

Ottawa County COVID-19 Epidemiology

November 3, 2021

Data as of October 30, 2021, unless otherwise indicated

Executive Summary

- The US may be plateauing, while Michigan continues to increase
- Ottawa community transmission remains elevated
 - Positivity increased to 17% over the last 2 weeks. The goal is to be less than 8%*.
 - Weekly case counts in Ottawa increased 9%, from 857 two weeks ago to 934 last week.
 - Cases among children increased 34%, from 165 two weeks ago to 221 last week.
- Ottawa area and regional hospitals continue to see many COVID-19 patients
 - In Ottawa County, 17% of all available beds are occupied by COVID-19 patients.**
 - About 30% of Ottawa County ICU beds are occupied by COVID-19 patients.**
 - At a large regional healthcare system, weekly hospital census for children with COVID-19 reached the highest level seen through the pandemic, a level attained only one other time in December 2020.
 - Staffing remains a challenge for many health systems.
 - In recent weeks more Ottawa County hospitals are reporting strain.
- Pediatric hospitalizations across the US are improving, but some areas continue to see high hospitalization rates in children, including Michigan and other states in the Midwest
- Of eligible Ottawa County residents, 62% 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.

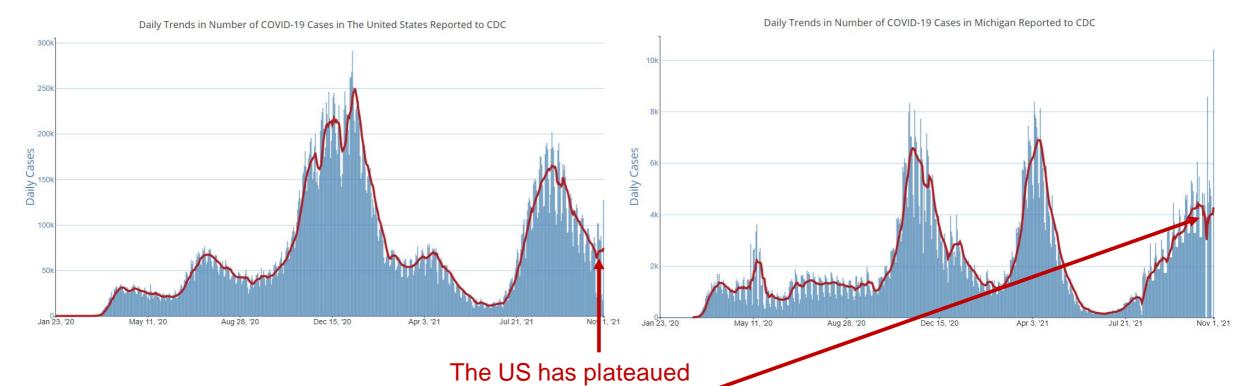
Ottawa County Metrics by Week

		Week Ending					
Metric	Goal	2-Oct-21	9-Oct-21	16-Oct-21	23-Oct-21	30-Oct-21	
Positivity (All Ages)	<8%	12.0%	14.0%	16.0%	16.0%	17.3%	
Weekly Cases (All Ages)	<147	744	912	966	857	934	
Weekly Cases in Children (0-17 years of age)	NA	136	198	200	165	221	
Total COVID-19 Hospitalizations (All Ages)	0	20	26	32	31	19	
Total Deaths (All Ages)	0	8	8	9	8	4	
CDC Risk Transmission Level	Moderate	High	High	High	High	High	

Case Trends in the USA and Michigan

USA

Michigan



Variants

Source: https://covid.cdc.gov/covid-data-tracker/#trends_dailycases

Data through November 1, 2021

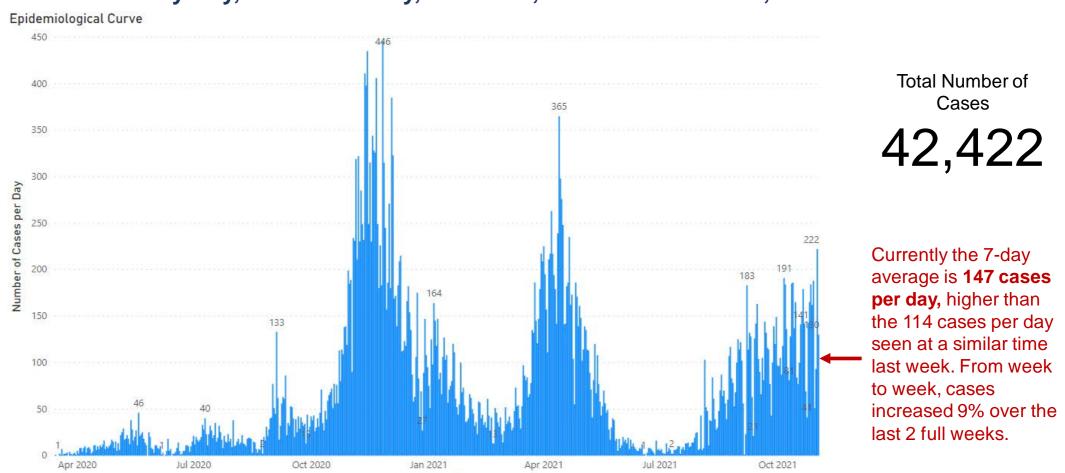
USA & MI

while Michigan continues

trending up.

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 - November 2, 2021



Note: As of November 2021, reports from local stores of a large grocery chain and a national pharmacy chain indicate that supplies of at-home COVID-19 tests remain in 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.

Referral Date

Variants

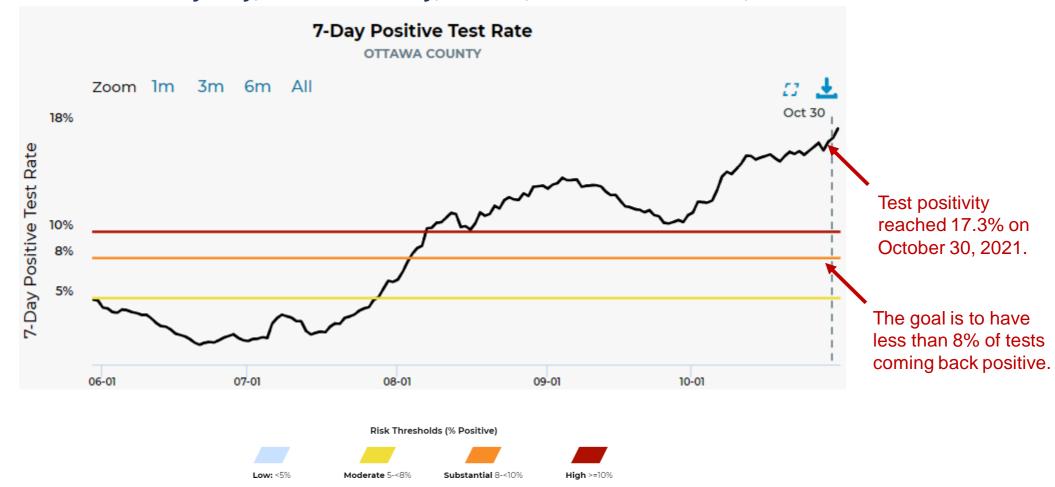
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Science Roundup

USA & MI

Test Positivity in Ottawa County

COVID-19 Cases by Day, Ottawa County, June 1, 2021 – October 30, 2021



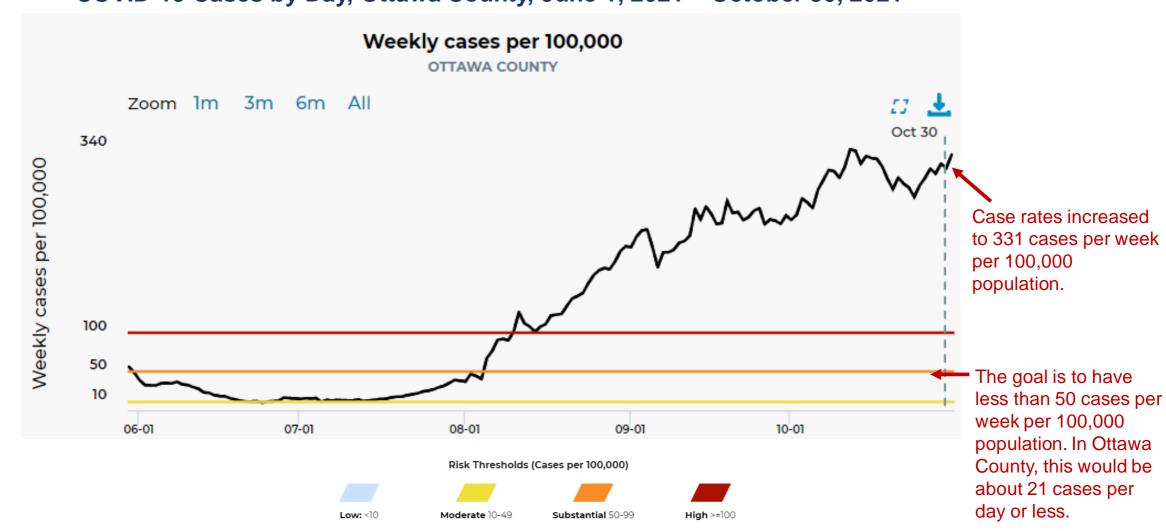
Variants

Note: Testing in Ottawa County has remained stable with 6000-8000 tests conducted each week over the last 2.5 months: Testing Results | Ottawa County Covid-19 Case Summary Data (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 30, 2021



Variants

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

Science Roundup

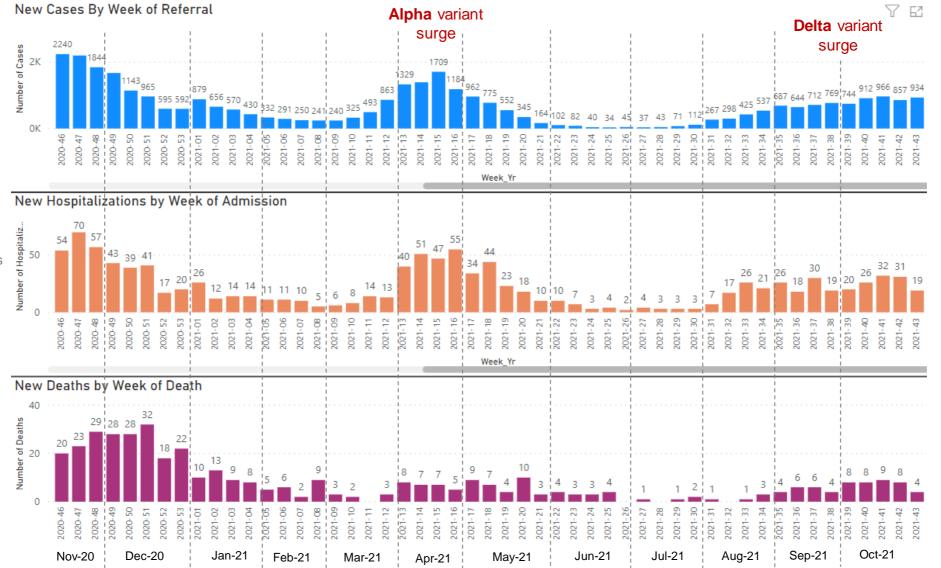
USA & MI

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

Hospitalizations and deaths in recent weeks may increase as data is updated.

Hospitalizations are likely underestimated because:

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



The weekly number of cases increased 9% last week.

The weekly number of hospitalizations has been increasing with an average of about 27 cases hospitalized each week over the last month.

Weekly COVID-19 deaths are reaching levels experienced in the spring 2021 wave. Current weekly average of deaths over the last 4 weeks stands at about 7-8 deaths per week.

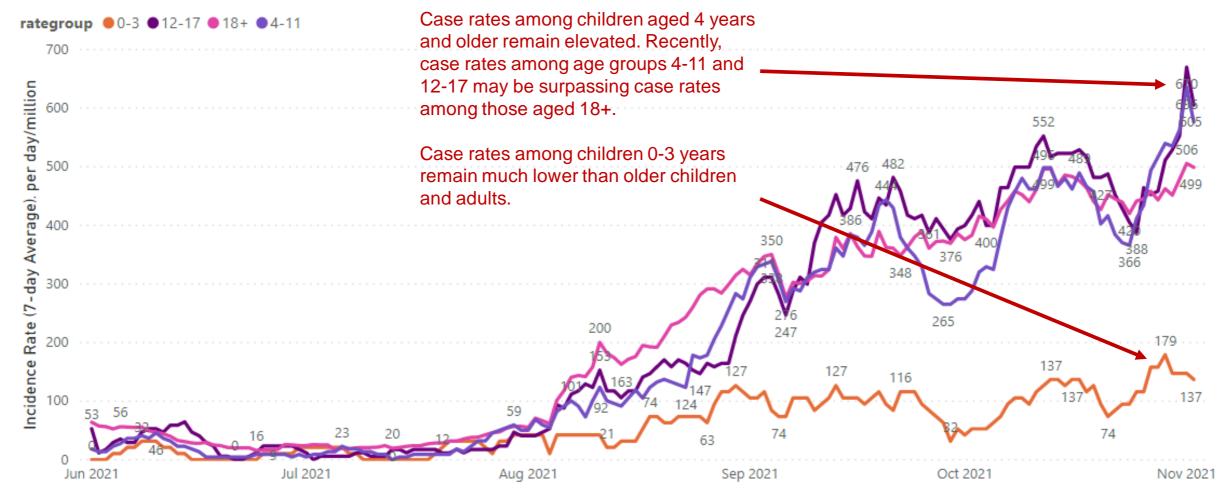
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Variants

Ottawa County - Case Rate Trends - by Age

COVID-19 Case Rates by Age, includes School-Aged, June 2021 – November 2, 2021

Incidence Rate (7-day Average)

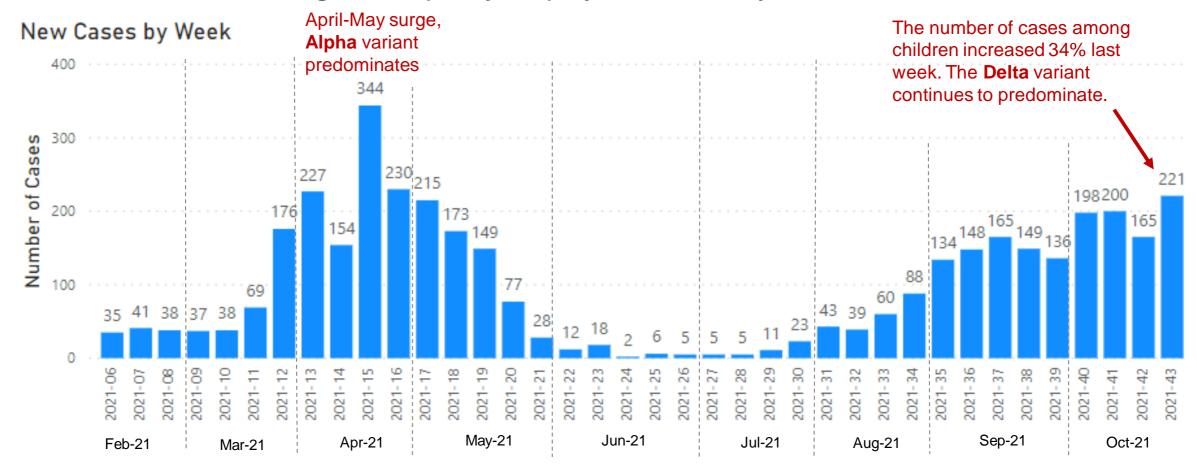


Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Data as of November 2, 2021

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

COVID-19 Cases Among Minors (0-17 years), by Week, January 2021 – October 30, 2021



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

USA & MI

Variants

Ottawa County Weekly Case Counts and % Change, by Age

	Adults (18+)		Children (0-17 years)		Total	
Week Ending	Number	% Change from Previous Week	Number	% Change from Previous Week	Number	% Change from Previous Week
3-Jul-21	40		5		45	
10-Jul-21	32	-20%	5	0%	37	-18%
17-Jul-21	38	19%	5	0%	43	16%
24-Jul-21	60	58%	11	120%	71	65%
31-Jul-21	89	48%	23	109%	112	58%
7-Aug-21	224	152%	43	87%	267	138%
14-Aug-21	259	16%	39	-9%	298	12%
21-Aug-21	365	41%	60	54%	425	43%
28-Aug-21	449	23%	88	47%	537	26%
4-Sep-21	553	23%	134	52%	687	28%
11-Sep-21	496	-10%	148	10%	644	-6%
18-Sep-21	547	10%	165	11%	712	11%
25-Sep-21	620	13%	149	-10%	769	8%
2-Oct-21	608	-2%	136	-9%	744	-3%
9-Oct-21	714	17%	198	46%	912	23%
16-Oct-21	765	7%	200	1%	966	6%
23-Oct-21	692	-10%	165	-18%	857	-11%
30-Oct-21	713	3%	221	34%	934	9%

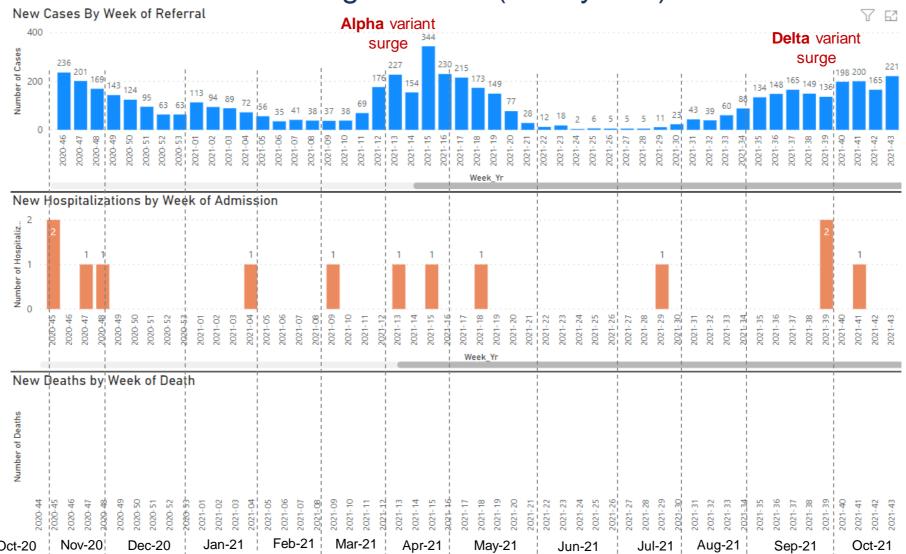
Children Adults

Weekly case counts among children increased 34% last week, and cases in adults increased 3%.

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

Science Roundup

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



The weekly number of cases among children increased 34% in the last 2 full weeks.

Hospitalizations are likely underestimated because:

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

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

Variants

Through the 2020-2021

school year nearly all school-aged children

were in environments

universal masking

social distancing

testing (for high

These mitigation

case counts and

children.

school athletes)

strategies likely reduced

hospitalizations among

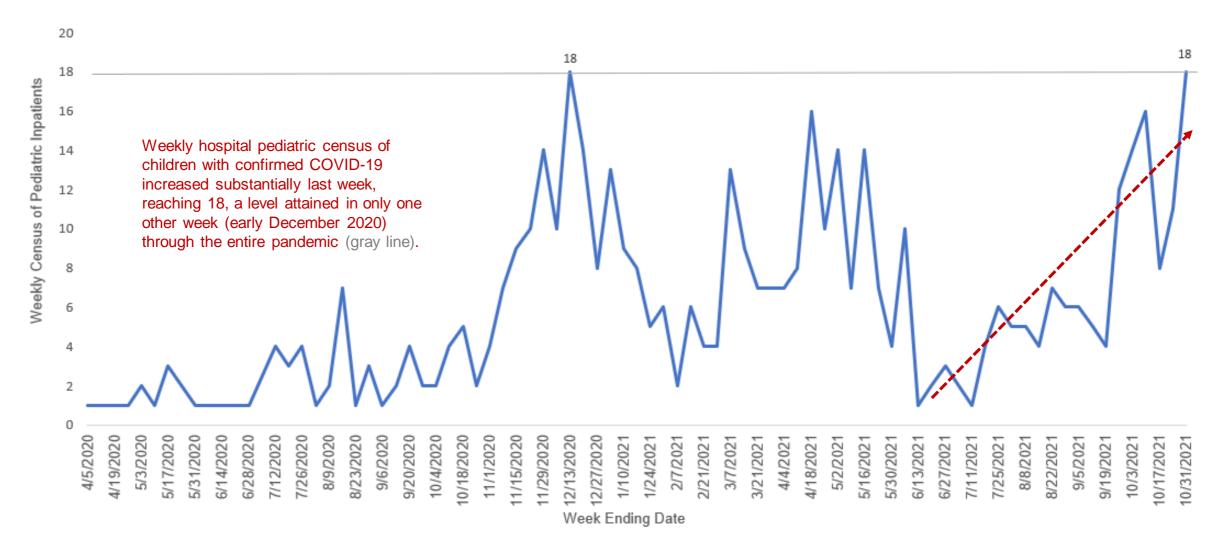
mandatory quarantine

for all close contacts

 cohorting online learning

with:

Weekly Hospital Pediatric Census – A Regional Healthcare System

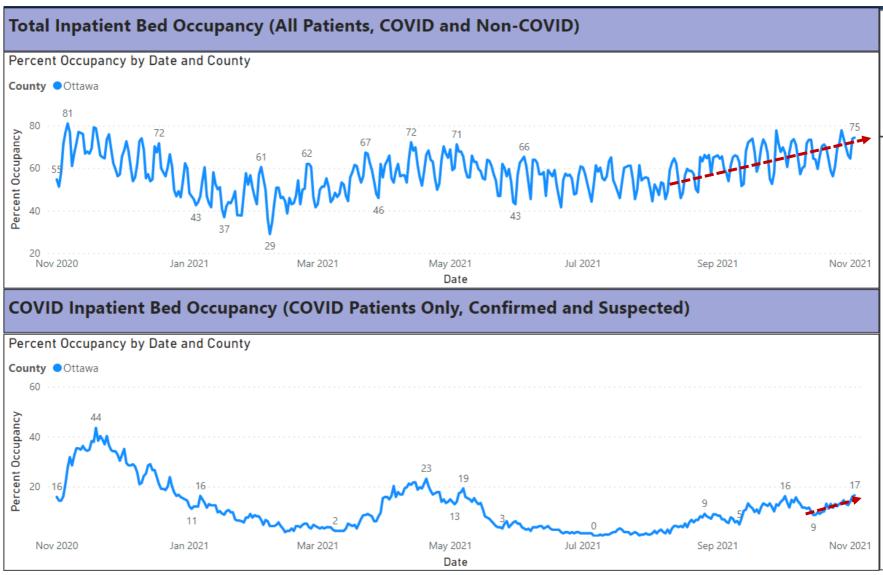


Note: Data above includes persons younger than 18 years of age with confirmed COVID-19 hospitalized at a large regional healthcare system. Patients may be listed in more than one week. Data may change as information is updated.

Data through October 31, 2021

Children

Ottawa County Hospital Capacity – All Beds



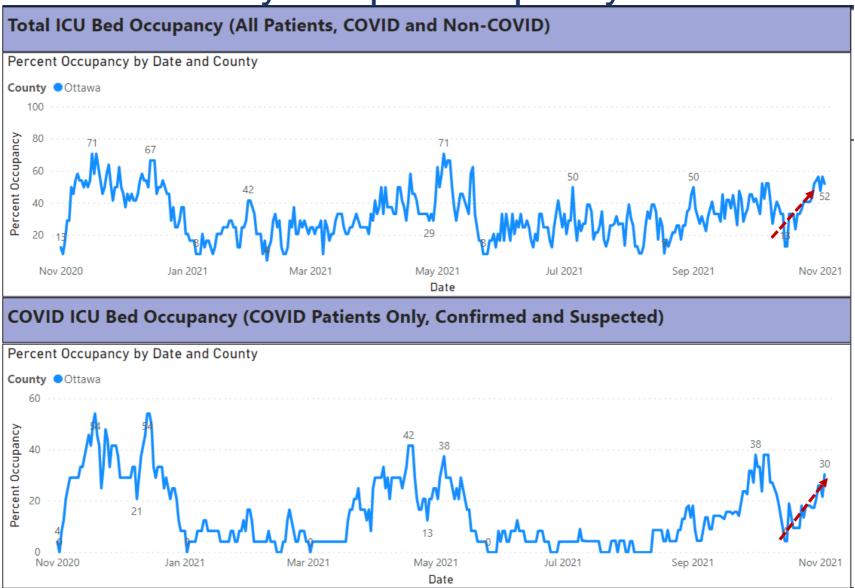
Total hospital bed occupancy is increasing, as is the proportion of beds occupied by COVID-19 patients.

Currently 17% of all inpatient beds are occupied by COVID-19 patients.

Source: EMResources Data through November 3, 2021

Variants

Ottawa County Hospital Capacity – ICU Beds



Overall ICU bed occupancy is increasing.

The proportion of ICU beds occupied by COVID-19 patients is increasing. Currently, 30% of ICU beds are occupied by COVID-19 patients.

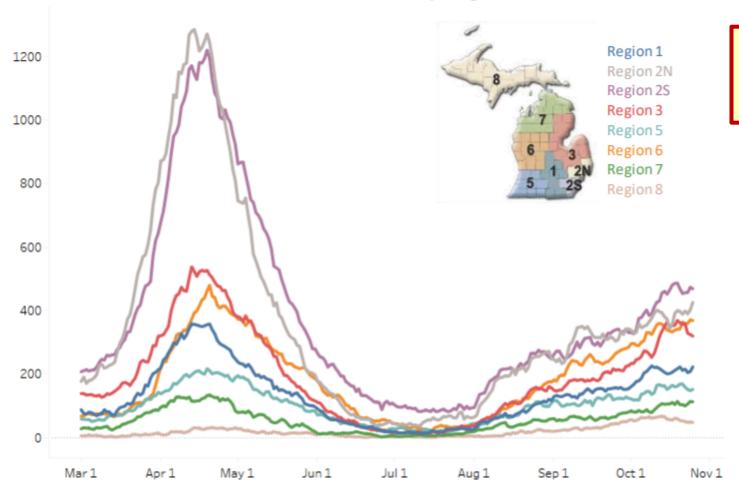
Source: EMResources Data through November 3, 2021

Variants

Media

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 10/25/2021 Confirmed Positive by Region



Hospitalizations for COVID+ patients have increased in some regions (1, 2N, 6, 7) while decreasing in other regions (2S, 3, 5,8)

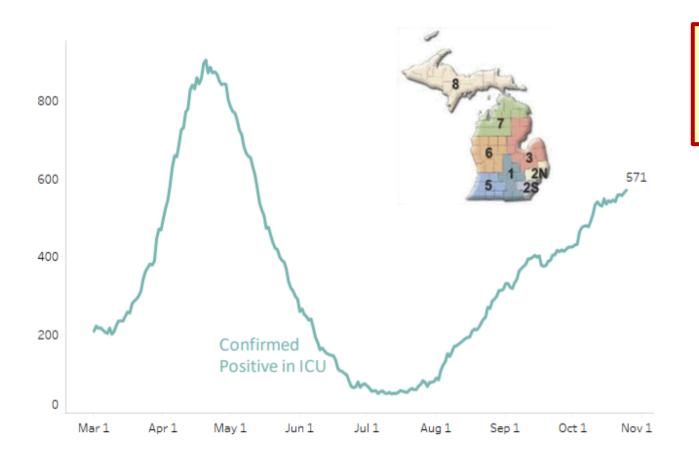
Regions 1, 2S, 3, 6 and 7 have greater than 200/M population hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	222 (5%)	205/M
Region 2N	425 (9%)	192/M
Region 2S	468 (-4%)	210/M
Region 3	319 (-10%)	281/M
Region 5	151 (- 6%)	158/M
Region 6	368 (9%)	251/M
Region 7	112 (9%)	224/M
Region 8	47 (-22%)	151/M

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211026_Data_and_modeling_update_vFINAL_739491_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 10/25/2021 Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs has increased 6% from last week. ICU census has decreased in Regions 7 and 8.

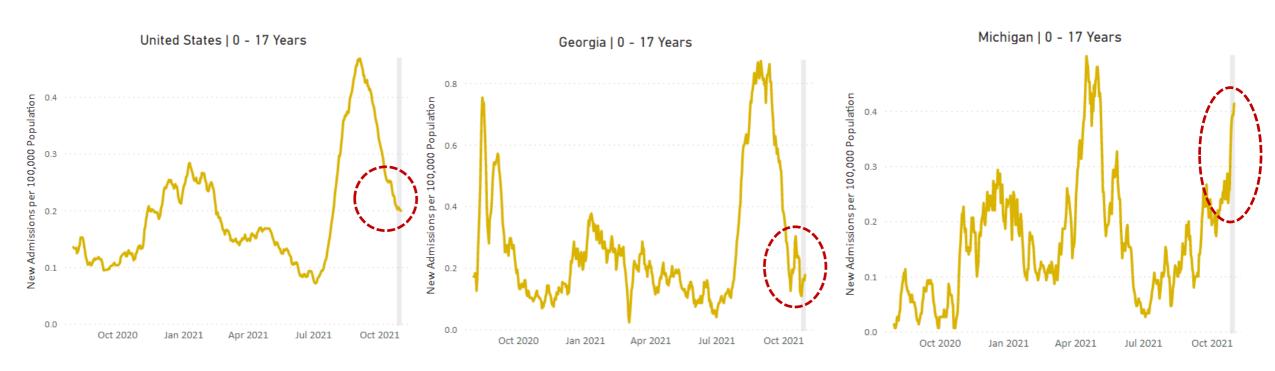
Regions 1, 2S, and 3 have overall adult ICU occupancy greater than or equal to 85%. Regions 1, 6, 7 have >30% of ICU beds occupied with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	64 (19%)	87%	33%
Region 2N	95 (0%)	76%	16%
Region 2S	137 (11%)	86%	19%
Region 3	91 (11%)	92%	27%
Region 5	37 (3%)	77%	20%
Region 6	87 (7%)	84%	38%
Region 7	44 (-17%)	82%	31%
Region 8	16 (-6%)	60%	25%

Other

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20211026_Data_and_modeling_update_vFINAL_739491_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan



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

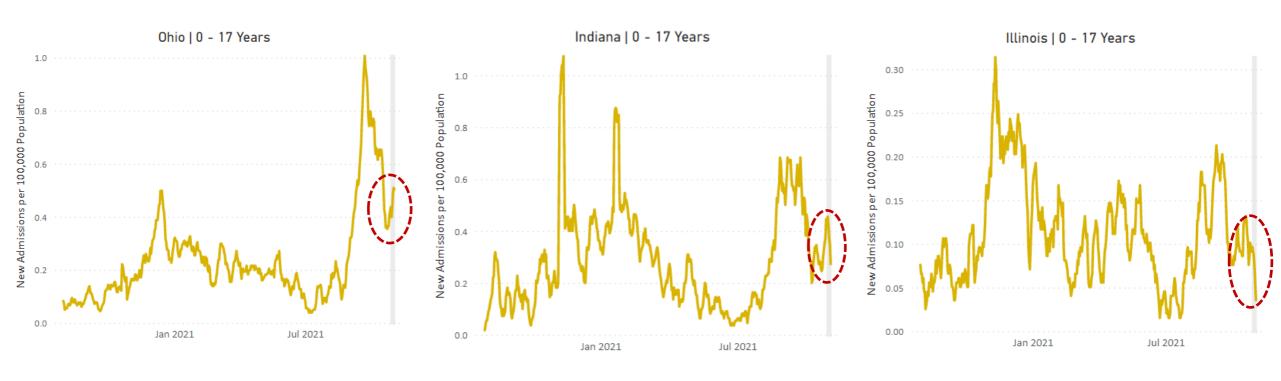
Source: https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions

Accessed November 2, 2021

Science

Roundup

Pediatric Hospitalization Rates – Select Midwest States



Pediatric hospitalization rates in some states across the Midwest are elevated. Ohio remains higher than usual and is showing a recent rebound. Indiana and Illinois pediatric hospitalization rates have reversed from recent surges, but Indiana continues to track sideways.

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

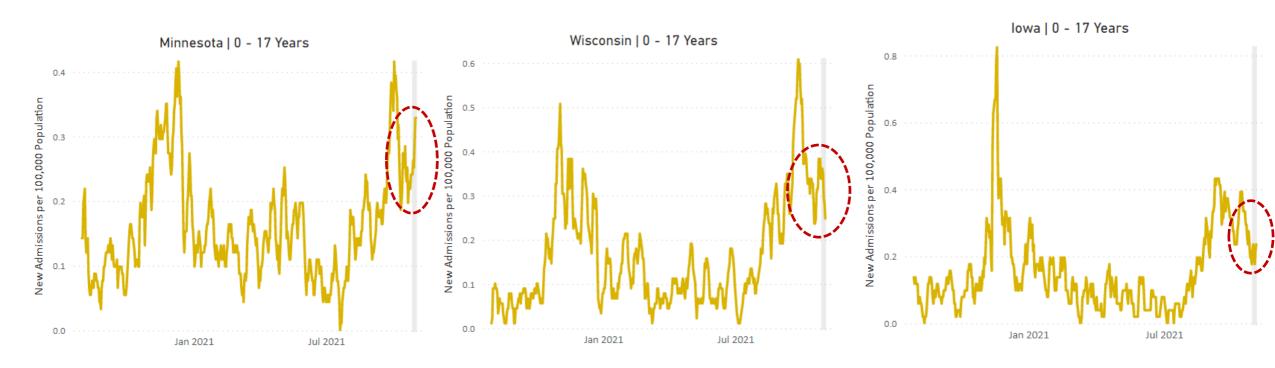
Accessed November 3, 2021

Science

Roundup

Hospitalizations

Pediatric Hospitalization Rates – Select Midwest States



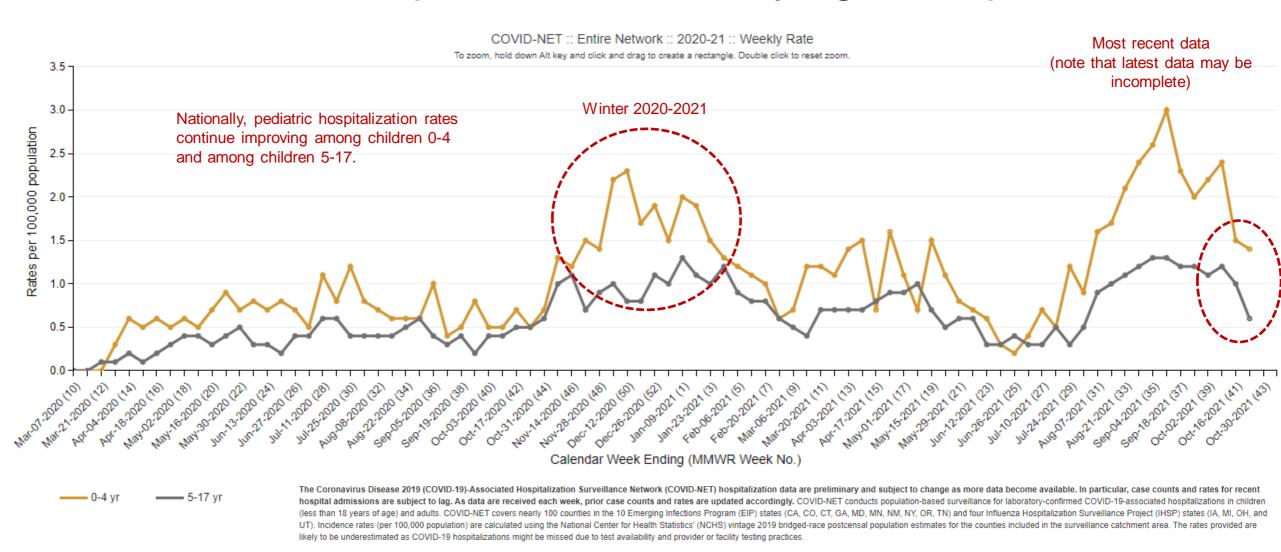
Pediatric hospitalization rates in Minnesota, and Wisconsin remain elevated, with modest improvement in lowa.

Variants

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

Accessed November 3, 2021

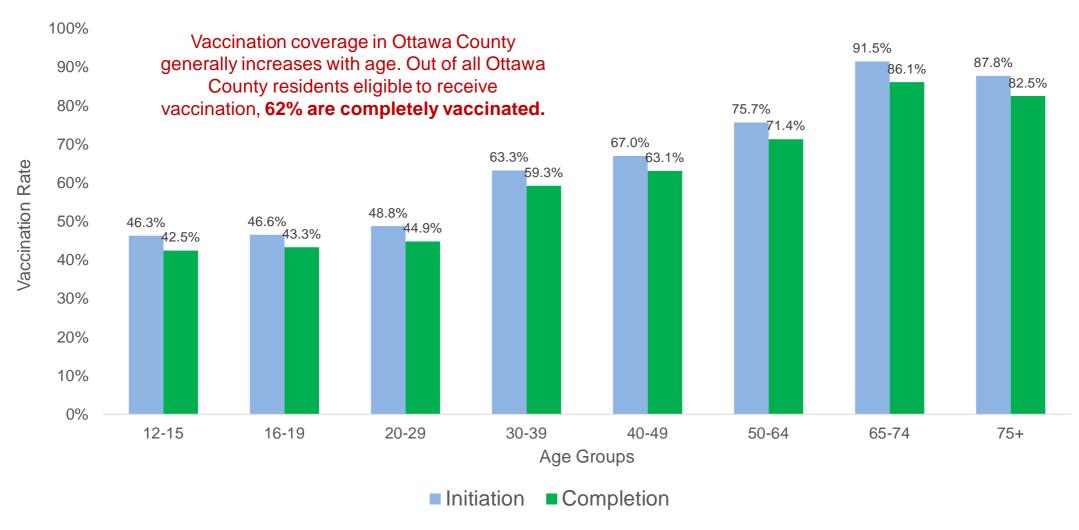
Pediatric Hospitalization Rates by Age Group – USA



Source: https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalization-network

Accessed November 3, 2021

Vaccination Coverage by Age



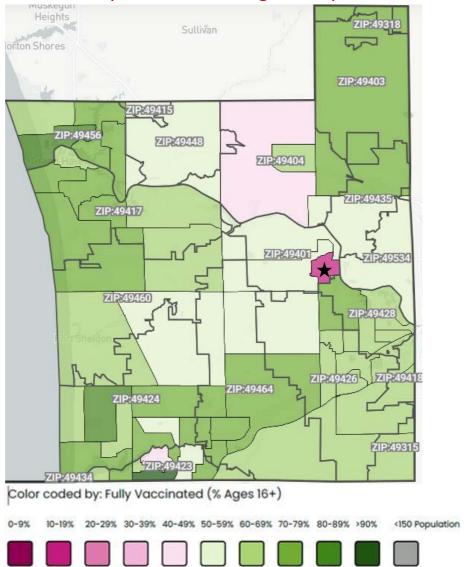
Note: The previously posted vaccination rate goal of 70% was removed from this illustration. As more transmissible COVID-19 variants emerge, vaccination rates higher than 70% are likely needed to slow COVID-19 transmission in the community.

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

Data through October 30, 2021

Vaccination Coverage by Place of Residence

Fully vaccinated: % Ages 16+ years



★ 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

Science Roundup

Hospitalizations

Other

Vaccination rates vary across

have at least 50% of the

vaccinated.

Ottawa County, but most areas

population aged 16+ completely

Cumulative Cases by Vaccination Status, Ottawa County, January 15, 2021 – October 30, 2021

Fully Vaccinated People (152,195)							
Cases	Hospitalizations	Deaths					
Percent of Cases in People	Percent of Hospitalizations in People	Percent of Deaths in People					
Not Fully Vaccinated	Not Fully Vaccinated	Not Fully Vaccinated					
(18,698 / 21,936)	(634 / 774)	(129 / 167)					
85.2%	81.9%	77.2%					
Total Cases Not Fully Vaccinated	Total Hospitalized Not Fully Vaccinated	Total Deaths Not Fully Vaccinated					
18,698	634	129					
Total Breakthrough Cases	Total Breakthrough Hospitalizations	Total Breakthrough Deaths					
3,238	140	38					
Percent of Fully Vaccinated People who	Percent of Fully Vaccinated People who	Percent of Fully Vaccinated People who					
Developed COVID-19	were Hospitalized for COVID-19	Died of COVID-19					
(3,238 / 152,195)	(129 / 152,195)	(38 / 152,195)					
2.128%	0.092%	0.025%					
Percent of Cases who were	Percent of Hospitalizations who were	Percent of Deaths who were					
Fully Vaccinated	Fully Vaccinated	Fully Vaccinated					
(3,238 / 21,936)	(140 / 774)	(38 / 167)					
14.8%	18.1%	22.8%					
Total Cases	Total Hospitalizations	Total Deaths					
21,936	774	167					

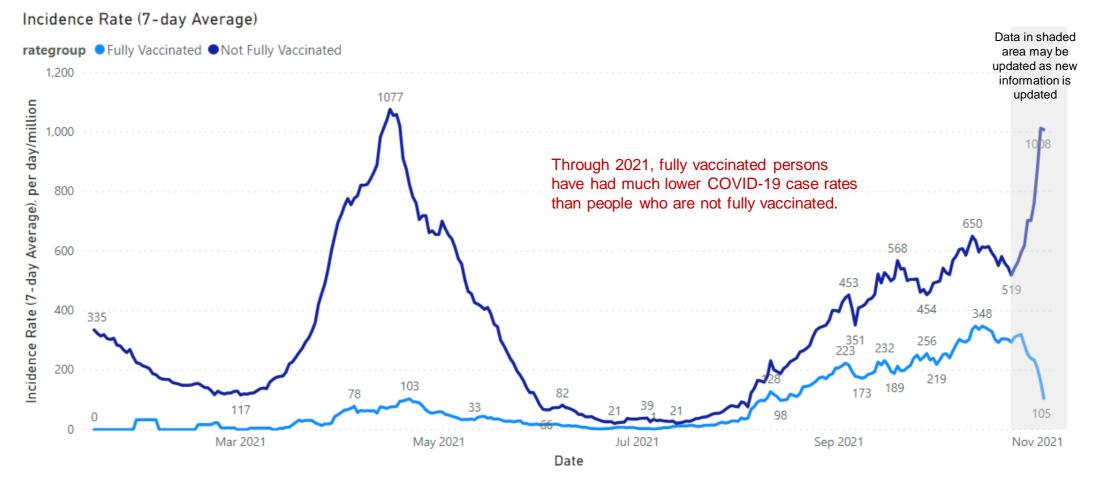
Sources:

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

Media Science Roundup

Ottawa County COVID-19 Vaccination Breakthrough Case Trends



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.

Variants

Sources:

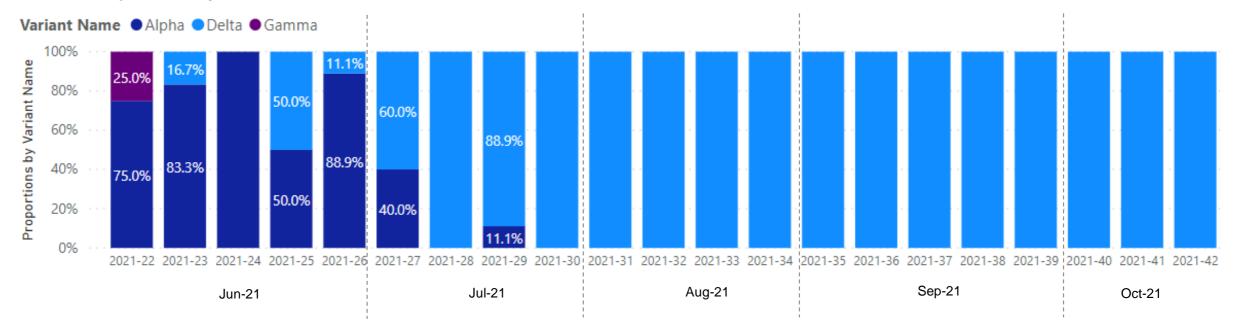
USA & MI

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

Science Roundup

Variants – Clinical Samples from Ottawa County Residents

Variant Proportions by Week



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. Currently, there is little local evidence of any newly emerging variant.

Science Roundup

Risk Levels

^{*} 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

		Wuhan					
Sample Date	Site	(parental)	Alpha	Beta	Gamma	Delta	Epsilon
9/2/2021	North Holland	Υ	N	N	N	N	N
9/3/2021	Zeeland	N	Ν	N	N	Υ	N
9/6/2021	North Holland	Υ	Ν	N	N	Υ	N
9/7/2021	Zeeland	N	N	N	N	N	N
9/9/2021	North Holland	N	N	N	N	Υ	N
9/10/2021	Zeeland	N	N	N	N	Υ	N
9/14/2021	Zeeland	N	N	N	N	Υ	N
9/16/2021	North Holland	N	N	N	N	N	N
9/21/2021	Zeeland	N	N	N	N	Υ	N
9/22/2021	North Holland	N	N	N	N	N	N
9/23/2021	Zeeland	N	Ν	N	N	Υ	N
9/26/2021	North Holland	Υ	Ν	N	N	Υ	∢ N
9/29/2021	North Holland	N	N	N	N	Υ	N
9/30/2021	Zeeland	N	Ν	N	N	Υ	N
10/3/2021	North Holland	Υ	N	N	N	Υ	N
10/4/2021	Zeeland	N	Ν	N	N	Υ	N
10/6/2021	North Holland	N	Ν	N	N	N	N
10/7/2021	Zeeland	N	Ν	N	N	Υ	N
10/10/2021	North Holland	N	N	N	N	Υ	N
10/17/2021	North Holland	Υ	N	N	N	Υ	N
10/11/2021	Zeeland	N	N	N	N	Υ	N
10/18/2021	Zeeland	N	N	N	N	Υ	N
10/20/2021	North Holland	Υ	N	N	N	N	N
10/24/2021	North Holland	N	Ν	N	N	Υ	N
10/21/2021	Zeeland	N	N	N	N	Υ	N
10/25/2021	Zeeland	N	N	N	N	Υ	N

The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through all of September and most of October 2021, with no other variants detected in that same time frame. This data indicate that Delta remains the dominant variant in Ottawa County; with little evidence of Delta being supplanted by a competing variant.

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

Risk Levels Other Media Science Roundup

= Detected

= Not Detected

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.

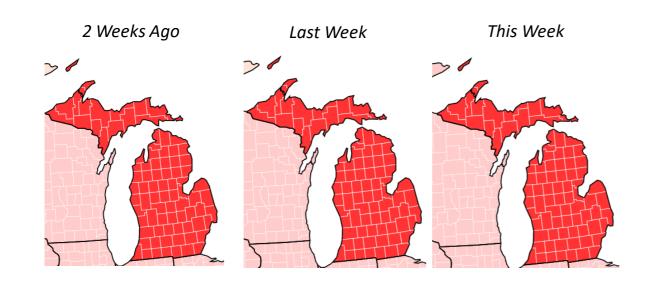
Variants

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

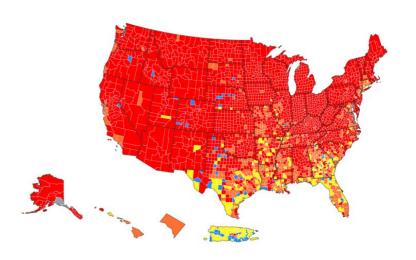
Science Roundup

CDC Community Transmission Risk Levels – Ottawa County

- Current Risk Level in Ottawa HIGH (for last 11+ weeks)
- Current Data:
 - Positivity = 17.04%
 - Case Rate = 357.06 cases per week per 100,000



USA - This Week



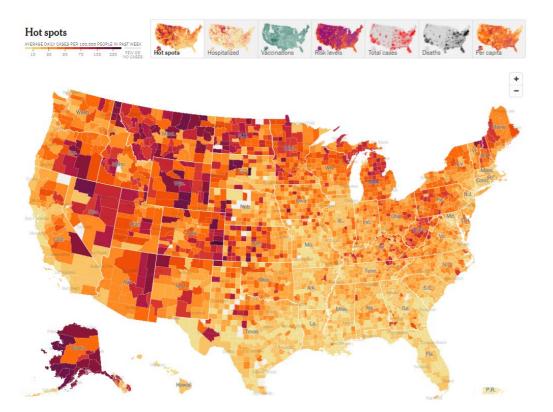
Data through October 30, 2021 for positivity and November 1, 2021 for case rates

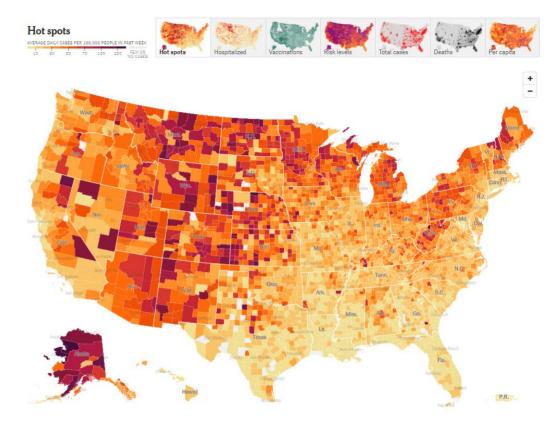
Source: https://covid.cdc.gov/covid-data-tracker/#county-view

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 remains in a downtrend. Some Western states, Alaska, and the upper Midwest continue experiencing elevated case rates.

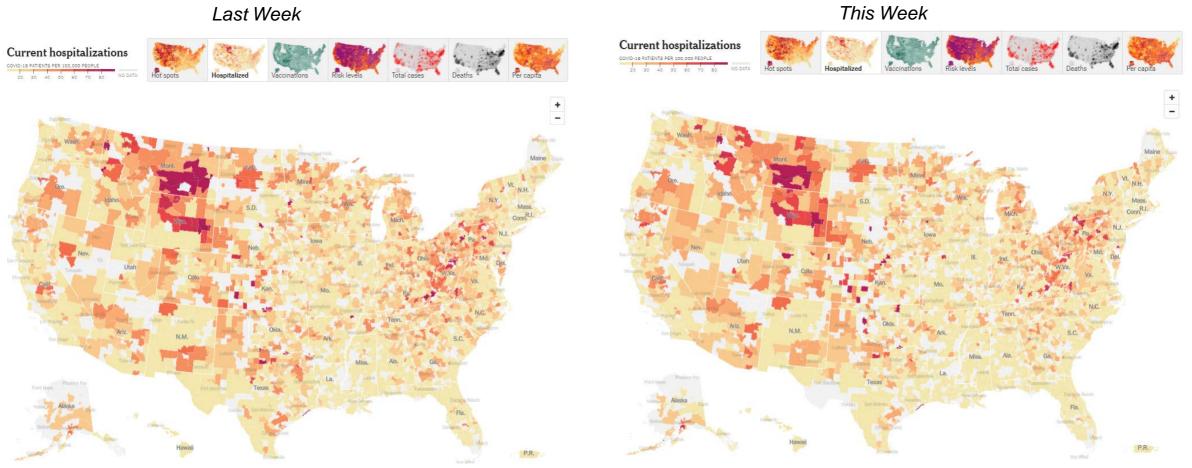
Source: https://www.nytimes.com/interactive/2021/us/covid-cases.html

Variants

Science

Roundup

COVID-19 Hospitalization Rates by County Across the US



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

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

Accessed November 3, 2021

States and Michigan Counties with School Masking Requirements

States/Districts (18): California, Connecticut, Delaware, Hawaii, Illinois, Louisiana, Maryland, Massachusetts, New Mexico, New Jersey, New York, Nevada, Oregon, Pennsylvania, Rhode Island, Virginia, Washington, & Washington D.C.

Michigan Counties (15):

- PreK/K-6: Kalamazoo, Kent, Marquette, Ottawa
- K-12: Antrim, Benzie, Charlevoix, Emmet, Genesee, Ingham, Leelanau, Oakland, Otsego, Washtenaw, and Wayne

Rescinded County Mask Mandates (6):

Allegan, Barry, Berrien, Eaton, Iron, Dickinson

Notes: List may not be comprehensive

COVID-19 News Headlines

LOCAL NEWS

'No clear outcome': Ottawa County commissioners pass resolution opposing any federal vaccine mandate

USA & MI

https://www.wzzm13.com/article/news/local/no-clear-outcome-ottawacounty-commissioners-pass-resolution-opposing-any-federal-vaccinemandate/69-f5d1125e-7502-482b-9dd1-65acd17be27c

Vaccines for young children will end some Michigan school mask mandates

Updated: Oct. 29, 2021, 10:00 a.m. | Published: Oct. 29, 2021, 10:00 a.m.

https://www.mlive.com/coronavirus/2021/10/vaccines-for-young-children-willend-some-michigan-school-mask-mandates.html

Public Interest

New COVID-19 outbreaks climbed 41% last week in Michigan

Updated: Nov. 02, 2021, 7:55 a.m. | Published: Nov. 02, 2021, 7:55 a.m.

https://www.mlive.com/public-interest/2021/11/new-covid-19-outbreaks-climbed-41-last-week-in-michigan.html

CDC Recommends Pediatric COVID-19 Vaccine for Children 5 to 11 Years

https://www.cdc.gov/media/releases/2021/s1102-PediatricCOVID-19Vaccine.html

Roundup

Science Roundup

Laboratory-Confirmed COVID-19 Among Adults Hospitalized with COVID-19-Like Illness with Infection-Induced or mRNA Vaccine-Induced SARS-CoV-2 Immunity — Nine States, January—September 2021

Early Release / October 29, 2021 / 70

https://www.cdc.gov/mmwr/volumes/70/wr/mm7044e1.htm

A CDC study of hospitalized patients with COVID-like illness found that unvaccinated people with previous COVID-19 infection were 5 times more likely to have a positive COVID-19 test compared to vaccinated people.

November 2, 2021

Analysis of the Effectiveness of the Ad26.COV2.S **Adenoviral Vector Vaccine for Preventing COVID-19**

Juan Corchado-Garcia, PhD1; David Zemmour, MD, PhD1; Travis Hughes, MD, PhD1; et al

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2785664

A study published in JAMA that assessed the J&J vaccine among Mayo Clinic patients found that the vaccine was 74% effective at preventing COVID-19 infection. This study included patients from February 2021 – July 2021, when the alpha variant was common in the United States.

Home // Polling // KFF COVID-19 Vaccine Monitor: October 2021

KFF COVID-19 Vaccine Monitor: October 2021

KFF COVID-19 Vaccine Monitor: October 2021 | KFF

While not peer-reviewed literature, polling can help understand sentiment and provide insight that informs planning. This poll by the Kaiser Family Foundation found that in October 2021 27% of parents with children aged 5-11 would get their children vaccinated right away, 33% would wait and see, 5% would get their child vaccinated only if required, and 30% would definitely not get their children vaccinated.

Other

Science Roundup