

Ottawa County COVID-19 Epidemiology

October 8, 2021

Data as of October 2, 2021, unless otherwise indicated

Executive Summary

- **The US is seeing a decrease in cases, while Michigan continues to increase**
- **Ottawa community transmission metrics are mixed**
 - Positivity increased over the last 2 weeks from 11% to 12%. The goal is to be less than 5%.
 - Weekly case counts in Ottawa decreased 4%, from 760 two weeks ago to 732 last week.
 - Cases among children decreased about 10%, from 147 two weeks ago to 133 last week.
- **Ottawa area and regional hospitals are seeing more COVID patients**
 - In Ottawa County, 15% of all available beds are occupied by COVID-19 patients.*
 - Nearly 38% of Ottawa County ICU beds are occupied by COVID-19 patients.*
 - Weekly hospital census for children with COVID-19 is increasing.
 - Staffing is a challenge for many health systems.
- **Pediatric hospitalizations across the US may be improving, but some areas continue to see very high hospitalization rates in children, including states in the Midwest**
- **Over 60% of eligible Ottawa County residents 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

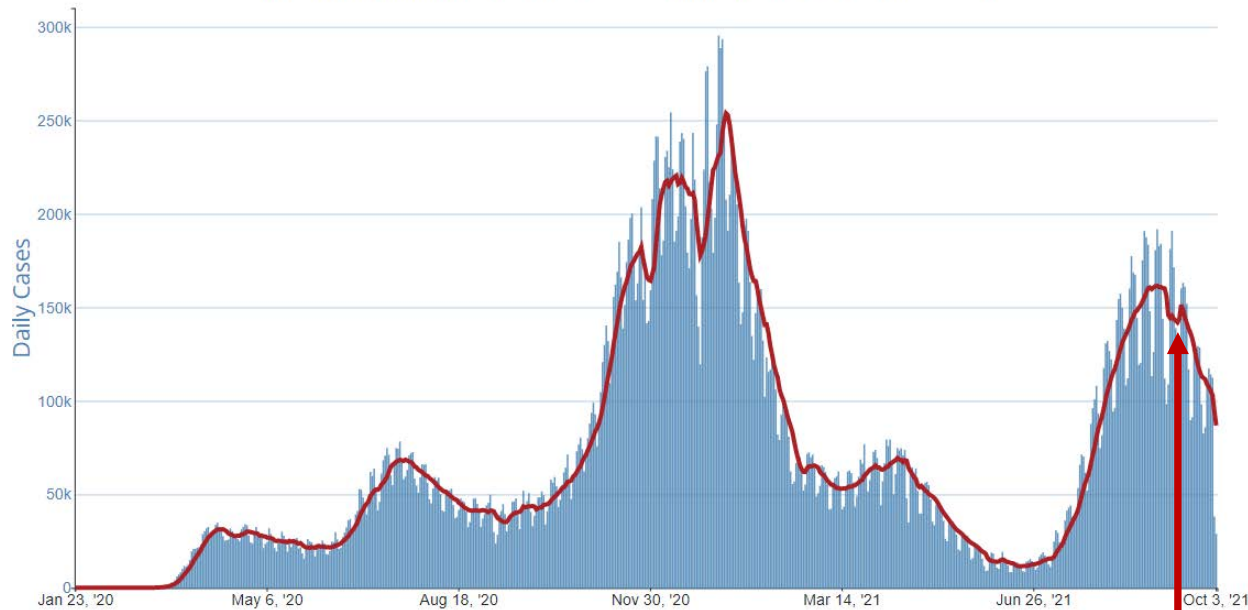
Metric	Goal	Week Ending				
		4-Sep-21	11-Sep-21	18-Sep-21	25-Sep-21	2-Oct-21
Positivity (All Ages)	<5%	14.0%	13.5%	11.8%	11.0%	12.0%
Weekly Cases (All Ages)	<30	687	643	711	760	732
Weekly Cases in Children (0-17 years of age)	NA	134	148	166	147	133
Total COVID-19 Hospitalizations (All Ages)	0	24	17	27	15	11
Total Deaths (All Ages)	0	4	6	6	4	6
CDC Risk Transmission Level	Low	High	High	High	High	High

Hospitalization and/or death may occur after initial infection, meaning the number of hospitalizations and deaths from recent weeks may increase.

Case Trends in the USA and Michigan

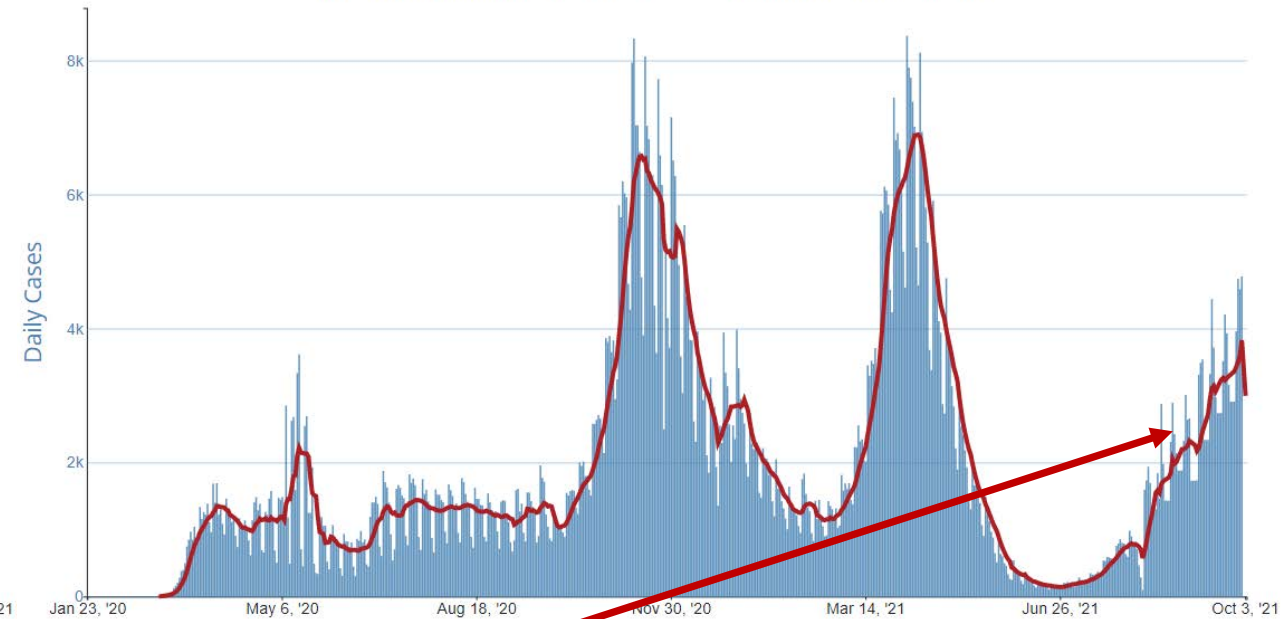
USA

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

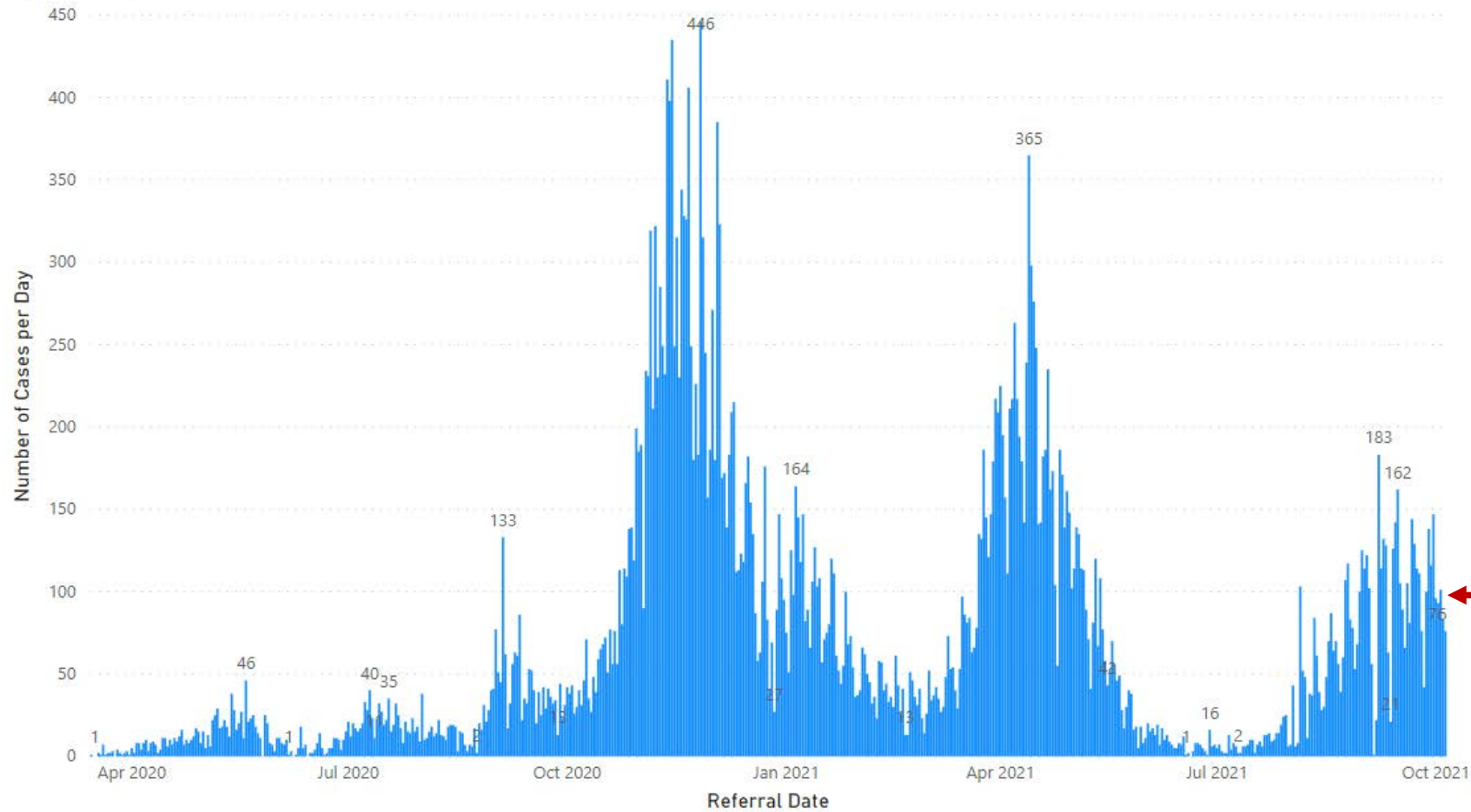


The US is decreasing while Michigan continues trending up.

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – October 5, 2021

Epidemiological Curve



Total Number of Cases
38,546

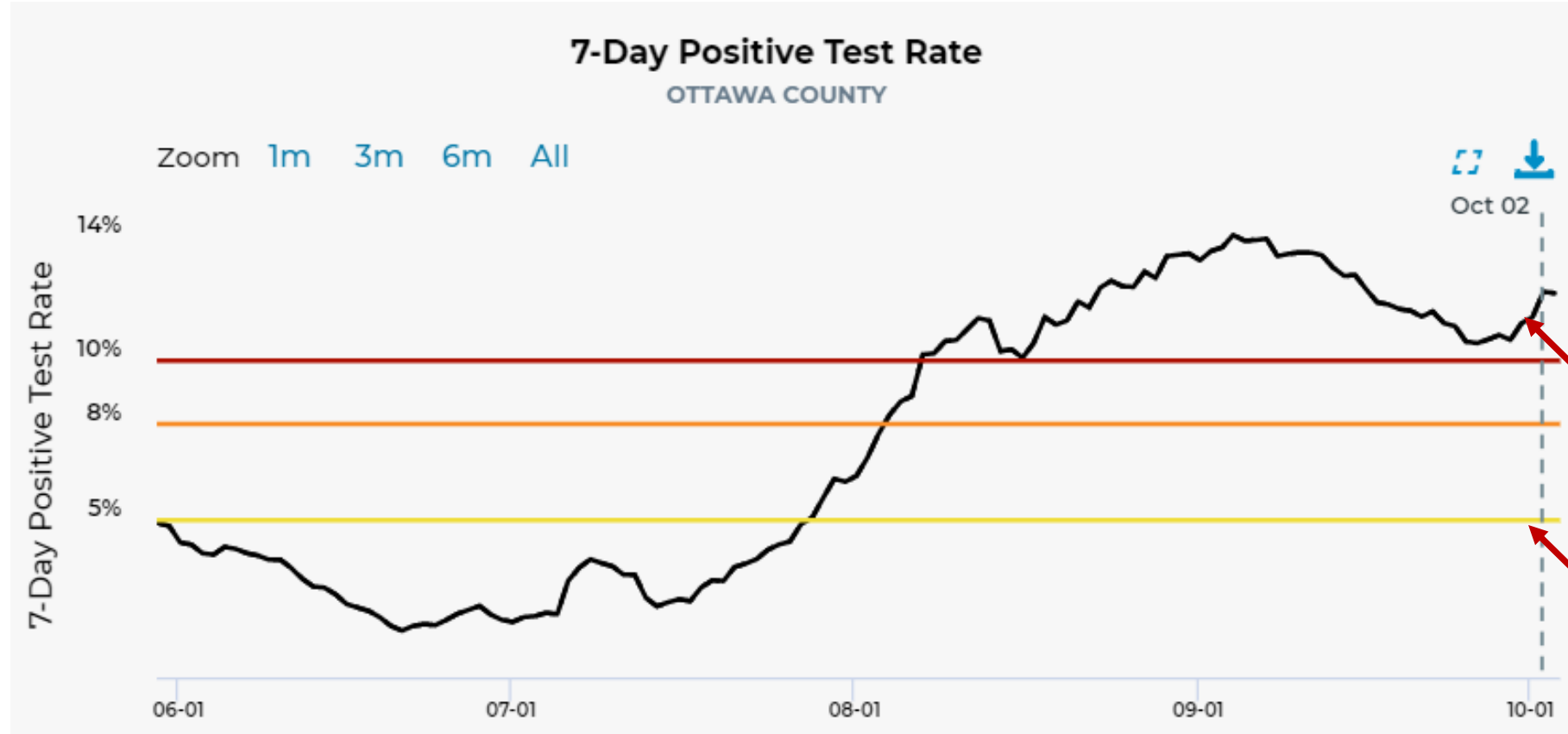
Currently the 7-day average is **102 cases per day**, about the same as the roughly 100 cases per day seen at this time last week. From week to week, cases decreased 4% through the last 2 full weeks.

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.

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 2, 2021



Test positivity increased to 12% as of October 2, 2021.

The goal is to have less than 5% of tests coming back positive.

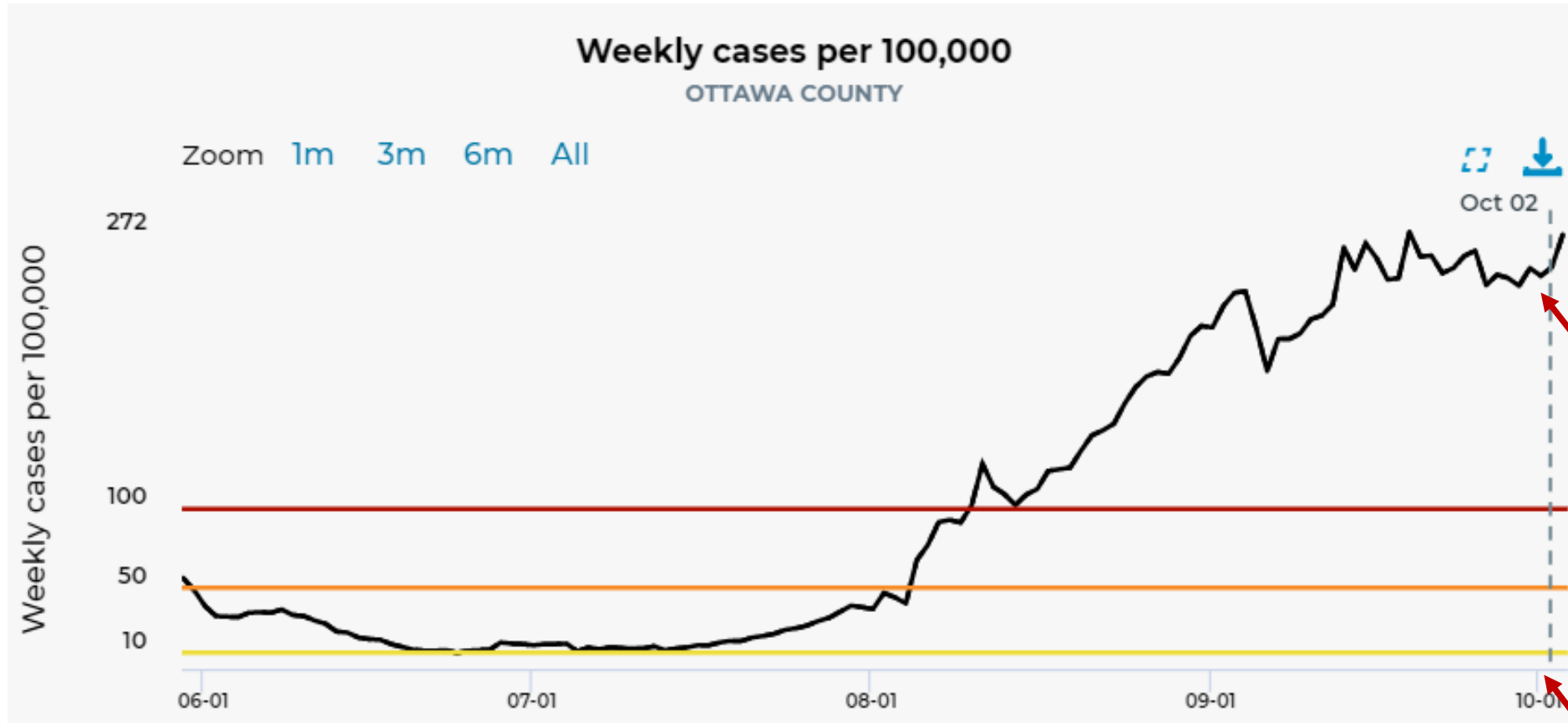


Note: Testing in Ottawa County has increased since mid-July 2021: [Testing Results | Ottawa County Covid-19 Case Summary Data \(arcgis.com\)](https://www.arcgis.com)

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 – October 2, 2021



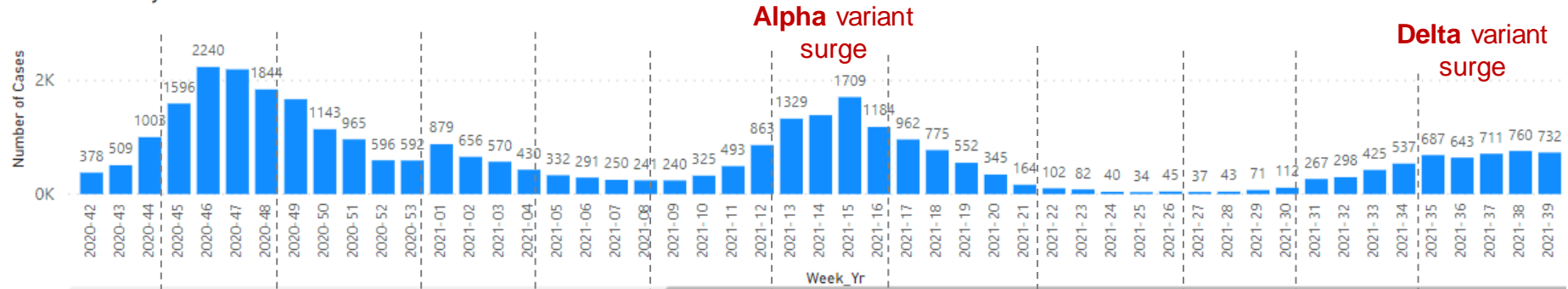
Case rates remain at about 250 cases per week per 100,000 population.

The goal is to have less than 10 cases per week per 100,000 population. In Ottawa County, this would be 4 cases per day or less.

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

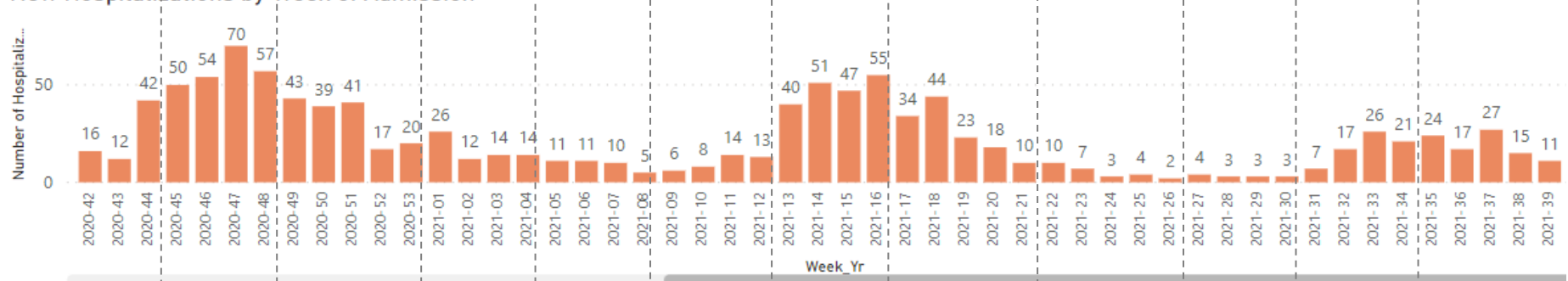
Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



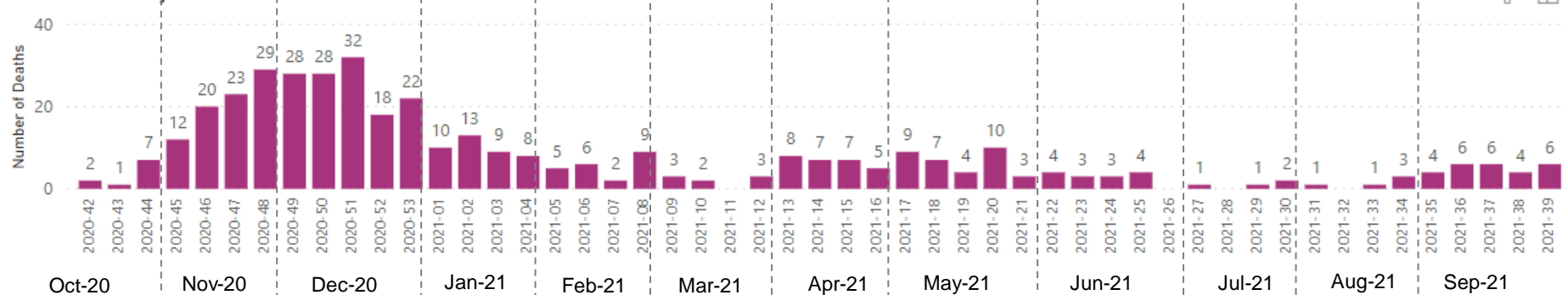
The weekly number of **cases** decreased 4% last week.

New Hospitalizations by Week of Admission



The weekly number of **hospitalizations** has been relatively stable with an average of about 18 cases hospitalized each week over the last month.

New Deaths by Week of Death



Weekly COVID-19 **deaths** remain lower than previous waves.

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.

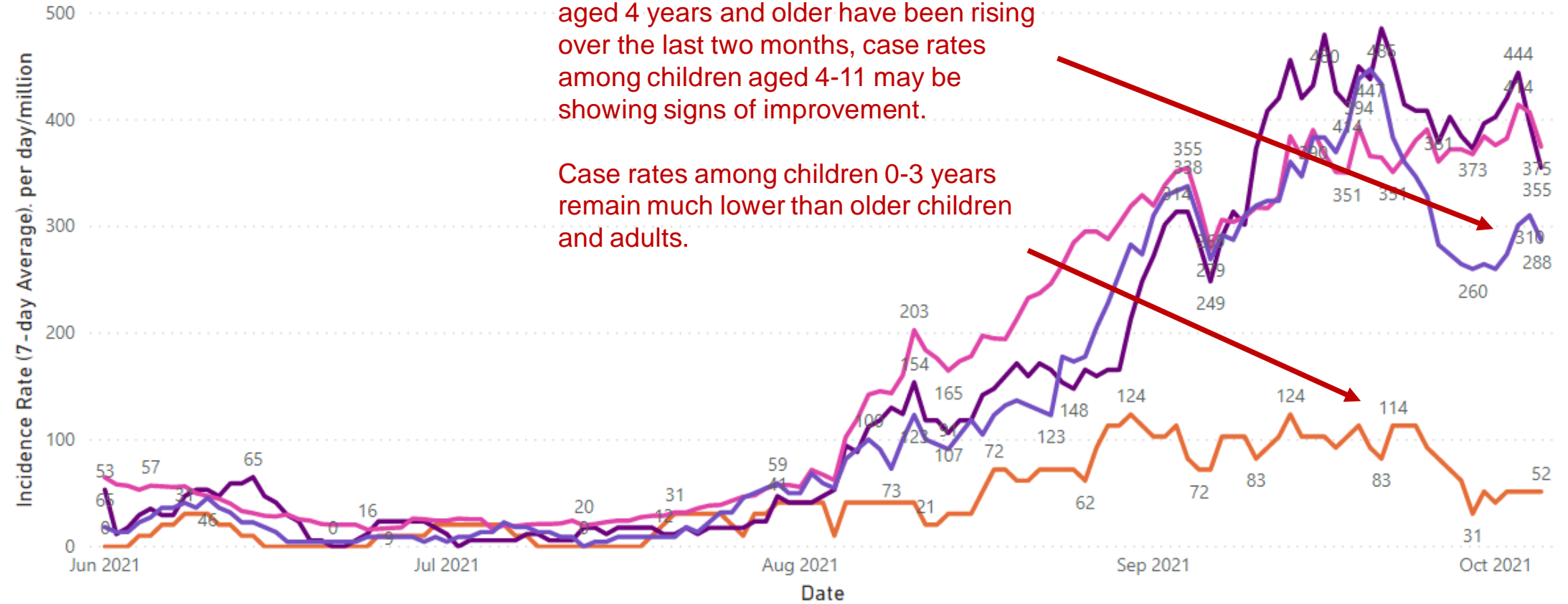
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age

COVID-19 Case Rates by Age, includes School-Aged, June 2021 – October 5, 2021

Incidence Rate (7-day Average)

rategroup ● 0-3 ● 12-17 ● 18+ ● 4-11



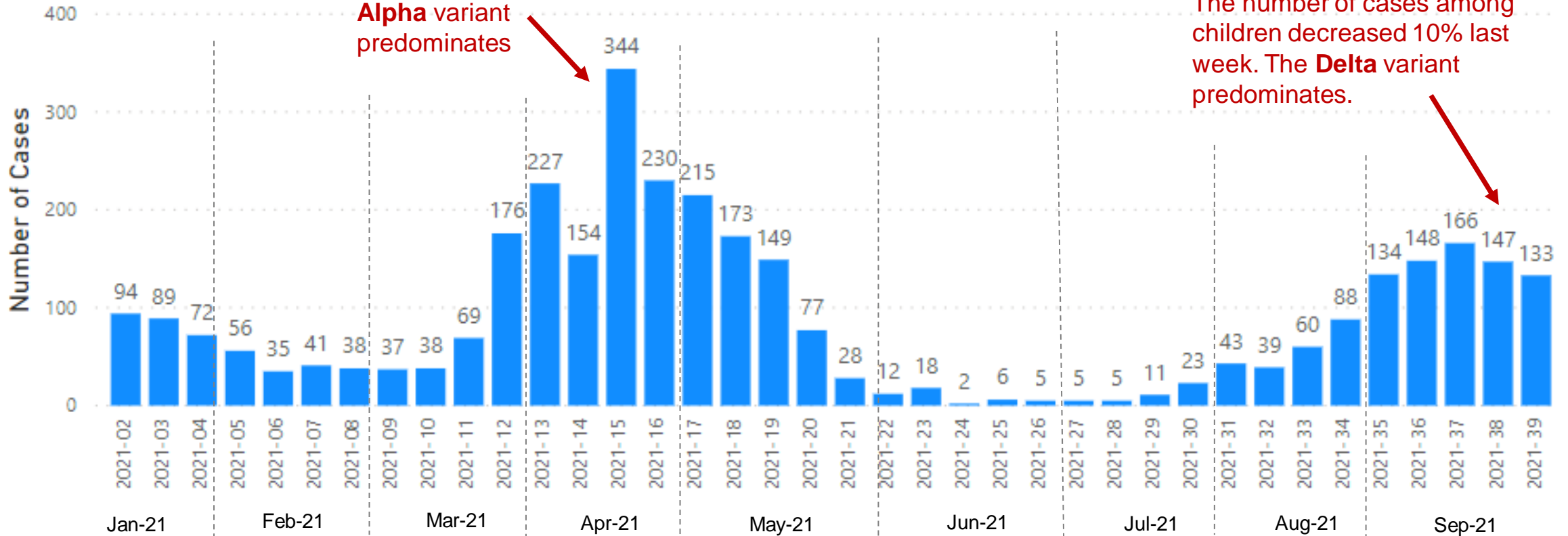
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of October 5, 2021

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

COVID-19 Cases Among Minors (0-17 years), by Week, January 2021 – October 2, 2021

New Cases by Week



April-May surge,
Alpha variant
predominates

The number of cases among
children decreased 10% last
week. The **Delta** variant
predominates.

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	495	-10%	148	10%	643	-6%
18-Sep-21	545	10%	166	12%	711	11%
25-Sep-21	613	12%	147	-11%	760	7%
2-Oct-21	599	-2%	133	-10%	732	-4%

Adults

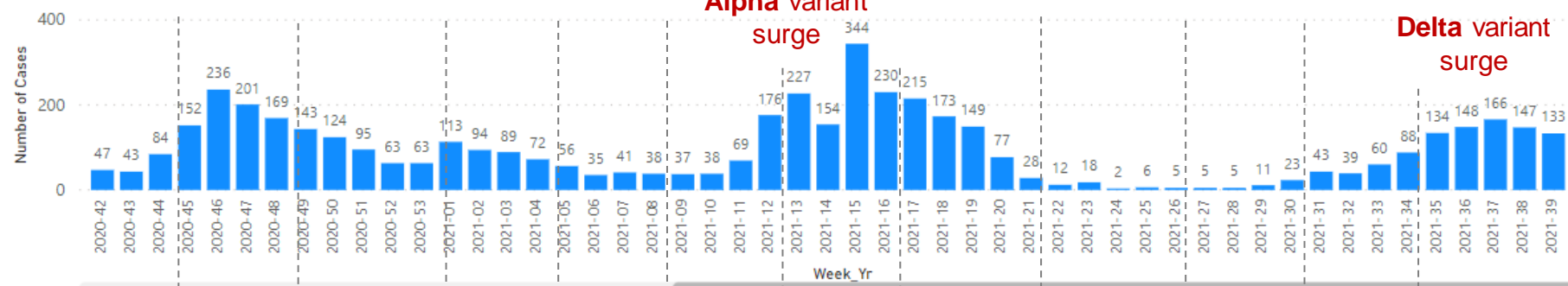
Children

Cases among children decreased 10% last week, and cases in adults decreased 2%.

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

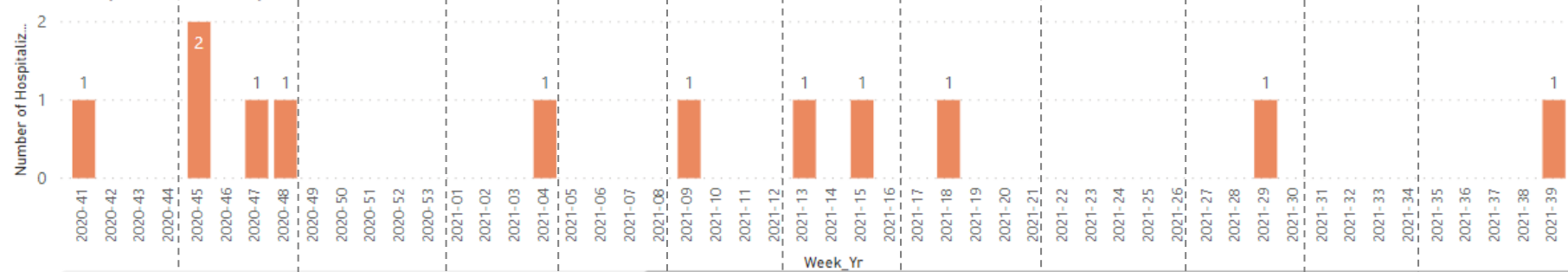
Ottawa County - Cases, Hospitalizations, & Deaths by Week Among Children (0-17 years)

New Cases By Week of Referral



The weekly number of cases among children decreased 10% in the last 2 full weeks.

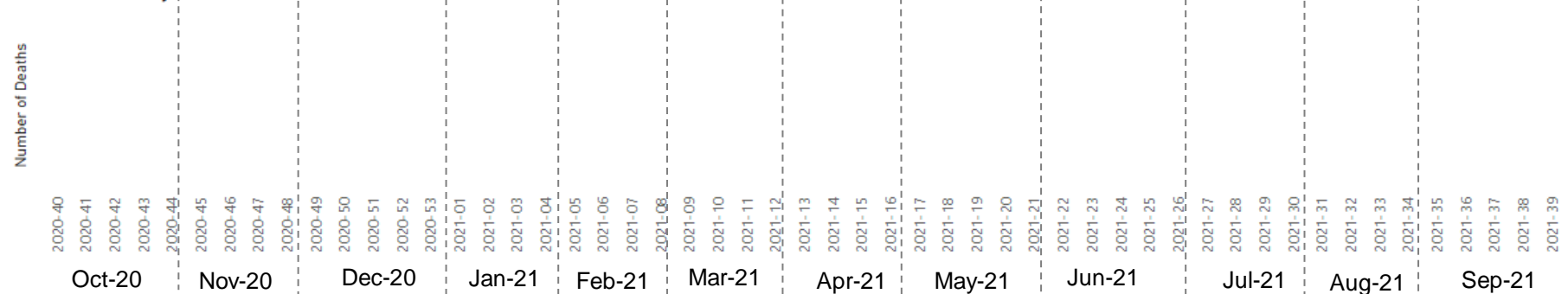
New Hospitalizations by Week of Admission



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



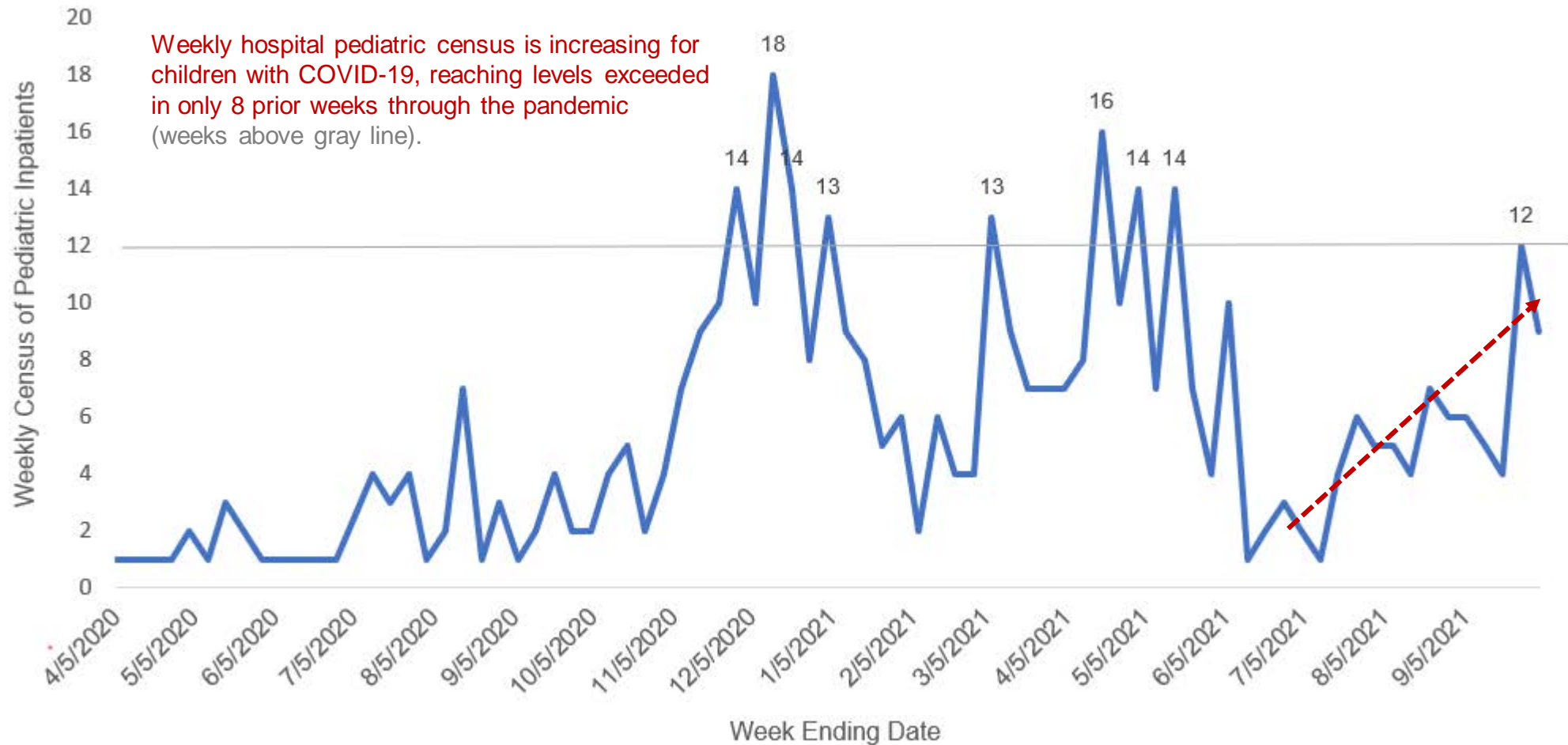
Through the 2020-2021 school year nearly all school-aged children were in environments with:

- 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

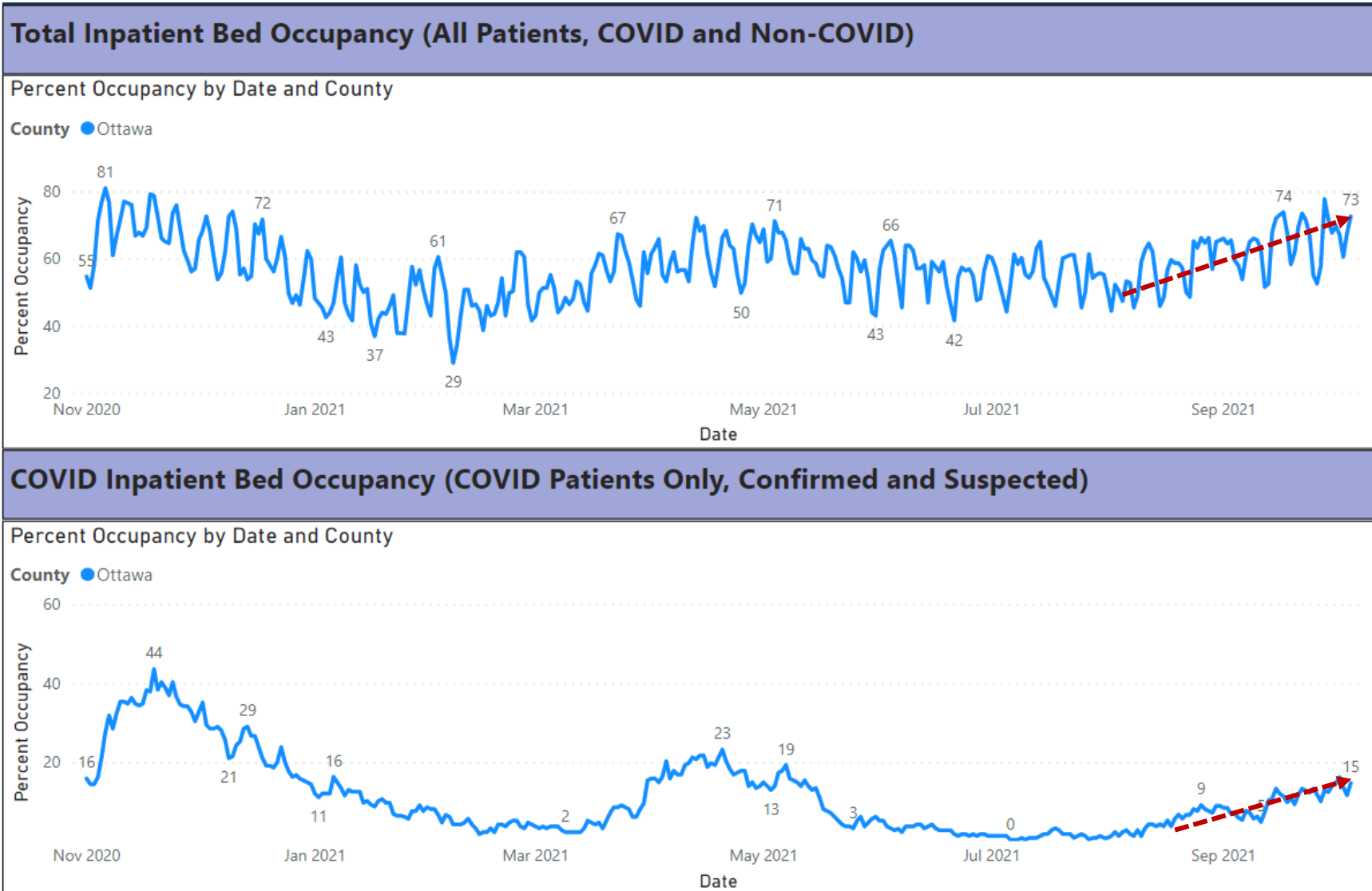
Weekly Hospital Pediatric Census – A Regional Healthcare System



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 3, 2021

Ottawa County Hospital Capacity – All Beds



Total hospital bed occupancy is increasing. The proportion of beds occupied by COVID-19 patients is **increasing**.

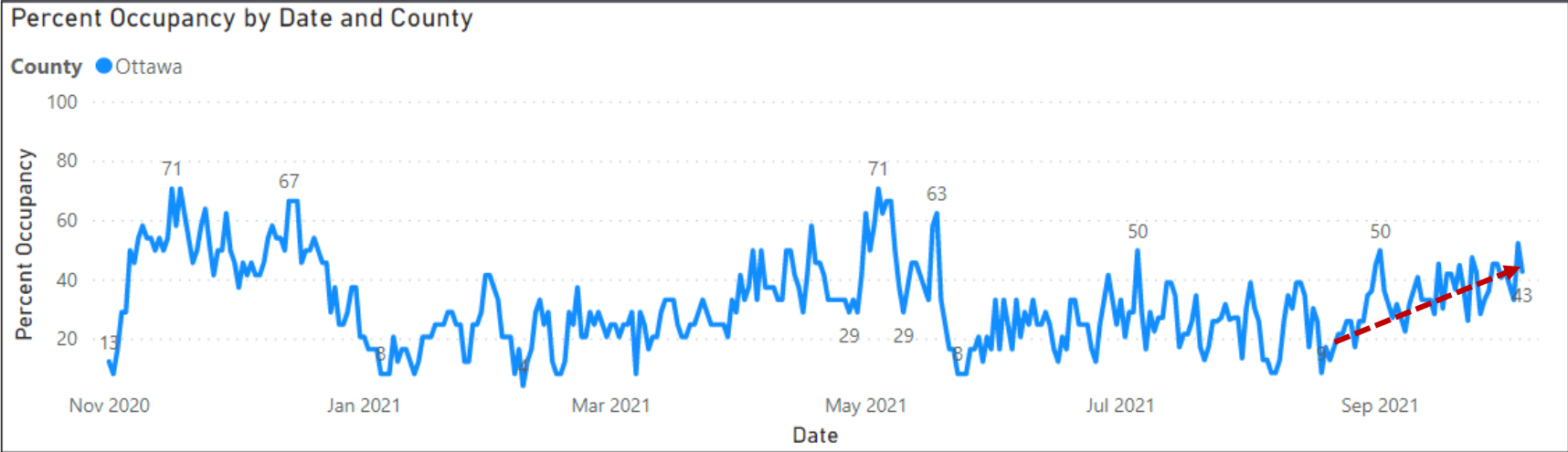
Currently **15%** of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through October 5, 2021

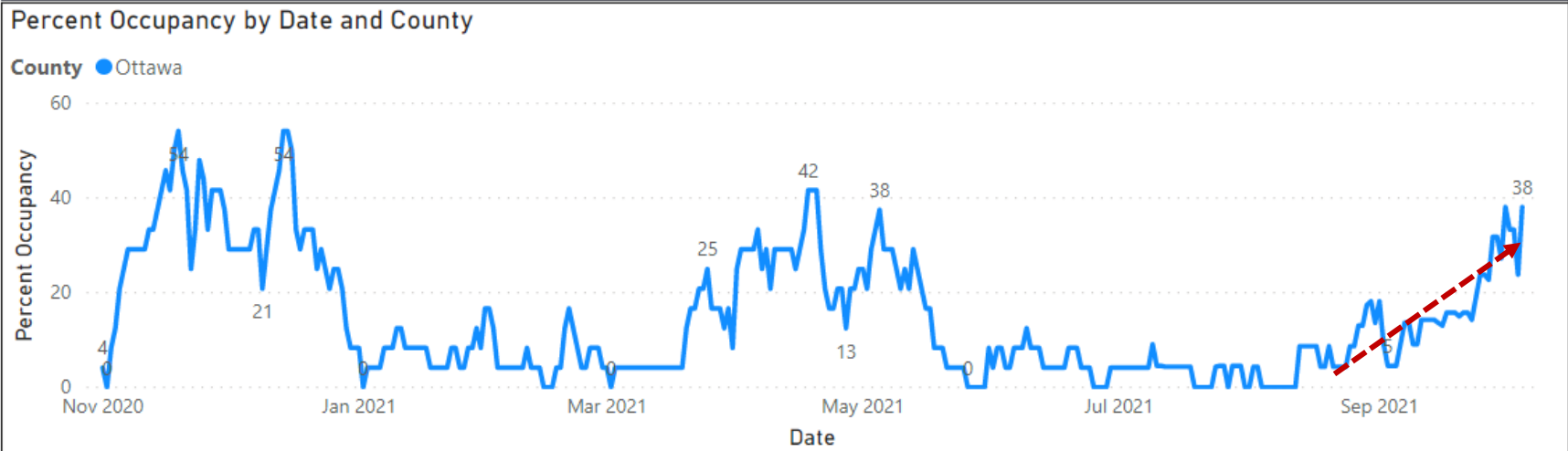
Ottawa County Hospital Capacity – ICU Beds

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



Overall ICU bed occupancy is showing **increases**.

COVID ICU Bed Occupancy (COVID Patients Only, Confirmed and Suspected)



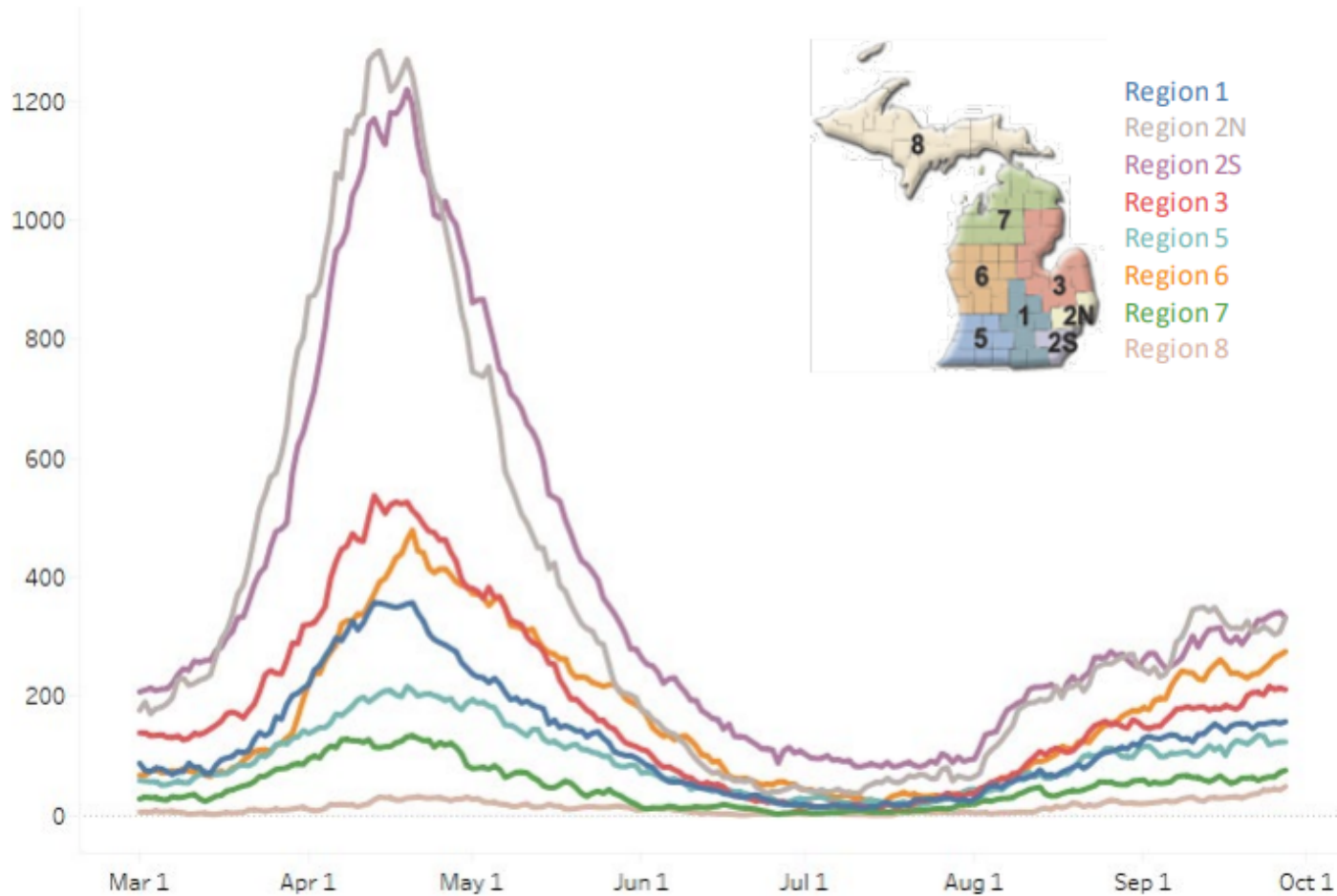
The proportion of ICU beds occupied by COVID patients has **increased to 38%**.

Source: EMResources

Data through October 5, 2021

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 9/27/2021
Confirmed Positive by Region



The census of COVID+ patients in hospitals has increased in each region from last week. Regions 6, 7 and 8 have experienced the largest increases from last week.

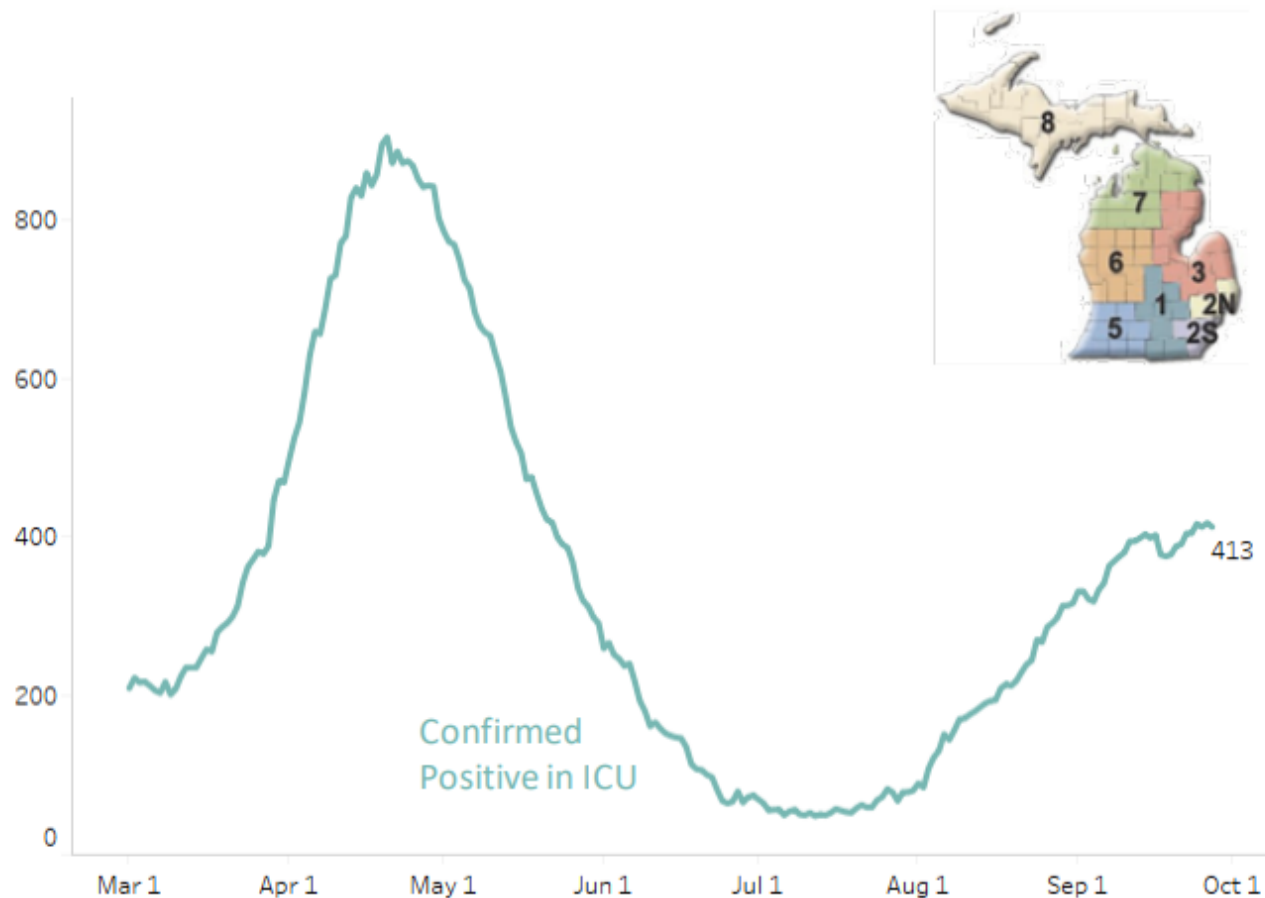
Regions 3, 6, 7, and 8 have greater than 150/M population hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	157 (3%)	145/M
Region 2N	331 (2%)	149/M
Region 2S	332 (11%)	149/M
Region 3	211 (5%)	186/M
Region 5	123 (3%)	129/M
Region 6	275 (20%)	187/M
Region 7	75 (21%)	150/M
Region 8	48 (50%)	154/M

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210928_Data_and_modeling_update_vMEDIA_737004_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 9/27/2021
Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs has increased by 6% from last week.

Regions 6 and 7 had the largest increases this week. There are small decreases in Regions 1, 2S, 5 and 8.

Region 1 and 3 have ICU occupancy of 90% and Region 6 now has >30% of all 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	47 (-2%)	90%	27%
Region 2N	81 (7%)	72%	15%
Region 2S	84 (-2%)	80%	12%
Region 3	53 (6%)	90%	15%
Region 5	31 (-11%)	75%	17%
Region 6	73 (30%)	80%	31%
Region 7	33 (27%)	83%	23%
Region 8	11 (-8%)	65%	18%

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210928_Data_and_modeling_update_vMEDIA_737004_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan

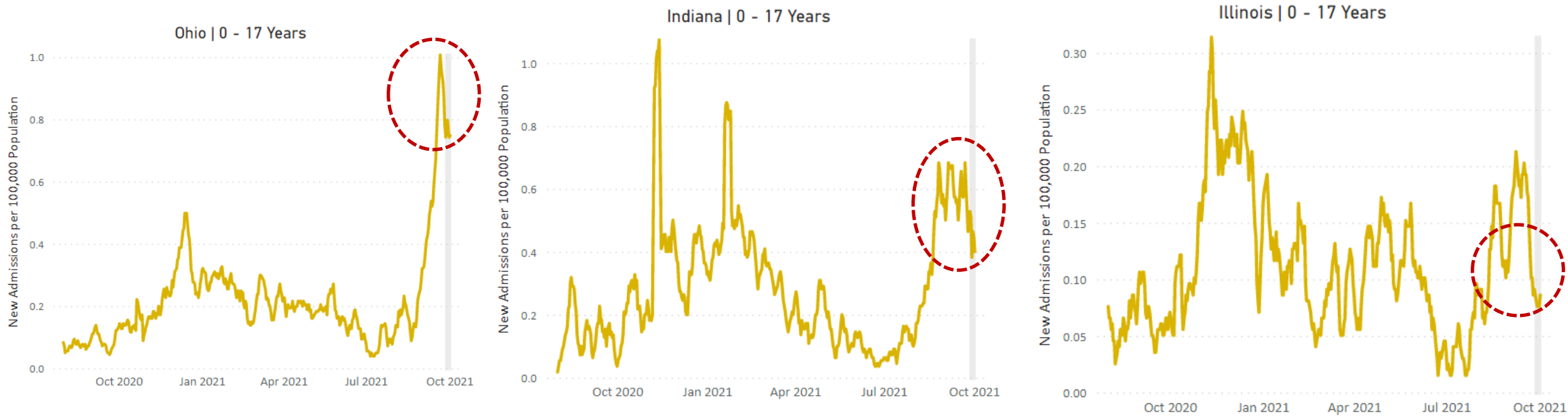


Pediatric hospitalization rates across the United States and some southern states (such as Georgia) are decreasing. Michigan currently has lower pediatric hospitalization rates than past waves, but rates continue to increase.

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

Accessed October 5, 2021

Pediatric Hospitalization Rates – Select Midwest States



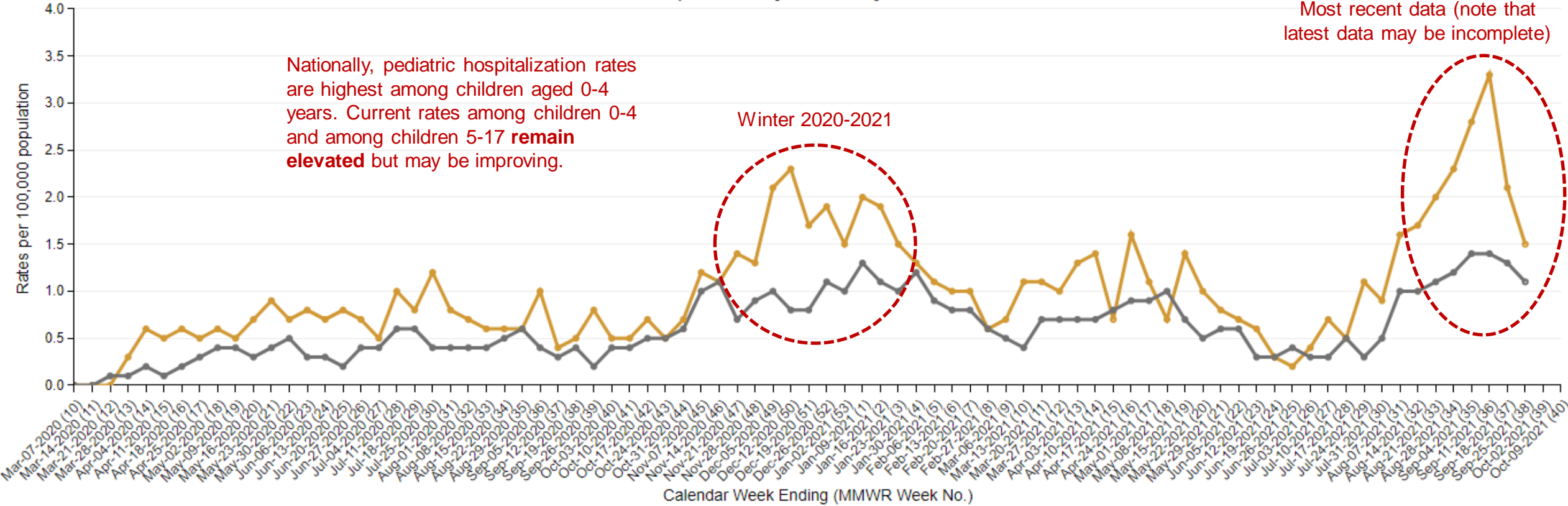
Pediatric hospitalization rates in some states across the Midwest are elevated. Ohio is experiencing a substantial surge, while Indiana and Illinois continue to show elevated, but possibly improving, pediatric hospitalization rates.

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

Accessed October 5, 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.



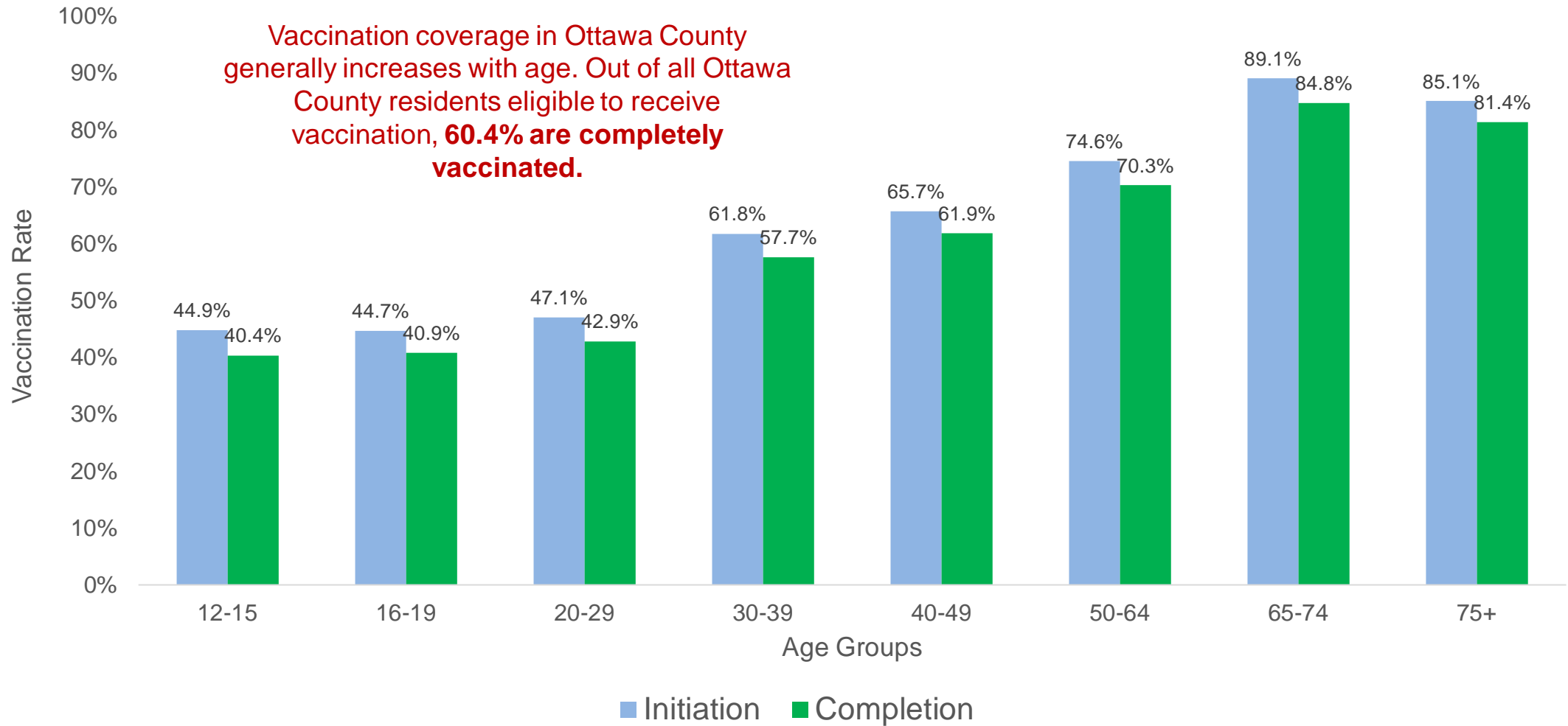
— 0-4 yr — 5-17 yr

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 October 5, 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.

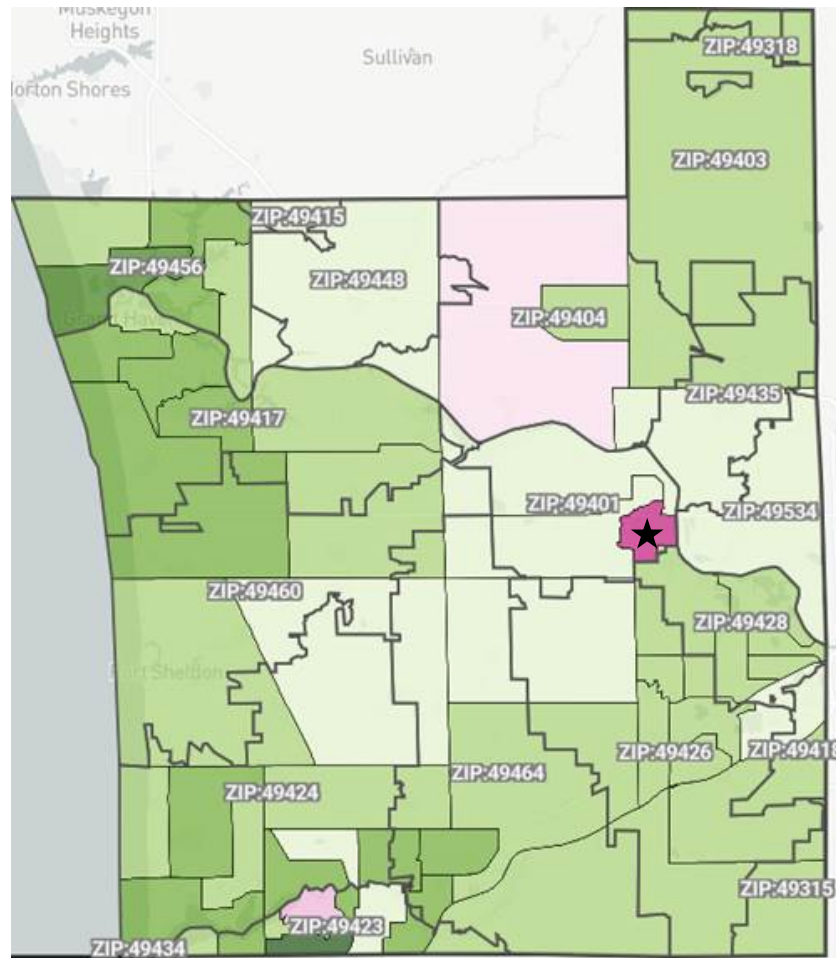
Source: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Data through October 1, 2021

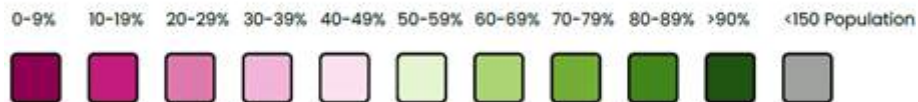
Vaccination Coverage by Place of Residence

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 2, 2021

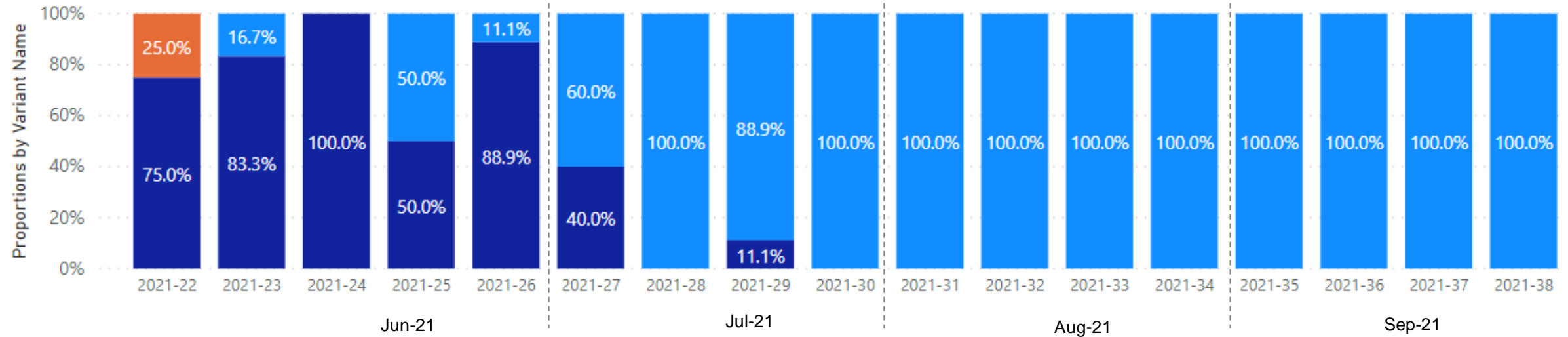
Fully Vaccinated People (148,612)		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (16,611 / 18,238) 91.1%	Percent of Hospitalizations in People Not Fully Vaccinated (554 / 640) 86.6%	Percent of Deaths in People Not Fully Vaccinated (108 / 132) 81.8%
Total Cases Not Fully Vaccinated 16,611	Total Hospitalized Not Fully Vaccinated 554	Total Deaths Not Fully Vaccinated 108
Total Breakthrough Cases 1,627	Total Breakthrough Hospitalizations 86	Total Breakthrough Deaths 24
Percent of Fully Vaccinated People who Developed COVID-19 (1,627 / 148,612) 1.095%	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (86 / 148,612) 0.058%	Percent of Fully Vaccinated People who Died of COVID-19 (24 / 148,612) 0.016%
Percent of Cases who were Fully Vaccinated (1,627 / 18,238) 8.9%	Percent of Hospitalizations who were Fully Vaccinated (86 / 640) 13.4%	Percent of Deaths who were Fully Vaccinated (24 / 132) 18.2%
Total Cases 18,238	Total Hospitalizations 640	Total Deaths 132

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

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.

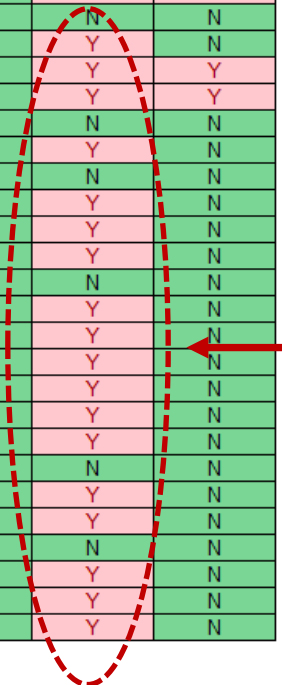
* Swabs from Ottawa County residents that tested positive for COVID-19 by PCR

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

Variants – Wastewater Sampling – Holland/Zeeland

Y = Detected
N = Not Detected

Sample Date	Site	Wuhan (parental)	Alpha	Beta	Gamma	Delta	Epsilon
7/1/2021	North Holland	Y	N	N	N	N	N
7/2/2021	Zeeland	N	Y	N	N	N	N
7/6/2021	Zeeland	N	Y	N	N	Y	N
7/8/2021	North Holland	N	N	N	N	N	N
7/9/2021	Zeeland	N	N	N	N	Y	Y
7/12/2021	North Holland	Y	N	N	N	Y	N
7/13/2021	Zeeland	N	N	N	N	N	N
7/15/2021	North Holland	N	N	N	N	N	Y
7/16/2021	Zeeland	N	N	N	N	Y	N
7/21/2021	North Holland	Y	N	Y	N	N	Y
7/21/2021	Zeeland	N	N	N	N	Y	N
7/21/2021	North Holland	N	N	N	N	Y	N
7/27/2021	Zeeland	N	N	N	N	Y	N
7/29/2021	North Holland	N	N	N	N	N	N
7/30/2021	Zeeland	Y	N	N	N	Y	Y
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



The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through August and the first half of September 2021, indicating 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%

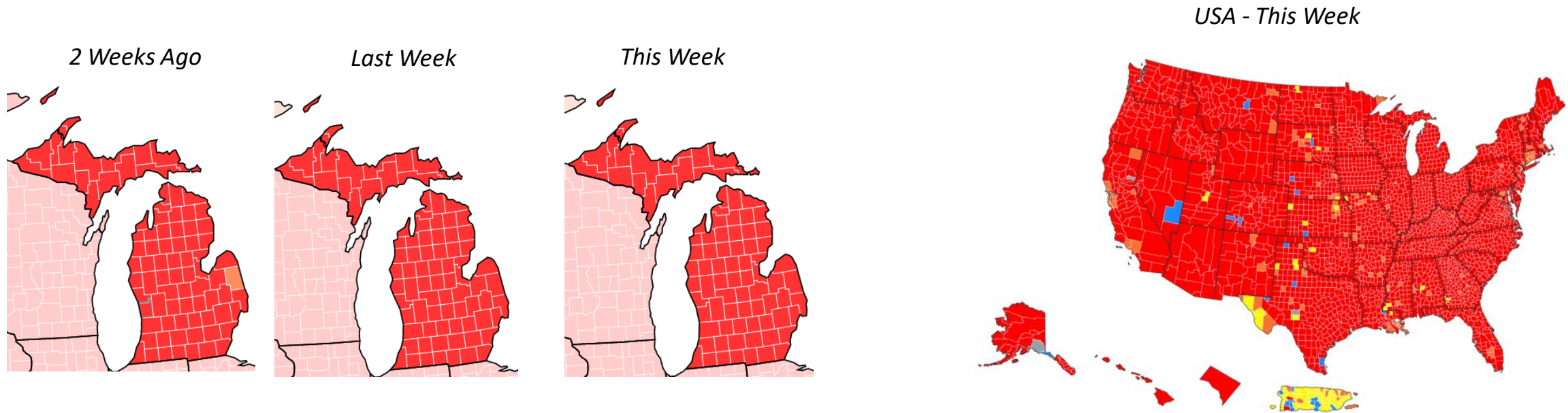
↑
Ottawa's goal is to be in the Low category

↑
Ottawa is in the High category right now

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

CDC Community Transmission Risk Levels – Ottawa County

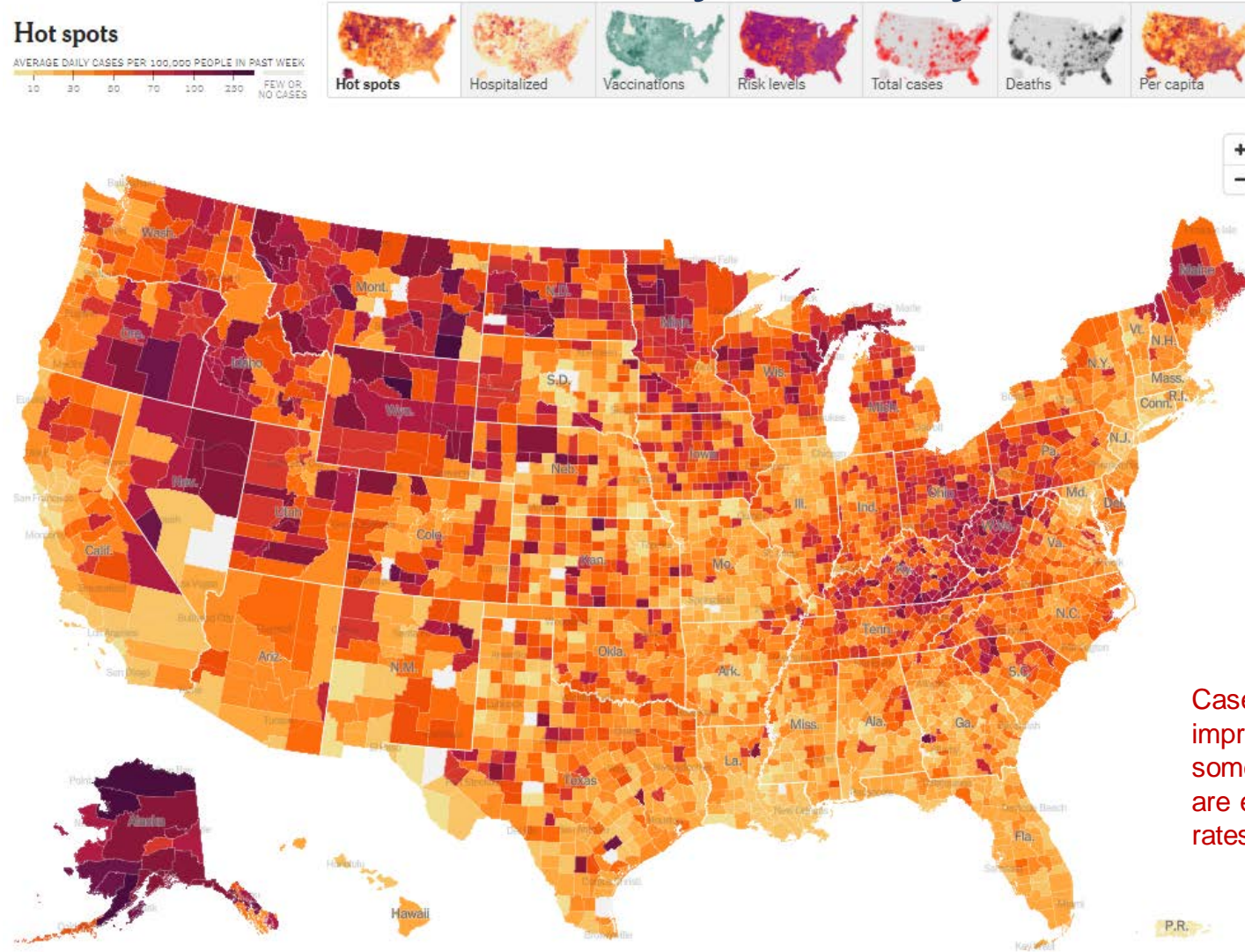
- Current Risk Level in Ottawa – **HIGH** (for last 7+ weeks)
- Current Data:
 - Positivity = 11.52%
 - Case Rate = 259.74 cases per week per 100,000



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

Data as of October 3, 2021

COVID-19 Case Rates by County Across the US



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

Accessed October 5, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

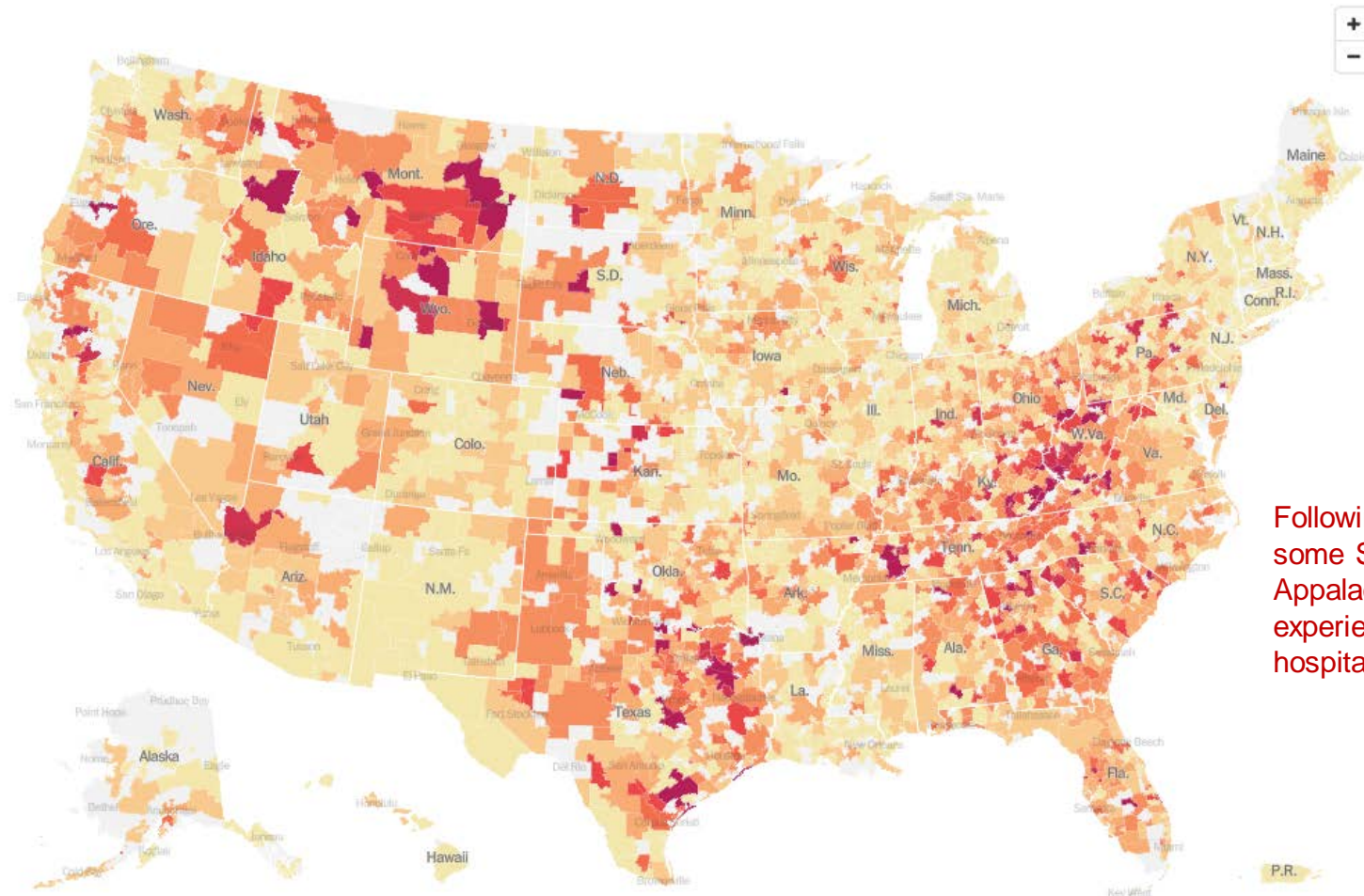
Risk Levels

Other

Media

Science
Roundup

COVID-19 Hospitalization Rates by County Across the US



Following a surge in cases, some Southern, Western, and Appalachian states are also experiencing higher rates of hospitalization.

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

Accessed October 5, 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, Kentucky, Louisiana, 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
- **Recently Rescinded County Mask Mandates (6):**
 - Allegan, Barry, Berrien, Eaton, Iron, Dickinson

Note: List may not be comprehensive

COVID-19 News Headlines

COVID-19

Friday's update: Michigan's daily new case count continues to rise

By Tribune Staff Oct 1, 2021 Updated Oct 1, 2021 0

https://www.grandhaventribune.com/news/health_care/fridays-update-michigans-daily-new-case-count-continues-to-rise/article_a8c472d2-22e2-11ec-aea0-97e6405c7890.html

Allegan County rescinds mask mandate, effective Thursday evening

Ottawa County mandate still in place

<https://www.hollandsentinel.com/story/news/coronavirus/2021/09/30/allegan-county-rescinds-mask-mandate-effective-thursday-evening/5933962001/>

CORONAVIRUS

Kent, Ottawa counties will keep school mask order in place

Both counties say the order will remain in effect until it expires on its own terms.

<https://www.wzzm13.com/article/news/health/coronavirus/ottawa-county-will-keep-school-mask-order-in-place/69-470ea971-8802-4077-9dce-992ec6253815>

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science
Roundup

Science Roundup

Long covid: One in seven children may still have symptoms 15 weeks after infection, data show

BMJ 2021 ; 374 doi: <https://doi.org/10.1136/bmj.n2157> (Published 01 September 2021)

Cite this as: *BMJ* 2021;374:n2157


<https://www.bmj.com/content/374/bmj.n2157>

← A preprint study out of the UK showed that 1 in 7 pediatric COVID-19 cases may experience long COVID symptoms 15 weeks after their initial infection.

Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study

Sara Y Tartof, PhD   • Jeff M Slezak, MS • Heidi Fischer, PhD • Vennis Hong, MPH • Bradley K Ackerson, MD •

Omesh N Ranasinghe, MPH • et al. [Show all authors](#)

Published: October 04, 2021 • DOI: [https://doi.org/10.1016/S0140-6736\(21\)02183-8](https://doi.org/10.1016/S0140-6736(21)02183-8) •  Check for updates

← A study published by authors from Kaiser Permanente and Pfizer showed that full vaccination with Pfizer vaccine showed strong protection against hospitalization.

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02183-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02183-8/fulltext)