

Ottawa County COVID-19 Epidemiology

October 27, 2021

Data as of October 23, 2021, unless otherwise indicated

Executive Summary

- **The US is seeing a decrease in cases, while Michigan continues to increase**
- **Ottawa community transmission remains elevated**
 - Positivity remained high at 16% over the last 2 weeks. The goal is to be less than 8%*.
 - Weekly case counts in Ottawa decreased 12%, from 965 two weeks ago to 852 last week.
 - Cases among children decreased about 18%, from 200 two weeks ago to 165 last week.
- **Ottawa area and regional hospitals continue to see many COVID-19 patients**
 - In Ottawa County, 12% of all available beds are occupied by COVID-19 patients.**
 - About 18% of Ottawa County ICU beds are occupied by COVID-19 patients.**
 - Weekly hospital census for children with COVID-19 in recent weeks have reached levels seen only two other times through the pandemic (December 2020 & April 2021). Though still slightly elevated, pediatric hospitalizations were stable over the last 2 weeks.
 - Staffing remains a challenge for many health systems.
- **Pediatric hospitalizations across the US are improving, but some areas continue to see high hospitalization rates in children, including states in the Midwest**
- **Nearly 62% of eligible Ottawa County residents are completely vaccinated**

*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.

**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.

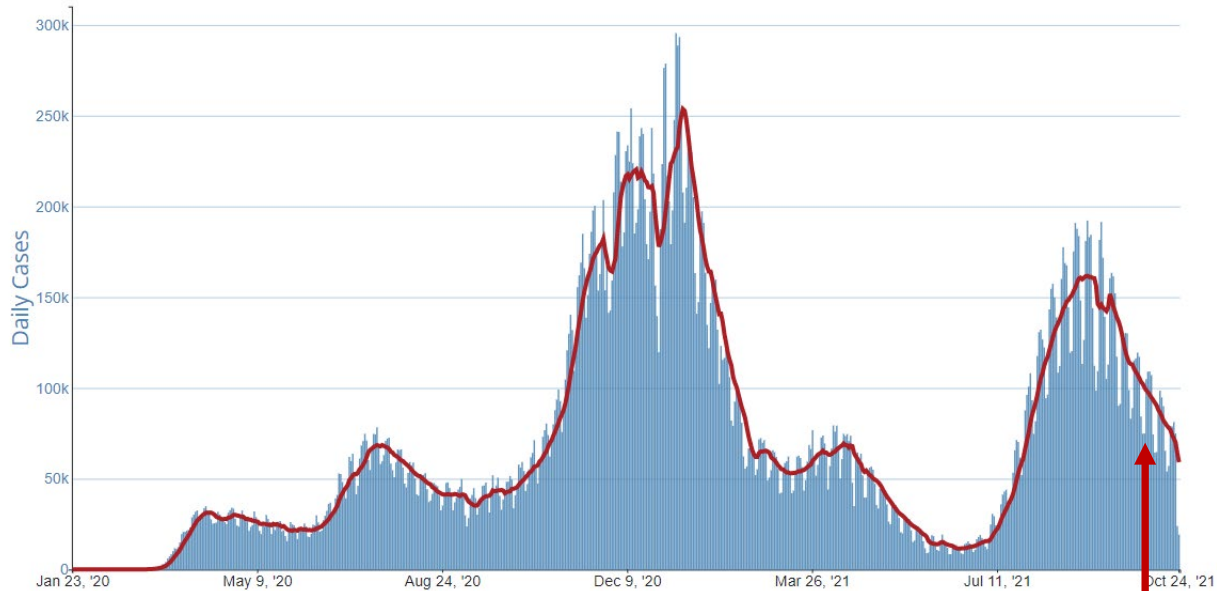
Ottawa County Metrics by Week

Metric	Goal	Week Ending				
		25-Sep-21	2-Oct-21	9-Oct-21	16-Oct-21	23-Oct-21
Positivity (All Ages)	<8%	11.0%	12.0%	14.0%	16.0%	16.0%
Weekly Cases (All Ages)	<147	769	744	912	965	852
Weekly Cases in Children (0-17 years of age)	NA	149	136	198	200	165
Total COVID-19 Hospitalizations (All Ages)	0	19	19	24	31	23
Total Deaths (All Ages)	0	4	8	8	9	6
CDC Risk Transmission Level	Moderate	High	High	High	High	High

Case Trends in the USA and Michigan

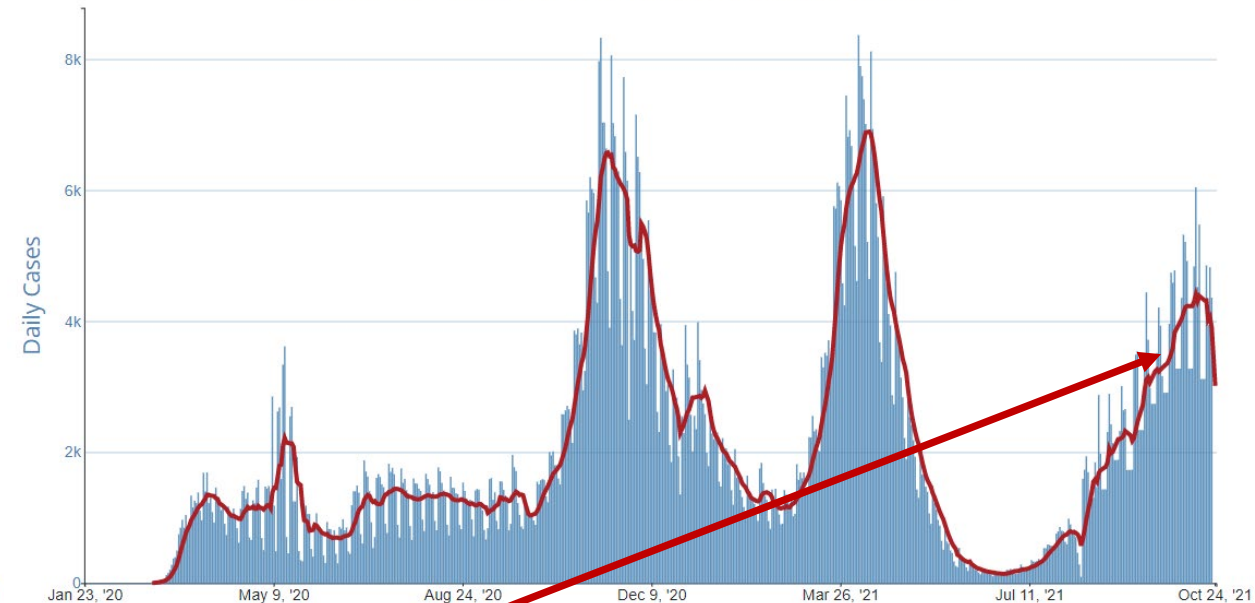
USA

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

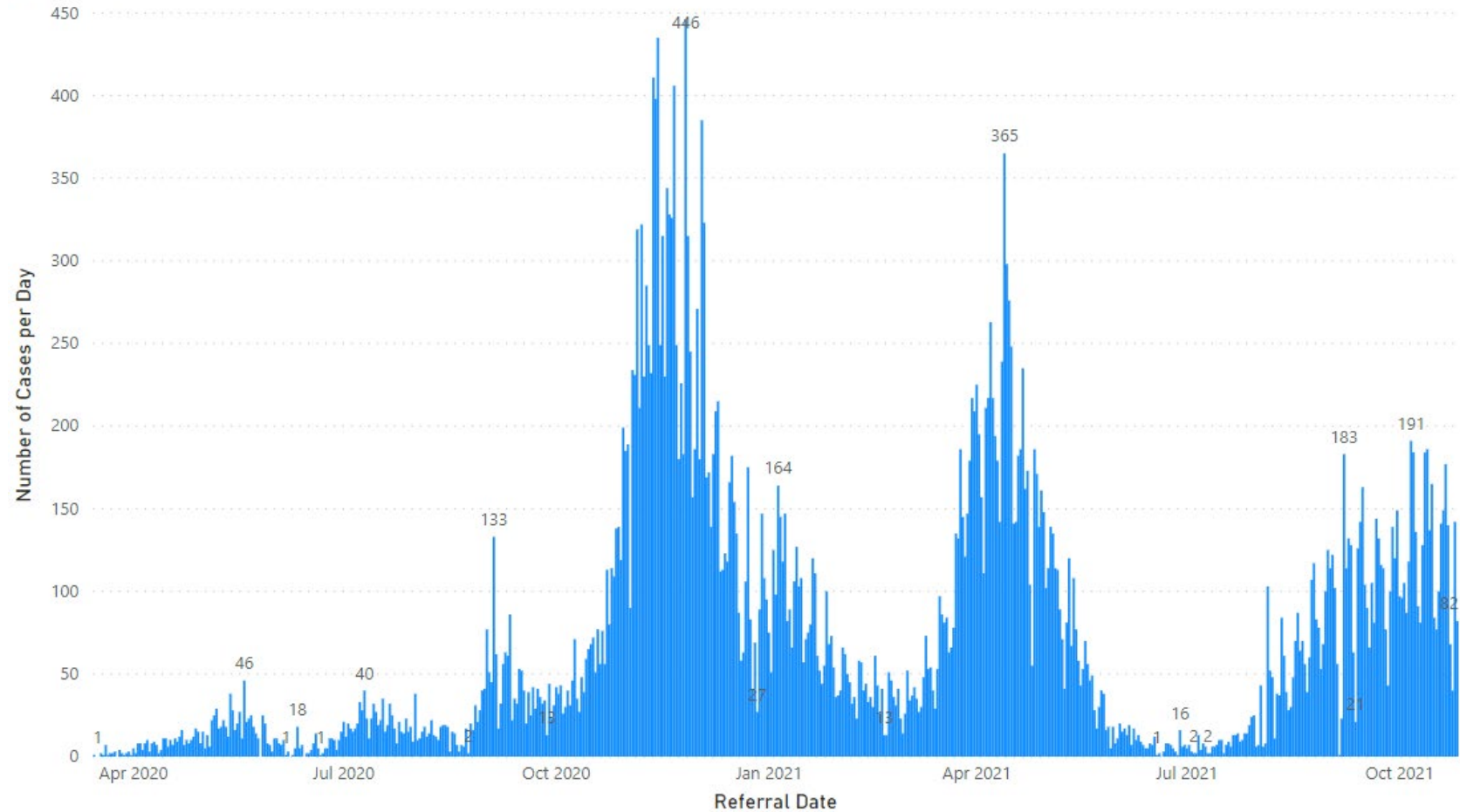


The US is decreasing while Michigan continues trending up.

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – October 19, 2021

Epidemiological Curve



Total Number of Cases
41,301

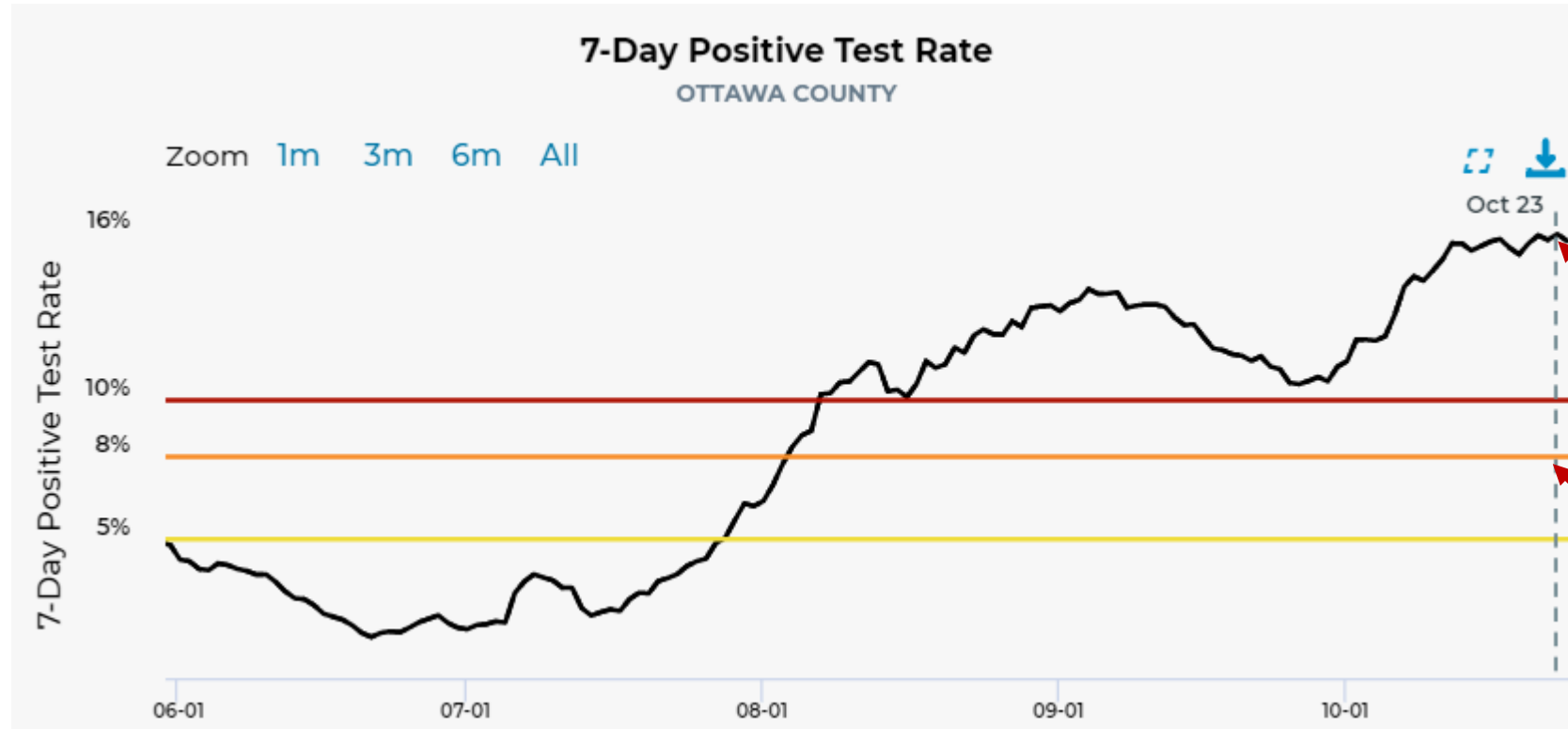
Currently the 7-day average is **114 cases per day**, similar to the 113 cases per day seen at a similar time last week. From week to week, cases decreased by almost 12% through the last 2 full weeks.

Note: Through the Fall of 2021, reports from local stores of a large grocery chain and a national pharmacy chain indicate that supplies of at-home COVID-19 tests are sold out in 1-2 days, suggesting high demand. 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, OCDPH has received reports of parents refusing COVID-19 testing for their children ill with respiratory symptoms, which may further deflate case data.

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 – October 23, 2021



Test positivity remained at 16% as of October 23, 2021.

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

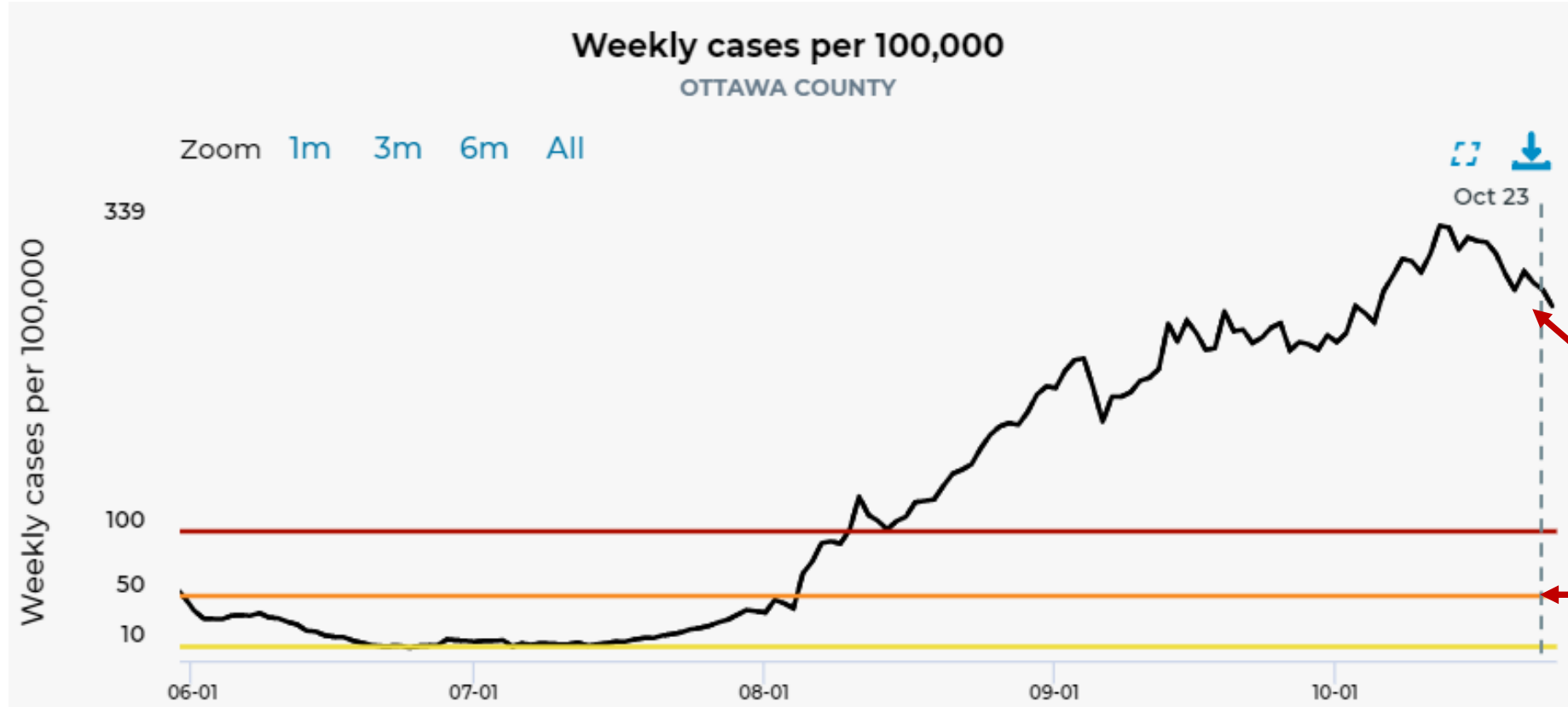


Note: Testing in Ottawa County has increased since mid-July 2021: [Testing Results | Ottawa County Covid-19 Case Summary Data \(arcgis.com\)](https://www.mistartmap.info/cdc-indicators?area=county%3Aottawa)

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

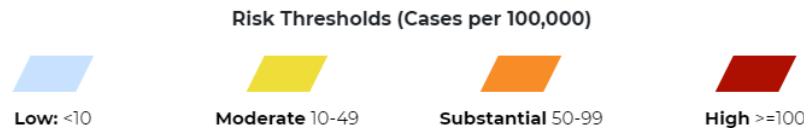
Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, June 1, 2021 – October 23, 2021



Case rates decreased over the last week from 330 to 290 cases per week per 100,000 population.

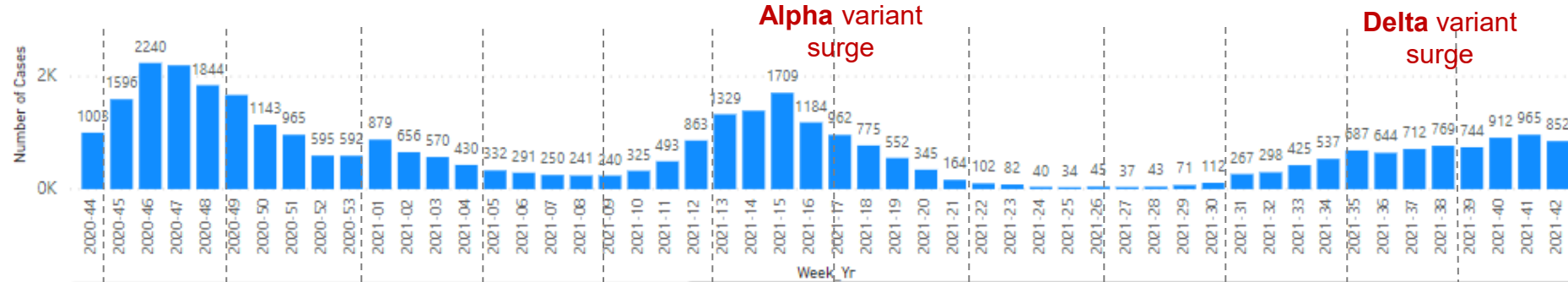
The goal is to have less than 50 cases per week per 100,000 population. In Ottawa County, this would be about 21 cases per day or less.



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

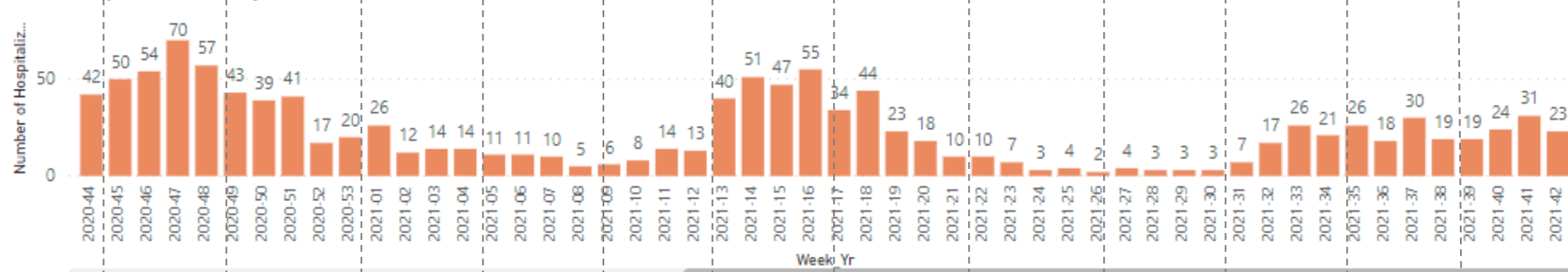
Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



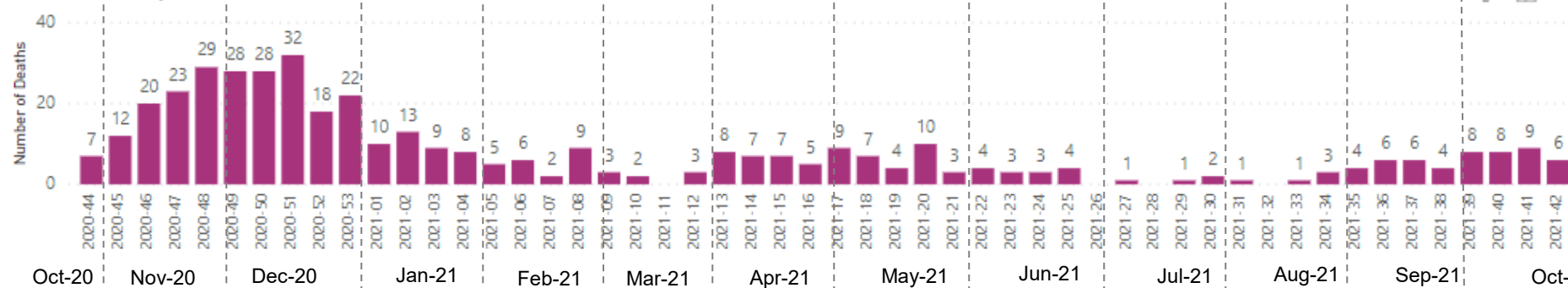
The weekly number of **cases** decreased 12% last week.

New Hospitalizations by Week of Admission



The weekly number of **hospitalizations** has been relatively stable with an average of about **24 cases hospitalized** each week over the last month.

New Deaths by Week of Death



Weekly COVID-19 **deaths** remain lower than previous waves. Current weekly average of deaths over the last 4 weeks stands at roughly **8 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.

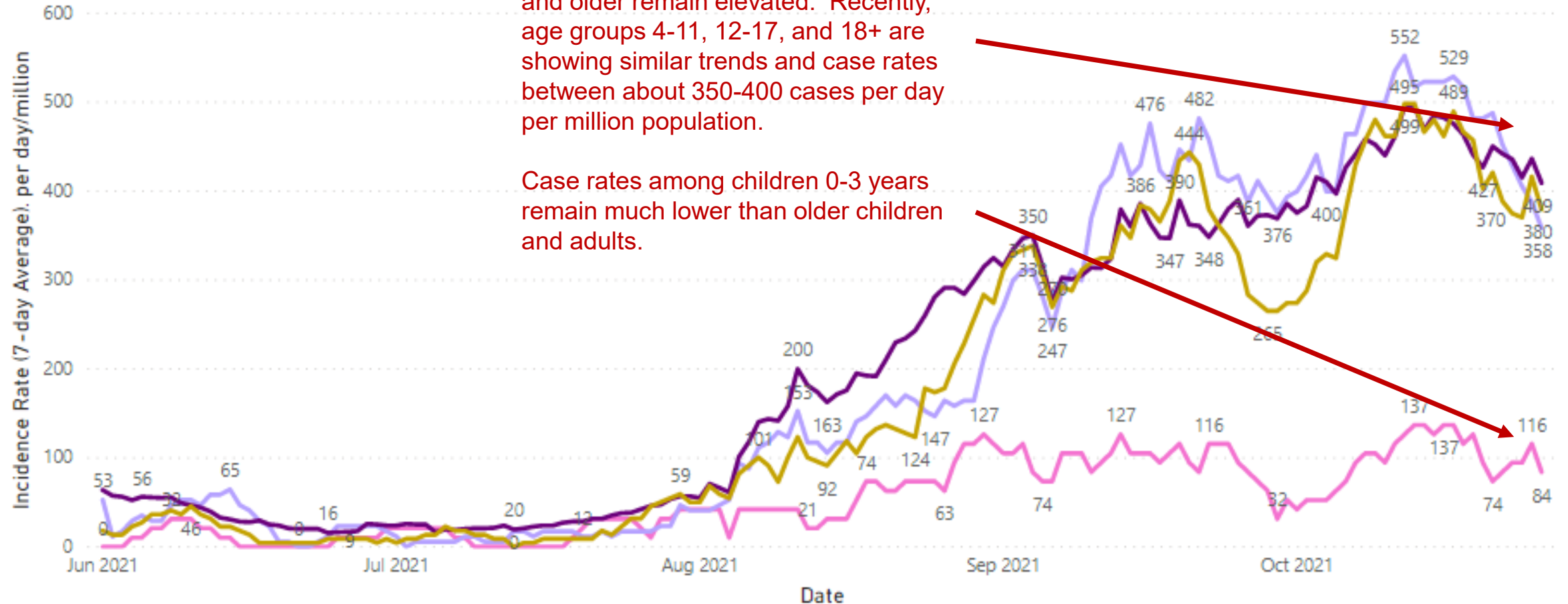
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age

COVID-19 Case Rates by Age, includes School-Aged, June 2021 – October 26, 2021

Incidence Rate (7-day Average)

ategroup ● 0-3 ● 12-17 ● 18+ ● 4-11



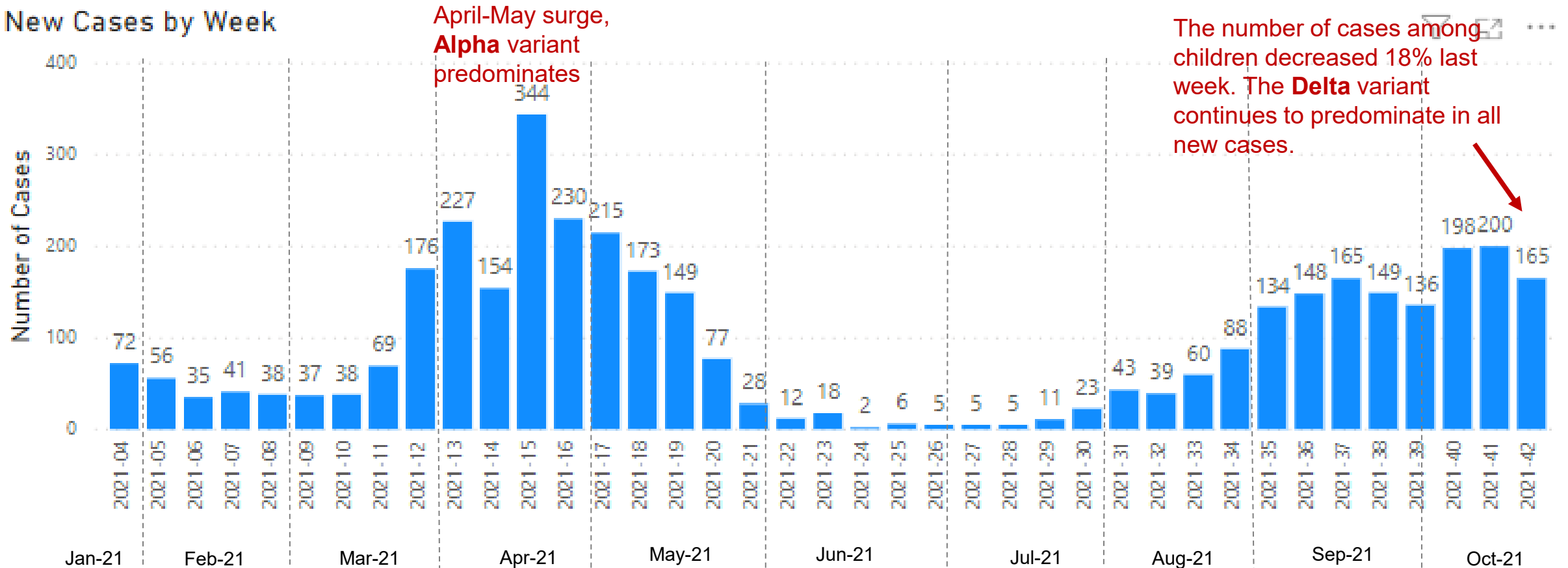
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of October 26, 2021

Ottawa County Weekly Case Counts – Children (0-17)

COVID-19 Cases Among Minors (0-17 years), by Week, January 2021 – October 23, 2021

New Cases by Week



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%	198	46%	912	23%
16-Oct-21	765	7%	200	1%	965	6%
23-Oct-21	687	-10%	165	-18%	852	-12%

Adults

Children

Weekly case counts among children decreased 18% last week, and cases in adults decreased 10%.

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

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

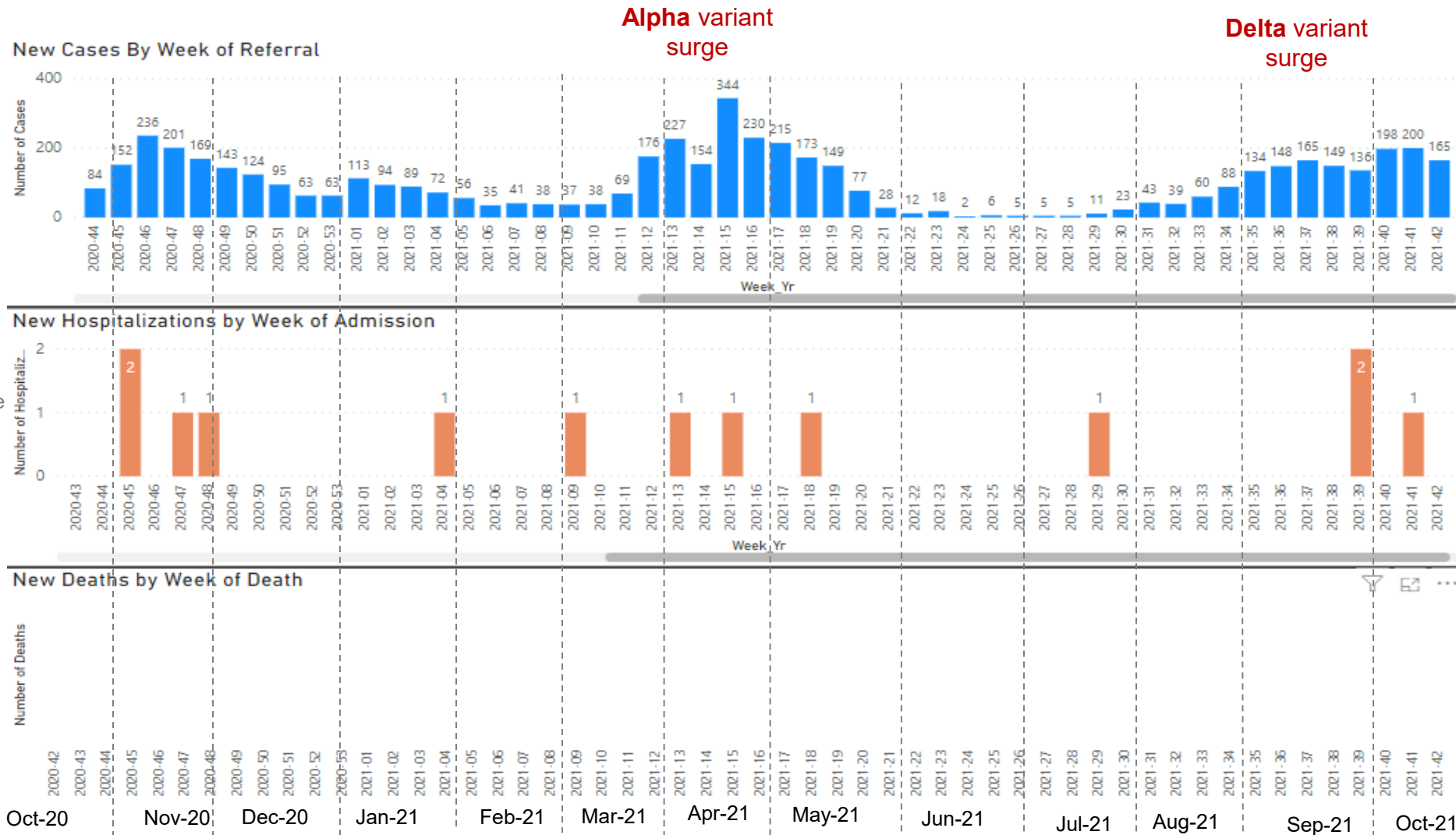
Risk Levels

Other

Media

Science Roundup

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



The weekly number of cases among children decreased 18% in the last 2 full weeks.

Hospitalizations are likely **underestimated** because:

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

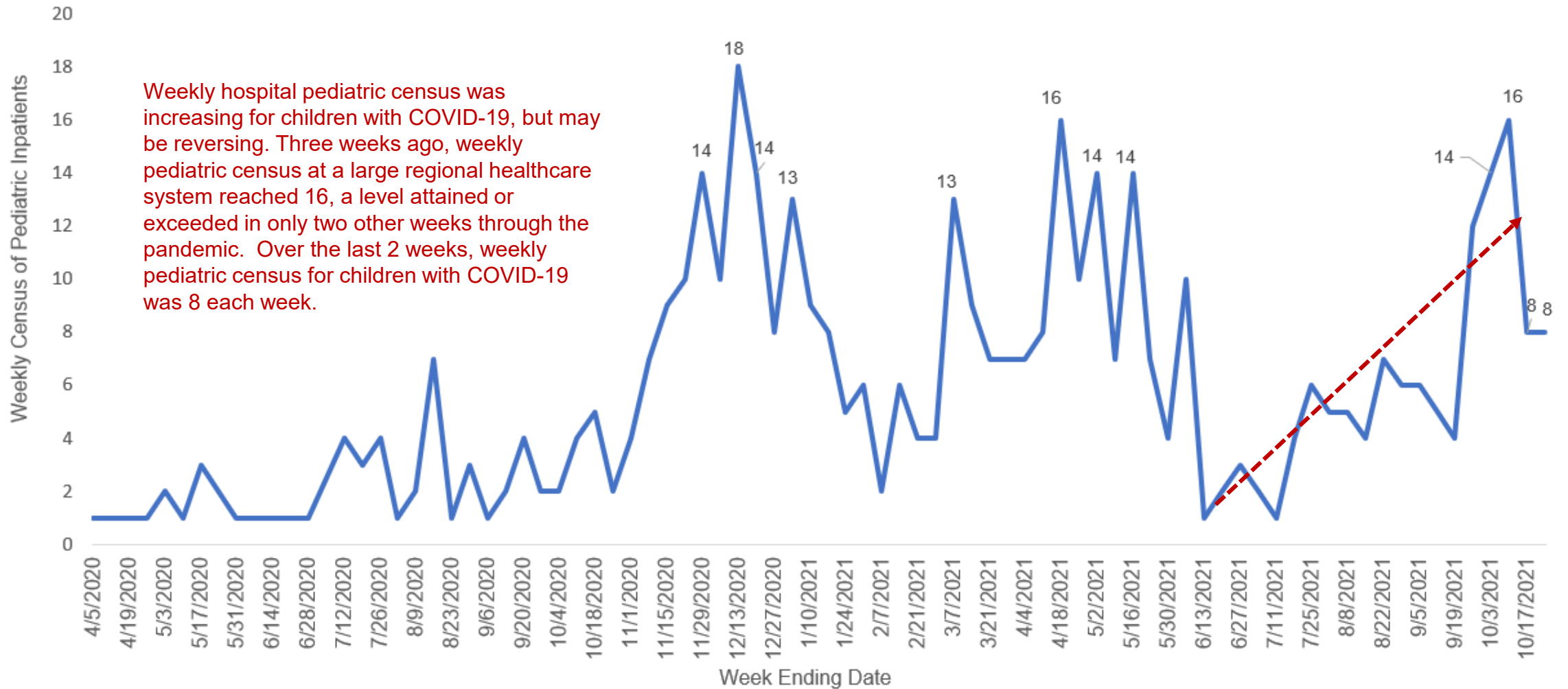
Through the 2020-2021 school year nearly all school-aged children were in environments with:

- 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

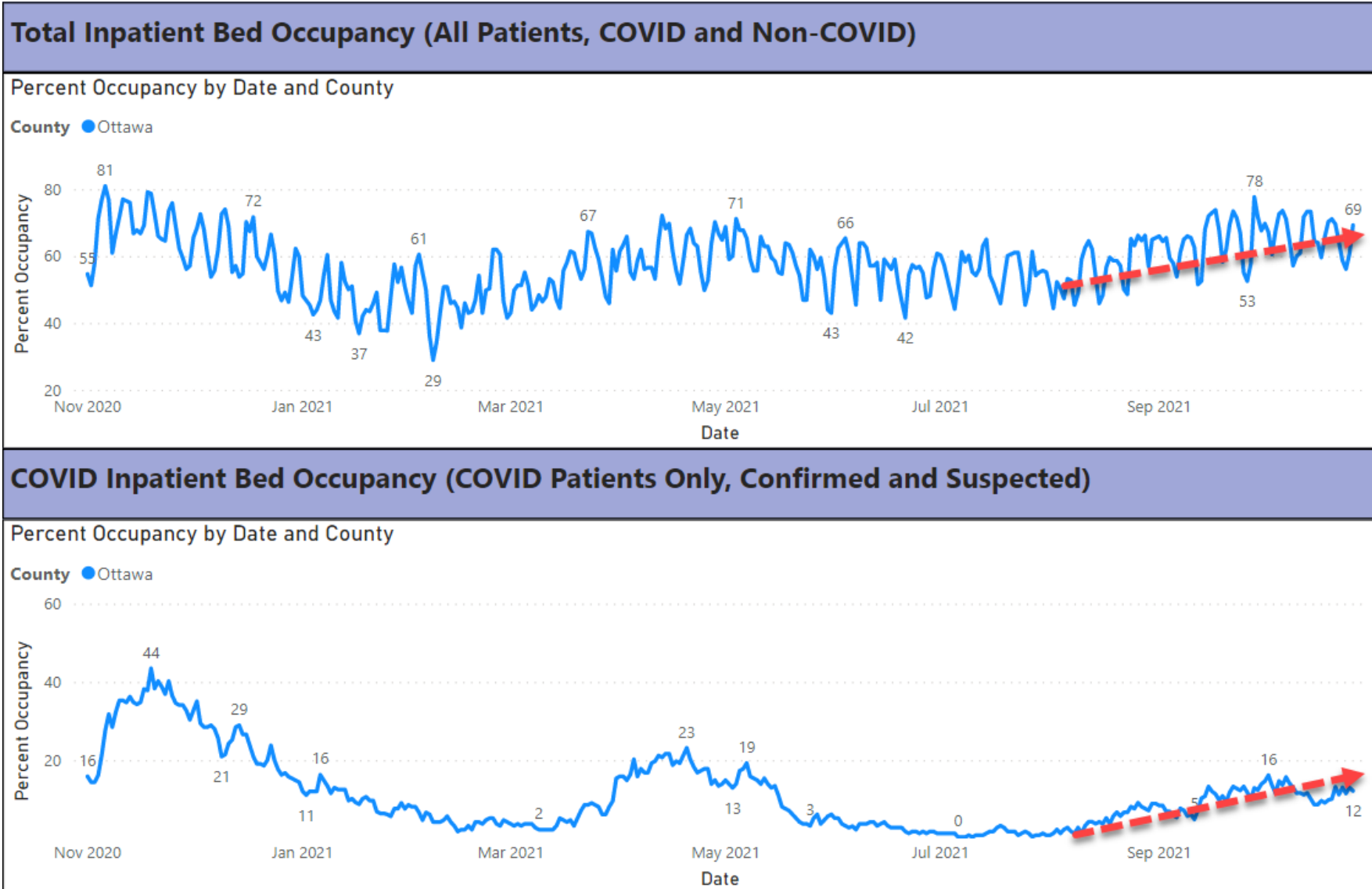
Weekly Hospital Pediatric Census – A Regional Healthcare System



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.

Data through October 17, 2021

Ottawa County Hospital Capacity – All Beds



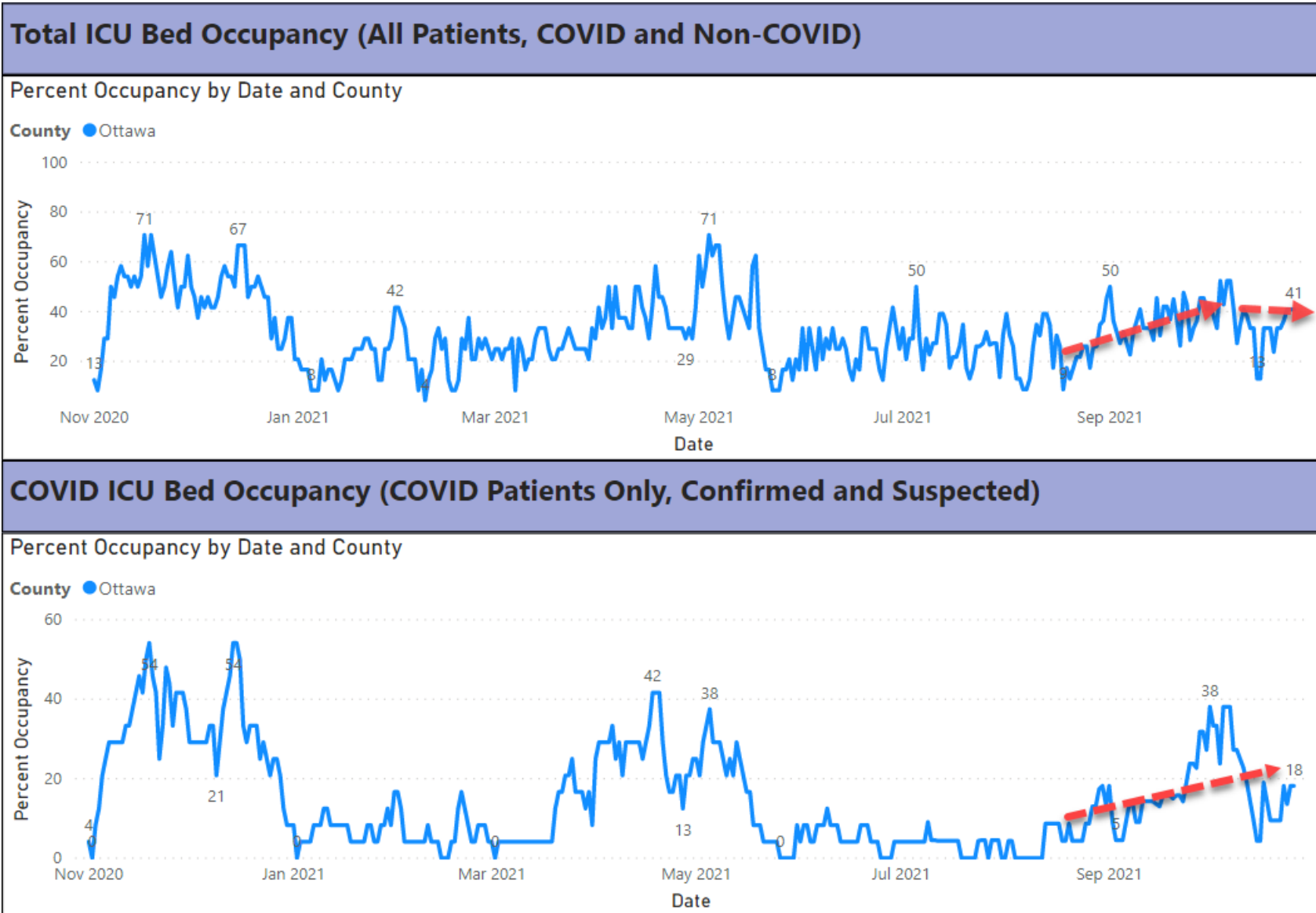
Total hospital bed occupancy is increasing, though the proportion of beds occupied by COVID-19 patients may be plateauing.

Currently 12% of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through October 19, 2021

Ottawa County Hospital Capacity – ICU Beds



Overall ICU bed occupancy **may be plateauing**.

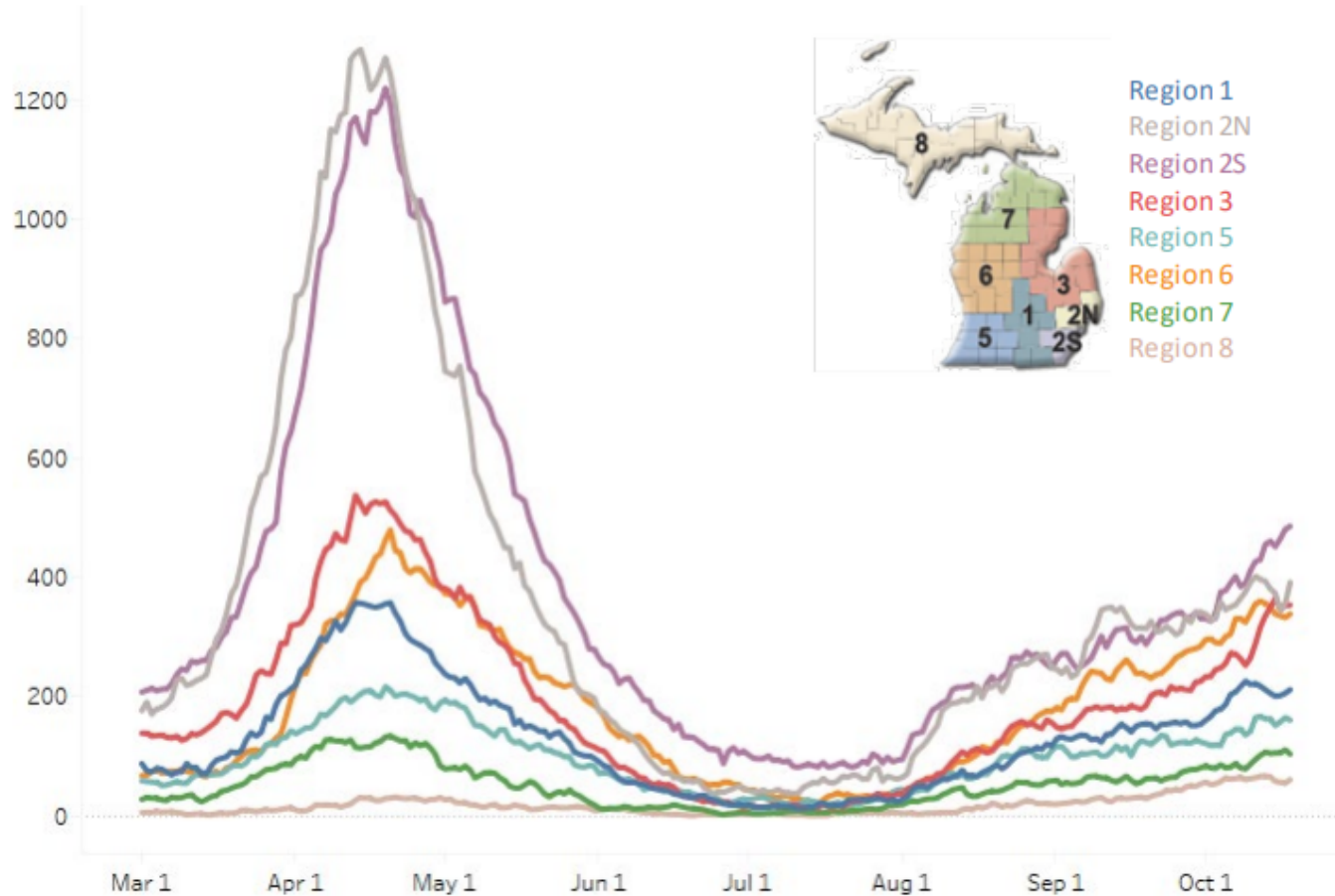
Though lower than the census reported 2 weeks ago, the proportion of ICU beds occupied by COVID patients is **increasing, currently 18%**.

Source: EMResources

Data through October 19, 2021

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 10/18/2021
Confirmed Positive by Region



The census of COVID+ patients has increased in 3 regions and decreased slightly in the other regions of the state. Regions 2S and 3 show the largest increases this week.

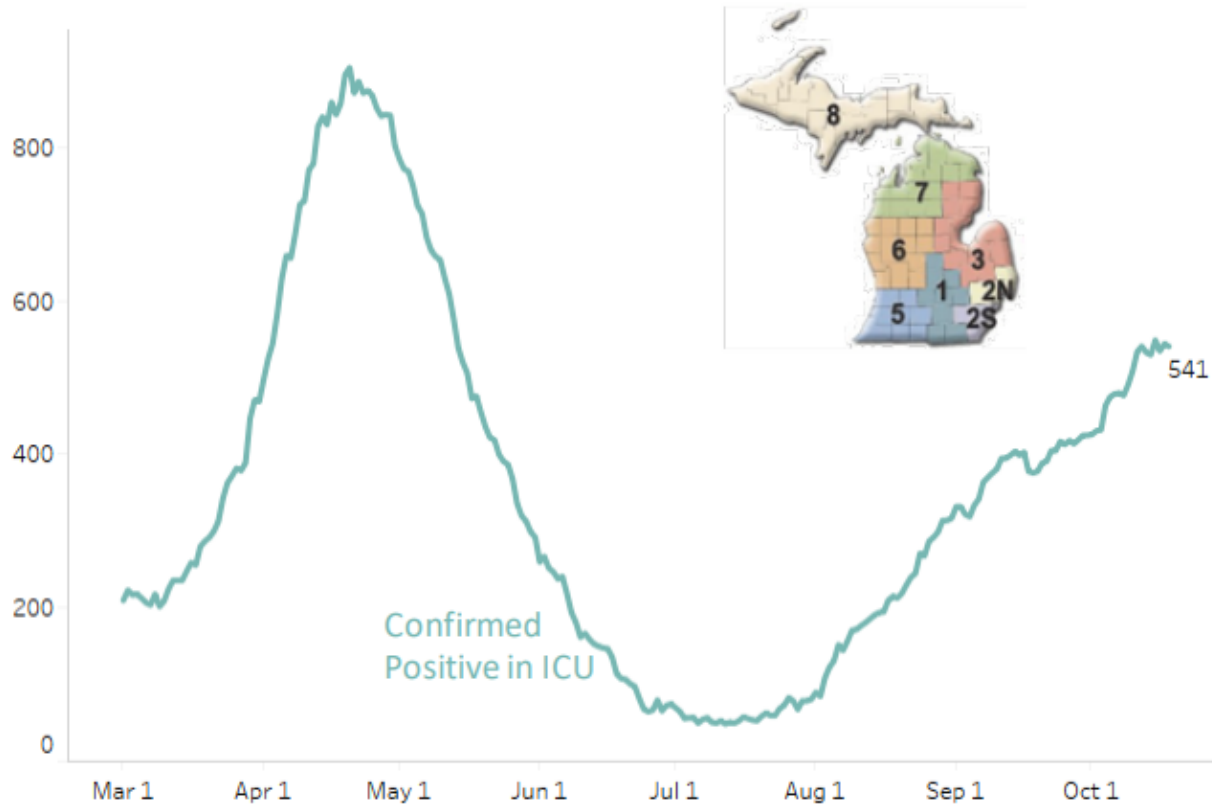
Regions 3 is over 300/M population hospitalized and Regions 2S, 6 and 7 have greater than 200 hospitalizations/M.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	211 (-5%)	195/M
Region 2N	391 (-2%)	177/M
Region 2S	485 (14%)	218/M
Region 3	353 (23%)	311/M
Region 5	160 (-2%)	168/M
Region 6	338 (-5%)	230/M
Region 7	103 (10%)	206/M
Region 8	60 (-5%)	193/M

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211019_Data_and_modeling_update_vMEDIA_738881_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 10/18/2021
Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs is flat from last week. ICU census in Regions 2S, 3, 5, and 7 has increased from last week.

Regions 1, 2S, and 3 have overall adult ICU occupancy greater than or equal to 85%.

Regions 6 and 7 have >35% of 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	54 (-4%)	89%	29%
Region 2N	95 (0%)	72%	17%
Region 2S	123 (6%)	85%	18%
Region 3	82 (4%)	93%	24%
Region 5	36 (9%)	72%	19%
Region 6	81 (-10%)	79%	36%
Region 7	53 (18%)	82%	38%
Region 8	17 (-15%)	65%	27%

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211019_Data_and_modeling_update_vMEDIA_738881_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan

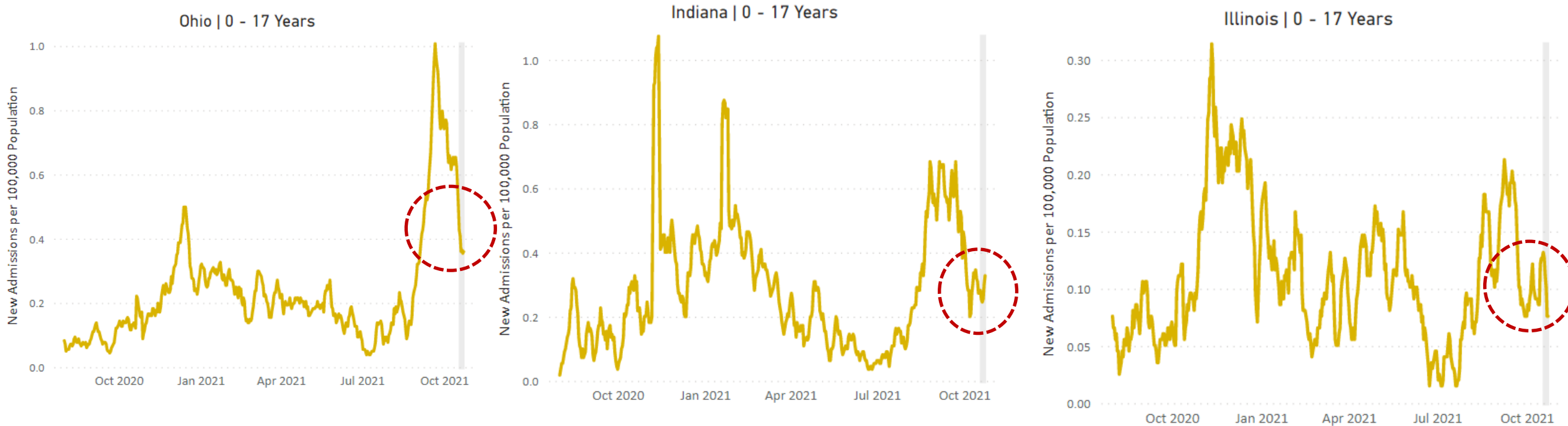


Pediatric hospitalization rates across the United States and most southern states (such as Georgia) have decreased substantially. Michigan pediatric hospitalization rates continue to increase.

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

Accessed October 25, 2021

Pediatric Hospitalization Rates – Select Midwest States

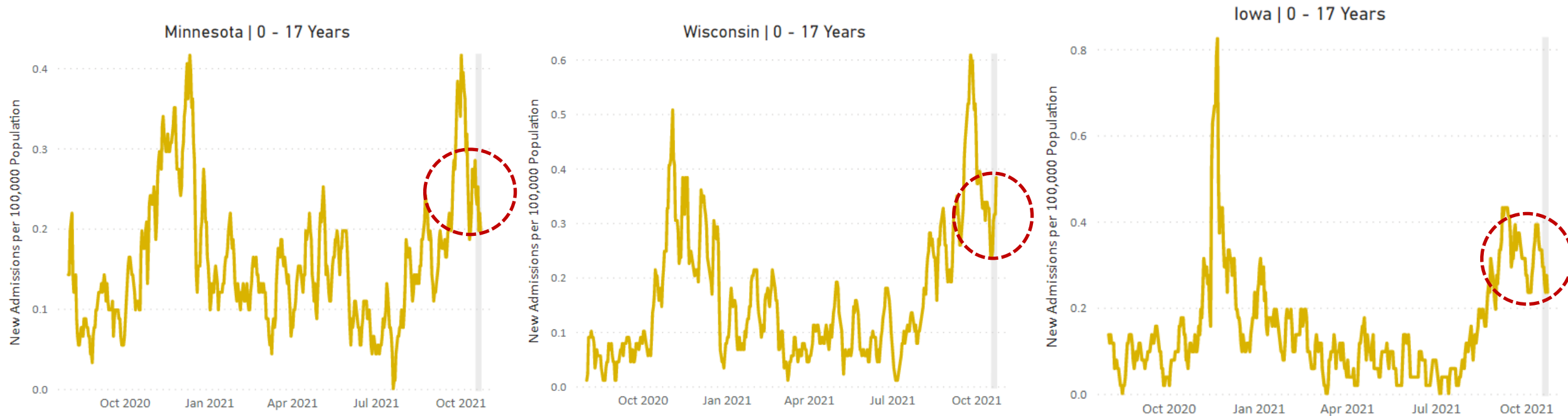


Pediatric hospitalization rates in some states across the Midwest are elevated. Ohio remains higher than usual but continues showing improvement. Indiana and Illinois pediatric hospitalization rates have reversed from recent surges and are tracking sideways.

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

Accessed October 25, 2021

Pediatric Hospitalization Rates – Select Midwest States

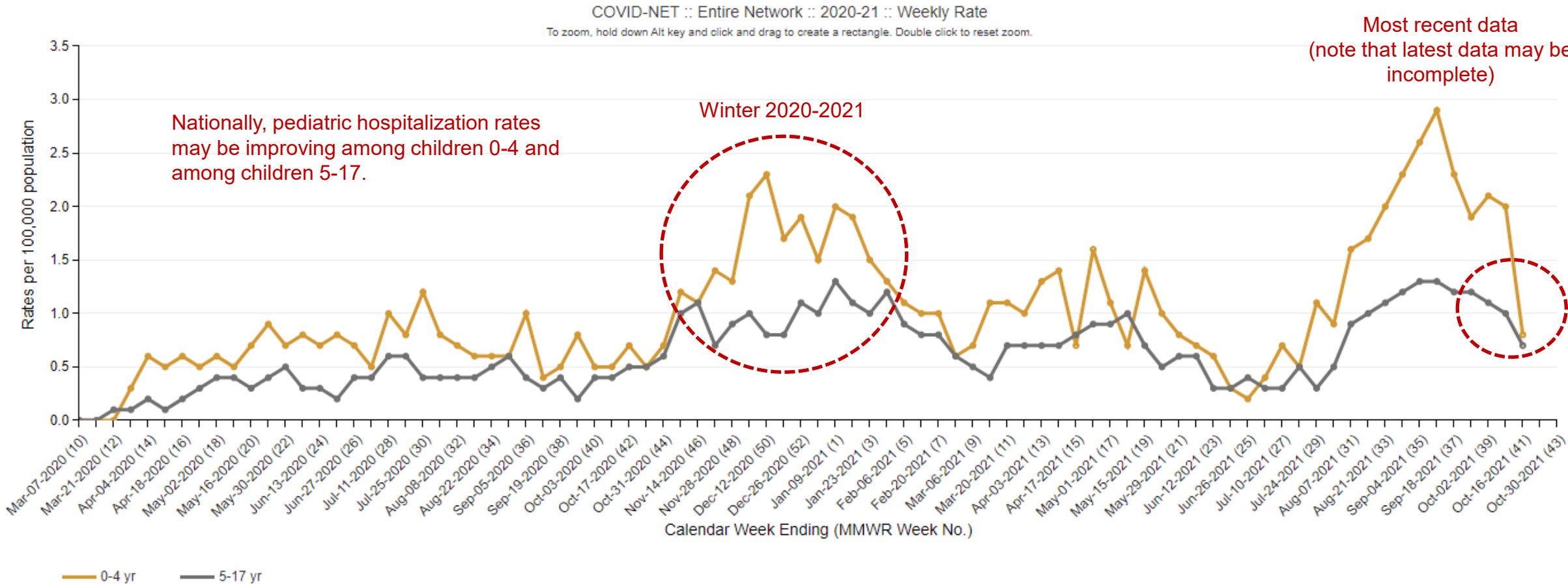


Pediatric hospitalization rates in Minnesota, Wisconsin, and Iowa remain elevated.

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

Accessed October 25, 2021

Pediatric Hospitalization Rates by Age Group – USA

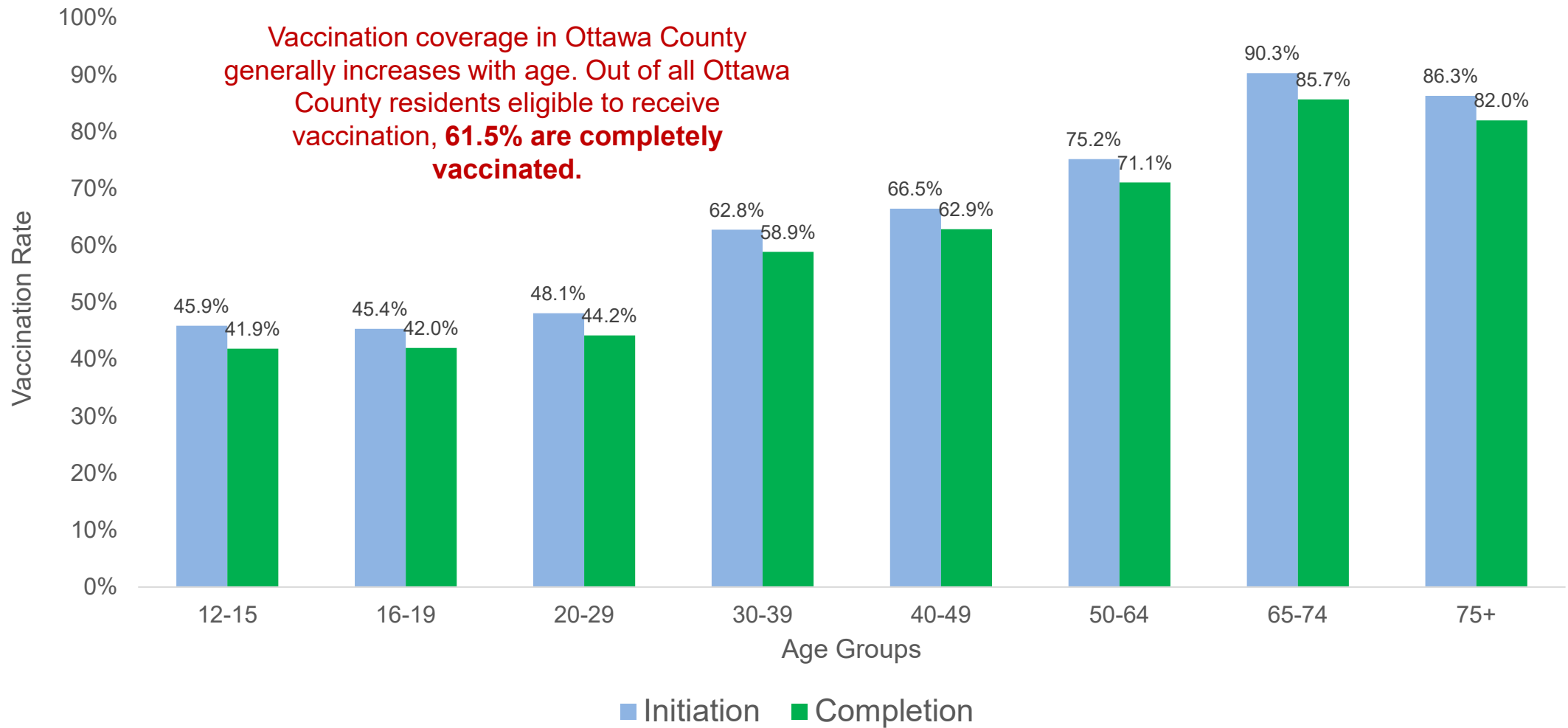


The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. As data are received each 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 October 25, 2021

Vaccination Coverage by Age



Note: The previously posted vaccination rate goal of 70% was removed from this illustration. As more transmissible COVID-19 variants emerge, vaccination rates higher than 70% are likely needed to slow COVID-19 transmission in the community.

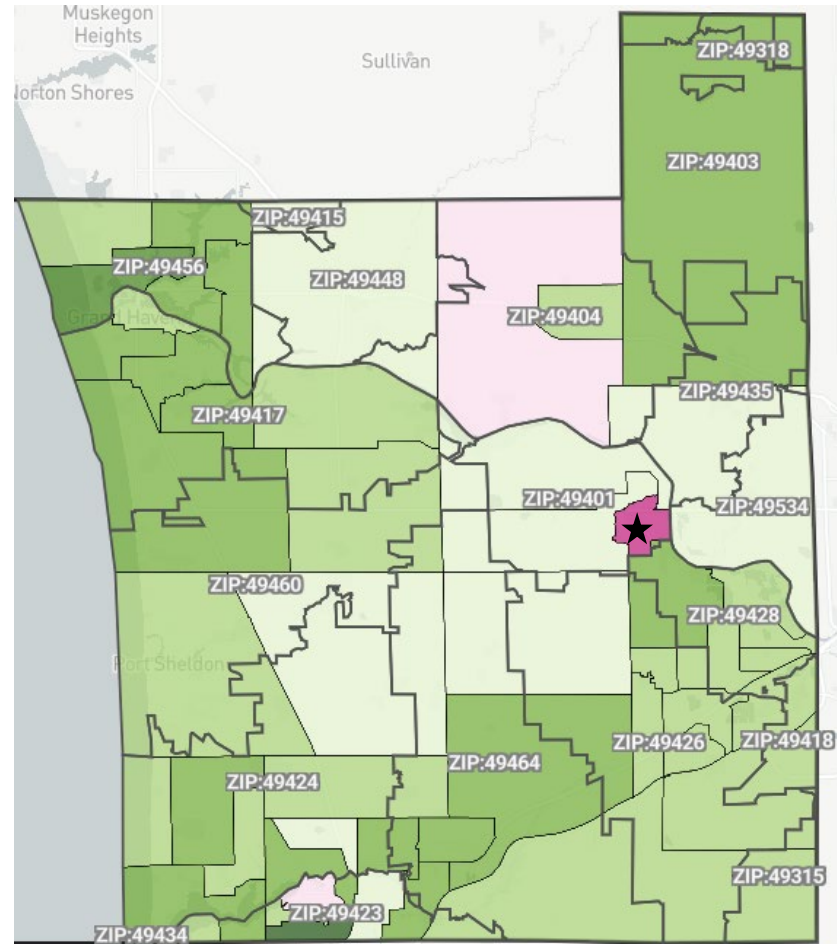
Source: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Data through October 23, 2021

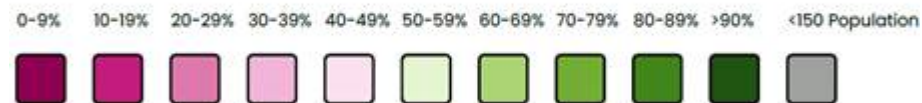
Vaccination Coverage by Place of Residence

Fully vaccinated: % Ages 16+ years

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



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



★ 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 – October 23, 2021

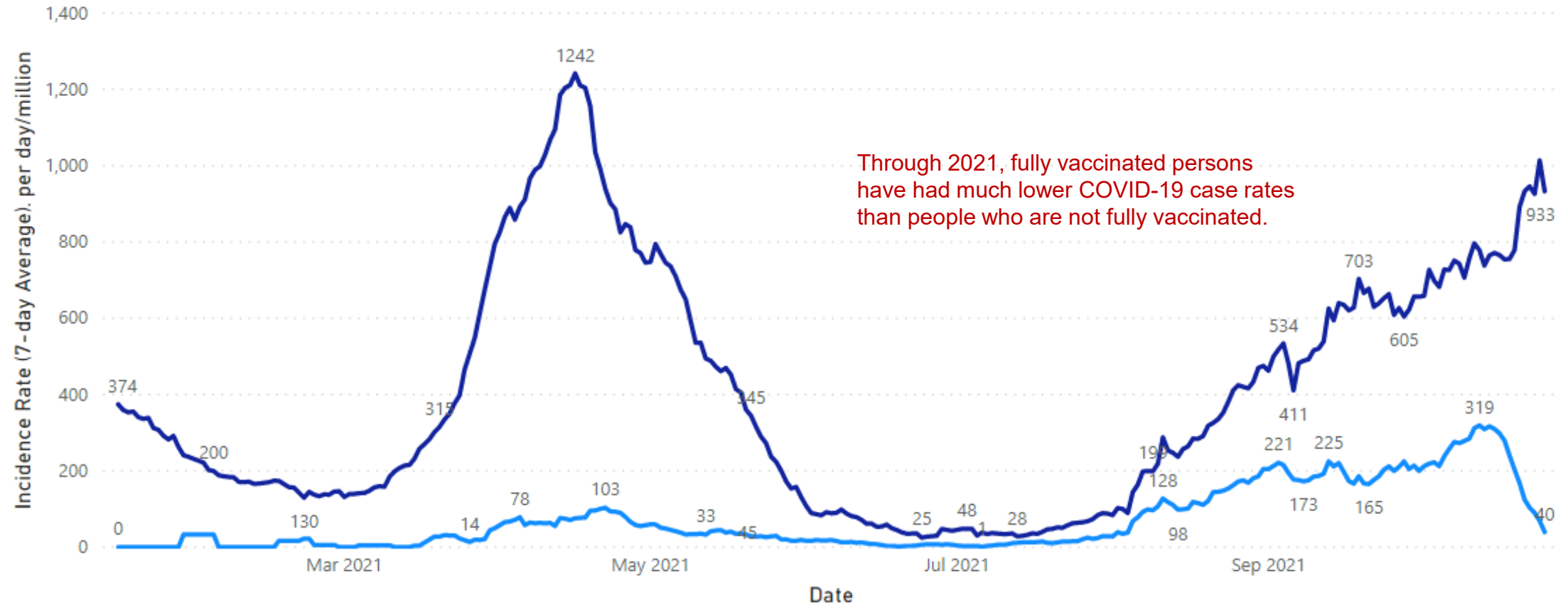
Fully Vaccinated People (151,356)		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (18,352 / 20,990) 87.4%	Percent of Hospitalizations in People Not Fully Vaccinated (615 / 739) 83.2%	Percent of Deaths in People Not Fully Vaccinated (126 / 159) 79.2%
Total Cases Not Fully Vaccinated 18,352	Total Hospitalized Not Fully Vaccinated 615	Total Deaths Not Fully Vaccinated 126
Total Breakthrough Cases 2,638	Total Breakthrough Hospitalizations 124	Total Breakthrough Deaths 33
Percent of Fully Vaccinated People who Developed COVID-19 (2,638 / 151,356) 1.743%	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (124 / 151,356) 0.082%	Percent of Fully Vaccinated People who Died of COVID-19 (33 / 151,356) 0.022%
Percent of Cases who were Fully Vaccinated (2,638 / 20,990) 12.6%	Percent of Hospitalizations who were Fully Vaccinated (124 / 739) 16.8%	Percent of Deaths who were Fully Vaccinated (33 / 159) 20.8%
Total Cases 20,990	Total Hospitalizations 739	Total Deaths 159

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

Ottawa County COVID-19 Vaccination Breakthrough Case Trends

Incidence Rate (7-day Average)

rategroup ● Fully Vaccinated ● Not Fully Vaccinated



Through 2021, fully vaccinated persons have had much lower COVID-19 case rates than people who are not 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.

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

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

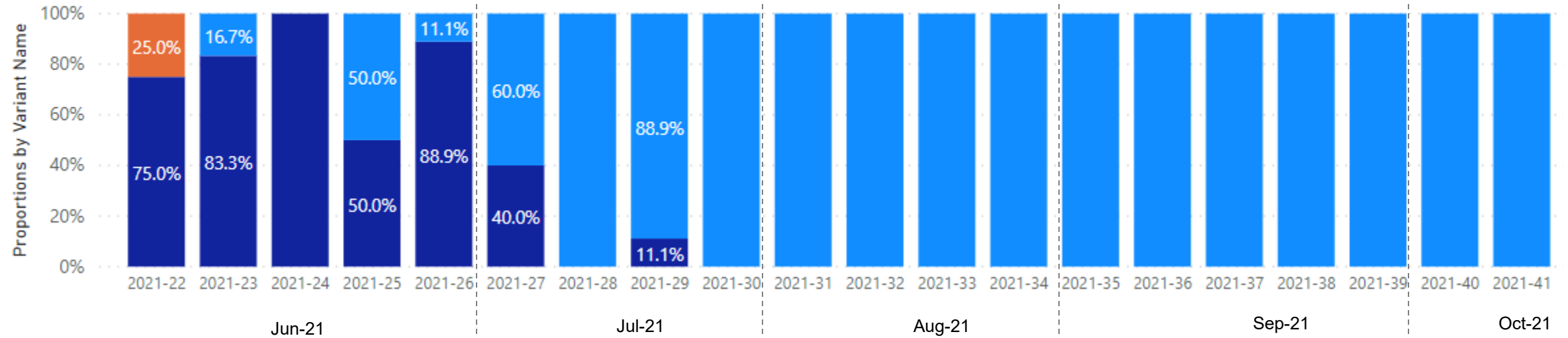
Media

Science Roundup

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.

* 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 – Wastewater Sampling – Holland/Zeeland

Sample Date	Site	Wuhan (parental)	Alpha	Beta	Gamma	Delta	Epsilon
8/2/2021	North Holland	Y	N	Y	N	N	N
8/3/2021	Zeeland	N	N	N	N	Y	N
8/5/2021	North Holland	N	N	N	N	Y	Y
8/6/2021	Zeeland	N	N	N	N	Y	Y
8/9/2021	North Holland	N	N	N	N	N	N
8/10/2021	Zeeland	N	N	N	N	Y	N
8/12/2021	North Holland	N	N	N	N	N	N
8/13/2021	Zeeland	Y	N	N	N	Y	N
8/16/2021	North Holland	N	N	N	N	Y	N
8/17/2021	Zeeland	N	N	N	N	Y	N
8/19/2021	North Holland	N	N	N	N	N	N
8/20/2021	Zeeland	N	N	N	N	Y	N
8/23/2021	North Holland	Y	N	N	N	Y	N
8/24/2021	Zeeland	N	N	N	N	Y	N
8/26/2021	North Holland	Y	Y	N	N	Y	N
8/27/2021	Zeeland	N	N	N	N	Y	N
8/31/2021	Zeeland	Y	N	N	N	Y	N
9/2/2021	North Holland	Y	N	N	N	N	N
9/3/2021	Zeeland	N	N	N	N	Y	N
9/6/2021	North Holland	Y	N	N	N	Y	N
9/7/2021	Zeeland	N	N	N	N	N	N
9/9/2021	North Holland	N	N	N	N	Y	N
9/10/2021	Zeeland	N	N	N	N	Y	N
9/14/2021	Zeeland	N	N	N	N	Y	N
9/16/2021	North Holland	N	N	N	N	N	N
9/21/2021	Zeeland	N	N	N	N	Y	N
9/22/2021	North Holland	N	N	N	N	N	N
9/23/2021	Zeeland	N	N	N	N	Y	N
9/26/2021	North Holland	Y	N	N	N	Y	N
9/29/2021	North Holland	N	N	N	N	Y	N
9/30/2021	Zeeland	N	N	N	N	Y	N
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
10/17/2021	North Holland	Y	N	N	N	Y	N
10/11/2021	Zeeland	N	N	N	N	Y	N
10/18/2021	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 September and into October 2021, with no other variants detected in that same time frame. This data indicate that Delta remains the dominant variant in Ottawa County.

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

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 ¹ 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*

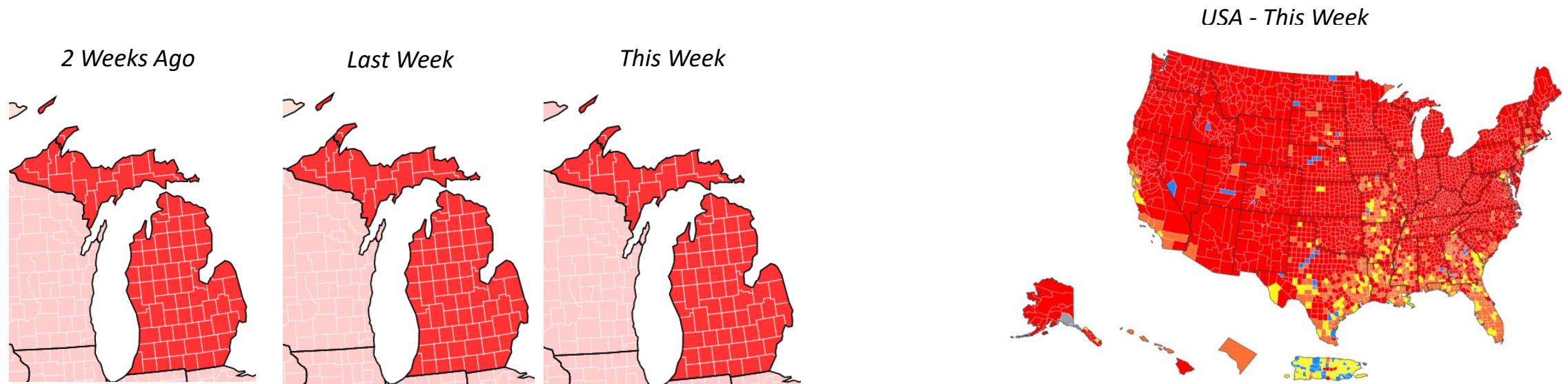
Ottawa is in the High category right now

*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 **10+** weeks)
- Current Data:
 - Positivity = 15.08%
 - Case Rate = 296.41 cases per week per 100,000



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

Data as of October 24, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

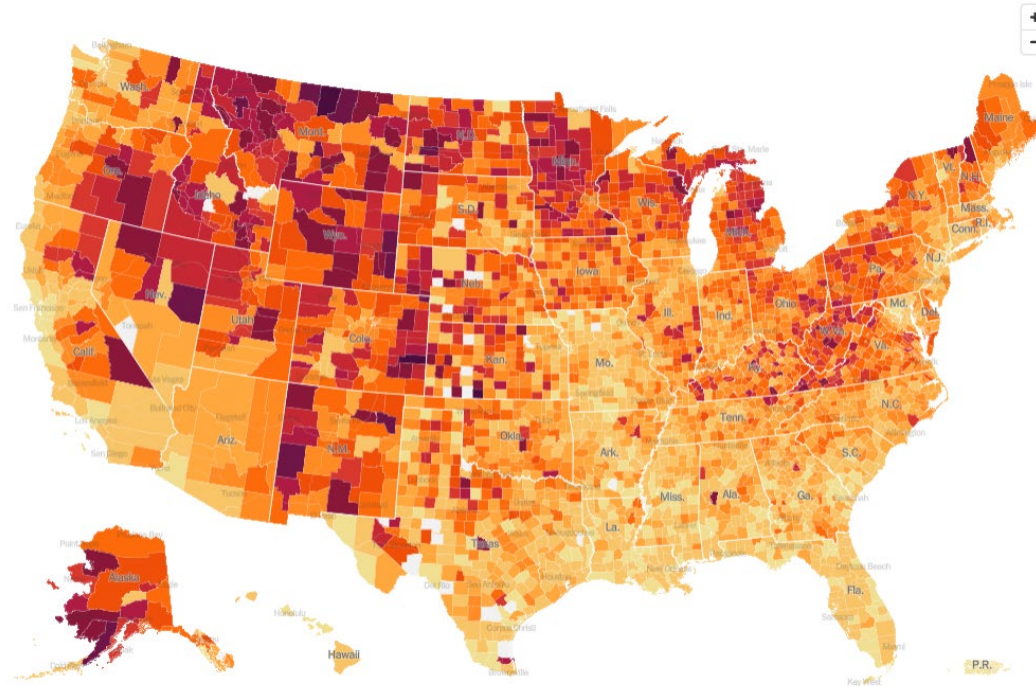
Science
Roundup

COVID-19 Case Rates by County Across the US

Last Week

Hot spots

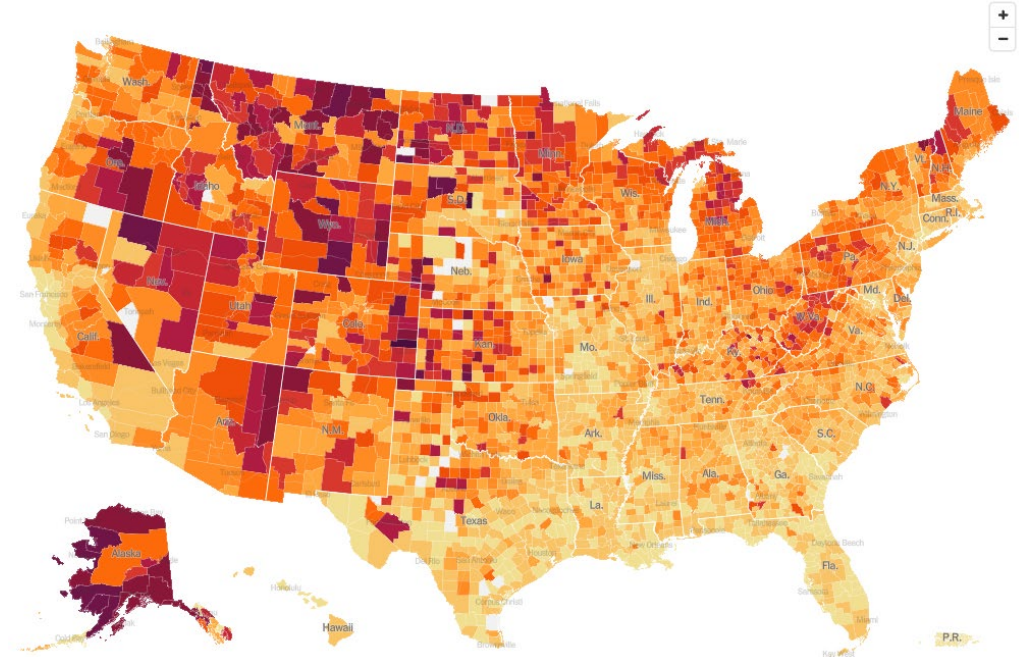
AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK
10 30 50 70 100 250 FEW OR NO CASES



This Week

Hot spots

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



Case rates in the deep South have improved substantially and Appalachia remains in a downtrend. Some Western states, Alaska, and the upper Midwest continue experiencing elevated case rates.

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

Accessed October 25, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

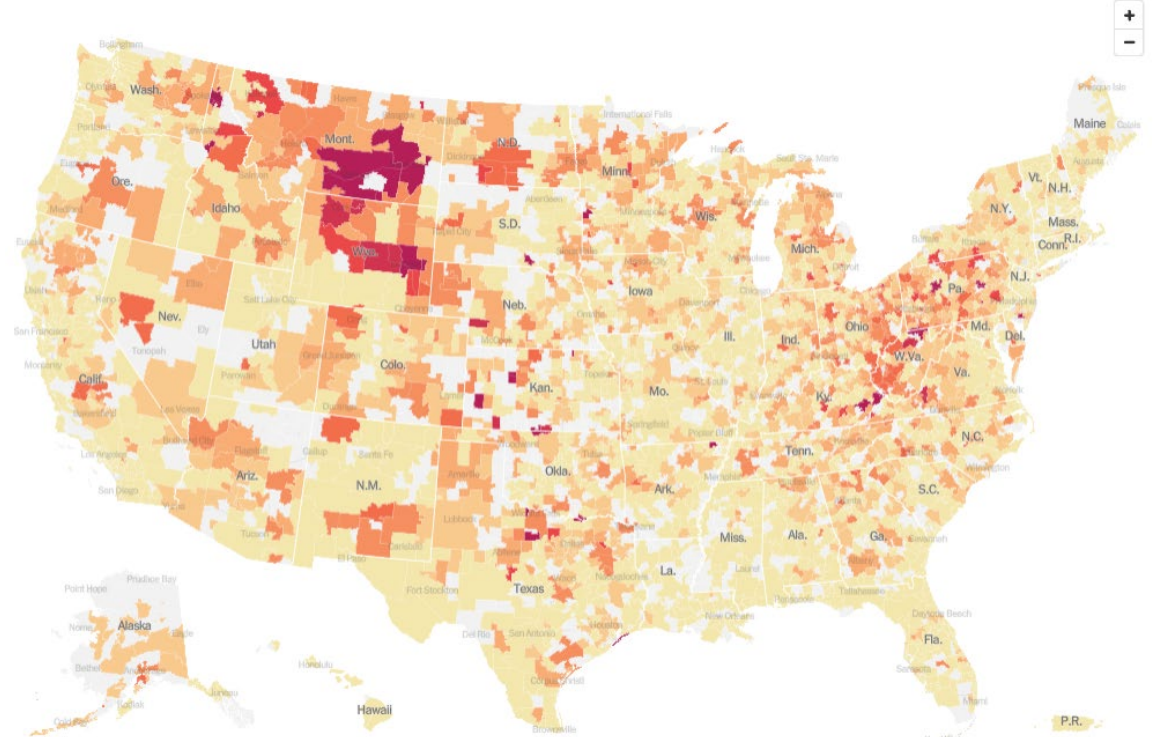
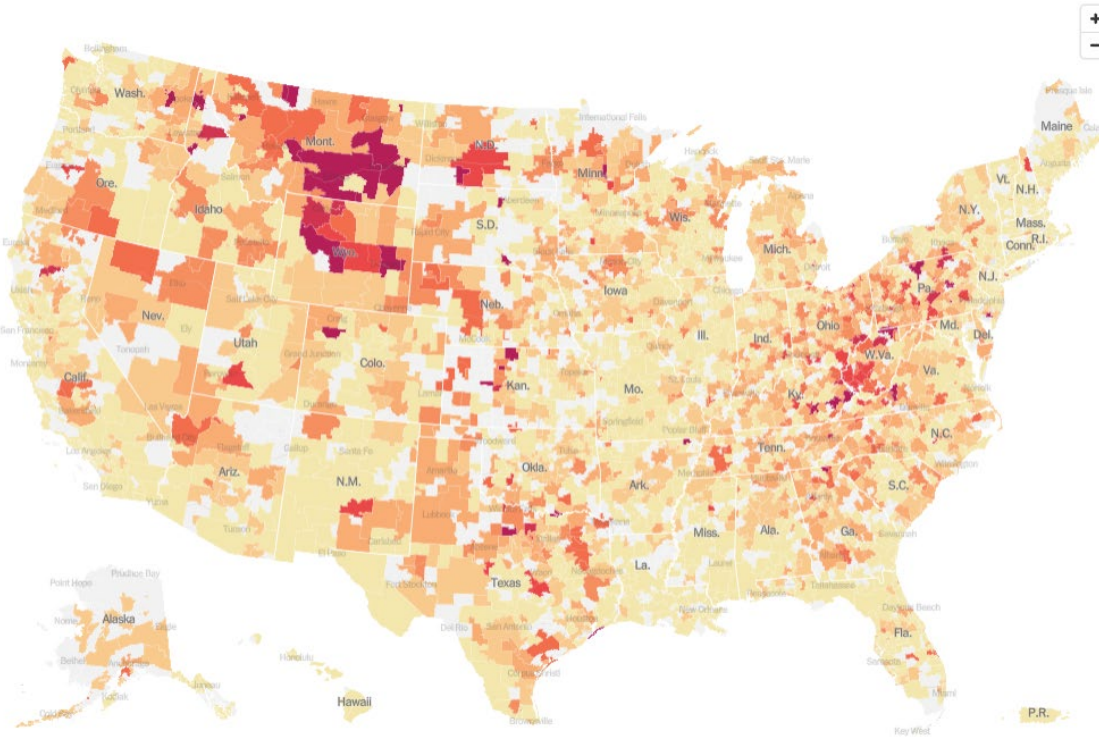
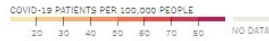
COVID-19 Hospitalization Rates by County Across the US

Last Week

This Week

Current hospitalizations

Current hospitalizations



Hospitalization rates continue to improve in the deep South and Appalachia, while some western states – particularly Montana and Wyoming – are experiencing elevated hospitalization rates.

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

Accessed October 19, 2021

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

USA & MI

Spread

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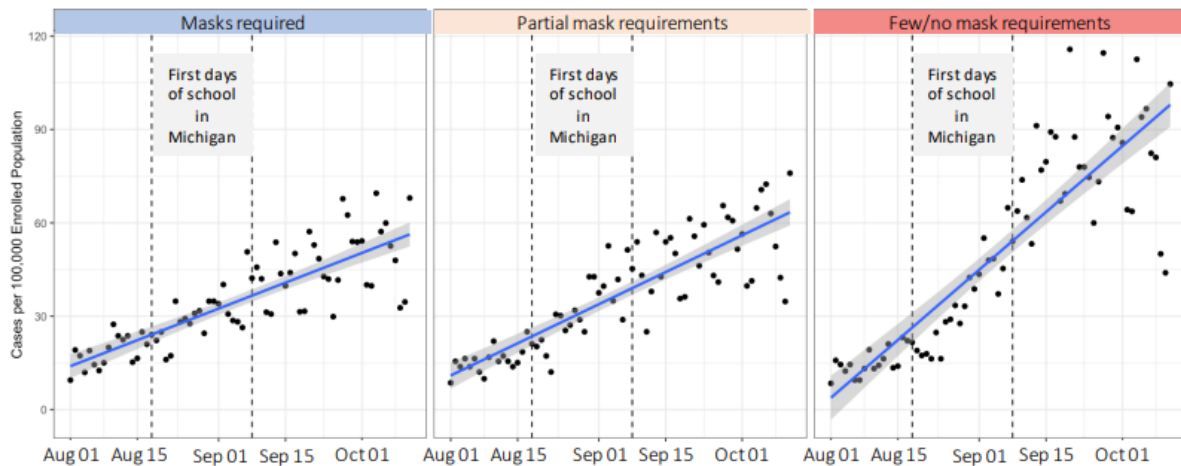
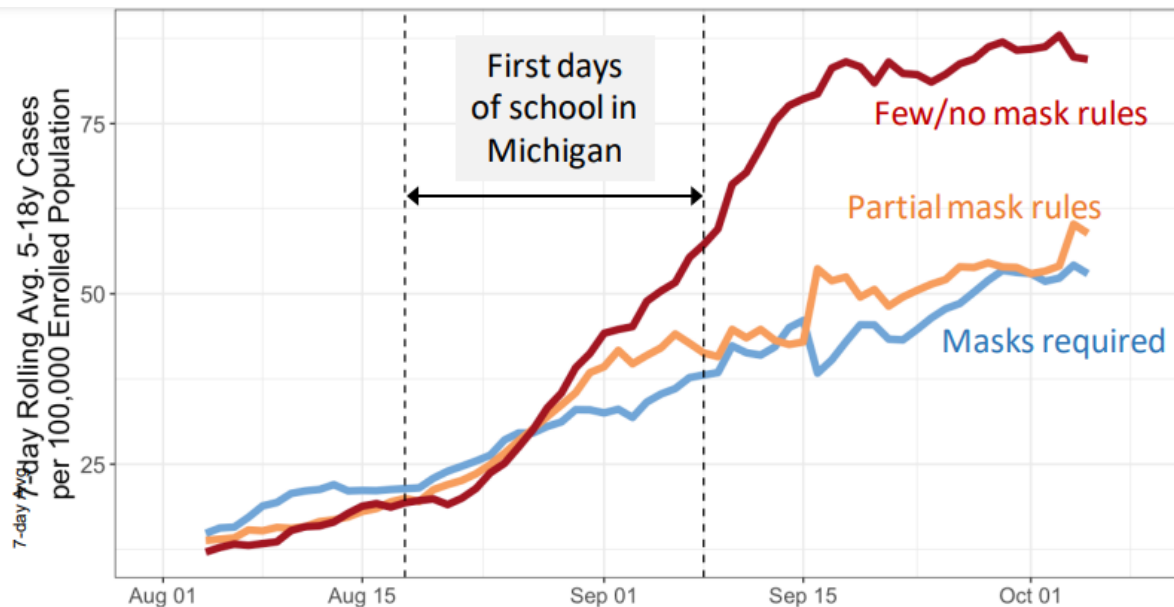
MDHHS Evaluation Shows Higher Case Rates in School Districts with Fewer Mask Rules

Districts without mask requirements are experiencing higher case rates

- 5–18-year-old school population case rates are higher and rose faster in districts without mask requirements
- Districts with complete or partial mask requirements have seen lower case rates with slower increases
- Note districts may change categories as mask rules change
- Note that districts with mask rules may also have other prevention measures (vaccination, testing, etc.) that reduce transmission levels



Masks required = mask required for all grades; Partial mask req. = tiered, some grades, based on vax status, staff only; Few/no req. = no req. or buses only. Blue line & shaded region is a linear trend fit. Data Sources: MDSS/MDHHS case data through as of 10/15/21 geocoded to school district, EOG School District Mask Policy Tracker data. Note: Cases are among all 5-18 year olds, population is the school-enrolled population.



Source: https://www.michigan.gov/documents/coronavirus/20211019_Data_and_modeling_update_vMEDIA_738881_7.pdf

COVID-19 News Headlines

Health Care

Pfizer says COVID vaccine more than 90% effective in kids

Associated Press Oct 22, 2021 0

https://www.grandhaventribune.com/news/health_care/pfizer-says-covid-19-vaccine-more-than-90-effective-in-kids/article_3bb7a402-e331-5e13-b55f-864428db988a.html

COVID booster shots can be ‘mixed and matched.’ What does that mean?

Updated: Oct. 22, 2021, 2:48 p.m. | Published: Oct. 22, 2021, 2:48 p.m.

<https://www.mlive.com/politics/2021/10/covid-booster-shots-can-be-mixed-and-matched-what-does-that-mean.html>

Spectrum Health expands access to antibody therapy for COVID patients

Sentinel Staff

Published 5:00 p.m. ET Oct. 22, 2021

<https://www.hollandsentinel.com/story/news/coronavirus/2021/10/22/spectrum-health-expands-access-antibody-therapy-covid-patients/6118705001/>

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Severity of Disease Among Adults Hospitalized with Laboratory-Confirmed COVID-19 Before and During the Period of SARS-CoV-2 B.1.617.2 (Delta) Predominance — COVID-NET, 14 States, January–August 2021

Early Release / October 22, 2021 / 70

<https://www.cdc.gov/mmwr/volumes/70/wr/pdfs/mm7043e1-H.pdf>

← A CDC study found no significant increases in the proportion of hospitalized COVID-19 patients with severe outcomes during the Delta period. However, the proportion of hospitalized unvaccinated COVID-19 patients aged 18–49 years significantly increased during the Delta period.

Article | [Open Access](#) | [Published: 25 October 2021](#)

Neurological complications after first dose of COVID-19 vaccines and SARS-CoV-2 infection

<https://www.nature.com/articles/s41591-021-01556-7#Ack1>

← A study out of the United Kingdom (UK) found that although there was an increased risk of neurological complications in those who received COVID-19 vaccines administered in the UK, the risk of these complications was far greater following a positive SARS-CoV-2 test.