

Ottawa County COVID-19 Epidemiology

October 20, 2021

Data as of October 16, 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 increased over the last 2 weeks from 14% to 16%. The goal is to be less than 8%*.
 - Weekly case counts in Ottawa increased 5%, from 910 two weeks ago to 954 last week.
 - Cases among children increased about 1%, from 197 two weeks ago to 199 last week.
- **Ottawa area and regional hospitals continue to see many COVID-19 patients**
 - In Ottawa County, 10% of all available beds are occupied by COVID-19 patients.**
 - About 10% 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).
 - 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**
- **Over 61% 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.

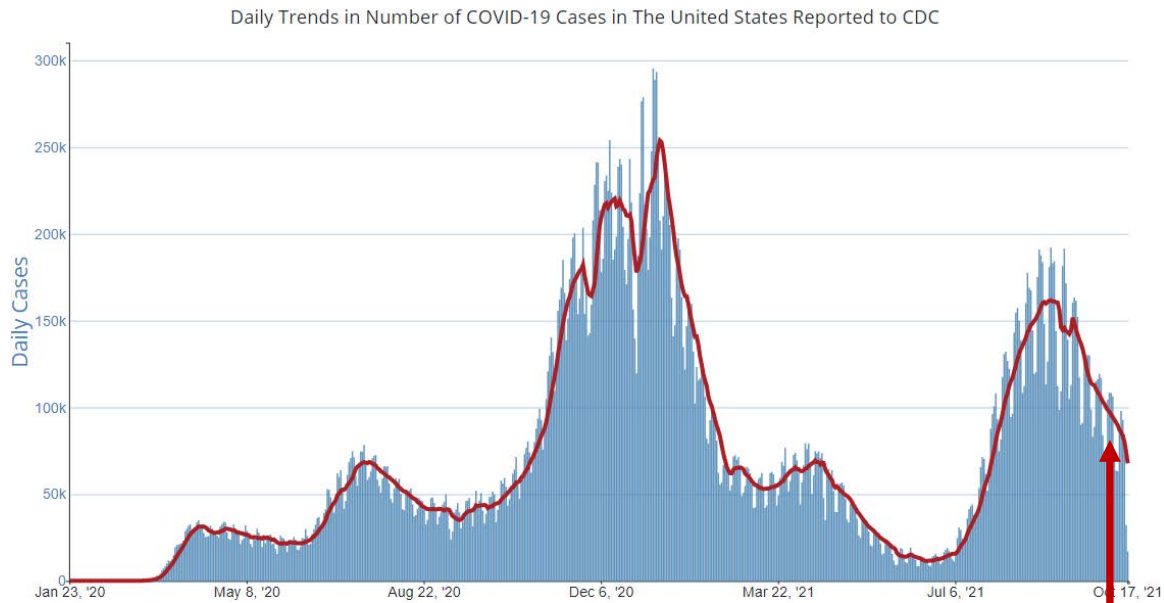
**Some hospitals in Ottawa County immediately transfer acutely ill adults or children to regional hospitals that offer a higher level of care. This practice may reduce the proportion of beds occupied by COVID-19 patients in Ottawa and increase bed occupancy in urban centers with large hospitals, such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

Ottawa County Metrics by Week

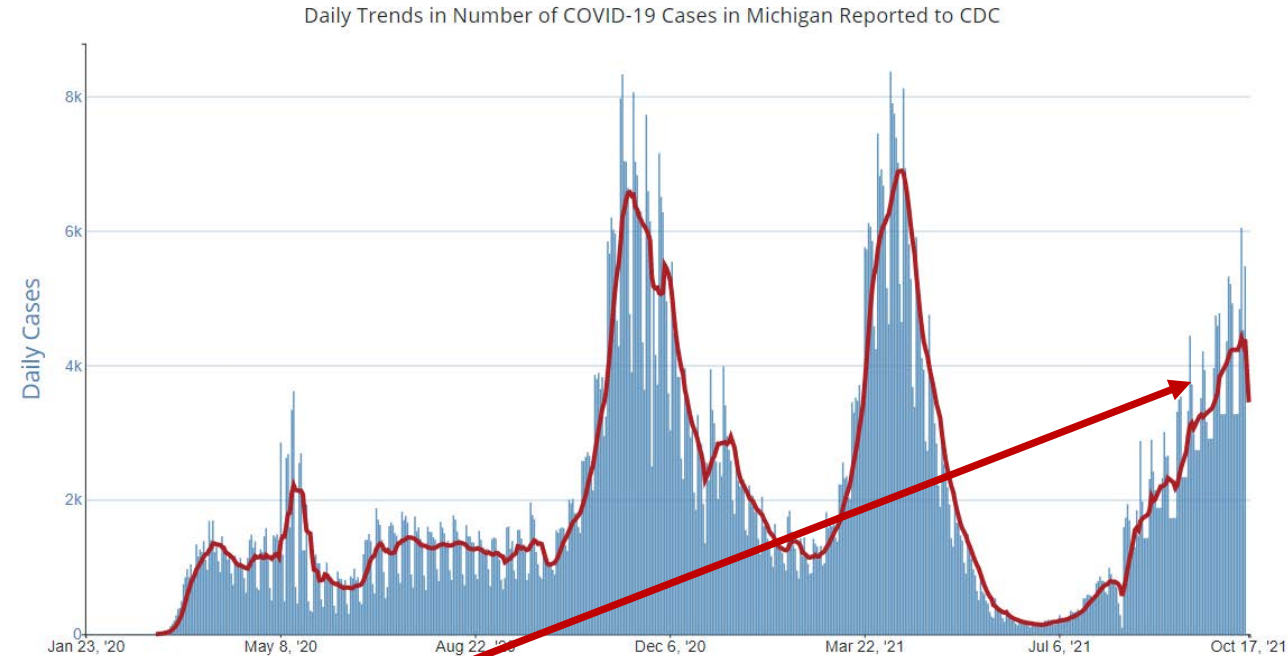
Metric	Goal	Week Ending				
		18-Sep-21	25-Sep-21	2-Oct-21	9-Oct-21	16-Oct-21
Positivity (All Ages)	<8%	11.8%	11.0%	12.0%	14.0%	16.0%
Weekly Cases (All Ages)	<147	711	767	743	910	954
Weekly Cases in Children (0-17 years of age)	NA	165	149	136	197	199
Total COVID-19 Hospitalizations (All Ages)	0	28	18	16	23	23
Total Deaths (All Ages)	0	6	4	8	8	5
CDC Risk Transmission Level	Moderate	High	High	High	High	High

Case Trends in the USA and Michigan

USA



Michigan

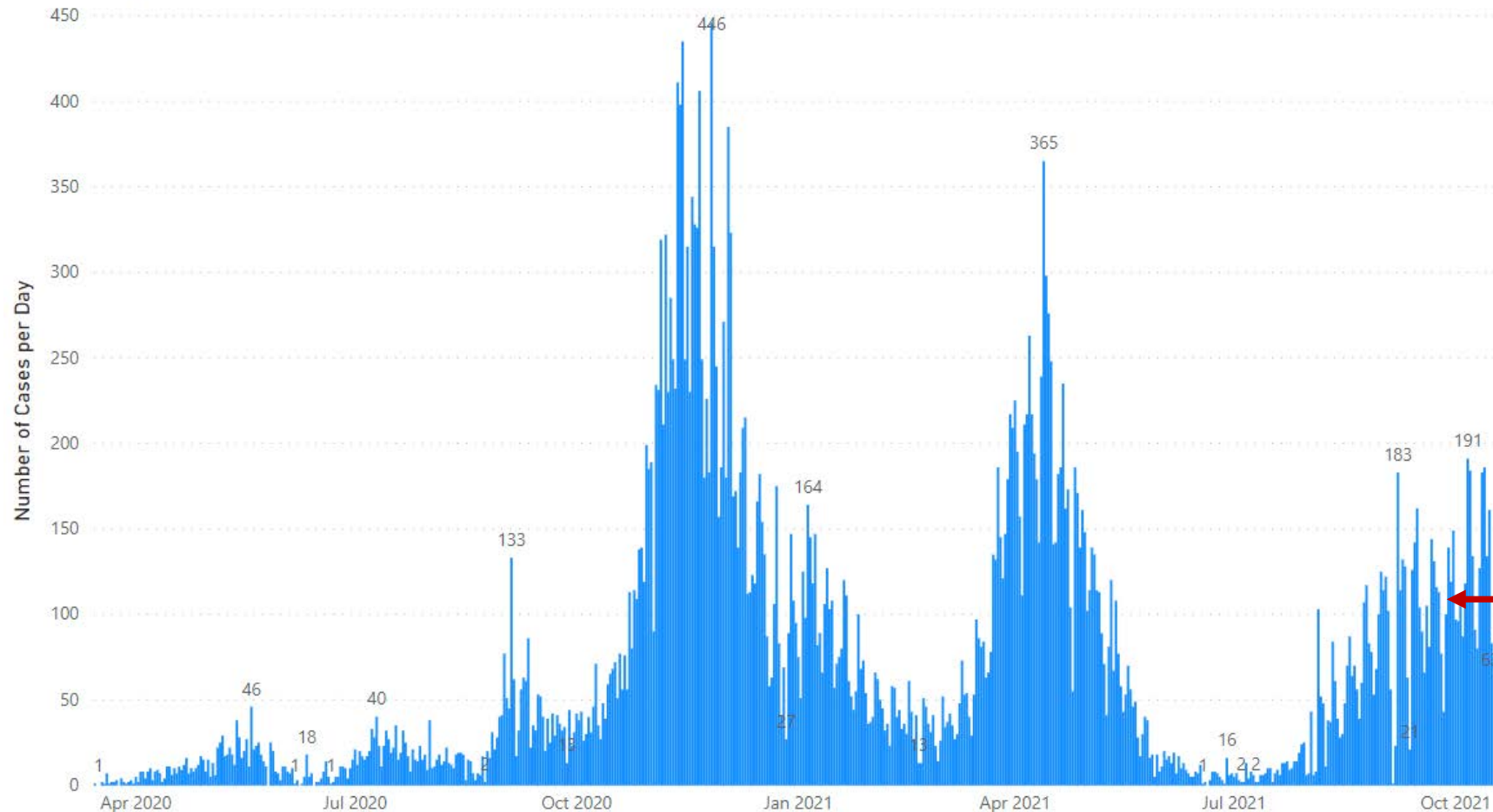


The US is decreasing while Michigan continues trending up.

Case Trends in Ottawa County

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

Epidemiological Curve



Total Number of Cases

40,395

Currently the 7-day average is **113 cases per day**, below the roughly 127 cases per day seen at this time last week. From week to week, cases increased 5% 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

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

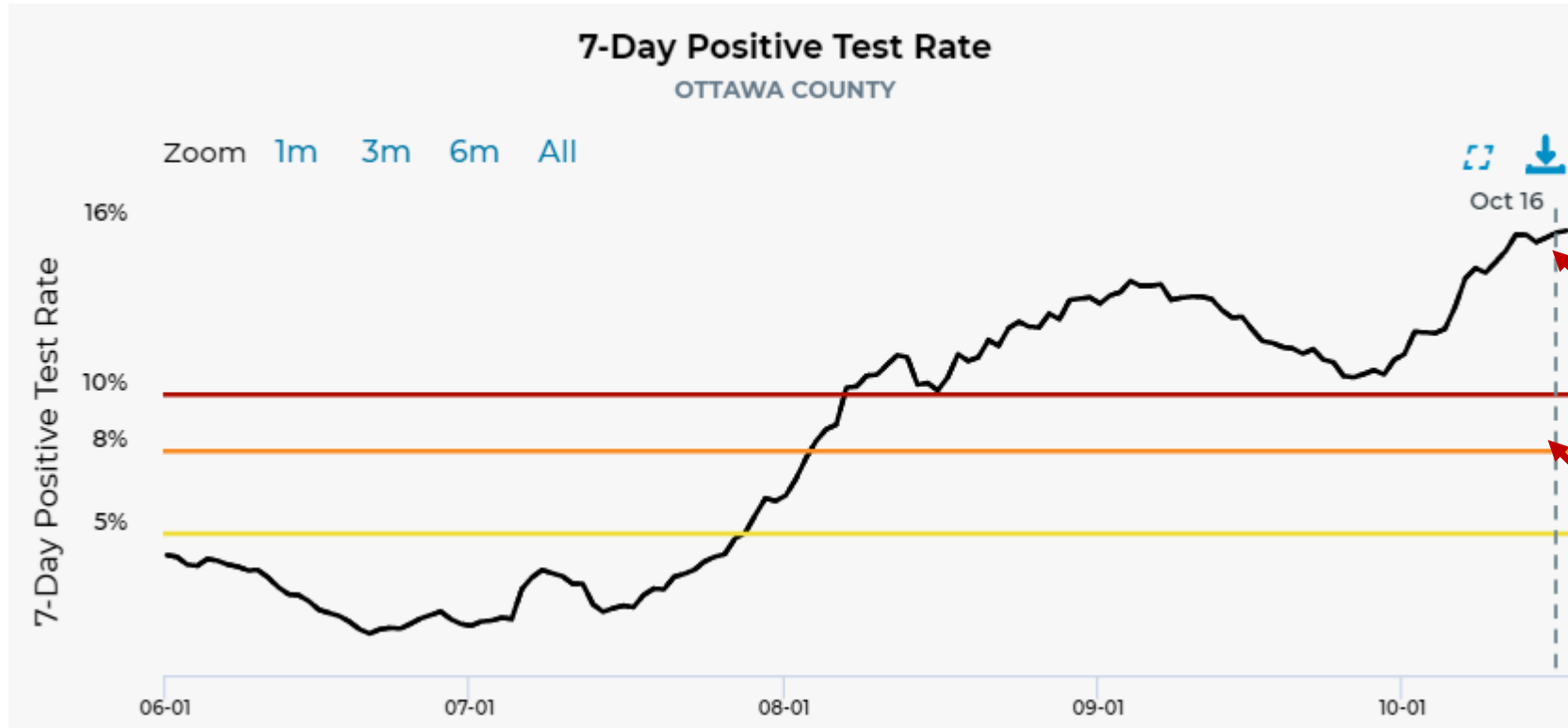
Other

Media

Science
Roundup

Test Positivity in Ottawa County

COVID-19 Cases by Day, Ottawa County, June 1, 2021 – October 16, 2021



Test positivity increased to 16% as of October 16, 2021.

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

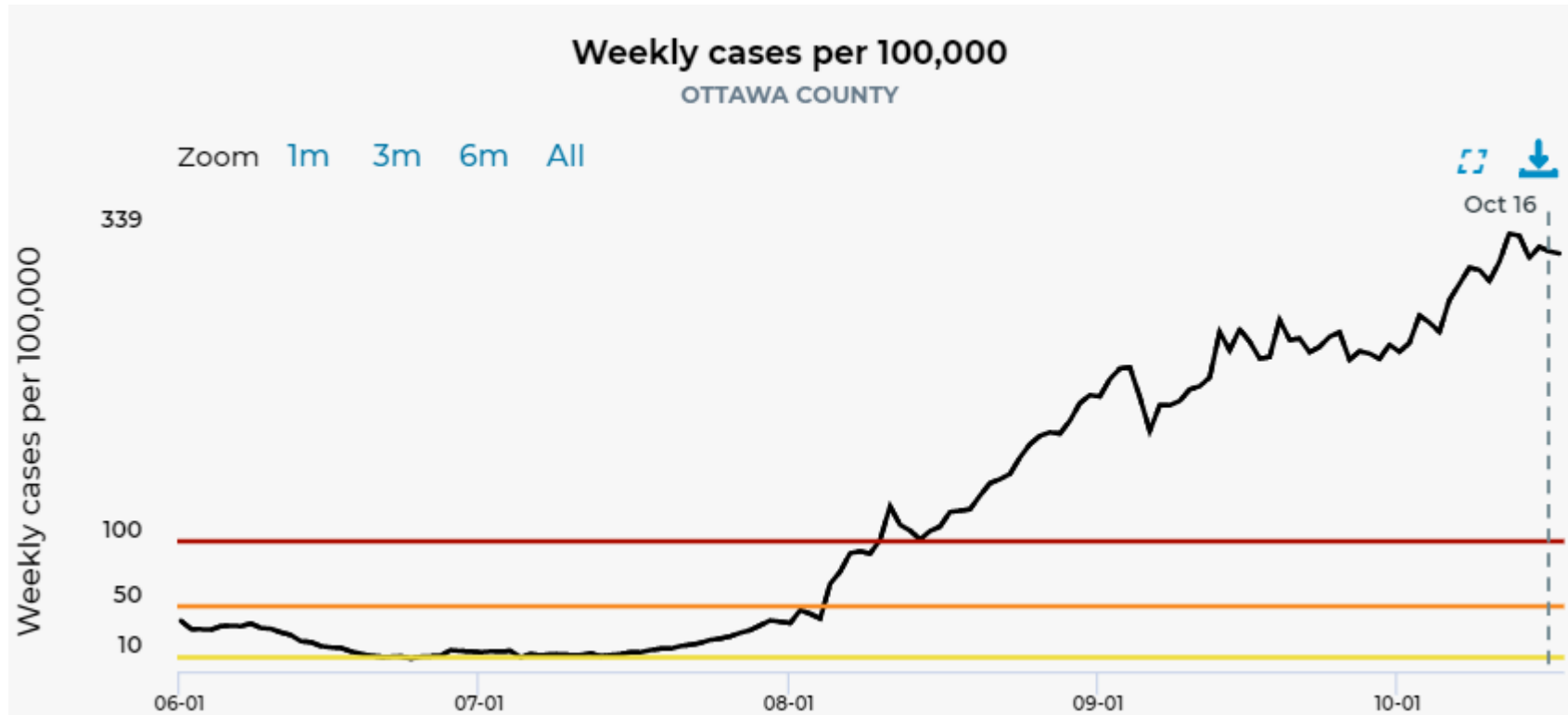


Note: Testing in Ottawa County has increased since mid-July 2021: [Testing Results | Ottawa County Covid-19 Case Summary Data \(arcgis.com\)](https://www.mistartmap.info/cdc-indicators?area=county%3Aottawa)

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

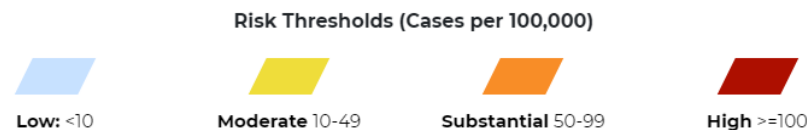
Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, June 1, 2021 – October 16, 2021



Case rates increased to over 300 cases per week per 100,000 population.

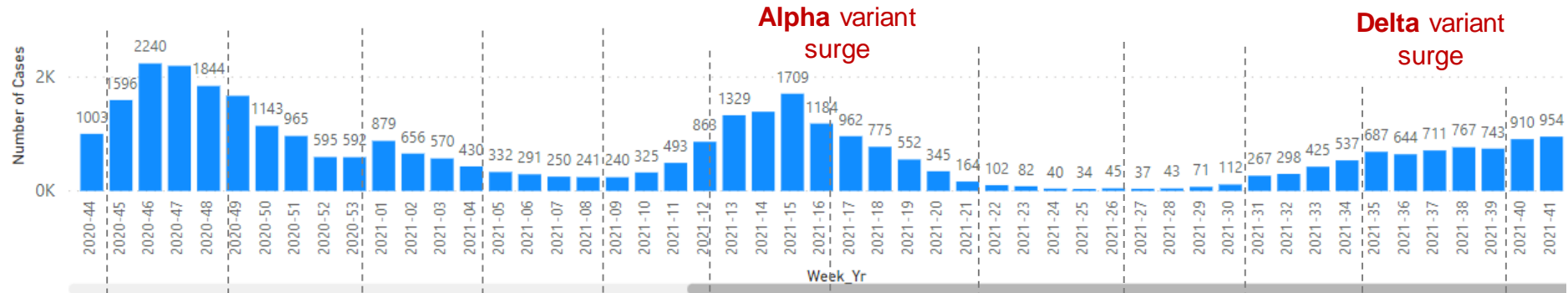
The goal is to have less than 50 cases per week per 100,000 population. In Ottawa County, this would be about 21 cases per day or less.



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

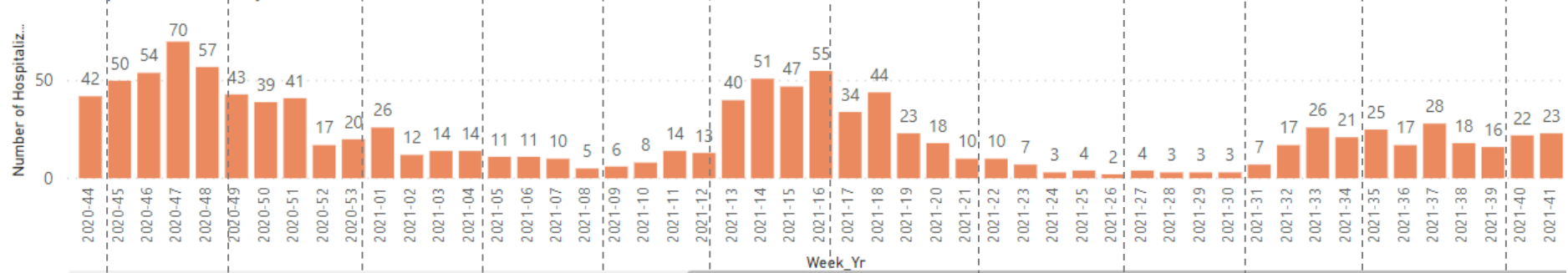
Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



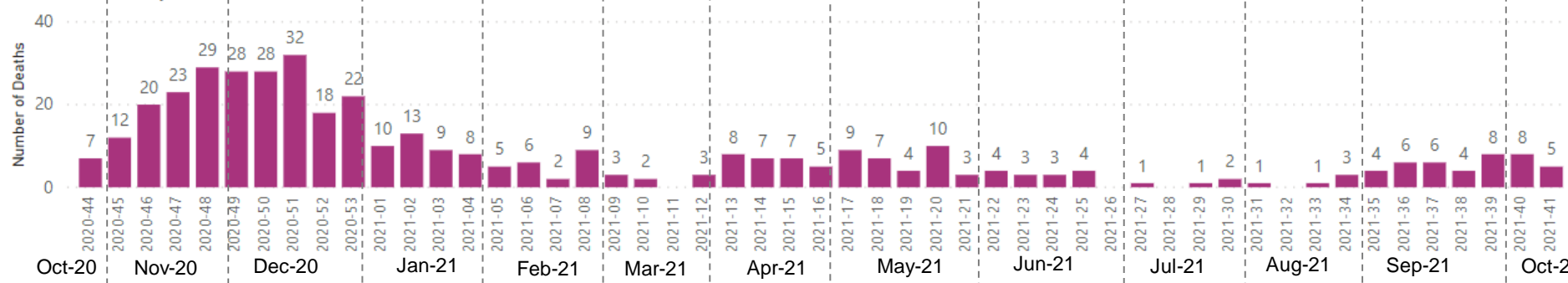
The weekly number of **cases** increased 5% last week.

New Hospitalizations by Week of Admission



The weekly number of **hospitalizations** has been relatively stable with an average of about 20 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.

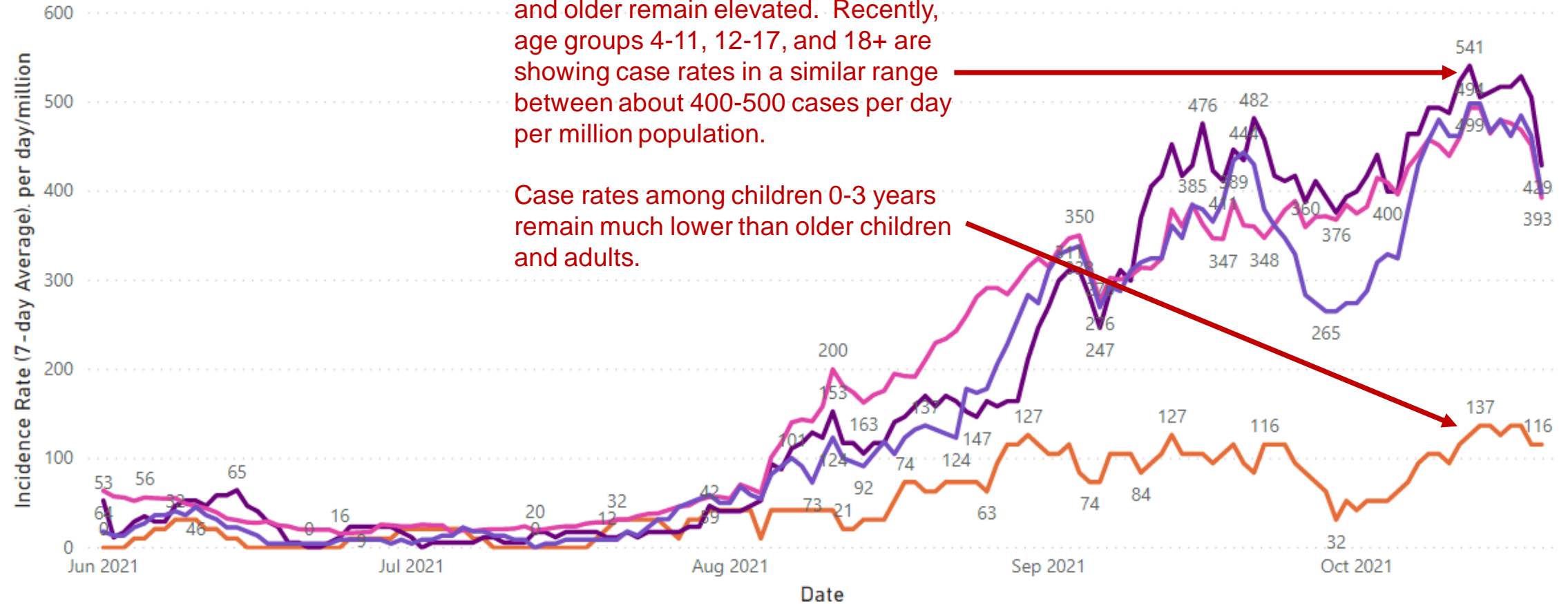
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age

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

Incidence Rate (7-day Average)

rategroup ● 0-3 ● 12-17 ● 18+ ● 4-11

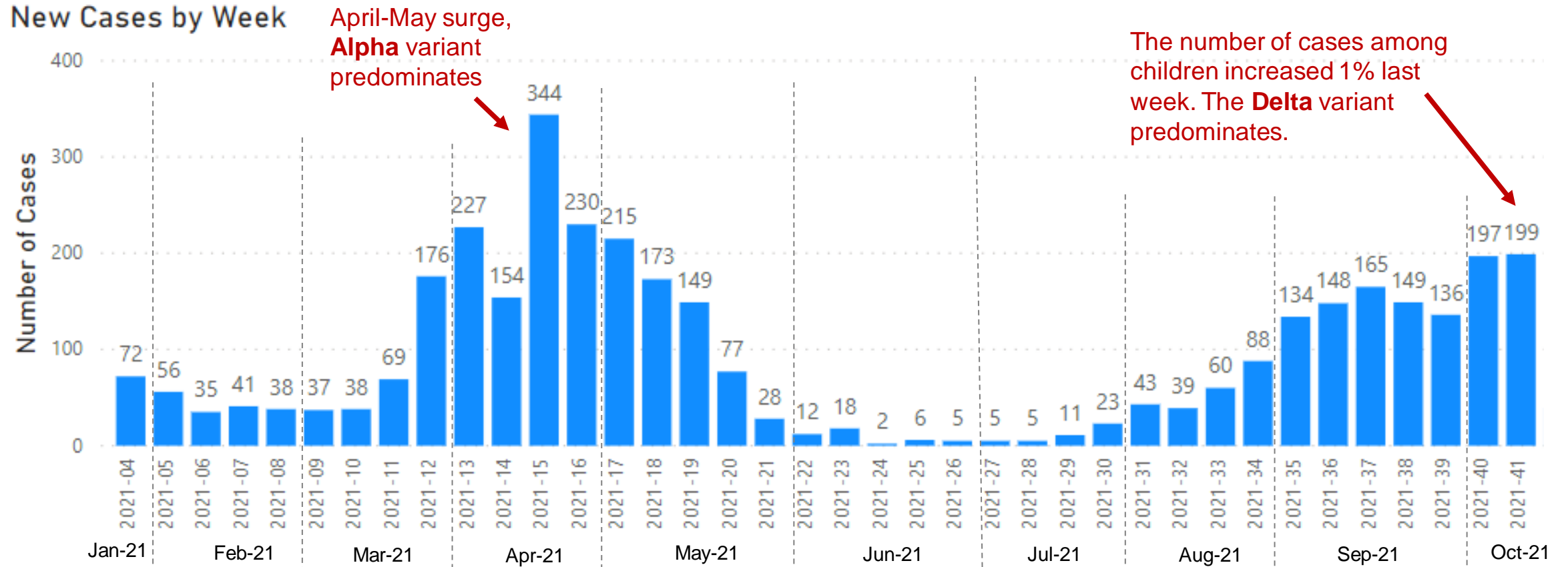


Case rates among children aged 4 years and older remain elevated. Recently, age groups 4-11, 12-17, and 18+ are showing case rates in a similar range between about 400-500 cases per day per million population.

Case rates among children 0-3 years remain much lower than older children and adults.

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

COVID-19 Cases Among Minors (0-17 years), by Week, January 2021 – October 16, 2021



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	546	10%	165	11%	711	11%
25-Sep-21	618	13%	149	-10%	767	8%
2-Oct-21	607	-2%	136	-9%	743	-3%
9-Oct-21	713	17%	197	45%	910	22%
16-Oct-21	755	6%	199	1%	954	5%

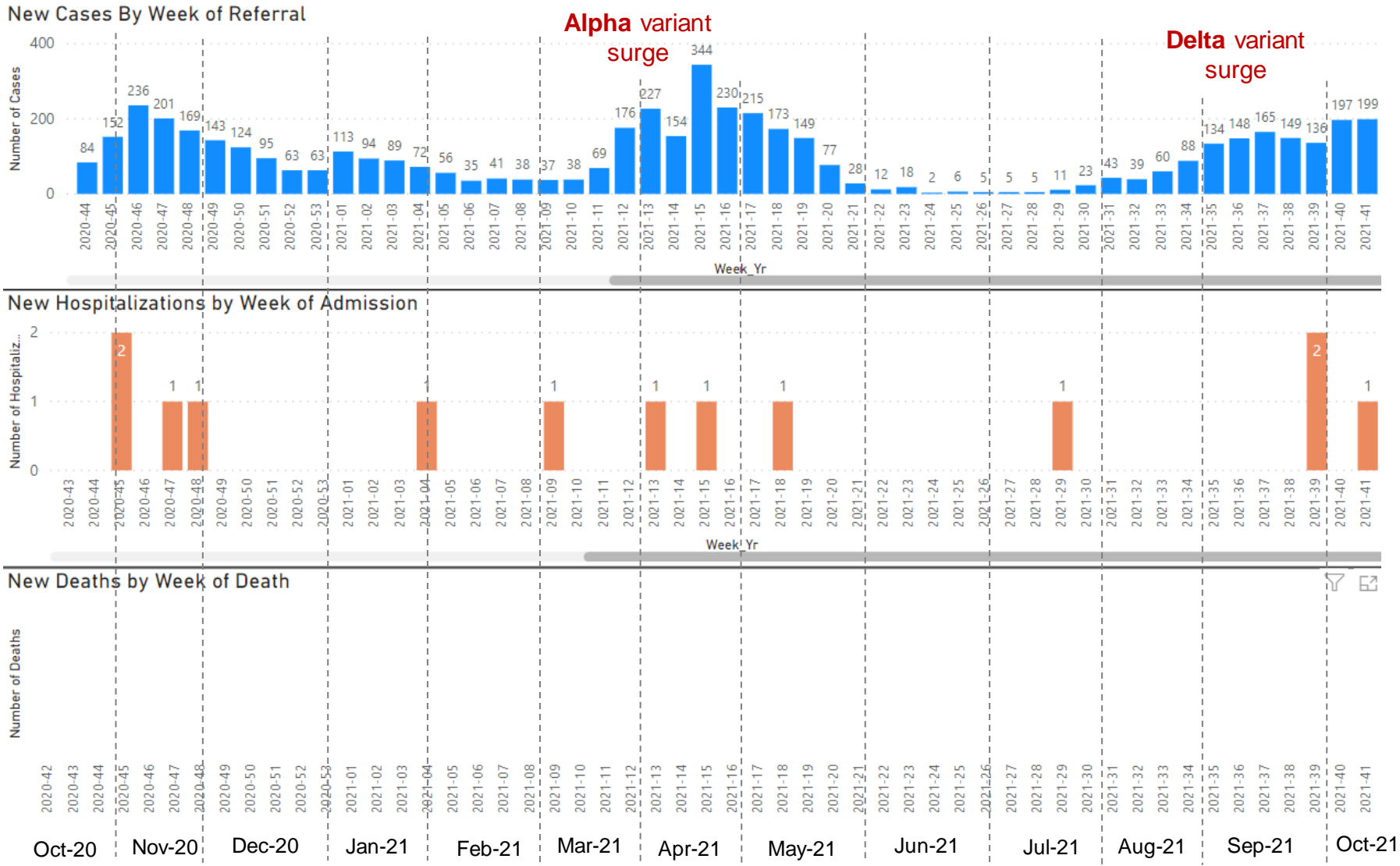
Adults

Children

Cases among children increased 1% last week, and cases in adults increased 6%.

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

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



The weekly number of cases among children increased 1% 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.

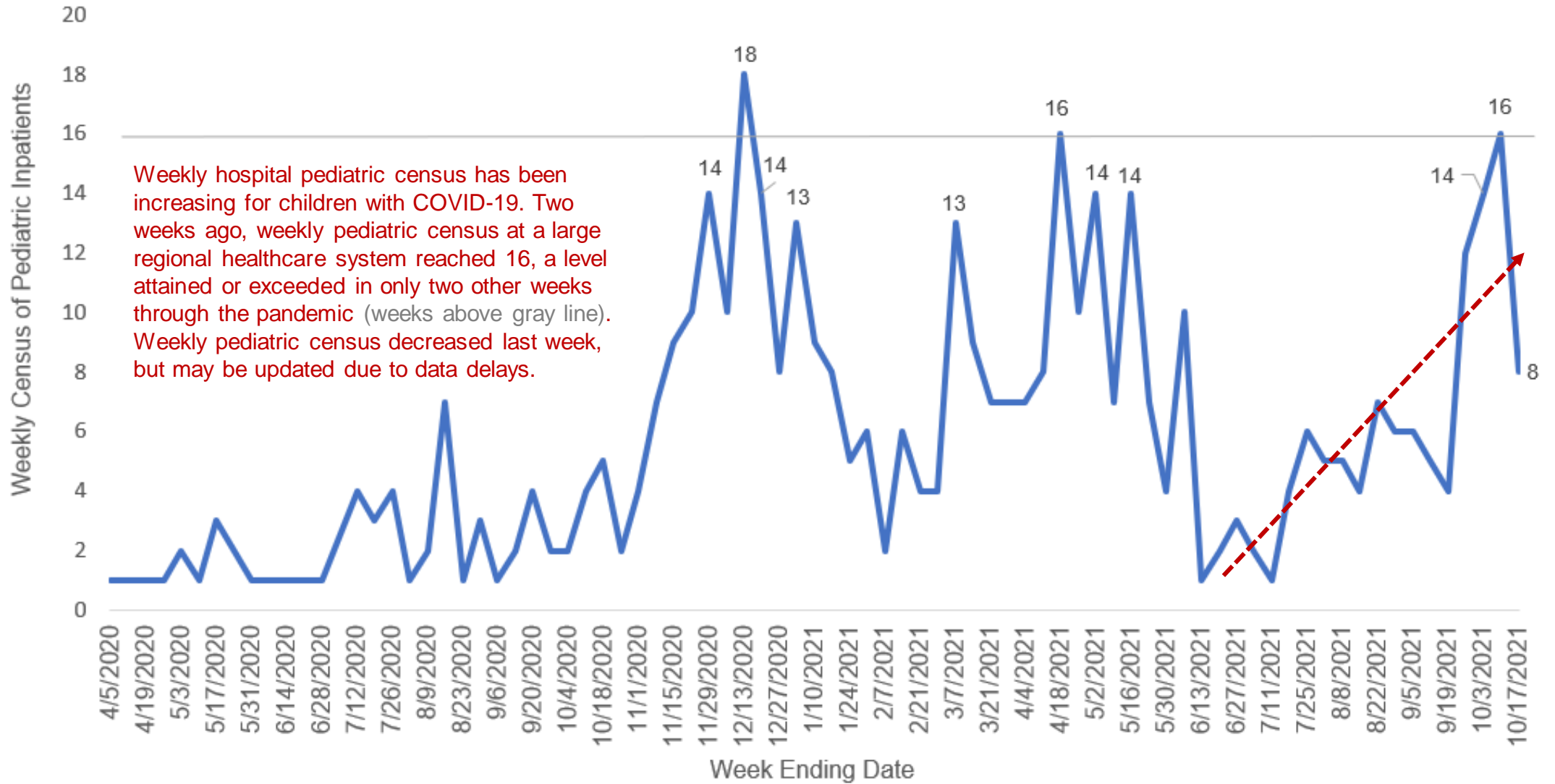
Through the 2020-2021 school year nearly all school-aged children were in environments with:

- 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.

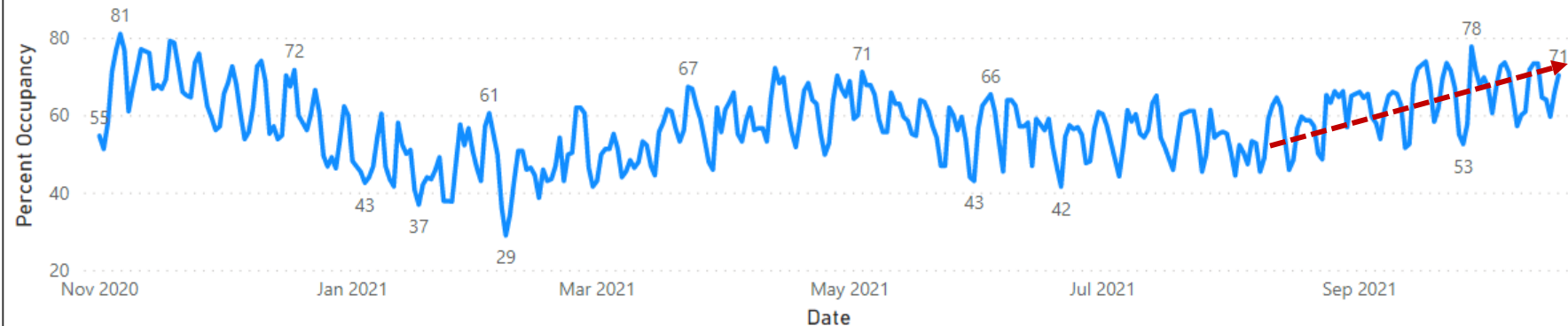
Data through October 17, 2021

Ottawa County Hospital Capacity – All Beds

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

Percent Occupancy by Date and County

County ● Ottawa



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

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

Percent Occupancy by Date and County

County ● Ottawa

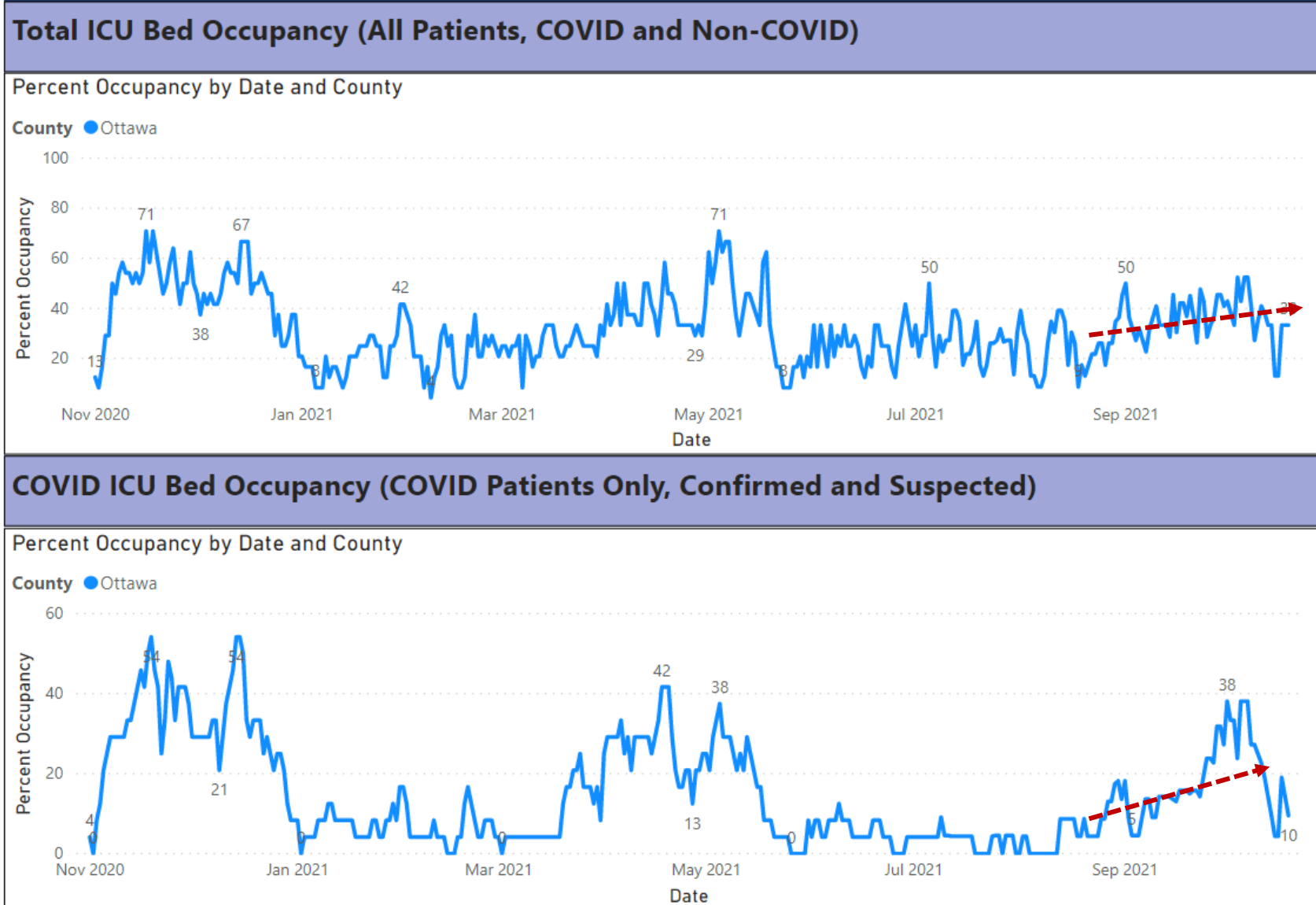


Currently **10%** of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through October 19, 2021

Ottawa County Hospital Capacity – ICU Beds



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

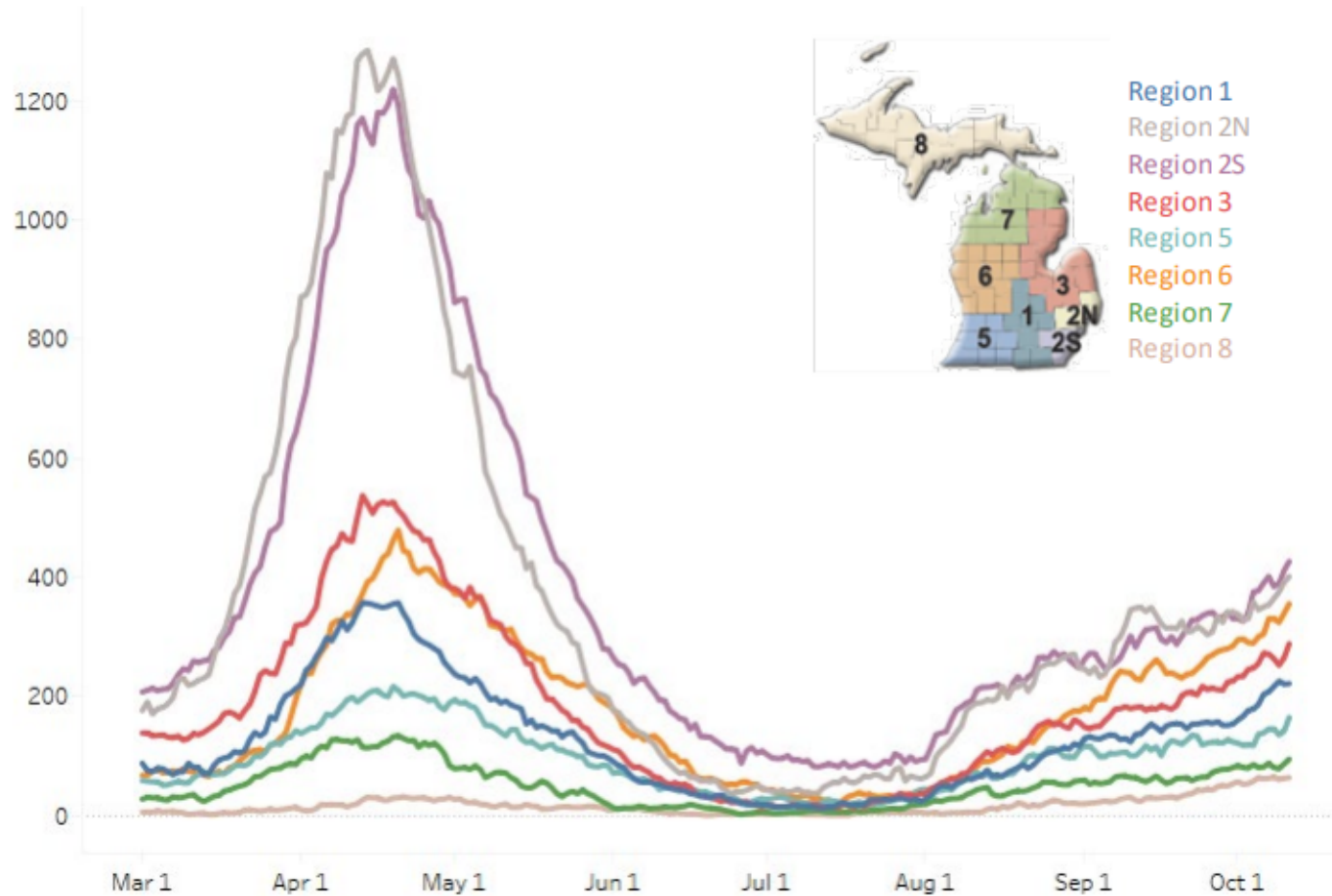
The proportion of ICU beds occupied by COVID patients is **currently 10%**.

Source: EMResources

Data through October 19, 2021

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 10/11/2021
Confirmed Positive by Region



The hospital census of COVID+ patients has increased in all regions. The fastest growth was seen in Regions 1, 5 and 6.

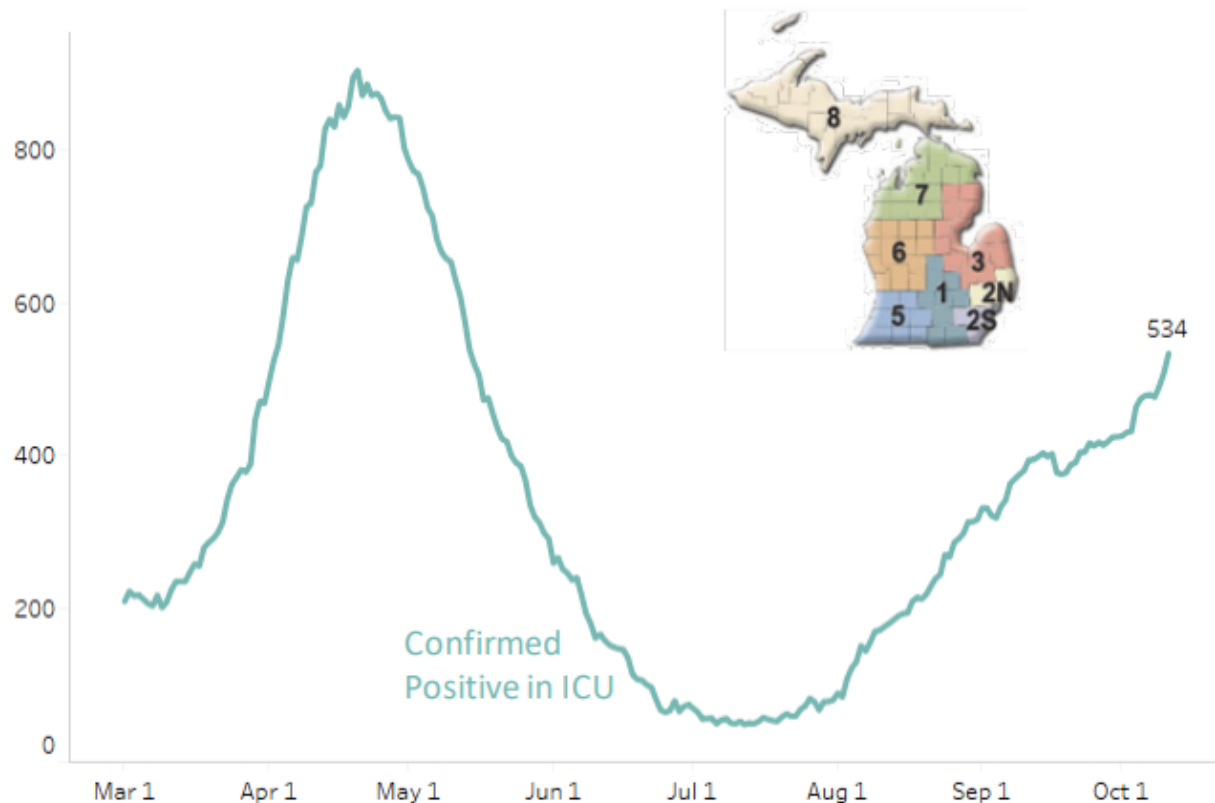
Regions 1, 3, 6 and 8 have greater than 200/M population hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	221 (24%)	204/M
Region 2N	401 (12%)	181/M
Region 2S	426 (15%)	191/M
Region 3	288 (17%)	254/M
Region 5	164 (40%)	172/M
Region 6	355 (23%)	242/M
Region 7	94 (11%)	188/M
Region 8	63 (11%)	202/M

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211012_Data_and_modeling_update_vMEDIA_738348_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 10/11/2021
Confirmed Positive in ICUs



The census of COVID+ patients in ICUs has increased by 15% from last week

Regions 1, 6, 7 and 8 have greater than 30% of adult ICU beds filled with COVID+ patients and Region 6 is approaching ~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	56 (8%)	90%	32%
Region 2N	95 (0%)	74%	17%
Region 2S	116 (30%)	85%	17%
Region 3	79 (25%)	91%	23%
Region 5	33 (-3%)	75%	18%
Region 6	90 (11%)	83%	39%
Region 7	45 (29%)	81%	31%
Region 8	20 (33%)	69%	32%

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211012_Data_and_modeling_update_vMEDIA_738348_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan

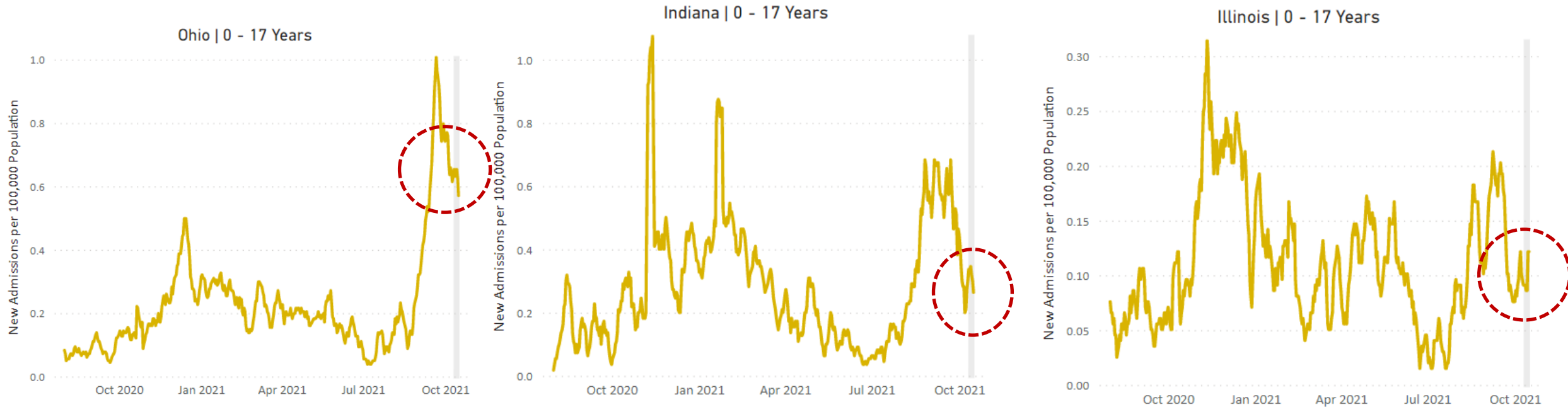


Pediatric hospitalization rates across the United States and most southern states (such as Georgia) have decreased substantially. Michigan currently has lower pediatric hospitalization rates than past waves, but rates continue to increase.

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

Accessed October 19, 2021

Pediatric Hospitalization Rates – Select Midwest States



Pediatric hospitalization rates in some states across the Midwest are elevated. Ohio continues experiencing a substantial surge, while Indiana and Illinois have shown improving pediatric hospitalization rates and some potential stabilization.

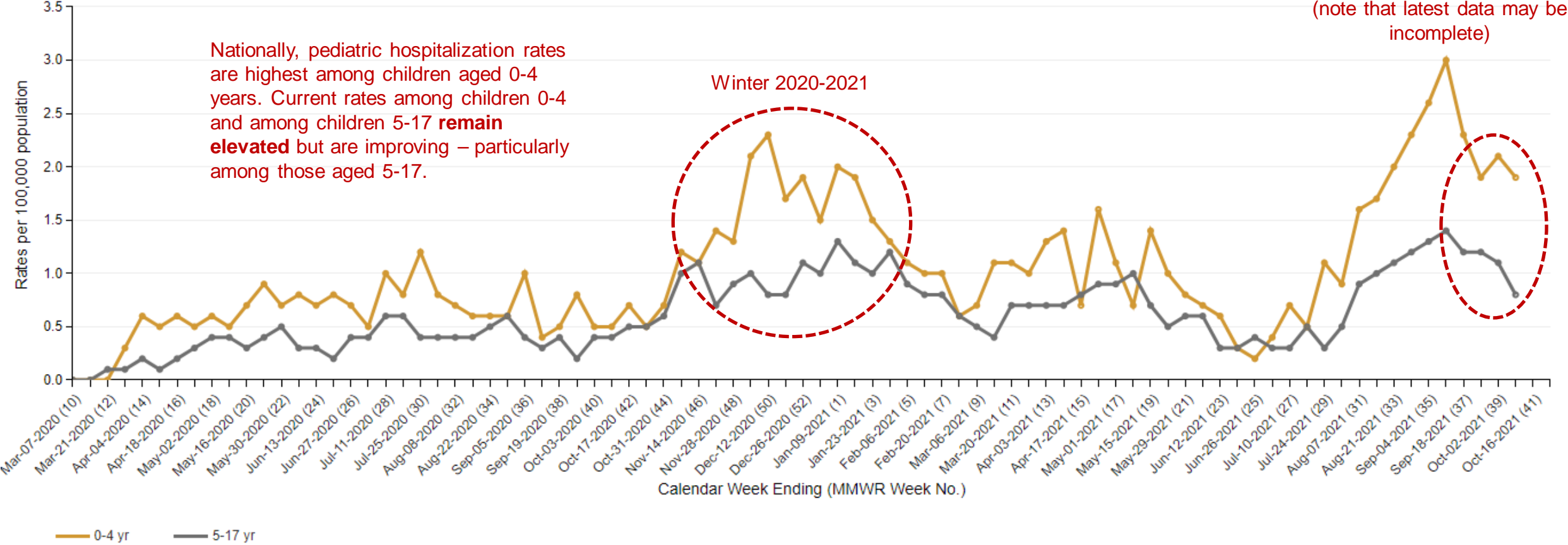
Source: <https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions>

Accessed October 19, 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.

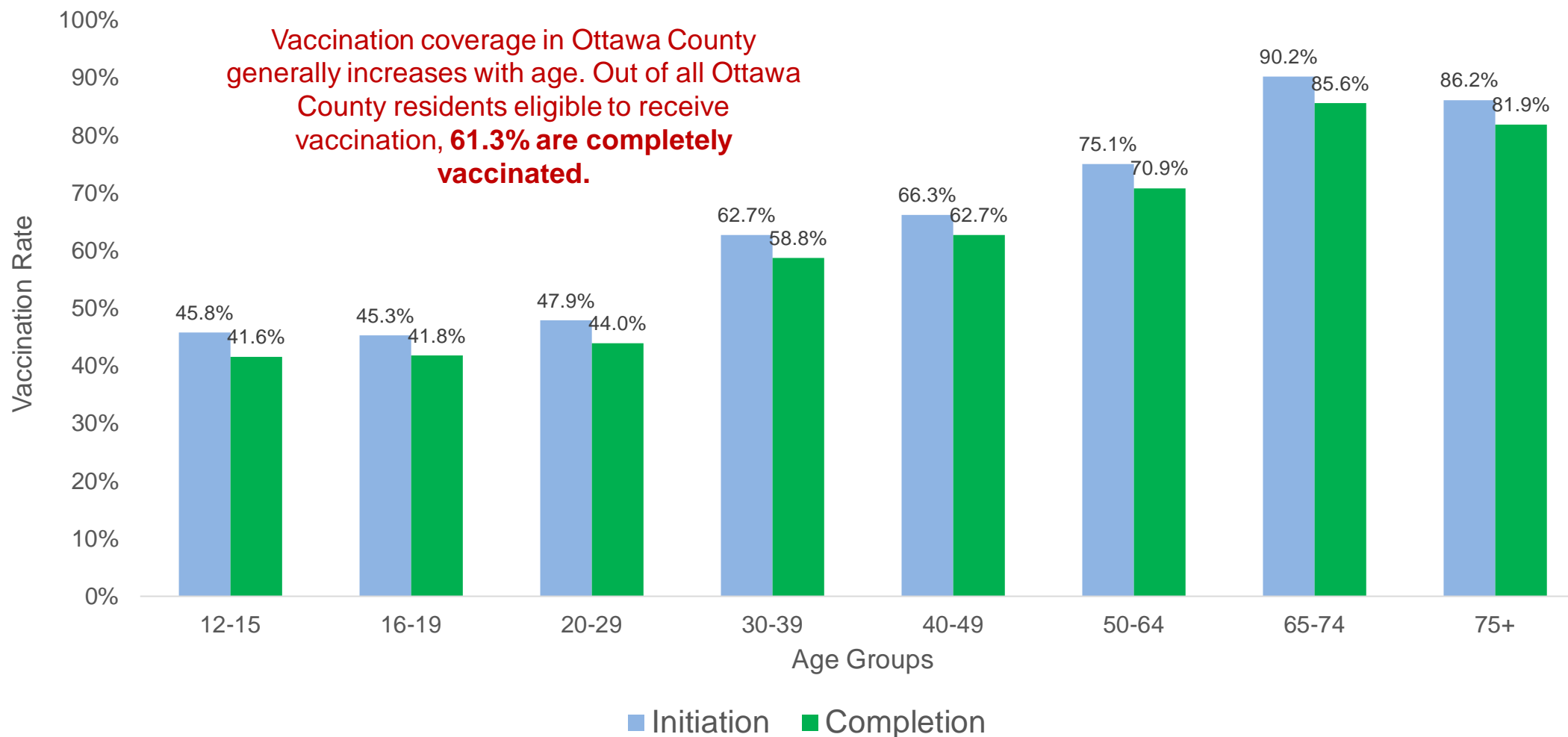


The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. As data are received each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

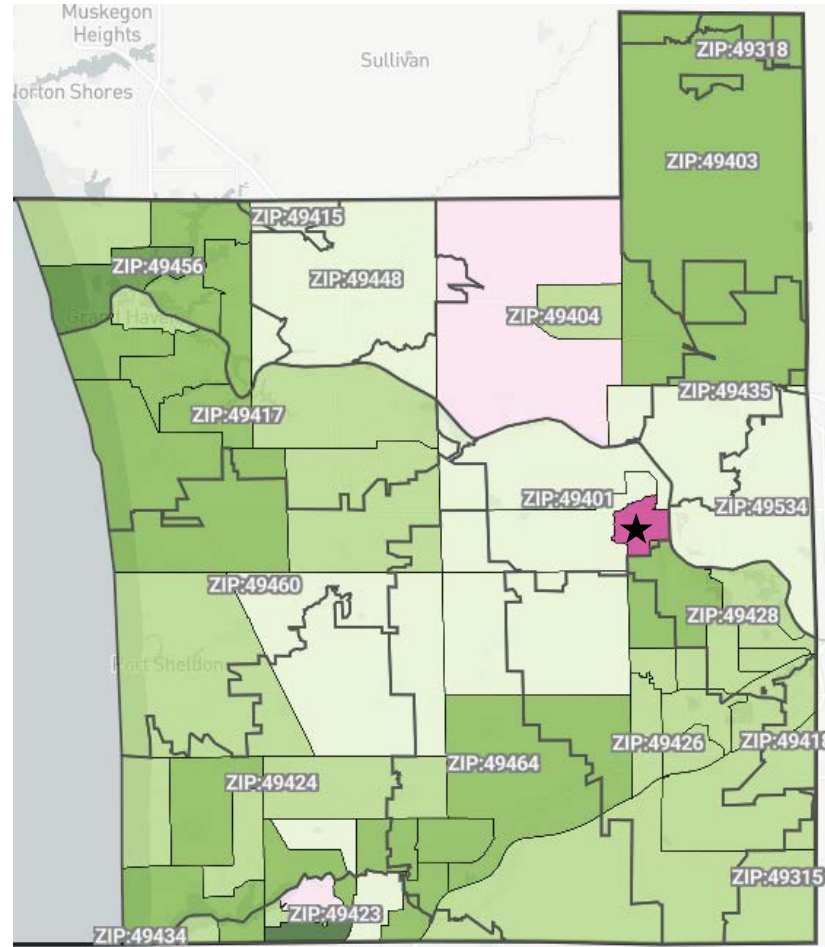
Source: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Data through October 19, 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+)

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% >90% <150 Population



★ 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 16, 2021

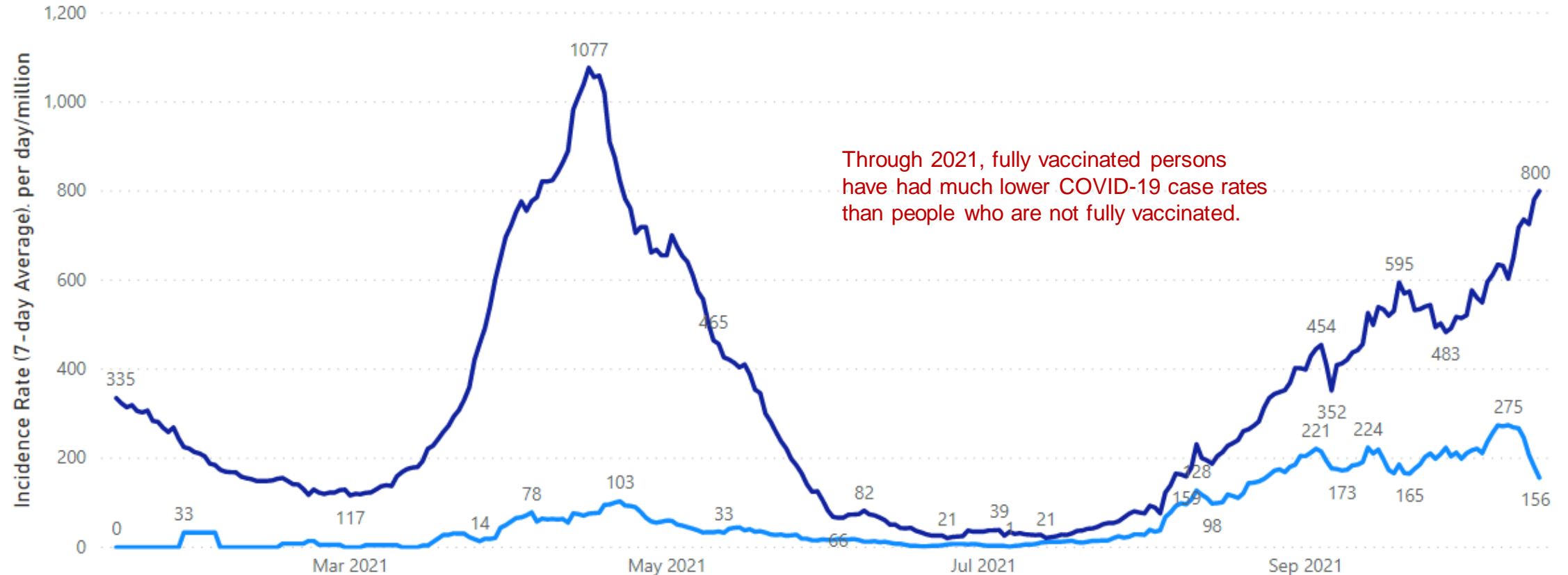
Fully Vaccinated People (150,673)		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (17,738 / 20,121) 88.2%	Percent of Hospitalizations in People Not Fully Vaccinated (584 / 696) 83.9%	Percent of Deaths in People Not Fully Vaccinated (115 / 147) 78.2%
Total Cases Not Fully Vaccinated 17,738	Total Hospitalized Not Fully Vaccinated 584	Total Deaths Not Fully Vaccinated 115
Total Breakthrough Cases 2,383	Total Breakthrough Hospitalizations 112	Total Breakthrough Deaths 32
Percent of Fully Vaccinated People who Developed COVID-19 (2,383 / 150,673) 1.582%	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (112 / 150,673) 0.074%	Percent of Fully Vaccinated People who Died of COVID-19 (32 / 150,673) 0.021%
Percent of Cases who were Fully Vaccinated (2,383 / 20,121) 11.8%	Percent of Hospitalizations who were Fully Vaccinated (112 / 696) 16.1%	Percent of Deaths who were Fully Vaccinated (32 / 147) 21.8%
Total Cases 20,121	Total Hospitalizations 696	Total Deaths 147

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

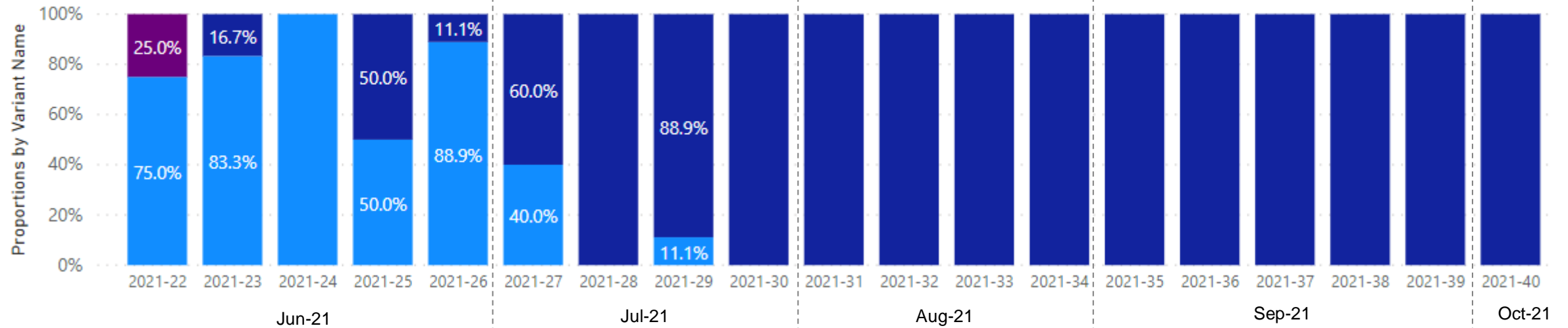
Media

Science Roundup

Variants – Clinical Samples from Ottawa County Residents

Variant Proportions by Week

Variant Name ● Alpha ● Delta ● Gamma



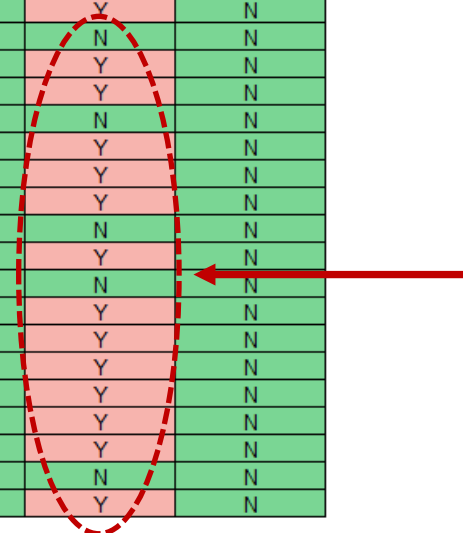
In June of 2021, most clinical samples* submitted for variant testing came back as the **Alpha** variant. By the end of July 2021, all clinical samples tested were returned as the **Delta** variant. Since late July 2021 all clinical samples submitted for variant testing came back positive for the Delta 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

Y = Detected
N = Not Detected

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



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.

Variants – Wastewater Sampling – Grand Haven/Spring Lake

Y = Detected
N = Not Detected

Sample Date	Site	Wuhan (parental)	Delta	Epsilon
7/28/2021	Grand Haven Township and Local Station	N	Y	N
8/4/2021	Grand Haven Municipal Station	Y	Y	N
8/4/2021	Spring Lake Station	Y	Y	N
8/11/2021	Grand Haven/Spring Lake WWTP	Y	Y	N
8/23/2021	Spring Lake Station	N	Y	N
9/1/2021	Grand Haven Municipal Station	Y	Y	N
9/8/2021	Grand Haven Township and Local Station	Y	Y	N
9/13/2021	Grand Haven Township and Local Station	Y	Y	N
9/27/2021	Grand Haven Township and Local Station	Y	Y	N
9/29/2021	Spring Lake Station	Y	Y	N
10/4/2021	Grand Haven Township and Local Station	Y	Y	N
10/4/2021	Grand Haven Influent	N	Y	N
10/6/2021	Grand Haven Municipal Station	Y	Y	N
10/6/2021	Grand Haven Township and Local Station	Y	Y	N

The **Delta** variant was consistently detected in Grand Haven and Spring Lake wastewater samples since late July 2021. Although the parental Wuhan strain was detected in the same timeframe, it was detected fewer weeks, indicating that Delta remains the dominant variant in Ottawa County.

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 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*

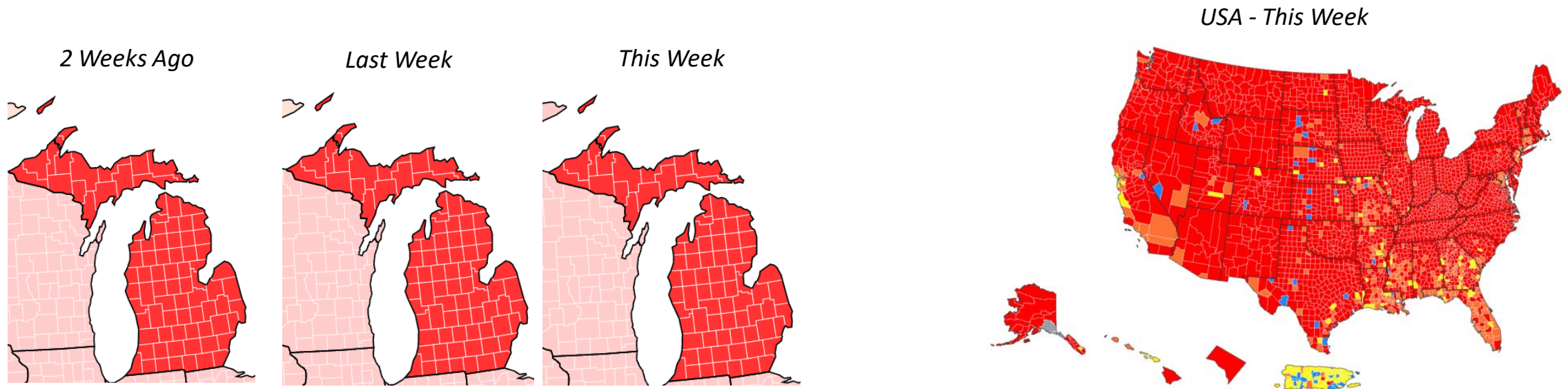
Ottawa is in the High category right now

*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 9+ weeks)
- Current Data:
 - Positivity = 15.29%
 - Case Rate = 330.33 cases per week per 100,000



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

Data as of October 19, 2021

USA & MI

Spread

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Vaccinations

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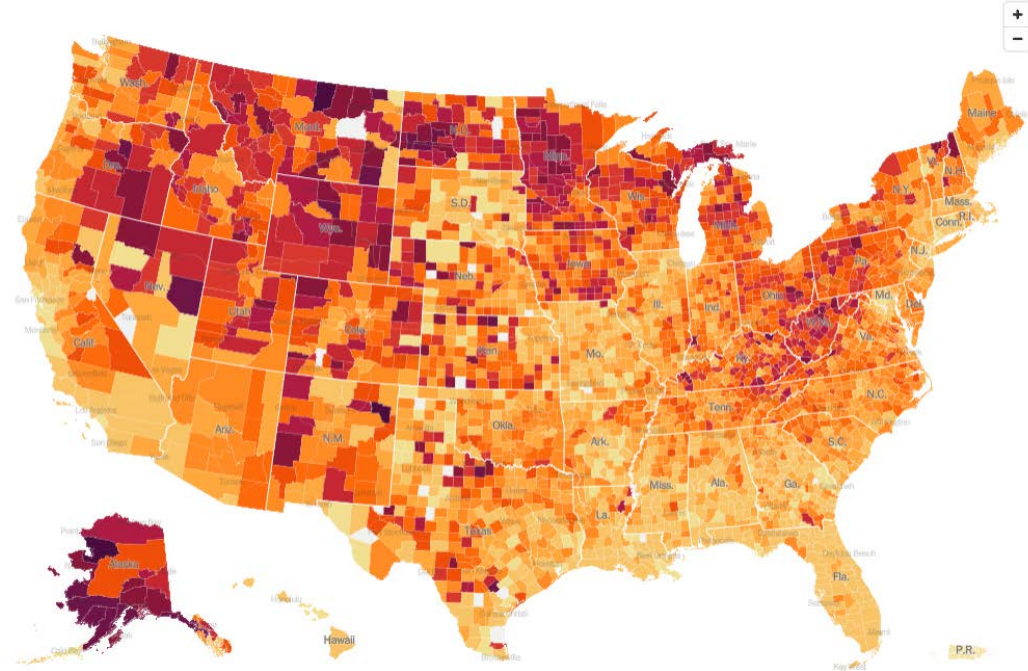
Other

Media

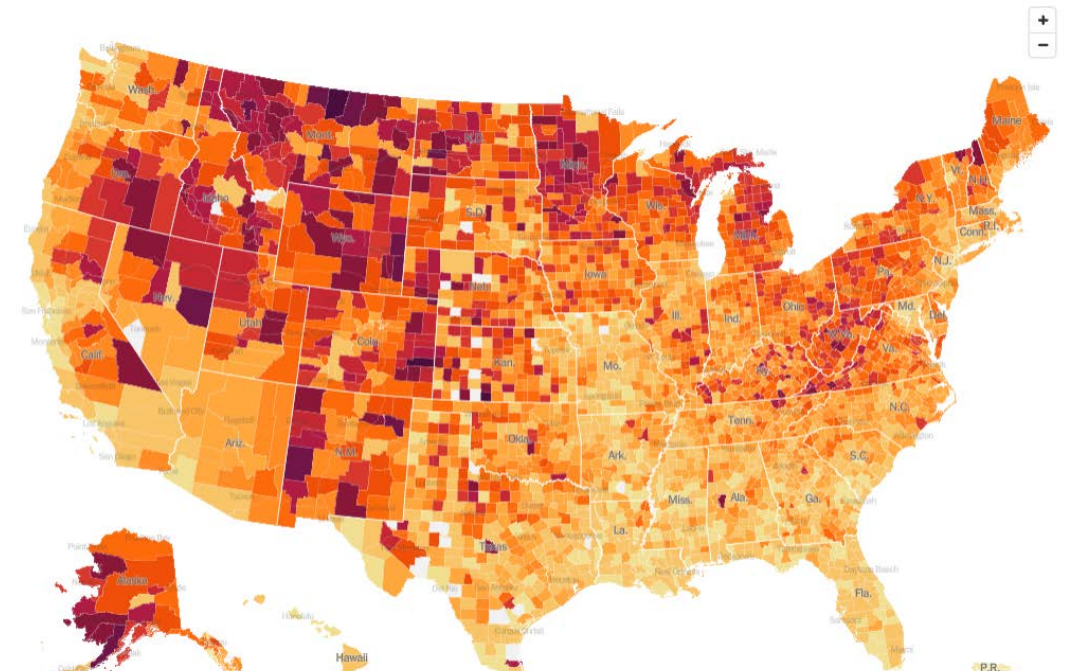
Science
Roundup

COVID-19 Case Rates by County Across the US

Last Week



This Week



Case rates in the deep South have improved substantially and Appalachia has experienced recent improvement as well. 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 19, 2021

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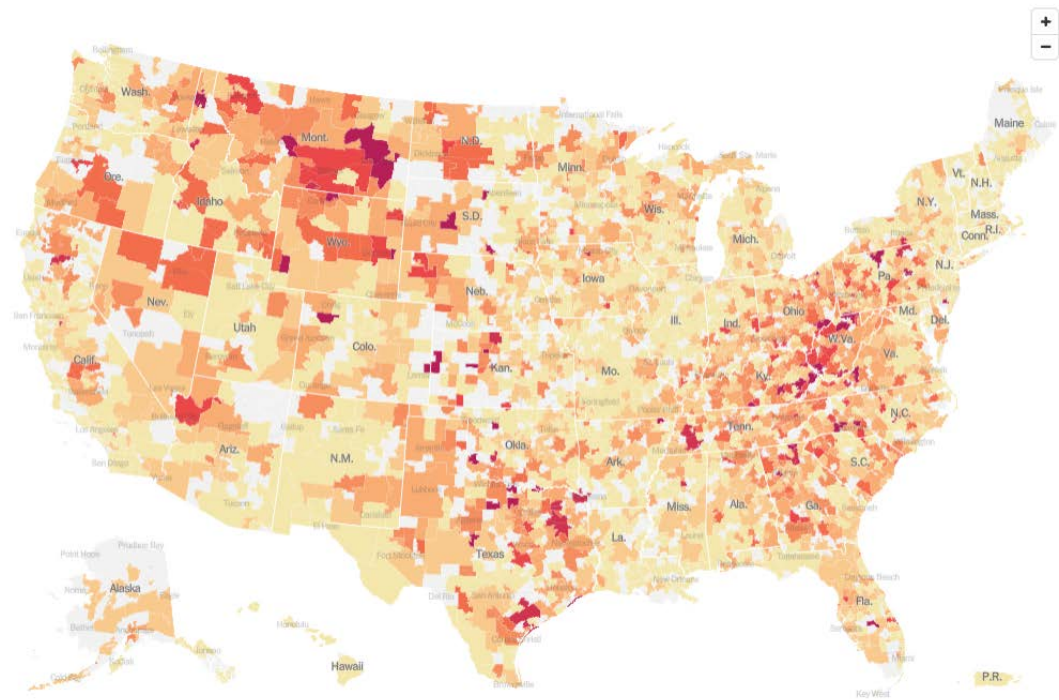
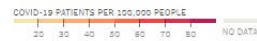
Science
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COVID-19 Hospitalization Rates by County Across the US

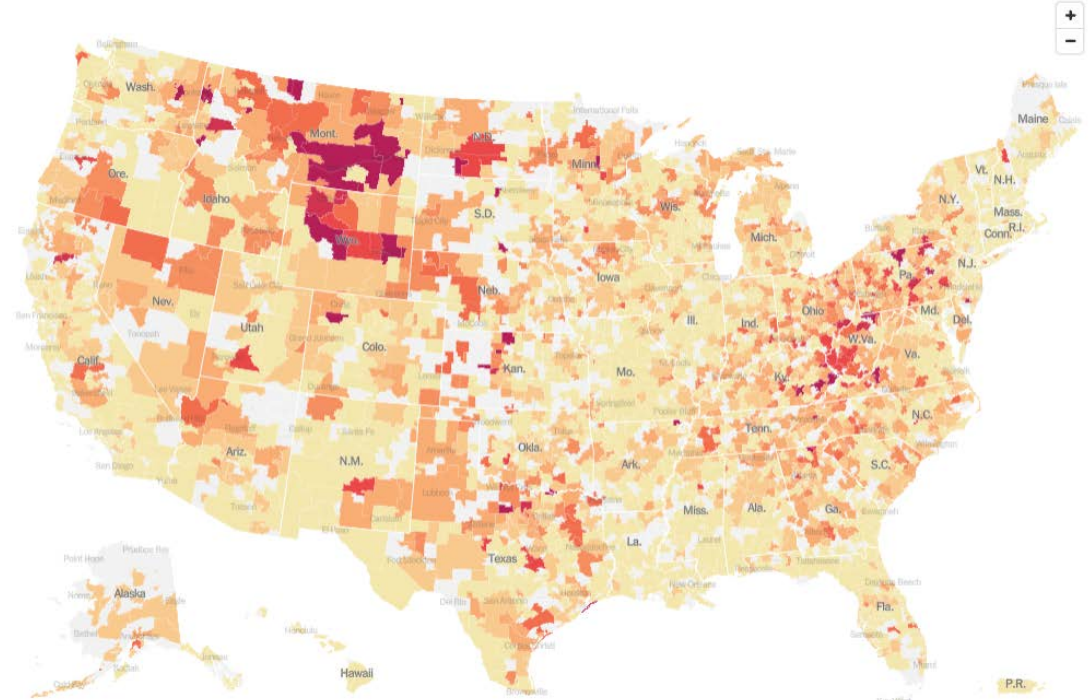
Last Week

This Week

Current hospitalizations



Current hospitalizations



Hospitalization rates are improving 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

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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
- **Recently Rescinded County Mask Mandates (6):**
 - Allegan, Barry, Berrien, Eaton, Iron, Dickinson

Notes: List may not be comprehensive

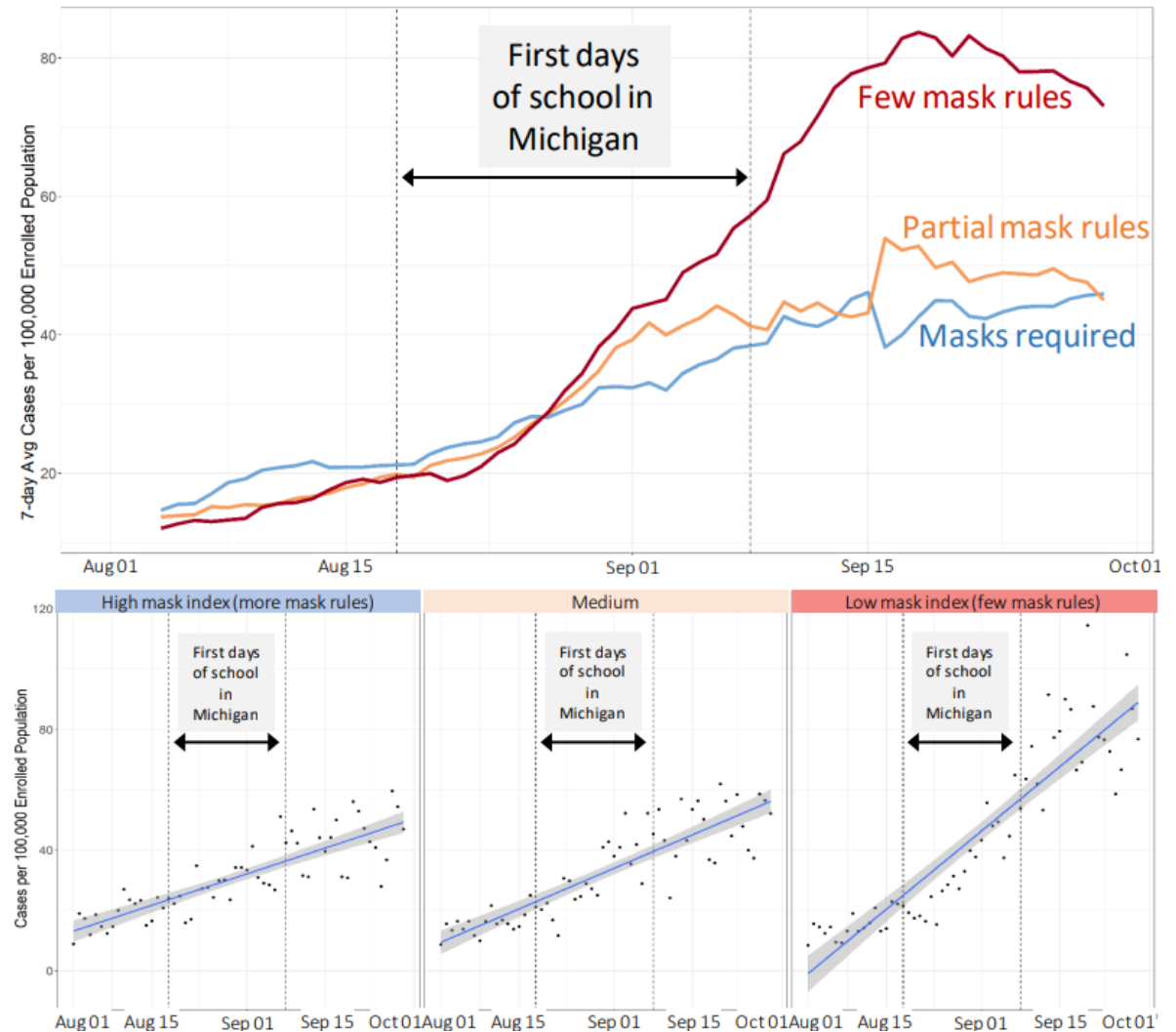
MDHHS Evaluation Shows Higher Case Rates in School Districts with Fewer Mask Rules

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 lower case rates with slower increases
- Note districts may change categories as mask rules change
- Districts with mask rules may also have other prevention measures that can contribute to lower transmission levels



High mask index = mask required for all grades; Medium = partial mask req. (tiered, some grades, based on vax status, staff only); Low = None or unknown. Blue line & shaded region is a linear trend fit. Data Sources: MDSS/MDHHS case data as of 10/6/2021 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/20211012_Data_and_modeling_update_vMEDIA_738348_7.pdf

COVID-19 News Headlines

K-12 schools without mask mandates in Michigan saw 62% more coronavirus spread

Kristen Jordan Shamus Detroit Free Press
Published 3:00 p.m. ET Oct. 15, 2021

<https://www.hollandsentinel.com/story/news/coronavirus/2021/10/15/michigan-data-show-mask-mandates-slow-covid-spread-in-schools/8465688002/>

Holland Hospital at capacity amid staffing issues, COVID cases

Mitchell Boatman The Holland Sentinel
Published 8:15 a.m. ET Oct. 15, 2021

<https://www.hollandsentinel.com/story/news/healthcare/2021/10/15/holland-hospital-capacity-amid-staffing-issues-covid-cases/8456538002/>

FDA panel unanimously recommends Moderna Covid booster shots for at-risk adults

PUBLISHED THU, OCT 14 2021 3:11 PM EDT | UPDATED THU, OCT 14 2021 5:19 PM EDT

<https://www.cnbc.com/2021/10/14/fda-panel-unanimously-recommends-moderna-covid-booster-shots-for-at-risk-adults.html>

Michigan COVID-19 caseload is 3 times higher than this time last year. Why? And does anybody care?


Updated: Oct. 18, 2021, 9:31 a.m. | Published: Oct. 17, 2021, 8:00 a.m.

<https://www.mlive.com/public-interest/2021/10/michigan-covid-19-caseload-is-3-times-higher-than-this-time-last-year-why-and-does-anybody-care.html>

Science Roundup

Article | [Open Access](#) | [Published: 18 October 2021](#)

Asymptomatic COVID-19 Adult Outpatients identified as Significant Viable SARS-CoV-2 Shedders

[Marie Glenet](#), [Anne-Laure Lebreil](#), [Laetitia Heng](#), [Yohan N'Guyen](#), [Ittah Meyer](#) & [Laurent Andreoletti](#) 

<https://www.nature.com/articles/s41598-021-00142-8>

← A study out of France identified high COVID-19 RNA loads in upper respiratory tracts of both symptomatic and asymptomatic cases, suggesting that asymptomatic shedding may be contributing to community transmission.

Effectiveness of Pfizer–BioNTech mRNA Vaccination Against COVID-19 Hospitalization Among Persons Aged 12–18 Years — United States, June–September 2021

Early Release / October 19, 2021 / 70

[Effectiveness of Pfizer-BioNTech mRNA Vaccination Against COVID-19 Hospitalization Among Persons Aged 12–18 Years — United States, June–September 2021 | MMWR \(cdc.gov\)](#)

← A CDC study on vaccine effectiveness demonstrated that the Pfizer vaccine was 93% effective at preventing COVID-19 hospitalization among persons 12-18 years of age in the recent Delta surge.

PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

COVID-19-Associated Orphanhood and Caregiver Death in the United States

Susan D. Hillis, PhD; Alexandra Blenkinsop, PhD; Andrés Villaveces, MD, PhD; Francis B. Annor, PhD; Leandris Liburd, PhD; Greta M. Massetti, PhD; Zewditu Demissie, PhD; James A. Mercy, PhD; Charles A. Nelson, III, PhD; Lucie Cluver, PhD; Seth Flaxman, PhD; Lorraine Sherr, PhD; Christl A. Donnelly, ScD; Oliver Ratmann, PhD; H. Juliette T. Unwin, PhD

<https://pediatrics.aappublications.org/content/pediatrics/early/2021/10/06/peds.2021-053760.full.pdf>

← A preprint modelling study published by the journal Pediatrics found that over 140,000 children in the United States may have experienced the loss of a parent or grandparent caregiver to COVID-19-associated death.

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