

# Ottawa County COVID-19 Epidemiology

December 22, 2021

*Data as of December 18, 2021, unless otherwise indicated*

# Executive Summary

- **Transmission in both the US and Michigan is increasing**
- **Ottawa community transmission levels remain elevated**
  - Positivity decreased to 18.2% last week. The goal is to be less than 8%.
  - Weekly case counts in Ottawa decreased 25%, from 1,538 two weeks ago to 1,156 last week.
  - Cases among children decreased 29%, from 302 two weeks ago to 214 last week.
  - The potential impact of Omicron on local transmission is unknown.
- **Ottawa area and regional hospitals are experiencing high numbers of COVID-19 patients**
  - In Ottawa County, 33% of all available beds and 53% of all ICU beds are occupied by COVID-19 patients.\*
  - Regional healthcare systems are extremely strained and asking for the community to take preventive action.
  - Ottawa County hospitals are repurposing patient care areas and using adaptive staffing strategies.
  - Some area hospitals are intermittently employing Emergency Department diversion, which occurs when a hospital and its emergency room are overloaded and cannot safely accept additional patients brought in by ambulance.
  - There are some shortages of monoclonal antibody medication.
- **Pediatric hospitalizations across the US are increasing; hospitalizations among children in Michigan continue to increase.**
  - At a large West Michigan healthcare system, weekly hospital census for children with COVID-19 remains elevated.
- **Of Ottawa County residents aged 5+, 59.4% are completely vaccinated**

\*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.

# Ottawa County Metrics by Week

Metric	Goal	Week Ending				
		20-Nov-21	27-Nov-21	4-Dec-21	11-Dec-21	18-Dec-21
Positivity (All Ages)	<8%	23.9%	23.1%	26.4%	21.6%	18.2%
Weekly Cases (All Ages)	<147	2230	1569	2220	1538	1156
Weekly Cases in Children (0-17 years of age)	NA	568	341	450	302	214
Total COVID-19 Hospitalizations (All Ages)	0	58	65	44	52	29
Total Deaths (All Ages)	0	30	15	19	13	10
CDC Risk Transmission Level	Moderate	High	High	High	High	High

# Public Health Recommendations

- **Get vaccinated (start series or get booster)**
- **Stay home when sick & get tested**
- **Wear your mask in public indoor places**
- **November 2021 MDHHS Advisory:**

As such, on November 19, 2021, MDHHS is issuing the following advisory on the use of face masks. **This advisory takes effect immediately and remains in effect until further notice.**

**All Michiganders, regardless of vaccination status, should take the following actions to protect against COVID-19 and other respiratory illnesses:**

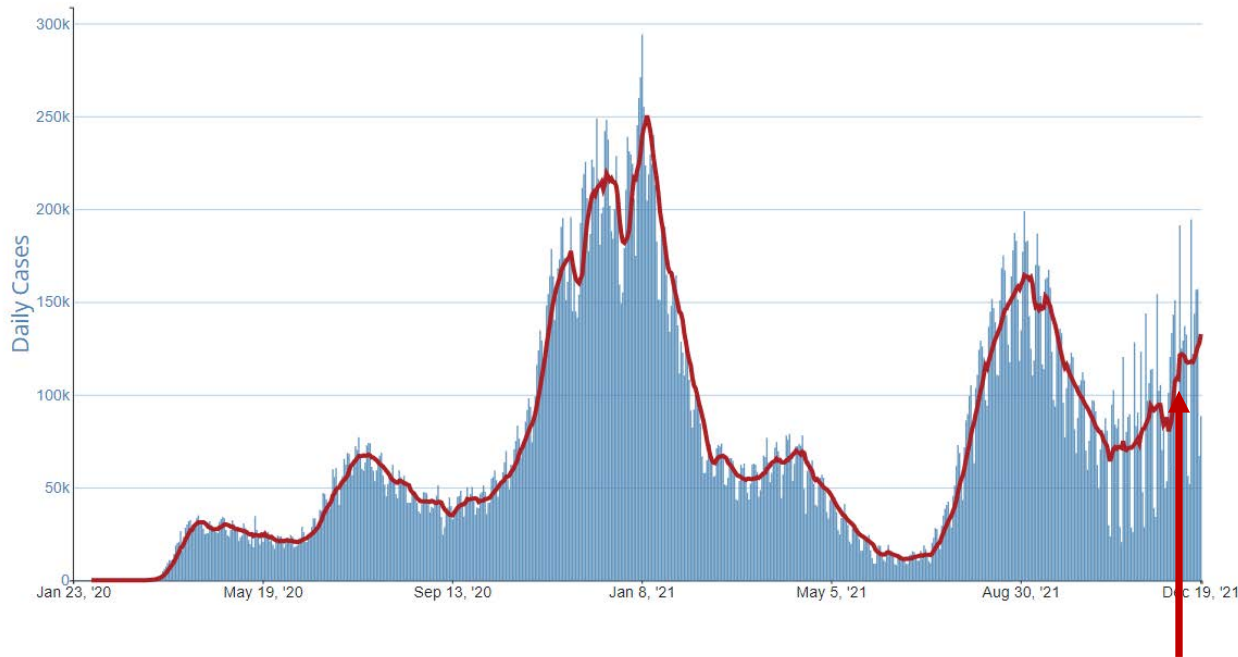
**Public Health Advisory:**

- (a) All persons in indoor public settings are advised to wear a face mask, regardless of their vaccination status.
- (b) Public establishments are advised to implement masking policies and encourage compliance with such policies.
- (c) Individuals who are not fully vaccinated or who are immunocompromised are advised to avoid large crowds or gatherings.

# Case Trends in the USA and Michigan

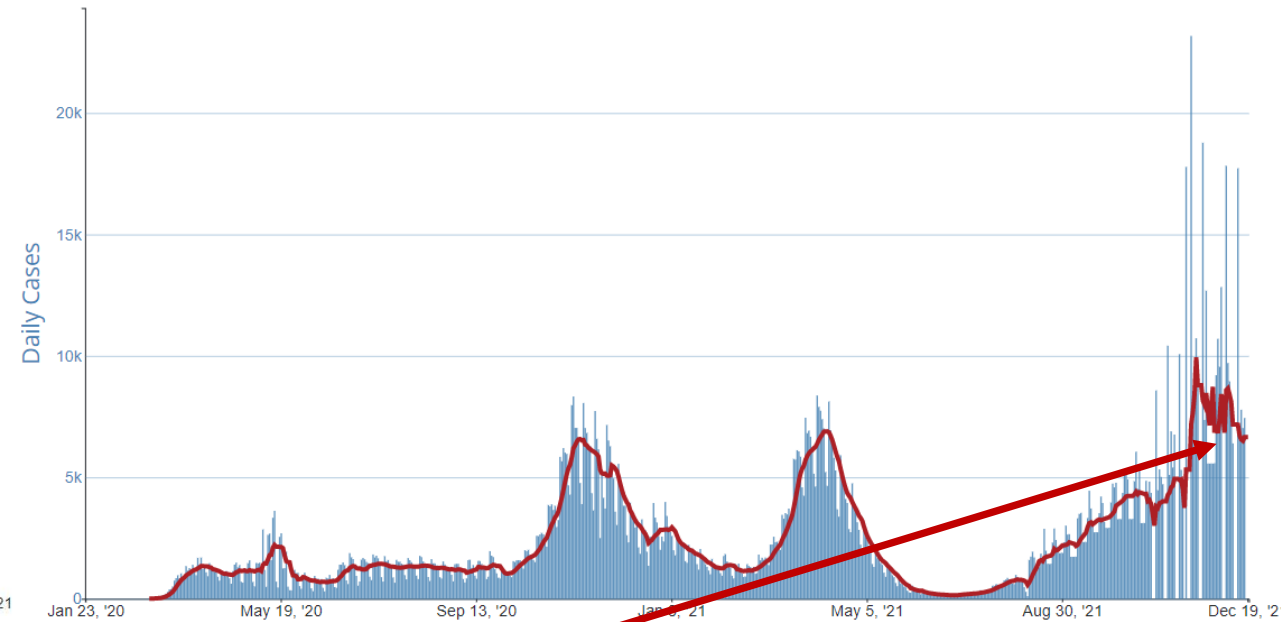
## USA

Daily Trends in Number of COVID-19 Cases in The United States Reported to CDC



## Michigan

Daily Trends in Number of COVID-19 Cases in Michigan Reported to CDC



The US is experiencing an uptrend while Michigan's case numbers may be plateauing or decreasing.

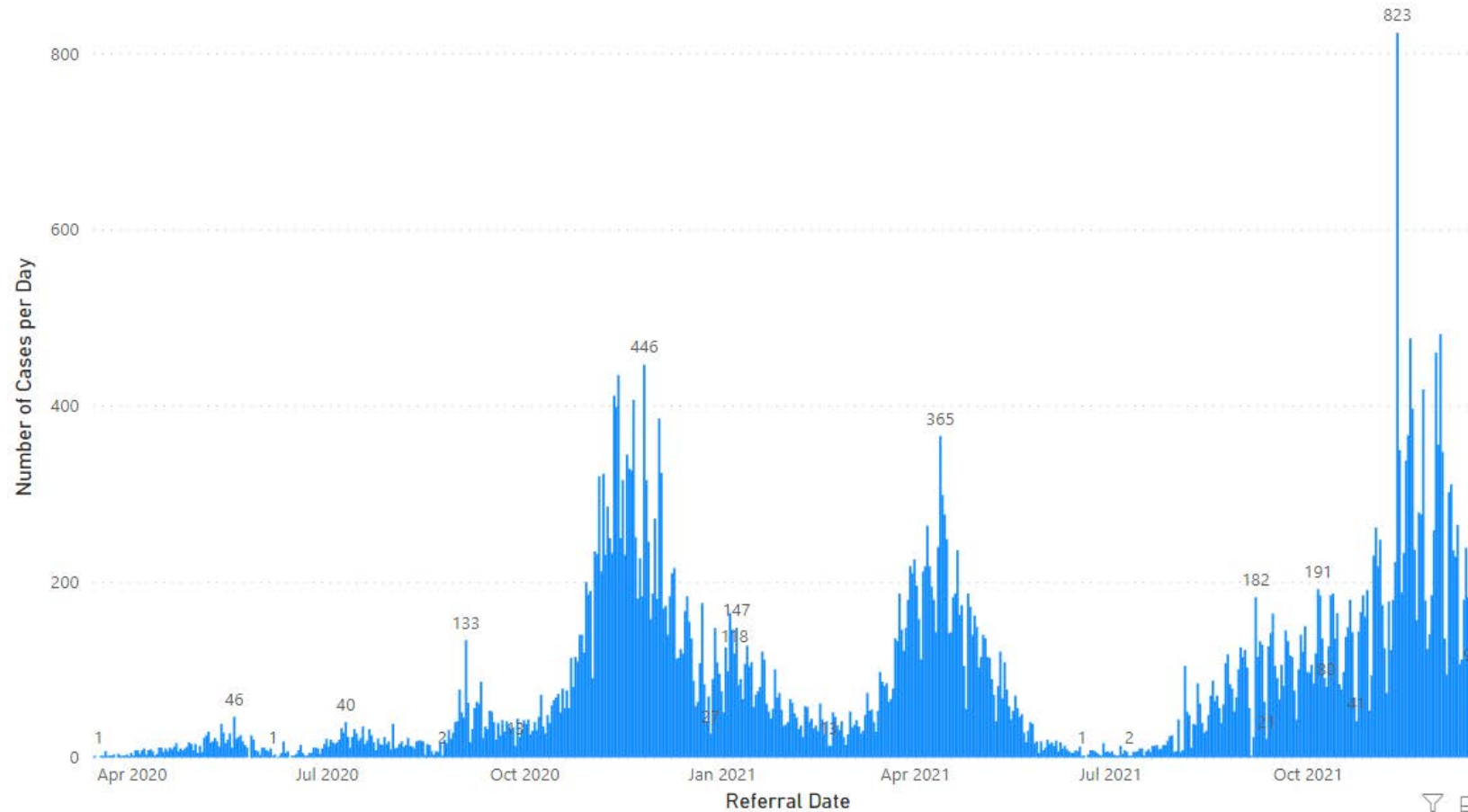
Source: [https://covid.cdc.gov/covid-data-tracker/#trends\\_dailycases](https://covid.cdc.gov/covid-data-tracker/#trends_dailycases)

Data through December 19, 2021

# Case Trends in Ottawa County

## COVID-19 Cases by Day, Ottawa County, March 15, 2020 – December 21, 2021

Epidemiological Curve



Total Number of Cases  
**54,259**

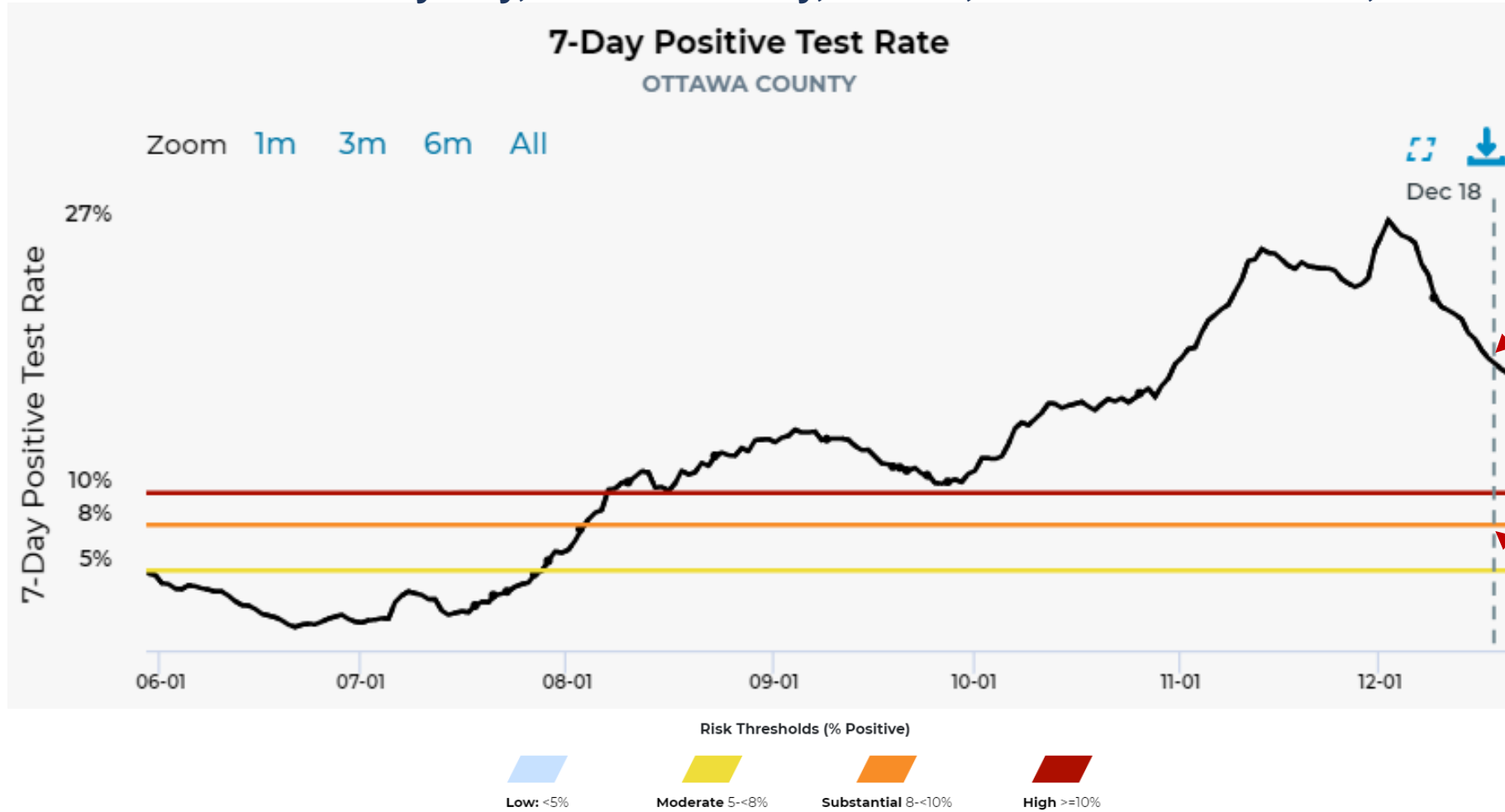
Currently the 7-day average is **132 cases per day**, lower than the 181 cases per day seen at a similar time last week.

**Notes:** Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in an artificially deflated number of cases. Additionally, ODCPH has received reports of parents refusing COVID-19 testing for their children ill with respiratory symptoms, and hospitals forgoing confirmatory COVID-19 testing and relying on self-reported positive at-home tests to direct clinical care. 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, June 1, 2021 – December 18, 2021



Test positivity declined to 18.2% on December 18, 2021, and Ottawa County positivity is showing a downtrend.

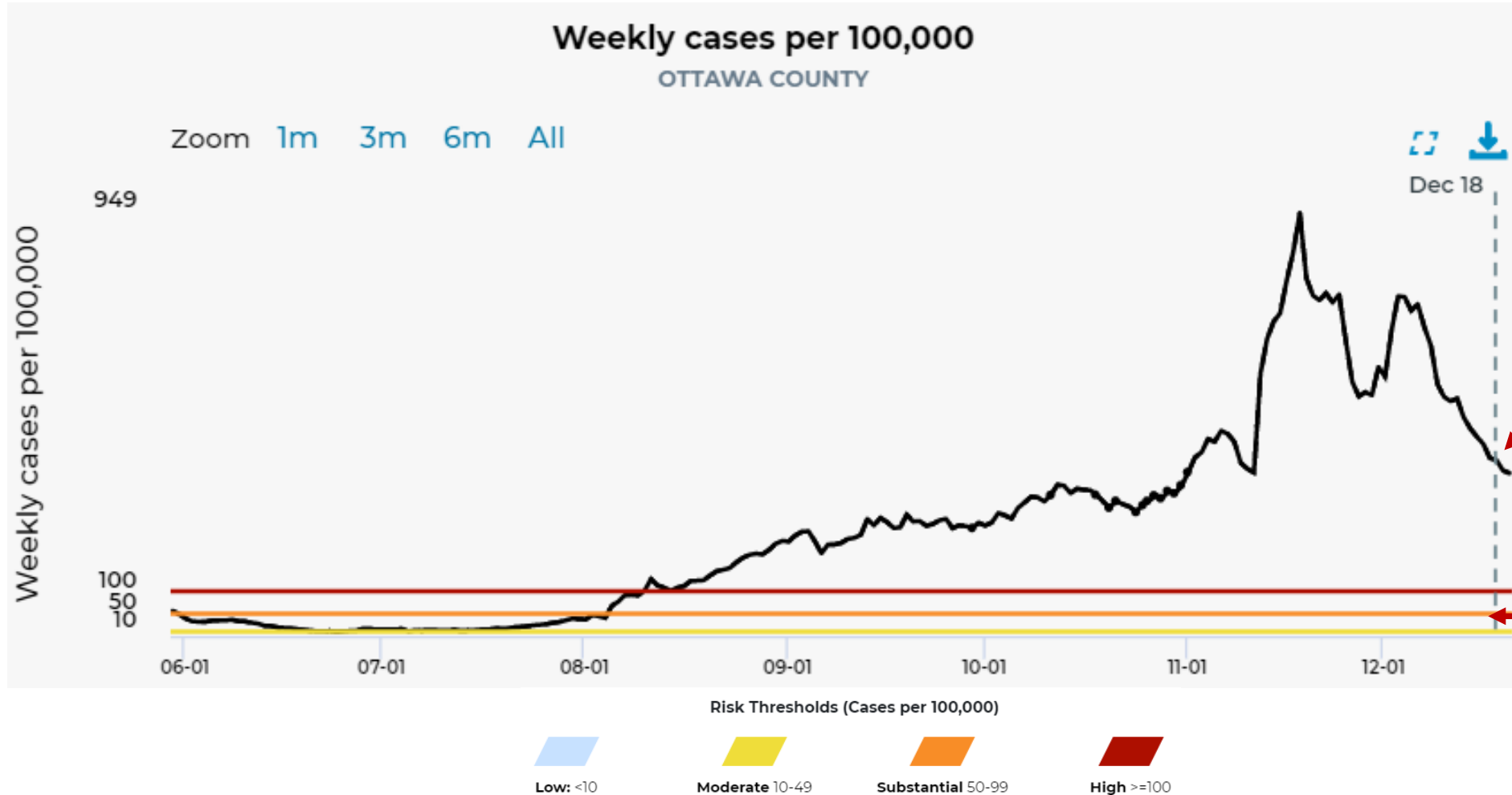
The goal is to have less than 8% of tests coming back positive.

**Note:** Testing in Ottawa County has remained stable with at least 6000-10,000 tests each week: [Testing Results | Ottawa County Covid-19 Case Summary Data \(arcgis.com\)](#)

**Source:** <https://www.mistartmap.info/cdc-indicators?area=county%3Aottawa>

# Case Rates in Ottawa County – All Ages

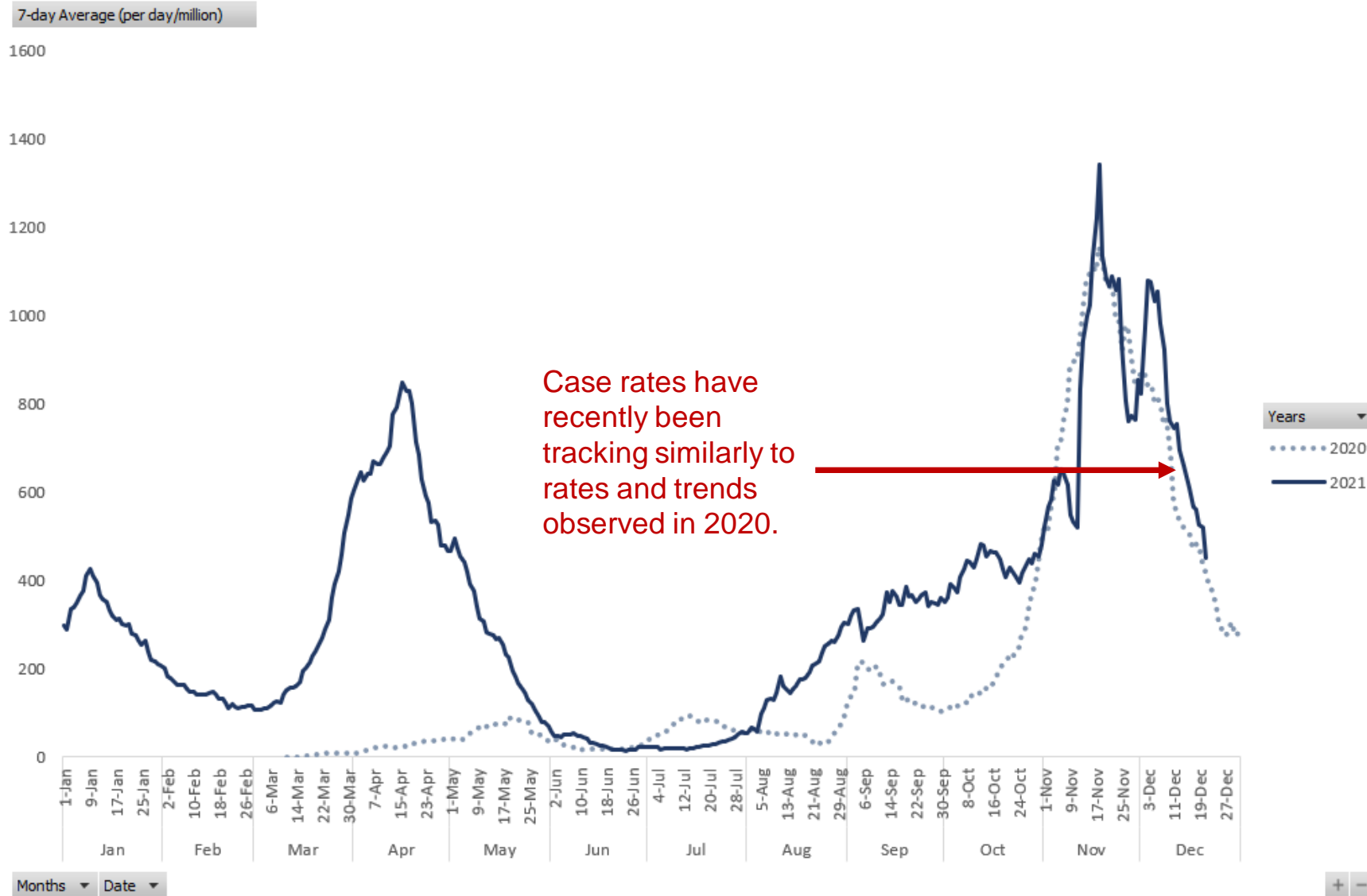
COVID-19 Cases by Day, Ottawa County, June 1, 2021 – December 18, 2021



Source: <https://www.mistartmap.info/cdc-indicators?area=county%3Aottawa>



# Ottawa County Time Trends – Annual Comparison

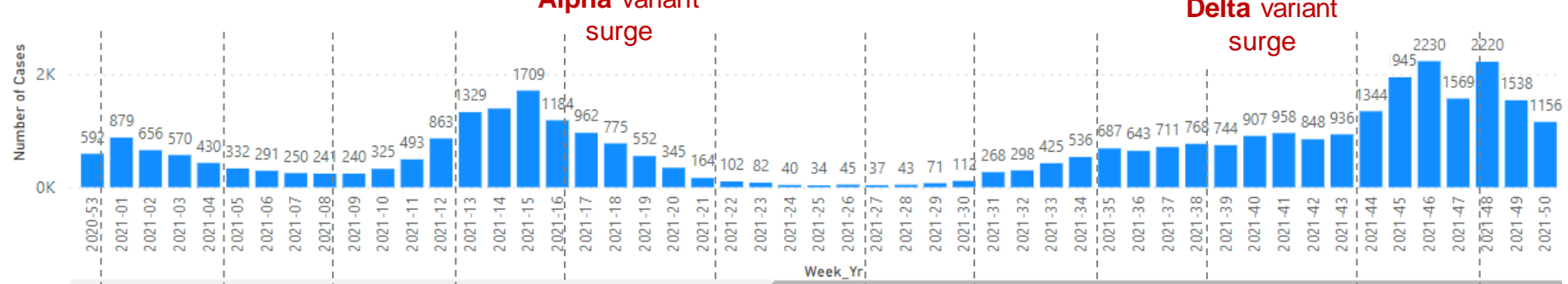


Source: Internal Data

Data through December 21, 2021

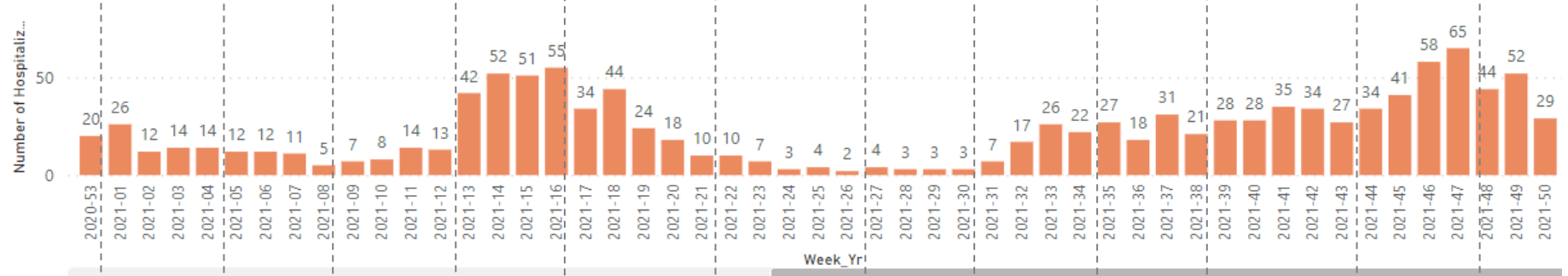
# Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



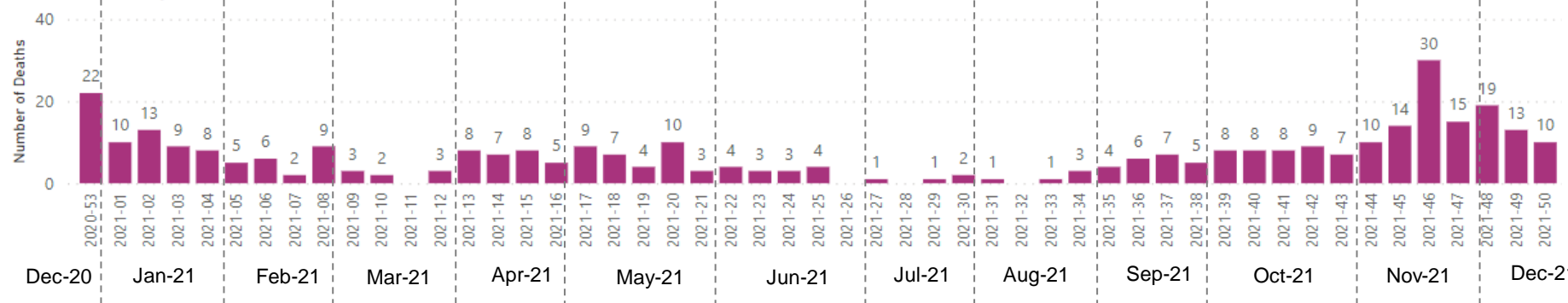
The weekly number of **cases decreased 25%** from week 49 to week 50.

New Hospitalizations by Week of Admission



The weekly number of **hospitalizations** has been increasing with an average of about **48 cases hospitalized** each week over the last month.

New Deaths by Week of Death



Weekly COVID-19 **deaths** have **exceeded** levels experienced in the spring 2021 wave. Current weekly average of deaths over the last 4 weeks stands at about **14 deaths per week**.

Hospitalizations and deaths in recent weeks may increase as data is updated.

Hospitalizations are likely **underestimated** because:

- (i) Hospitalization status is obtained only by manual review, and
- (ii) Hospitalization may occur after public health interview.

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

# Ottawa County Weekly Case Counts and % Change, by Age

Week Ending	Adults (18+)		Children (0-17 years)		Total	
	Number	% Change from Previous Week	Number	% Change from Previous Week	Number	% Change from Previous Week
3-Jul-21	40		5		45	
10-Jul-21	32	-20%	5	0%	37	-18%
17-Jul-21	38	19%	5	0%	43	16%
24-Jul-21	60	58%	11	120%	71	65%
31-Jul-21	89	48%	23	109%	112	58%
7-Aug-21	224	152%	43	87%	267	138%
14-Aug-21	259	16%	39	-9%	298	12%
21-Aug-21	365	41%	60	54%	425	43%
28-Aug-21	449	23%	88	47%	537	26%
4-Sep-21	553	23%	134	52%	687	28%
11-Sep-21	496	-10%	148	10%	644	-6%
18-Sep-21	547	10%	165	11%	712	11%
25-Sep-21	620	13%	149	-10%	769	8%
2-Oct-21	608	-2%	136	-9%	744	-3%
9-Oct-21	714	17%	197	45%	907	22%
16-Oct-21	765	7%	199	1%	958	6%
23-Oct-21	685	-10%	163	-18%	848	-11%
30-Oct-21	716	5%	219	34%	935	10%
6-Nov-21	991	38%	351	60%	1342	44%
13-Nov-21	1463	48%	487	39%	1950	45%
20-Nov-21	1662	14%	568	17%	2230	14%
27-Nov-21	1228	-26%	341	-40%	1569	-30%
4-Dec-21	1770	44%	450	32%	2220	41%
11-Dec-21	1236	-30%	302	-33%	1538	-31%
18-Dec-21	942	-24%	214	-29%	1156	-25%

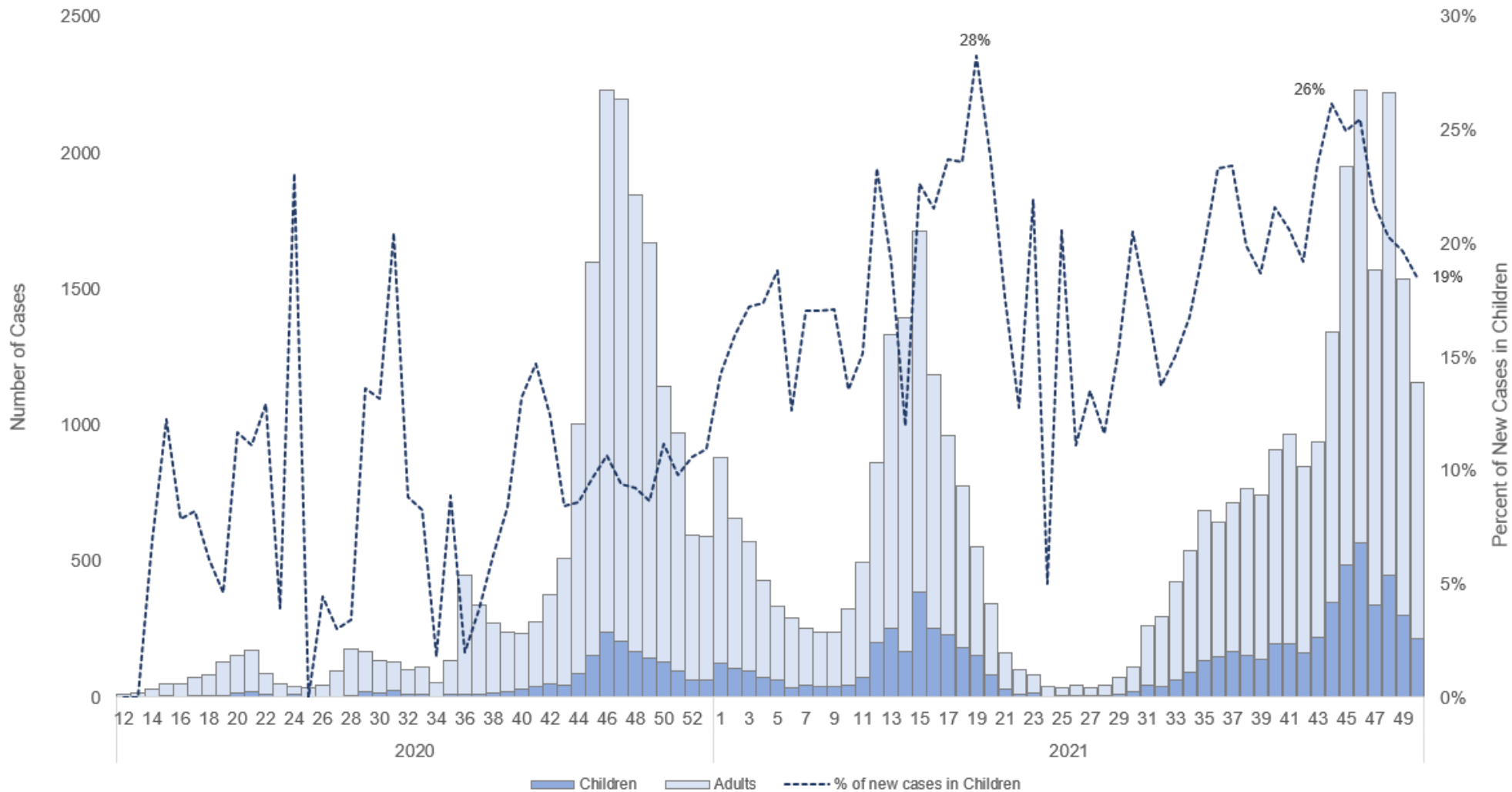
Adults

Children

Weekly case counts among children decreased 29% last week, and cases in adults decreased 24%.

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

# Ottawa County Weekly Case Counts and % in Children (0-17)



During week 50, children made up **19%** of cases reported; a higher proportion compared to other times during the pandemic, but lower than recent highs.

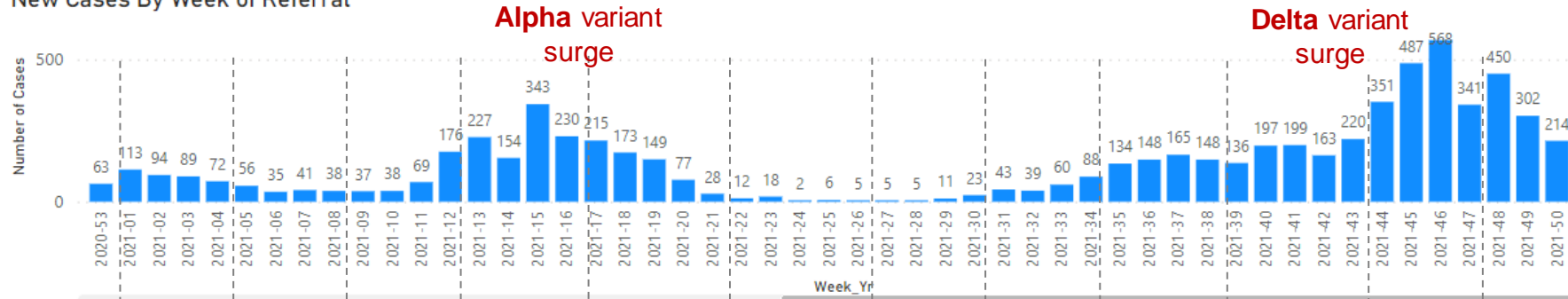
For comparison, children aged 0-17 make up about **23.5%** of the population in Ottawa County.

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

Data through Week 50, 2021

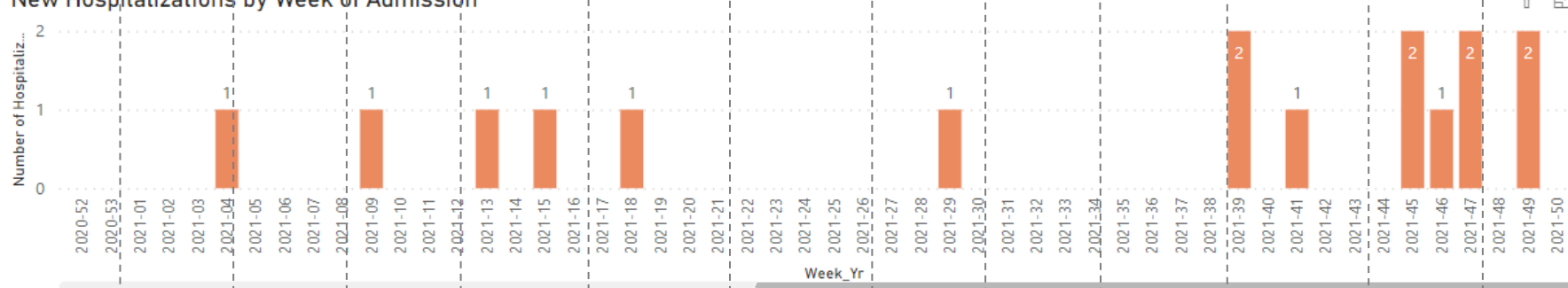
# Ottawa County - Cases, Hospitalizations, & Deaths by Week Among Children (0-17 years)

New Cases By Week of Referral



The weekly number of cases among children **decreased 29%** from week 49 to week 50.

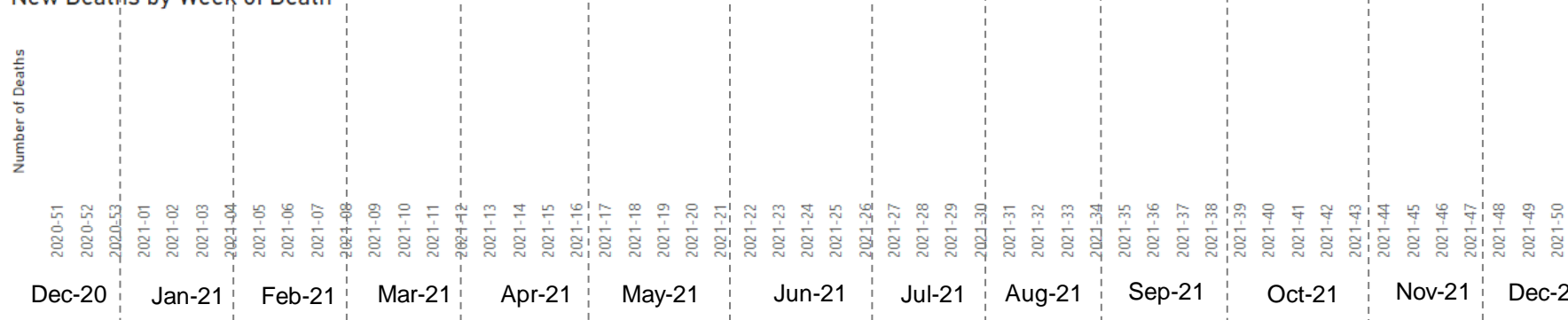
New Hospitalizations by Week of Admission



Hospitalizations are likely **underestimated** because:

- (i) Hospitalization status is obtained only by manual review, and
- (ii) Hospitalization may occur after public health interview.

New Deaths by Week of Death



Through the 2020-2021 school year nearly all school-aged children were in environments with:

- universal masking
- cohorting
- online learning
- social distancing
- mandatory quarantine for all close contacts
- testing (for high school athletes)

These mitigation strategies likely reduced case counts and hospitalizations among children.

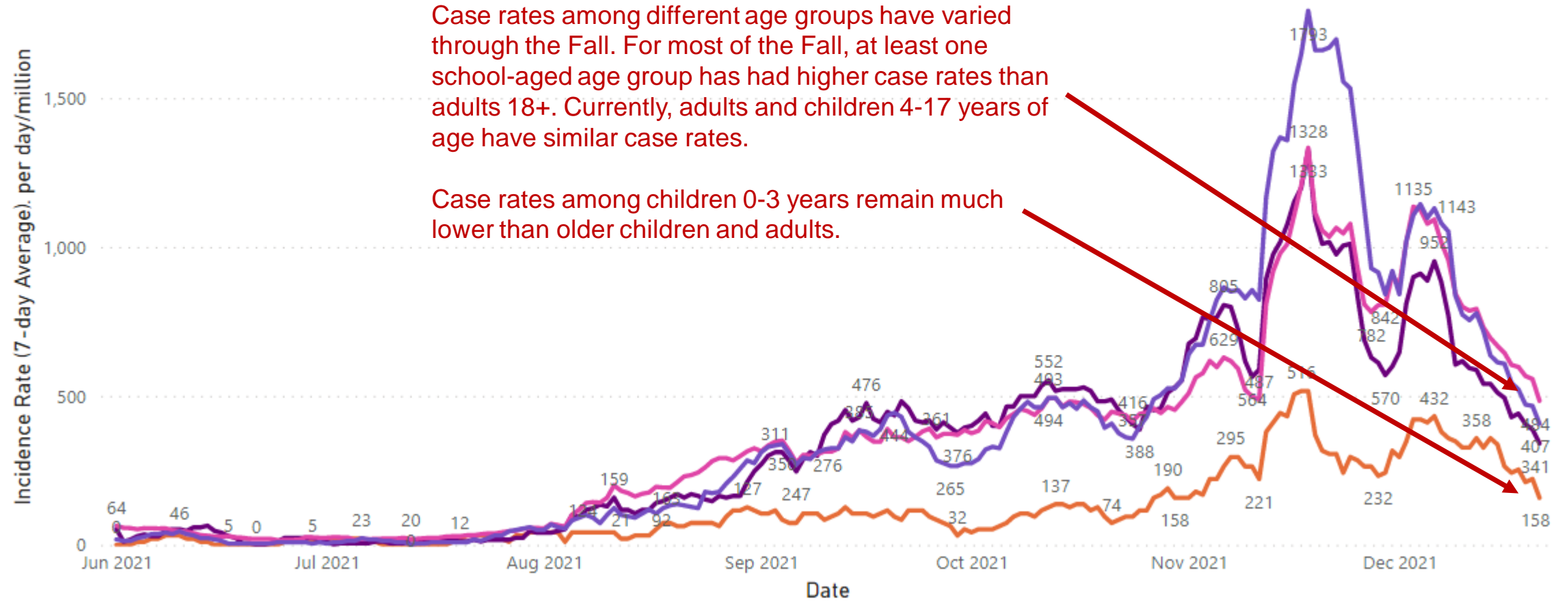
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

# Ottawa County - Case Rate Trends – by Age

COVID-19 Case Rates by Age, includes School-Aged, June 2021 – December 14, 2021

Incidence Rate (7-day Average)

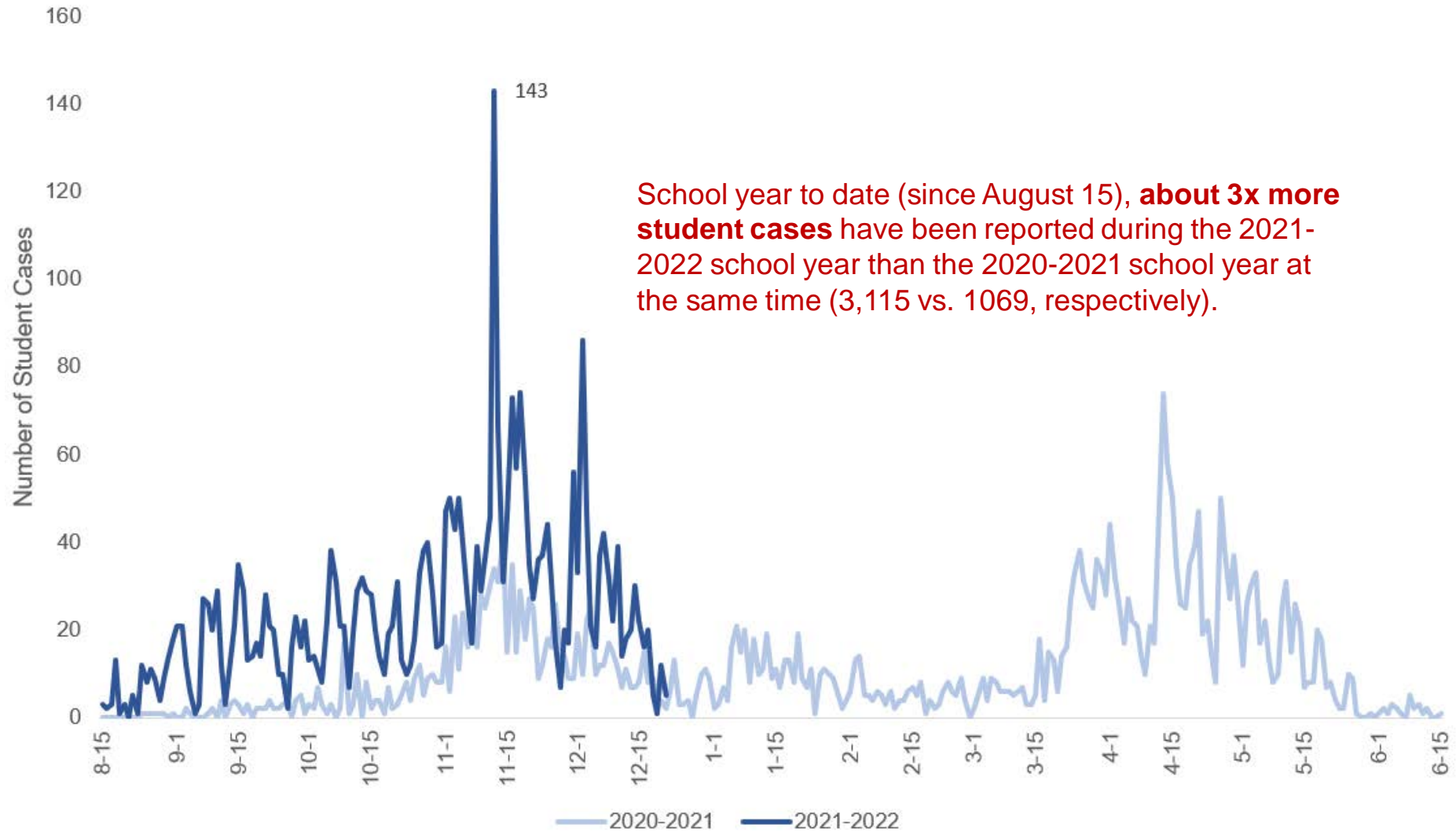
rategroup ● 0-3 ● 12-17 ● 18+ ● 4-11



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

Data as of December 14, 2021

# Ottawa County Cases in PreK-12 School Students



**Method:** Includes PreK-12 students known to attend a school in Ottawa County who are classified as a confirmed or probable case of COVID-19.

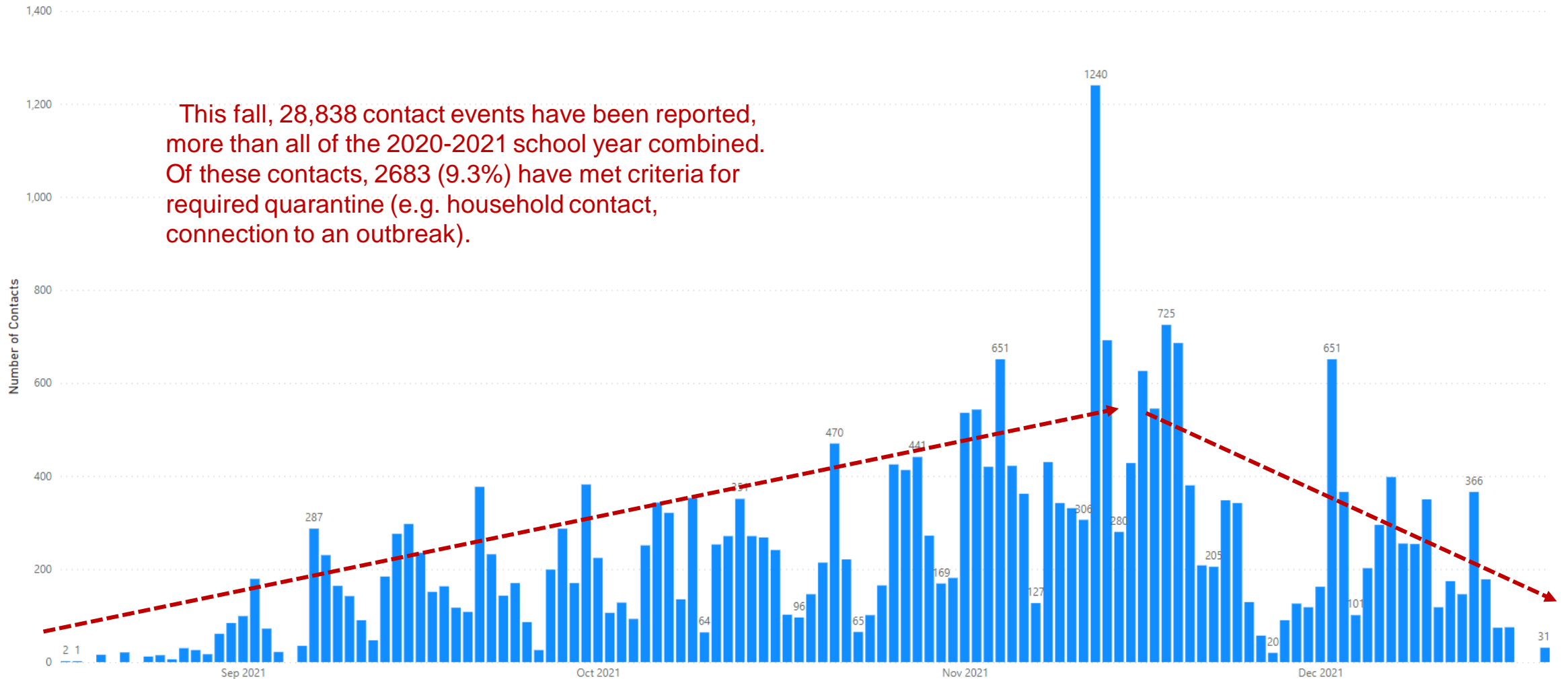
**Note:** Data may change as information is updated and methods are refined. Cases reported in 2021 will likely increase. The peak of 143 cases reported on November 12, 2021 is the result of a database update by MDHHS that reported a backlog of cases from the previous days.

**Source:** Michigan Department of Health and Human Services, Michigan Disease Surveillance System; Internal data systems

Data through December 21, 2021

# Ottawa County PreK-12 School Contact Events

Contact Events by Day, Ottawa County, August 14, 2021 – December 21, 2021



**Method:** Includes staff and student contact events to confirmed or probable case of COVID-19 in PreK-12 schools in Ottawa County.

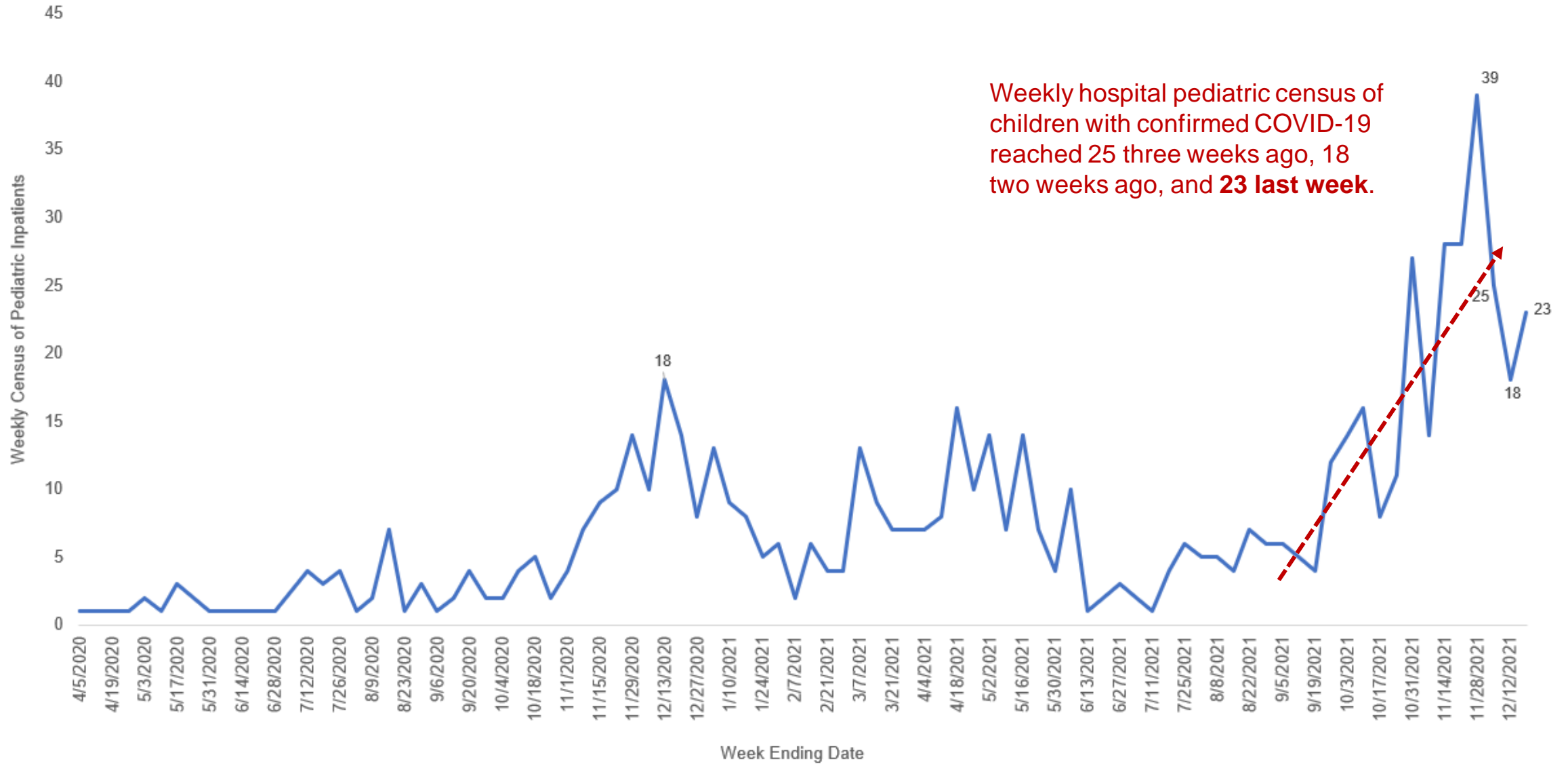
**Note:** Duplicate events may be present. The peak of 1220 contacts on November 12, 2021 is the result of a database update by MDHHS that reported a backlog of cases from previous days. Contact events are instances when a person is identified as a close contact; a person may be a contact event multiple times.

**Source:** Internal data systems

Data through December 21, 2021



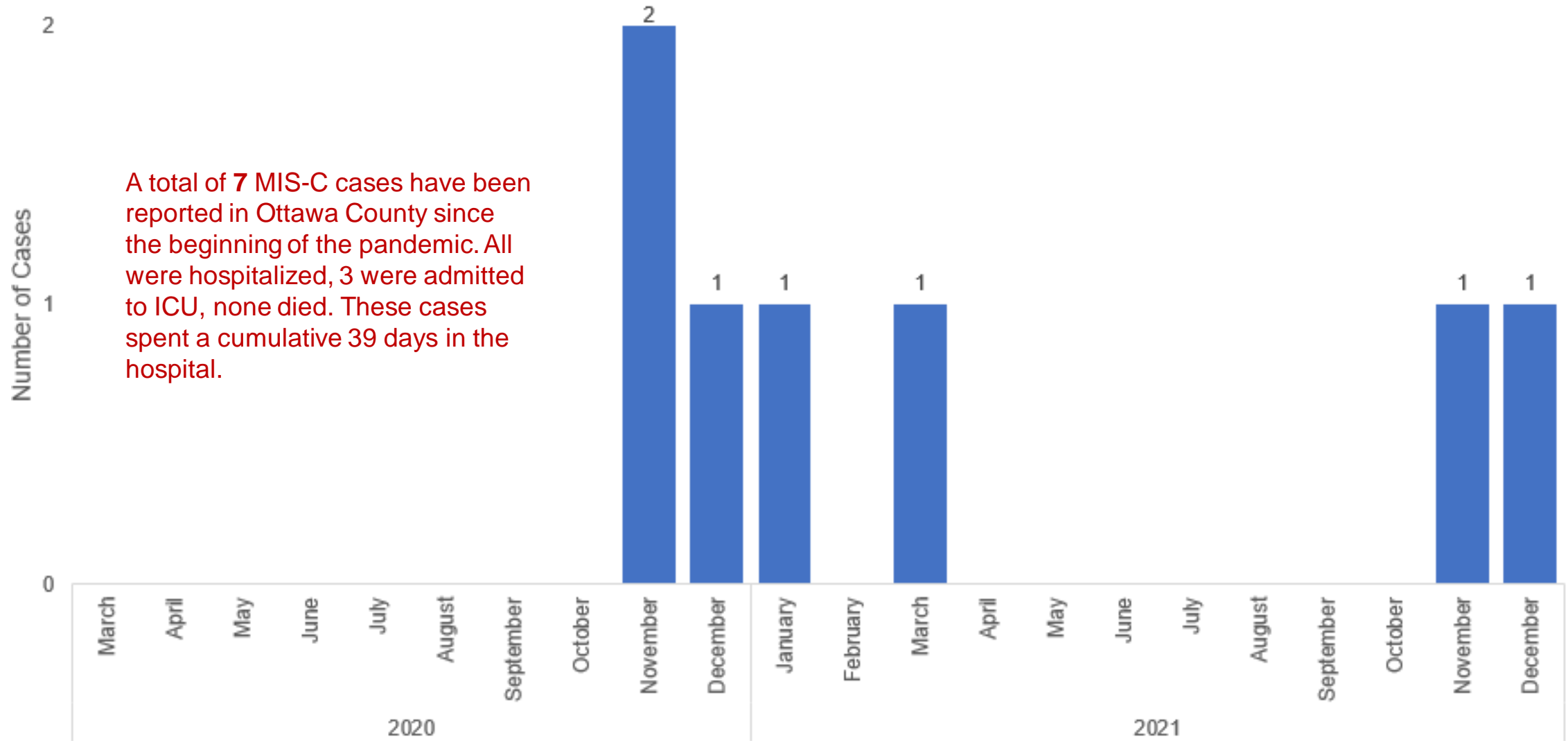
# Weekly Hospital Pediatric Census – A Regional Healthcare System



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

Data through December 19, 2021

# Ottawa County MIS-C Cases by Month



A total of 7 MIS-C cases have been reported in Ottawa County since the beginning of the pandemic. All were hospitalized, 3 were admitted to ICU, none died. These cases spent a cumulative 39 days in the hospital.

**Note:** For more details on MIS-C please visit: <https://www.cdc.gov/mis/index.html>

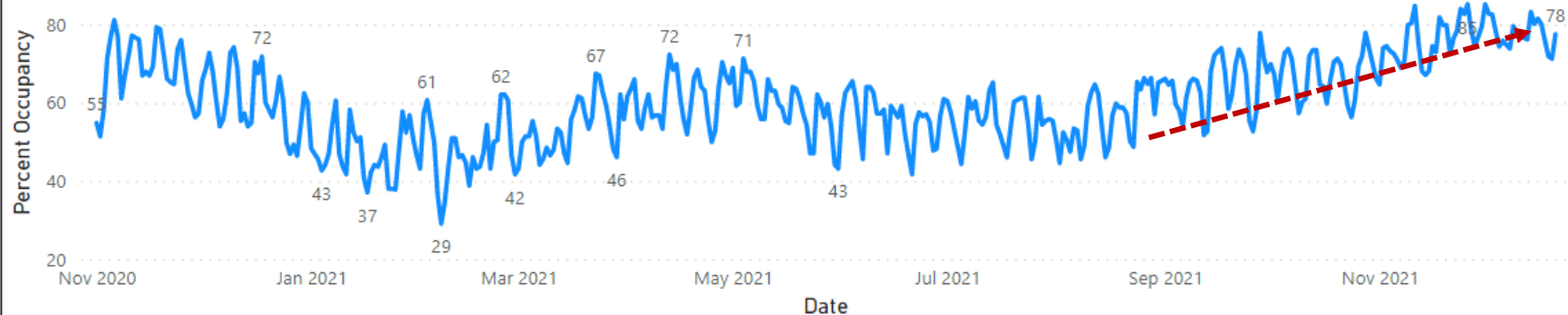
Data through December 21, 2021

# Ottawa County Hospital Capacity – All Beds

## Total Inpatient Bed Occupancy (All Patients, COVID and Non-COVID)

Percent Occupancy by Date and County

County ● Ottawa



## COVID Inpatient Bed Occupancy (COVID Patients Only, Confirmed and Suspected)

Percent Occupancy by Date and County

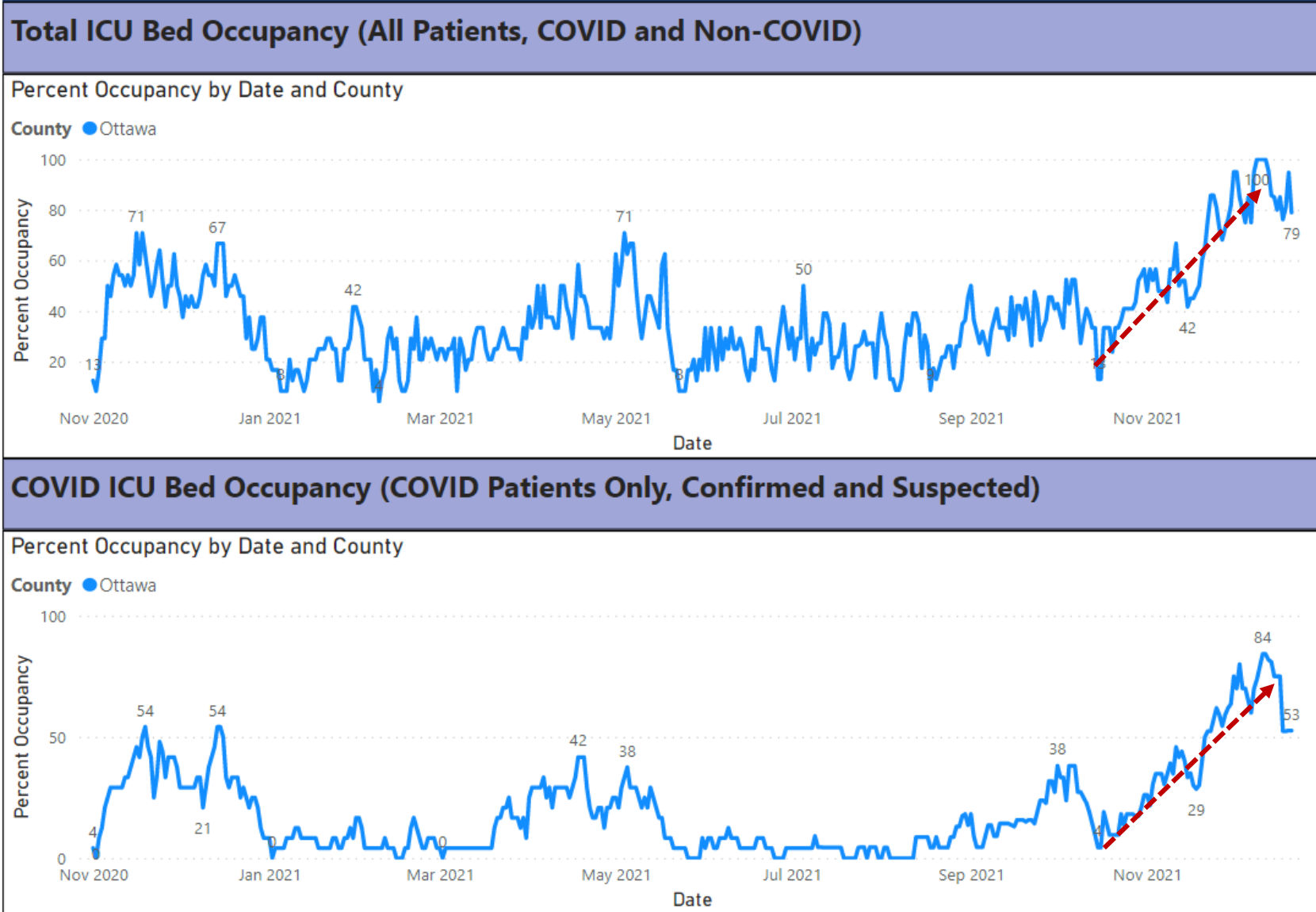
County ● Ottawa



Total hospital bed occupancy **may be plateauing but remains elevated**, as is the proportion of beds occupied by COVID-19 patients.

Currently **33%** of all inpatient beds are occupied by COVID-19 patients.

# Ottawa County Hospital Capacity – ICU Beds



Overall ICU bed occupancy **remains elevated (79%)**.

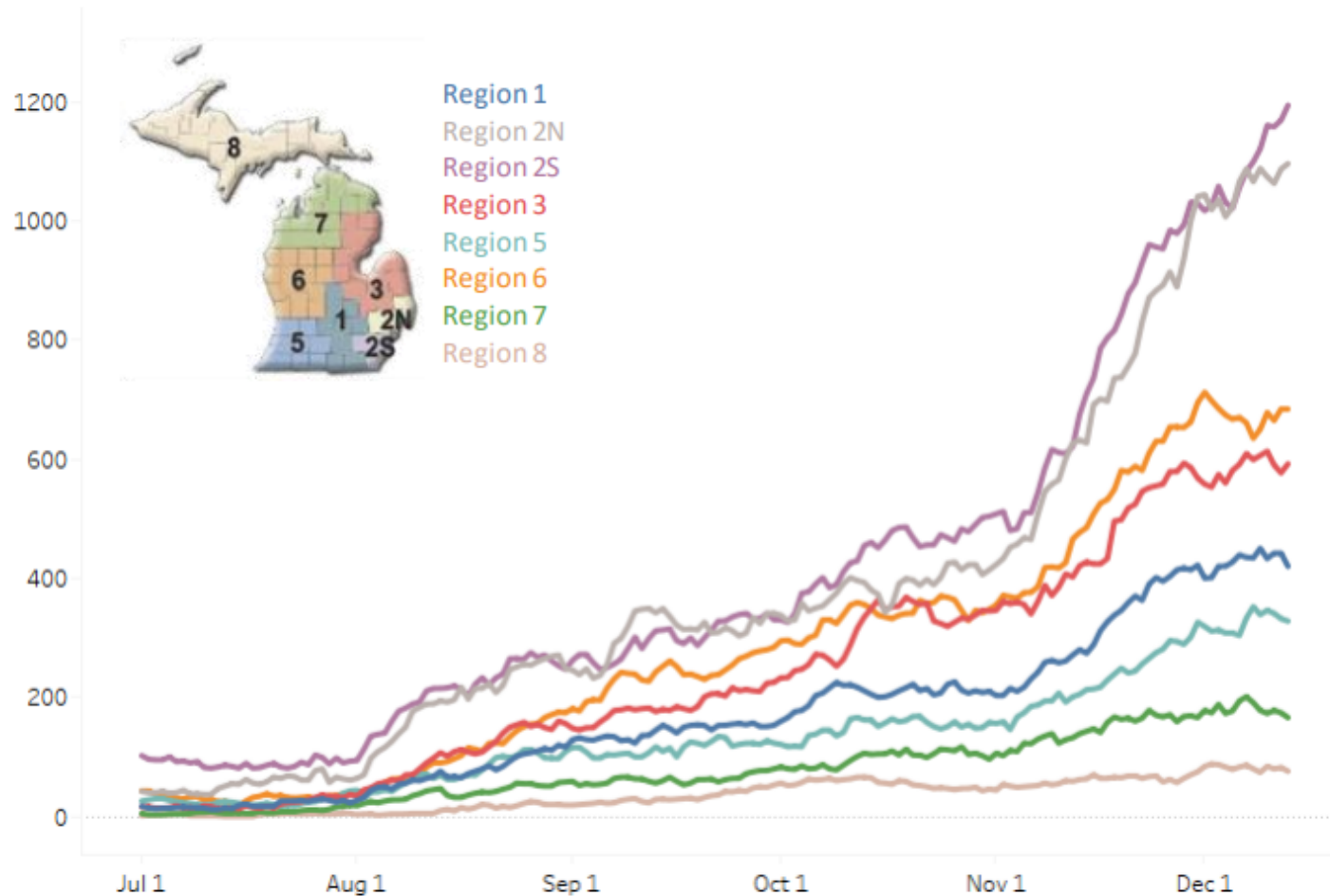
The proportion of ICU beds occupied by COVID-19 patients also **remains elevated, but may be improving**. Currently, **53%** of all ICU beds are occupied by COVID-19 patients.

Source: EMResources

Data through December 21, 2021

# Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 6/1/2021 – 12/13/2021  
Confirmed Positive by Region



The change in COVID+ census in hospitals was variable this week across regions. Regions 2S and 3 show the fastest growth this week while Region 7 and 8 showed the greatest rate of decline.

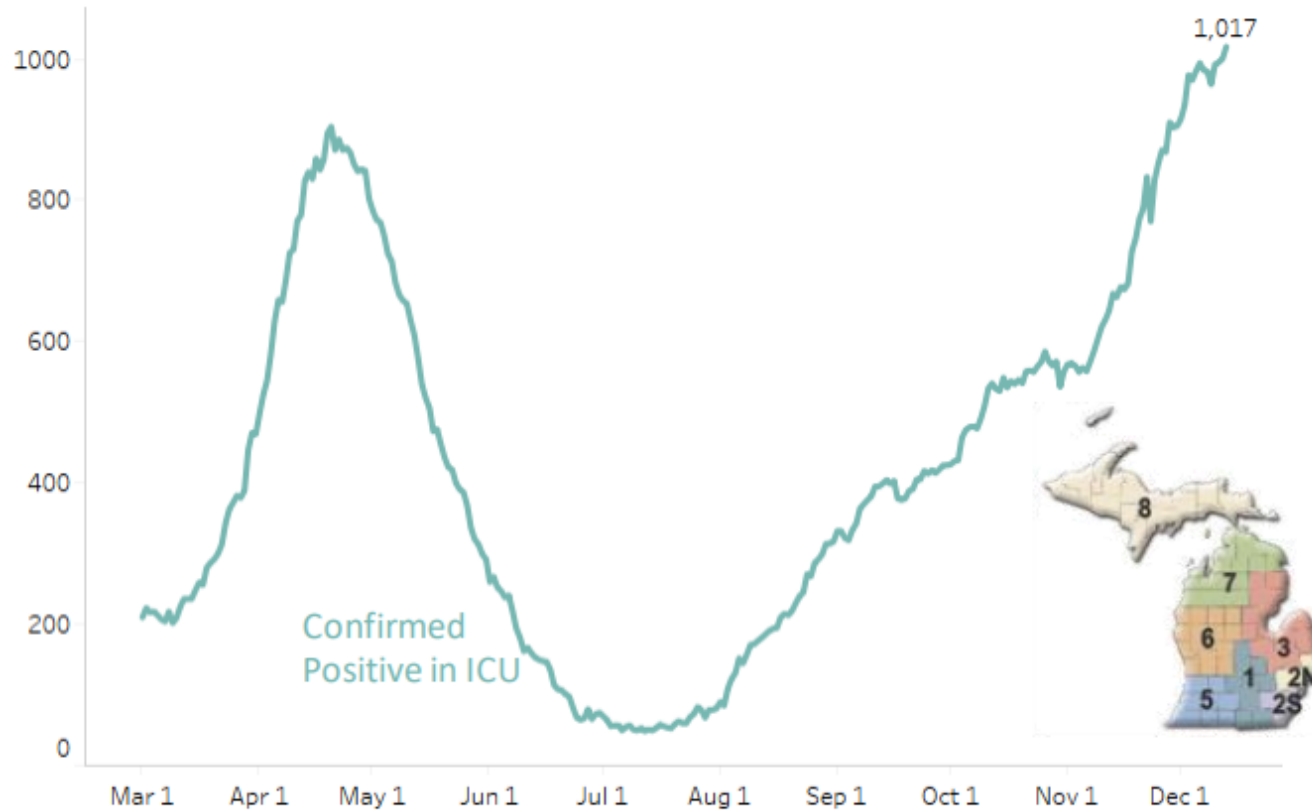
Regions 2N, 2S, 3 and 6 now have greater than 400/Million population hospitalized and Regions 2S and 3 have >500/Million.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	420 (-6%)	388/M
Region 2N	1096 (-4%)	495/M
Region 2S	1194 (17%)	536/M
Region 3	592 (12%)	522/M
Region 5	328 (2%)	344/M
Region 6	684 (2%)	466/M
Region 7	166 (-14%)	332/M
Region 8	76 (-8%)	244/M

Source: MDHHS Data and Modelling: [https://www.michigan.gov/documents/coronavirus/20211214\\_Data\\_and\\_modeling\\_update\\_vMEDIA\\_743631\\_7.pdf](https://www.michigan.gov/documents/coronavirus/20211214_Data_and_modeling_update_vMEDIA_743631_7.pdf)

# Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 12/13/2021  
Confirmed Positive in ICUs



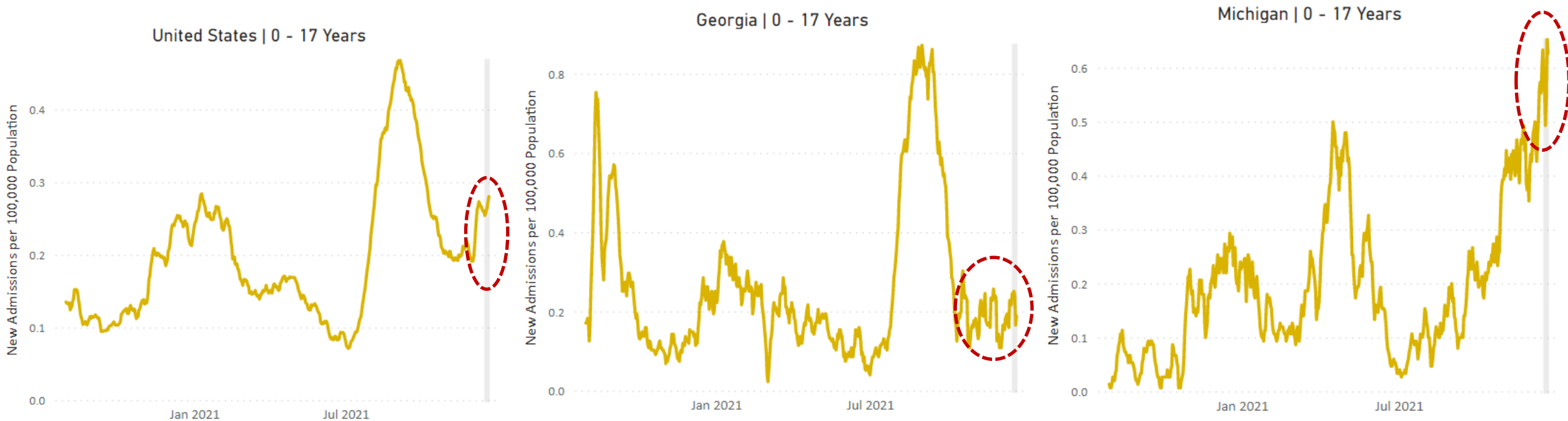
The census of COVID+ patients in ICUs has increased only 2% from last week. ICU census continues to exceed the spring 2021 peak.

Regions 1, 2S, 3, 6, and 7 have overall adult ICU occupancy greater than or equal to 85%, with Regions 1, 3, 6, 7 at or above 90% occupancy. All Regions outside the SE have >40% of adult ICU beds occupied with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	96 (-4%)	90%	46%
Region 2N	175 (-12%)	81%	30%
Region 2S	256 (16%)	88%	36%
Region 3	160 (27%)	95%	45%
Region 5	67 (2%)	80%	43%
Region 6	170 (-3%)	92%	55%
Region 7	68 (-16%)	92%	47%
Region 8	25 (0%)	75%	40%

Source: MDHHS Data and Modelling: [https://www.michigan.gov/documents/coronavirus/20211214\\_Data\\_and\\_modeling\\_update\\_vMEDIA\\_743631\\_7.pdf](https://www.michigan.gov/documents/coronavirus/20211214_Data_and_modeling_update_vMEDIA_743631_7.pdf)

# Pediatric Hospitalization Rates – USA, Georgia, Michigan

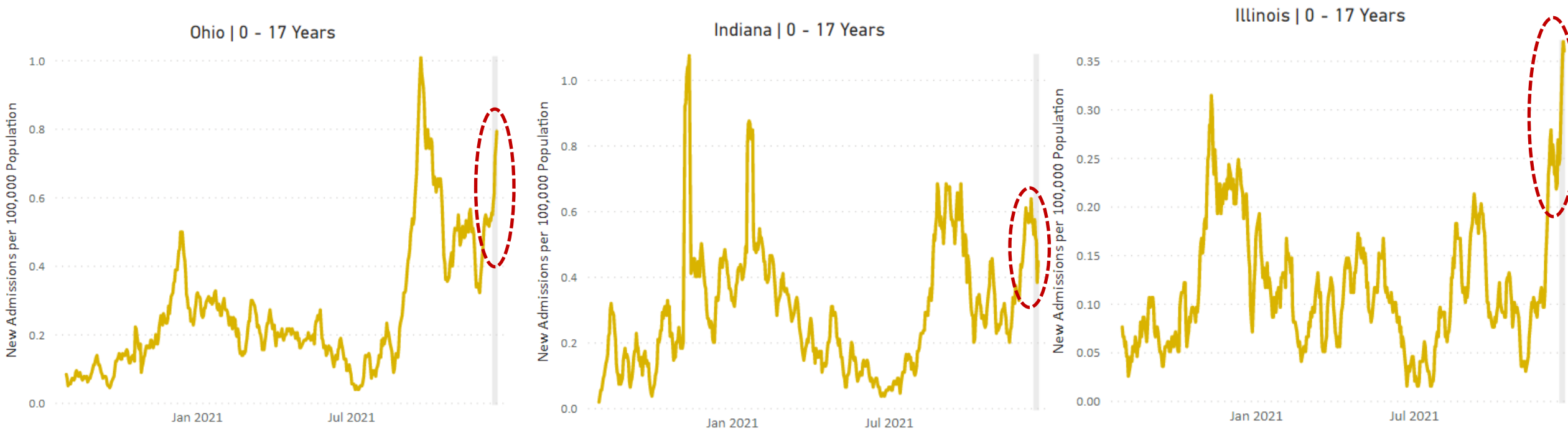


Pediatric hospitalization rates across the United States may be rebounding after a substantial decline. Most southern states (such as Georgia) have much lower rates than recent peaks. **Michigan pediatric hospitalization rates have reached some of the highest levels of the pandemic to date.**

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

Accessed December 22, 2021

# Pediatric Hospitalization Rates – Select Midwest States



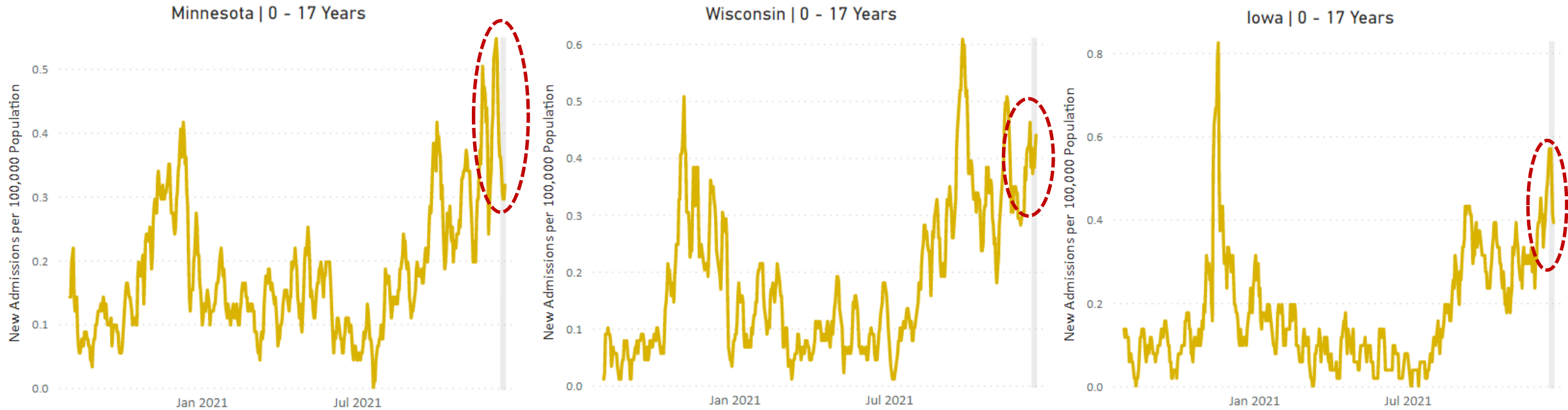
Ohio and Illinois are showing a concerning rebound in pediatric hospitalization rates, while Indiana is experiencing a recent decrease.

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

Accessed December 22, 2021



# Pediatric Hospitalization Rates – Select Midwest States



Pediatric hospitalization rates in Minnesota, Wisconsin, and Iowa remain elevated.

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

Accessed December 22, 2021

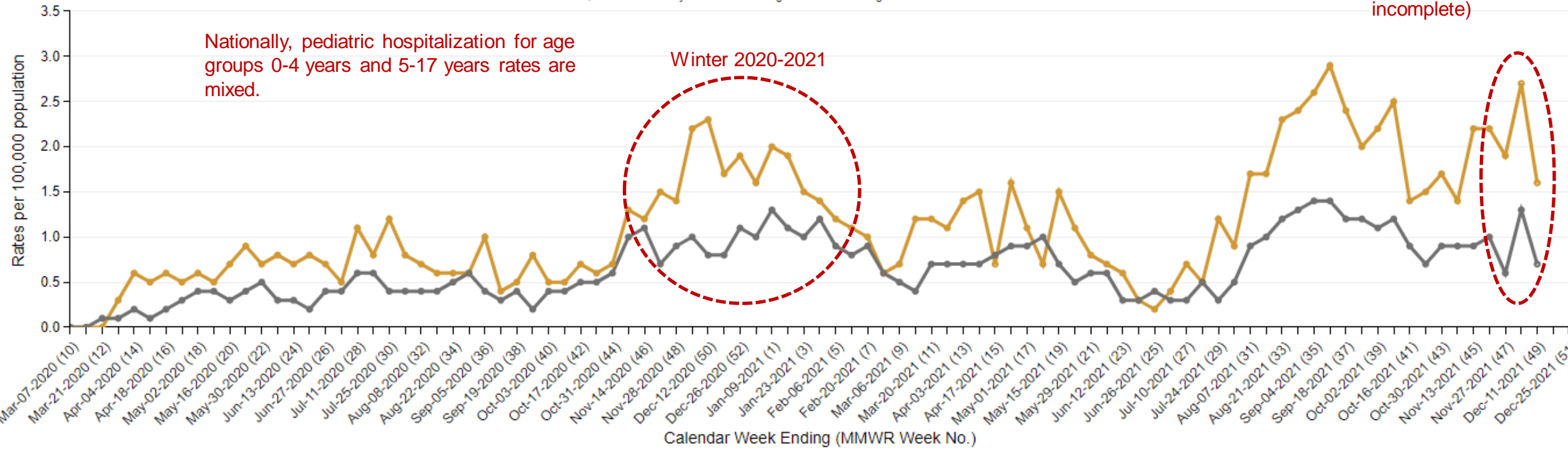
# Pediatric Hospitalization Rates by Age Group – USA

COVID-NET :: Entire Network :: 2020-21 :: Weekly Rate  
 To zoom, hold down Alt key and click and drag to create a rectangle. Double click to reset zoom.

Most recent data  
 (note that latest data may be incomplete)

Nationally, pediatric hospitalization for age groups 0-4 years and 5-17 years rates are mixed.

Winter 2020-2021



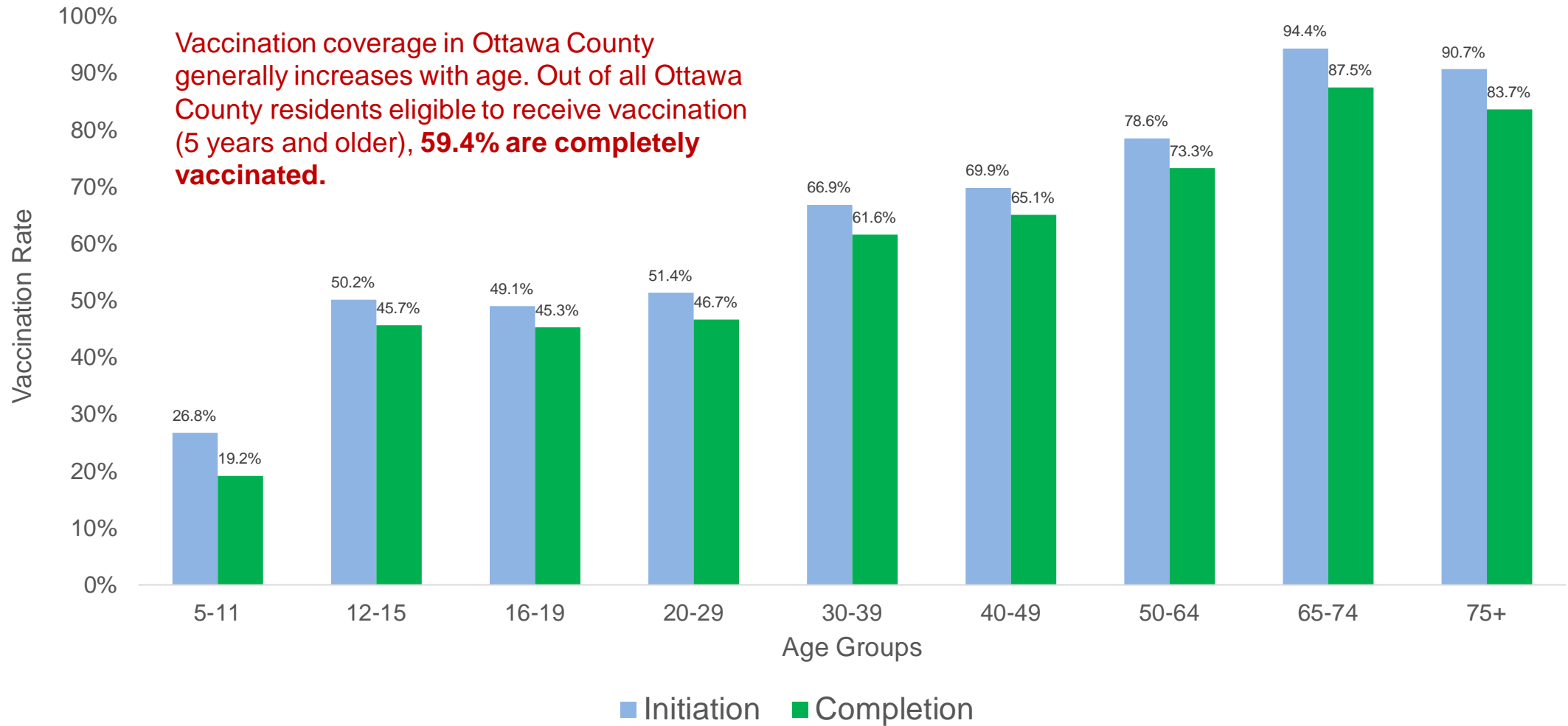
— 0-4 yr — 5-17 yr

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. 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 2019 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.

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

Accessed November 23, 2021

# Vaccination Coverage by Age



**Note:**

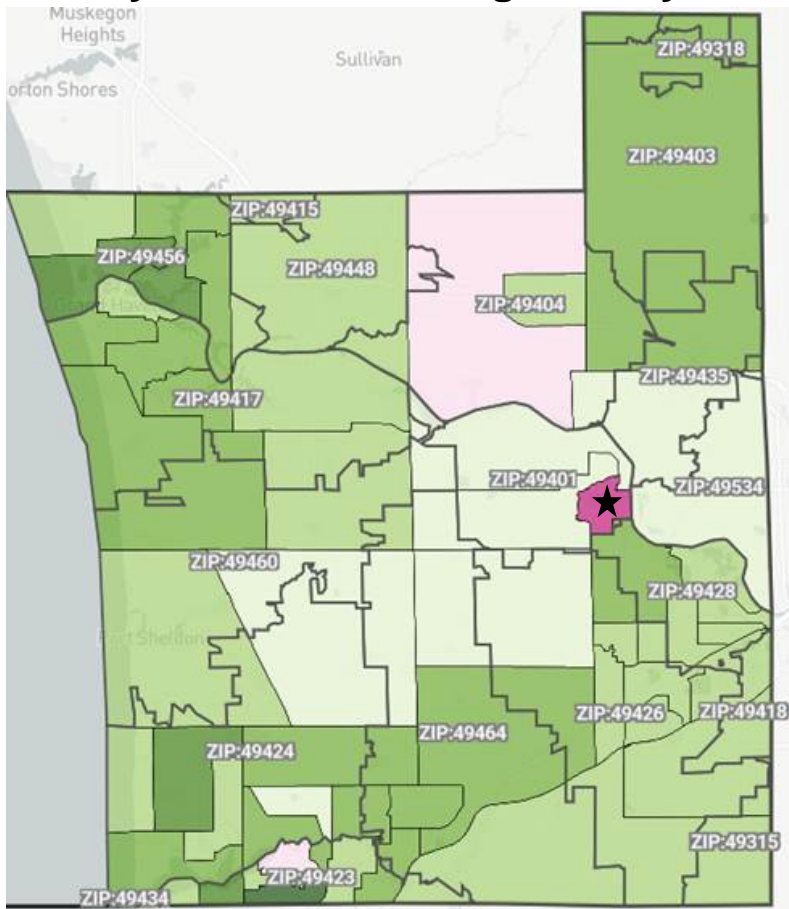
Completion is the percentage of people receiving 2 doses of Pfizer or Moderna or 1 dose of J&J.

Source: [https://www.michigan.gov/coronavirus/0,9753,7-406-98178\\_103214\\_103272-547150--,00.html](https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html)

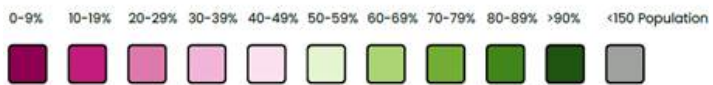
Data through December 14, 2021

# Vaccination Coverage by Place of Residence

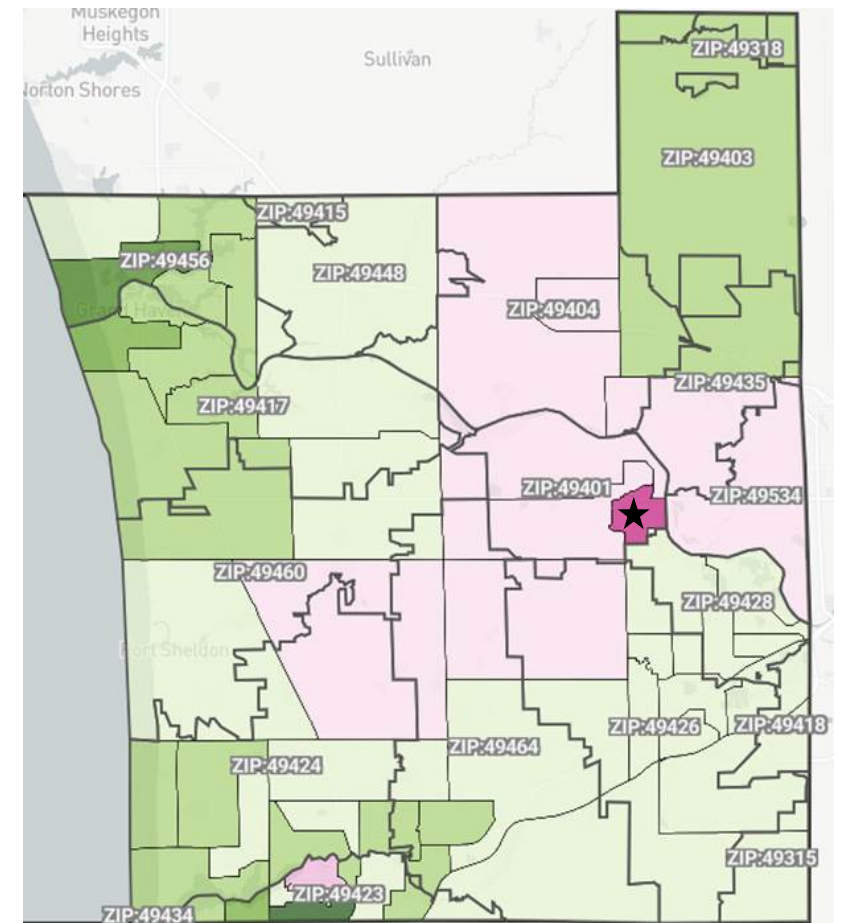
Fully vaccinated: % Ages 16+ years



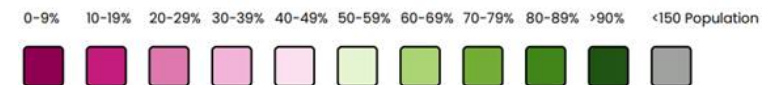
Color coded by: Fully Vaccinated (% Ages 16+)



Fully vaccinated: % Total Population



Color coded by: Fully Vaccinated (% Population)



Vaccination rates vary across Ottawa County, but most areas have at least 50% of the population aged 16+ completely vaccinated (left).

When considering the entire population (not just those aged 16+), there are pockets of the county with much higher and much lower vaccination rates (right).

★ The vaccination rate for this census tract is likely underestimated because census estimates in this tract may be inflated by seasonal students at a large university.

Source: MI-Lighthouse Internal Dashboard

# Cumulative Cases by Vaccination Status, Ottawa County, January 15, 2021 – December 18, 2021

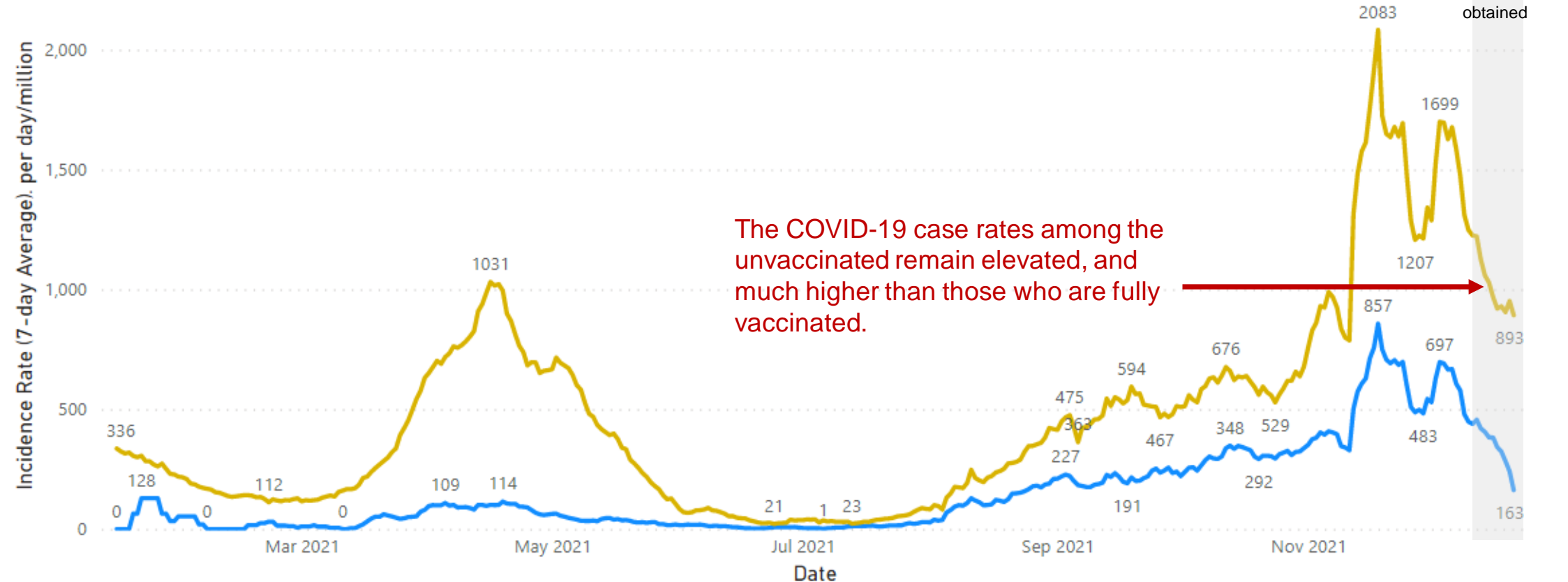
Fully Vaccinated People (161,236 )		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (26,547 / 33,909) <b>78.3%</b>	Percent of Hospitalizations in People Not Fully Vaccinated (906 / 1138) <b>79.6%</b>	Percent of Deaths in People Not Fully Vaccinated (193 / 280) <b>68.9%</b>
Total Cases Not Fully Vaccinated <b>26,547</b>	Total Hospitalized Not Fully Vaccinated <b>906</b>	Total Deaths Not Fully Vaccinated <b>193</b>
Total Breakthrough Cases <b>7,362</b>	Total Breakthrough Hospitalizations <b>232</b>	Total Breakthrough Deaths <b>87</b>
Percent of Fully Vaccinated People who Developed COVID-19 (7,362 / 161,236) <b>4.566%</b>	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (232 / 161,236) <b>0.144%</b>	Percent of Fully Vaccinated People who Died of COVID-19 (87 / 161,236) <b>0.054%</b>
Percent of Cases who were Fully Vaccinated (7,362 / 33,909) <b>21.7%</b>	Percent of Hospitalizations who were Fully Vaccinated (232 / 1183) <b>20.4%</b>	Percent of Deaths who were Fully Vaccinated (87 / 280) <b>31.1%</b>
Total Cases <b>33,909</b>	Total Hospitalizations <b>1138</b>	Total Deaths <b>280</b>

**Sources:**  
Michigan Department of Health and Human Services, Michigan Disease Surveillance System  
MDHHS COVID-19 Dashboard: [https://www.michigan.gov/coronavirus/0,9753,7-406-98178\\_103214\\_103272-547150--,00.html](https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html)

# Ottawa County COVID-19 Vaccination Breakthrough Case Trends

Incidence Rate (7-day Average)

rategroup ● Fully Vaccinated ● Unvaccinated



The COVID-19 case rates among the unvaccinated remain elevated, and much higher than those who are fully vaccinated.

**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.

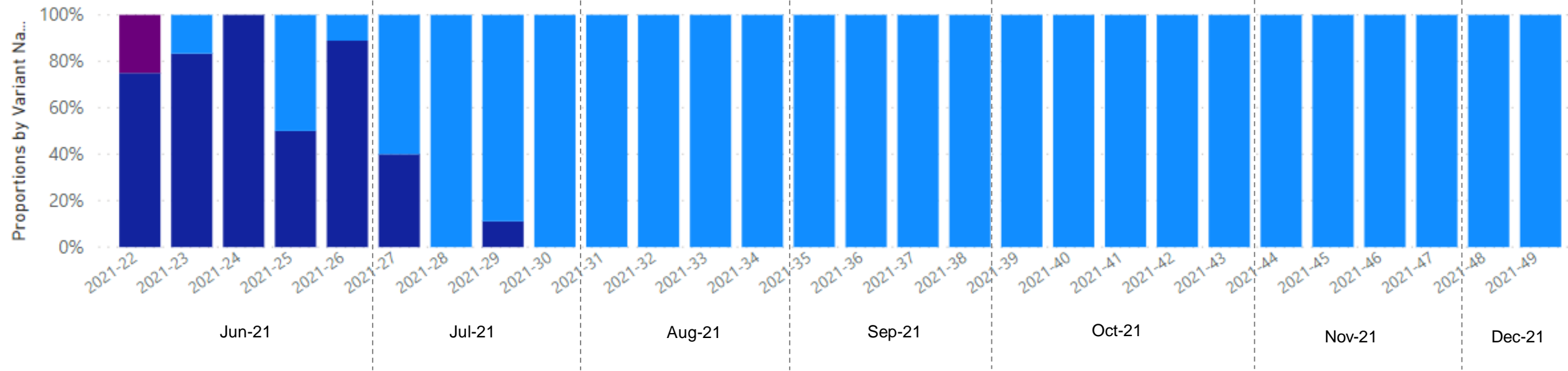
**Sources:**

Michigan Department of Health and Human Services, Michigan Disease Surveillance System  
 MDHHS COVID-19 Dashboard: [https://www.michigan.gov/coronavirus/0,9753,7-406-98178\\_103214\\_103272-547150--,00.html](https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html)

# Variants – Clinical Samples from Ottawa County Residents

Variant Proportions by Week

Variant Name ● Alpha ● Delta ● Gamma

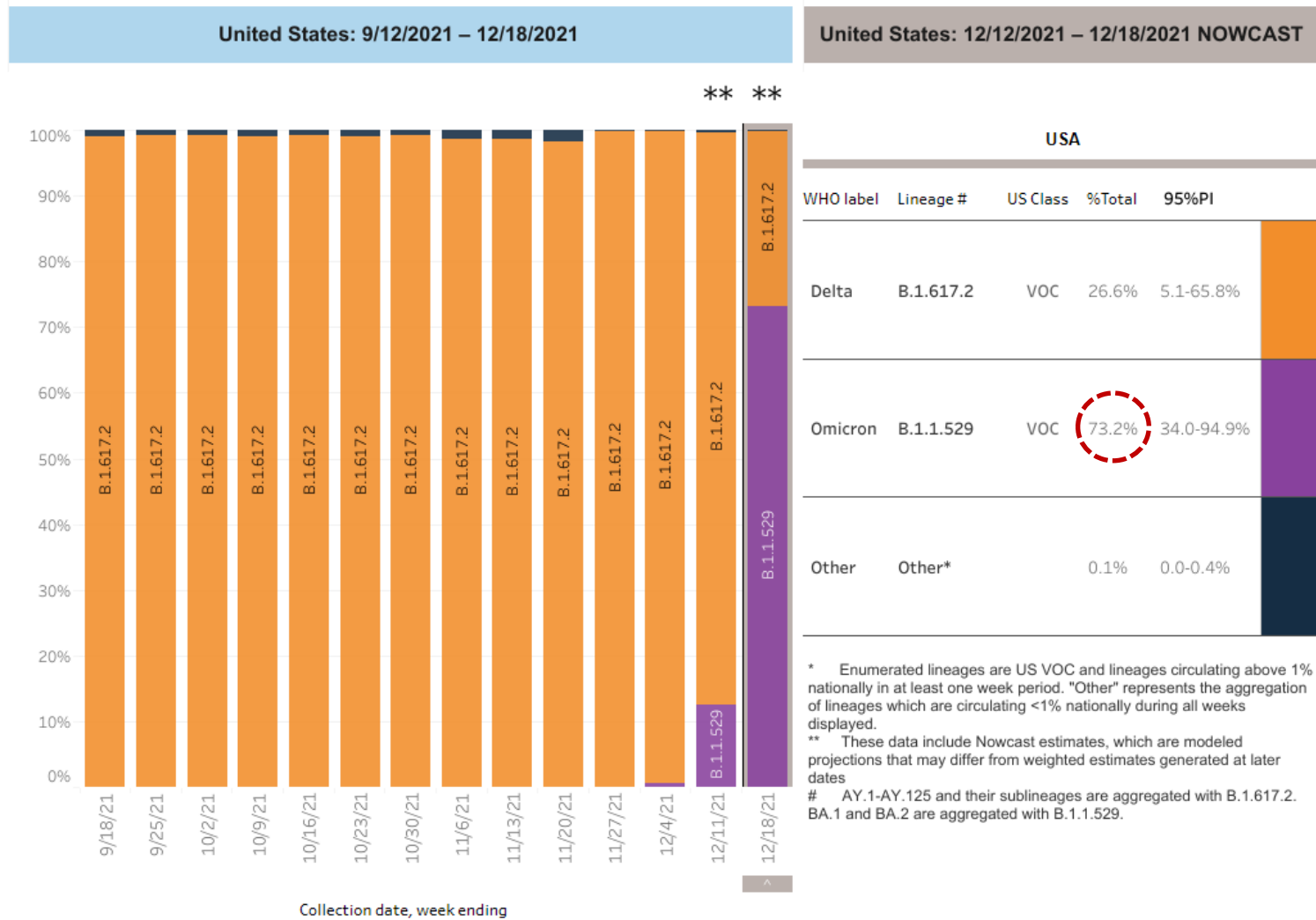


In June of 2021, most clinical samples\* submitted for variant testing came back as the **Alpha** variant. By the end of July 2021, all clinical samples tested were returned as the **Delta** variant. Since late July 2021 all clinical samples submitted for variant testing came back positive for the **Delta** variant, indicating that **Delta** remains the predominate variant in Ottawa County. Currently, there is little local evidence of any newly emerging variant. However, surveillance for the **Omicron** variant is underway which will likely result in local detection of **Omicron**.

\* Swabs from Ottawa County residents that tested positive for COVID-19 by PCR

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

# Variants – Clinical Samples from Across the USA



The **Omicron** variant recently accounted for as much as **73.2%** of tested clinical samples United States.

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



# Variants – Wastewater Sampling – Holland/Zeeland

Sample Date	Site	Wuhan (parental)	Alpha	Beta	Gamma	Delta	Epsilon
10/3/2021	North Holland	Y	N	N	N	Y	N
10/4/2021	Zeeland	N	N	N	N	Y	N
10/6/2021	North Holland	N	N	N	N	N	N
10/7/2021	Zeeland	N	N	N	N	Y	N
10/10/2021	North Holland	N	N	N	N	Y	N
10/11/2021	Zeeland	N	N	N	N	Y	N
10/17/2021	North Holland	Y	N	N	N	Y	N
10/18/2021	Zeeland	N	N	N	N	Y	N
10/20/2021	North Holland	Y	N	N	N	N	N
10/21/2021	Zeeland	N	N	N	N	Y	N
10/24/2021	North Holland	N	N	N	N	Y	N
10/25/2021	Zeeland	N	N	N	N	Y	N
10/27/2021	North Holland	N	N	N	N	Y	N
10/28/2021	Zeeland	N	N	N	N	Y	N
10/31/2021	North Holland	N	N	N	N	Y	N
11/1/2021	Zeeland	N	N	N	N	Y	N
11/3/2021	North Holland	N	N	N	N	Y	N
11/4/2021	Zeeland	N	N	N	N	Y	N
11/7/2021	North Holland	N	N	N	N	Y	N
11/8/2021	Zeeland	N	N	N	N	Y	N
11/10/2021	North Holland	N	N	N	N	Y	N
11/11/2021	Zeeland	N	N	N	N	Y	N
11/14/2021	North Holland	Y	N	N	N	Y	N
11/15/2021	Zeeland	N	N	N	N	Y	N
11/17/2021	North Holland	N	N	N	N	Y	N
11/18/2021	Zeeland	N	N	N	N	N	N
11/21/2021	North Holland	N	N	N	N	Y	N
11/22/2021	Zeeland	N	N	N	N	N	N
11/24/2021	North Holland	N	N	N	N	Y	N
11/24/2021	Zeeland	N	N	N	N	Y	N
11/28/2021	North Holland	N	N	N	N	Y	N
11/29/2021	Zeeland	N	N	N	N	Y	N
12/1/2021	North Holland	N	N	N	N	N	N
12/2/2021	Zeeland	N	N	N	N	Y	N
12/5/2021	North Holland	N	N	N	N	Y	N
12/6/2021	Zeeland	N	N	N	N	Y	N
12/8/2021	North Holland	N	N	N	N	Y	N
12/9/2021	Zeeland	N	N	N	N	Y	N
12/12/2021	North Holland	N	N	N	N	Y	N
12/13/2021	Zeeland	N	N	N	N	Y	N
12/15/2021	North Holland	N	N	N	N	Y	N
12/16/2021	Zeeland	N	N	N	N	Y	N

Y = Detected  
N = Not Detected

The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through all of October and November 2021 as well as much of December 2021. This data indicate that the Delta variant has remained the known dominant variant in Ottawa County. Surveillance is ongoing for the **Omicron** variant, which is very likely present in the community. Expect detection in wastewater as validated tests become available.

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

# Variants – Wastewater Sampling – Grand Haven/Spring Lake

Sample Date	Site	Wuhan (parental)	Delta	Epsilon	Alpha
11/10/2021	Allendale WWTP	N	Y	Y	
11/10/2021	Grand Haven Spring Lake Wastewater	N	Y	N	
11/10/2021	Grand Haven Township and Local Station	Y	Y	N	
11/10/2021	Spring Lake Station	N	Y	Y	
11/15/2021	Manhole 4340 on 48th	N	Y	N	
11/15/2021	Allendale WWTP	Y	Y	N	
11/15/2021	Grand Haven Spring Lake Wastewater	Y	Y	Y	
11/15/2021	Grand Haven Township and Local Station	Y	Y	N	N
11/15/2021	Grand Haven Municipal Station	Y	Y	Y	
11/15/2021	Spring Lake Station	N	Y	Y	
11/17/2021	Allendale WWTP	N	Y	N	
11/17/2021	Grand Haven Spring Lake Wastewater	Y	Y	N	
11/17/2021	Grand Haven Township and Local Station	N	Y	N	
11/17/2021	Spring Lake Station	N	Y	Y	
11/22/2021	Grand Haven Municipal Station	Y	Y	N	N
12/8/2021	Grand Haven Township and Local Station	N	Y	Y	N
12/15/2021	Grand Haven Township and Local Station	N	Y	N	N

N =Not Detected  
Y =Detected  
 =Not Tested

The **Delta** variant was consistently detected in Grand Haven and Spring Lake wastewater samples through November and into December of 2021. While other variant strains were detected in the same timeframe, they were detected less frequently, indicating that Delta remained a known dominant variant in Ottawa County. Surveillance is ongoing for the **Omicron** variant, which is very likely present in the community. Expect detection in wastewater as validated tests become available.

Source: MDHHS SEWER Network grant and the Annis Water Resources Institute at GVSU

# CDC Community Risk Transmission Levels & Metrics

Indicator - If the two indicators suggest different transmission levels, the higher level is selected	Low Transmission Blue	Moderate Transmission Yellow	Substantial Transmission Orange	High Transmission Red
Total new cases per 100,000 persons in the past 7 days	0-9.99	10-49.99	50-99.99	≥ 100
Percentage of NAATs <sup>1</sup> that are positive during the past 7 days	0-4.99%	5-7.99%	8-9.99%	≥ 10.0%

Ottawa's goal is to be in the Moderate category\*

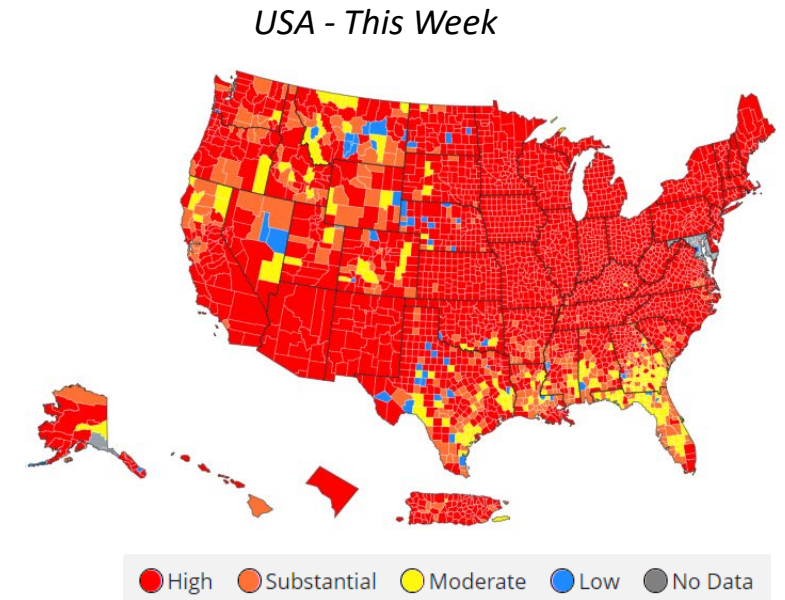
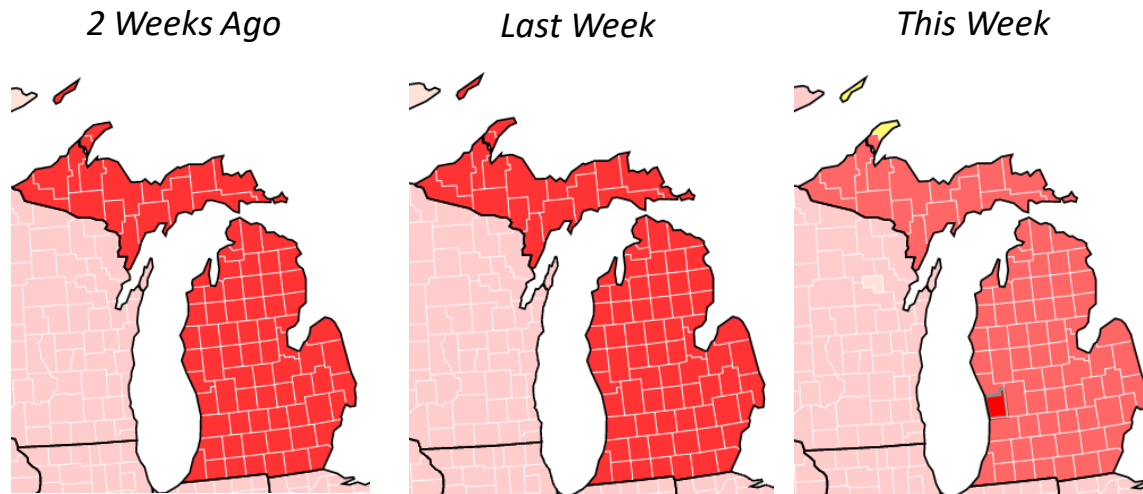
Ottawa is in the High category right now

\*After further analysis of Ottawa County case rate data, positivity data, and CDC Community Transmission Levels, on October 8, 2021 the Ottawa County Department of Public Health (OCDPH) relaxed one of the criteria that may be used to rescind the current school mask order. The criterion that set a threshold of a CDC Community Transmission Level of Low for 7 consecutive days was changed to a threshold of Moderate for 14 consecutive days.

Source: <https://covid.cdc.gov/covid-data-tracker/#county-view>

# CDC Community Transmission Risk Levels – Ottawa County

- Current Risk Level in Ottawa – **HIGH** (for last **18+** weeks)
- Current Data:
  - Positivity = 16.54%
  - Case Rate = 350.20 cases per week per 100,000



Data through December 18, 2021 for positivity and December 20, 2021 for case rates

Source: <https://covid.cdc.gov/covid-data-tracker/#county-view>

# COVID-19 Case Rates by County Across the US

Last Week

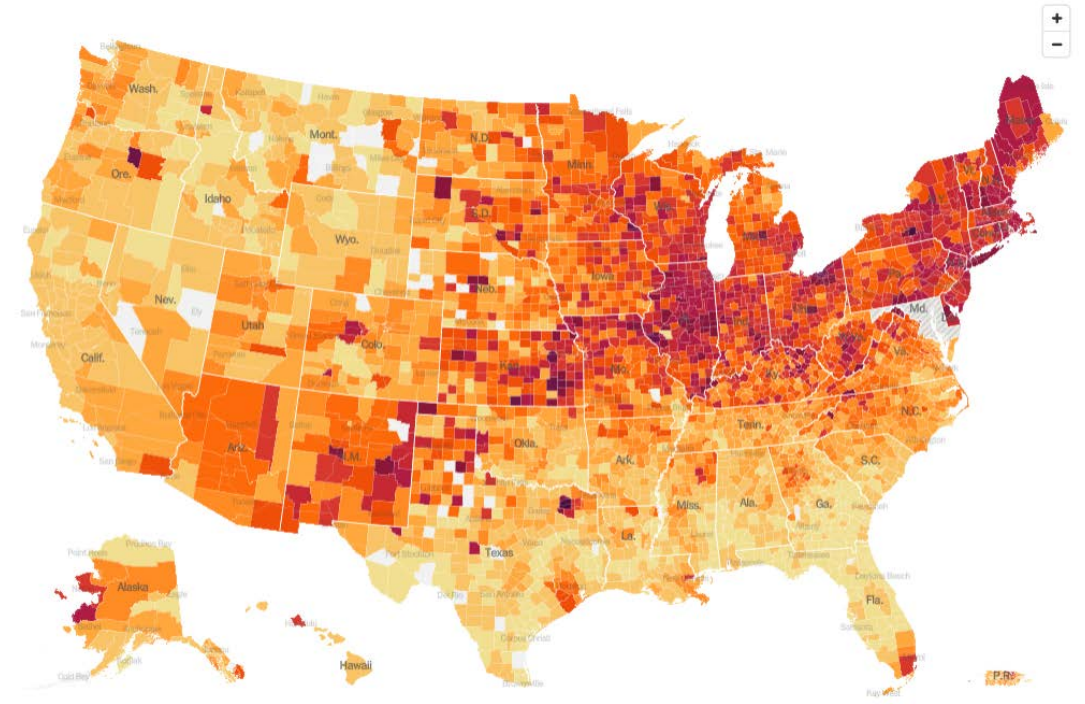
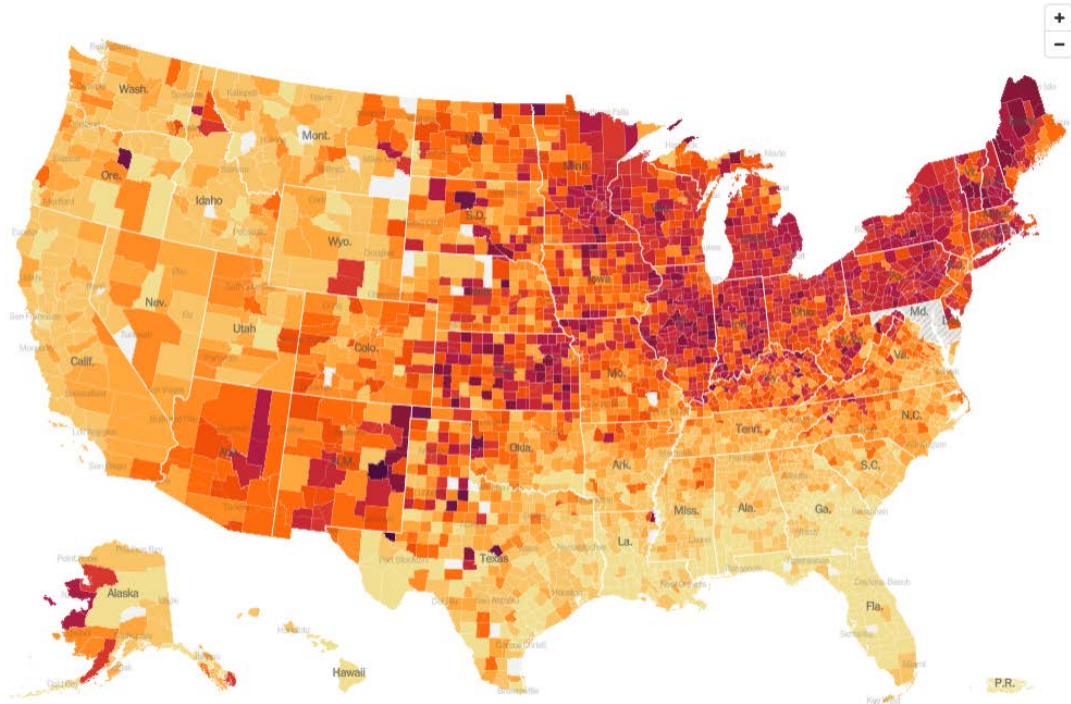
This Week

Hot spots

Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK  
10 30 50 70 100 250  
FEW OR MISSING NO CASES DATA

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK  
10 30 50 70 100 250  
FEW OR MISSING NO CASES DATA



Case rates may be worsening in some areas of the deep South after a period of substantial improvement. Case rates in western states, the Midwest, and New England may be seeing some improvement. Michigan continues to display high case rates, but is starting to see improvement.

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

Accessed December 22, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

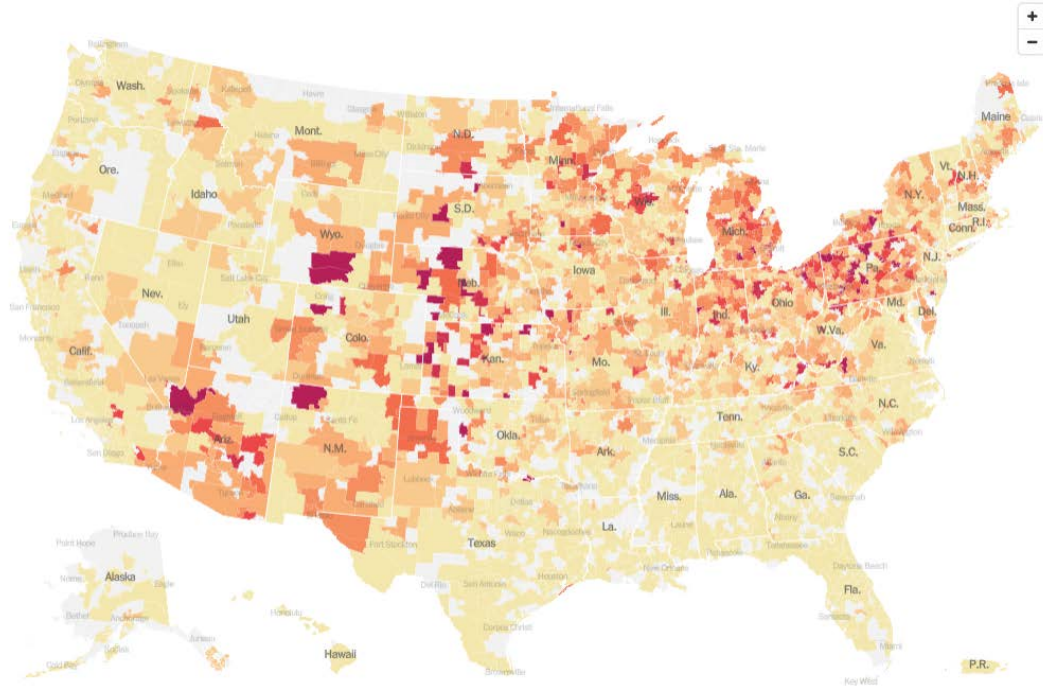
Media

Science Roundup

# COVID-19 Hospitalization Rates by County Across the US

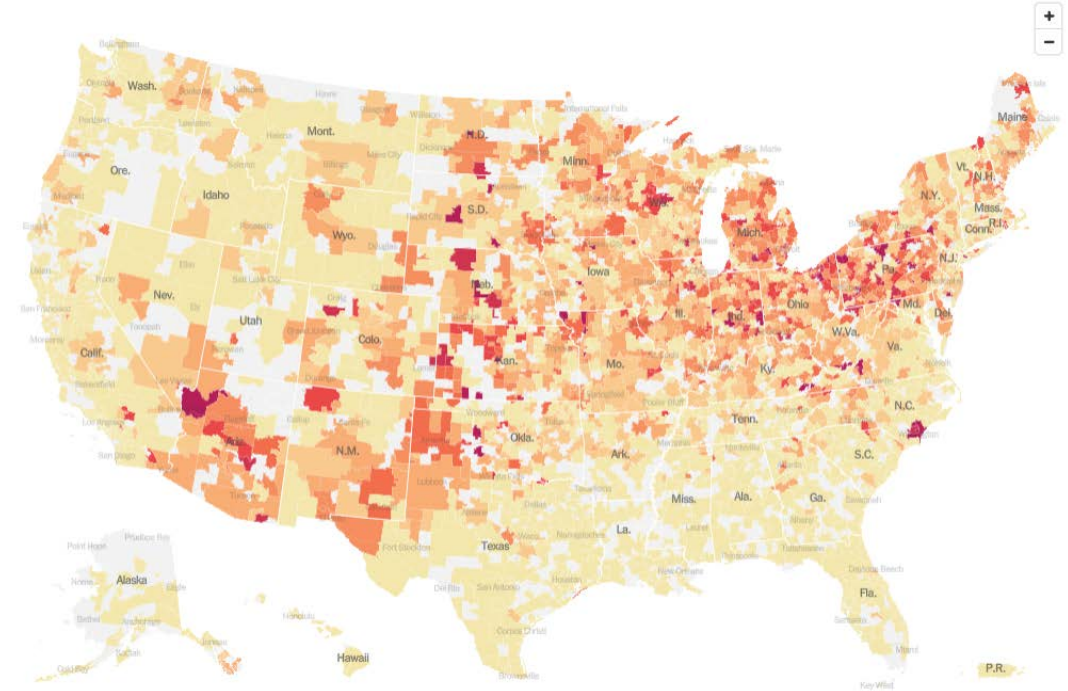
Last Week

Current hospitalizations



This Week

Current hospitalizations



Hospitalization rates remain lower in the South, while some western and midwestern states are experiencing elevated hospitalization rates. Pennsylvania continues showing high hospitalization rates. Michigan continues to experience elevated hospitalization rates this week.

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

Accessed December 22, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

# States and Michigan Counties with School Masking Requirements

- **States/Districts (18):** California, Connecticut, Delaware, Hawaii, Illinois, Louisiana, Maryland, Massachusetts, New Mexico, New Jersey, New York, Nevada, Oregon, Pennsylvania, Rhode Island, Virginia, Washington, & Washington D.C.
- **Michigan Counties (15):**
  - **PreK/K-6:** Kalamazoo, Kent, Marquette, Ottawa
  - **K-12:** Antrim, Benzie, Charlevoix, Emmet, Genesee, Ingham, Leelanau, Oakland, Otsego, Washtenaw, and Wayne
- **Rescinded County Mask Mandates (6):**
  - Allegan, Barry, Berrien, Eaton, Iron, Dickinson

**Notes:** List may not be comprehensive; because children aged 5-11 years are now eligible for vaccination, Ottawa and Kent County's PreK-6 mask mandate is scheduled for rescinding on January 2, 2022. Kalamazoo County plans to rescind their school mask order on December 17 and Genesee County on December 22, 2021.

# COVID-19 News Headlines

## Hits 'keep coming': Hospitals struggle as COVID beds fill

<https://www.hollandsentinel.com/story/news/coronavirus/2021/12/20/hits-keep-coming-hospitals-struggle-covid-beds-fill/8966851002/>

## COVID cases down as districts head for winter break

<https://www.hollandsentinel.com/story/news/education/2021/12/19/covid-cases-down-districts-head-winter-break/8937147002/>

## Patients staying at hospitals longer during latest COVID-19 swell

<https://www.mlive.com/public-interest/2021/12/patients-staying-at-hospitals-longer-during-latest-covid-19-swell.html>

## Coronavirus (COVID-19) Update: FDA Authorizes First Oral Antiviral for Treatment of COVID-19

[Coronavirus \(COVID-19\) Update: FDA Authorizes First Oral Antiviral for Treatment of COVID-19 | FDA](#)



# Science Roundup

## Antibody Response and Variant Cross-Neutralization After SARS-CoV-2 Breakthrough Infection

<https://jamanetwork.com/journals/jama/fullarticle/2787447>

← Vaccine breakthrough infections may produce enhanced immunity to COVID-19.

## About Half Of Vaccinated Adults Who Aren't Boosted Say The Omicron Variant Makes Them More Likely To Do So, One In Eight Unvaccinated Adults Say Omicron Motivates Them To Get Vaccinated

<https://www.kff.org/coronavirus-covid-19/dashboard/kff-covid-19-vaccine-monitor-dashboard/#intentions>

← Although not peer-reviewed research, the Kaiser Family Foundation surveys on adults in the US can help describe current intentions. A recent survey showed that the Omicron variant may be motivating more adults to receive a booster.

## Evaluation of Test to Stay Strategy on Secondary and Tertiary Transmission of SARS-CoV-2 in K-12 Schools — Lake County, Illinois, August 9–October 29, 2021

<https://www.cdc.gov/mmwr/volumes/70/wr/mm705152e2.htm>

← A CDC published study evaluating a “test-to-stay” (TTS) strategy for school environments found that TTS allowed for many children to safely remain in school.