miOttawa Department of Public Health

Ottawa County COVID-19 Epidemiology

November 23, 2022

Data as of November 19, 2022, unless otherwise indicated.

Executive Summary

- **Weekly reported cases in the US and in Michigan are stable and relatively low**

- **Ottawa County transmission signals are stable, but showing some possible increases**
  - Last week positivity **increased** to 9.4%, from 8.1% two weeks ago.
  - Weekly case counts **decreased** 5% (-24% two weeks ago), from 147 two weeks ago to 139 last week.
  - Cases among children **decreased** 8% (-25% two weeks ago), from 12 two weeks ago to 11 last week.
  - COVID-19 wastewater signals in Ottawa County **are mixed; stable** in Holland/Zeeland, **elevated but plateauing** in Grand Haven/Spring Lake and **decreasing** in Allendale.
  - Based on national data, a variety of Omicron subvariants are likely circulating.
  - Ottawa's CDC Community Level is LOW.
  - Ottawa's CDC Transmission Level is SUBSTANTIAL as of November 19, 2022.

- **Ottawa-area and regional hospitals have adequate capacity**
  - In Ottawa County, 4% of all available beds and 7% of all ICU beds are occupied by COVID-19 patients.*

- **Pediatric hospitalization rates in the US are increasing, but remain relatively low in Michigan**
  - Regional COVID-19 pediatric hospitalization census remains low compared to the late 2021 and early 2022 Omicron surge.
  - Despite a relatively low regional pediatric COVID-19 hospitalization census, pediatric bed occupancy and pediatric ICU occupancy remain higher than usual, likely due to increased RSV activity.

- **Of Ottawa County residents aged 6 months and older, 61.2% are have received their primary series.**

*Some hospitals in Ottawa County immediately transfer acutely ill adults or children to regional hospitals that offer a higher level of care. This practice may reduce the proportion of beds occupied by COVID-19 patients in Ottawa and increase bed occupancy in urban centers with large hospitals, such as Kent County.

Limitations

- **Case Counts, Case Rates, and Test Positivity**

  With the widescale availability of at-home antigen tests for COVID-19, which are not reported or included in public health surveillance data, the case counts and case rates in this report underestimate the true burden of this disease. However, it is expected that increasing and decreasing trends reflect the relative amount of transmission in the community.

- **Wastewater Surveillance**

  Wastewater samples are collected from specific geographic sites in the county and may not reflect COVID-19 burden across the entire county population. However, increases and decreases in detected trends generally correlate with case rates, therefore wastewater readings are displayed alongside countywide incidence rates in this report.

Ottawa County Metrics by Week

		Week Ending				
Metric	Goal	22-Oct-22	29-Oct-22	5-Nov-22	12-Nov-22	17-Nov-22*
Positivity (All Ages)	NA	13.0%	10.5%	10.7%	8.1%	9.4%
Weekly Cases (All Ages)	<592	214	183	194	147	139
Weekly Cases in Children (0-17 years of age)	NA	22	15	12	12	12
Total Deaths (All Ages)	0	2	4	4	0	0
CDC COVID-19 Community Level (New)	Low	Low	Low	Low	Low	Low

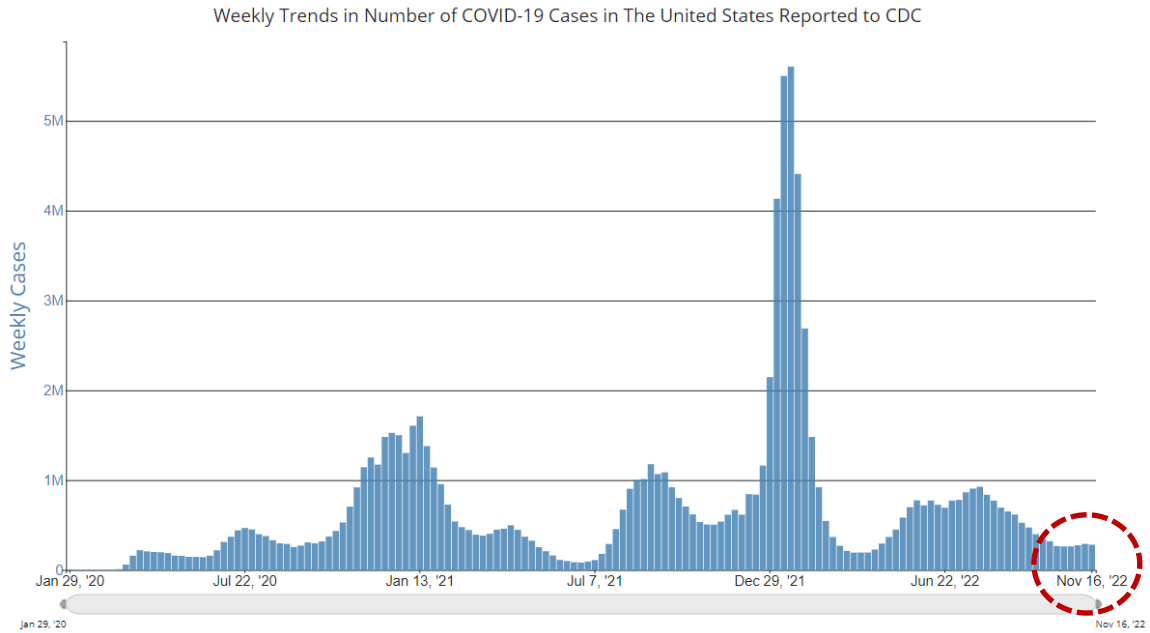
*MI Safe Start only updated through 11/17

Please note that with updated CDC Community Levels, metrics and/or metric thresholds/goals may change.

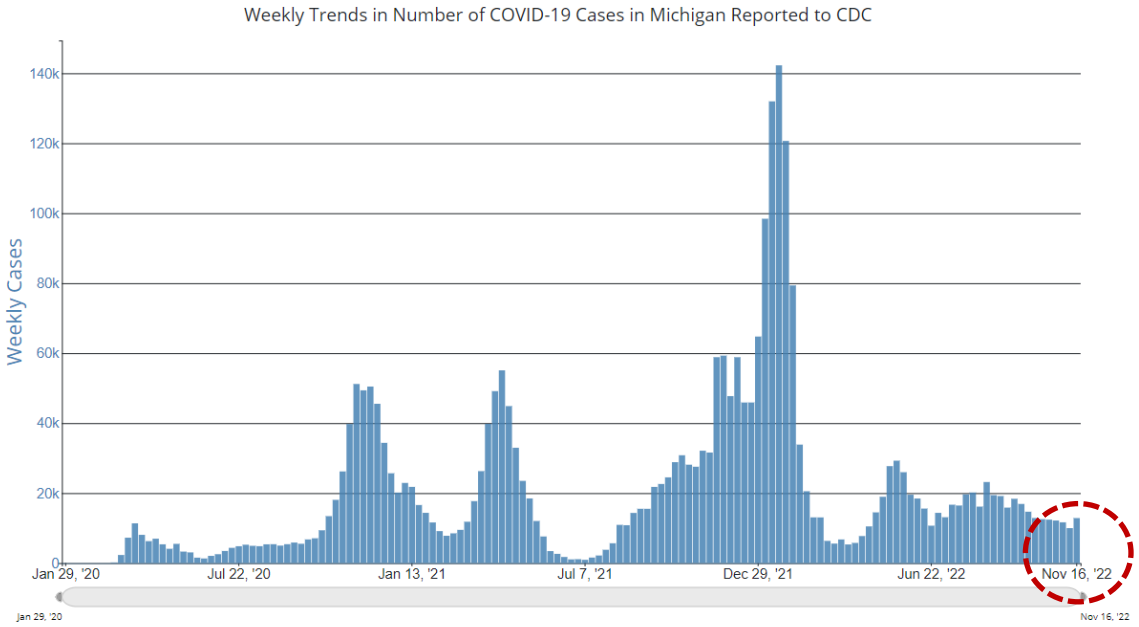
Notes: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in an artificially lower number of cases. Hospitalization and/or death may occur after initial infection, meaning the number of hospitalizations and deaths from recent weeks may increase

Weekly Case Trends in the USA and Michigan

USA



Michigan



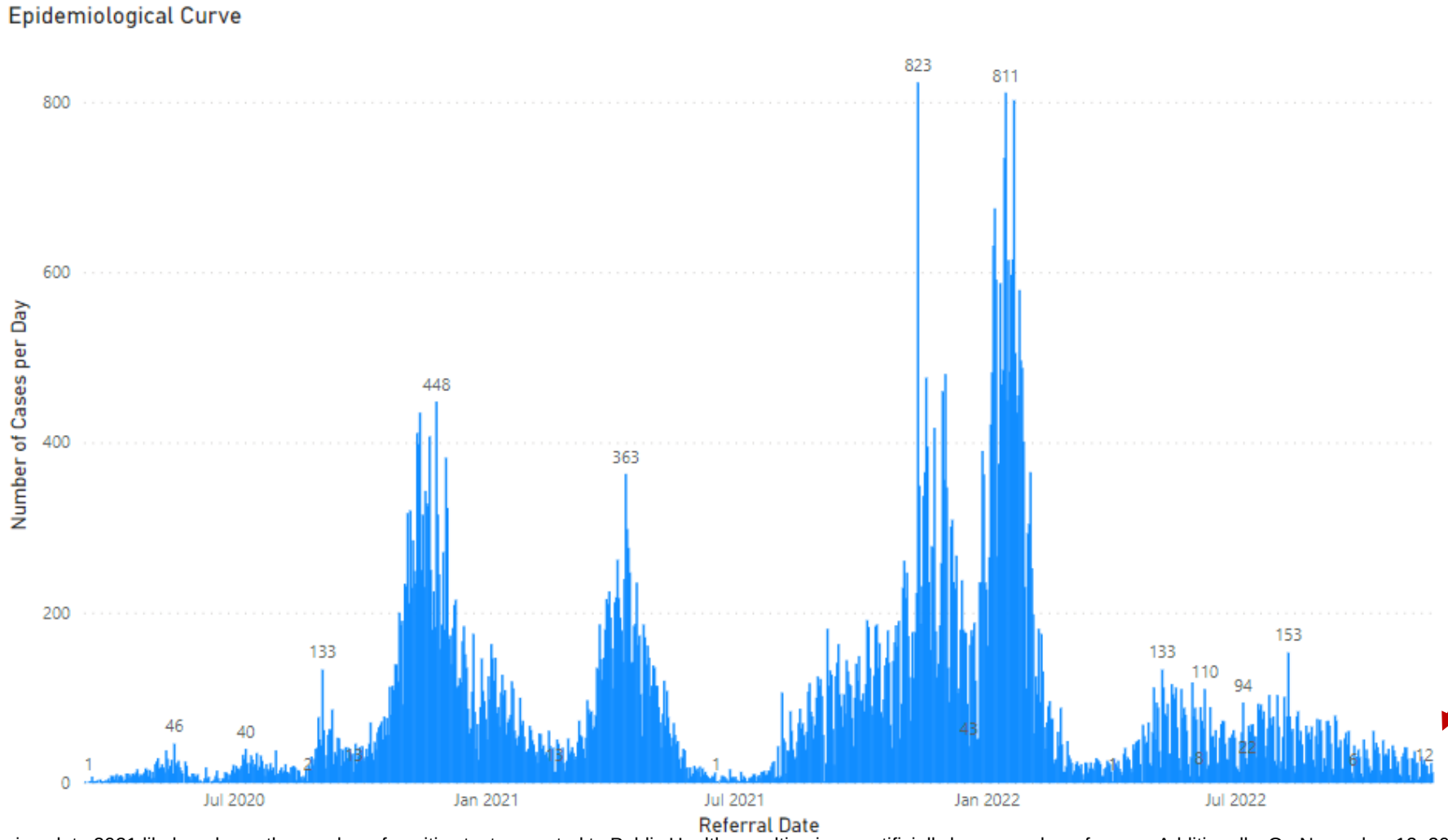
Weekly case counts in the US and Michigan remain lower than previous surges and are stable or may be declining.

Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in an artificially lower number of cases.
Source: https://covid.cdc.gov/covid-data-tracker/#trends_dailycases

Data through November 16, 2022

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – November 22, 2022



Total Number of Cases

85,422

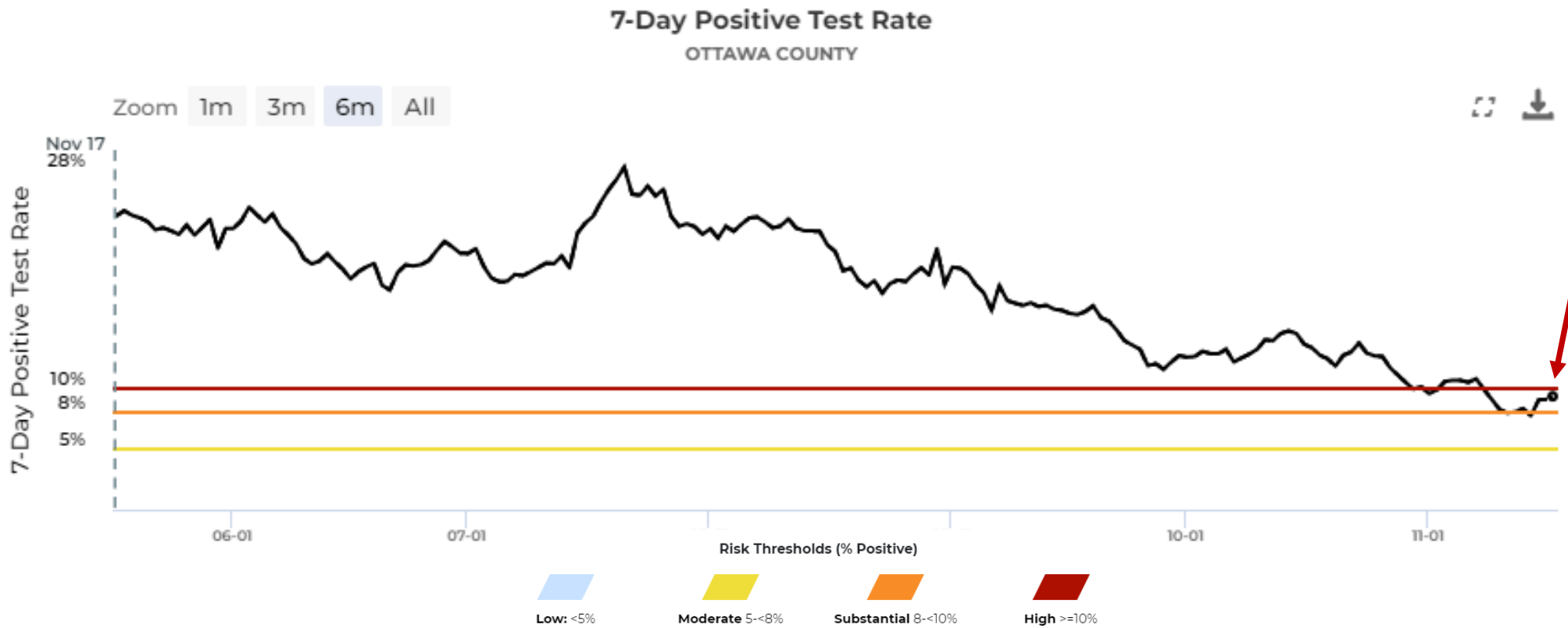
Currently, the 7-day average is approximately **18 cases per day,** a decrease from the approximately **22** cases per day seen two weeks ago.

Notes: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in an artificially lower number of cases. Additionally, On November 12, 2021, MDHHS updated their database resulting in a backlog of cases being reported in one day.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Test Positivity in Ottawa County

COVID-19 Cases by Day, Ottawa County, April 1, 2022 – November 17, 2022



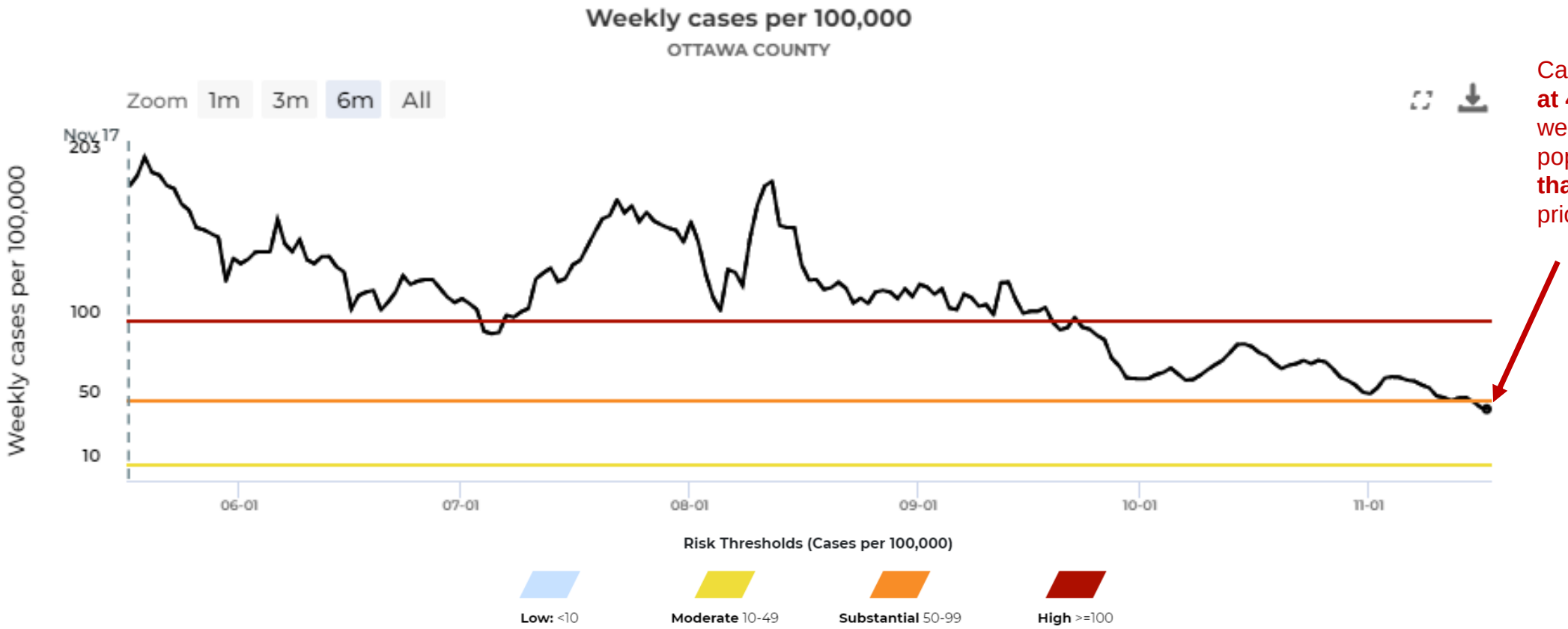
Positivity trended at **9.4%** last week, an **increase** from the **8.1%** the week prior.

This visualization may change as CDC Community Transmission levels, metrics and/or metric thresholds/goals change.

Note: Testing data and can be found at the following sources: Testing Results | Ottawa County Covid-19 Case Summary Data (arcgis.com) & MI Safe Start Map. Use of at-home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in an artificially lower number of cases.
Source: MI Safe Start Map-Ottawa County

Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, April 1, 2022 – November 17, 2022

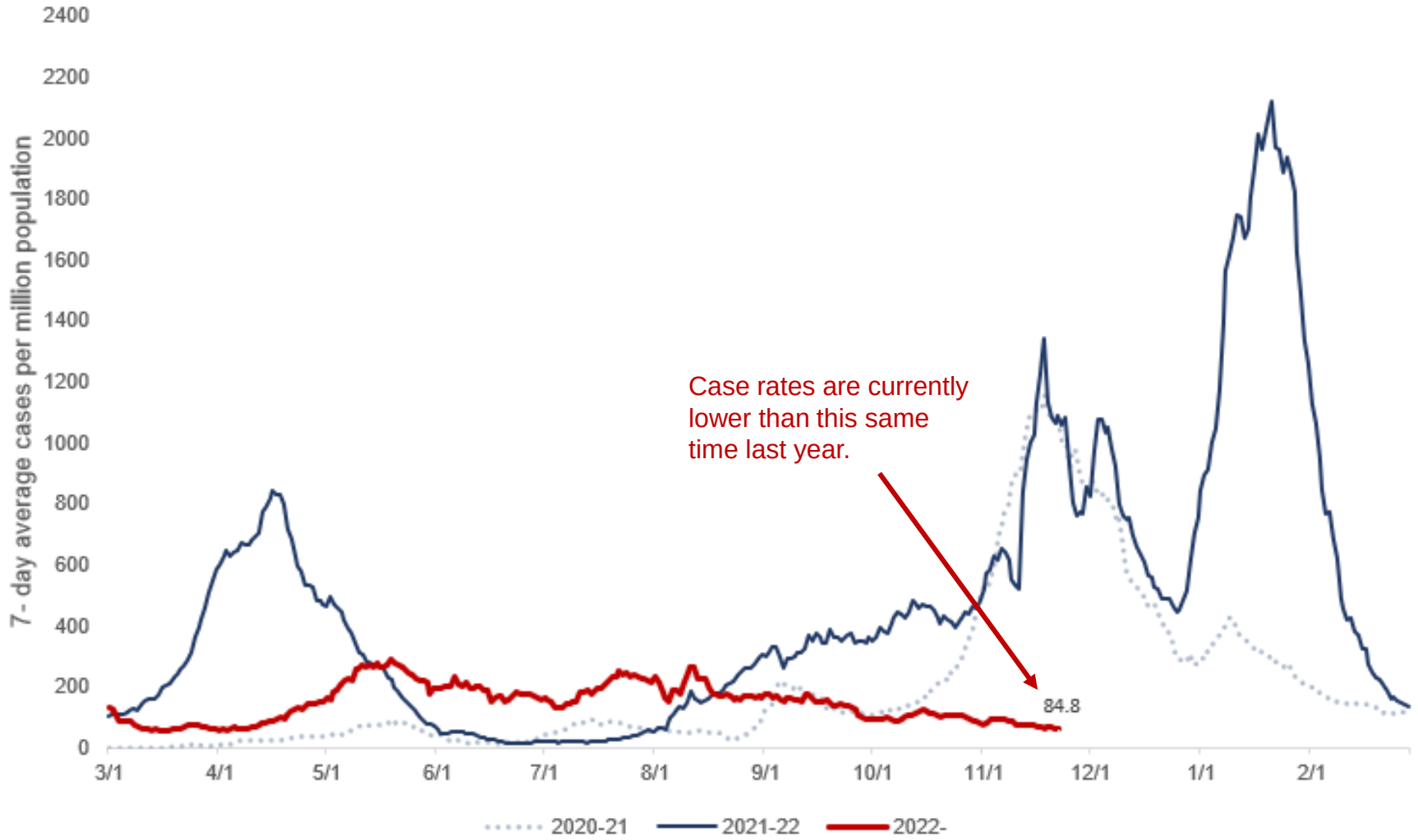


Case rates **trended at 44.9** cases per week per 100,000 population (**lower than 64.4** the week prior).

This visualization may change as CDC Community Transmission levels, metrics and/or metric thresholds/goals change.

Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially lower rates.
Source: MI Safe Start Map-Ottawa County

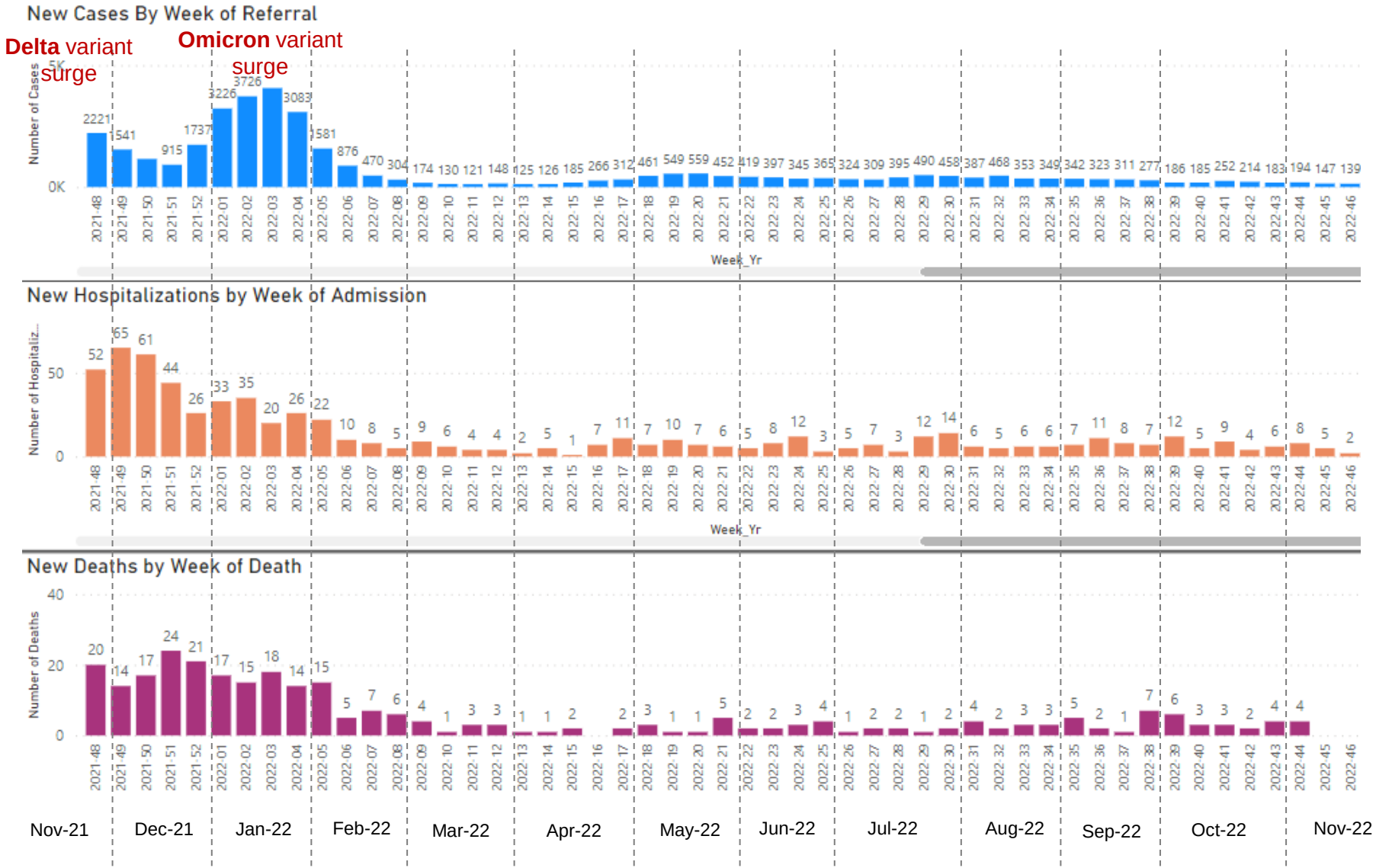
Ottawa County Trends – Comparison of Case Rates by Year



Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially lower case rates.
Source: Internal Data

Data through November 22, 2022

Ottawa County – Cases, Hospitalizations, & Deaths by Week, All Ages



Hospitalization data include all Ottawa County cases that have ever been hospitalized for COVID-19 or COVID-19 related complications. These data do not include Urgent Care visits, Emergency Department visits, or multiple hospitalizations for a single case.

The weekly number of **cases decreased 5%** from week 45 to week 46.

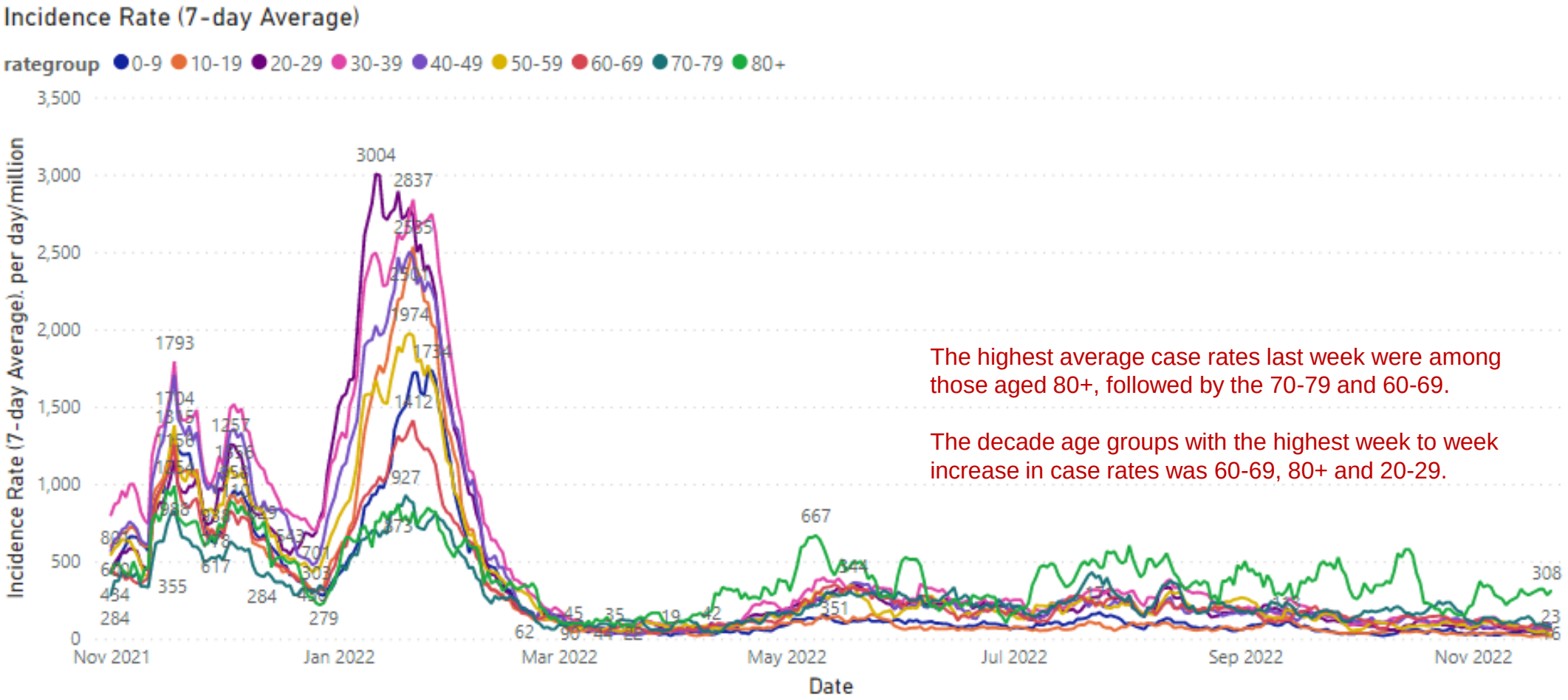
Weekly COVID-19 **deaths remain low.** The current weekly average number of deaths over the last 4 weeks is **2 deaths per week.**

Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially lower number of cases.
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of November 22, 2022

Ottawa County Case Rate Trends by Age Decade

COVID-19 Case Rates by Age, November 2021 – November 22, 2022



Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially lower rates.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of November 22, 2022

Ottawa County Case Rate Trends by Age Decade

Daily new confirmed and probable cases per day per million by age group (daily average per week)
Week 46 (November 13, 2022 – November 19, 2022)

Age Decade (Years)	Average Daily Cases	Average Daily Case Rate	One Week % Rate Change
0-9	1.3	35.0	-10%
10-19	0.9	19.4	-25%
20-29	3.0	66.3	23%
30-39	2.1	59.7	-17%
40-49	2.6	77.4	-22%
50-59	1.6	45.0	-48%
60-69	2.7	83.2	36%
70-79	2.0	96.9	-7%
80+	3.6	320.7	25%

Age groups with highest average case rates last week:
1. 80+
2. 70-79
3. 60-69

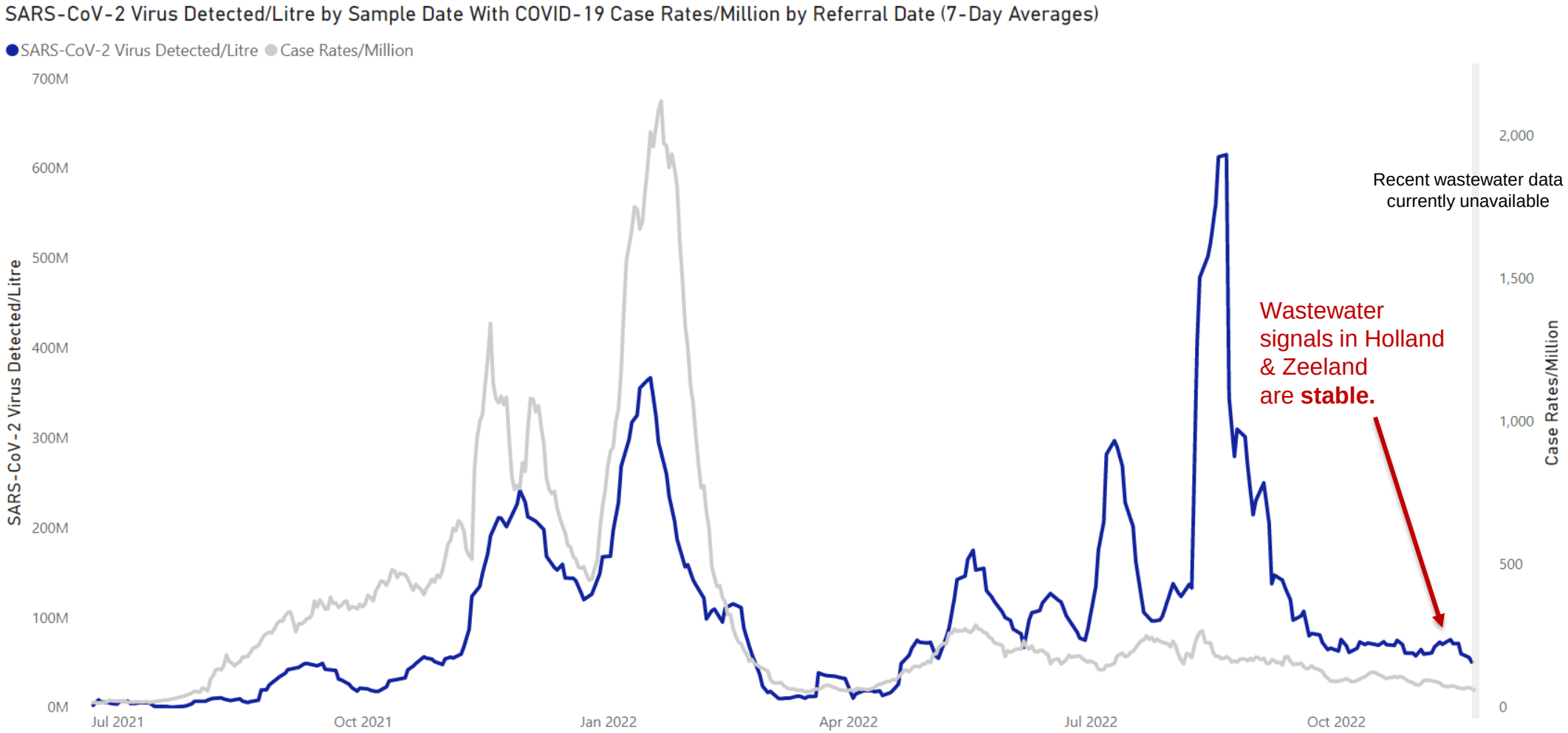
Age groups with largest week-over-week increase in case rates:
1. 60-69
2. 80+
3. 20-29

Notes: Average daily cases is calculated by summing the weekly total number of cases and dividing by seven. Cases counted in weeks of interest reflect referral date. Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially lower rates.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System; CDC Wonder 2020 population

Data as of November 22, 2022

Holland-Zeeland Wastewater Surveillance



Data Interpretation: The **blue line** on the graph shows the 7-day average levels of SARS-CoV-2 virus (N2 markers) detected in wastewater sampled from treatment plants in Holland & Zeeland. The **gray line** on the graph represents the 7-day average COVID-19 case rates/million for all of Ottawa County by referral date.

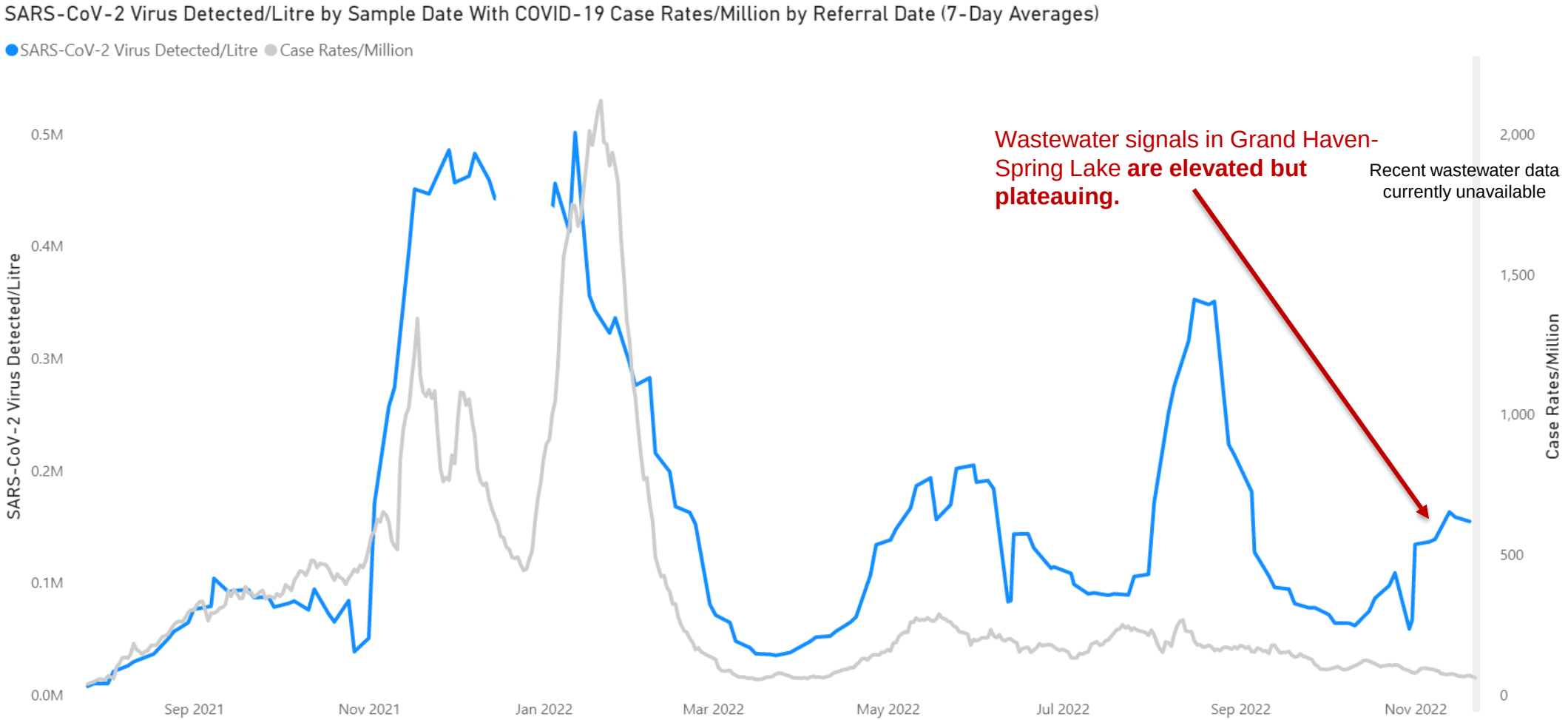
Notes: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates. Display of wastewater data may change as analytical methods are refined. A data point from Zeeland collected June 23, 2022, was removed from data analysis as an extreme outlier.

Source: Hope College Global Water Research Institute as part of the MDHHS SEWER-Network, Aaron Best, Ph.D. (best@hope.edu)

Additional Information: Michigan COVID-19 Wastewater Surveillance Pilot Project (arcgis.com), Coronavirus - Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) (michigan.gov)

Data through November 21, 2022

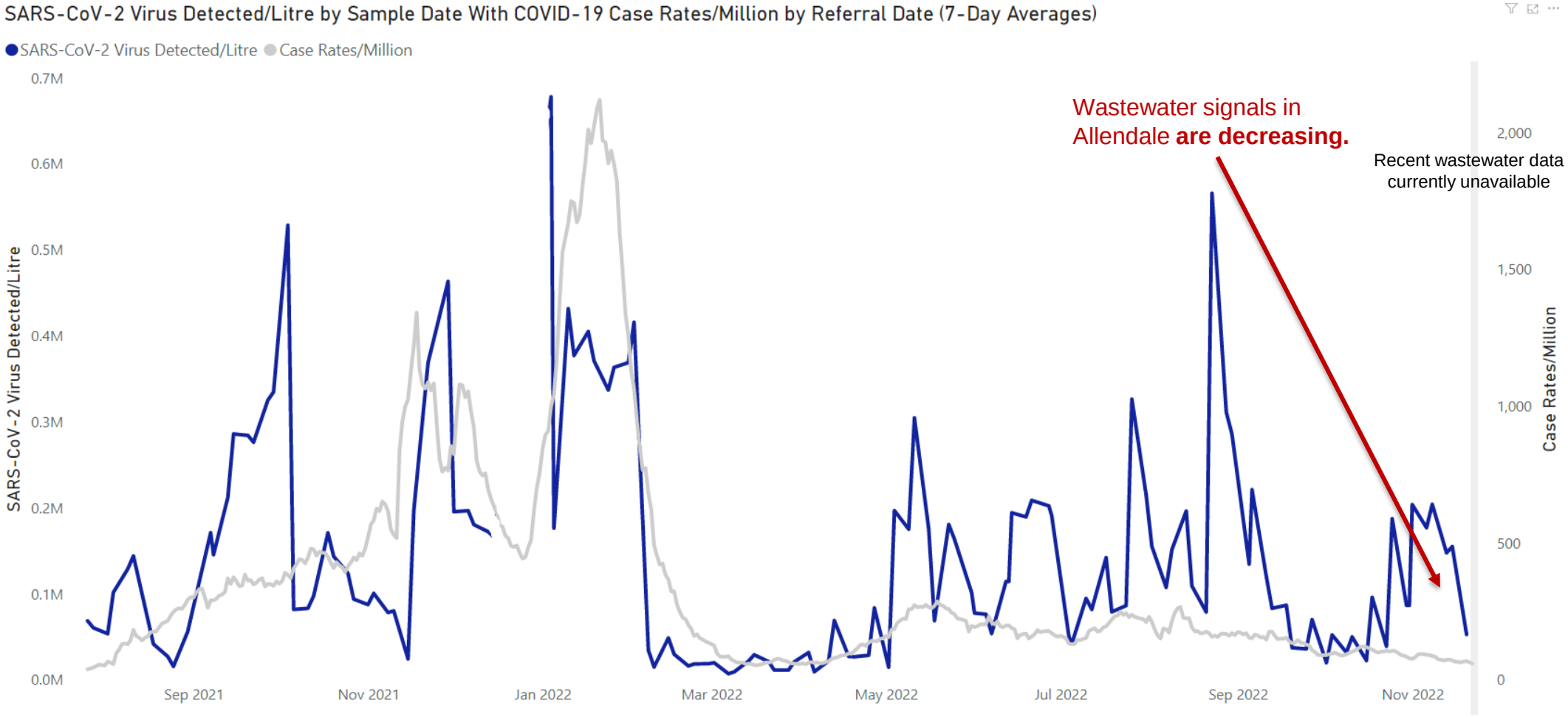
Grand Haven-Spring Lake Wastewater Surveillance



Data Interpretation: The **blue line** on the graph shows the 7-day average levels of SARS-CoV-2 virus (N2 markers) detected in wastewater sampled from the treatment plant in Grand Haven-Spring Lake. The **gray line** on the graph represents the 7-day average COVID-19 case rates/million for all of Ottawa County by referral date.
Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates. Display of wastewater data may change as analytical methods are refined.
Source: Grand Valley State University Annis Water Resources Institute as part of the MDHHS SEWER-Network, Richard Rediske, Ph.D. (redisker@gvsu.edu)
Additional Information: Michigan COVID-19 Wastewater Surveillance Pilot Project (arcgis.com), Coronavirus - Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) (michigan.gov)

Data through November 20, 2022

Allendale Wastewater Surveillance



Data Interpretation: The **blue line** on the graph shows the 7-day average levels of SARS-CoV-2 virus (N2 markers) detected in wastewater sampled from the treatment plant in Allendale. The **gray line** on the graph represents the 7-day average COVID-19 case rates/million for all of Ottawa County by referral date.
Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates. Display of wastewater data may change as analytical methods are refined.
Source: Grand Valley State University Annis Water Resources Institute as part of the MDHHS SEWER-Network, Richard Rediske, Ph.D. (redisker@gvsu.edu)
Additional Information: Michigan COVID-19 Wastewater Surveillance Pilot Project (arcgis.com), Coronavirus - Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) (michigan.gov)

Data through November 20, 2022

Ottawa County Weekly Case Counts and % Change, by Age

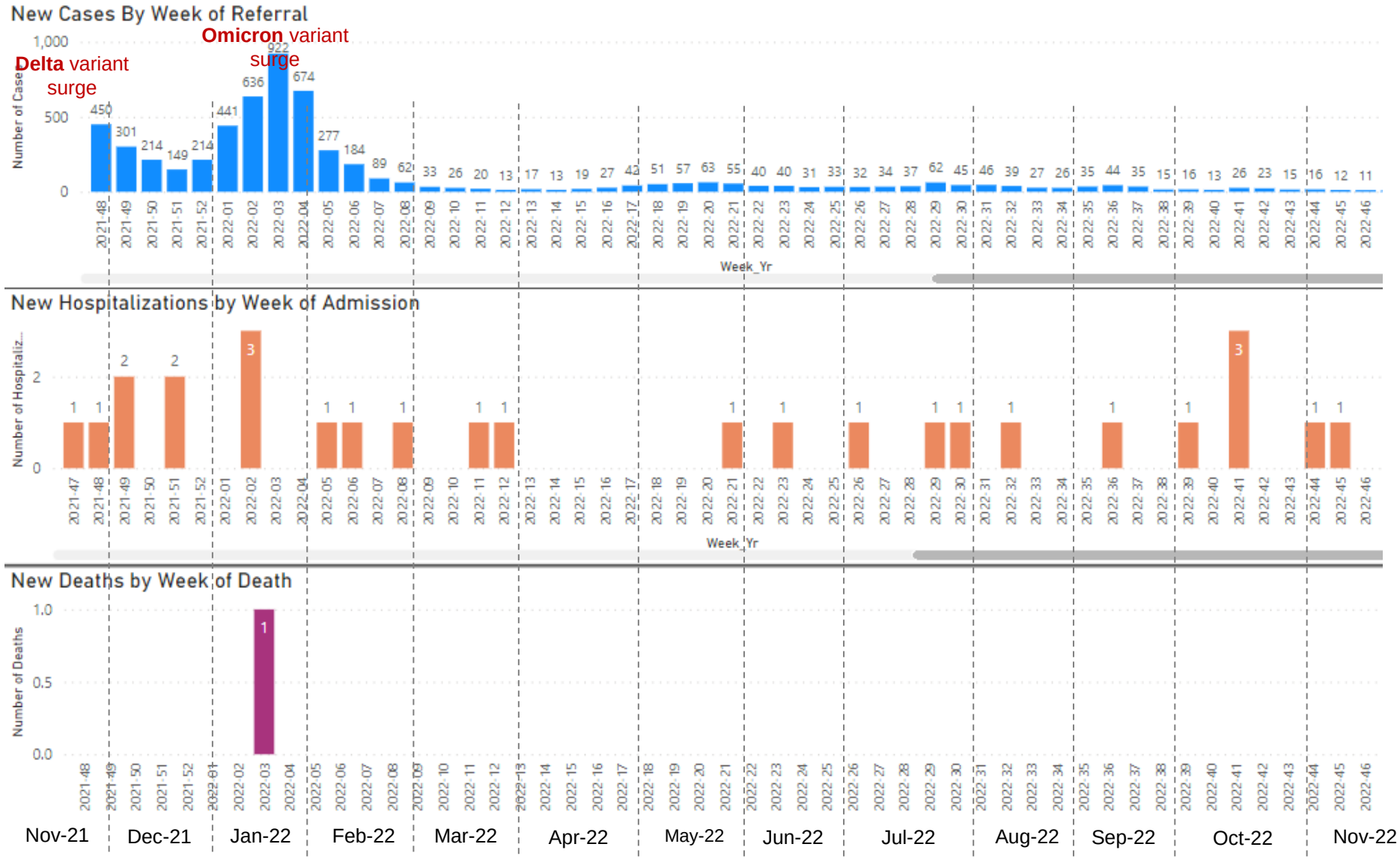
	Adults (18+)		Children (0-17 years)		Total	
Week Ending	Number	% Change from Previous Week	Number	% Change from Previous Week	Number	% Change from Previous Week
10-Sep-22	279	-9%	44	26%	323	-6%
17-Sep-22	276	-1%	35	-20%	311	-4%
24-Sep-22	262	-5%	15	-57%	277	-11%
1-Oct-22	170	-35%	16	7%	186	-33%
8-Oct-22	172	1%	13	-19%	185	-1%
15-Oct-22	226	31%	26	100%	252	36%
22-Oct-22	191	-15%	23	-12%	214	-15%
29-Oct-22	168	-12%	15	-35%	183	-14%
5-Nov-22	178	6%	16	7%	194	6%
12-Nov-22	135	-24%	12	-25%	147	-24%
19-Nov-22	128	-5%	11	-8%	139	-5%

Adults **Children**

Weekly case counts among **children decreased 8%** last week, and cases in **adults decreased 5%.**

Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in an artificially lower number of cases.
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County – Cases, Hospitalizations, & Deaths by Week Among Children (0-17 years)



Hospitalization data include all Ottawa County cases that have ever been hospitalized for COVID-19 or COVID-19 related complications. These data do not include Urgent Care visits, Emergency Department visits, or multiple hospitalizations for a single case.

The weekly number of cases among children **decreased 8%** from week 45 to week 46.

The first COVID-19 associated death in a child occurred in January of 2022. The death certificate was completed in June of 2022.

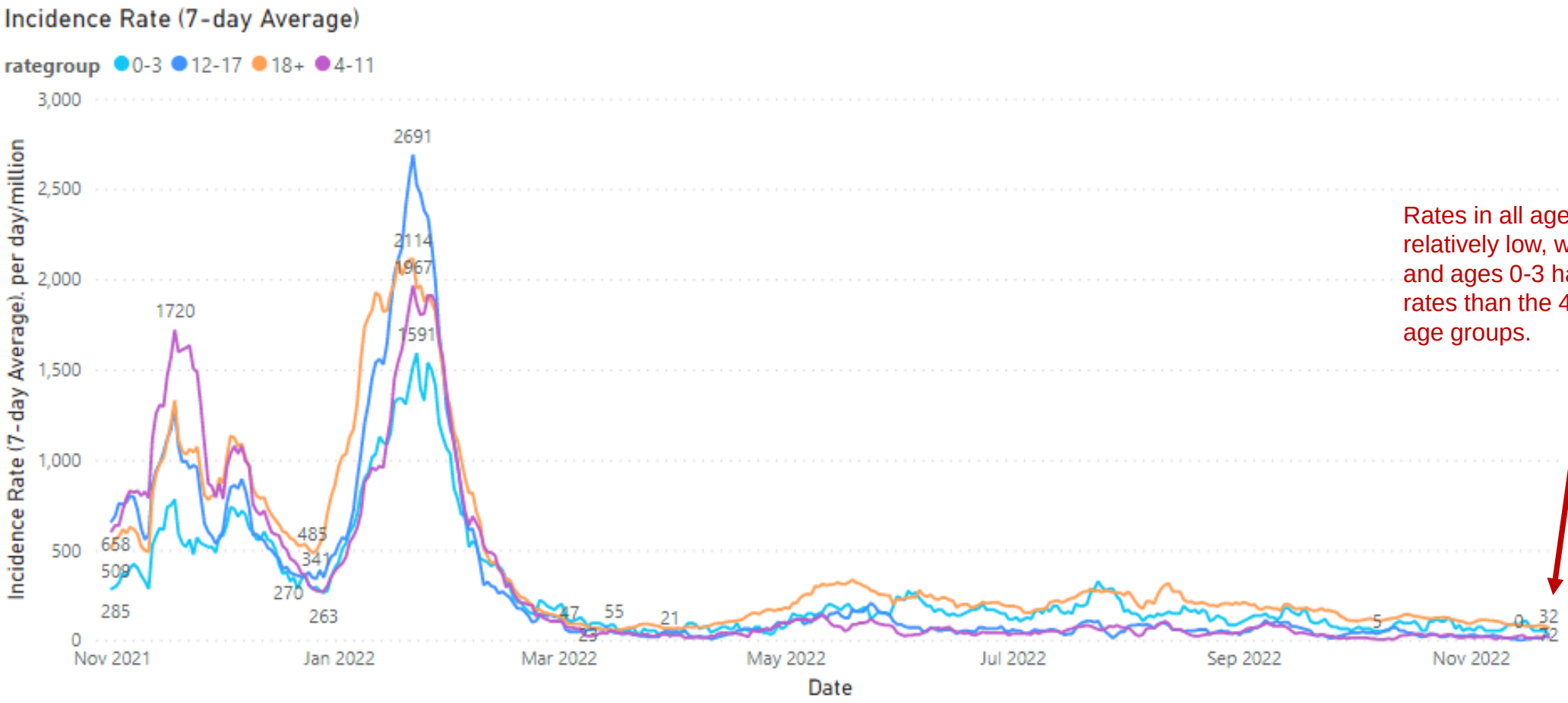
Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of November 22, 2022

Ottawa County – Case Rate Trends by Age

COVID-19 Case Rates by Age, includes School-Aged, November 2021 – November 22, 2022

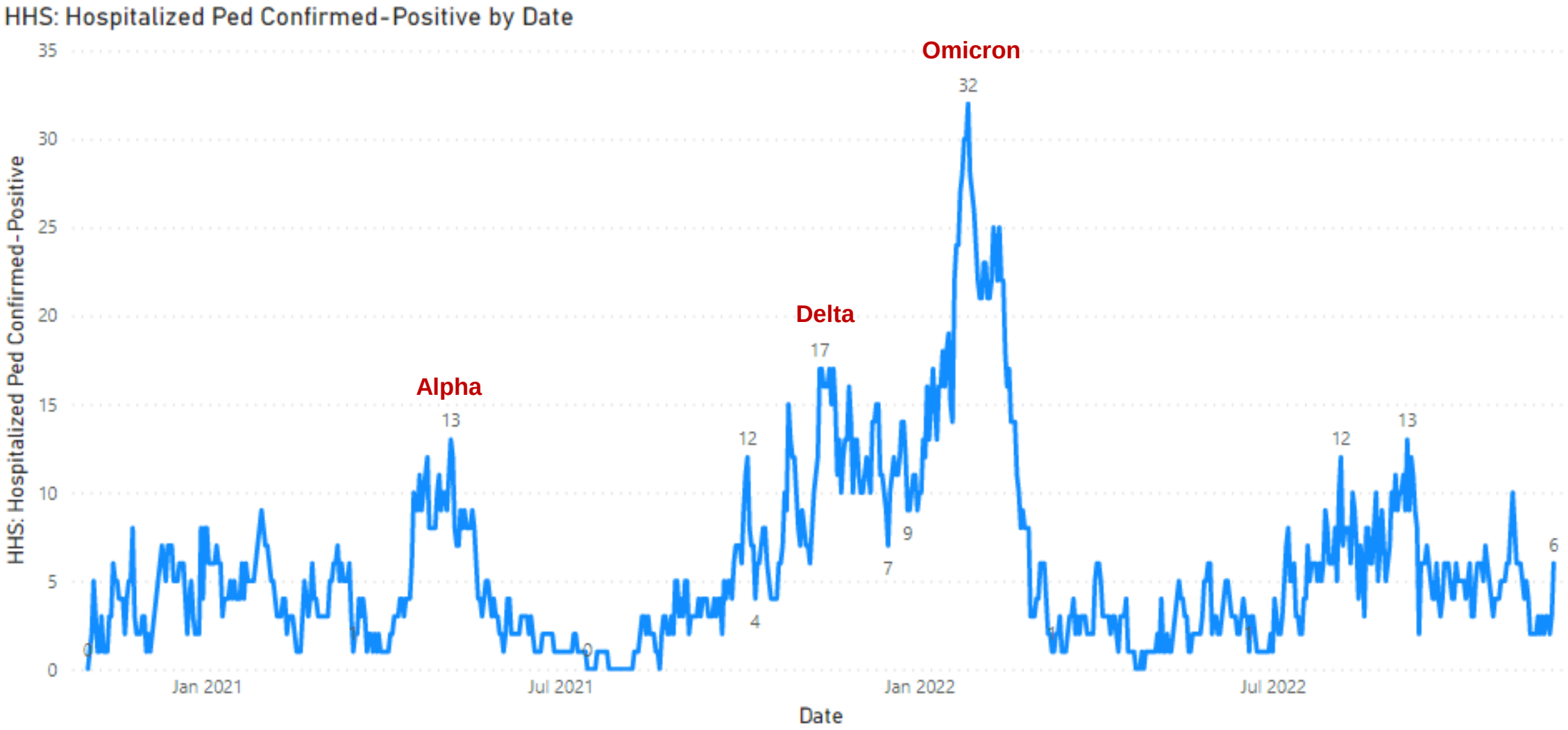


Rates in all age groups remain relatively low, with adults 18+ and ages 0-3 having higher rates than the 4-11 and 12-17 age groups.

Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of November 22, 2022

Daily Hospital Pediatric Census – West Michigan



Note: Data above includes persons younger than 18 years of age with confirmed COVID-19 hospitalized at West Michigan hospitals. Patients may be listed in more than one day. Data may change as information is updated. Includes patients that reside in counties across the region, including Ottawa County.

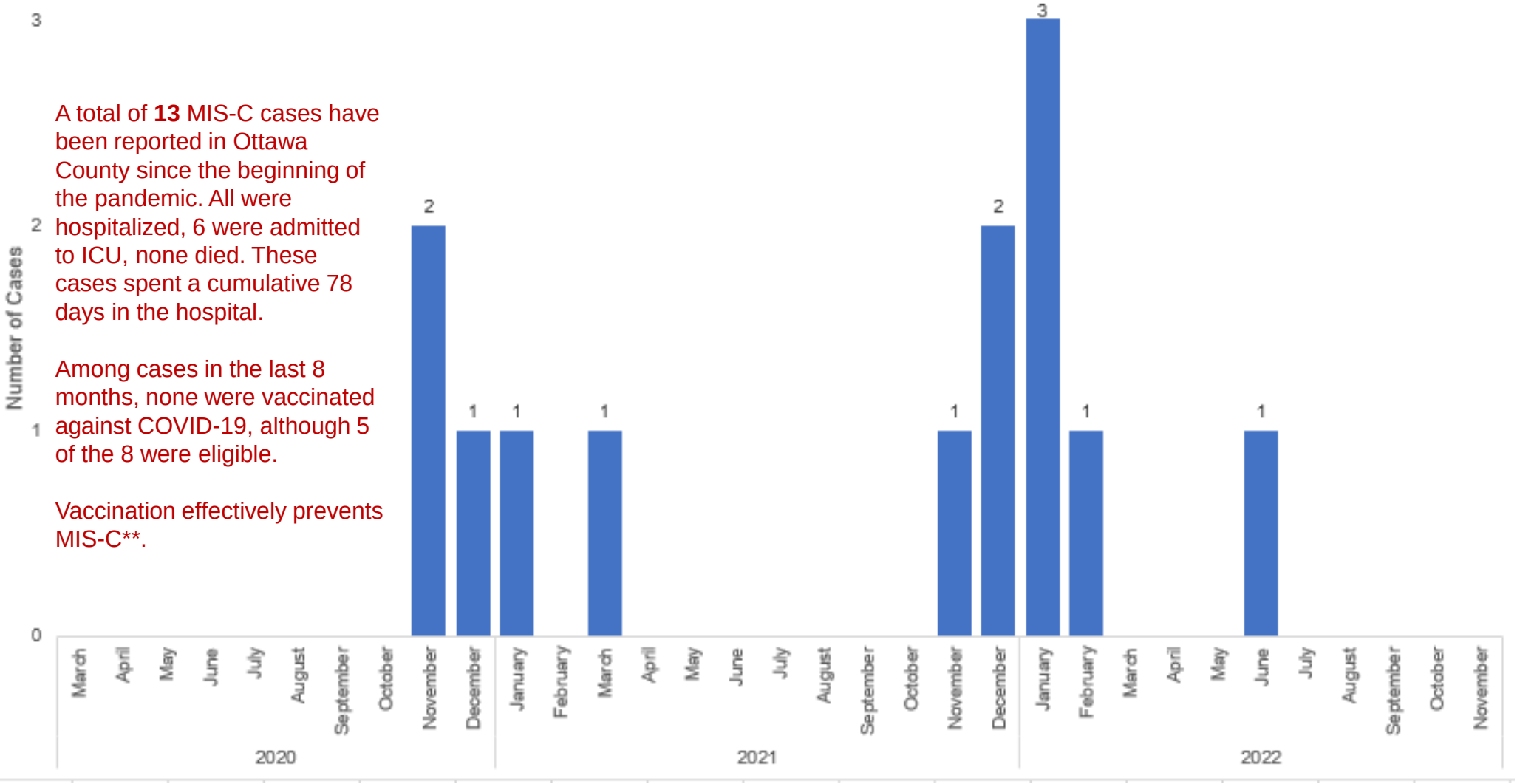
Data through November 22, 2022

Ottawa County MIS-C* Cases by Month

A total of **13** MIS-C cases have been reported in Ottawa County since the beginning of the pandemic. All were hospitalized, 6 were admitted to ICU, none died. These cases spent a cumulative 78 days in the hospital.

Among cases in the last 8 months, none were vaccinated against COVID-19, although 5 of the 8 were eligible.

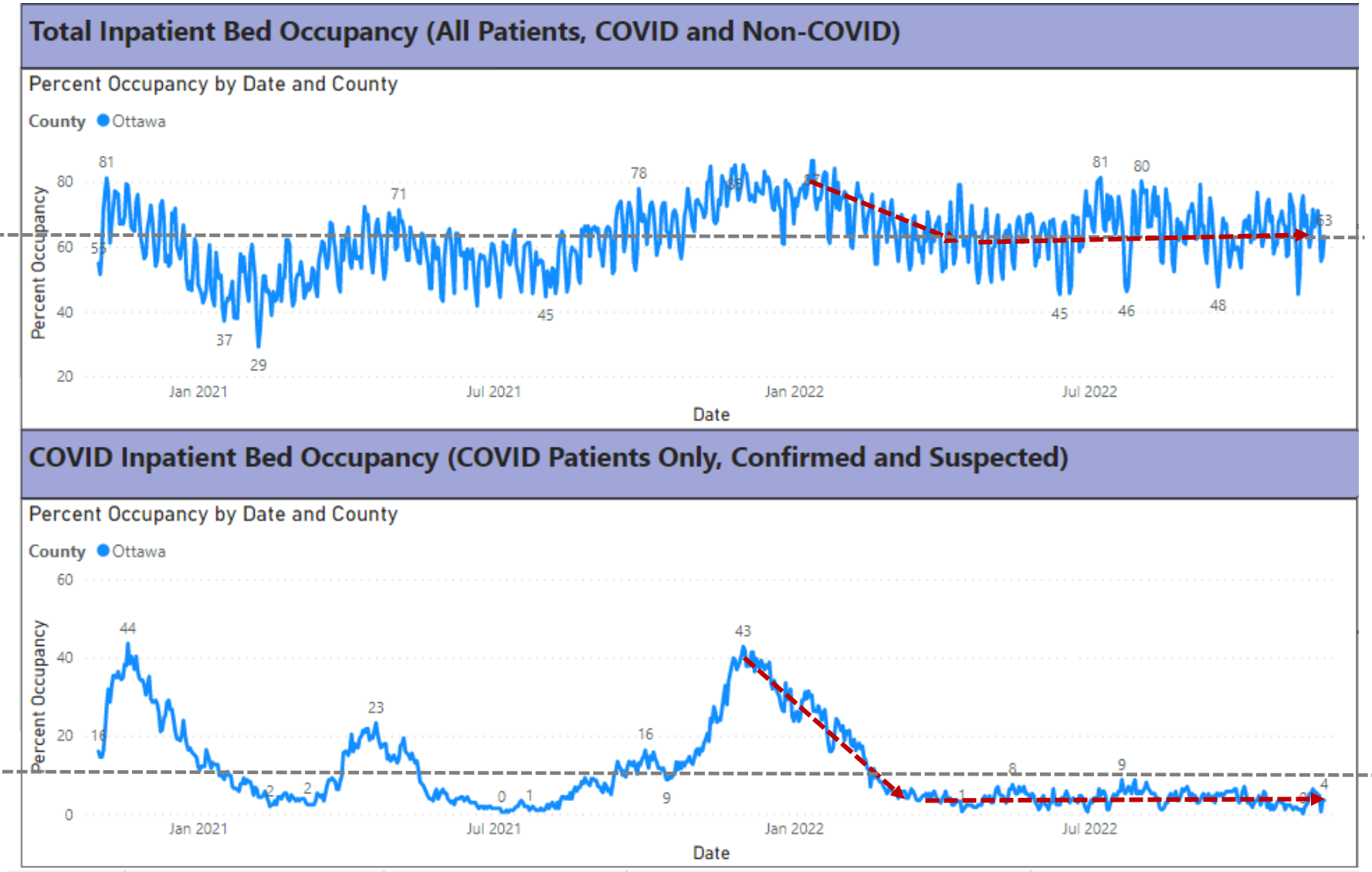
Vaccination effectively prevents MIS-C**.



Notes: Includes confirmed and probable cases.
*MIS-C is a rare but serious condition affecting children, associated with recent COVID-19 infection. For more details on MIS-C please visit: https://www.cdc.gov/mis/index.html
**Sources: MMWR & The Lancet

Data through November 22, 2022

Ottawa County Hospital Capacity – All Beds



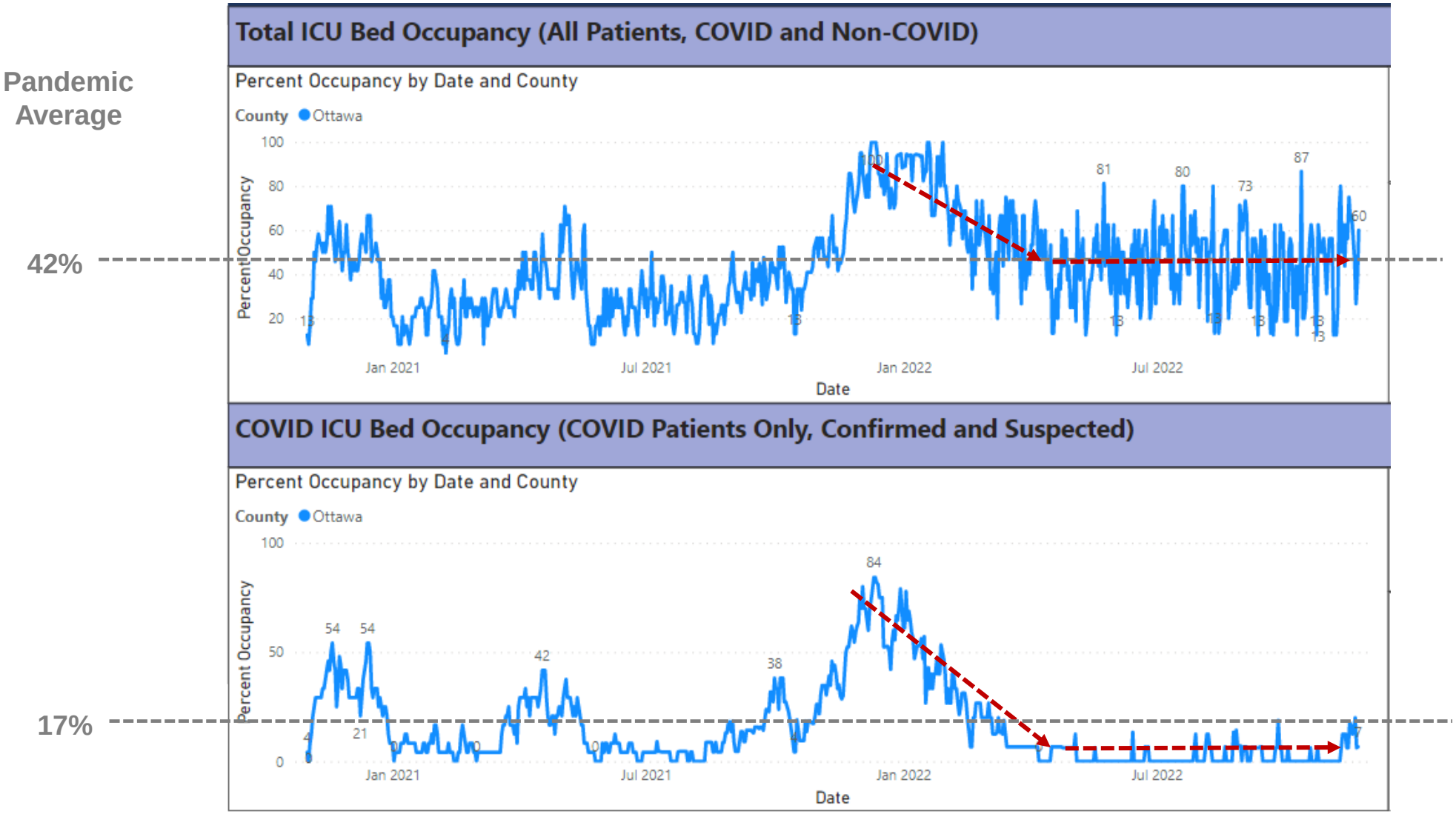
Total hospital bed occupancy is currently **above the pandemic average.**

Currently **4%** of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through November 22, 2022

Ottawa County Hospital Capacity – ICU Beds



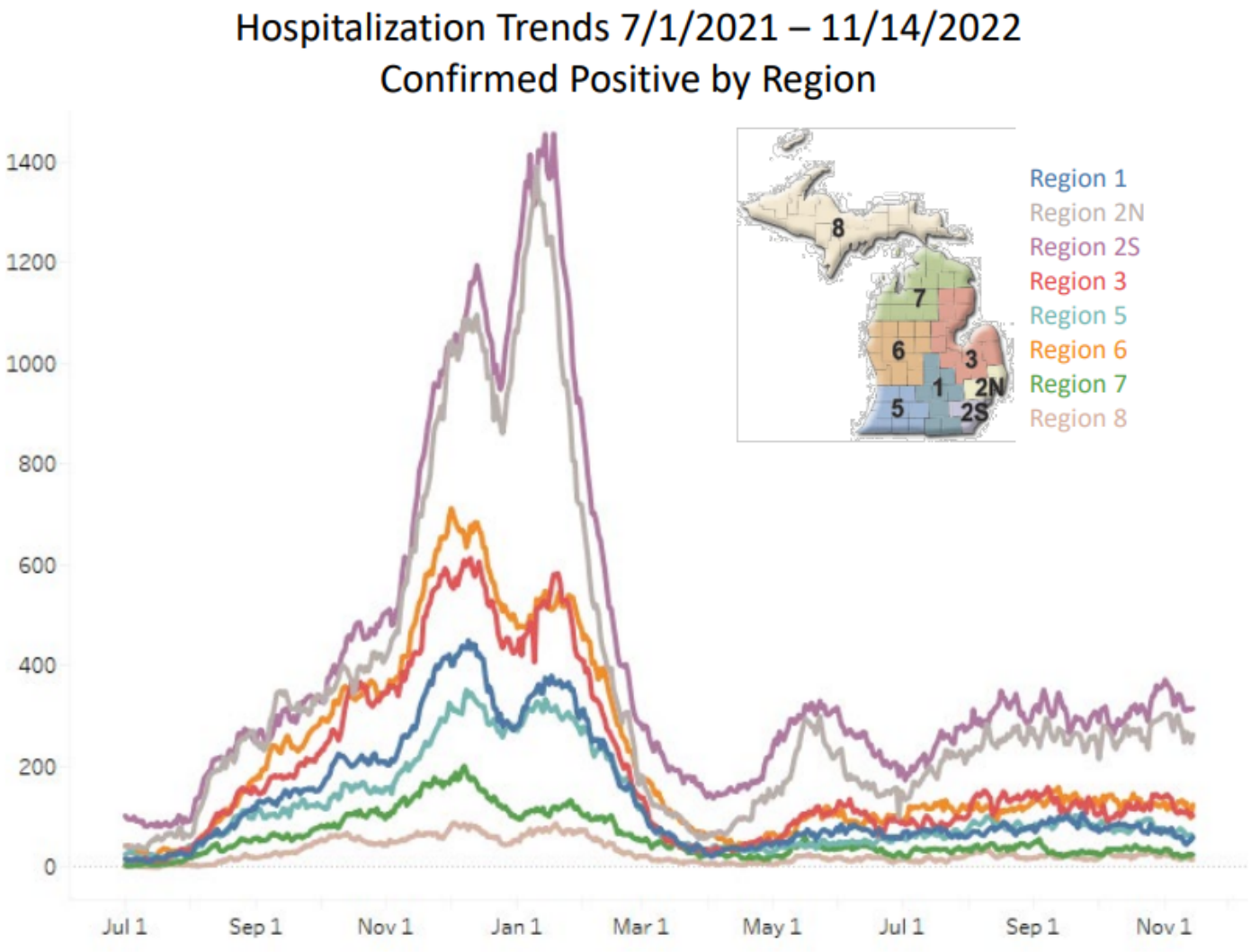
Total ICU bed occupancy varies considerably by day. Lately, ICU bed occupancy is above **the pandemic average**

The proportion of ICU beds occupied by COVID-19 patients **is below the pandemic average.** Currently, **7%** of ICU beds occupied by COVID-19 patients.

Source: EMResources

Data through November 22, 2022

Statewide Hospitalization Trends: Regional COVID+ Census



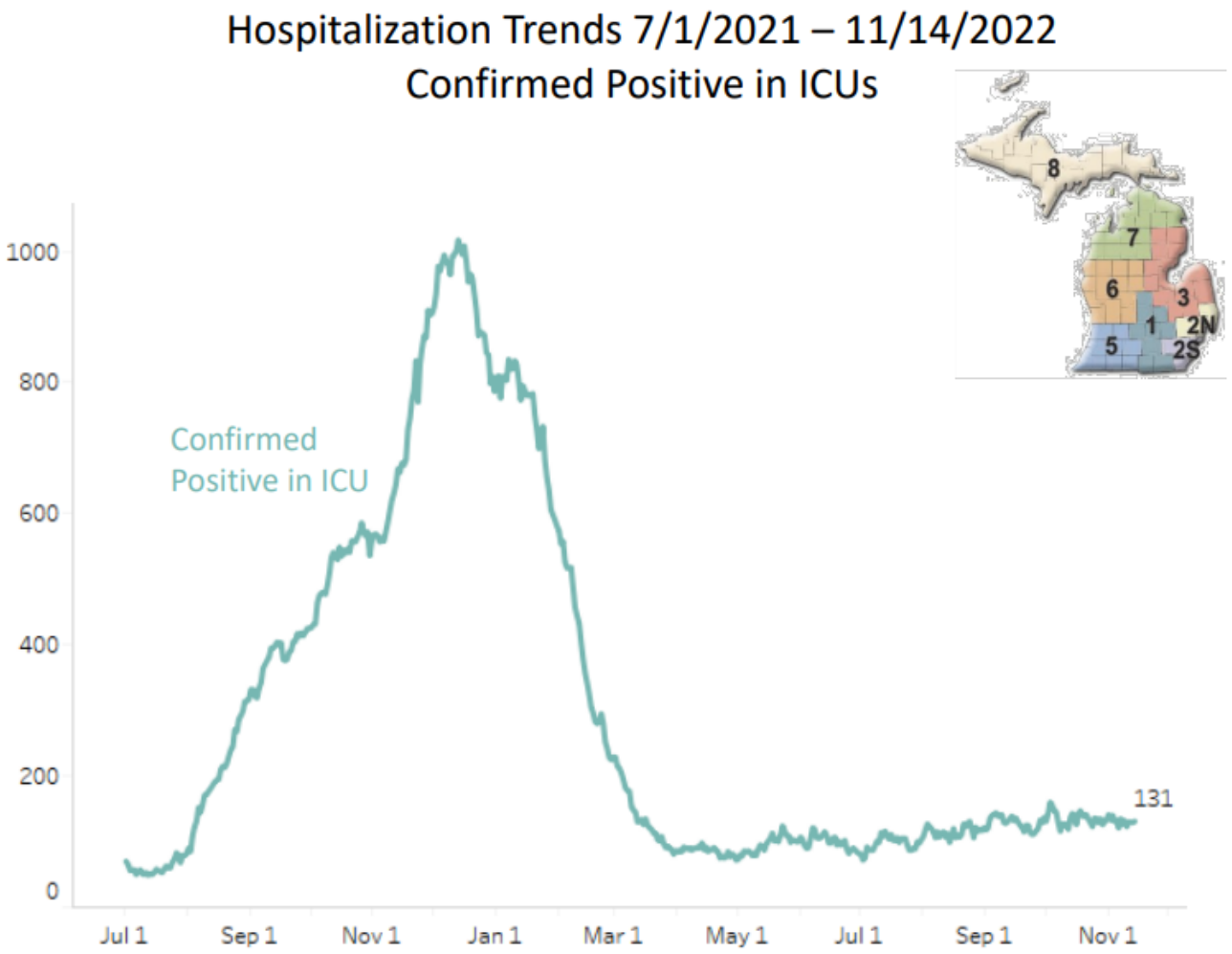
This week hospitalizations have decreased or remained flat in Regions 2N, 2S, 3, 5, 6, 7 and 8. Hospitalizations have increased slightly in Region 1.

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

Source: MDHHS Data and Modelling: [MI COVID response Data and modeling update (michigan.gov)]

Statewide Hospitalization Trends: ICU COVID+ Census



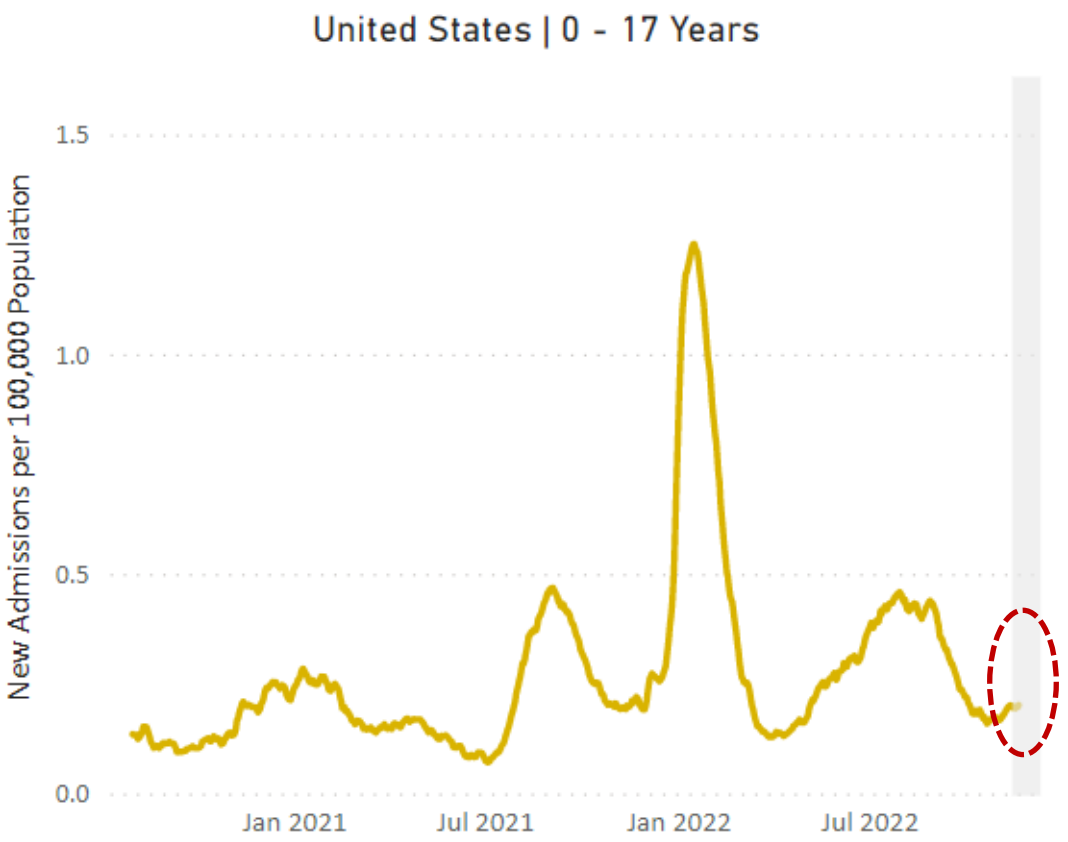
Overall, the volume of COVID+ patients in ICUs has decreased by 3% from last week. There are 131 COVID+ patients in ICU beds across the state.

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%

Source: MDHHS Data and Modelling: [MI COVID response Data and modeling update (michigan.gov)]

Pediatric Hospitalization Rates – USA, Michigan

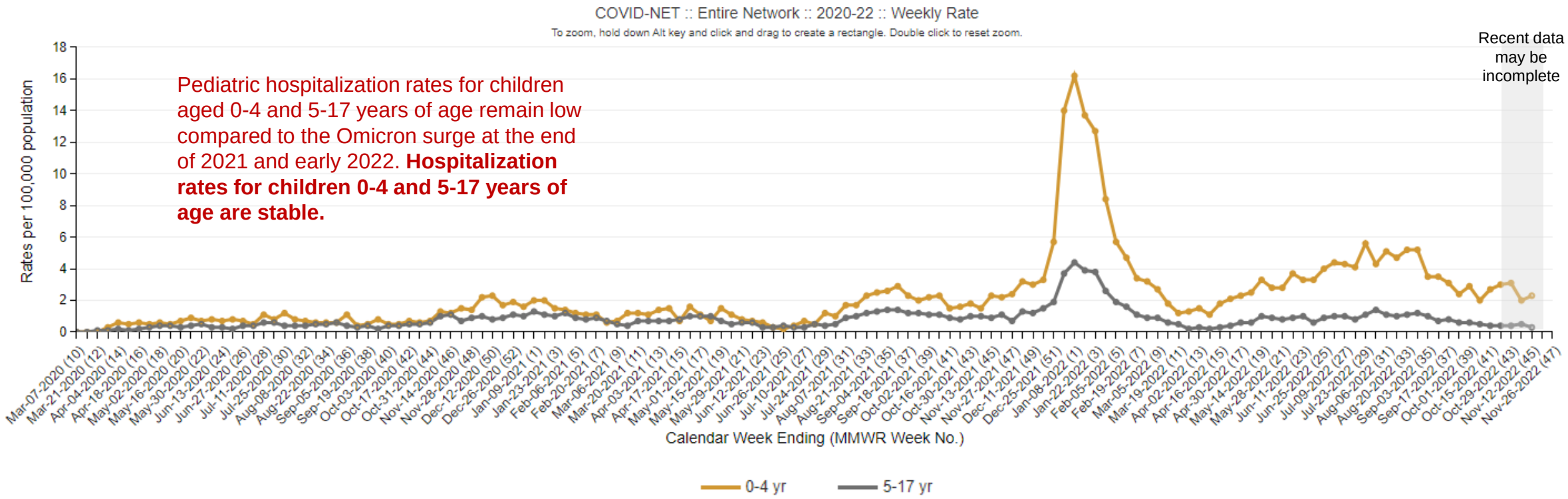


Pediatric COVID-19 hospitalization rates across the US are showing a recent increase while rates in Michigan **remain relatively low.**

Source: https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions

Accessed November 22, 2022

Pediatric Hospitalization Rates by Age Group – USA



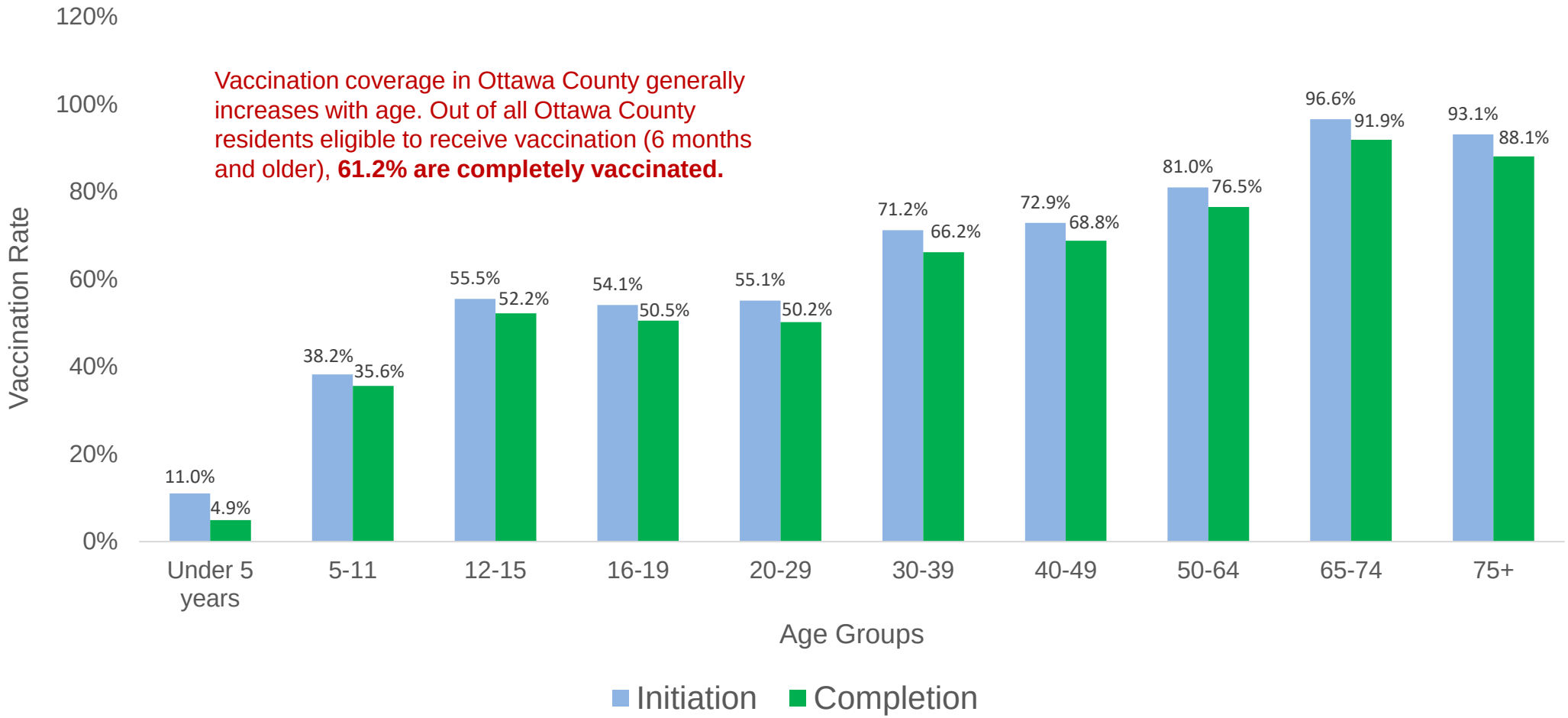
The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. Lag for COVID-NET case identification and reporting might increase around holidays or during periods of increased hospital utilization. As data are received each week, prior case counts and rates are updated accordingly. COVID-NET conducts population-based surveillance for laboratory-confirmed COVID-19-associated hospitalizations in children (less than 18 years of age) and adults. COVID-NET covers nearly 100 counties in the 10 Emerging Infections Program (EIP) states (CA, CO, CT, GA, MD, MN, NM, NY, OR, TN) and four Influenza Hospitalization Surveillance Project (IHSP) states (IA, MI, OH, and UT). Incidence rates (per 100,000 population) are calculated using the National Center for Health Statistics' (NCHS) vintage 2020 bridged-race postcensal population estimates for the counties included in the surveillance catchment area. The rates provided are likely to be underestimated as COVID-19 hospitalizations might be missed due to test availability and provider or facility testing practices.

Starting MMWR week 48, MD data are temporarily removed from weekly rate calculations.

Source: https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalization-network

Accessed November 22, 2022

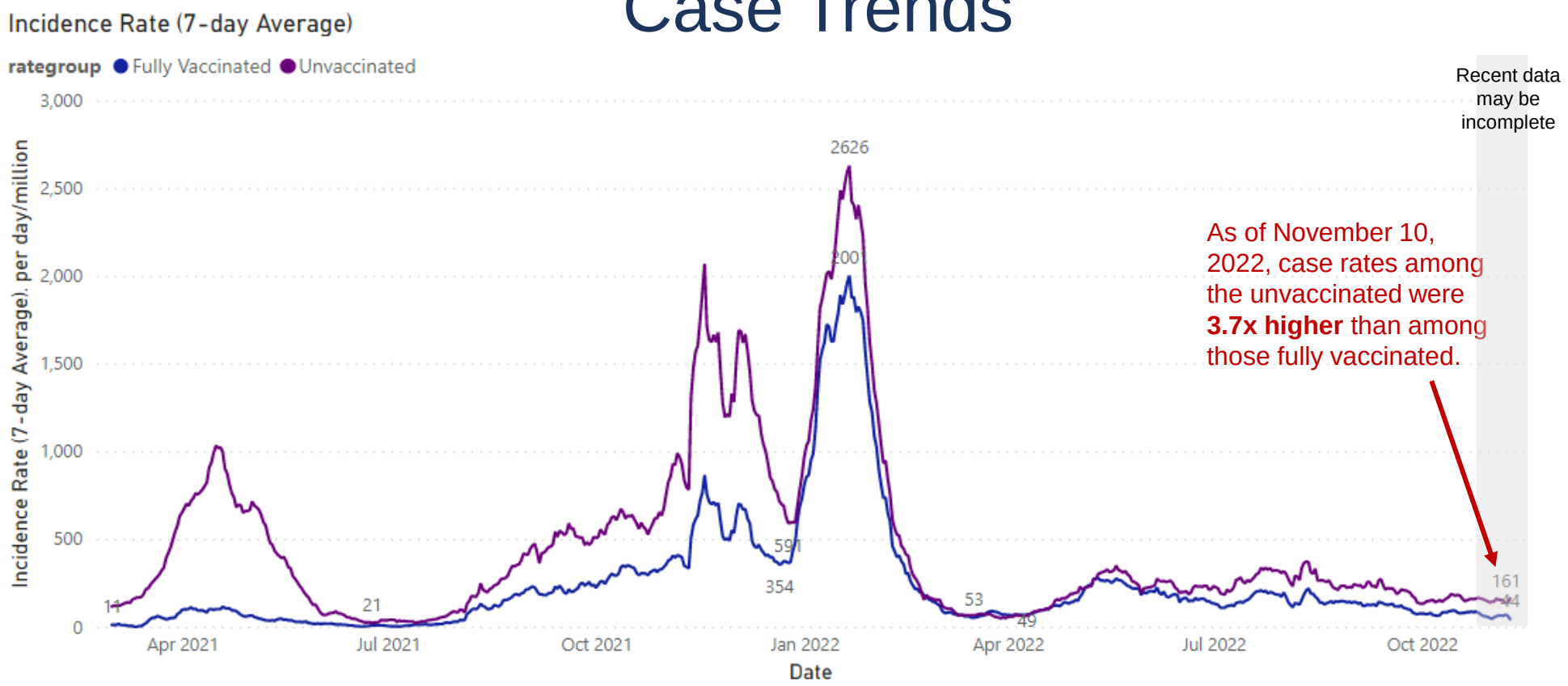
Vaccination Coverage by Age



Notes: Completion is the percentage of people receiving at least 2 doses of Pfizer or Moderna or 1 dose of J&J.
Source: https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard

Data through November 19, 2022

Ottawa County – COVID-19 Vaccination Breakthrough Case Trends



Incidence rates not updated in this report due to processing issues.

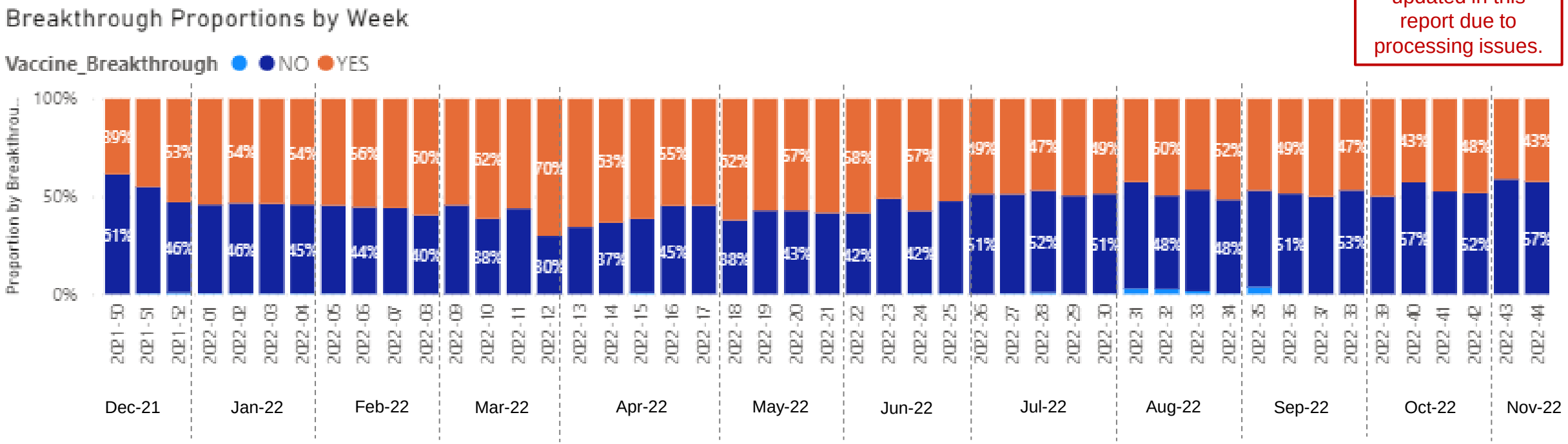
This slide will be removed from future iterations of this report. During this phase of the pandemic case reduced case detection and different health seeking and reporting behaviors are likely impacting data quality.

Method: Daily case counts were obtained from the MDSS and summarized by referral date. Cases were compared to data from the State of Michigan immunization database to confirm COVID-19 vaccination status. Counts of persons completely vaccinated in Ottawa County were compiled from the Michigan COVID-19 vaccination dashboard. The total population denominator was obtained from CDC Wonder; the 2019 population estimate was used. Daily COVID-19 case rates were calculated and averaged over the previous 7 days; a rate of cases per day per million population was used. Cases ineligible for vaccination are included in this data. On December 22, 2021 this figure was updated to compare fully vaccinated and unvaccinated persons, to align more closely with CDC data; partially vaccinated persons were excluded. Fully vaccinated is defined as 2 or more doses of an mRNA vaccination or at least one dose of J&J.
Note: Use of at home tests since late 2021 likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates. Children aged 6 months to 4 years to be included in future reports.
Sources:
Michigan Department of Health and Human Services, Michigan Disease Surveillance System
MDHHS COVID-19 Dashboard: https://www.michigan.gov/coronavirus/stats

Ottawa County – COVID-19 Vaccination Breakthrough Case Trends

By Week

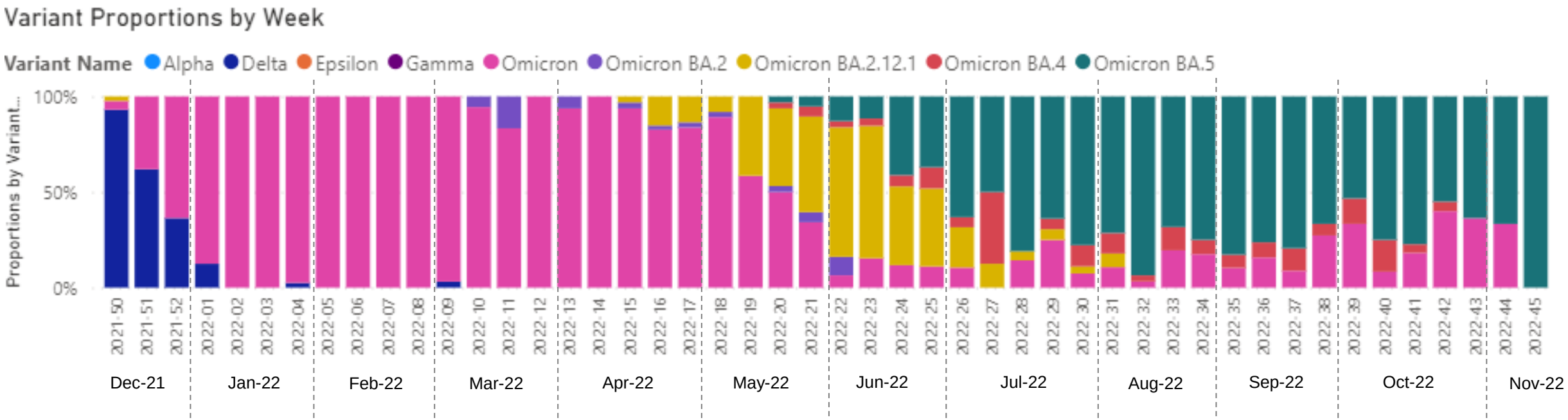
Proportions not updated in this report due to processing issues.



This slide will be removed from future iterations of this report. During this phase of the pandemic case reduced case detection and different health seeking and reporting behaviors are likely impacting data quality.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Variants – Clinical Samples from Ottawa County Residents



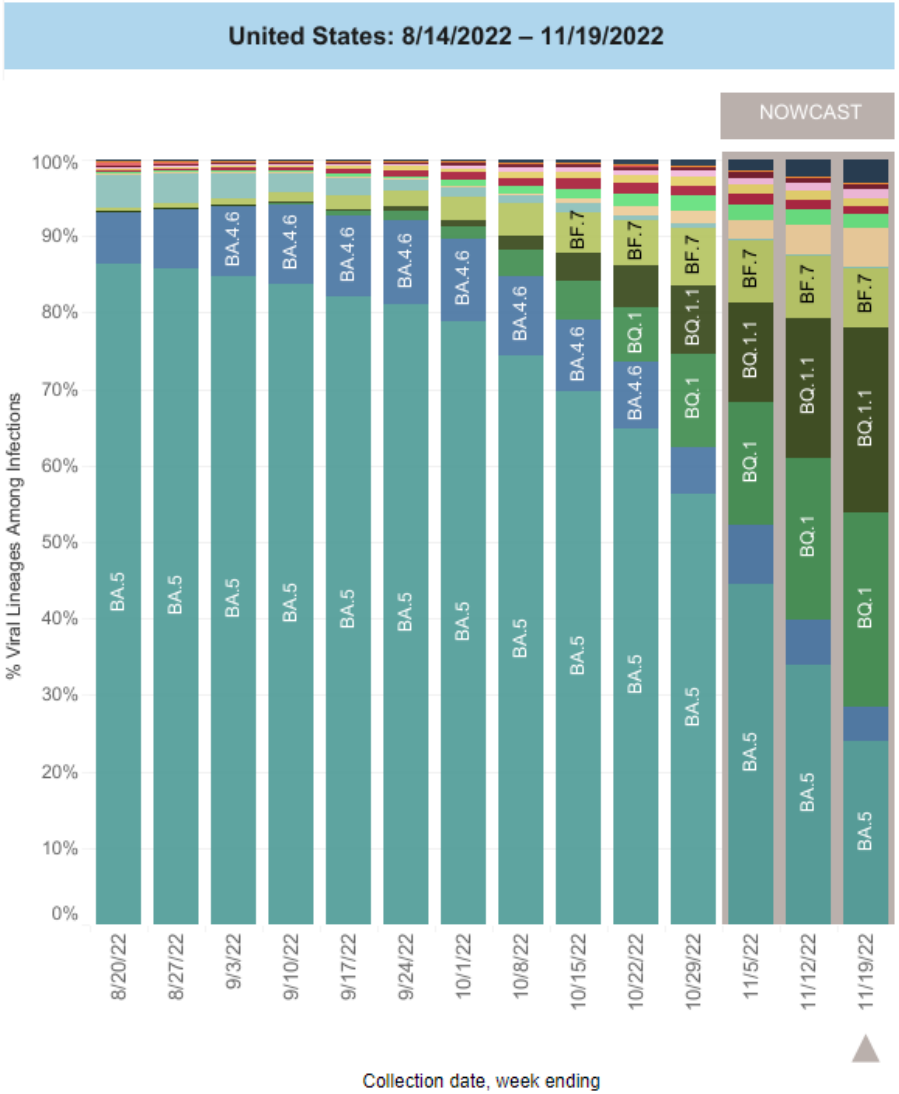
By the end of July 2021 through early December 2021, all clinical samples* tested were identified as the **Delta** variant.

In mid-December 2021, the first **Omicron** positive sample was collected in an Ottawa County resident, and **Omicron** continues to be detected into 2022, with more recent additions of the **Omicron subvariants** BA.4/5 (first detected in clinical samples in late May 2022).

***** Swabs from Ottawa County residents that tested positive for COVID-19 by PCR; only a small proportion of all COVID-19 positive tests are tested for variants.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Variants – Clinical Samples from Across the USA



United States: 11/13/2022 – 11/19/2022 NOWCAST

USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BQ.1	VOC	25.5%	22.1-29.1%
	BQ.1.1	VOC	24.2%	21.6-27.0%
	BA.5	VOC	24.0%	21.4-26.9%
	BF.7	VOC	7.8%	6.8-8.9%
	BN.1	VOC	5.1%	3.7-6.8%
	BA.4.6	VOC	4.4%	3.9-4.9%
	BA.5.2.6	VOC	1.9%	1.5-2.3%
	BA.2	VOC	1.2%	0.8-1.7%
	BA.2.75	VOC	1.1%	0.9-1.3%
	BF.11	VOC	1.0%	0.8-1.3%
	BA.2.75.2	VOC	0.8%	0.6-1.0%
	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*		3.1%	1.6-5.7%

* 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, BF.11, 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, BF.11 was aggregated with BA.5. Lineages BA.2.75.2, BN.1, BA.4.6, BF.7, BF.11, BA.5.2.6 and BQ.1.1 contain the spike substitution R346T.

The **Omicron** variant and it's subvariants are estimated to account for nearly 97% of all clinical samples collected in the United States the week ending November 19, 2022.

The BA.5 subvariant is being supplanted by other Omicron subvariants such as BQ.1.1, BQ.1 and BF.7.

Source: CDC: https://covid.cdc.gov/covid-data-tracker/#variant-proportions

Accessed November 22, 2022

Variants – Wastewater Sampling – Holland/Zeeland

Sample Date	Site	Delta	Omicron
08/11/2022	Zeeland	N	Y
08/14/2022	North Holland	N	Y
08/15/2022	Zeeland	N	Y
08/17/2022	North Holland	N	Y
08/18/2022	Zeeland	N	Y
08/21/2022	North Holland	N	Y
08/22/2022	Zeeland	N	Y
08/24/2022	North Holland	N	Y
08/25/2022	Zeeland	N	Y
08/28/2022	North Holland	N	Y
08/29/2022	Zeeland	N	Y
08/31/2022	North Holland	N	Y
09/01/2022	Zeeland	N	Y
09/04/2022	North Holland	N	Y
09/11/2022	North Holland	N	Y
09/12/2022	Zeeland	N	Y
09/21/2022	North Holland	N	Y
09/22/2022	Zeeland	N	Y
09/25/2022	North Holland	N	Y
09/26/2022	Zeeland	N	Y
09/29/2022	Zeeland	N	Y
10/02/2022	North Holland	N	Y
10/03/2022	Zeeland	N	Y
10/09/2022	North Holland	N	Y
10/10/2022	Zeeland	N	Y

Y	= Detected
N	= Not Detected

The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through all of November and December of 2021 (data not displayed here).

The **Omicron** variant, and its subvariants, has consistently been detected in wastewater in Holland and Zeeland through all of 2022.

This slide will be temporarily removed from future iterations of this report. Holland/Zeeland variant data may be available in early 2023, after Hope College completes quality assurance on variant assays.

Source: Hope College Global Water Research Institute as part of the MDHHS SEWER-Network, Aaron Best, Ph.D. (best@hope.edu)

COVID-19 Community Levels

TABLE 1. COVID-19 Community Levels, Indicators, and Thresholds

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
	Percent of staffed inpatient beds occupied by COVID-19 patients (7-day average)	NA	<10.0%	≥10.0%

The COVID-19 community level is determined by the higher of the *new admissions* and *inpatient beds occupied* metrics, based on the current level of *new cases per 100,000 population in the past 7 days*.

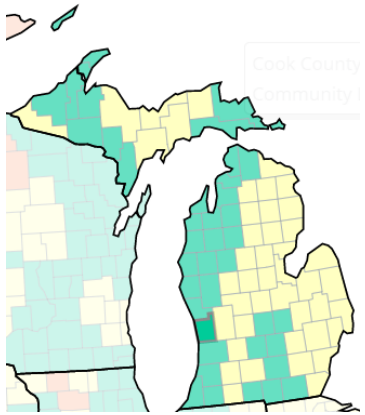
Source: https://www.cdc.gov/coronavirus/2019-ncov/science/community-levels.html

CDC Community Levels – Ottawa County

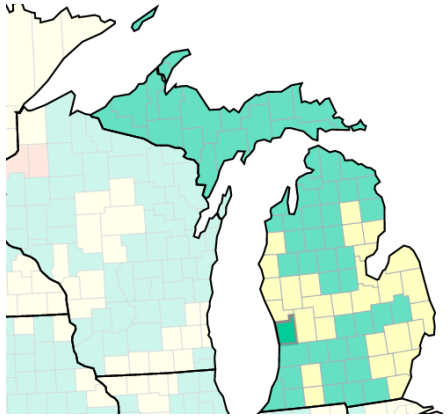
- Current Community Level in Ottawa – LOW
  - Ottawa and Michigan's CDC Community Levels can be viewed on the CDC website and on the MI Safe Start Map.

  Current Data:
  - New COVID-19 Hospital Admissions (per 100K pop 7-day total) = **3.4**
  - Percent of staffed inpatient beds in use by patients with COVID-19 (7-day average) = **3.5%**

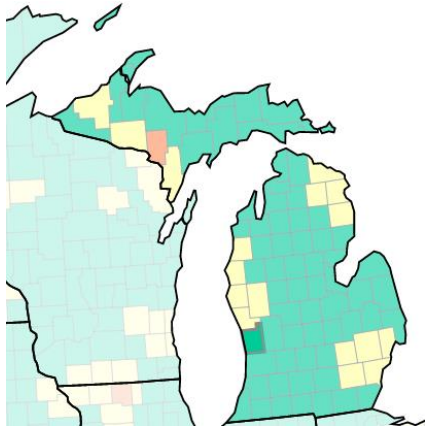
4 Weeks Ago



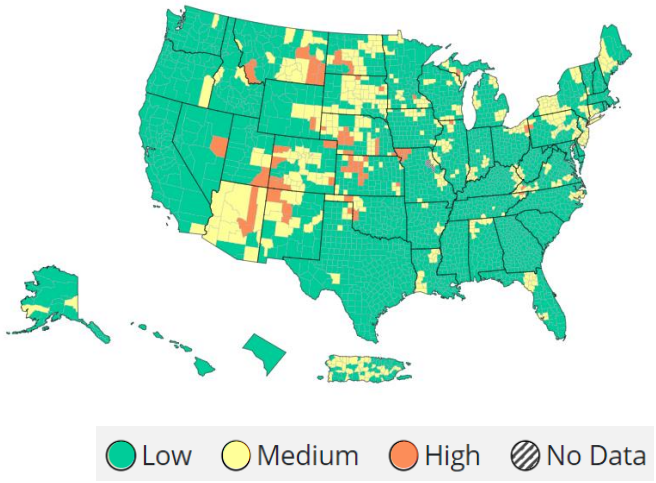
2 Weeks Ago



This Week



USA - This Week



Source: CDC COVID Data Tracker: Community Levels

Data updated by CDC on November 22, 2022

COVID-19 Community Transmission Levels

Determining Transmission Risk

If the two indicators suggest different transmission levels, the higher level is selected

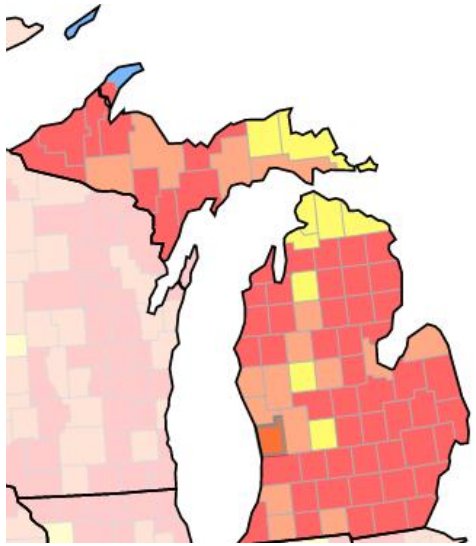
	Low	Moderate	Substantial	High
New cases per 100,000 persons in the past 7 days*	<10	10-49.99	50-99.99	≥100
Percentage of positive NAATs tests during the past 7 days**	<5%	5-7.99%	8-9.99%	≥10.0%

Source: https://covid.cdc.gov/covid-data-tracker/#county-view?list_select_state=all_states&data-type=Risk

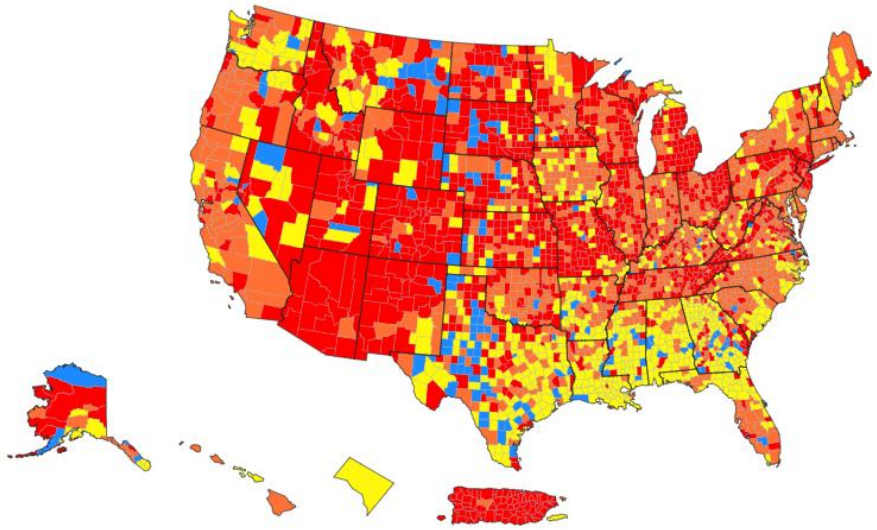
CDC Community Transmission Levels – Ottawa County

- Current Community Transmission Level in Ottawa – SUBSTANTIAL
  - Ottawa and Michigan's CDC Community Transmission Levels can be viewed on CDC's website and on the MI Safe Start Map.
- Current Data:
  - Case Rate (per 100k pop 7-day total) = **49.69**
  - Percent Test Positivity (last 7 days) = **9.78%** (may be increasing, reversion back to HIGH level possible)

This Week



USA - This Week

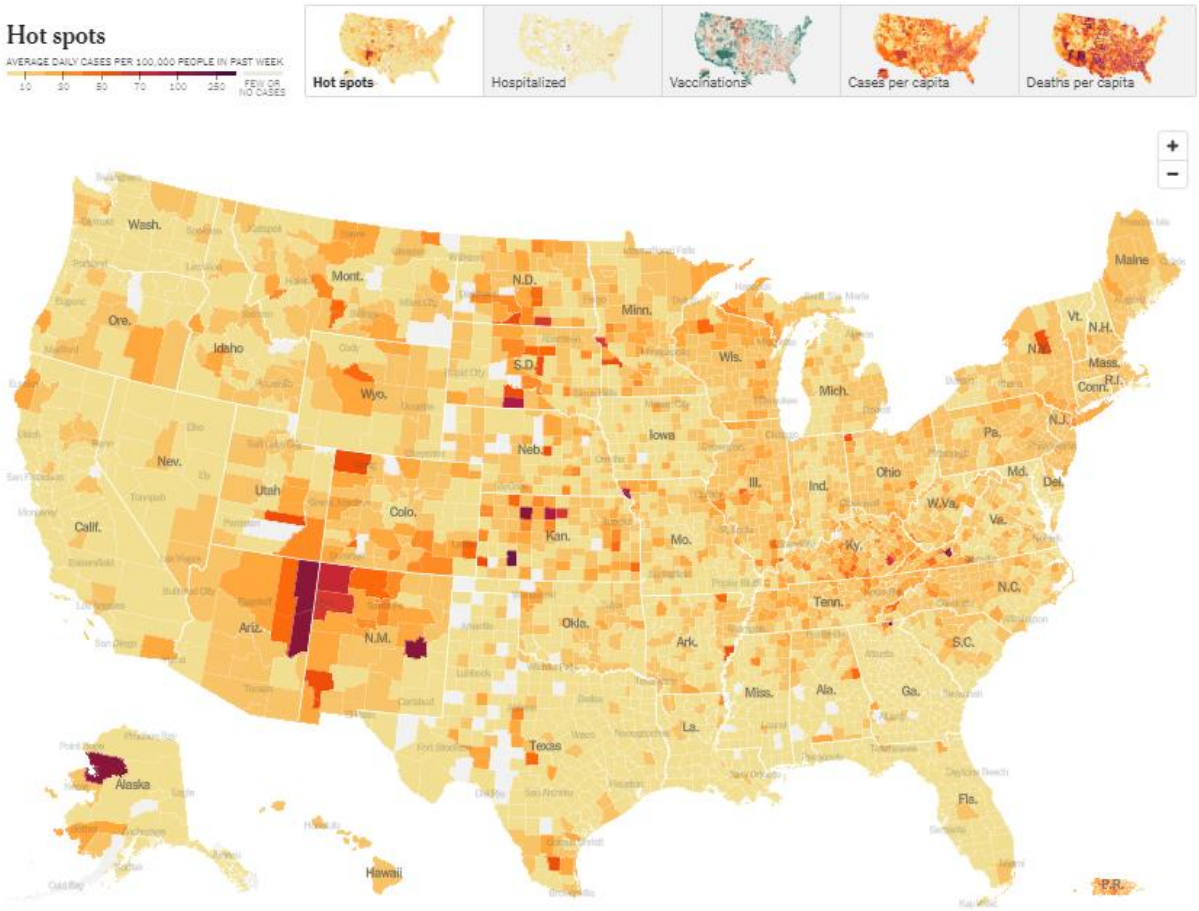


Source: CDC COVID Data Tracker: Community Transmission

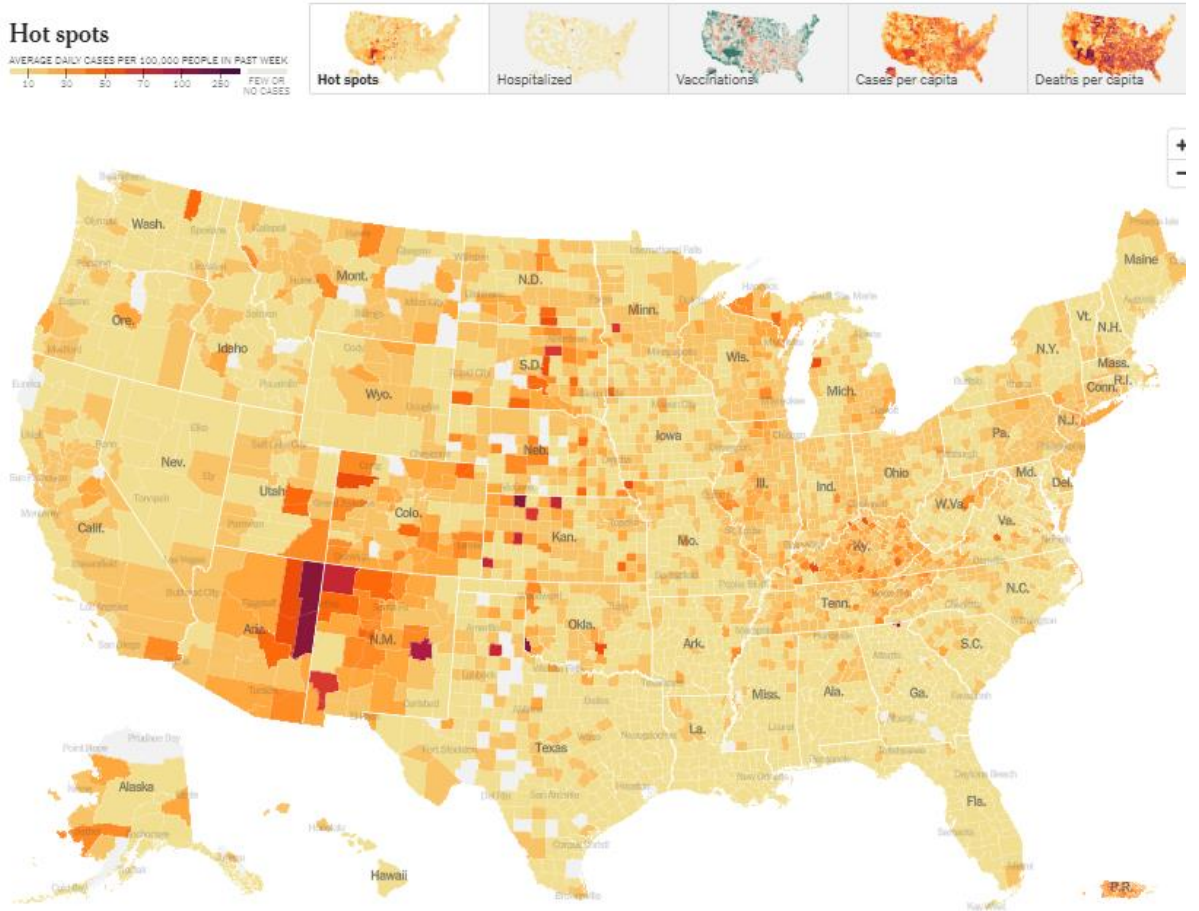
Data updated by CDC on November 19, 2022

COVID-19 Case Rates by County Across the US

Two Weeks Ago



This Week



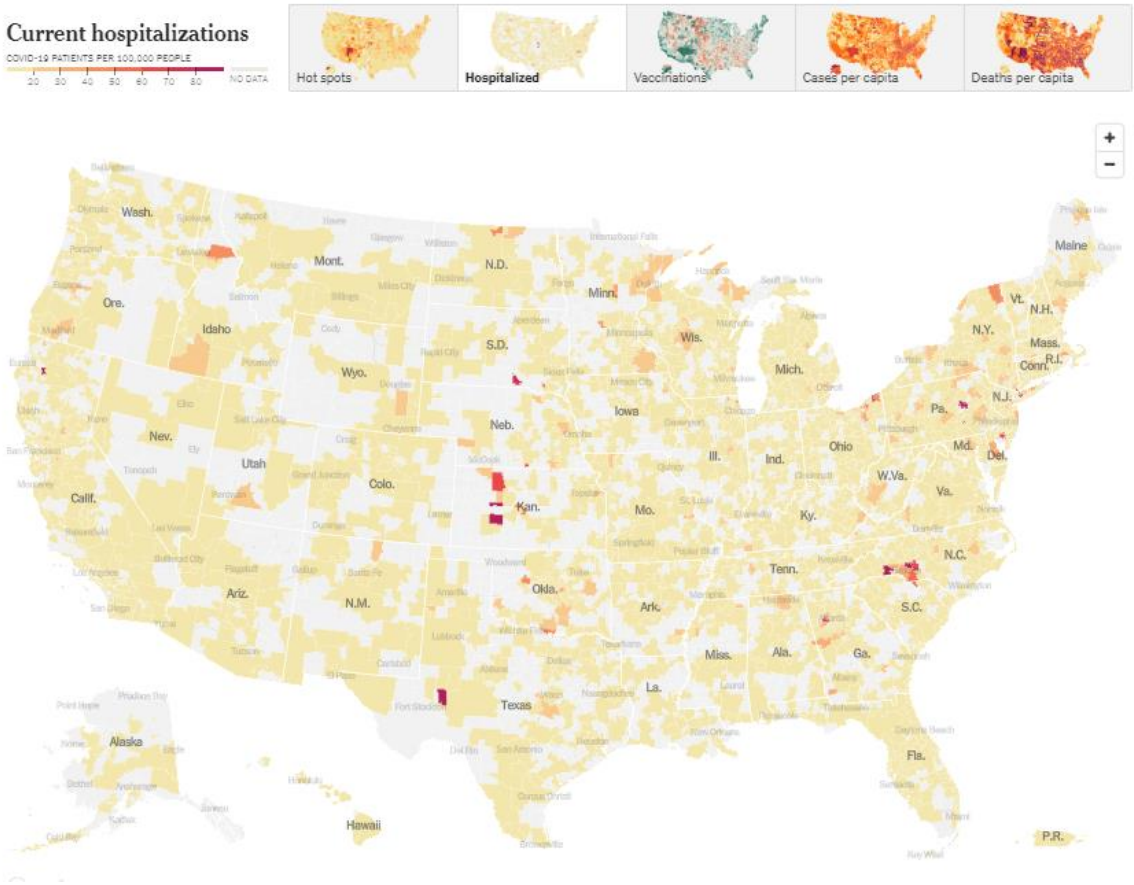
Generally, case rates across the nation are stable, but some areas may be seeing increasing rates.

Source: https://www.nytimes.com/interactive/2021/us/covid-cases.html

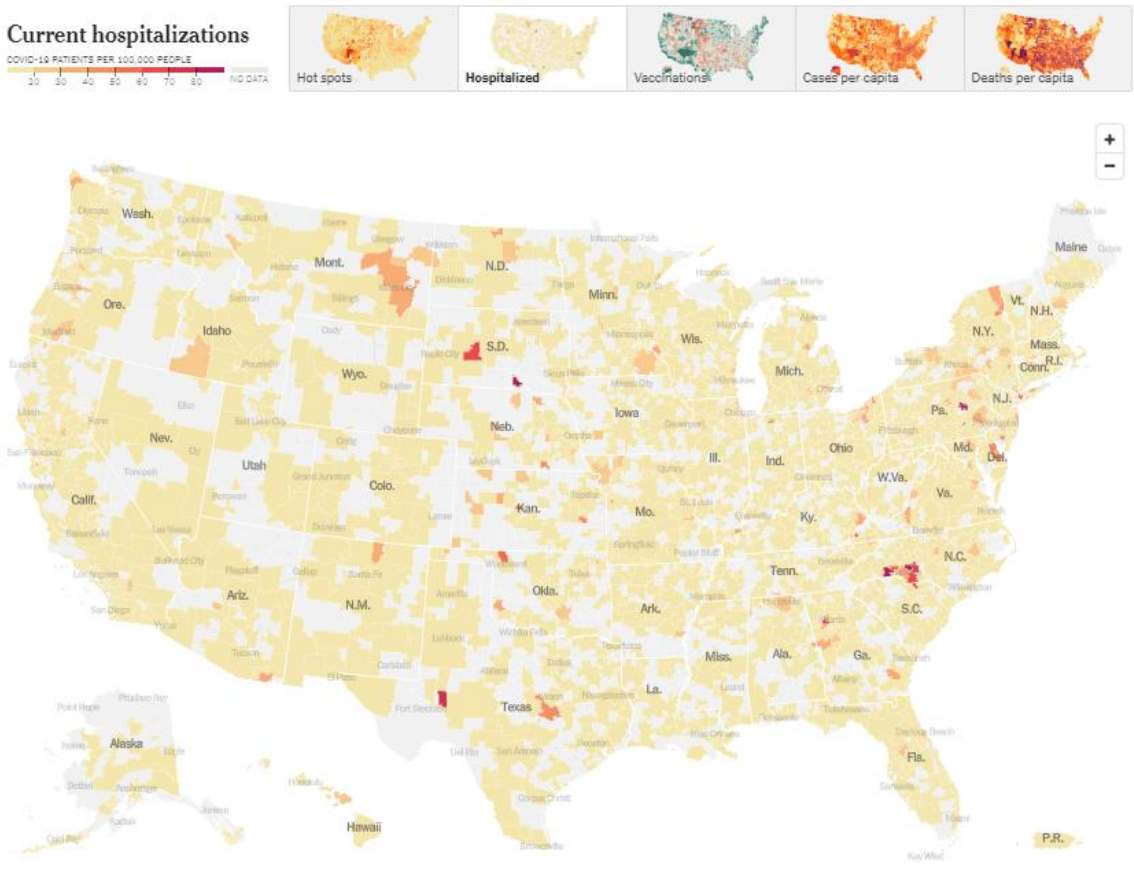
Accessed November 22, 2022

COVID-19 Hospitalization Rates by County Across the US

Two Weeks Ago



This Week



Hospitalization rates remain relatively low across most of the nation.

Source: https://www.nytimes.com/interactive/2021/us/covid-cases.html

Accessed November 22, 2022

COVID-19 News Headlines

Due to current pediatric hospital bed availability challenges, RSV headlines were added here

DeVos Children's Hospital looks to add beds because of RSV surge

https://www.mlive.com/news/grand-rapids/2022/11/devos-childrens-hospital-looks-to-add-beds-because-of-rsv-surge.html -

'Unprecedented surge' of RSV continues to hit Michigan children's hospital

https://www.mlive.com/public-interest/2022/11/unprecedented-surge-of-rsv-continues-to-hit-michigan-childrens-hospital.html -

CDC urges masking in 1 Michigan county this week

https://www.mlive.com/public-interest/2022/11/cdc-urges-masking-in-1-michigan-county-this-week.html -

Led by Wayne County spike, Michigan reports rise in COVID infections

https://www.mlive.com/public-interest/2022/11/led-by-wayne-county-spike-michigan-reports-rise-in-covid-infections.html -

Science Roundup

Protection against Omicron from Vaccination and Previous Infection in a Prison System

https://www.nejm.org/doi/full/10.1056/NEJMoa2207082 -

The findings of this study suggest that mRNA vaccination and previous infection effectively protect against omicron infection in high-risk populations. Prison staff with three doses of vaccine, regardless of previous infection, showed the highest vaccine effectiveness.

Effectiveness of Bivalent mRNA Vaccines in Preventing Symptomatic SARS-CoV-2 Infection – Increasing Community Access to Testing Program, United States, September-November 2022

https://www.cdc.gov/mmwr/volumes/71/wr/mm7148e1.htm -

This study found that among symptomatic adults who were tested for COVID-19, bivalent mRNA vaccines appeared to provide additional protection against infection. Although varied by age and number of previous doses, absolute vaccine effectiveness generally ranged from 19-50%.

COVID-19 vaccine coverage disparities in rural and farm children

https://www.sciencedirect.com/science/article/pii/S0264410X22014037?via%3Dihub -

This study found that among the study participants, children/adolescents who live on a farm are approximately 25% less likely to initiate vaccination, complete the series, or receive a booster compared to children/adolescents who do not live on a farm.

Observed versus expected rates of myocarditis after SARS-CoV-2 vaccination: a population-based cohort study

https://www.cmaj.ca/content/194/45/E1529

This study found that overall, observed rates of hospital admissions or emergency department visits from myocarditis after mRNA vaccination were higher than historical background rates. However, the authors note the relative safety of the vaccine, when considering the elevated risk of myocarditis after infection with COVID-19.