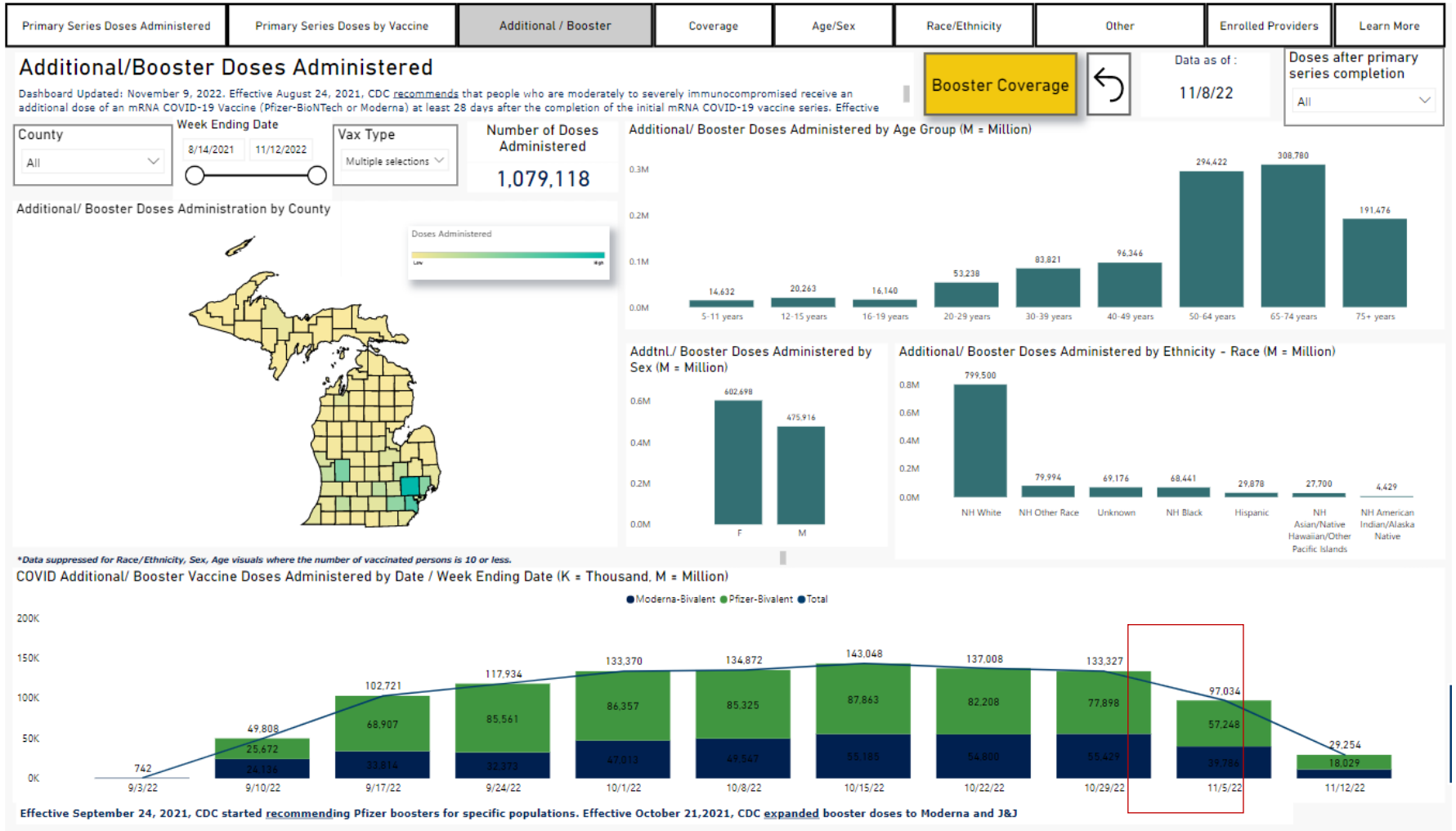
Note: Now include all those 6 months and older in calculations

Bivalent Administration

- **FDA has authorized and CDC now recommends expanding the use of the updated bivalent COVID-19 vaccines to children ages 5 through 11 years.***

- As of 11/8¶, 1,079,118 Michiganders had received their bivalent booster

- Note: the data for the week ending 11/12 would have been incomplete on the date the dashboard was last refreshed (11/8) and underreport the true administration for the week



Moderna Bivalent

Pfizer Bivalent

* Pfizer-BioNTech is now expanded for children ages 5 through 11 years, and Moderna is expanded for children and adolescents ages 6 through 17 years

¶ These data are updated every Wednesday on our COVID-19 vaccination Dashboard under Additional/Booster Administration Trends and then restricting the view to just Moderna and Pfizer bivalent doses

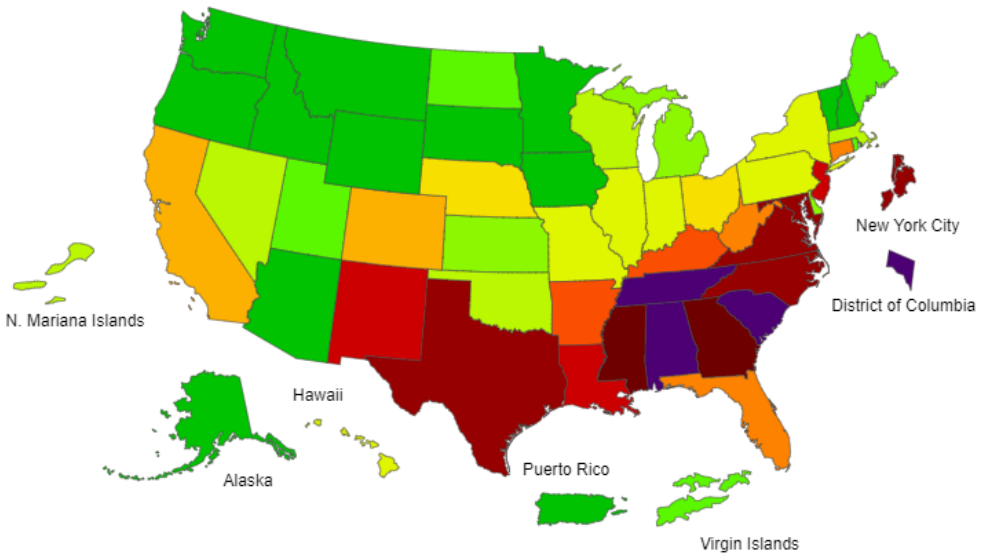
Sources: Michigan Coronavirus Vaccine Dashboard

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

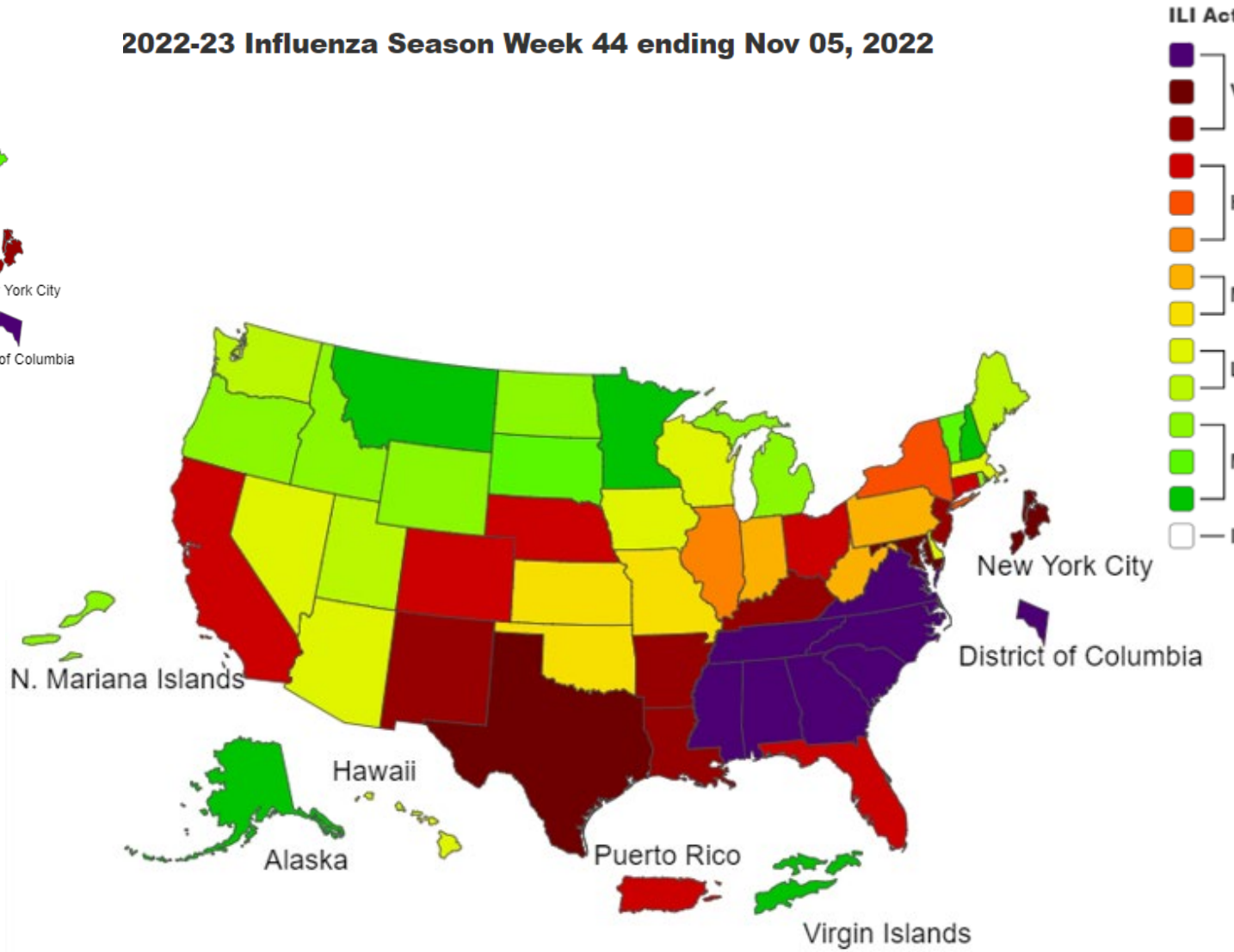
Outpatient Respiratory Illness Activity Map Determined by Data Reported to ILINet

This system monitors visits for respiratory illness that includes fever plus a cough or sore throat, also referred to as ILI, not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

2022-23 Influenza Season Week 43 ending Oct 29, 2022

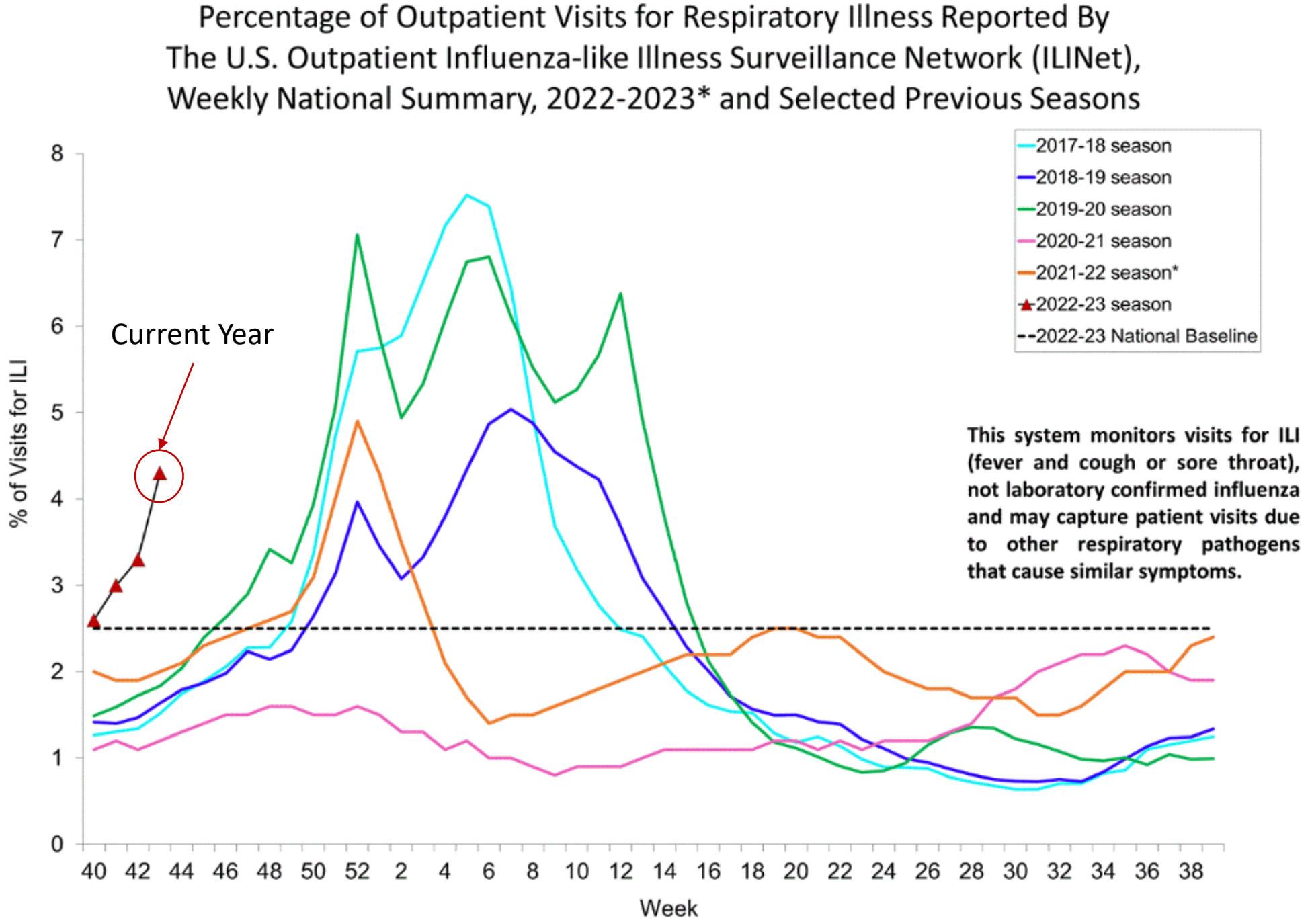


2022-23 Influenza Season Week 44 ending Nov 05, 2022



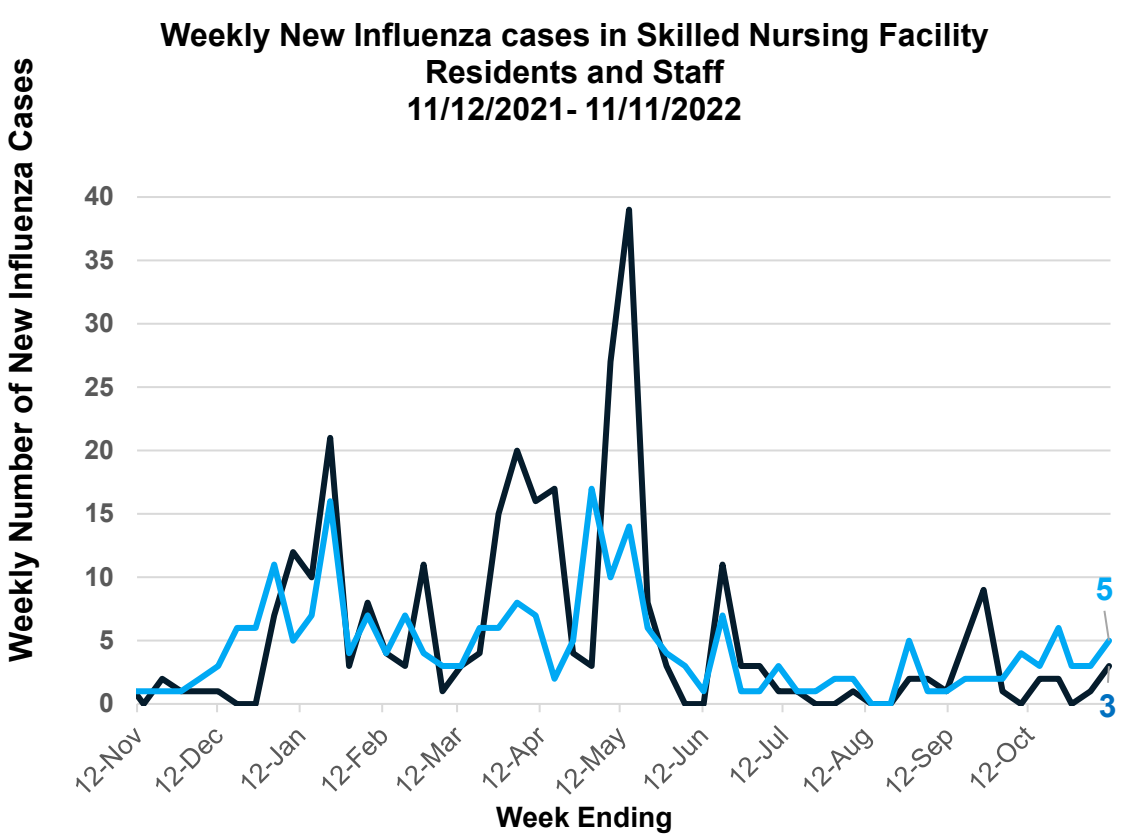
https://www.cdc.gov/flu/weekly/usmap.htm

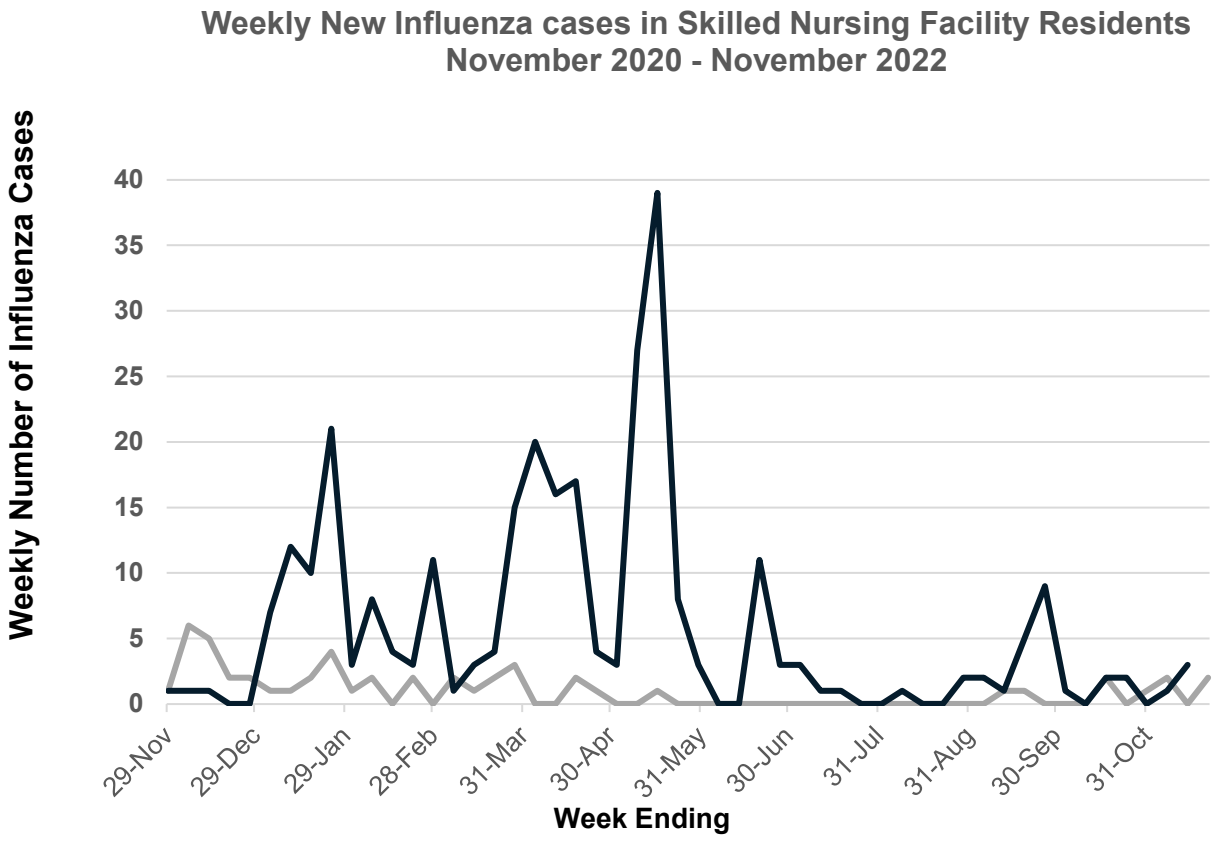
- Flu season appears to be starting earlier than normal in the U.S.
- ILI activity is highest in the Southeast United States
- ILI levels are increasing across the U.S.
- Michigan remains at low ILI activity, but ILI levels are increasing
- The best time to get a seasonal flu vaccine is before there is widespread flu activity



https://www.cdc.gov/flu/weekly/index.htm

Influenza Cases Among Staff and Residents in Long Term Care Facilities





Number of Residents with New Influenza — Number of Staff and/or Personnel with New Influenza — Number of Residents with New Influenza 2020 - 2021 — Number of Residents with New Influenza 2021 - 2022

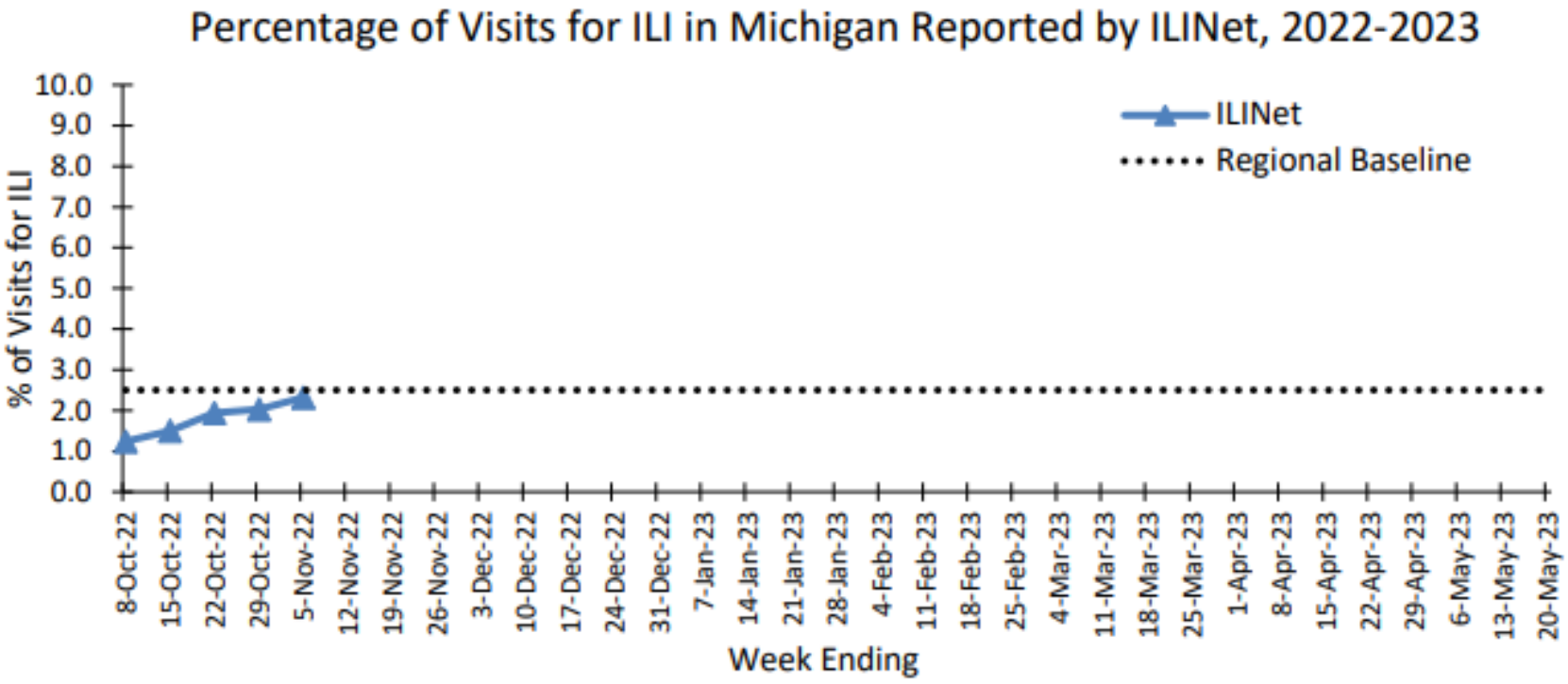
- The number of reported influenza cases among residents and staff this season is plateaued and is not as high as what was seen during the months of January through May of last flu season
- Influenza testing may not be as routine as COVID-19 testing in LTC settings
- However, the number of influenza cases among residents reported in 2021-2022 season is higher than the 2020-2021 season
- The infection data suggest there is still a window of opportunity for seasonal influenza vaccination

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

Michigan Seasonal Influenza Surveillance

Number of Reports and ILI % by Region during this time period:

Region	C	N	SE	SW
No. of Reporters **(147)**	49	18	51	29
ILI %	2.1	2.7	2.6	1.7



Michigan Influenza Surveillance Regions

Michigan ILI Activity: 2.3%

(Last week: 2.0%)

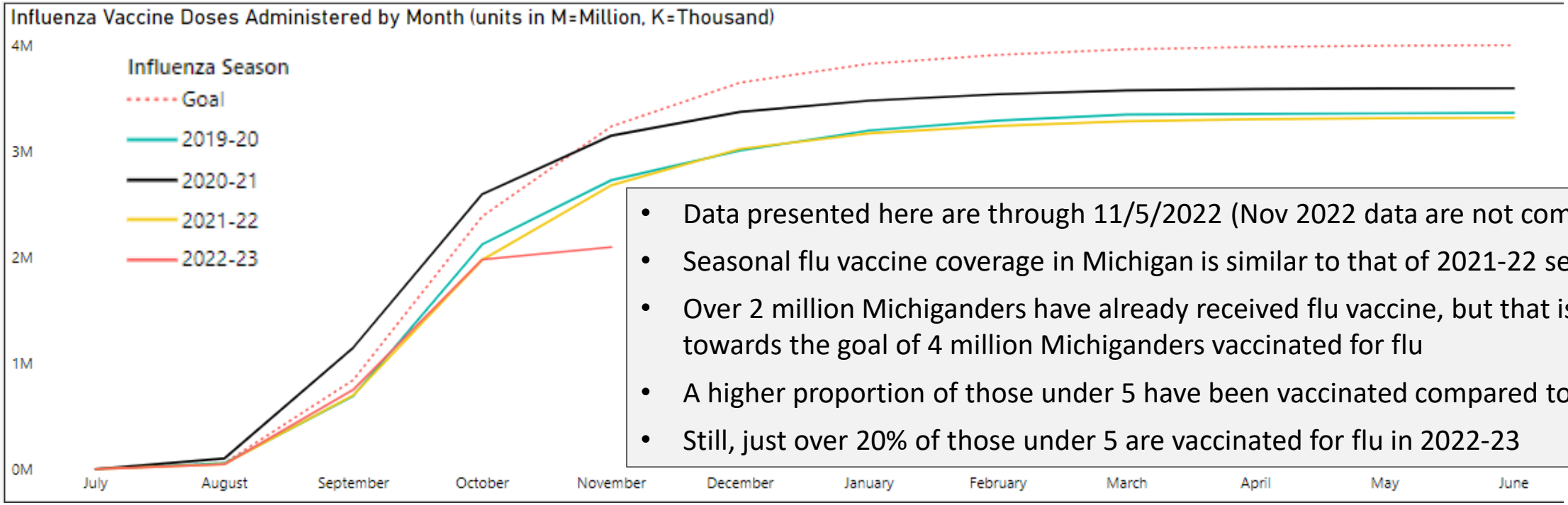
Regional Baseline*: 2.5%

A total of **2,131** patient visits due to ILI were reported out of **91,857** outpatient visits.

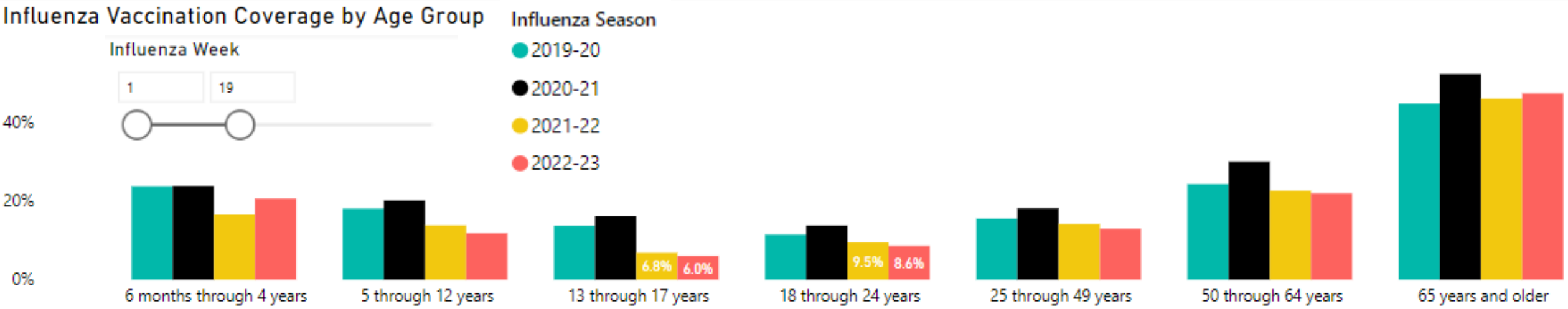
*Regional baseline is determined by calculating the mean percentage of patient visits due to ILI during non-influenza weeks for the previous three seasons and adding two standard deviations.

https://www.michigan.gov/flu/surveillance

Michigan Seasonal Influenza Vaccine Coverage



- Data presented here are through 11/5/2022 (Nov 2022 data are not complete)
- Seasonal flu vaccine coverage in Michigan is similar to that of 2021-22 season
- Over 2 million Michiganders have already received flu vaccine, but that is just over 50% towards the goal of 4 million Michiganders vaccinated for flu
- A higher proportion of those under 5 have been vaccinated compared to this time last year
- Still, just over 20% of those under 5 are vaccinated for flu in 2022-23

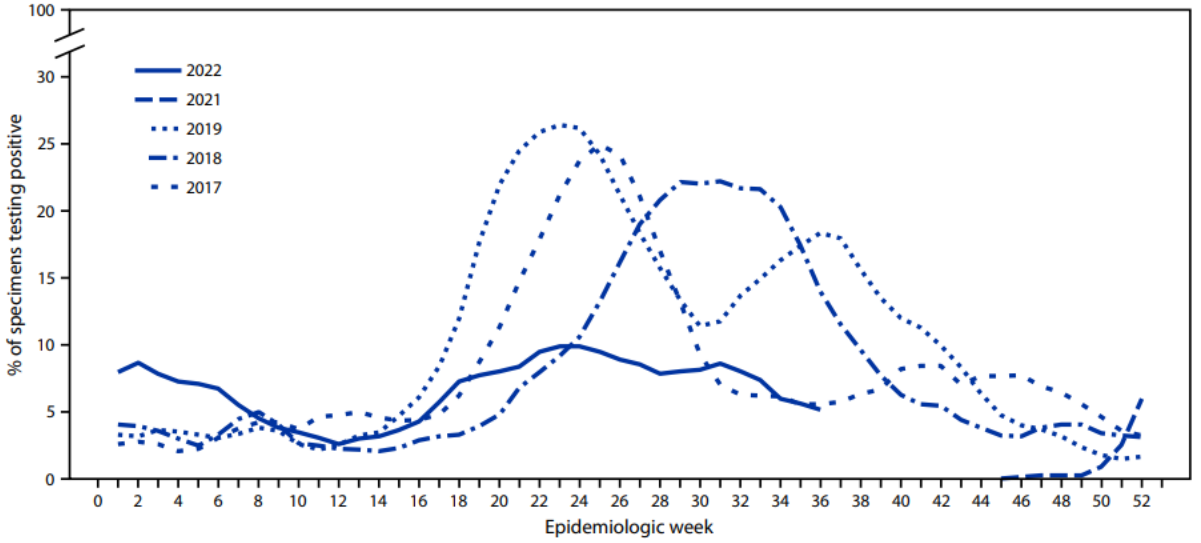


https://www.michigan.gov/flu/flu-dashboard

Influenza Incidence and Vaccine Effectiveness During the Southern Hemisphere Influenza Season – Chile, 2022

- In 2022, influenza A(H3N2) virus, clade 3C.2a1b.2a.2, circulated in Chile months earlier than during pre-pandemic influenza seasons
- Influenza vaccination reduced risk for A(H3N2) virus hospitalization by 49%
- Northern Hemisphere countries should prepare for influenza activity with atypical timing and intensity during the 2022–23 season
- Health authorities should encourage all eligible persons to seek influenza vaccination and take precautions to reduce transmission of influenza (e.g., avoiding close contact with persons who are ill).

FIGURE. Percentage of respiratory specimens testing positive for influenza virus,* by epidemiologic week — National Influenza Centre, Chile, 2017–2019 and 2021–2022†



* Data lines represent right-aligned, 3-week moving averages of the percentage of specimens testing positive for influenza virus.
† 2022 data as of epidemiologic week 36.

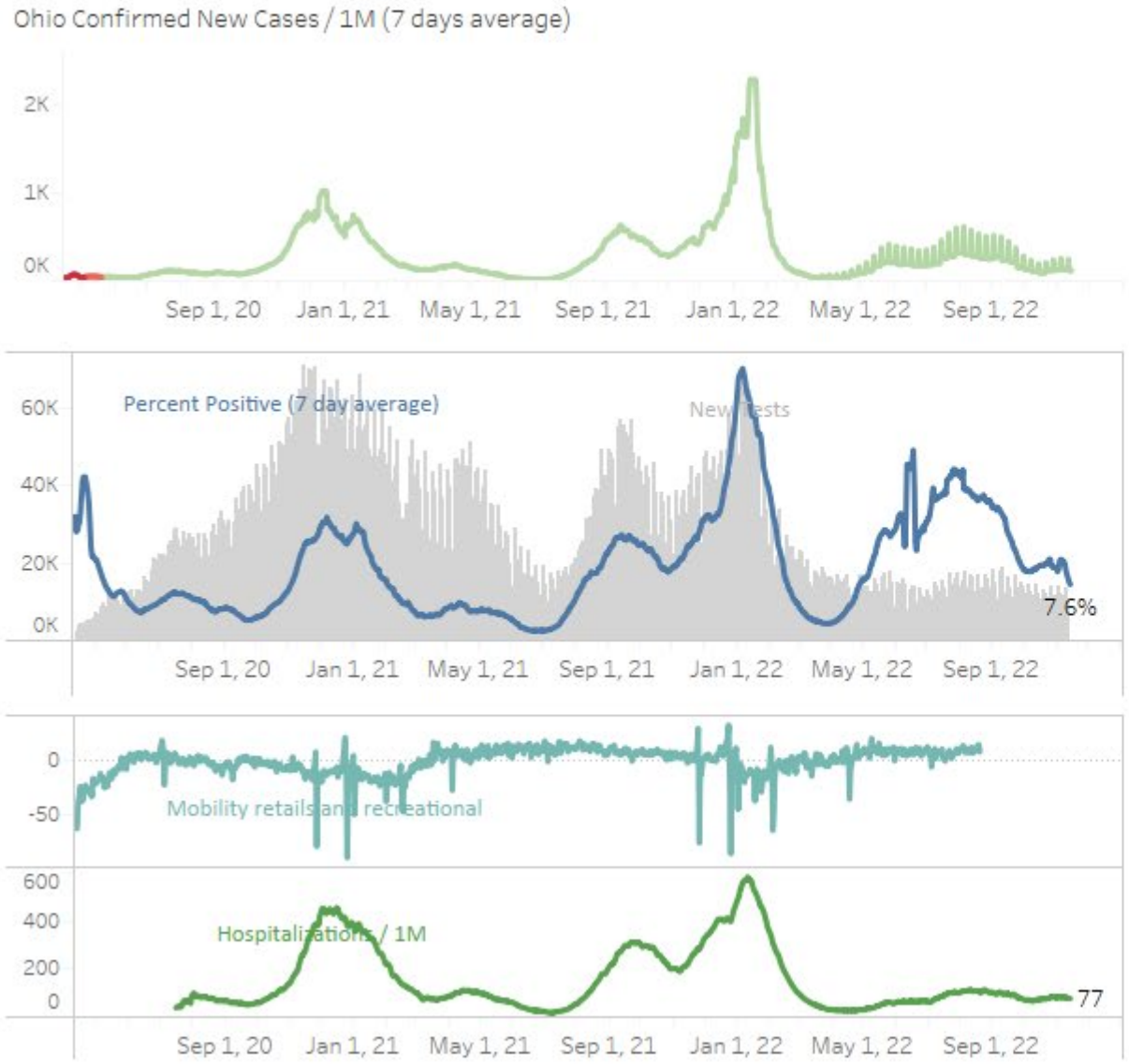
TABLE. Influenza-attributable hospitalizations by age group — Chile, epidemiologic weeks 1–32, 2022

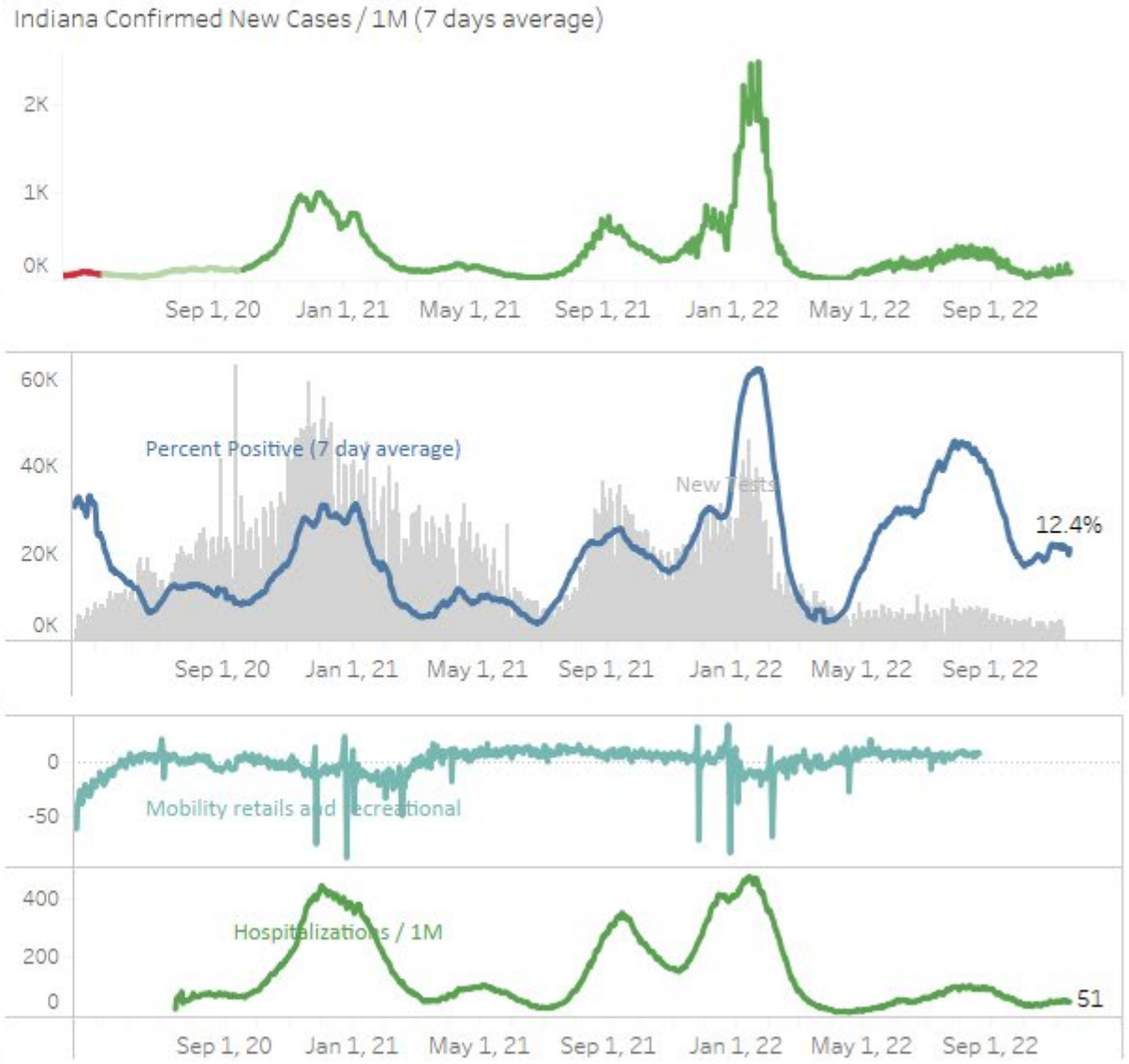
Age group, yrs	No. of patients (column %)		No. (%)§ of SARI patients with respiratory specimens tested†	No. (%)¶ of influenza-positive specimens†	No. of P&I diagnoses attributable to influenza**	Population††	Incidence§§ (95% CI)
	With P&I clinical influenza discharge diagnosis*	With SARI, enrolled at sentinel sites†					
Total	**17,752 (100.0)**	**6,025 (100.0)**	**5,731 (95.1)**	**301 (5.3)**	**1,002**	**19,828,563**	**5.1 (4.8–5.4)**
<5	4,911 (27.7)	1,927 (32.0)	1,880 (97.6)	49 (2.6)	132	1,177,286	11.2 (9.4–13.3)
5–18	929 (5.2)	424 (7.0)	401 (94.6)	31 (7.7)	79	3,542,159	2.2 (1.8–2.8)
19–64	3,342 (18.8)	1,315 (21.8)	1,217 (92.5)	99 (8.1)	302	12,548,497	2.4 (2.2–2.7)
≥65	8,570 (48.3)	2,359 (39.2)	2,233 (94.7)	122 (5.5)	521	2,560,621	20.3 (18.7–22.2)

Abbreviations: P&I = pneumonia and influenza; SARI = severe acute respiratory infection.
* National-level hospital discharge data from Department of Statistics and Health Information, Chile's Ministry of Health (Ministerio de Salud), with *International Classification of Diseases, Tenth Revision* hospital discharge codes J09–J18. https://deis.minsal.cl
† SARI sentinel surveillance implemented in nine tertiary care hospitals in northern, central, and southern Chile (Hospital de Antofagasta, Antofagasta; Hospital de Magallanes, Punta Arenas; Hospital de Puerto Montt, Puerto Montt; Hospital Ernesto Torres Galdámez, Iquique; Hospital Guillermo Gran Benavente, Concepción; Hospital Gustavo Fricke, Viña del Mar; Hospital Hernán Enriquez Aravena, Temuco; Hospital Militar, Santiago; and Hospital San Juan de Dios, Santiago).
§ Percentage of enrolled SARI patients.
¶ Percentage of tested specimens from SARI patients.
** Age-specific numbers in this column do not sum to total because of rounding when calculating influenza-attributable P&I diagnoses from P&I hospitalizations and SARI data.
†† Population projections and estimates calculated based on 2017 census data from the National Institute of Statistics, Santiago, Chile.
§§ Cases per 100,000 person-years; incidence estimated using World Health Organization-recommended methods. https://apps.who.int/iris/handle/10665/178801

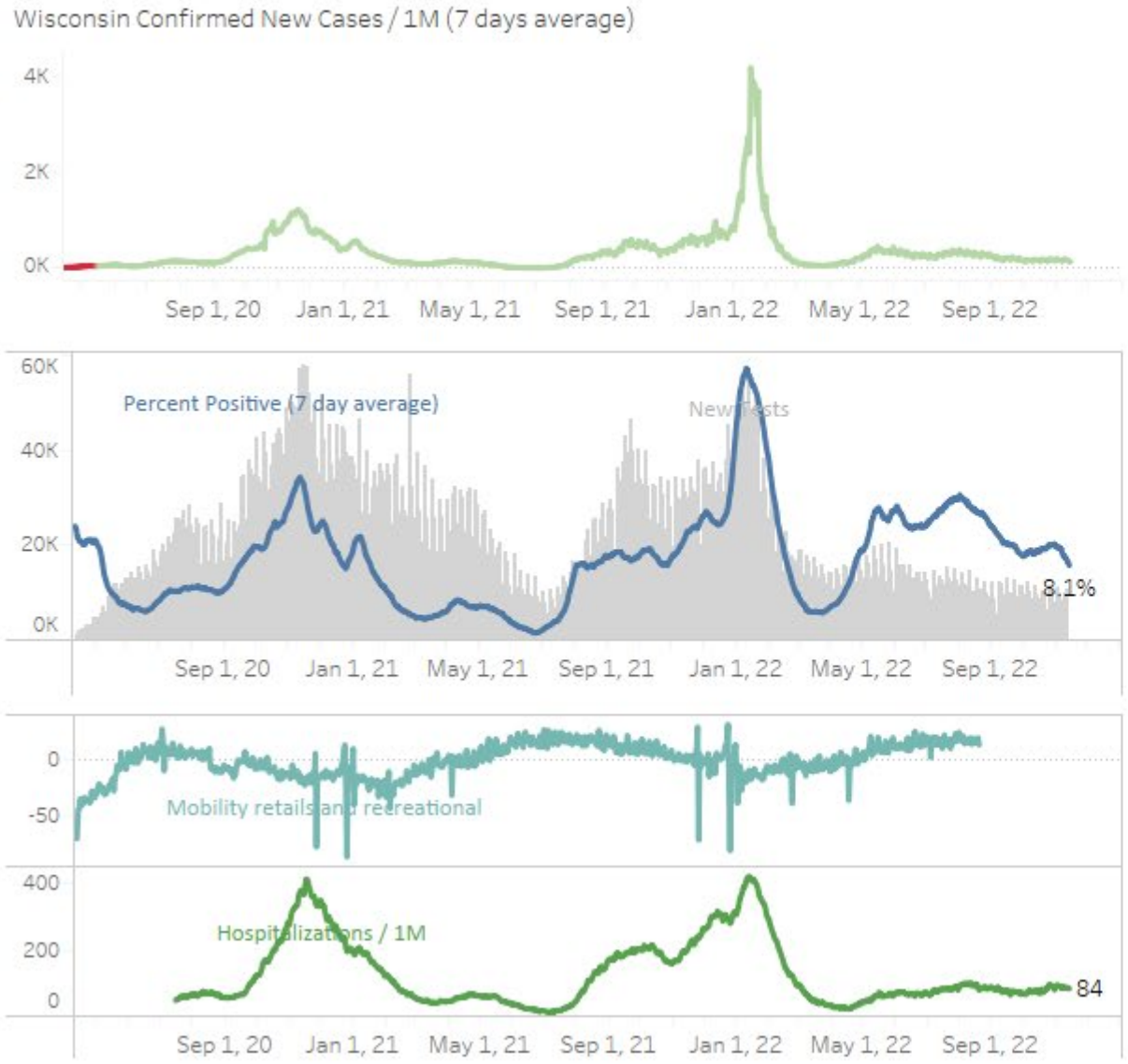
APPENDIX

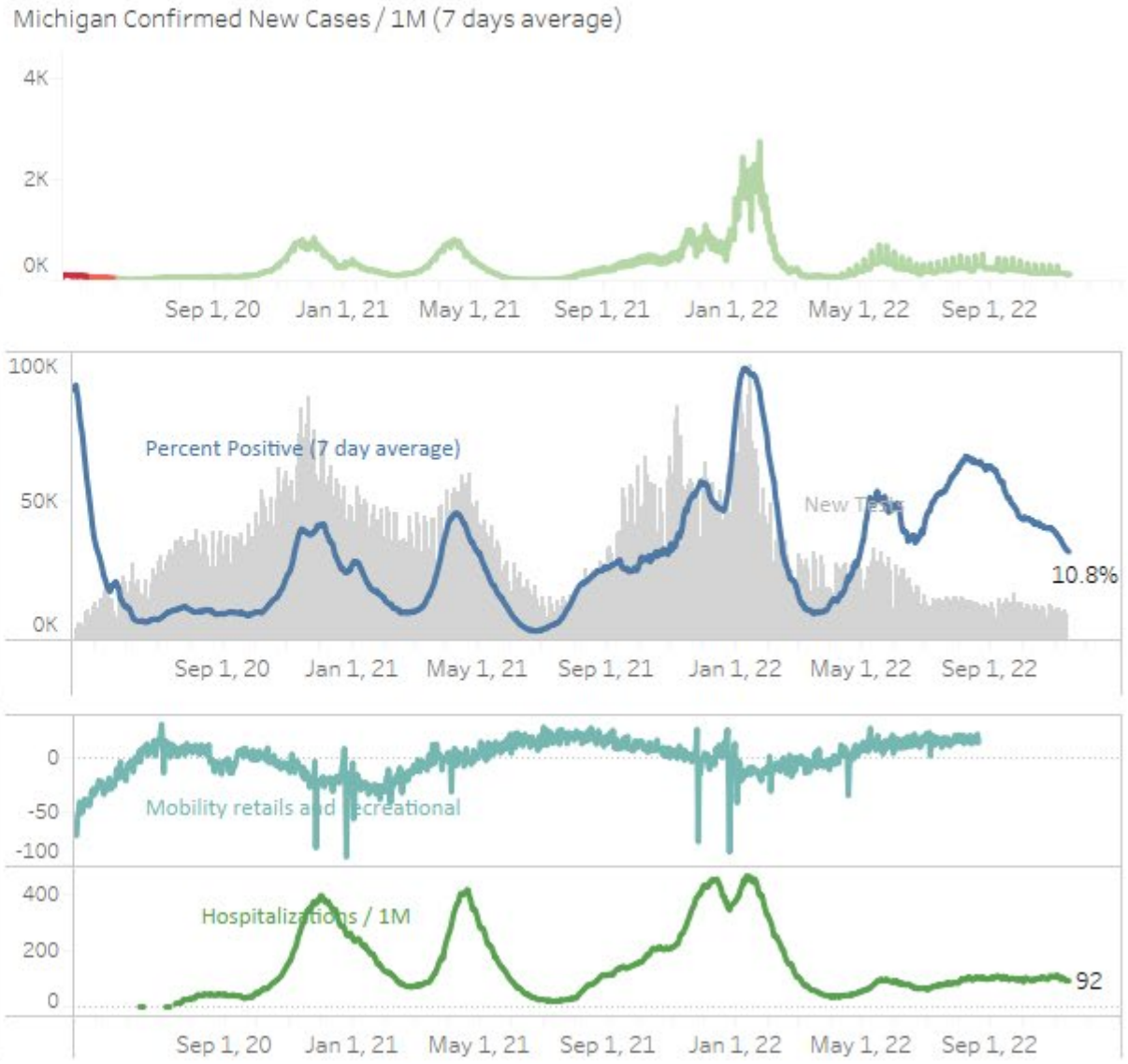
State Comparisons: Ohio and Indiana



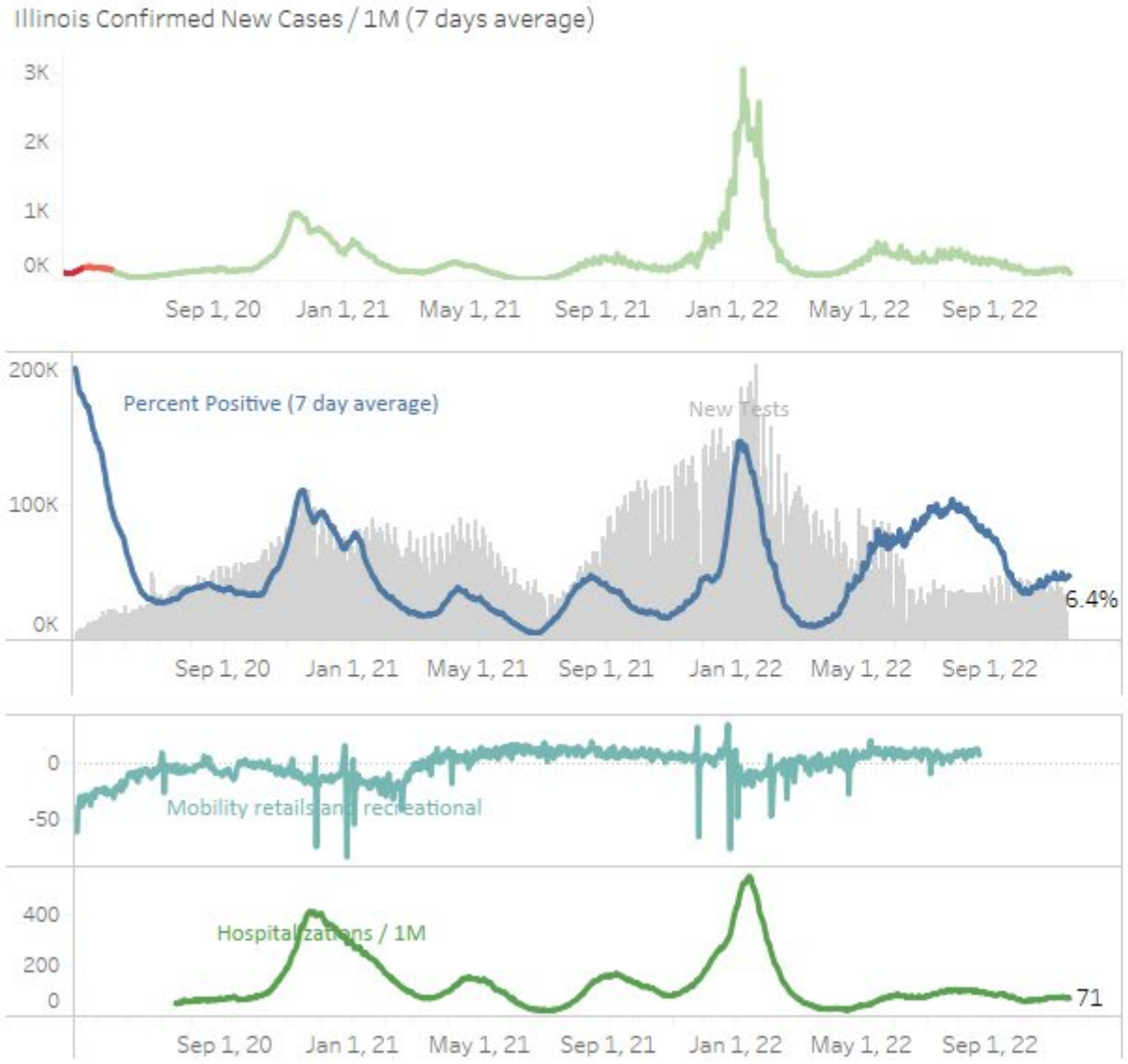


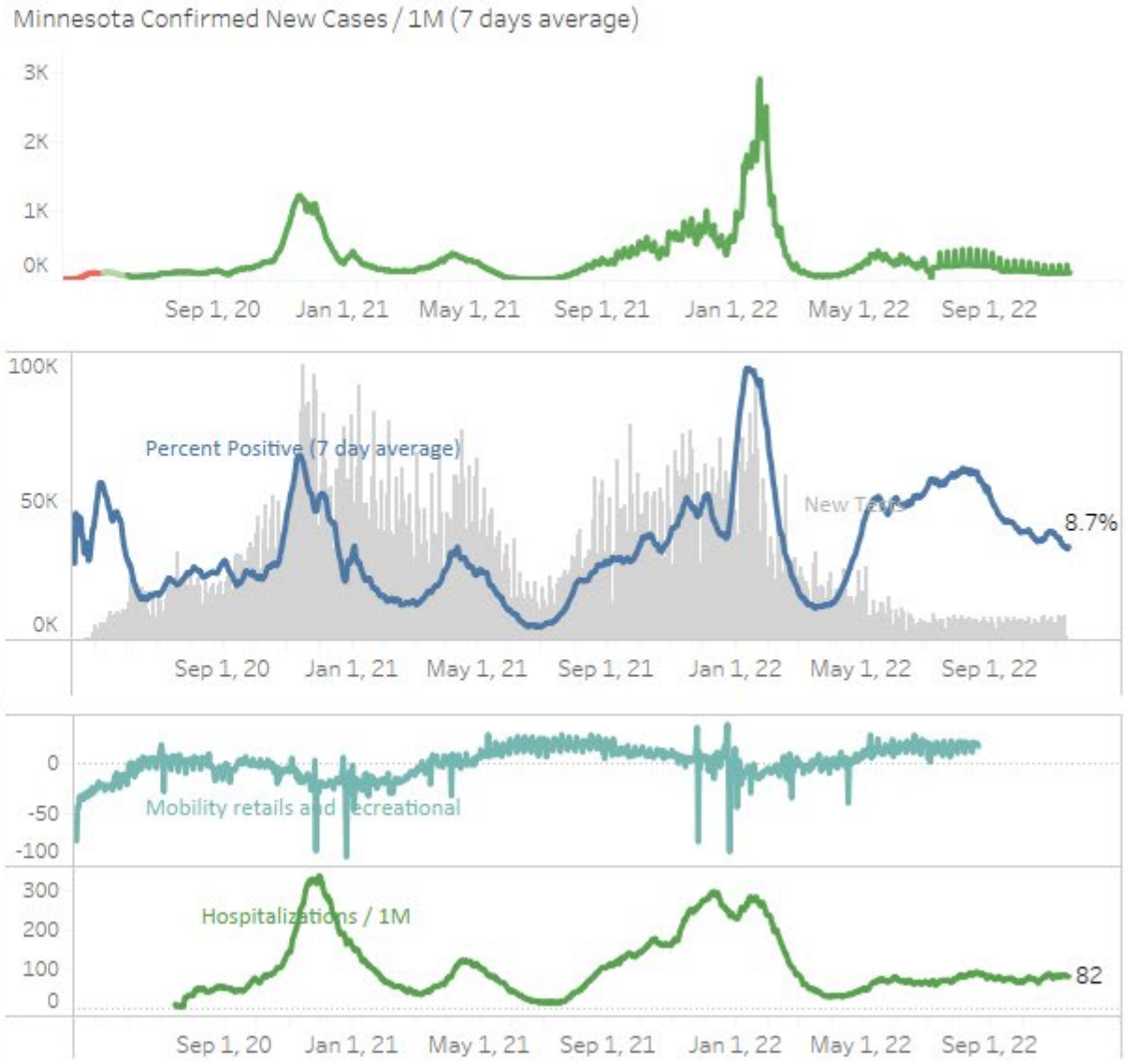
State Comparisons: Wisconsin and Michigan



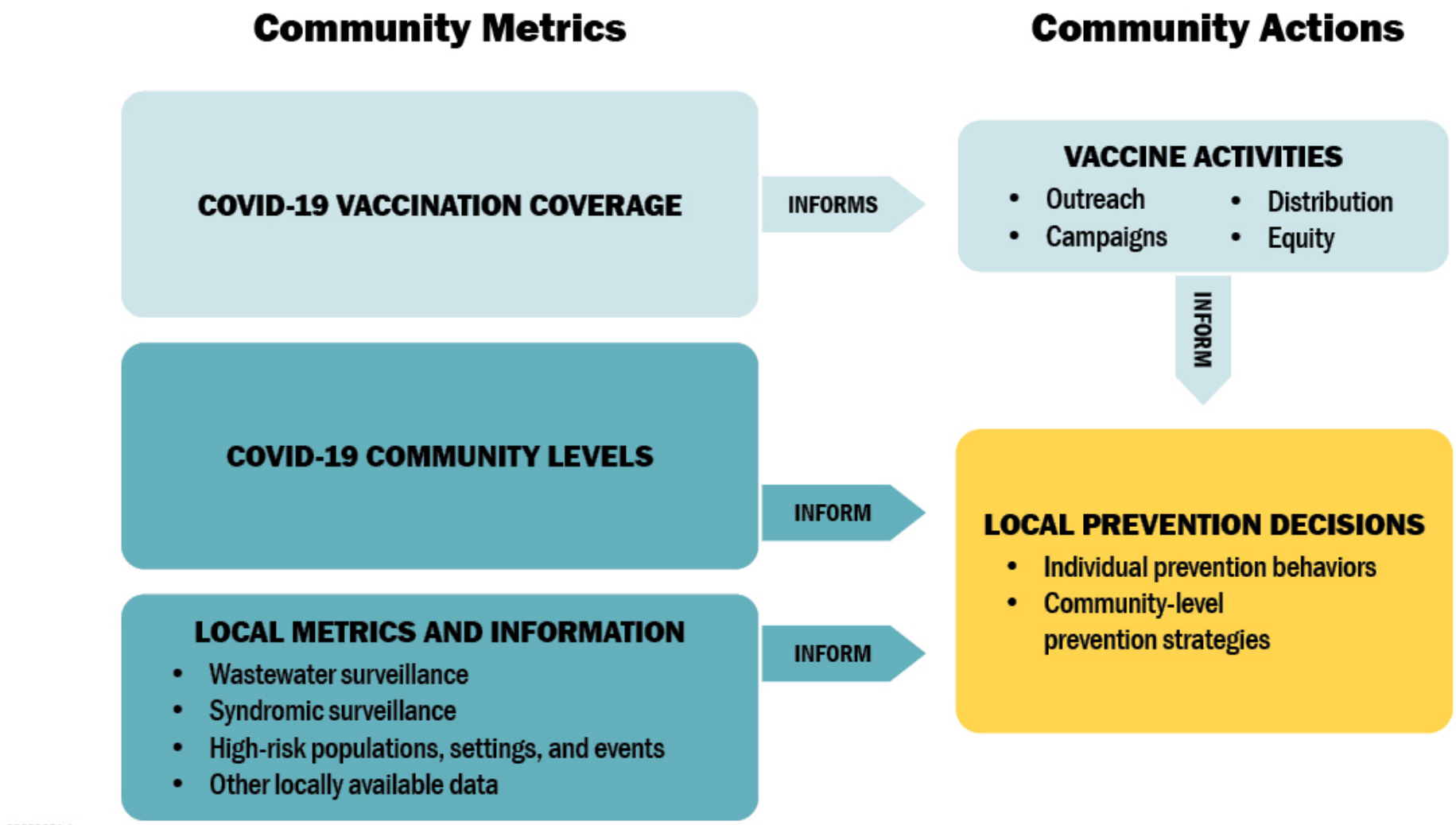


State Comparisons: Illinois and Minnesota



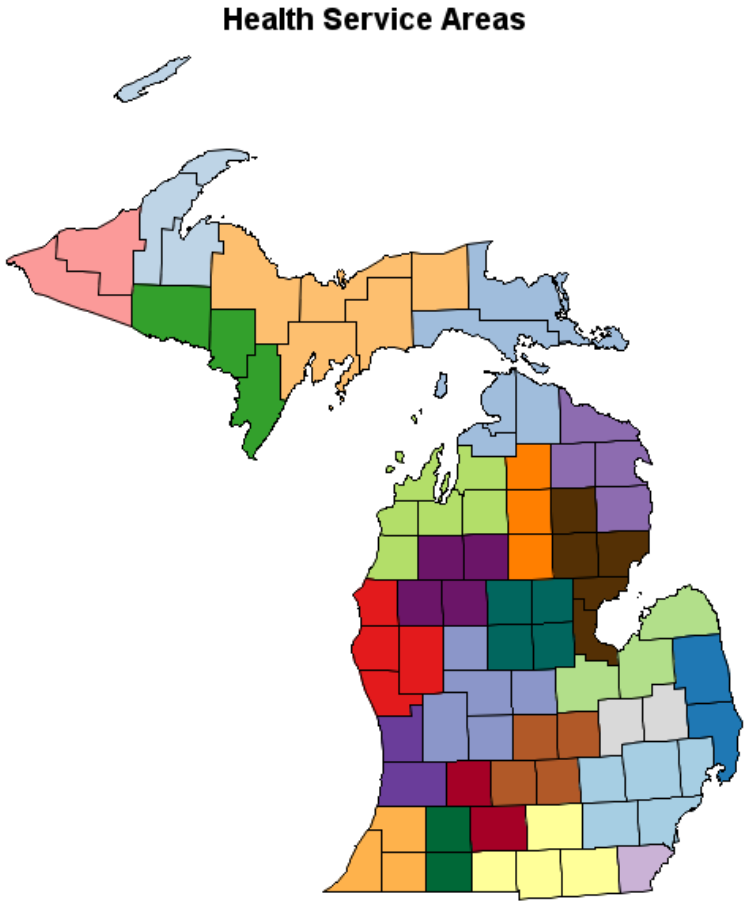


Local Prevention Decisions Should Use Community Levels in Concert with Other Pandemic Indicators



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

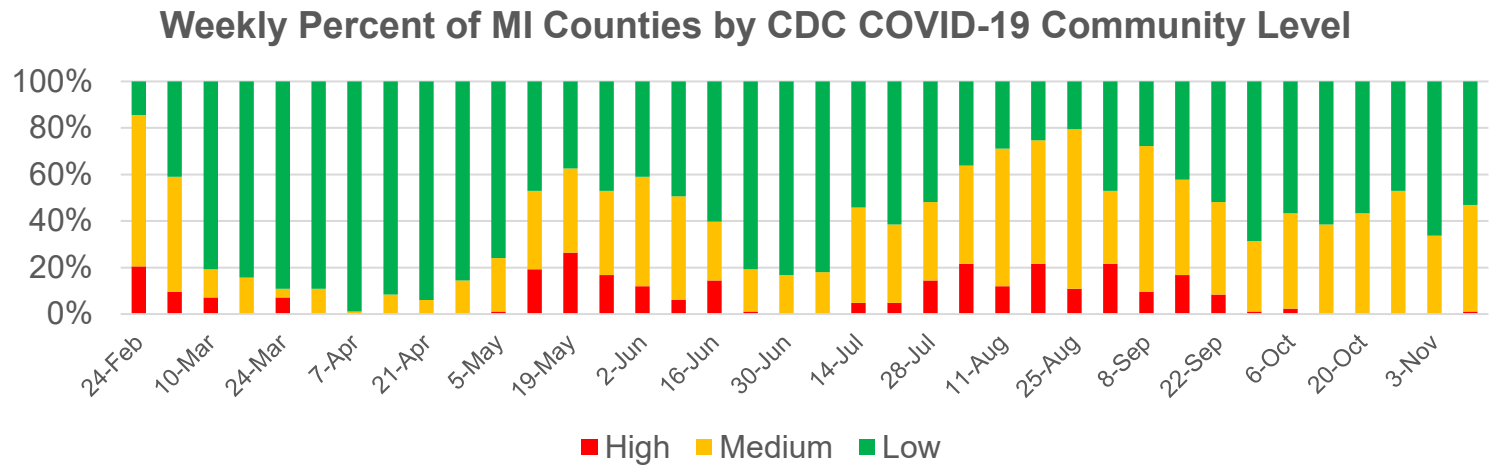
COVID-19 Community Levels – Use the Highest Level that Applies to Your Community				
New COVID-19 Cases Per 100,000 people in the past 7 days	Indicators	Low	Medium	High
Fewer than 200	New COVID-19 admissions per 100,000 population (7-day total)	<10.0	10.0-19.9	≥20.0
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	<10.0%	10.0-14.9%	≥15.0%
200 or more	New COVID-19 admissions per 100,000 population (7-day total)	NA	<10.0	≥10.0
	Proportion of staffed inpatient beds occupied by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%

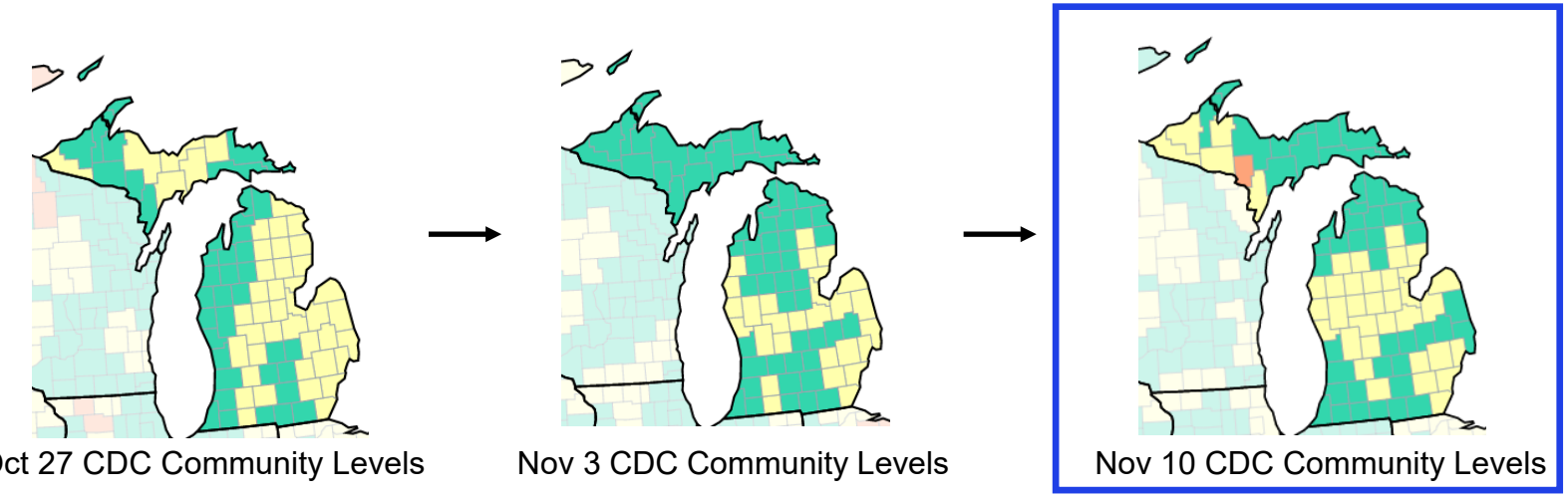


Source: CDC COVID-19 Community Levels https://www.cdc.gov/coronavirus/2019-ncov/science/community-levels.html

Michigan Trends of COVID-19 Community Levels

- As of Nov 10, 1 (1%) Michigan counties are at high COVID-19 community level and another 38 Michigan counties are currently at Medium level (46%)
- The proportion of Michigan counties at medium and high is slightly higher than last week
- Current number of counties at high and medium are plateaued since end of September



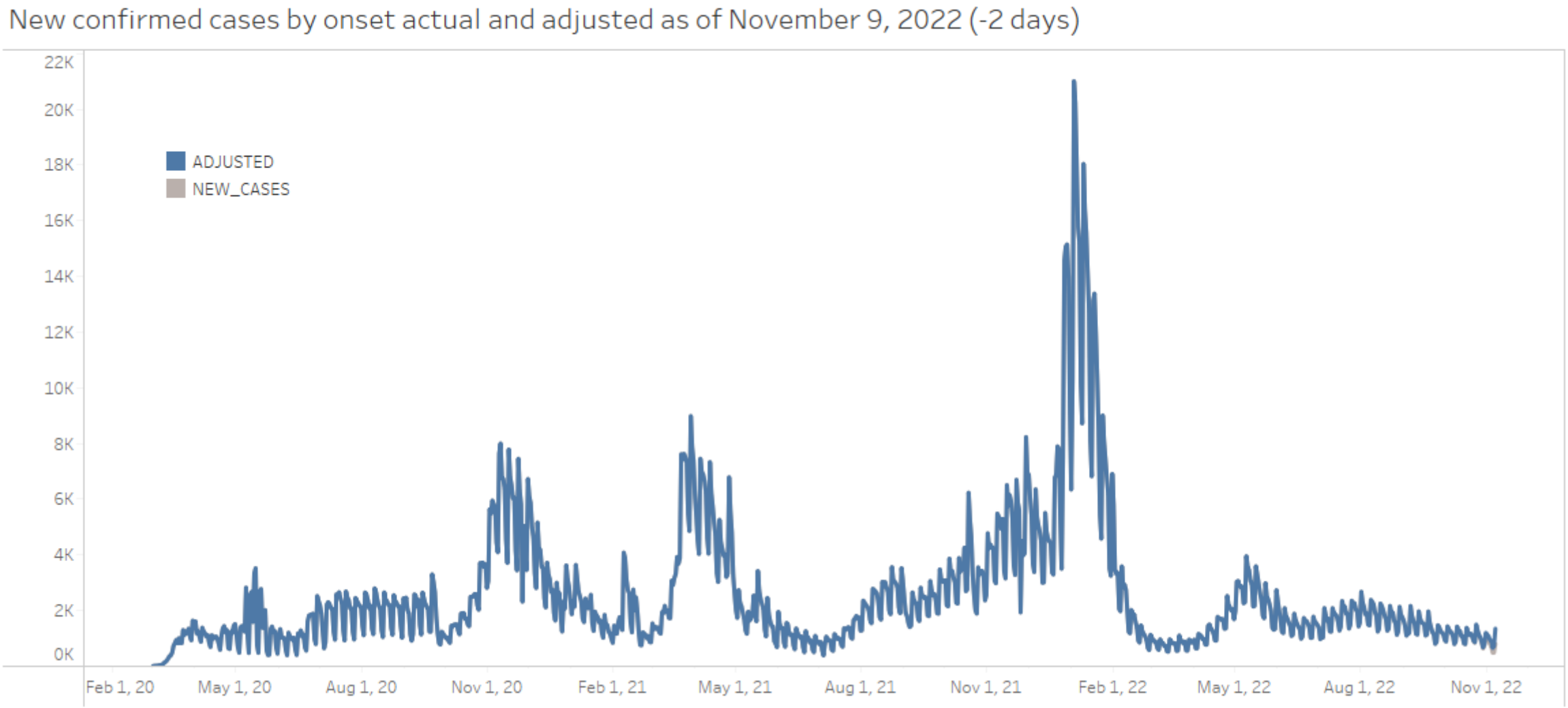


Oct 27 CDC Community Levels | Nov 3 CDC Community Levels | Nov 10 CDC Community Levels

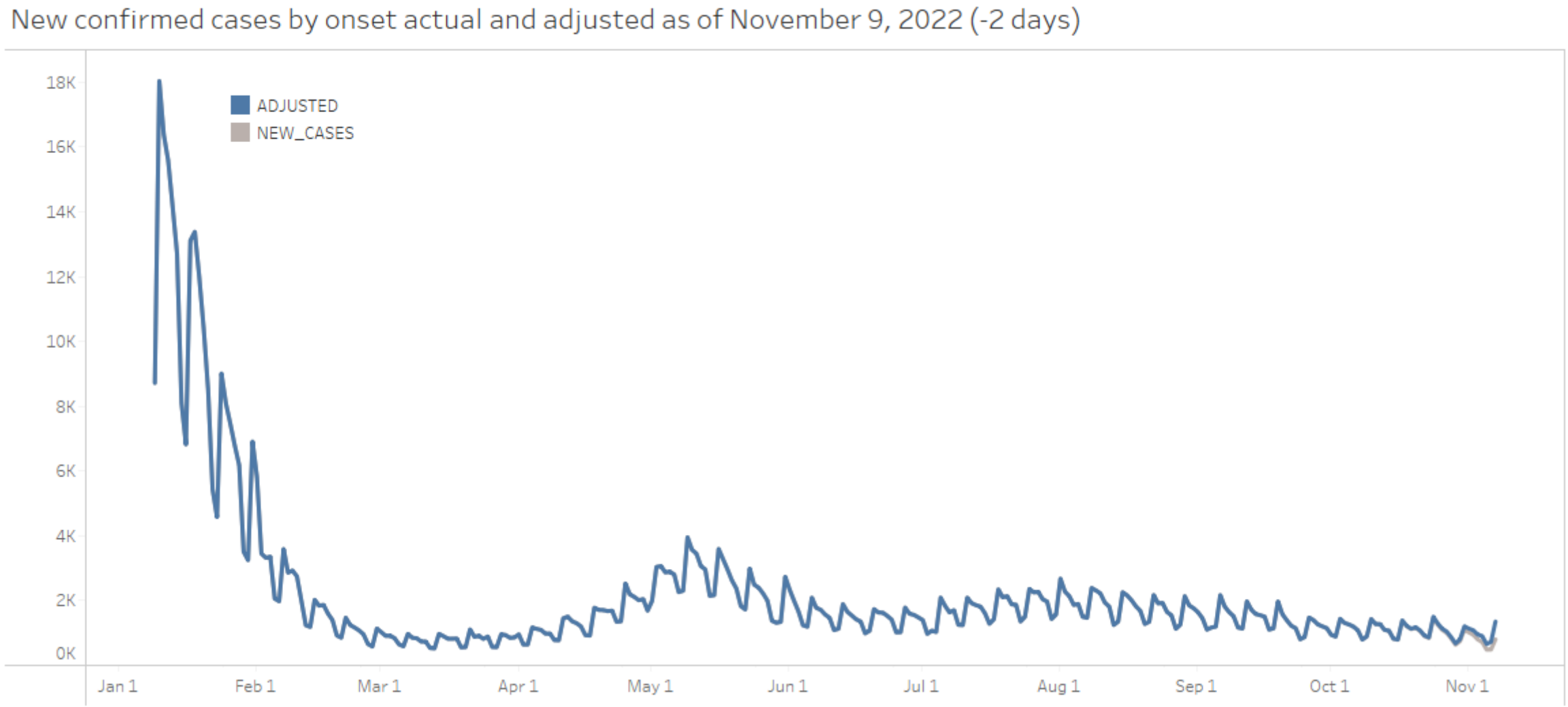
This metric uses three indicators for categorization: (1) new COVID-19 cases per 100,000 population in the last 7 days lagged 1 day behind the date the COVID-19 Community Level is calculated; (2) new COVID-19 hospital admissions per 100,000 population in the last 7 days; and (3) percent of staffed inpatient beds occupied by patients with confirmed COVID-19 (7-day average) lagged 1 day behind the 7-day case rate .

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

Michigan Lag-adjusted new COVID cases by onset date



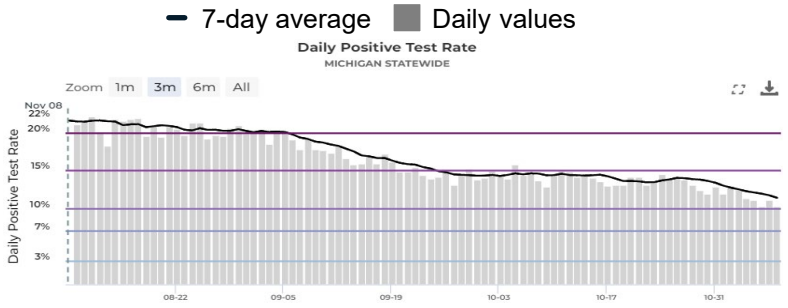
Michigan Lag-adjusted new cases by onset date, recent trends



Recent statewide trends are plateaued with early signs of slow decline

Statewide trends

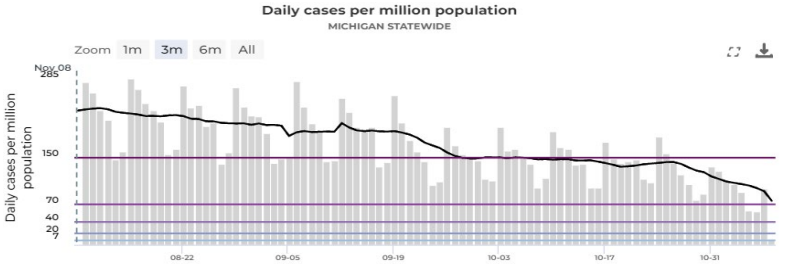
Positivity, %



Current: 11.4%

Last Week: 12.5%

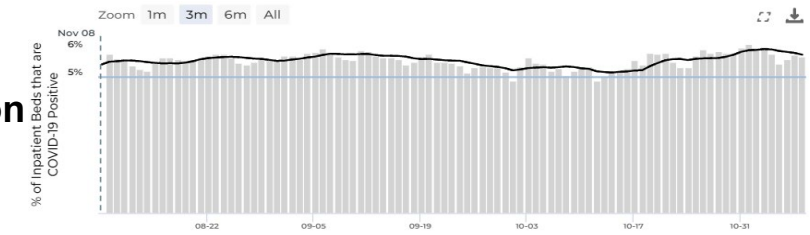
Daily cases per million



Current: 108.8

Last Week: 129.7

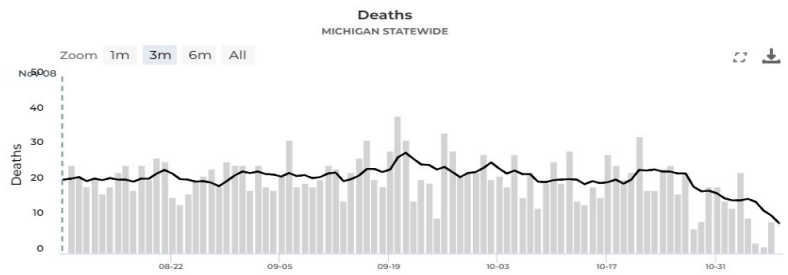
Daily hospitalization rate, %



Current: 5.7%

Last Week: 5.7%

Deaths

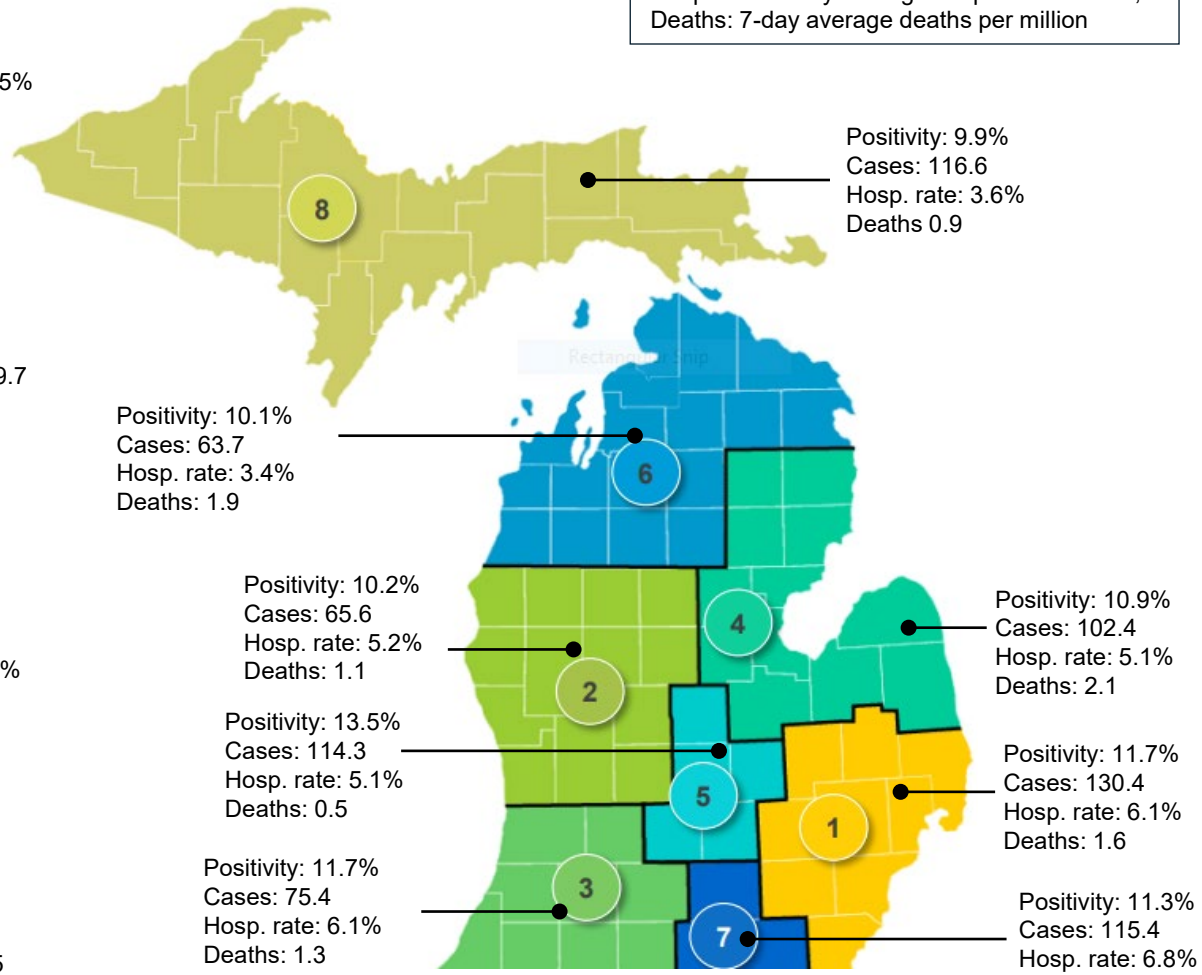


Current: 1.5

Last Week: 1.5

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

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



Positivity: 9.9%
Cases: 116.6
Hosp. rate: 3.6%
Deaths 0.9

Positivity: 10.1%
Cases: 63.7
Hosp. rate: 3.4%
Deaths: 1.9

Positivity: 10.2%
Cases: 65.6
Hosp. rate: 5.2%
Deaths: 1.1

Positivity: 10.9%
Cases: 102.4
Hosp. rate: 5.1%
Deaths: 2.1

Positivity: 13.5%
Cases: 114.3
Hosp. rate: 5.1%
Deaths: 0.5

Positivity: 11.7%
Cases: 130.4
Hosp. rate: 6.1%
Deaths: 1.6

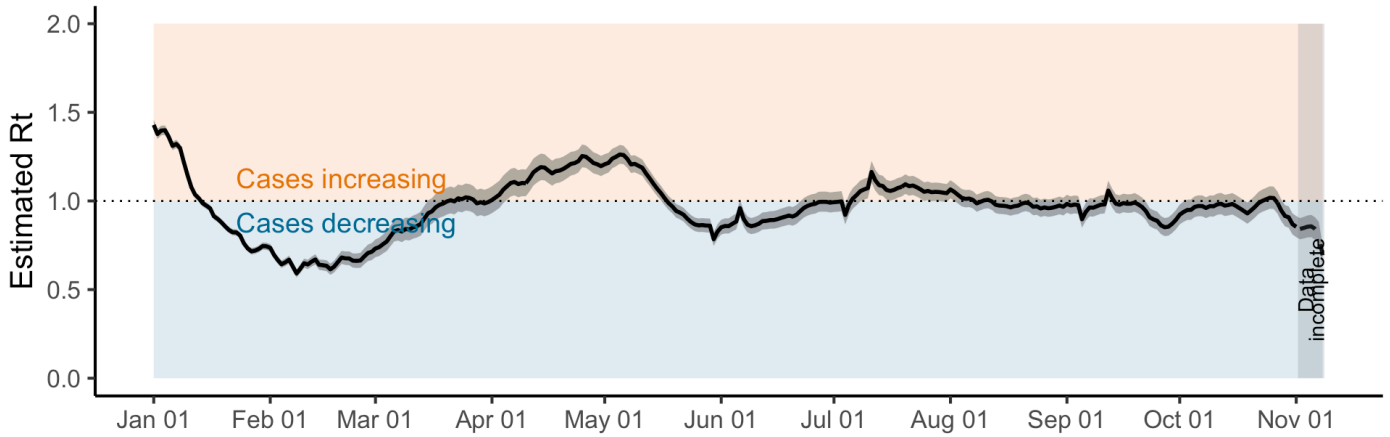
Positivity: 11.7%
Cases: 75.4
Hosp. rate: 6.1%
Deaths: 1.3

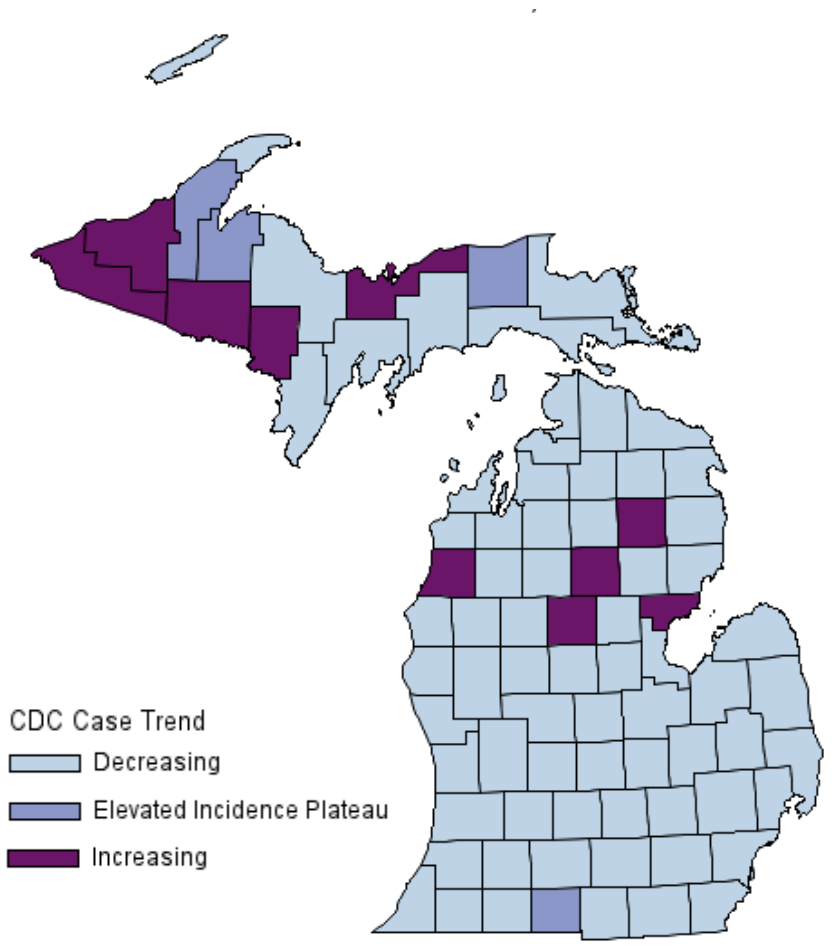
Positivity: 11.3%
Cases: 115.4
Hosp. rate: 6.8%
Deaths: 2.4

Source: https://mistartmap.info/

Cases are plateaued in Michigan, potentially beginning to decline

Michigan R_t near or below 1 (plateau or decline)





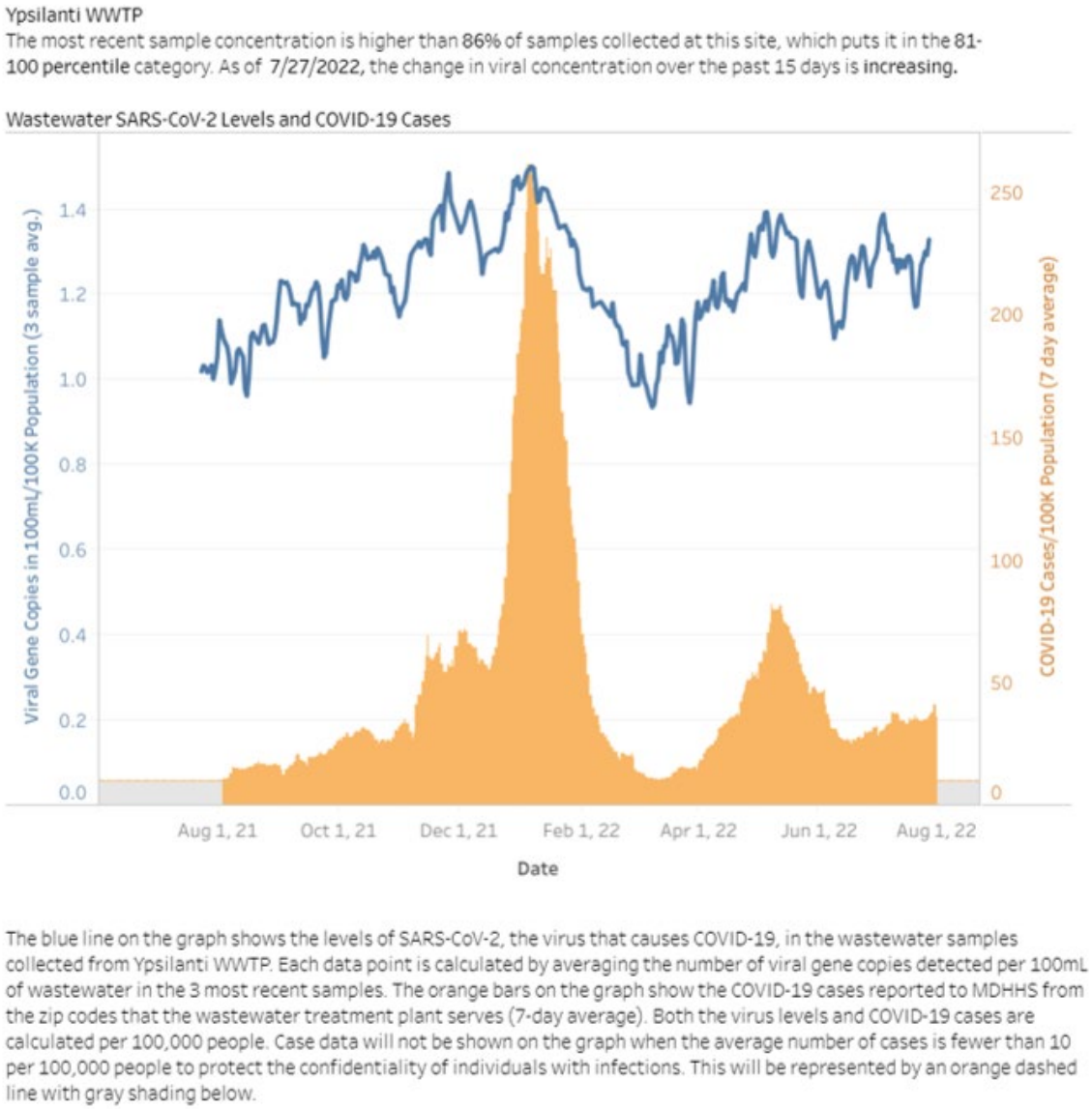
- Michigan R_t below 1 suggesting case rates may be declining
- 10 counties are currently showing increases in cases and an additional 4 reported an elevated incidence plateau in case rates (via mistartmap.info as of 11/9/22, data through 11/1/22)

Sources: MDSS cases plotted by onset date as of 11/4/2022.

Interpreting Wastewater Should Be In Context with Other Indicators

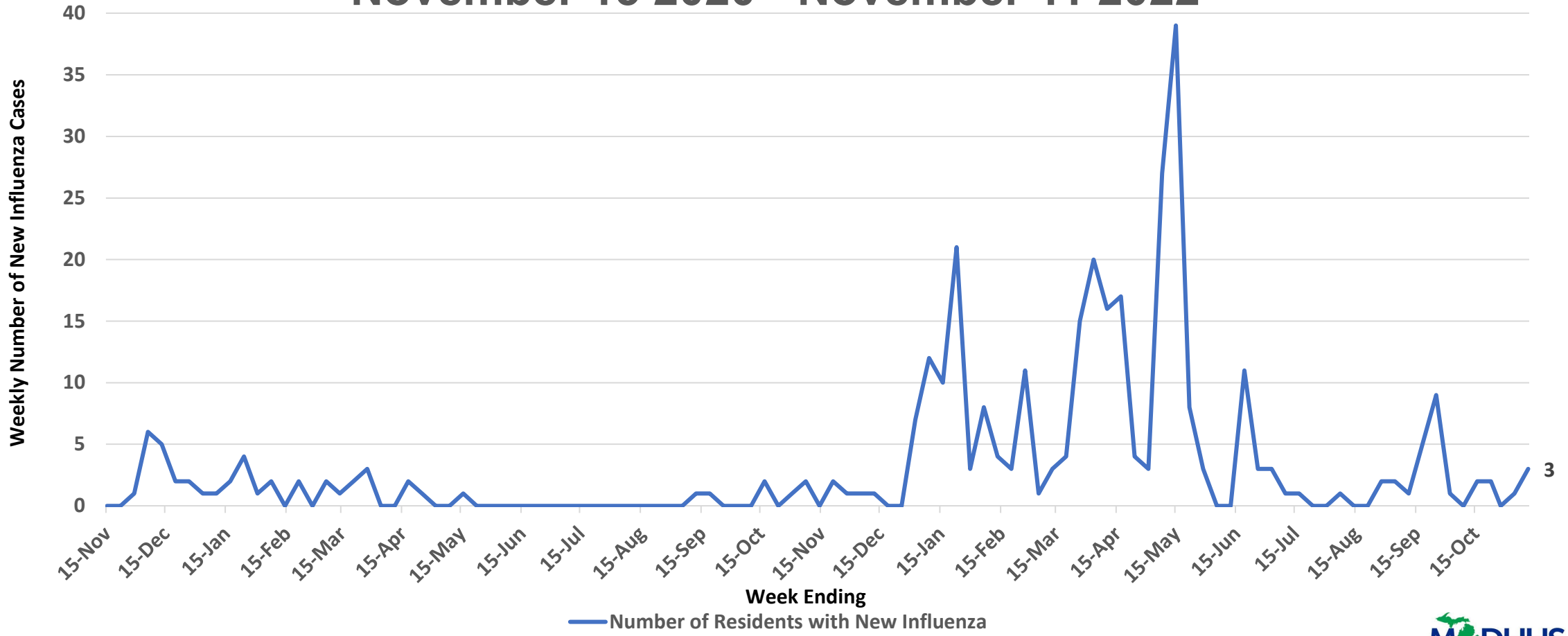
- When levels of virus in wastewater are low, a modest increase overall in virus level can appear much larger as numbers are translated into percentages
  - This does not necessarily mean we will see major increases in transmission in the community

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



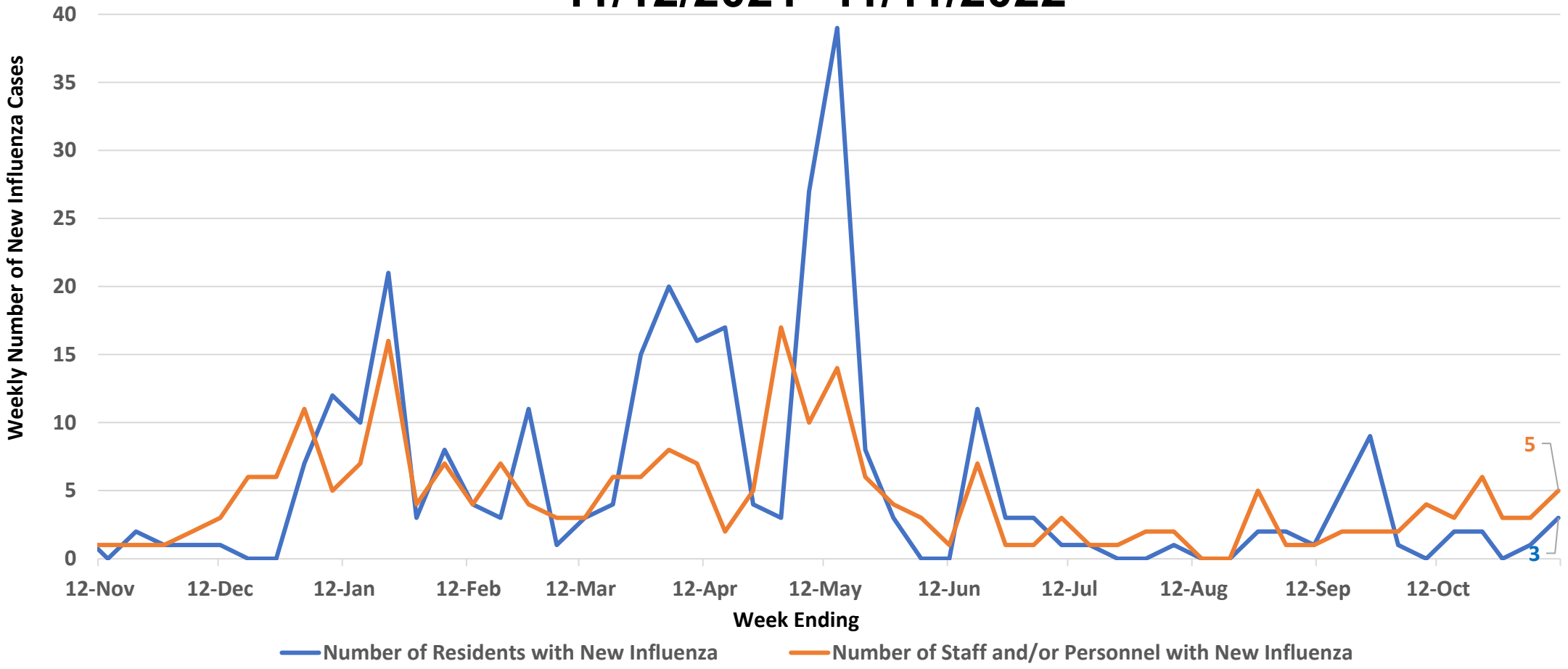
Source: MDHHS – Sentinel Wastewater Epidemiology Evaluation Project - https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-573480--,00.html

Weekly Number New INFLUENZA Cases in Skilled Nursing Facility Residents and Staff November 15 2020 - November 11 2022

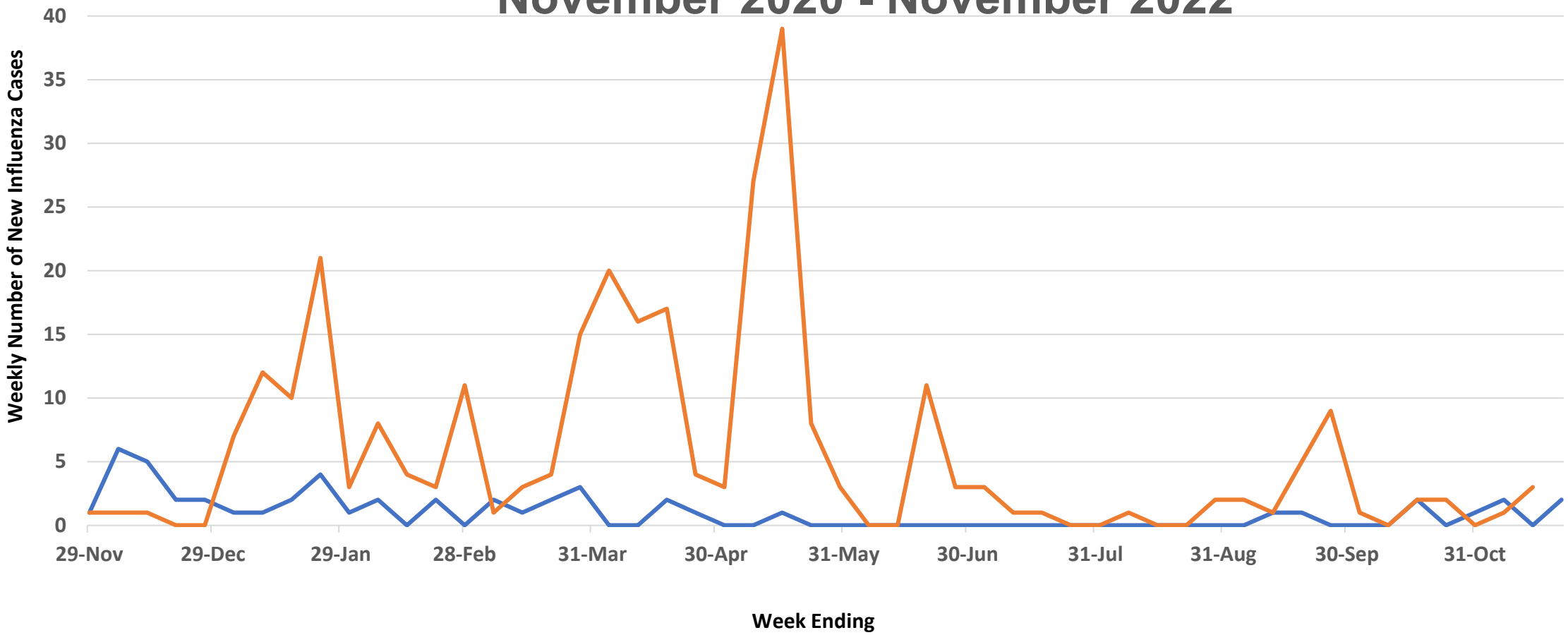


MDHHS

Weekly New Influenza cases in Skilled Nursing Facility Residents and Staff 11/12/2021- 11/11/2022

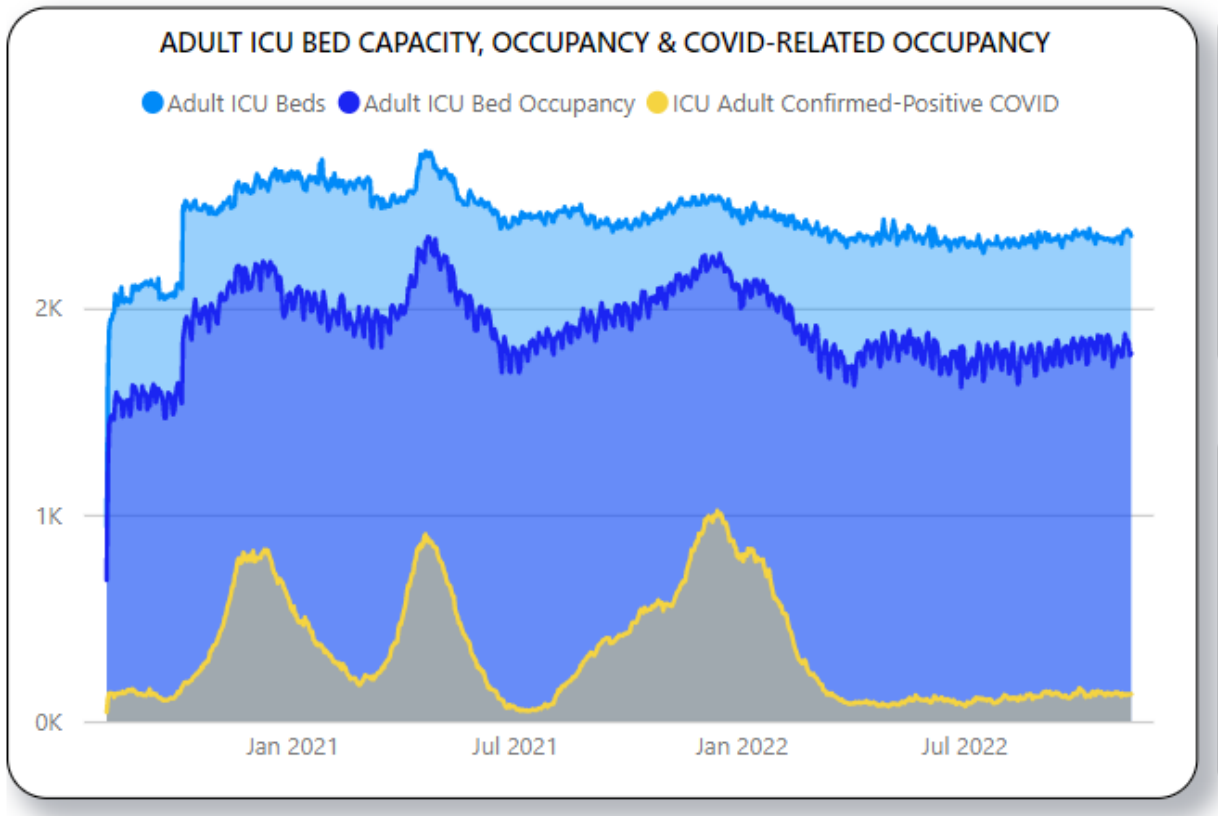


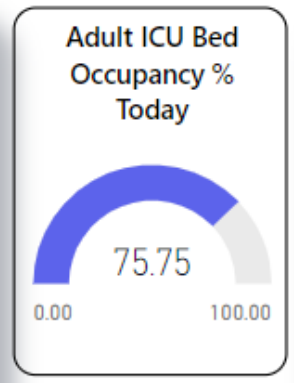
Weekly New Influenza cases in Skilled Nursing Facility Residents
November 2020 - November 2022

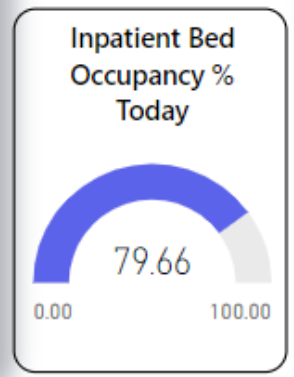


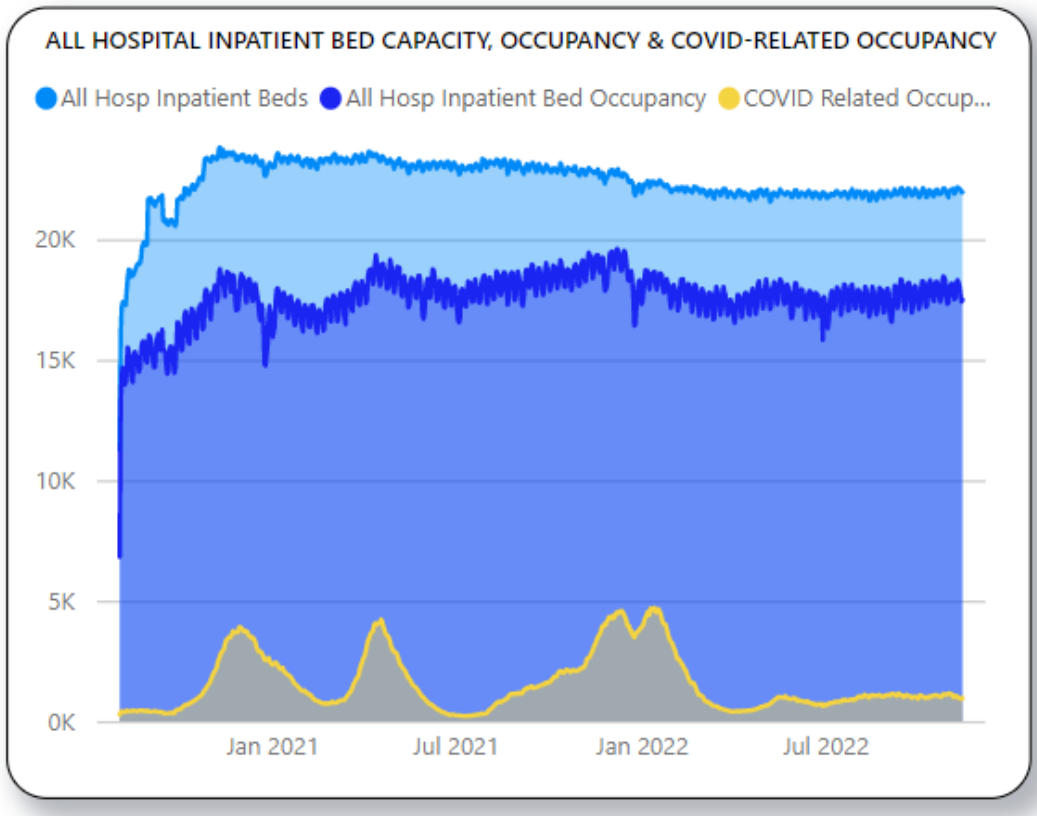
MDHHS

Michigan: COVID-19 Hospital Data Capacity Daily Trends









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

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

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

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

MDHHS
Michigan Department of Health & Human Services

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

Bivalent (Omicron) Pfizer and Moderna COVID-19 vaccines available for booster shots in Michigan

- The Moderna and Pfizer bivalent boosters target two strains of COVID-19: the original strain of the virus and the widely spread Omicron variants (BA.4 and BA.5, including BF.7)

- **Who is eligible to receive a single bivalent booster dose and when**:
  - Individuals 6 years of age and older are eligible for a single booster dose of the bivalent **Moderna** COVID-19 vaccine if it has been at least two months since they completed primary vaccination or received the most recent booster dose with any authorized or approved monovalent COVID-19 vaccine
  - Individuals 5 years of age and older are eligible for a single booster dose of the bivalent **Pfizer-BioNTech** COVID-19 vaccine if it has been at least two months since they completed primary vaccination or received the most recent booster dose with any authorized or approved monovalent COVID-19 vaccine

- Individuals may choose to receive either the Pfizer or Moderna bivalent booster, regardless of which primary series vaccine or original booster dose they had previously.
- Influenza vaccines, which are now available in Michigan, can also be co-administered with the COVID-19 bivalent booster doses

Sources: Michigan Department of Health and Human Services; FDA; CDC ACIP

The Update on being “Up to Date” on COVID-19 Vaccination

- The introduction of the new boosters has caused some changes in vaccine recommendations
- These new recommendations are based on
  - Age
  - First vaccine received
  - Time from last vaccine dose received

- Being up to date on COVID-19 vaccination now indicates **having completed a COVID-19 vaccine primary series** *and* **having received the most recent booster dose as recommended by the CDC**
  - **Age 6 month to 4 years** : receive all the primary series COVID-19 doses
  - **Ages 5 years to 11 years** : receive COVID-19 primary series *and* the currently recommended bivalent booster
  - **Ages 12* years and older** : receive COVID-19 primary series *and* the updated Pfizer or Moderna bivalent booster
  - **Moderate or severely immunocompromised** : consult physician or CDC for additional vaccination recommendations

* At this time, only the Pfizer bivalent booster is authorized and available for people ages 12 to 17 years

Sources: CDC Vaccination Recommendations. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html