

Ottawa County COVID-19 Epidemiology

September 29, 2021

Data as of September 25, 2021, unless otherwise indicated

Executive Summary

- **The US may be seeing a decrease in cases, while Michigan continues to increase**
- **Ottawa community transmission continues increasing**
 - Positivity decreased over the last 2 weeks from 11.8% to 11.0%. The goal is to be less than 5%.
 - Ottawa had 760 total cases reported last week, 6.4% more cases than the 714 reported the week prior.
 - Cases among children decreased about 11% last week, from 166 two weeks ago to 148 last week.
- **Ottawa area and regional hospitals are seeing more COVID patients**
 - In Ottawa County, 13% of all available beds are occupied by COVID-19 patients.*
 - Nearly 32% of Ottawa County ICU beds are occupied by COVID-19 patients.*
 - 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

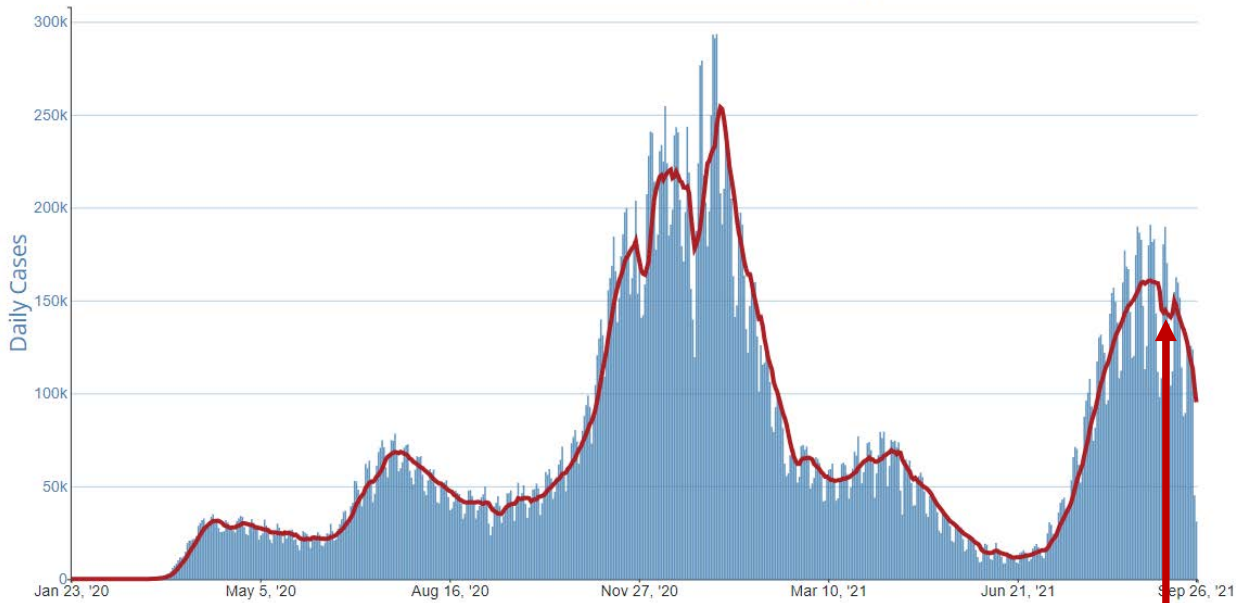
Metric	Goal	Week Ending				
		28-Aug-21	4-Sep-21	11-Sep-21	18-Sep-21	25-Sep-21
Positivity (All Ages)	<5%	12.6%	14.0%	13.5%	11.8%	11.0%
Weekly Cases (All Ages)	<30	538	687	643	714	760
Weekly Cases in Children (0-17 years of age)	NA	88	134	148	166	148
Total COVID-19 Hospitalizations (All Ages)	0	20	24	16	25	10
Total Deaths (All Ages)	0	3	4	6	6	4
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

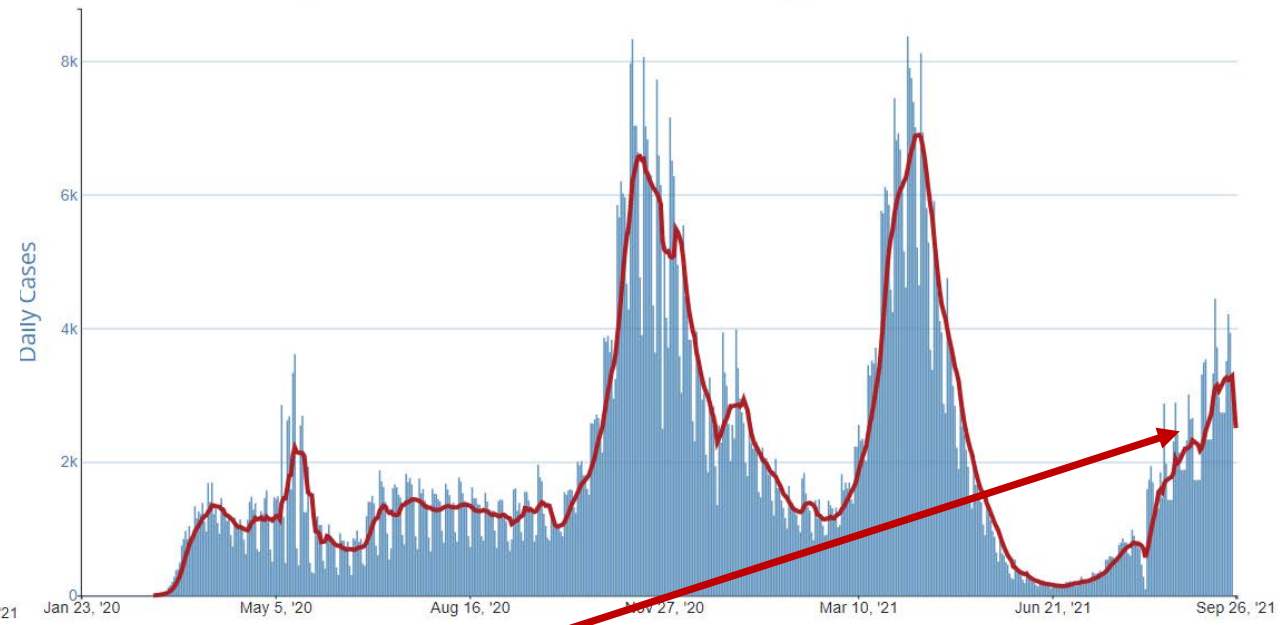
USA

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

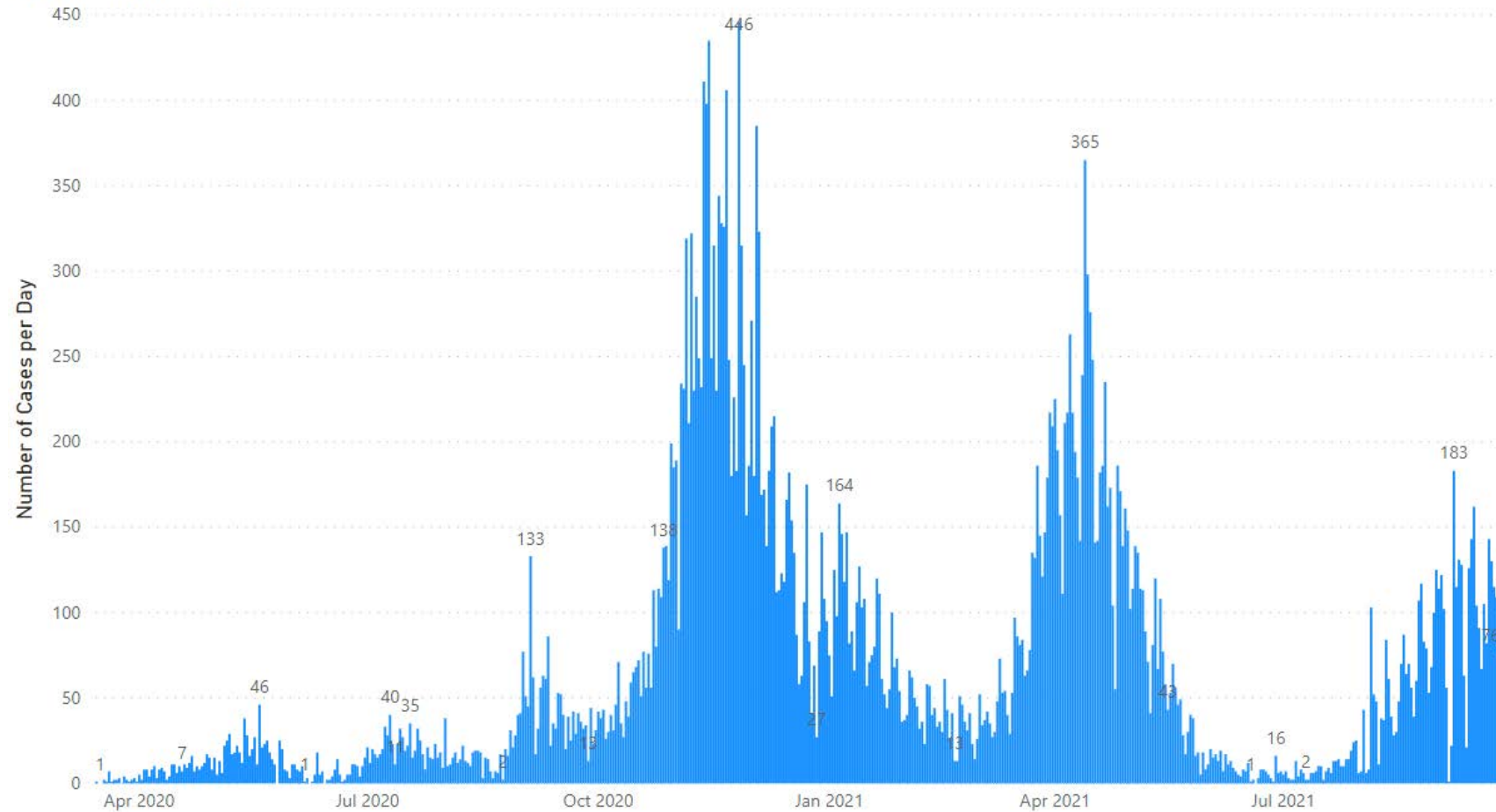


The US may be decreasing while Michigan continues trending up.

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – September 28, 2021

Epidemiological Curve



Total Number of Cases
37,558

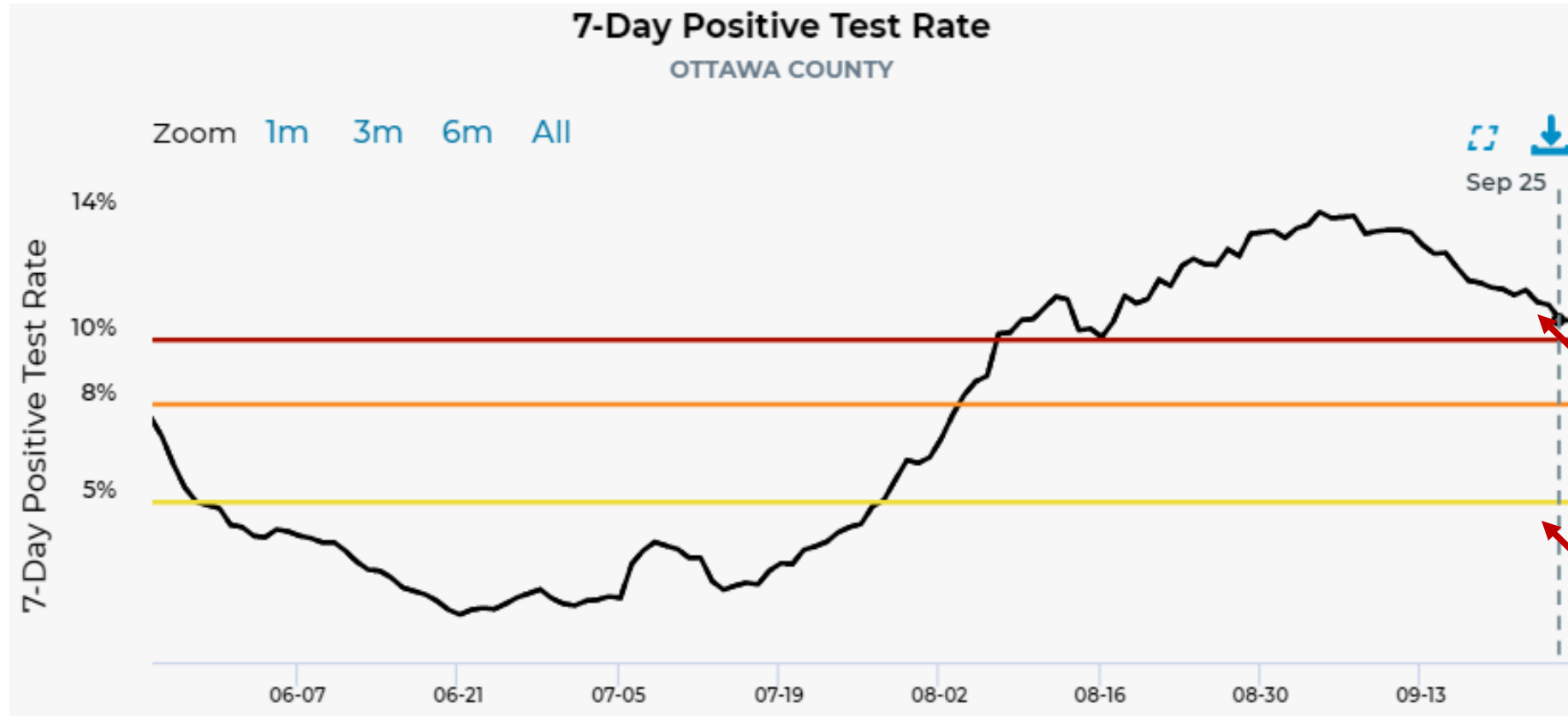
Currently the 7-day average is **90 cases per day**, slightly lower than 100+ cases per day seen last week. From week to week, cases increased 6.4% through the last 2 full weeks.

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 – September 25, 2021



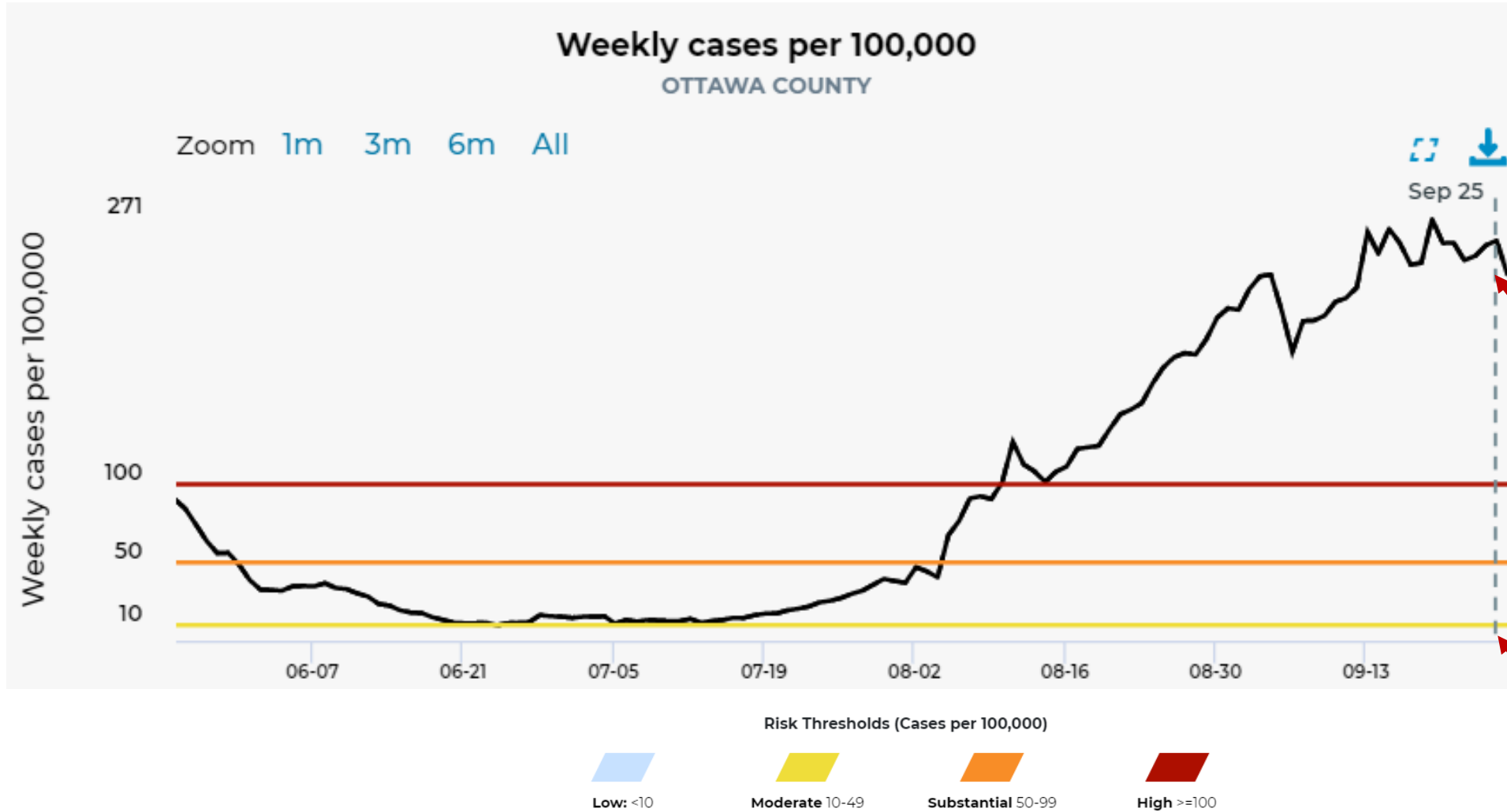
Test positivity may be decreasing, falling to 11.0% as of September 25, 2021.

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

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 – September 18, 2021



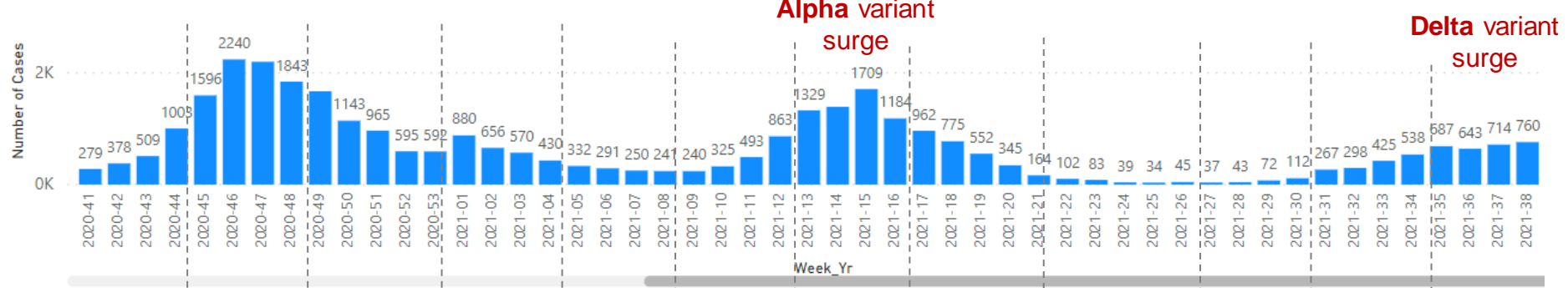
Case rates remain at about 250 cases per week per 100,000 population.

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>

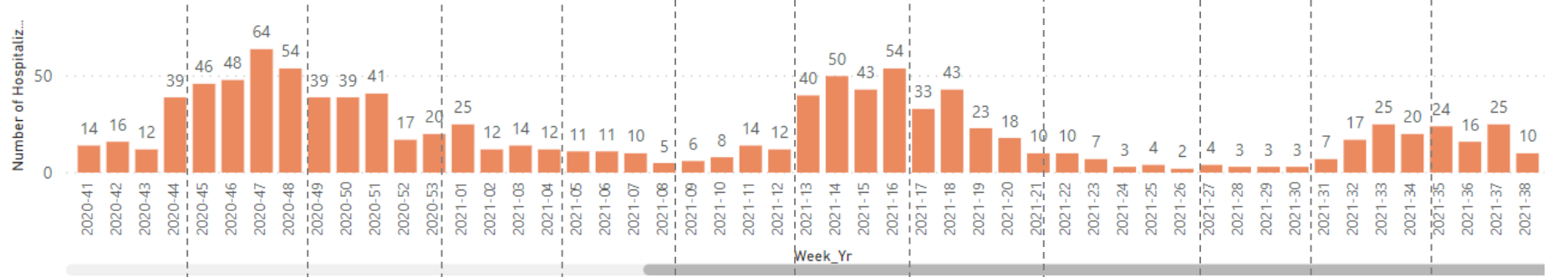
Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



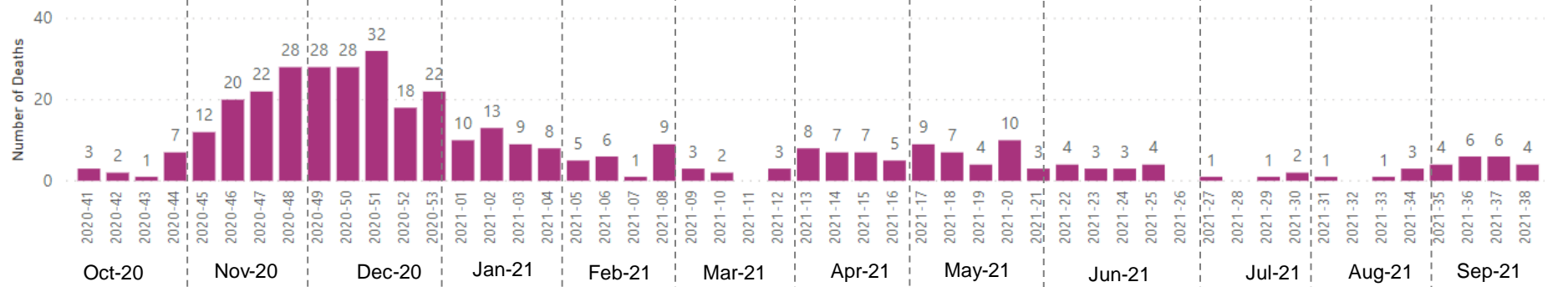
The weekly number of **cases** increased 6.4% last week.

New Hospitalizations by Week of Admission



The weekly number of **hospitalizations** has been relatively stable with an average of about 19 cases hospitalized each week over the last month.

New Deaths by Week of Death



COVID-19 deaths remain low but are slowly increasing.

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.

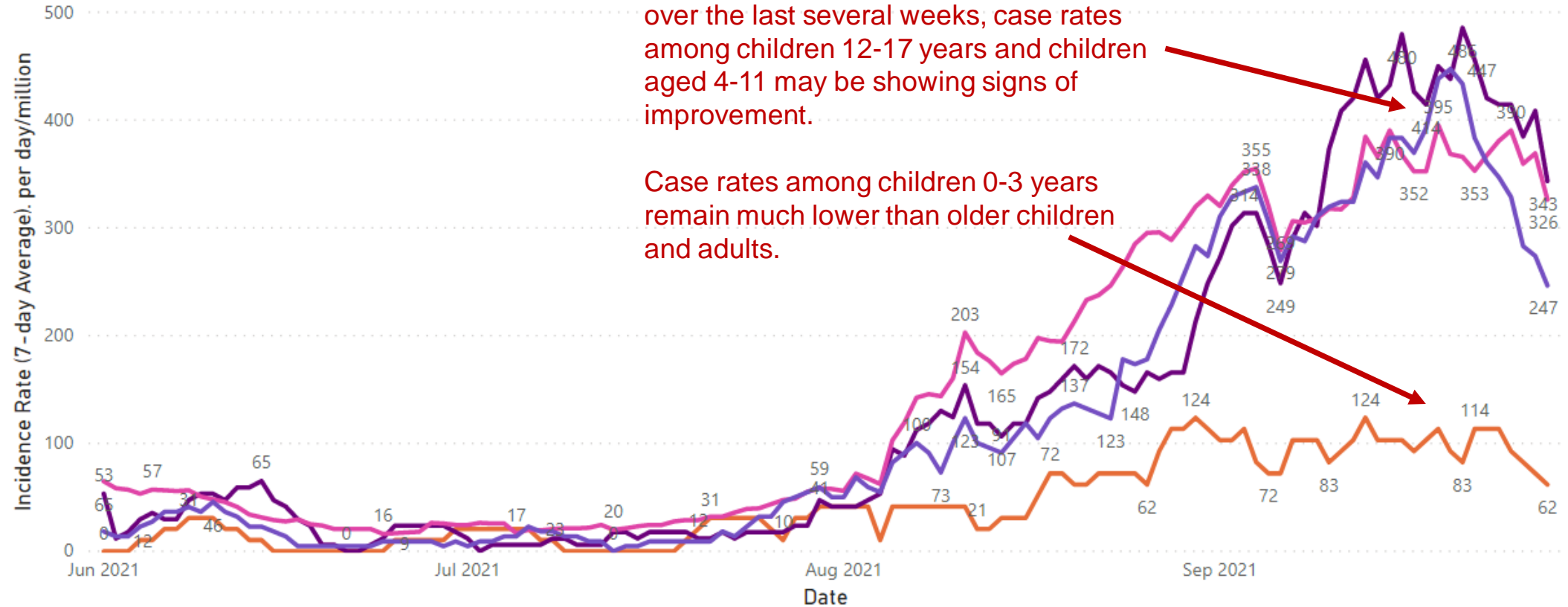
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age

COVID-19 Case Rates by Age, includes School-Aged, June 2021 – September 28, 2021

Incidence Rate (7-day Average)

rategroup ● 0-3 ● 12-17 ● 18+ ● 4-11



Although case rates among children aged 4 years and older have been rising over the last several weeks, case rates among children 12-17 years and children aged 4-11 may be showing signs of improvement.

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

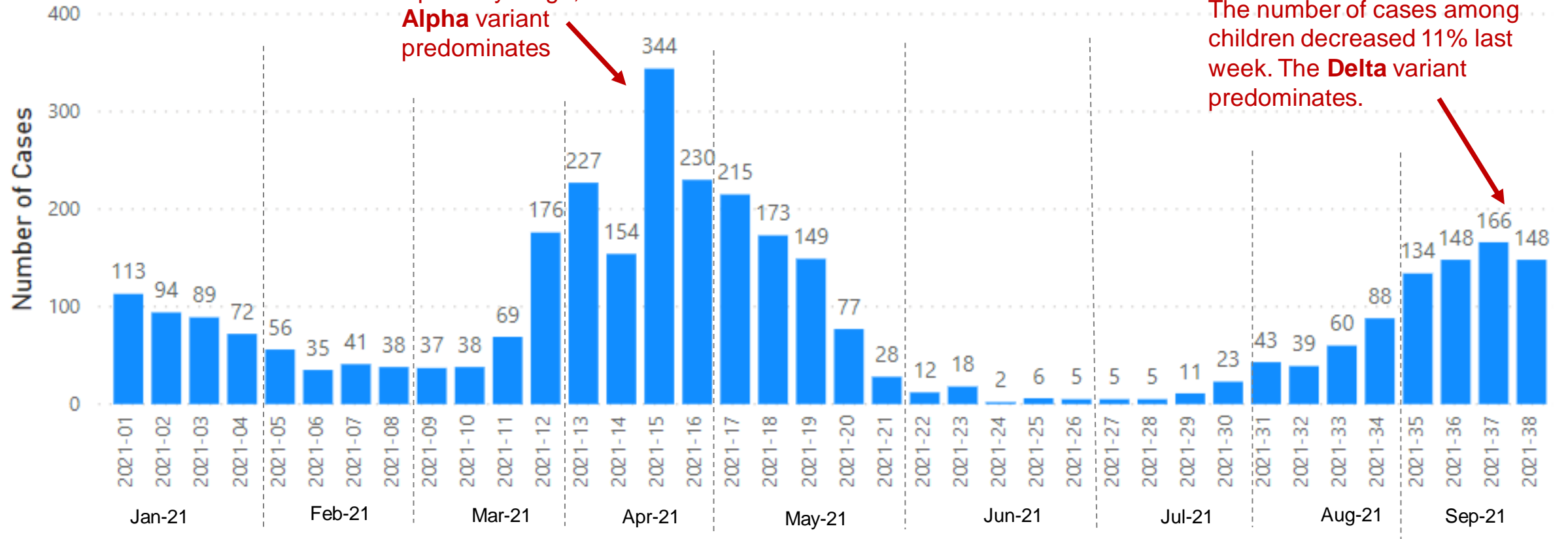
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of September 28, 2021

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

COVID-19 Cases Among Minors (0-17 years), by Week, January 2021 – September 25, 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	61	61%	11	120%	72	67%
31-Jul-21	89	46%	23	109%	112	56%
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	450	23%	88	47%	538	27%
4-Sep-21	553	23%	134	52%	687	28%
11-Sep-21	495	-10%	148	10%	643	-6%
18-Sep-21	548	11%	166	12%	714	11%
25-Sep-21	612	12%	148	-11%	760	6%

Adults

Children

Cases among children decreased 11% last week, while cases in adults increased 12%.

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

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

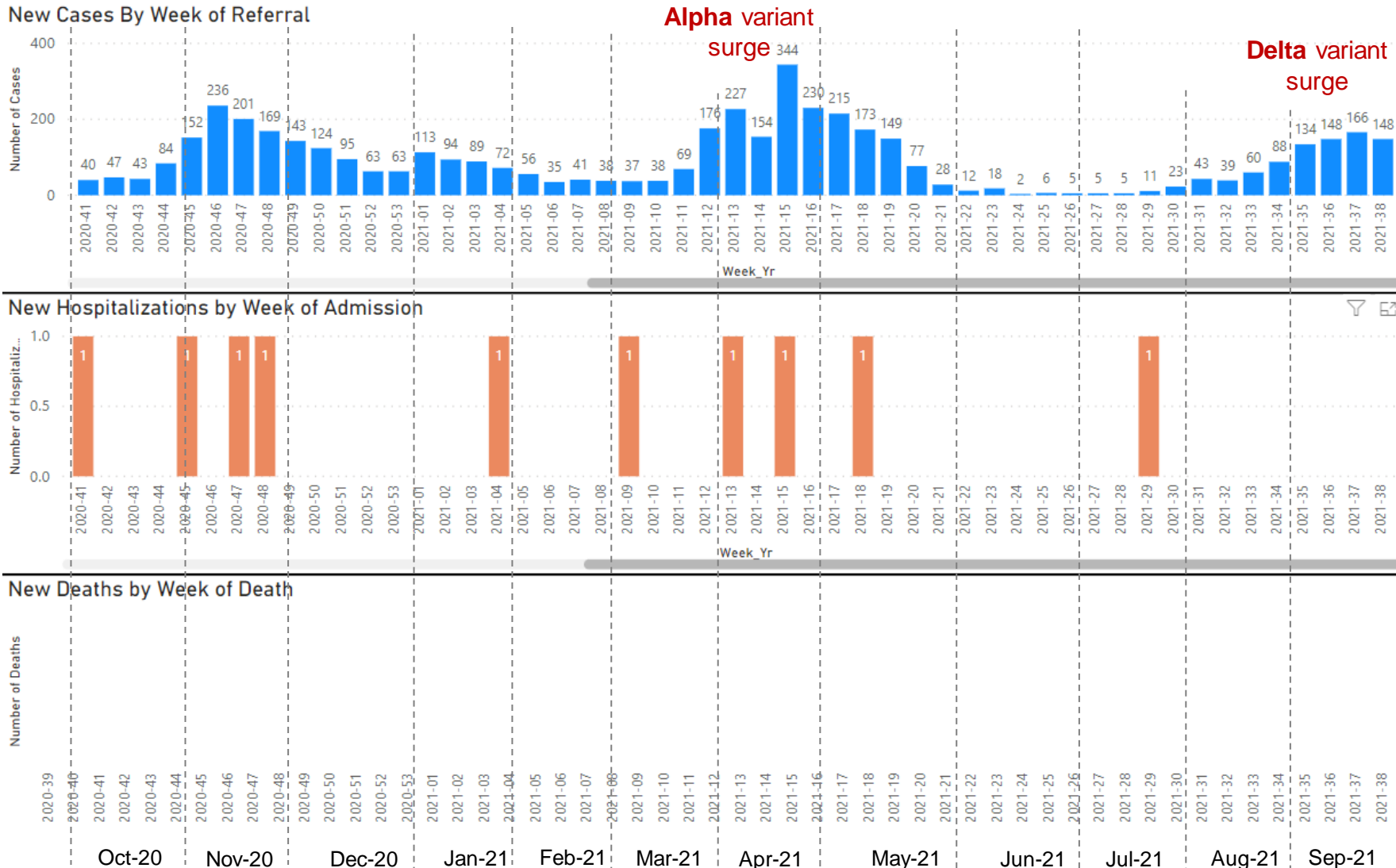
Risk Levels

Other

Media

Science Roundup

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



The weekly number of cases among children decreased 11% 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.

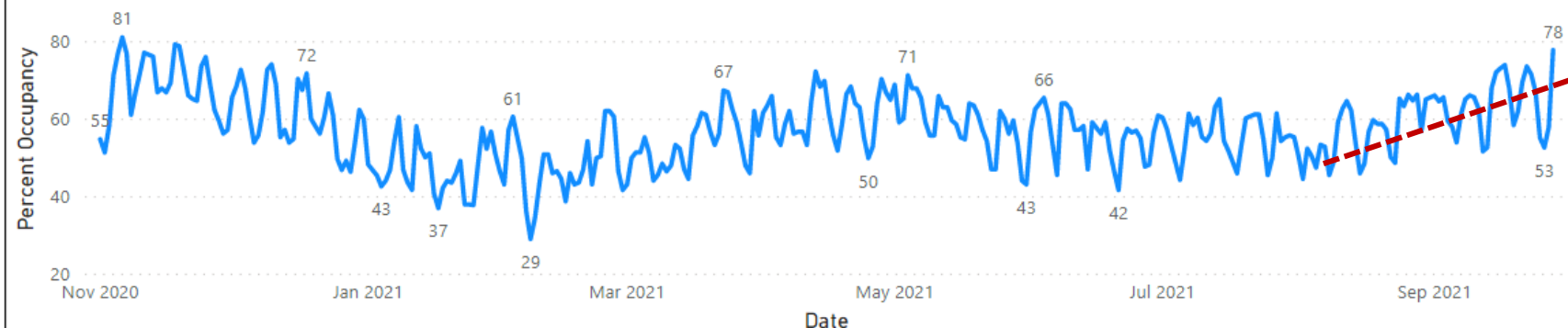
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County Hospital Capacity – All Beds

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

Percent Occupancy by Date and County

County ● Ottawa



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

Percent Occupancy by Date and County

County ● Ottawa



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

Currently **13%** of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through September 28, 2021

Ottawa County Hospital Capacity – ICU Beds

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

Percent Occupancy by Date and County



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

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

Percent Occupancy by Date and County



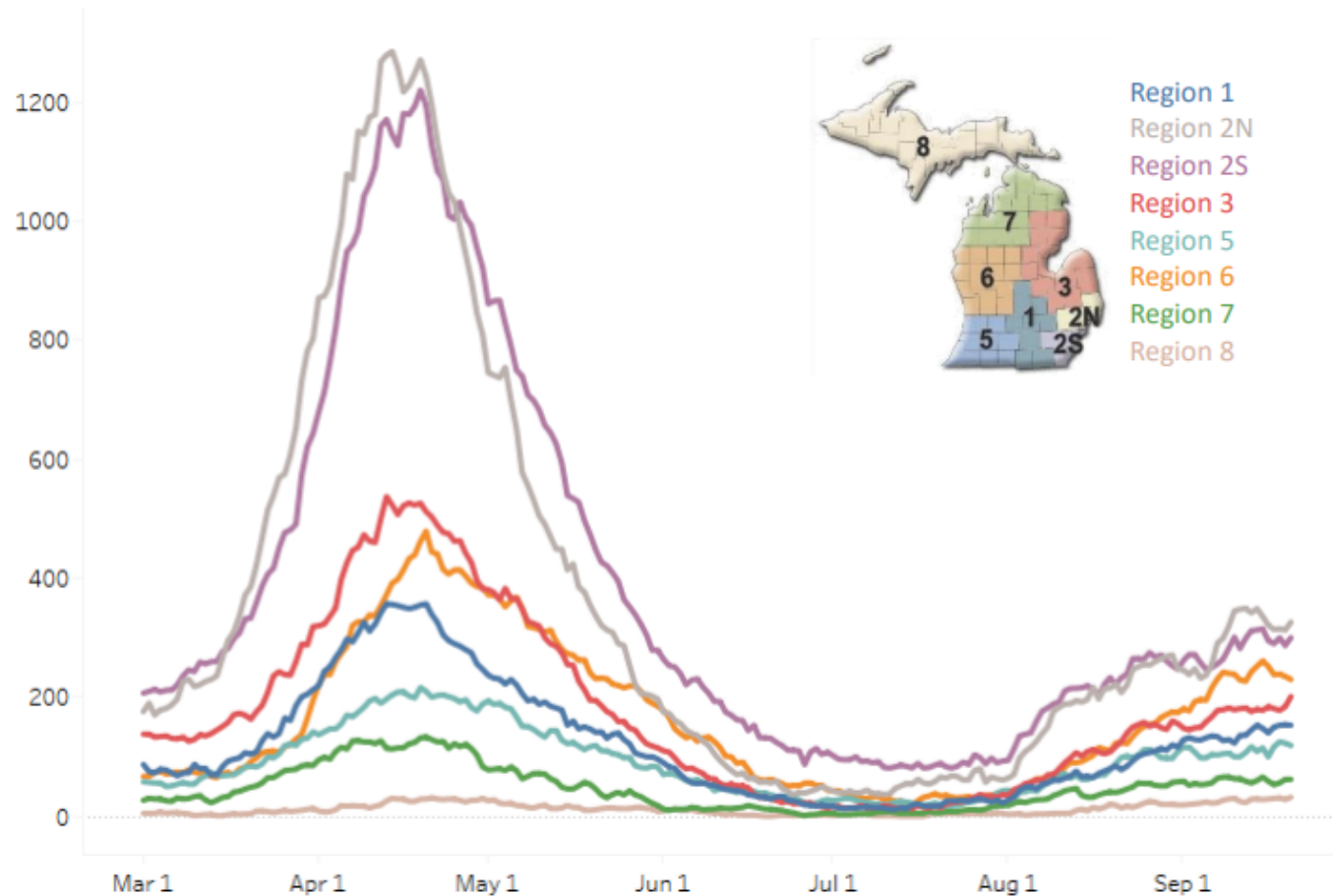
The proportion of ICU beds occupied by COVID patients has **increased to 32%**.

Source: EMResources

Data through September 28, 2021

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 9/20/2021
Confirmed Positive by Region



Some regions have increased in hospital census over the past week while other regions have decreased. Region 3, 7 and 8 showed the most growth while Regions 2N/2S and 6 decreased slightly.

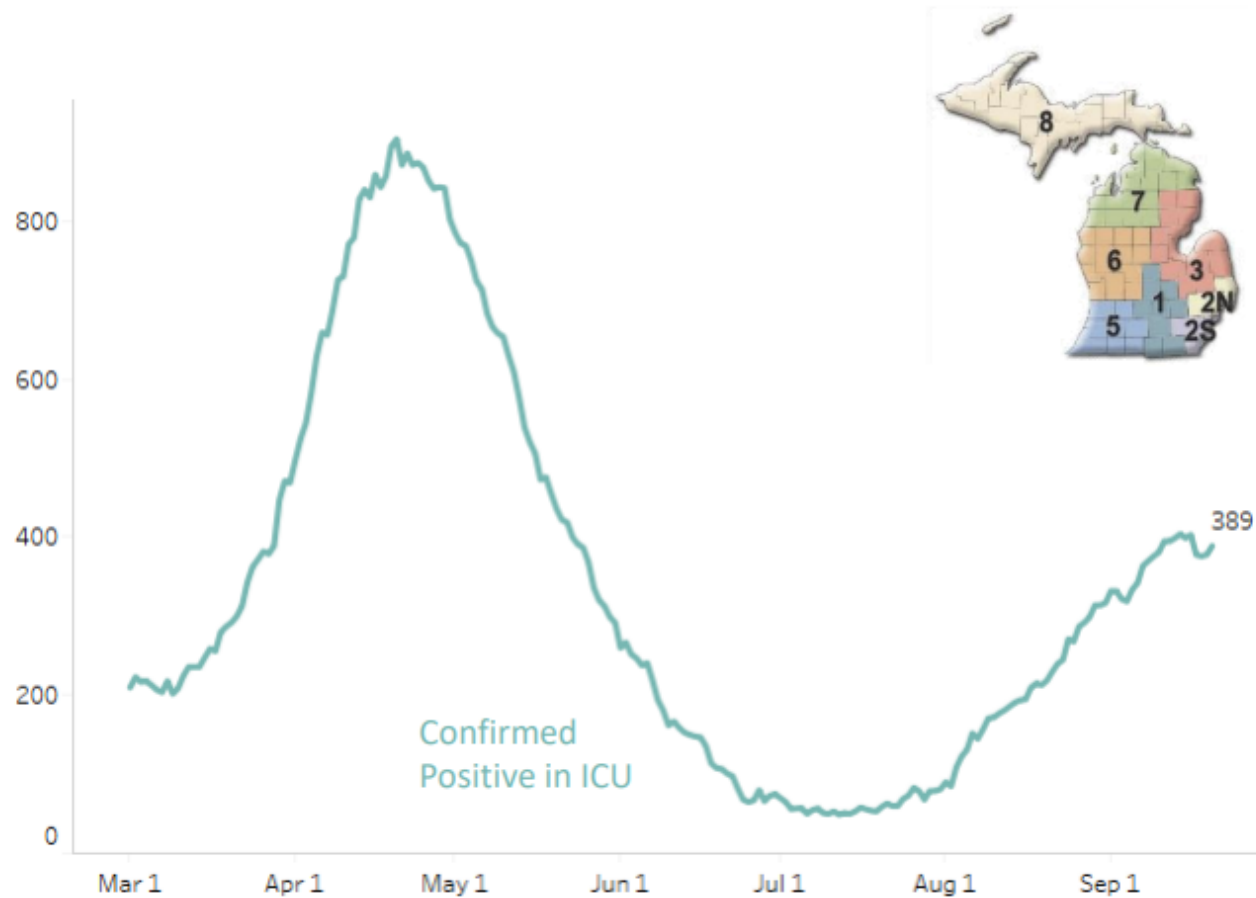
Regions 3 and 6 have greater than 150/M population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	153 (6%)	141/M
Region 2N	326 (-5%)	147/M
Region 2S	300 (-4%)	135/M
Region 3	201 (14%)	177/M
Region 5	119 (2%)	125/M
Region 6	230 (-5%)	157/M
Region 7	62 (11%)	124/M
Region 8	32 (10%)	103/M

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210921_Data_and_modeling_update_vMEDIA_002_736193_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 9/20/2021
Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs has decreased by 3% from last week.

Regions 1 and 3 have ICU occupancy over 85% and Region 1 and 6 have >20% 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	48 (17%)	87%	28%
Region 2N	76 (-10%)	73%	13%
Region 2S	86 (-5%)	83%	12%
Region 3	50 (6%)	87%	15%
Region 5	35 (6%)	70%	19%
Region 6	56 (-15%)	81%	24%
Region 7	26 (4%)	84%	18%
Region 8	12 (0%)	63%	19%

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210921_Data_and_modeling_update_vMEDIA_002_736193_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan



Pediatric hospitalization rates across the United States may be slowing, with potential decreases noted in southern states such as Georgia. Michigan currently has lower pediatric hospitalization rates than past waves, but rates continue to show increases.

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

Accessed September 28, 2021

Pediatric Hospitalization Rates – Select Midwest States



Pediatric hospitalization rates across the Midwest are showing increases. Ohio is experiencing a substantial increase, while Indiana and Illinois continue to show elevated and/or increasing pediatric hospitalization rates.

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

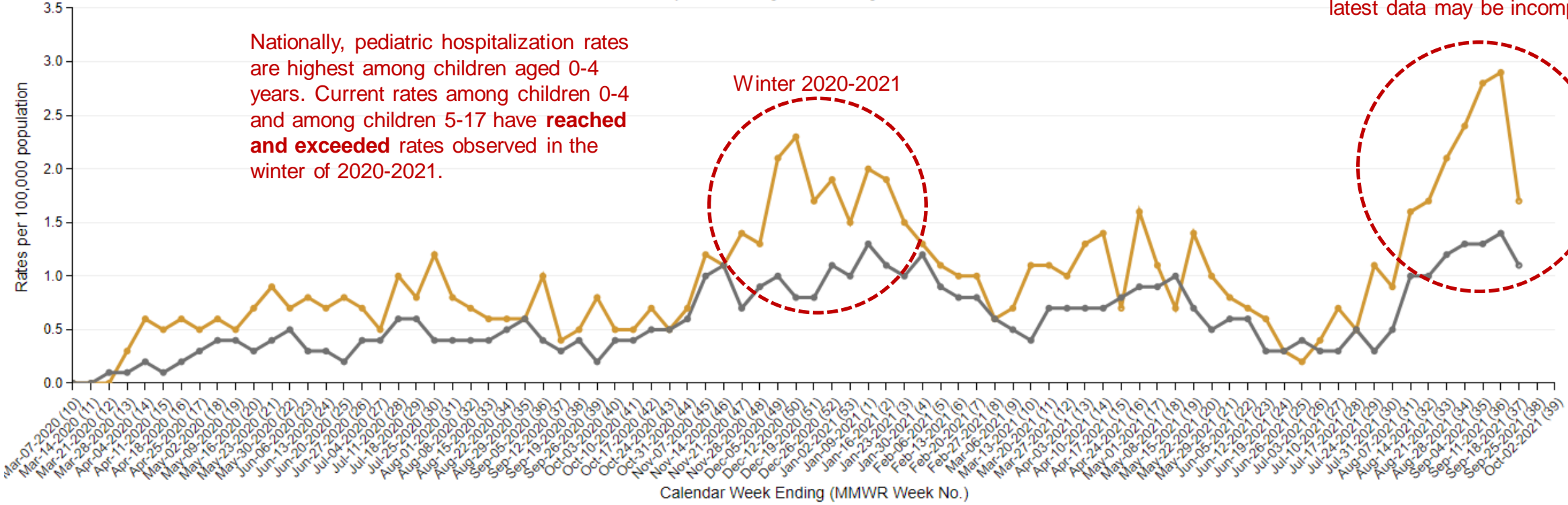
Accessed September 29, 2021

Pediatric Hospitalization Rates by Age Group – USA

COVID-NET :: Entire Network :: 2020-21 :: Weekly Rate

To zoom, hold down Alt key and click and drag to create a rectangle. Double click to reset zoom.

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

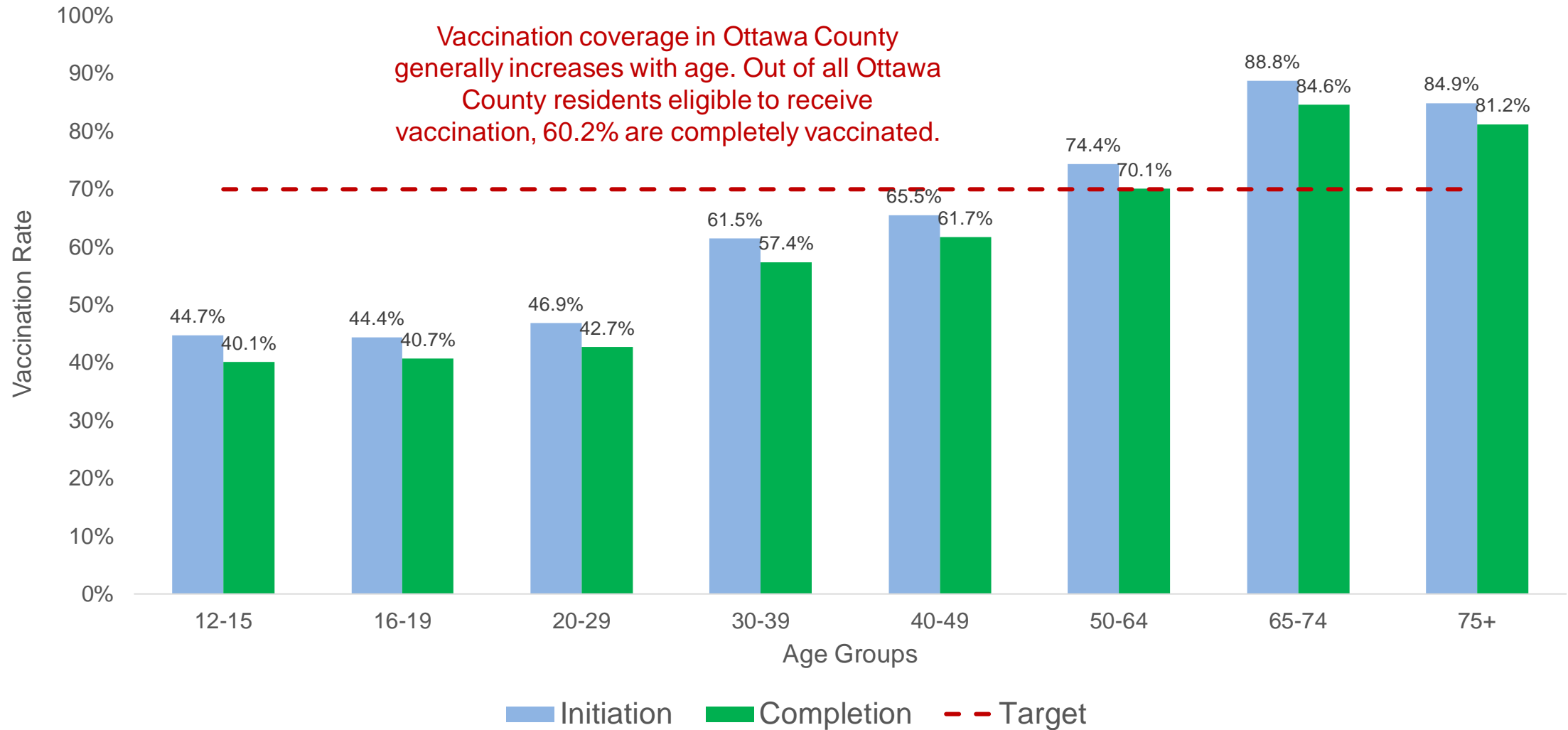


The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. As data are received each 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 September 29, 2021

Vaccination Coverage by Age



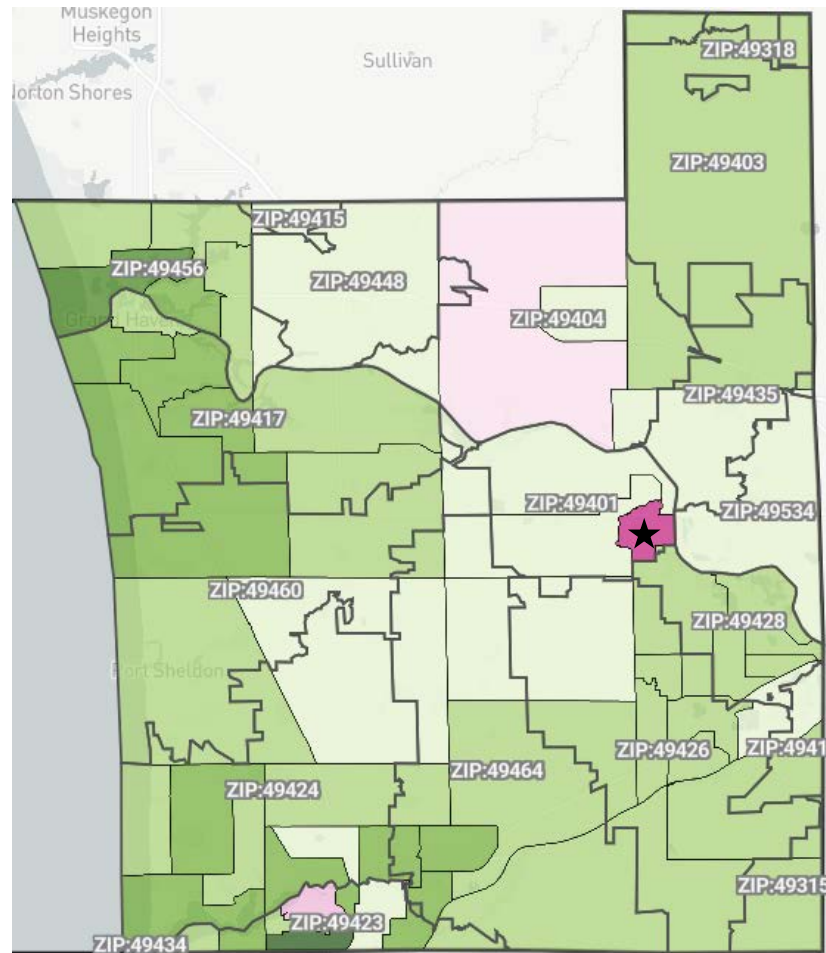
Source: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Data through September 18, 2021

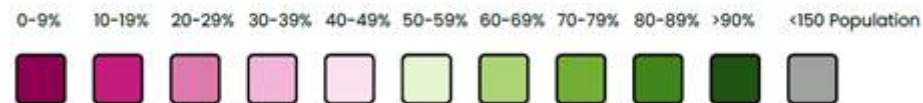
Vaccination Coverage by Place of Residence

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 – September 25, 2021

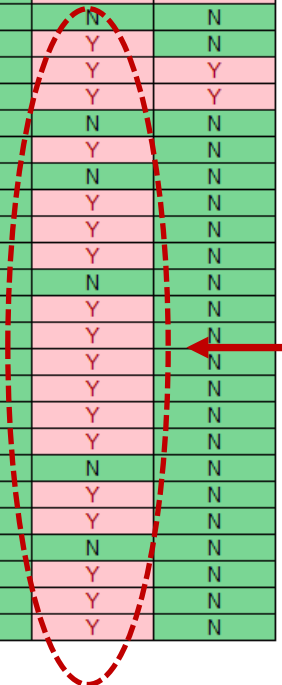
Fully Vaccinated People (147,385)		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (16,012 / 17,511) 91.4%	Percent of Hospitalizations in People Not Fully Vaccinated (530 / 605) 87.6%	Percent of Deaths in People Not Fully Vaccinated (105 / 125) 84.0%
Total Cases Not Fully Vaccinated 16,012	Total Hospitalized Not Fully Vaccinated 530	Total Deaths Not Fully Vaccinated 105
Total Breakthrough Cases 1,499	Total Breakthrough Hospitalizations 75	Total Breakthrough Deaths 20
Percent of Fully Vaccinated People who Developed COVID-19 (1,499 / 147,385) 1.017%	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (75 / 147,385) 0.051%	Percent of Fully Vaccinated People who Died of COVID-19 (20 / 147,385) 0.014%
Percent of Cases who were Fully Vaccinated (1,499 / 17,511) 8.6%	Percent of Hospitalizations who were Fully Vaccinated (75 / 605) 12.4%	Percent of Deaths who were Fully Vaccinated (20 / 125) 16.0%
Total Cases 17,511	Total Hospitalizations 605	Total Deaths 125

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 – 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%

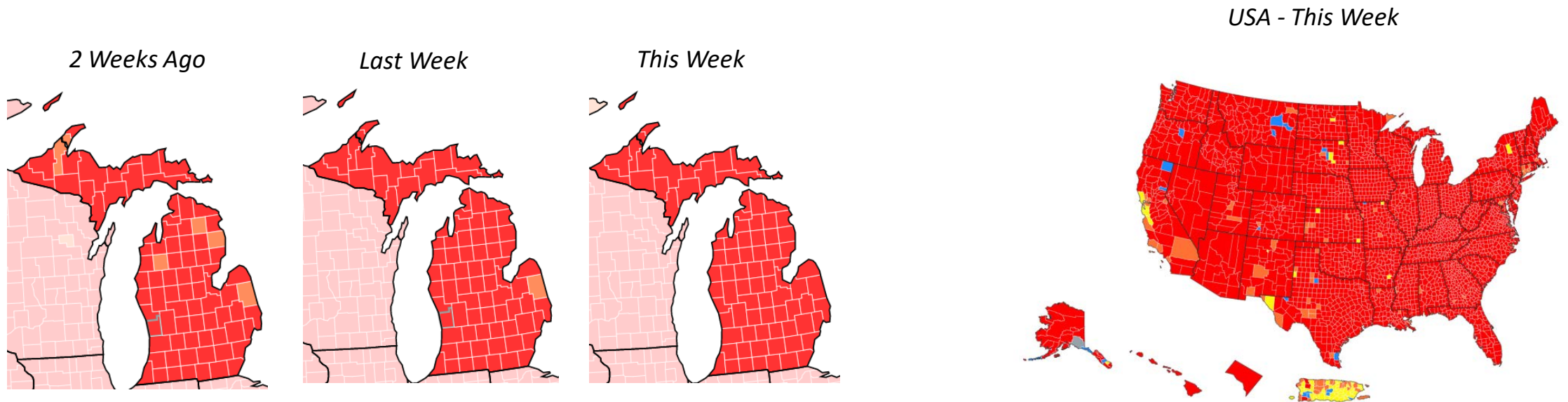
↑
Ottawa's goal is to be in the Low category

↑
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

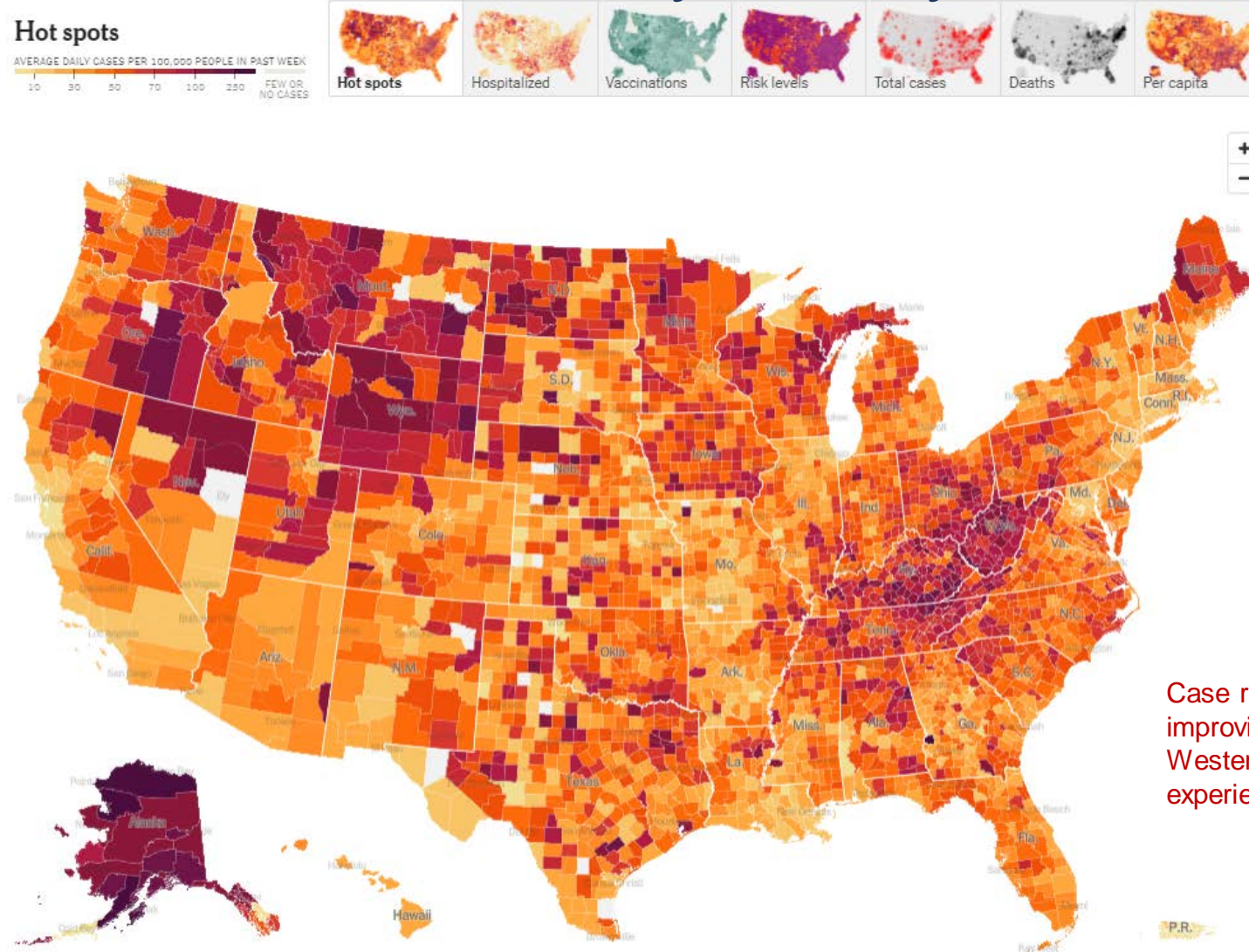
- Current Risk Level in Ottawa – **HIGH** (for last 6+ weeks)
- Current Data:
 - Positivity = 10.23%
 - Case Rate = 248.09 cases per week per 100,000



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

Data as of September 29, 2021

COVID-19 Case Rates by County Across the US



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

Accessed September 29, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

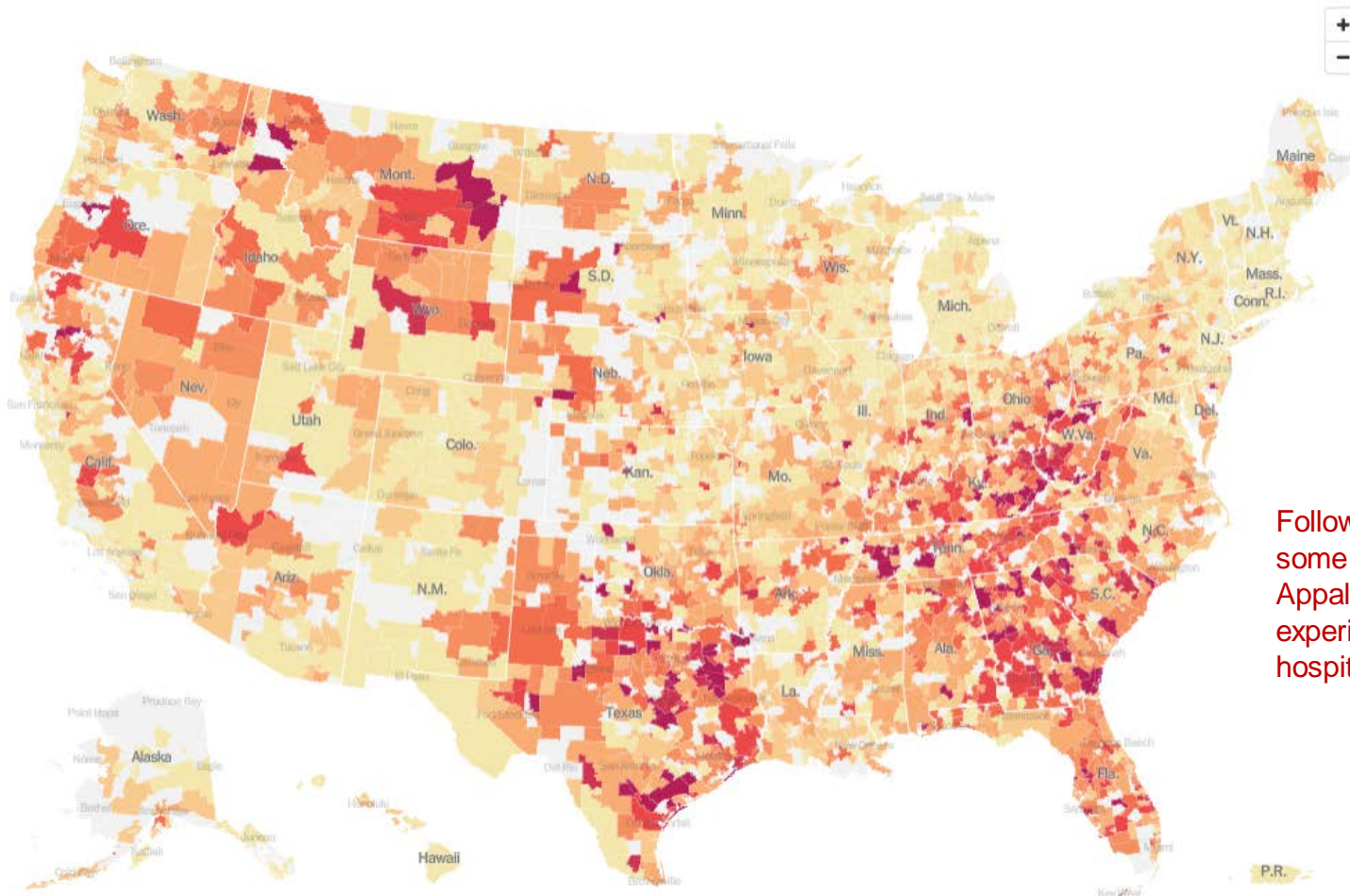
Risk Levels

Other

Media

Science
Roundup

COVID-19 Hospitalization Rates by County Across the US



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

Accessed September 29, 2021

USA & MI

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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 (19):**
 - **PreK/K-6:** Allegan, Kalamazoo, Kent, Marquette, Ottawa
 - **K-12:** Antrim, Benzie, Berrien, Berry, Charlevoix, Eaton, Emmet, Genesee, Ingham, Leelanau, Oakland, Otsego, Washtenaw, and Wayne

Note: List may not be comprehensive

USA & MI

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Roundup

COVID-19 News Headlines

COVID-19

Michigan's pandemic confirmed case count exceeds 1 million

[Michigan's pandemic confirmed case count exceeds 1 million | Health Care | grandhaventribune.com](#)

Michigan's new definition of a COVID-19 school 'outbreak' will mean fewer are reported

<https://www.freep.com/story/news/health/2021/09/28/michigan-covid-19-outbreak-schools/5896300001/>

FDA Authorizes Booster Dose of Pfizer-BioNTech COVID-19 Vaccine for Certain Populations

<https://www.fda.gov/news-events/press-announcements/fda-authorizes-booster-dose-pfizer-biontech-covid-19-vaccine-certain-populations>

Science Roundup

Pediatric COVID-19 Cases in Counties With and Without School Mask Requirements — United States, July 1–September 4, 2021

Early Release / September 24, 2021 / 70

[Pediatric COVID-19 Cases in Counties With and Without School Mask Requirements — United States, July 1–September 4, 2021 | MMWR \(cdc.gov\)](#)



A CDC study showed that even after accounting for factors like age, race, and vaccination, counties without mask requirements experienced larger increases in pediatric COVID-19 case rates.

Association Between K–12 School Mask Policies and School-Associated COVID-19 Outbreaks — Maricopa and Pima Counties, Arizona, July–August 2021

Early Release / September 24, 2021 / 70

[Association Between K–12 School Mask Policies and School-Associated COVID-19 Outbreaks — Maricopa and Pima Counties, Arizona, July–August 2021 | MMWR \(cdc.gov\)](#)



Another CDC published study out of Arizona showed that schools without mask mandates were 3.5 times more likely to experience COVID-19 outbreaks.