

Ottawa County COVID-19 Epidemiology

September 14, 2021

Data as of September 11, 2021, unless otherwise indicated

Executive Summary

- **The US may be seeing a decrease in cases, while Michigan continues to increase**
- **Ottawa community transmission may have temporarily slowed, but increases seen in children**
 - Positivity remained at about 13% over the last 2 weeks. The goal is to be less than 5%.
 - Ottawa had 631 total cases reported last week, 7.7% fewer cases than the 685 reported the week prior.
 - Cases among children increased about 8% last week, from 134 two weeks ago to 145 last week.
- **Ottawa area and regional hospitals are seeing more COVID patients**
 - In Ottawa County, 10% of all beds are occupied by COVID-19 patients.*
 - Per MDHHS, Region 6 (the Region Ottawa is in) has seen a 23% increase in COVID hospitalizations and a 38% increase in COVID-19 patients in ICU.
 - 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**
- **Over 58% 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

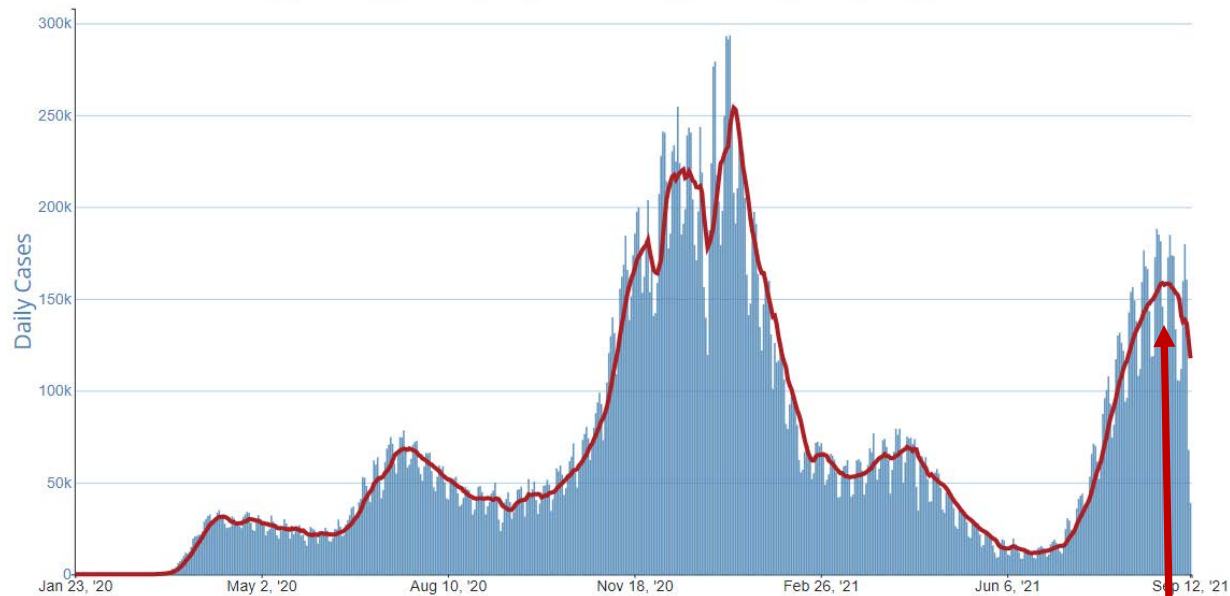
Metric	Goal	Week Ending				
		14-Aug-21	21-Aug-21	28-Aug-21	4-Sep-21	11-Sep-21
Positivity (All Ages)	<5%	10.3%	11.9%	12.6%	14.0%	13.5%
Weekly Cases (All Ages)	<30	298	424	538	685	631
Weekly Cases in Children (0-17 years of age)	TBD	39	60	88	134	145
Total COVID-19 Hospitalizations (All Ages)	0	17	25	19	23	14
Total Deaths (All Ages)	0	0	1	3	3	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

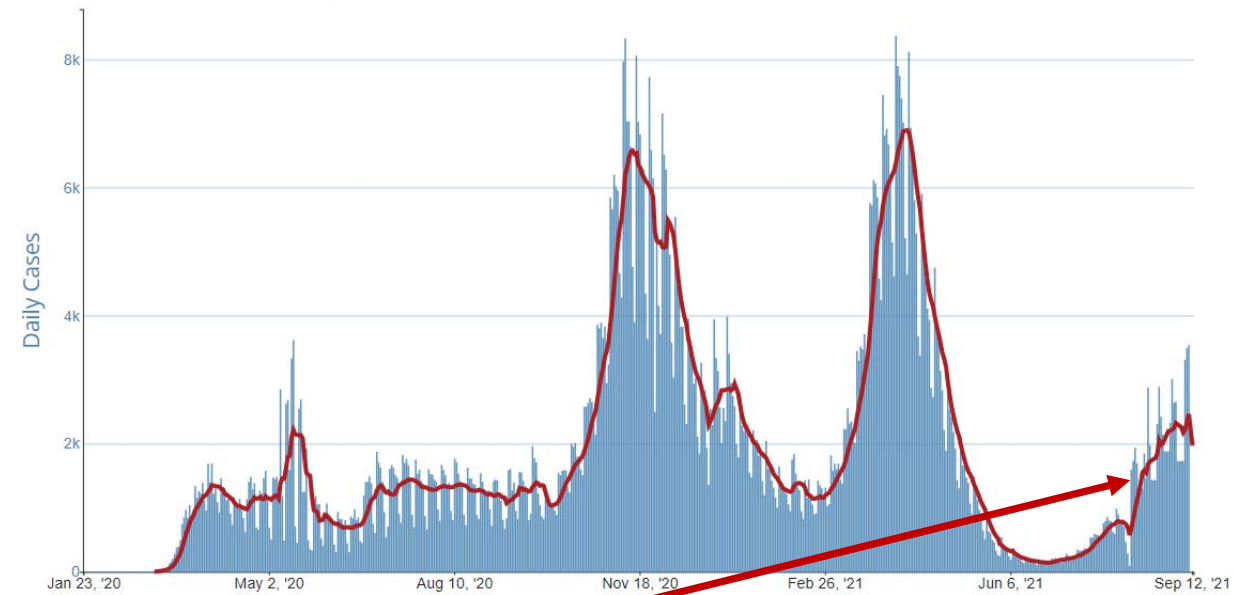
USA

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



Michigan

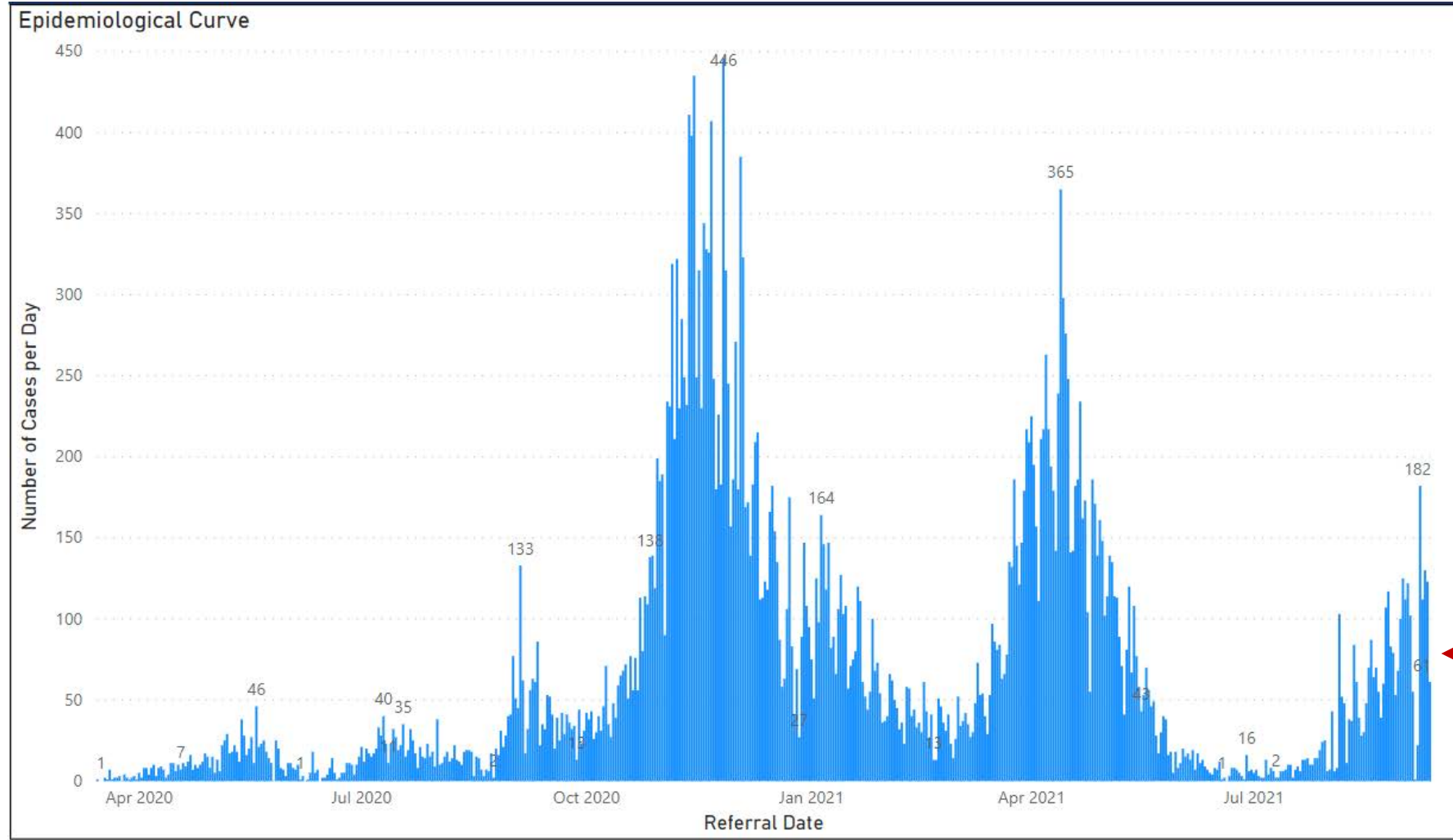
Daily Trends in Number of COVID-19 Cases in Michigan Reported to CDC



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 11, 2021



Total Number of Cases
36,069

Cases may have slowed temporarily. Currently the 7-day average is **90 cases per day**, down from 97 per day last week. From week to week, cases decreased 7.7%.

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

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

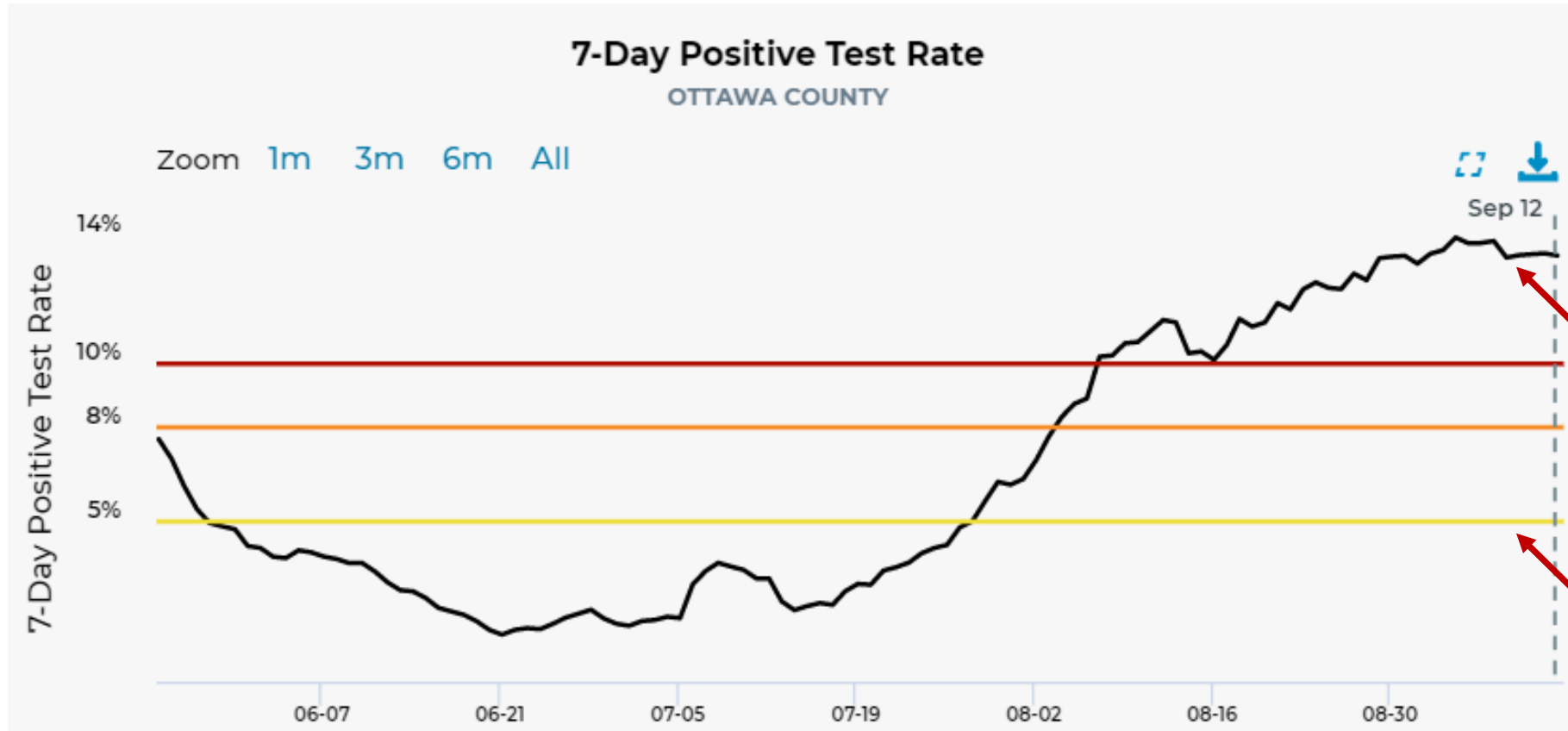
Other

Media

Science Roundup

Test Positivity in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – September 12, 2021



Over the last week test positivity has hovered at about 13%.

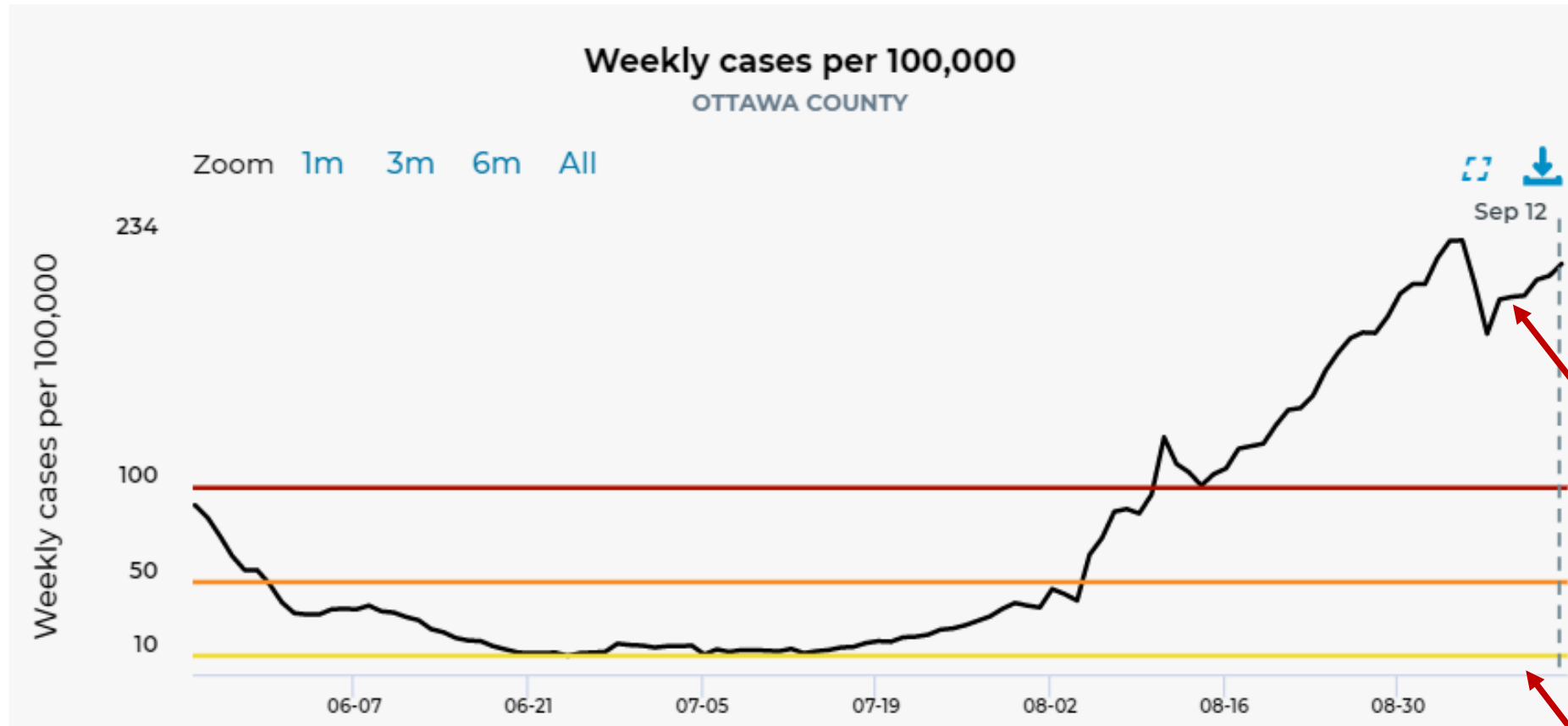
The goal is to have less than 5% of tests coming back positive.



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

Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – September 12, 2021



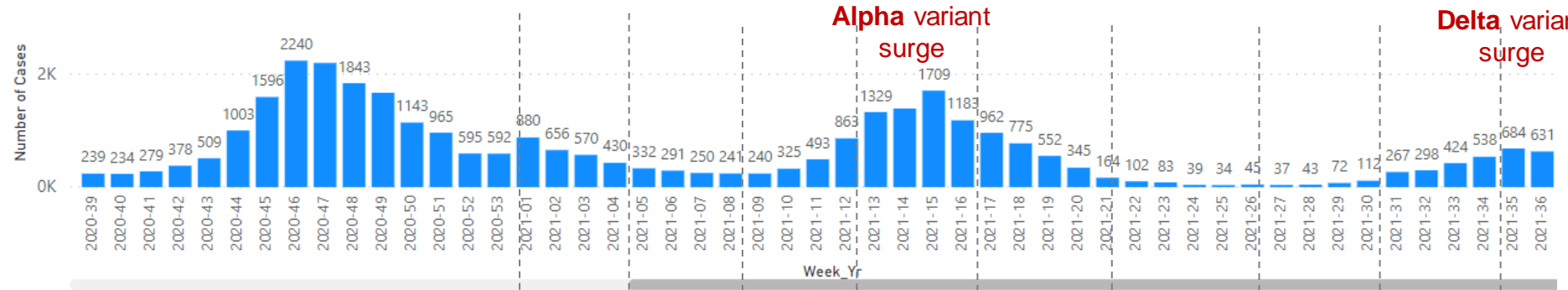
Case rates remain at or above 200 cases per week per 100,000 population.

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>

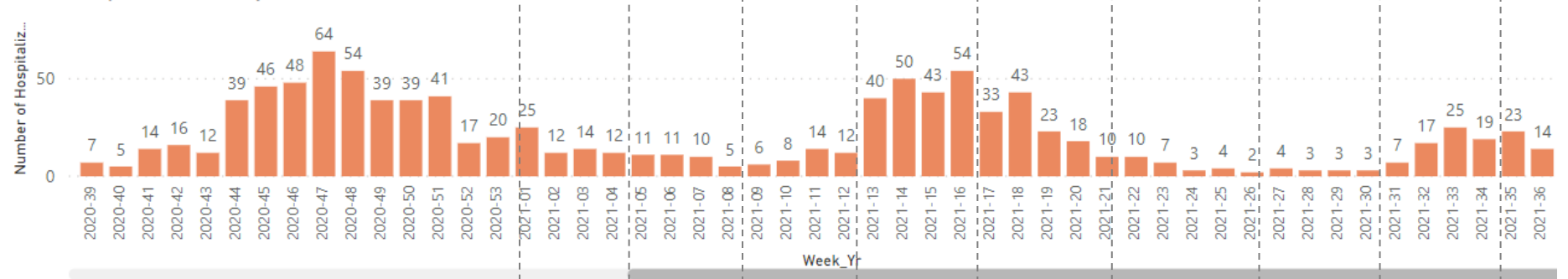
Ottawa County - Cases, Hospitalizations, & Deaths by Week, All Ages

New Cases By Week of Referral



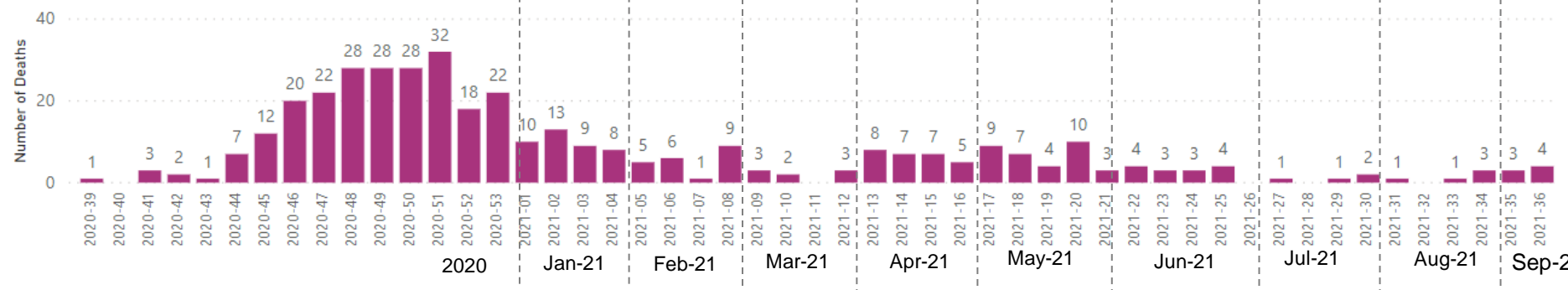
The weekly number of **cases** declined 7.7% last week.

New Hospitalizations by Week of Admission



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

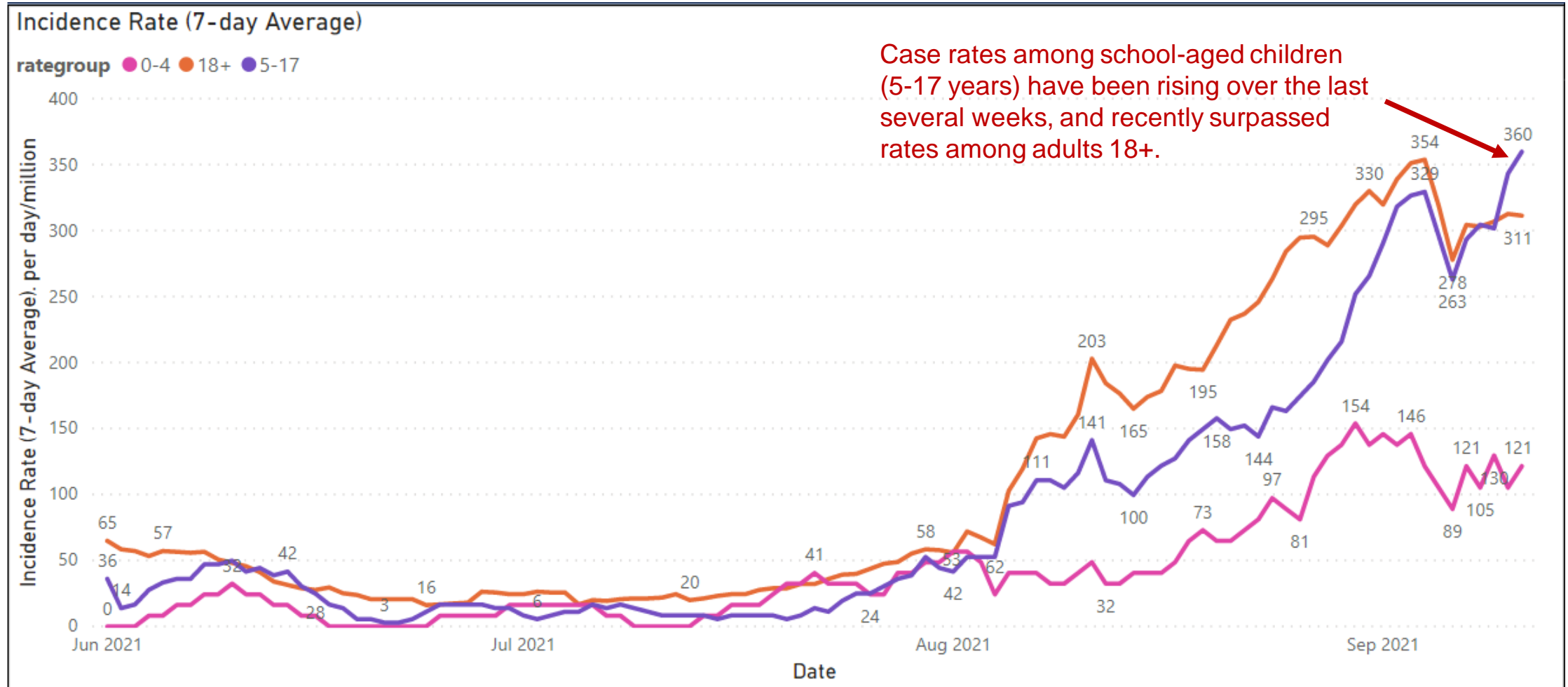
Hospitalizations are likely **underestimated** because:

- (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 11, 2021

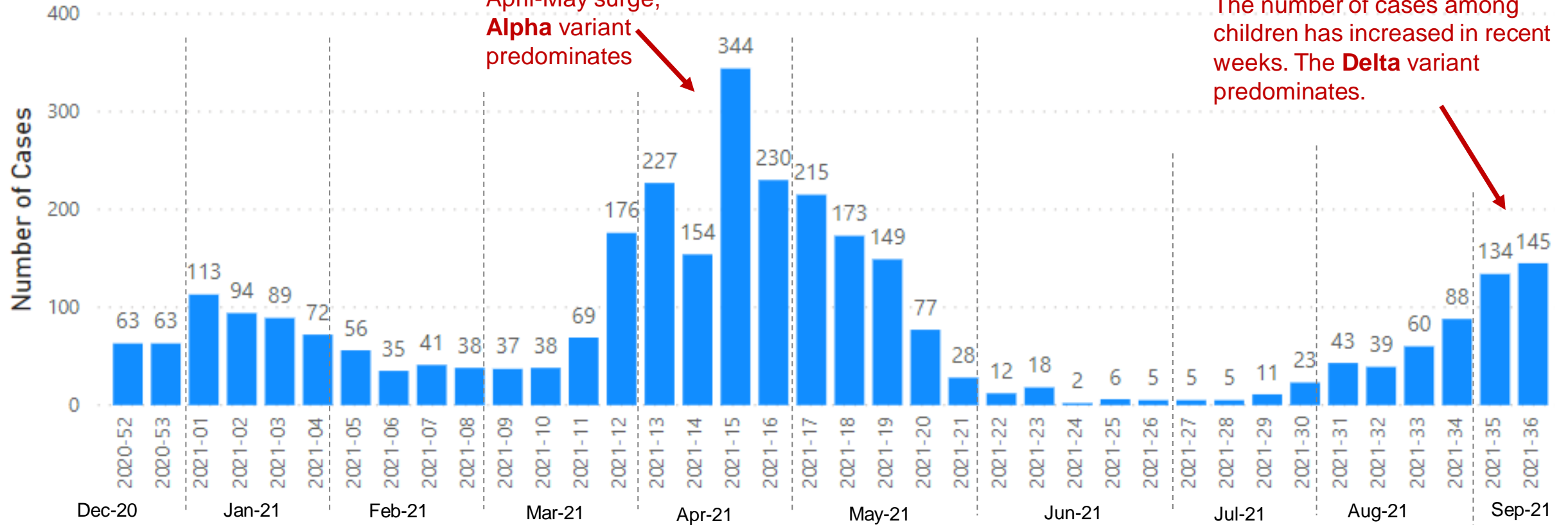


Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

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

COVID-19 Cases Among Minors (0-17 years), by Week, June 2021 – September 11, 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	364	41%	60	54%	424	42%
28-Aug-21	450	24%	88	47%	538	27%
4-Sep-21	550	22%	134	52%	684	27%
11-Sep-21	486	-12%	145	8%	631	-8%

Adults

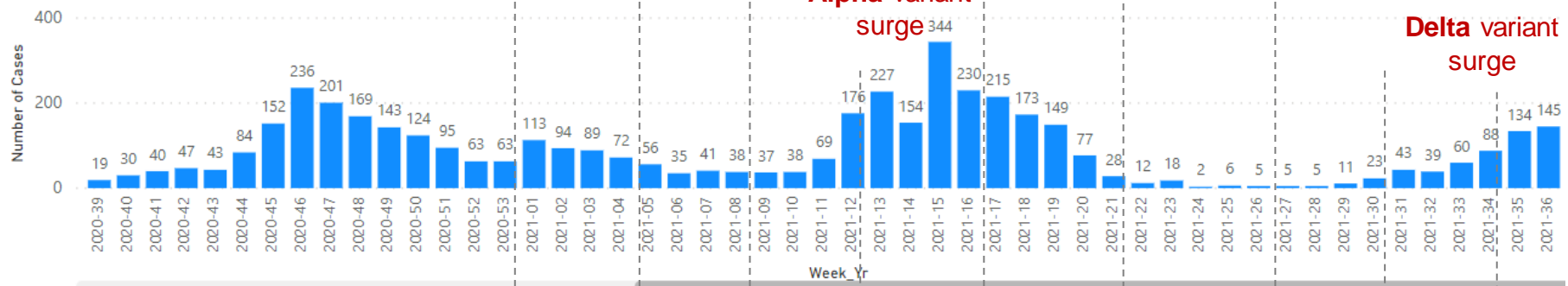
Children

Cases among children increased 8% last week, while cases in adults decreased 12%.

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

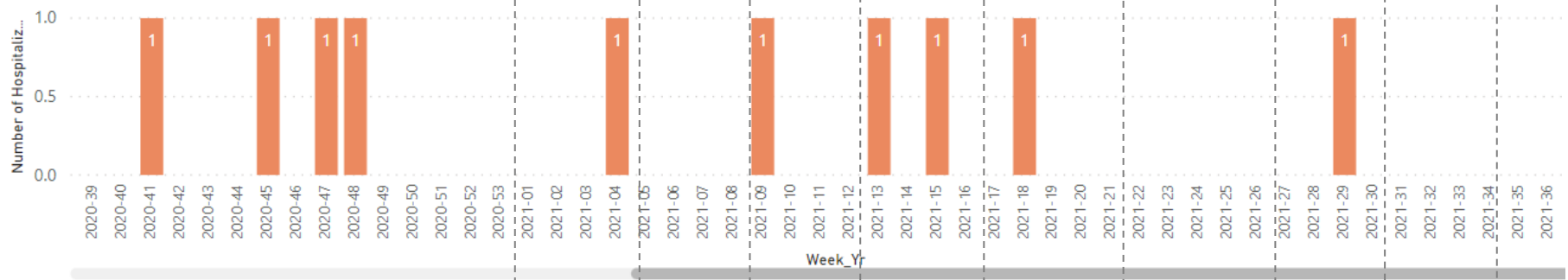
Ottawa County - Cases, Hospitalizations, & Deaths by Week Among Children (0-17 years)

New Cases By Week of Referral



The weekly number of cases among children continues to increase, with a 7.7% increase in weekly case counts over the last 2 weeks.

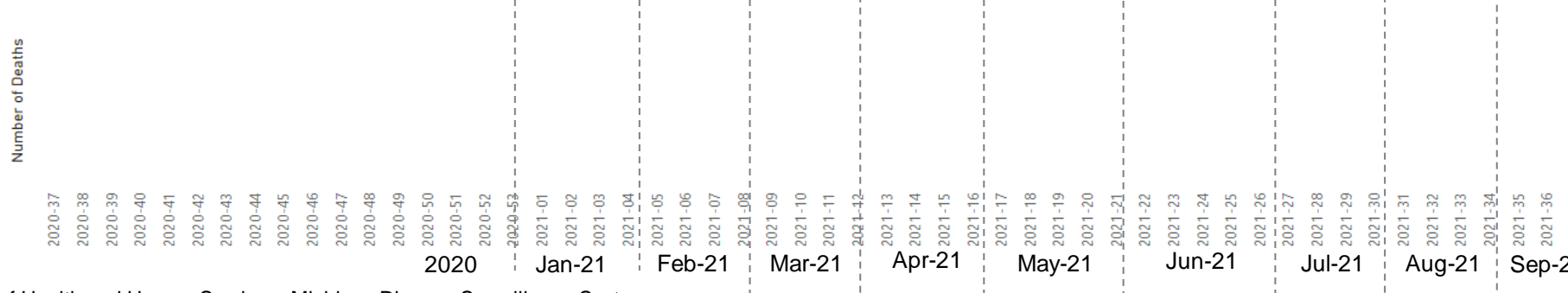
New Hospitalizations by Week of Admission



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:

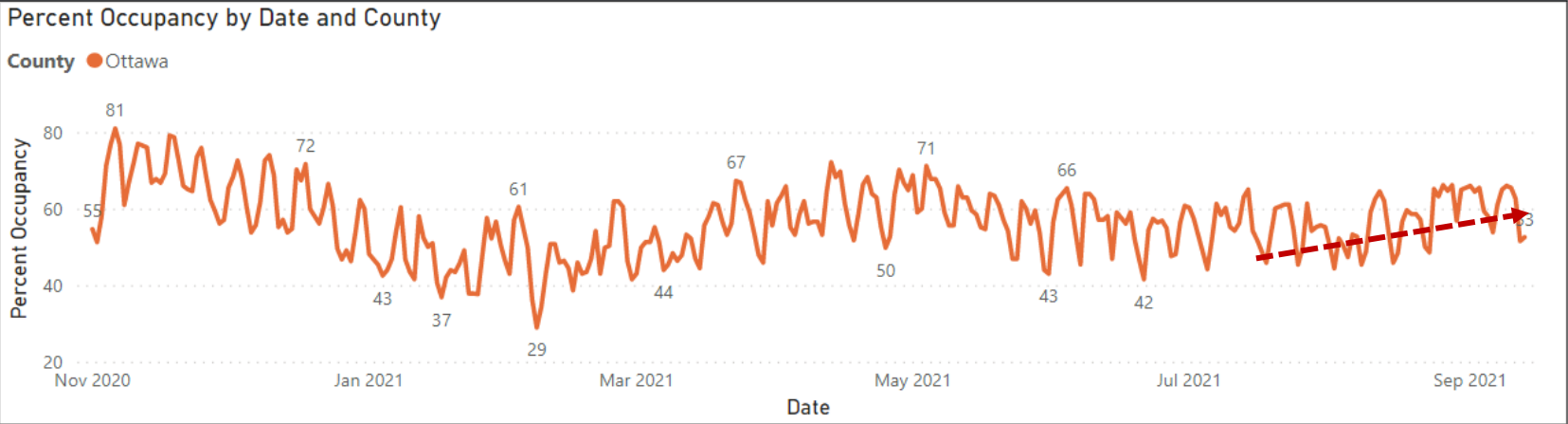
- universal masking
- cohorting
- online learning
- social distancing
- mandatory quarantine for all close contacts
- testing (for high school athletes)

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

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

Ottawa County Hospital Capacity – All Beds

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



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

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

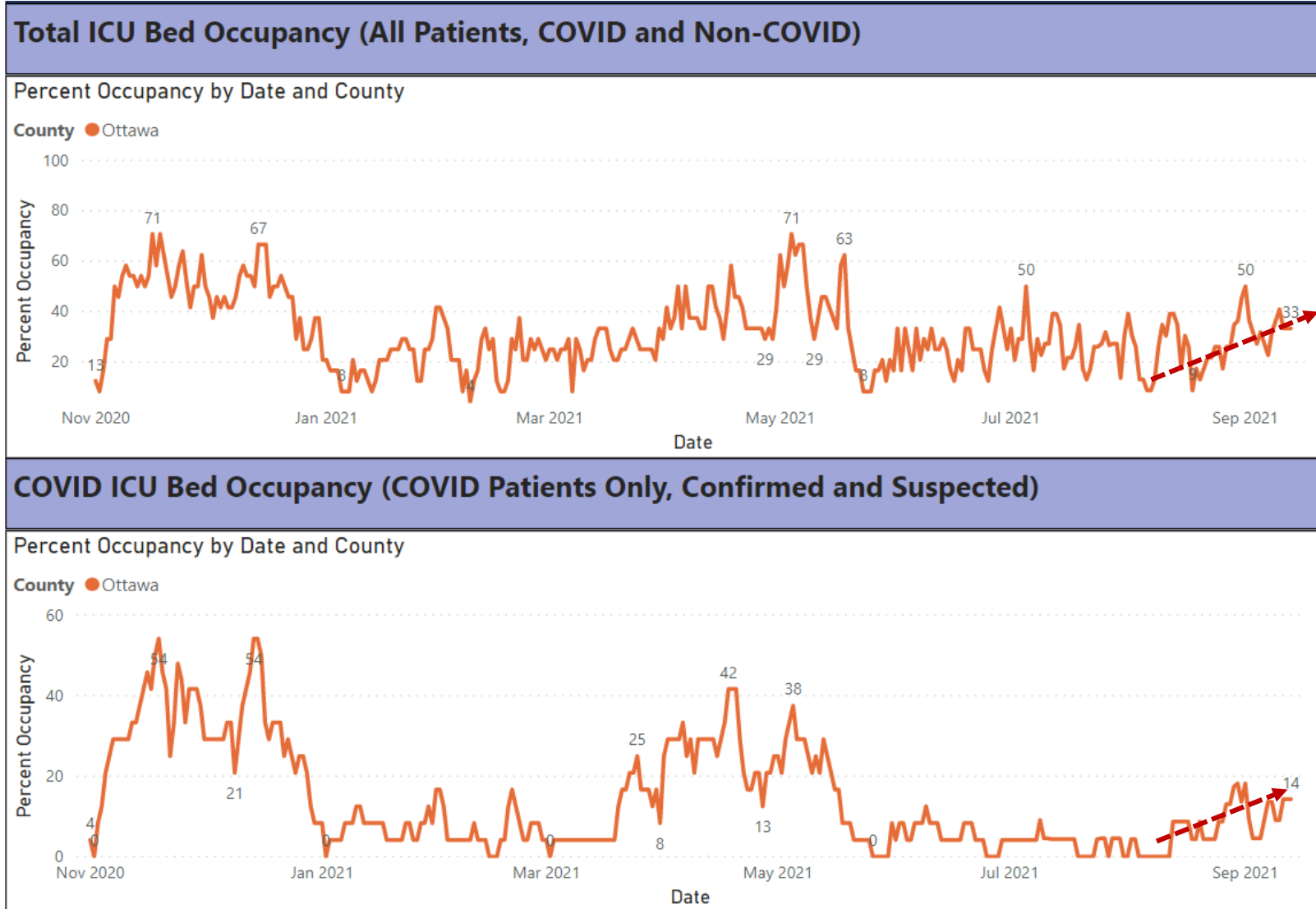


Currently **10%** of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources

Data through September 13, 2021

Ottawa County Hospital Capacity – ICU Beds



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

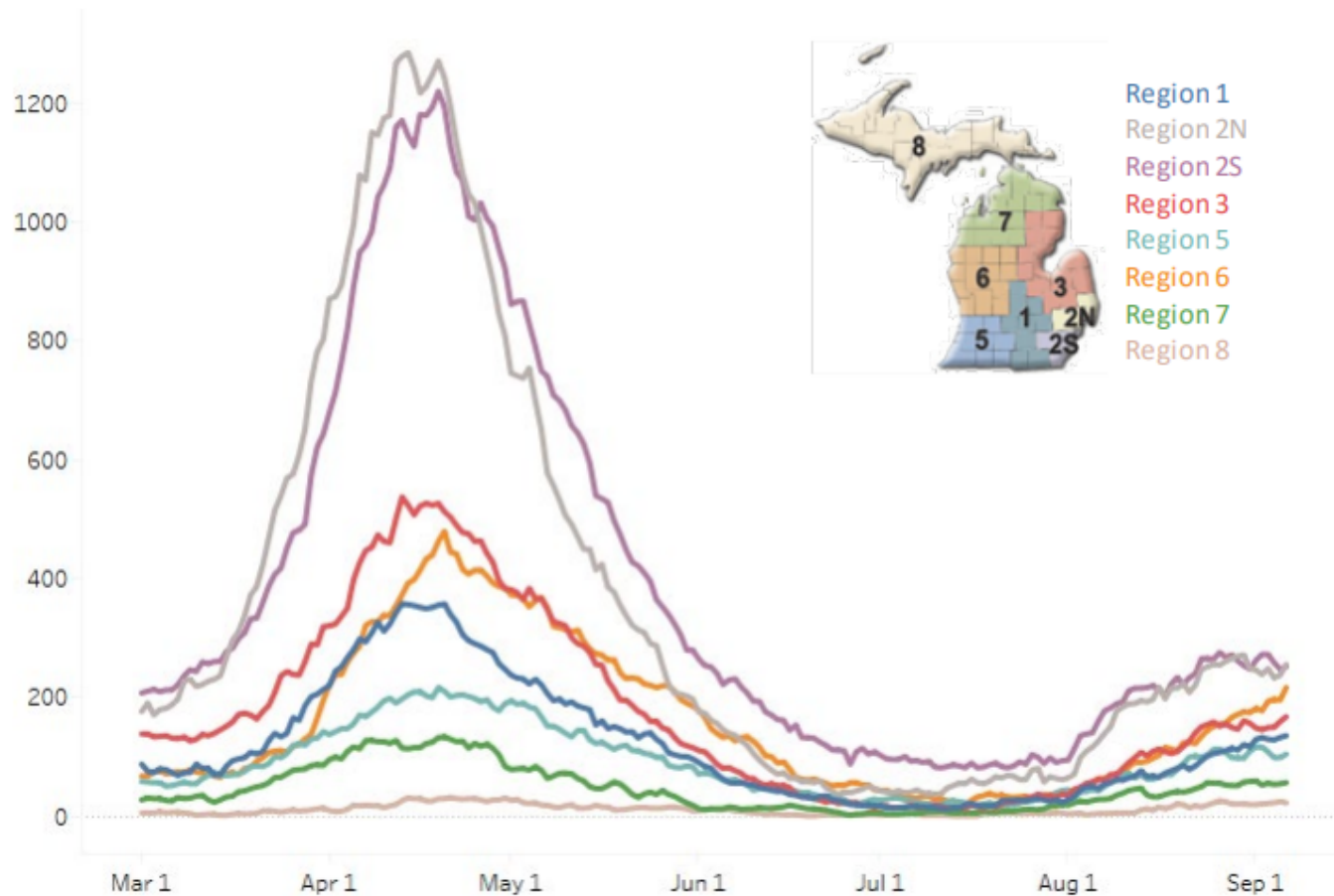
The proportion of ICU beds occupied by COVID patients remained steady at about **14%** over the last week.

Source: EMResources

Data through September 13, 2021

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 9/6/2021
Confirmed Positive by Region



There are notable regional variations in COVID+ hospitalizations trends this week.

Region 6 has the fastest growth followed by regions 1 and 8. Regions 2S, 2N, and 7 all show slight decreases.

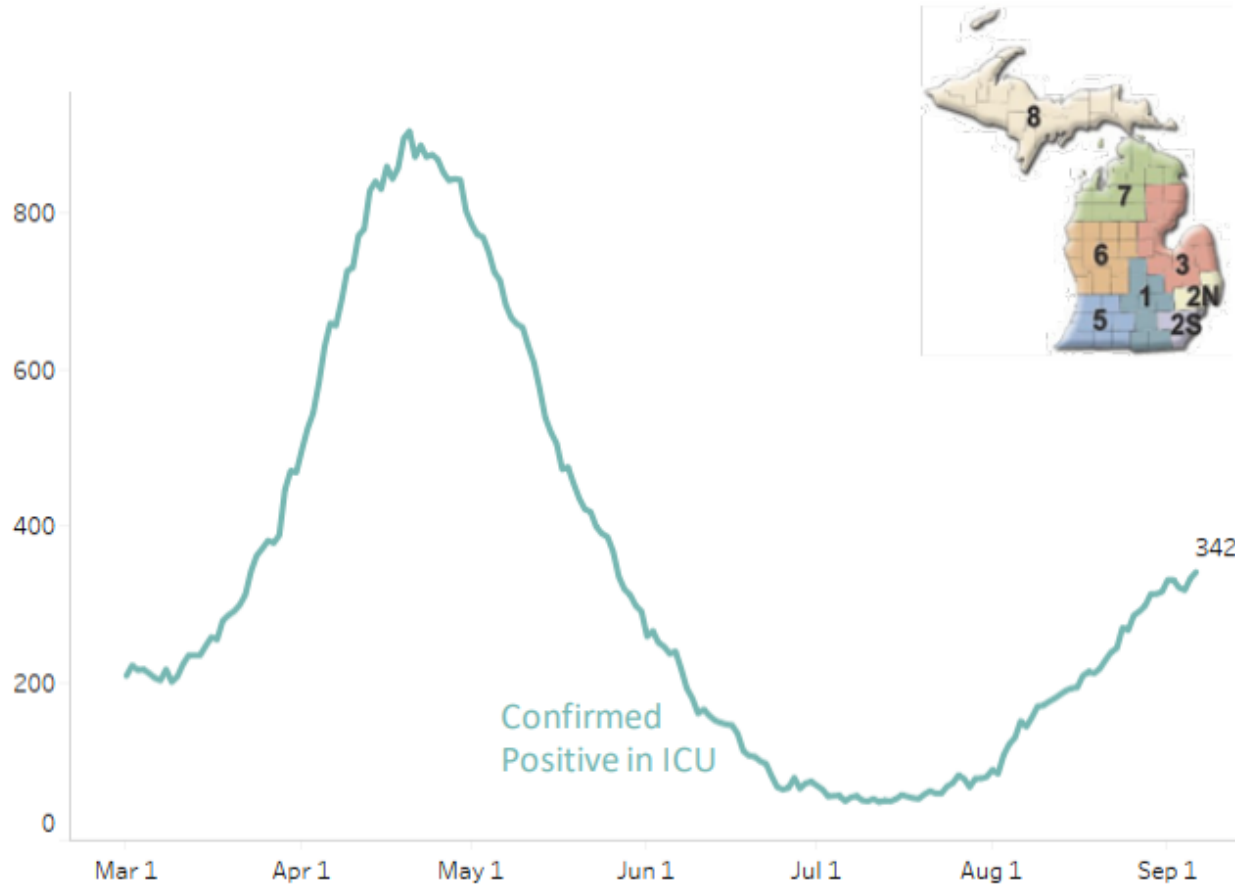
All regions except Region 8 have above 100/M population COVID+ hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	135 (13%)	125/M
Region 2N	255 (-6%)	115/M
Region 2S	251 (-1%)	113/M
Region 3	167 (4%)	147/M
Region 5	104 (7%)	109/M
Region 6	216 (23%)	147/M
Region 7	56 (-2%)	112/M
Region 8	22 (10%)	71/M

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210907_Data_and_modeling_update_vFINAL_734852_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 9/6/2021
Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs has increased by 9% from last week.

Regions 1 and 6 have the largest growth in ICU hospitalizations from last week. Region 3 had a notable decrease.

Regions 1 and 3 have adult ICU occupancy over 85% and >20% of ICU beds occupied by COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	39 (34%)	91%	22%
Region 2N	68 (10%)	73%	12%
Region 2S	75 (1%)	82%	11%
Region 3	38 (-12%)	88%	11%
Region 5	27 (0%)	71%	14%
Region 6	58 (38%)	80%	24%
Region 7	27 (-4%)	80%	18%
Region 8	10 (11%)	66%	16%

Source: MDHHS Data and Modelling https://www.michigan.gov/documents/coronavirus/20210907_Data_and_modeling_update_vFINAL_734852_7.pdf

Pediatric Hospitalization Rates – USA and Select States

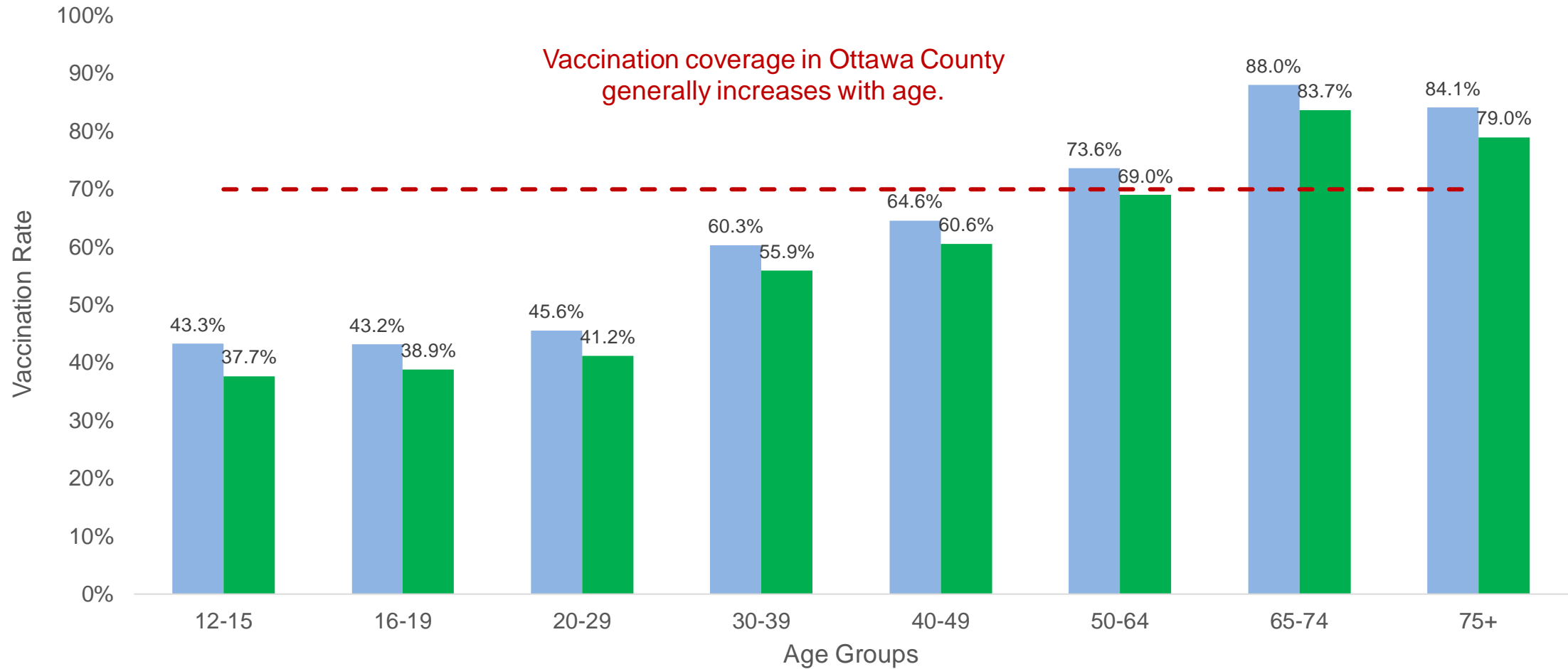


Pediatric hospitalization rates across the United States may be slowing, while some southern states such as Georgia continue to see high and increasing rates. Michigan has lower pediatric hospitalization rates than past waves and after a recent uptrend, may be showing improvement.

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

Accessed September 13, 2021

Vaccination Coverage by Age



Overall Completely Vaccinated = 58.8%

Initiation Completion Target

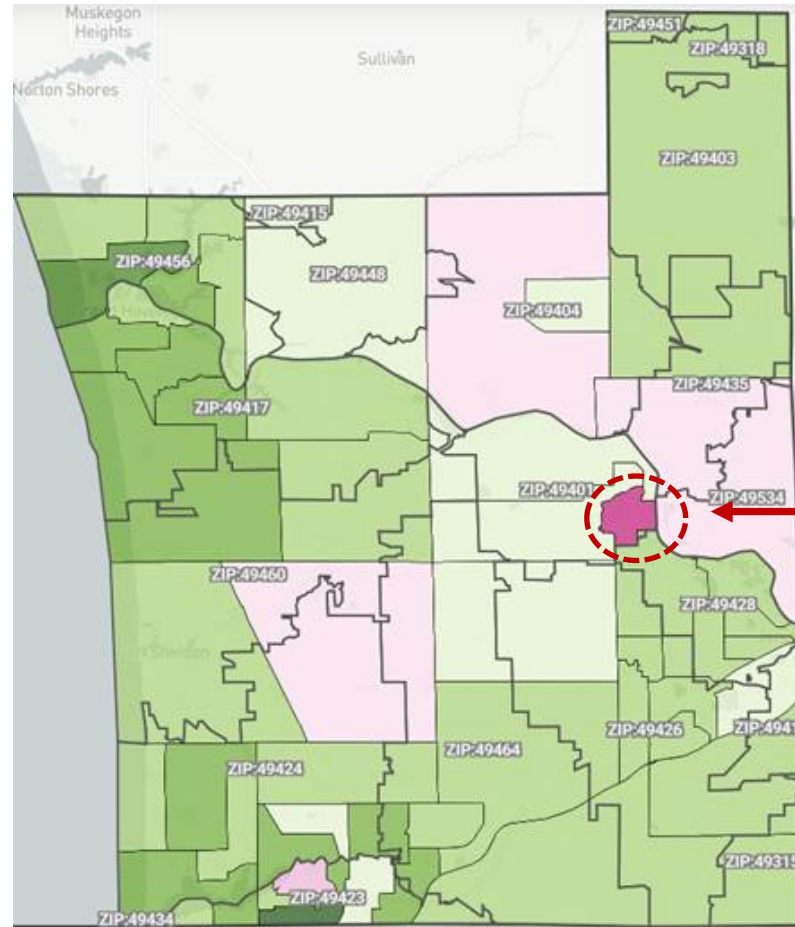
Source: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Data through September 10, 2021

Vaccination Coverage by Place of Residence

Fully vaccinated: % Ages 16+ years

Vaccination rates vary across Ottawa County, but most areas have at least 40% of the population aged 16+ completely vaccinated.



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.

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



Source: MI-Lighthouse Internal Dashboard

Cumulative Cases by Vaccination Status, Ottawa County, January 15, 2021 – September 11, 2021

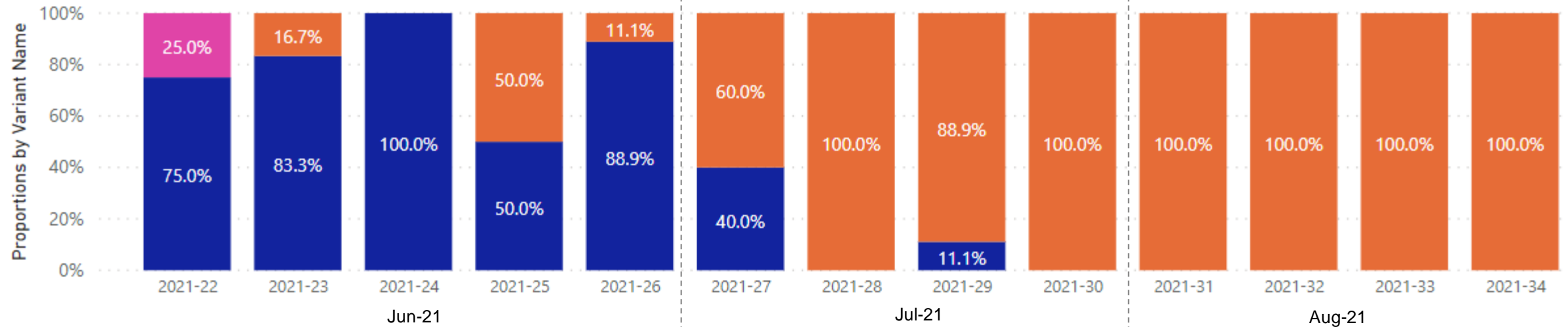
Fully Vaccinated People (144,455)		
Cases	Hospitalizations	Deaths
Percent of Cases in People Not Fully Vaccinated (14,896 / 16,021) 92.8%	Percent of Hospitalizations in People Not Fully Vaccinated (505 / 567) 89.1%	Percent of Deaths in People Not Fully Vaccinated (96 / 111) 86.5%
Total Cases Not Fully Vaccinated 14,896	Total Hospitalized Not Fully Vaccinated 505	Total Deaths Not Fully Vaccinated 96
Total Breakthrough Cases 1,152	Total Breakthrough Hospitalizations 62	Total Breakthrough Deaths 15
Percent of Fully Vaccinated People who Developed COVID-19 (1,152 / 144,455) 0.008%	Percent of Fully Vaccinated People who were Hospitalized for COVID-19 (62 / 144,455) 0.00043%	Percent of Fully Vaccinated People who Died of COVID-19 (15 / 144,455) 0.0001%
Percent of Cases who were Fully Vaccinated (1,152 / 16,021) 7.2%	Percent of Hospitalizations who were Fully Vaccinated (62 / 567) 10.9%	Percent of Deaths who were Fully Vaccinated (15 / 111) 13.5%
Total Cases 16,021	Total Hospitalizations 567	Total Deaths 111

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, indicating that **Delta** was becoming 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

N = Not Detected
Y = Detected

Sample Date	Site	Wuhan (parental)	Alpha	Beta	Gamma	Delta	Epsilon
6/1/2021	Zeeland	Y	N	N	N	N	Y
6/4/2021	Zeeland	Y	N	N	N	N	Y
6/7/2021	North Holland 1	N	N	N	N	N	N
6/8/2021	Zeeland	Y	N	N	N	N	N
6/10/2021	North Holland 1	N	N	N	N	Y	N
6/11/2021	Zeeland	N	N	N	N	N	N
6/14/2021	North Holland 1	N	Y	N	N	N	Y
6/15/2021	Zeeland	N	N	N	N	N	N
6/17/2021	North Holland 1	N	N	N	N	Y	N
6/21/2021	North Holland 1	N	Y	N	N	N	N
6/22/2021	Zeeland	N	N	N	N	N	N
6/24/2021	North Holland 1	N	N	N	N	N	N
6/28/2021	North Holland 1	N	N	N	N	N	N
6/29/2021	Zeeland	Y	N	N	N	N	N
7/1/2021	North Holland 1	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 1	N	N	N	N	N	N
7/9/2021	Zeeland	N	N	N	N	Y	Y
7/12/2021	North Holland 1	Y	N	N	N	Y	N
7/13/2021	Zeeland	N	N	N	N	N	N
7/15/2021	North Holland 1	N	N	N	N	N	Y
7/16/2021	Zeeland	N	N	N	N	Y	N
7/21/2021	North Holland 1	Y	N	Y	N	N	Y
7/21/2021	Zeeland	N	N	N	N	Y	N
7/21/2021	North Holland 1	N	N	N	N	Y	N
7/26/2021	North Holland 2	N	N	N	N	Y	N
7/27/2021	Zeeland	N	N	N	N	Y	N
7/29/2021	North Holland 1	N	N	N	N	N	N
7/30/2021	Zeeland	Y	N	N	N	Y	Y
8/2/2021	North Holland 1	Y	N	Y	N	N	N
8/3/2021	Zeeland	N	N	N	N	Y	N
8/5/2021	North Holland 1	N	N	N	N	Y	Y
8/6/2021	Zeeland	N	N	N	N	Y	Y
8/9/2021	North Holland 1	N	N	N	N	N	N
8/10/2021	Zeeland	N	N	N	N	Y	N
8/12/2021	North Holland 1	N	N	N	N	N	N
8/13/2021	Zeeland	Y	N	N	N	Y	N
8/16/2021	North Holland 1	N	N	N	N	Y	N
8/17/2021	Zeeland	N	N	N	N	Y	N
8/19/2021	North Holland 1	N	N	N	N	N	N
8/20/2021	Zeeland	N	N	N	N	Y	N
8/23/2021	North Holland 1	Y	N	N	N	Y	N
8/24/2021	Zeeland	N	N	N	N	Y	N
8/26/2021	North Holland 1	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

The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through July and August 2021, indicating that Delta was becoming 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%

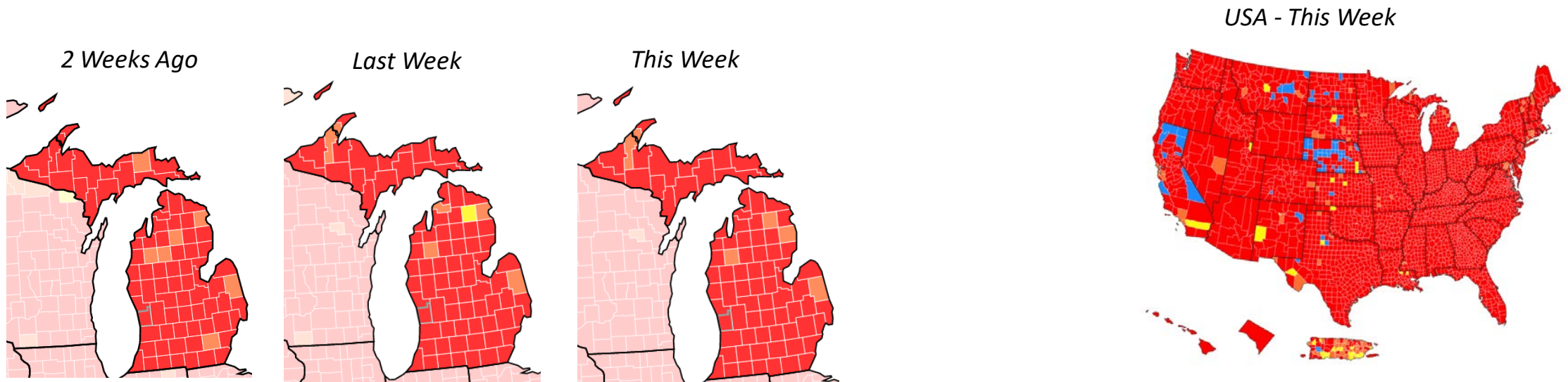
↑
Ottawa's goal is to be in the Low category

↑
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

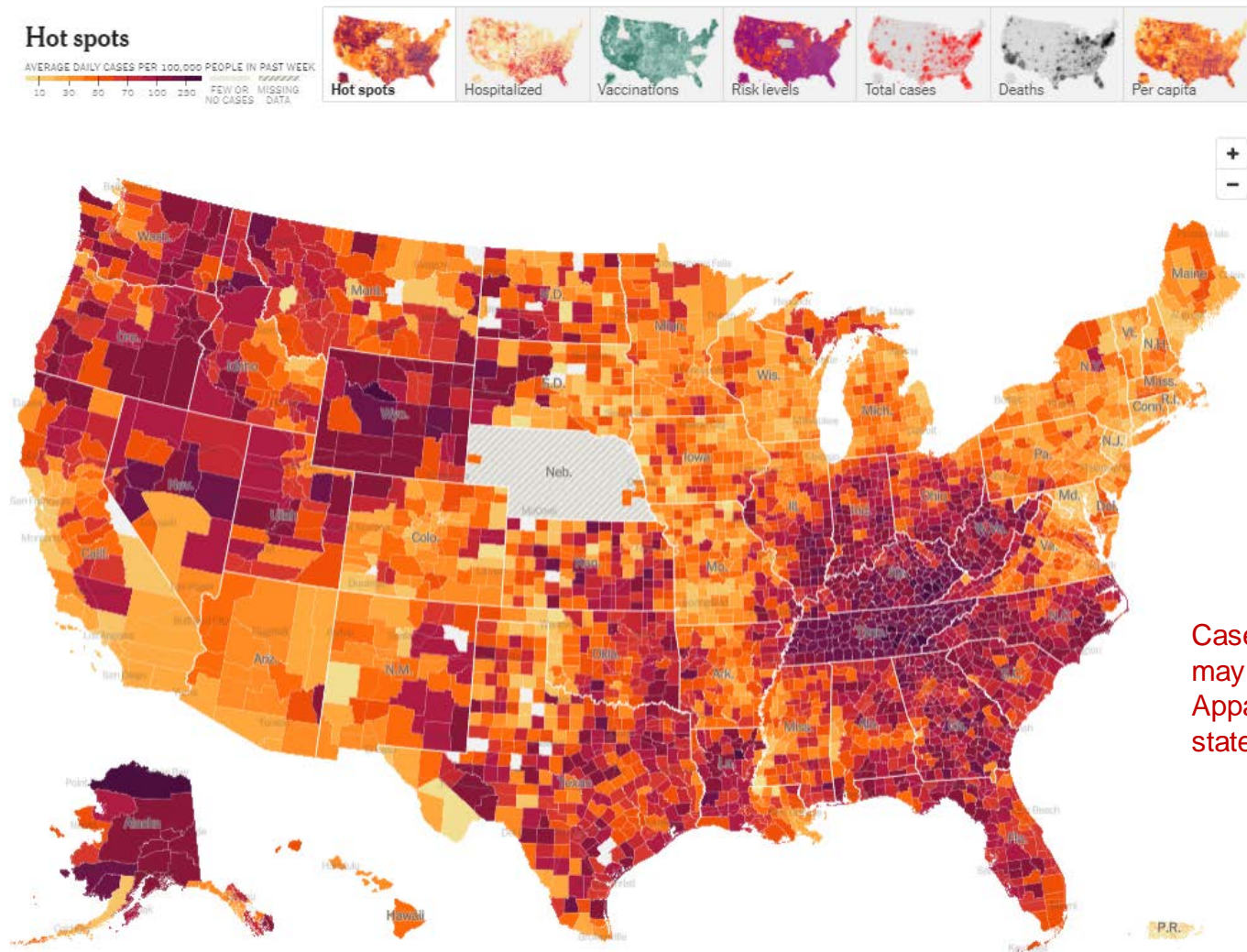
- Current Risk Level in Ottawa – **HIGH** (for last 4+ weeks)
- Current Data:
 - Positivity = 13.12%
 - Case Rate = 206.97 cases per week per 100,000



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

Data as of September 12, 2021

COVID-19 Case Rates by County Across the US



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

Accessed September 14, 2021

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

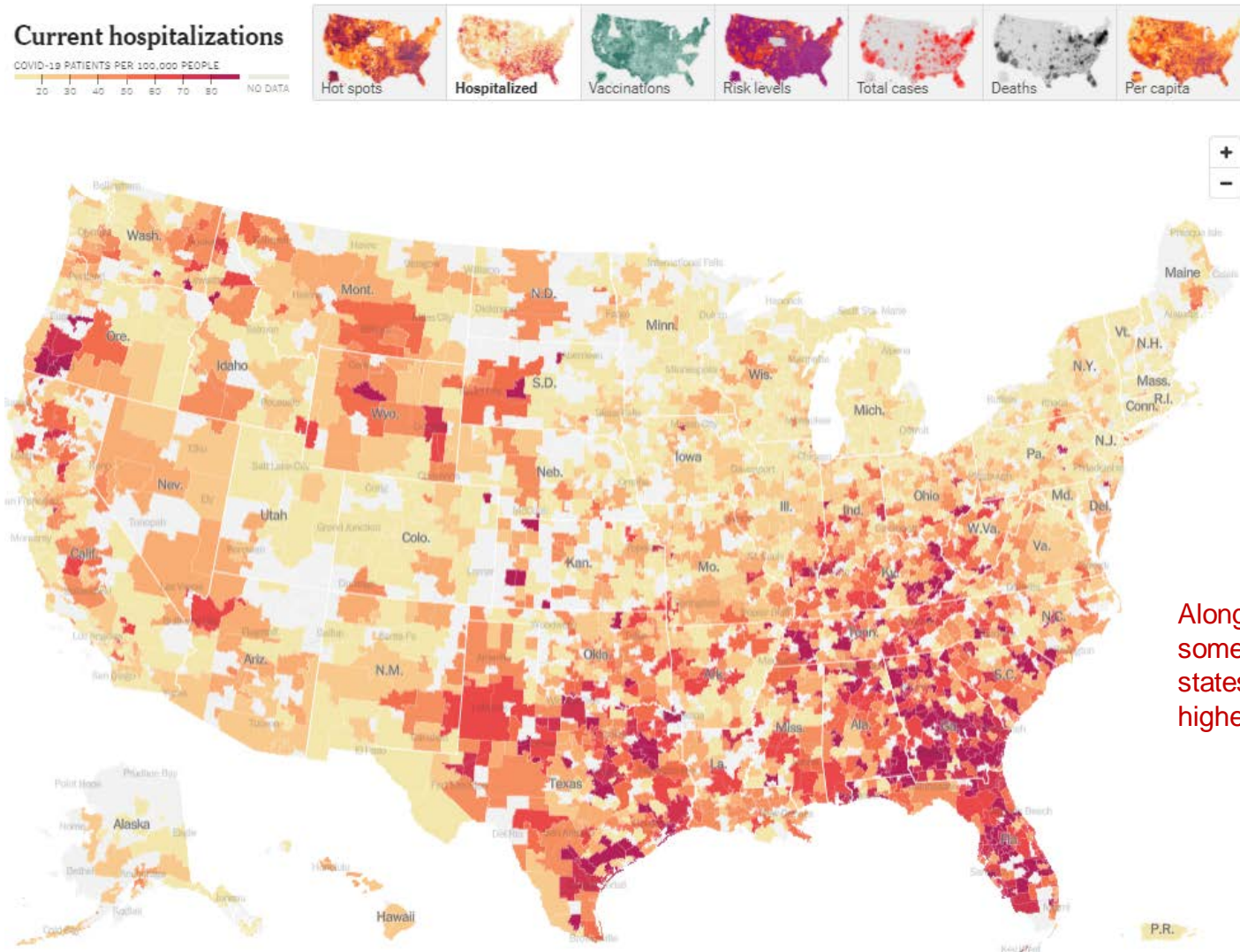
Risk Levels

Other

Media

Science
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COVID-19 Hospitalization Rates by County Across the US



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

Accessed September 14, 2021

USA & MI

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States and Michigan Counties with School Masking Requirements

- **States/Districts (17):** California, Connecticut, Delaware, Hawaii, Illinois, Kentucky, Louisiana, Massachusetts, New Mexico, New Jersey, New York, Nevada, Oregon, Rhode Island, Virginia, Washington, & Washington D.C.
- **Michigan Counties (16):**
 - **PreK/K-6:** Allegan, Kalamazoo, Kent, Ottawa
 - **K-12:** Antrim, Benzie, Berrien, Charlevoix, Emmet, Genesee, Ingham, Leelanau, Oakland, Otsego, Washtenaw, and Wayne

Note: List may not be comprehensive

USA & MI

Spread

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Statewide and Local COVID-19 News Headlines

Public Interest

Threat of fourth COVID surge in Michigan hospitals is 'very real' without more vaccinations

Published: Sep. 10, 2021, 10:00 a.m.

<https://www.mlive.com/public-interest/2021/09/threat-of-fourth-covid-surge-in-michigan-hospitals-is-very-real-without-more-vaccinations.html>

Science Roundup

Monitoring Incidence of COVID-19 Cases, Hospitalizations, and Deaths, by Vaccination Status — 13 U.S. Jurisdictions, April 4–July 17, 2021

Early Release / September 10, 2021 / 70

https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e1.htm?s_cid=mm7037e1_w



With Delta circulating, vaccination continues to reduce the risk of infection, hospitalization, and death.

Interim Estimates of COVID-19 Vaccine Effectiveness Against COVID-19–Associated Emergency Department or Urgent Care Clinic Encounters and Hospitalizations Among Adults During SARS-CoV-2 B.1.617.2 (Delta) Variant Predominance — Nine States, June–August 2021

Early Release / September 10, 2021 / 70

https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e2.htm?s_cid=mm7037e2_w

A CDC study found all 3 available COVID-19 vaccines are effectively preventing hospitalizations, Emergency Department visits and Urgent Care visits.