

Ottawa County COVID-19 Epidemiology

May 12, 2022

Data as of May 7, 2022, unless otherwise indicated

Executive Summary

- **Transmission in Michigan and the US remains low, but is increasing**
- **Ottawa County transmission remains low, but is increasing**
 - This past week positivity **increased** to 20.1%, from 16.3% seen two weeks ago.
 - Weekly case counts **increased** 56% (+12% two weeks ago), from 307 two weeks ago to 465 last week.
 - Cases among children **increased** 21% (+56% two weeks ago), from 42 two weeks ago to 51 last week.
 - COVID-19 wastewater signals in Holland/Zeeland **may be trending up**.
 - The Omicron variant remains the predominate local strain.
 - Ottawa County may move from the Low to the Medium [CDC Community Level](#) in coming weeks.
- **Ottawa-area and regional hospitals have adequate capacity**
 - In Ottawa County, 3% of all available beds and 0% of all ICU beds are occupied by COVID-19 patients.*
 - Ottawa County hospitals are utilizing usual care strategies, are reporting adequate staffing, and are minimizing Ottawa County ED diversion.
- **Pediatric hospitalization rates in the US and in Michigan remain low**
 - Regional pediatric hospitalization census remains low.
- **Of Ottawa County residents aged 5+, 63.0% are fully 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

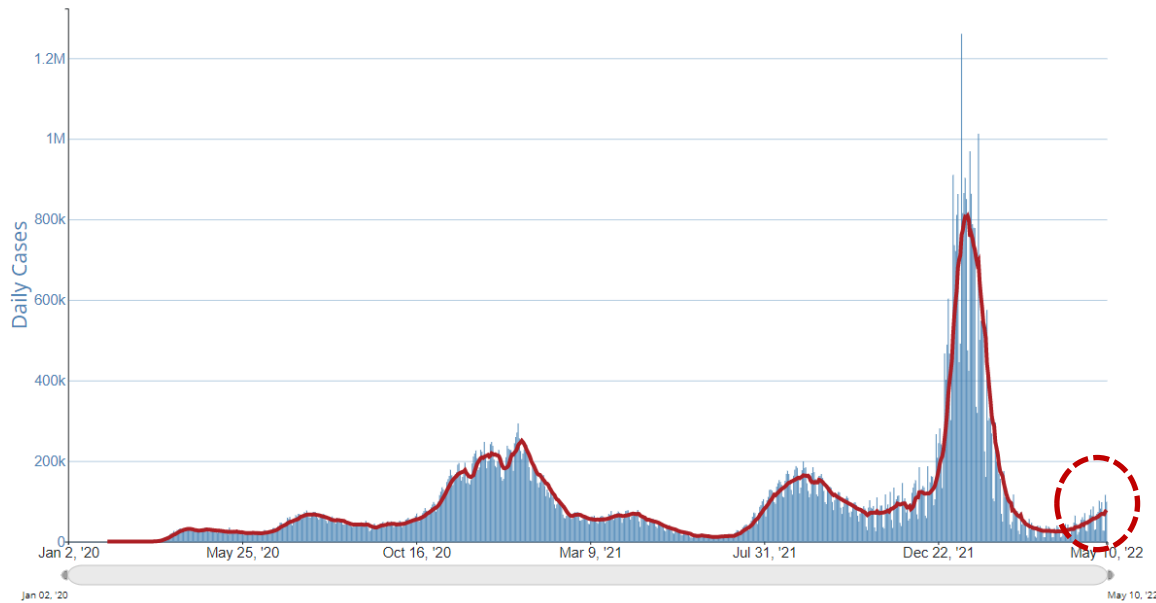
Metric	Goal	Week Ending				
		9-Apr-22	16-Apr-22	23-Apr-22	30-Apr-22	7-May-22
Positivity (All Ages)	NA	7.6%	11.9%	15.1%	16.3%	20.1%
Weekly Cases (All Ages)	<592	126	184	264	307	465
Weekly Cases in Children (0-17 years of age)	NA	13	19	27	42	51
Total Deaths (All Ages)	0	1	2	0	2	1
CDC COVID-19 Community Level (New)	Low	Low	Low	Low	Low	Low

Please note that with updated CDC Community Risk Transmission levels, metrics and/or metric thresholds/goals may change.

Case Trends in the USA and Michigan

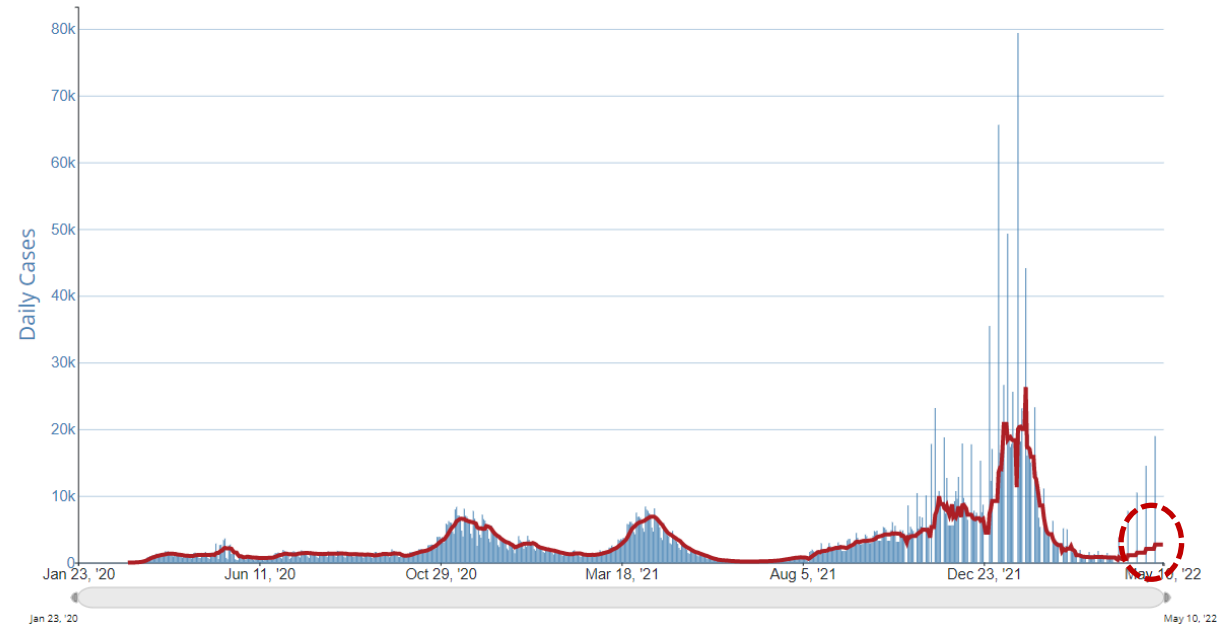
USA

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



Daily case counts in the US and Michigan remain lower than previous times in the pandemic but are increasing.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in an artificially deflated number of cases.

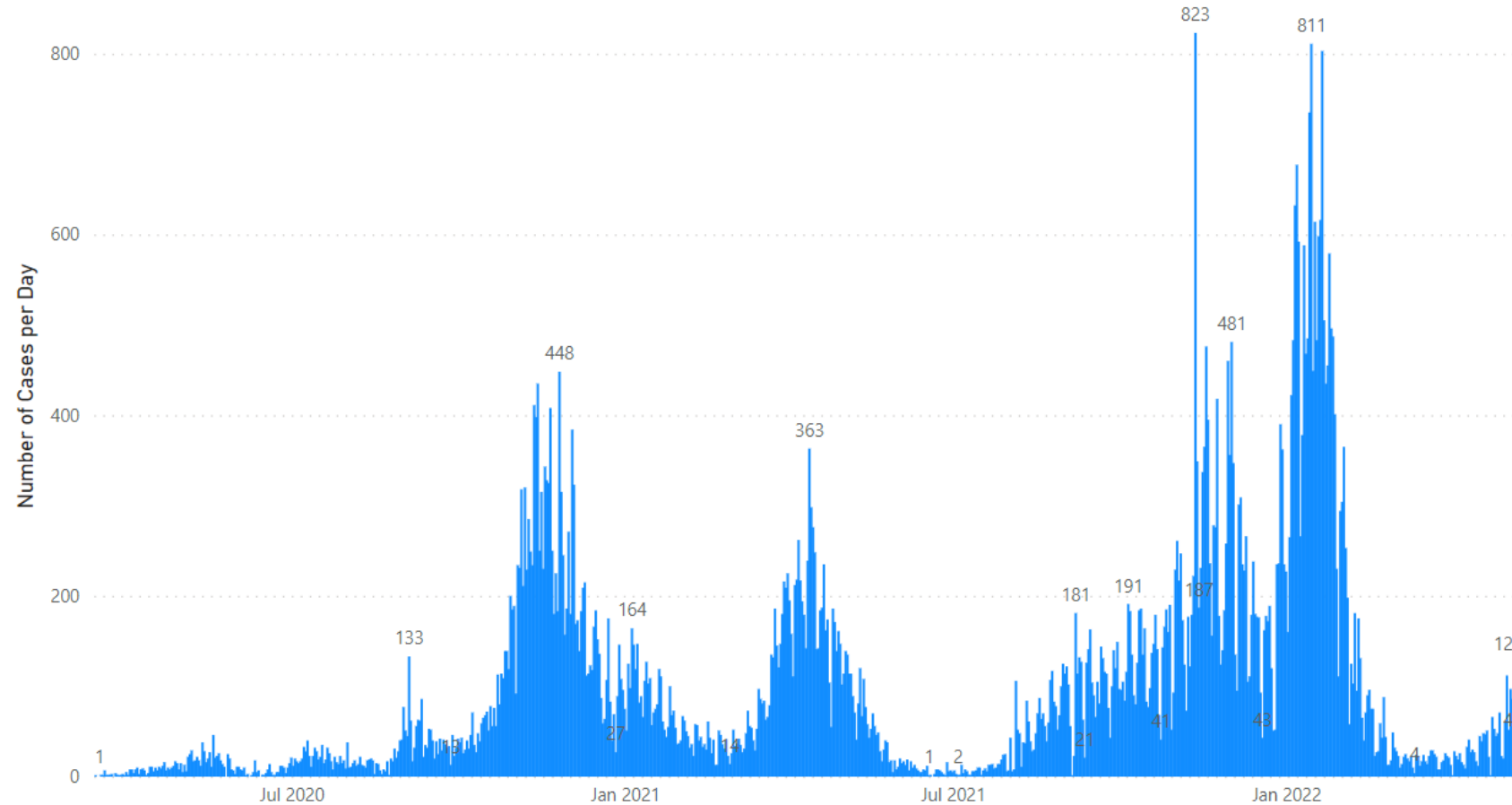
Source: https://covid.cdc.gov/covid-data-tracker/#trends_dailycases

Data through May 10, 2022

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – May 11, 2022

Epidemiological Curve



Total Number of Cases
76,320

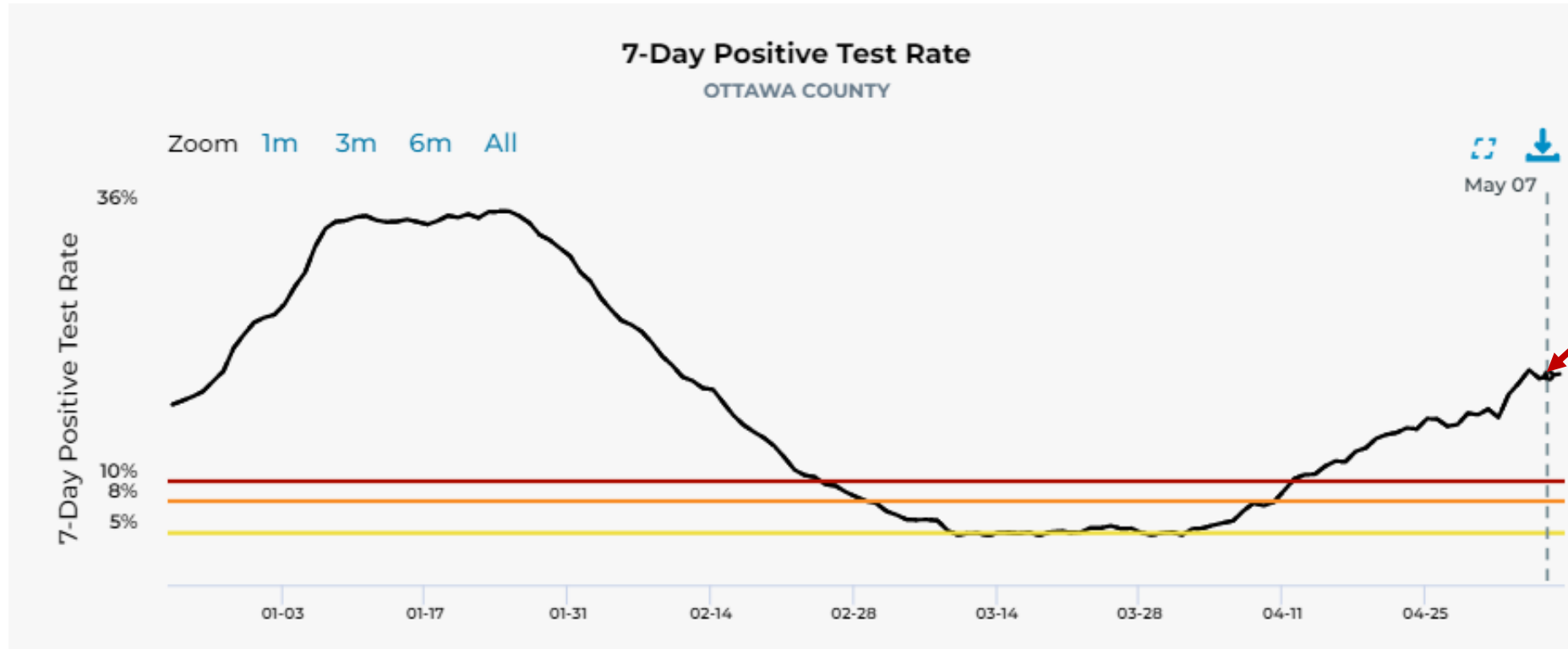
Currently the 7-day average is **73 cases per day**, an increase compared to the 49 cases per day reported last week at this time.

Notes: 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, On November 12, 2021, MDHHS updated their database resulting in a backlog of cases being reported in one day.

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

Test Positivity in Ottawa County

COVID-19 Cases by Day, Ottawa County, January 1, 2022 – May 7, 2022



Test positivity has been **increasing for the last 5 weeks**, reaching 20.1% last week.

This visualization may change as CDC Community Transmission levels, metrics and/or metric thresholds/goals change.

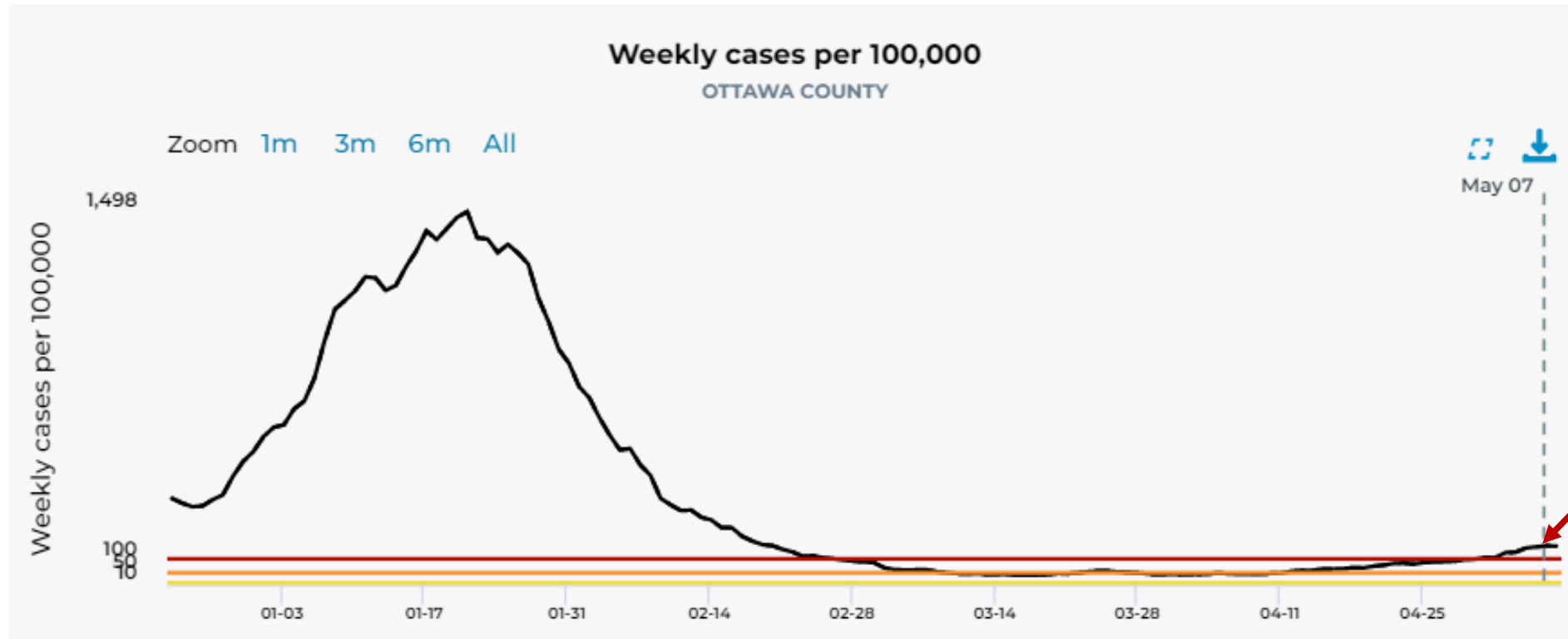


Note: Testing in Ottawa County increased to over 2,100 tests last week (week 18) from about 1,900 two weeks ago (week 17): [Testing Results | Ottawa County Covid-19 Case Summary Data \(arcgis.com\)](https://www.mistartmap.info/mism-indicators?area=county%3Aottawa) & <https://www.mistartmap.info/mism-indicators?area=county%3Aottawa>. 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: <https://www.mistartmap.info/cdc-indicators?area=county%3Aottawa>

Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, January 1, 2022 – May 7, 2022



Case rates **remained low at 156** cases per week per 100,000 population (but **higher than 103** the week prior).

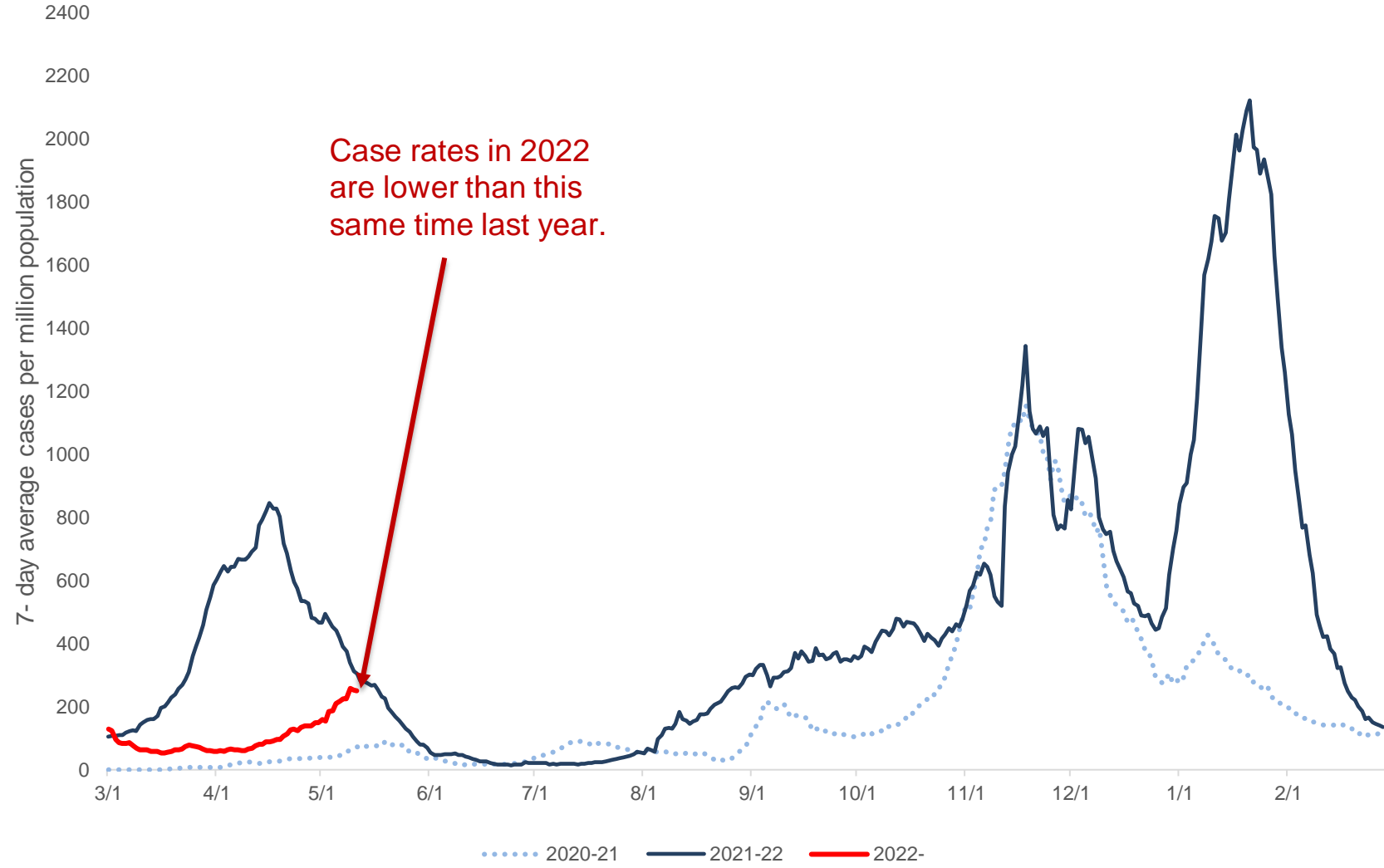
Please note that with updated CDC Community Transmission levels, metrics and/or metric thresholds/goals may change.



Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

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

Ottawa County Time Trends – Annual Comparison of Case Rates



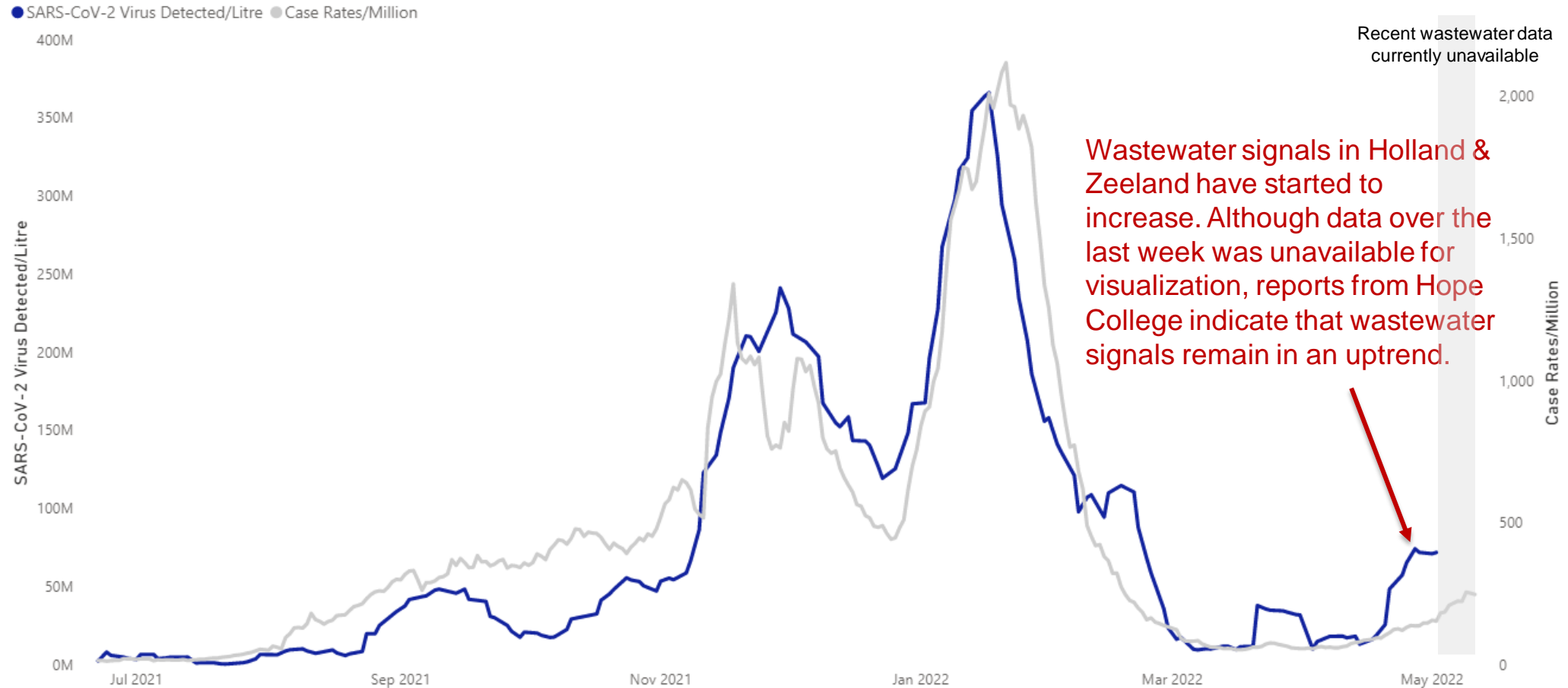
Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

Source: Internal Data

Data through May 11, 2022

Ottawa County Wastewater Surveillance

SARS-CoV-2 Virus Detected/Litre by Sample Date With COVID-19 Case Rates/Million by Referral Date (7-Day Averages)



Data Interpretation: The **blue line** on the graph shows the 7-day average levels of SARS-CoV-2 virus (N2 markers) detected in wastewater sampled from treatment plants in Holland & Zeeland. The **gray line** on the graph represents the 7-day average COVID-19 case rates/million for all of Ottawa County by referral date.

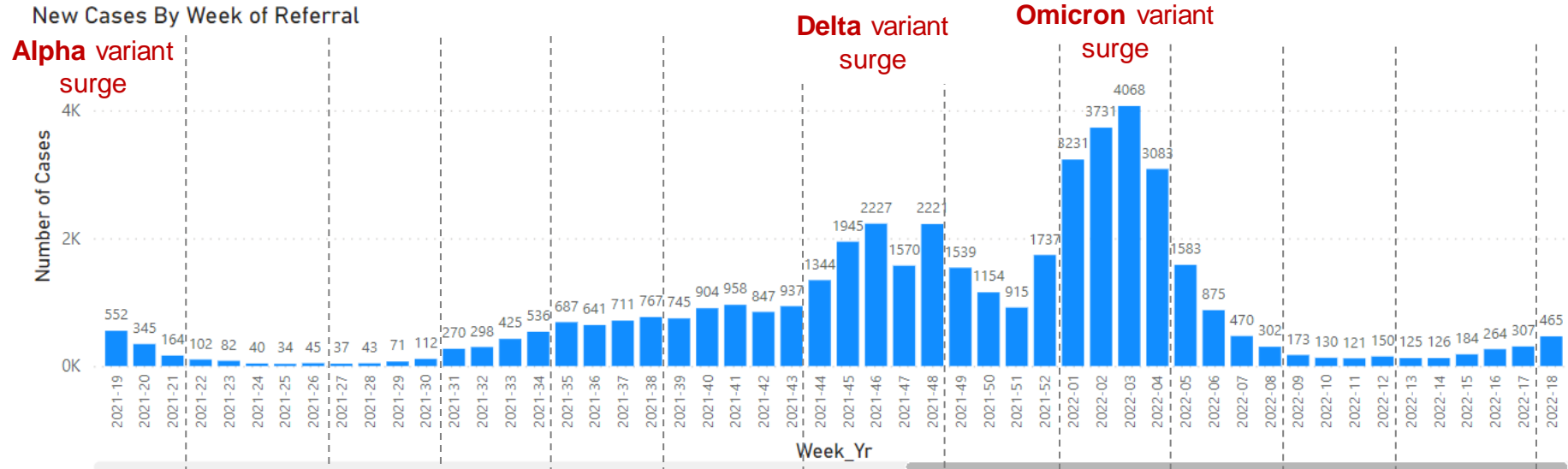
Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates. Display of wastewater data may change as analytical methods are refined.

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

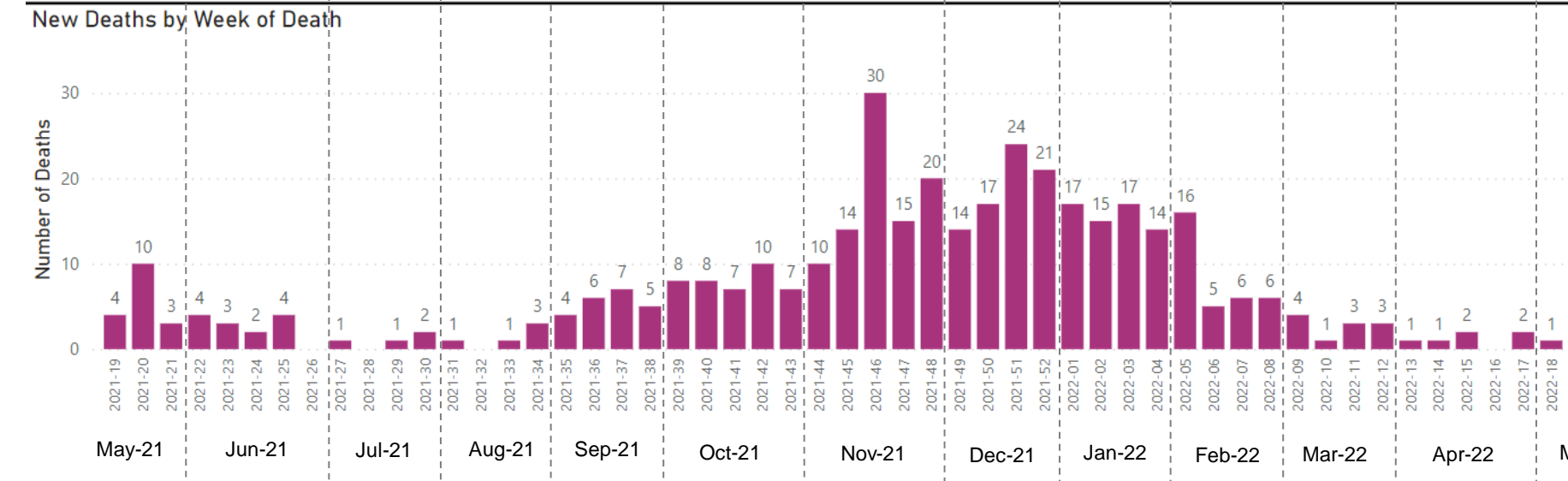
Additional Information: [Michigan COVID-19 Wastewater Surveillance Pilot Project \(arcgis.com\)](https://arcgis.com), [Coronavirus - Sentinel Wastewater Epidemiology Evaluation Project \(SWEEP\) \(michigan.gov\)](https://michigan.gov)

Data through May 3, 2022

Ottawa County – Cases & Deaths by Week, All Ages



The weekly number of **cases increased 56%** from week 17 to week 18.



Weekly COVID-19 **deaths have declined**. Current weekly average of deaths over the last 4 weeks stands at about **1 death per week**.

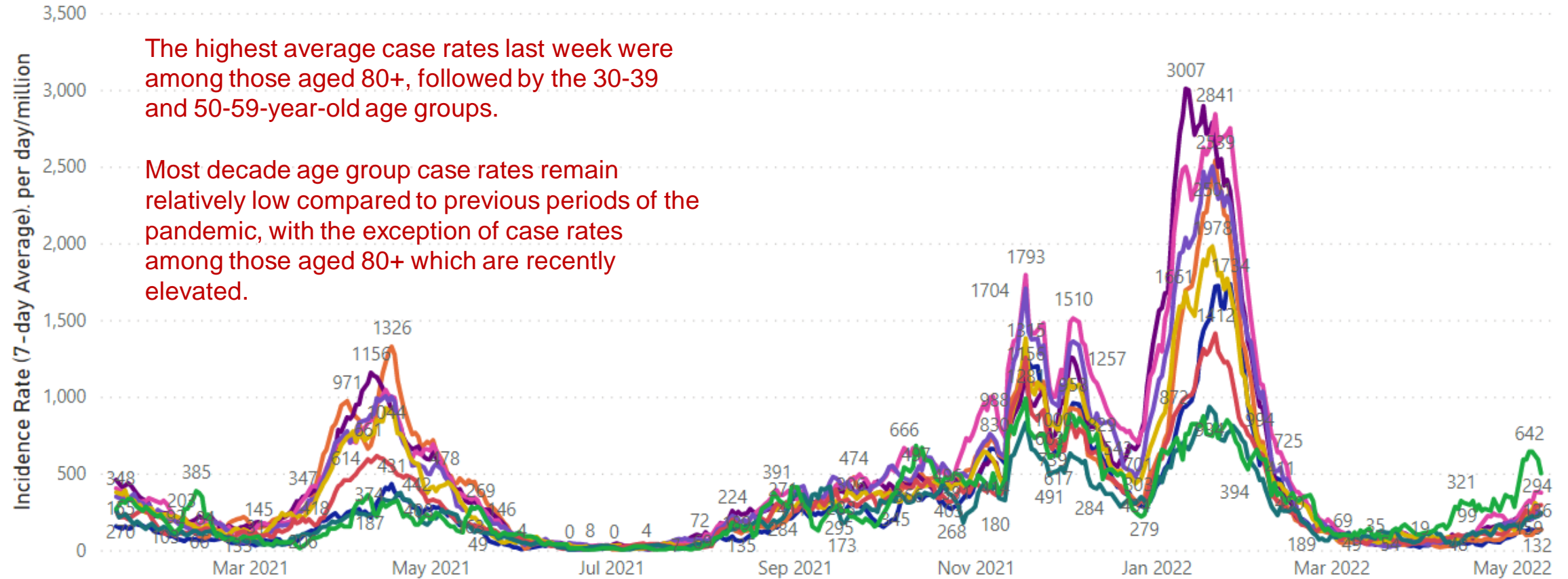
Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated number of cases.
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age Decade

COVID-19 Case Rates by Age, November 2021 – May 11, 2022

Incidence Rate (7-day Average)

rategroup ● 0-9 ● 10-19 ● 20-29 ● 30-39 ● 40-49 ● 50-59 ● 60-69 ● 70-79 ● 80+



The highest average case rates last week were among those aged 80+, followed by the 30-39 and 50-59-year-old age groups.

Most decade age group case rates remain relatively low compared to previous periods of the pandemic, with the exception of case rates among those aged 80+ which are recently elevated.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

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

Ottawa County - Case Rate Trends – by Age Decade

Daily new confirmed and probable cases per day per million by age group (daily average per week)

Week 18 (April 24, 2022 – May 7, 2022)

Age Decade (Years)	Average Daily Cases	Average Daily Case Rate	One Week % Rate Change
0-9	5.0	135.8	67%
10-19	4.4	100.0	0%
20-29	10.4	230.6	33%
30-39	11.6	322.8	84%
40-49	6.9	206.7	17%
50-59	8.7	249.7	79%
60-69	7.9	241.2	90%
70-79	4.1	200.5	26%
80+	7.1	641.4	85%

Age groups with highest average case rates last week:

- 80+
- 30-39
- 50-59

Age groups with largest week-over-week increase in case rates:

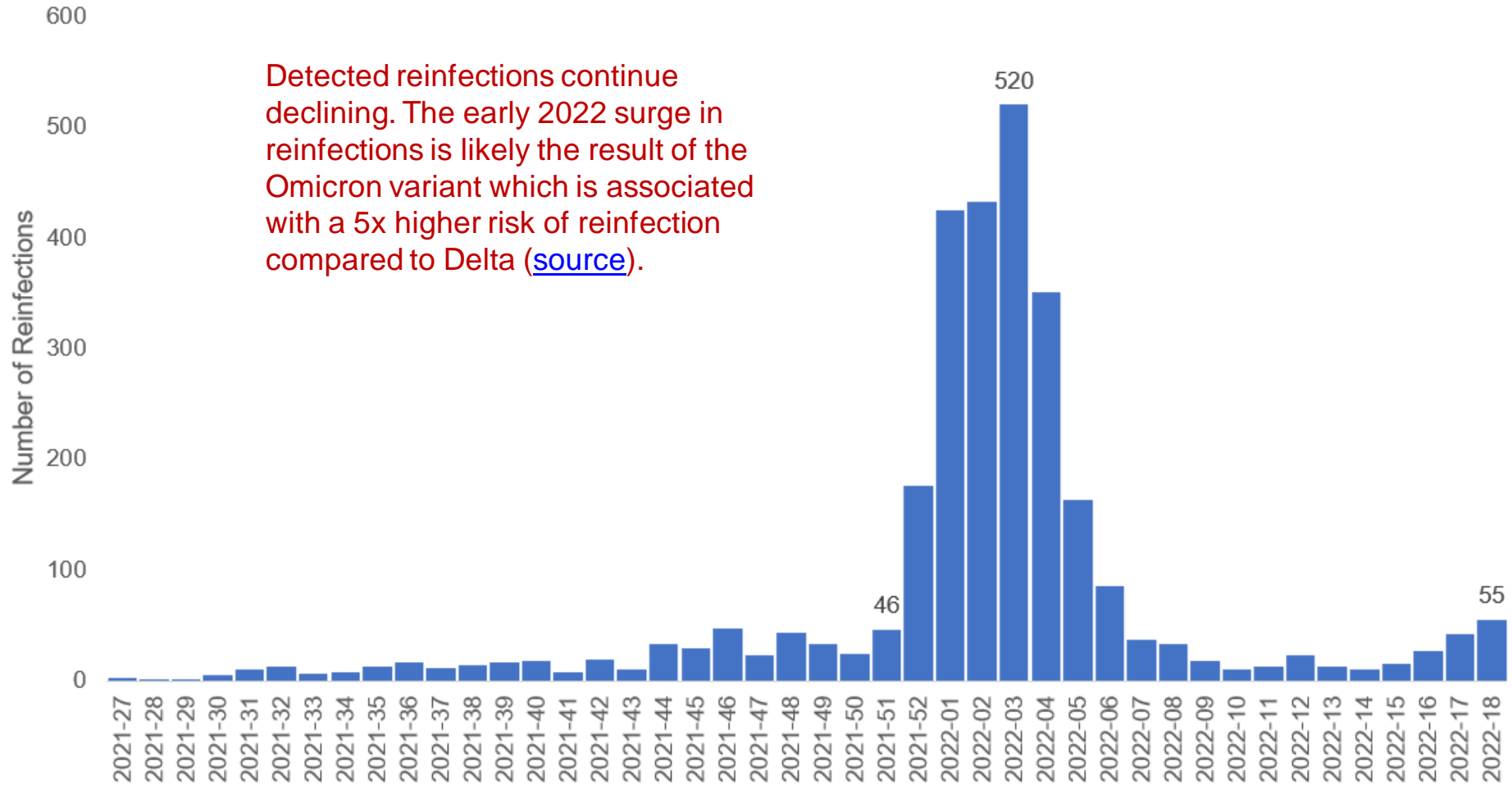
- 60-69
- 80+
- 30-39

Notes: Average daily cases is calculated by summing the weekly total number of cases and dividing by seven. Cases counted in weeks of interest reflect referral date. Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System; CDC Wonder 2020 population

Data as May 11, 2022

Ottawa County – Reinfections by Week



Notes: *For the purposes of this slide a reinfection is considered any Ottawa County resident who was reported two or more times as a confirmed or probable case, with at least 90 days between each referral date. This definition utilizes only cases reported to public health. The gold-standard for determining reinfection includes the variant detected in each infection; comprehensive data on the variant detected are not available for most cases. Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

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

Data as of May 11, 2022

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
4-Dec-21	1771	44%	450	32%	2221	41%
11-Dec-21	1236	-30%	302	-33%	1538	-31%
18-Dec-21	940	-24%	214	-29%	1154	-25%
25-Dec-21	766	-19%	149	-30%	915	-21%
1-Jan-22	1525	99%	214	44%	1739	90%
8-Jan-22	2791	83%	443	107%	3234	86%
15-Jan-22	3094	11%	636	44%	3730	15%
22-Jan-22	3146	2%	923	45%	4069	9%
29-Jan-22	2412	-23%	674	-27%	3086	-24%
5-Feb-22	1304	-46%	277	-59%	1581	-49%
12-Feb-22	693	-47%	183	-34%	876	-45%
19-Feb-22	381	-45%	89	-51%	470	-46%
26-Feb-22	240	-37%	62	-30%	302	-36%
5-Mar-22	140	-42%	33	-47%	173	-43%
12-Mar-22	104	-26%	26	-21%	130	-25%
19-Mar-22	101	-3%	20	-23%	121	-7%
26-Mar-22	137	36%	13	-35%	150	24%
2-Apr-22	108	-21%	17	31%	125	-17%
9-Apr-22	113	5%	13	-24%	126	1%
16-Apr-22	265	135%	19	46%	284	125%
23-Apr-22	237	-11%	27	42%	264	-7%
30-Apr-22	265	12%	42	56%	307	16%
7-May-22	414	56%	51	21%	465	51%

Adults

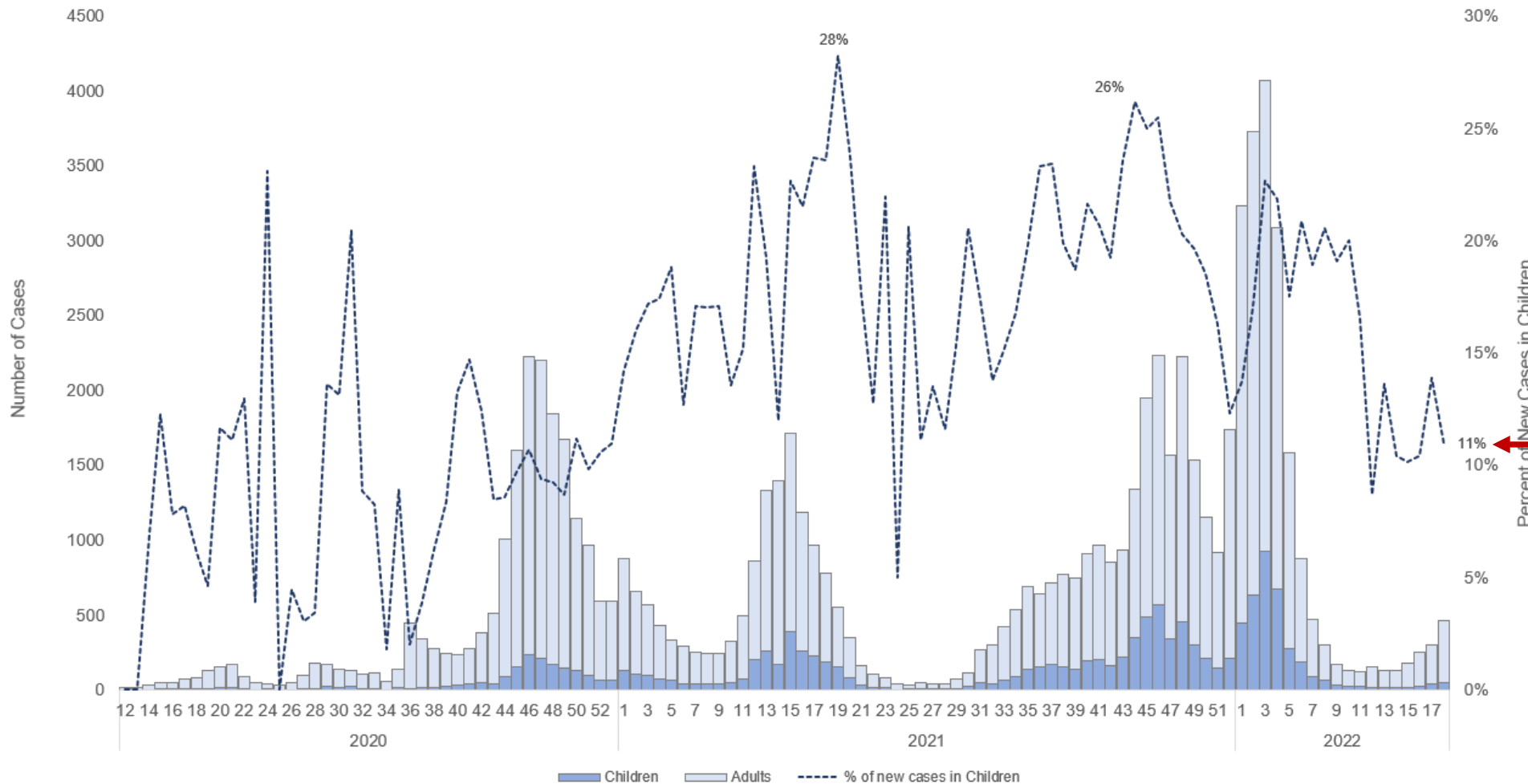
Children

Weekly case counts among **children increased 21%** last week, and cases in **adults increased 56%**.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

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

Ottawa County Weekly Case Counts and % in Children (0-17)



During Week 18 in 2022, children made up 11% of cases reported, lower compared to other times of the pandemic, but slightly higher compared with recent weeks.

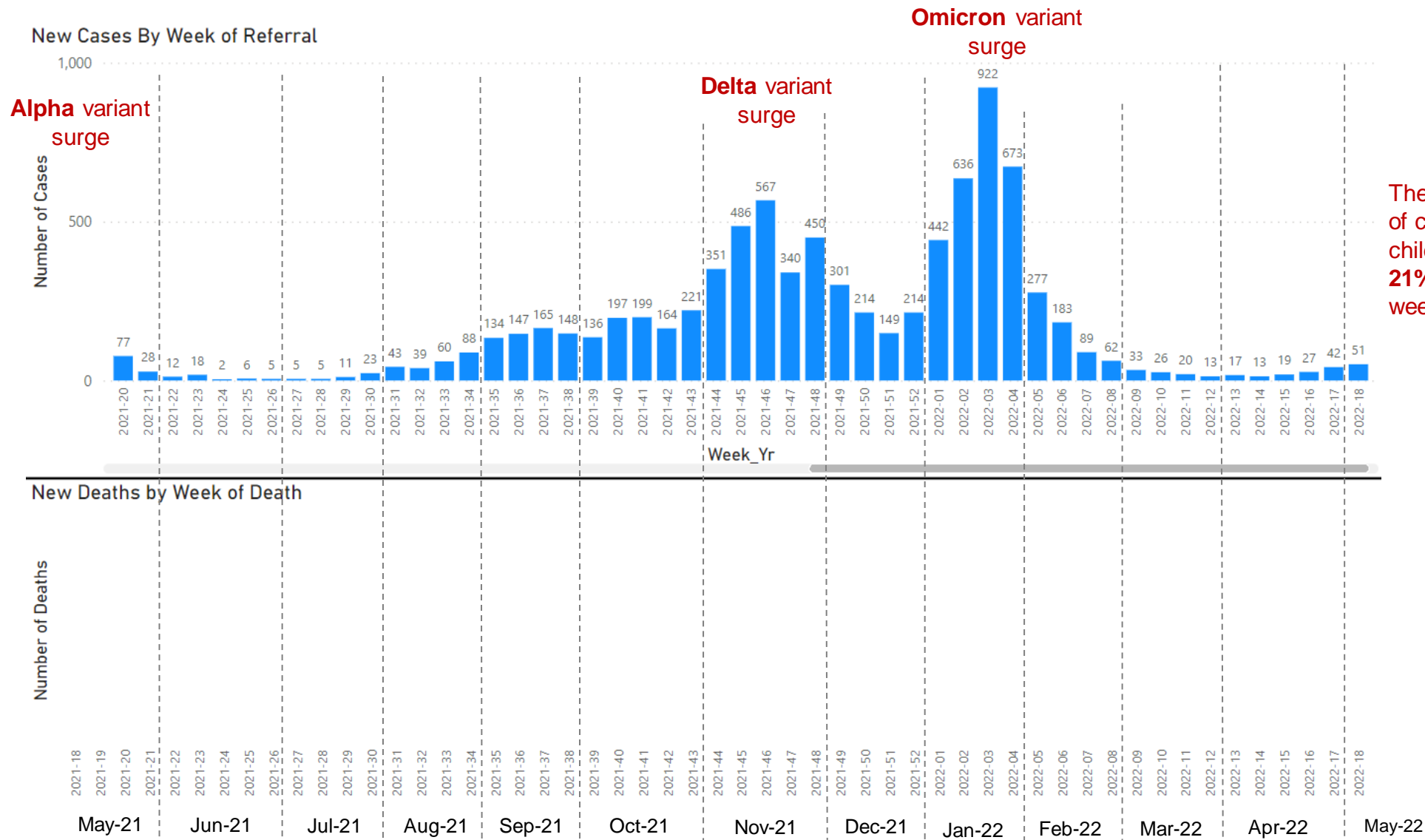
For comparison, children aged 0-17 make up about 23.5% of the population in Ottawa County.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System; CDC Wonder 2020

Data through Week 18, 2022

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



The weekly number of cases among children **increased 21%** from week 17 to week 18.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

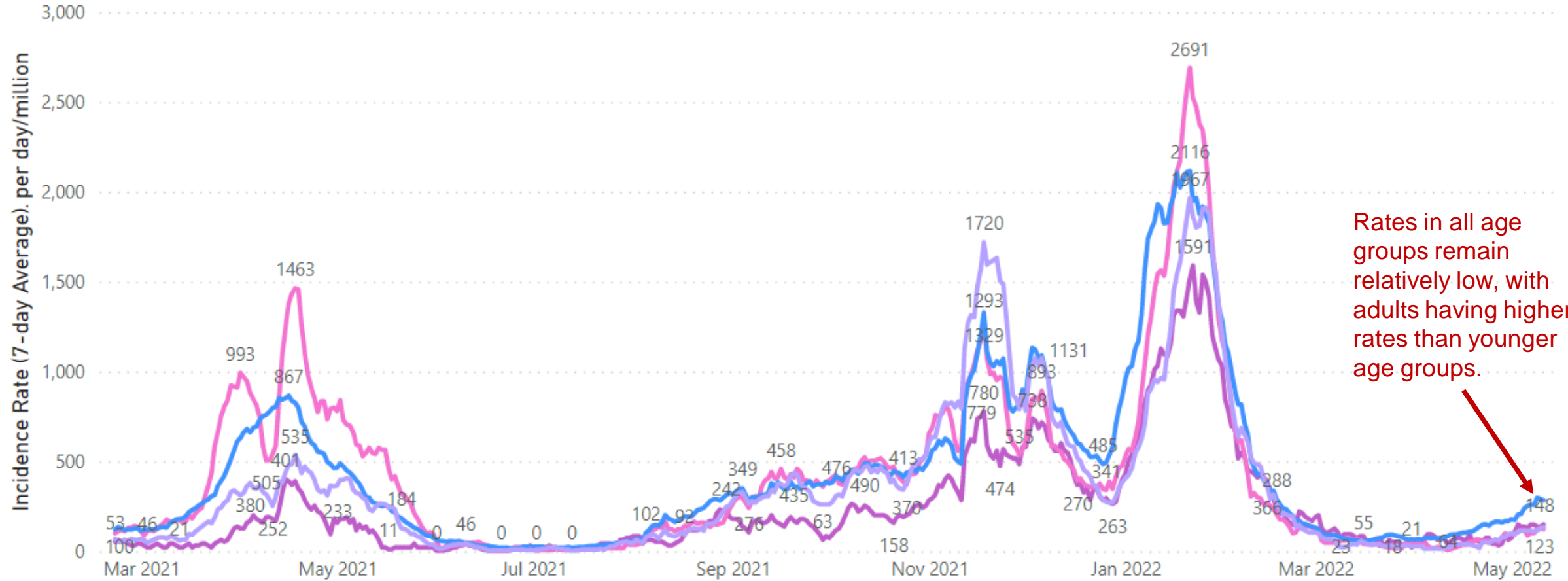
Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System

Ottawa County - Case Rate Trends – by Age

COVID-19 Case Rates by Age, includes School-Aged, November 2021 – May 11, 2022

Incidence Rate (7-day Average)

rategroup ● 0-3 ● 12-17 ● 18+ ● 4-11



Rates in all age groups remain relatively low, with adults having higher rates than younger age groups.

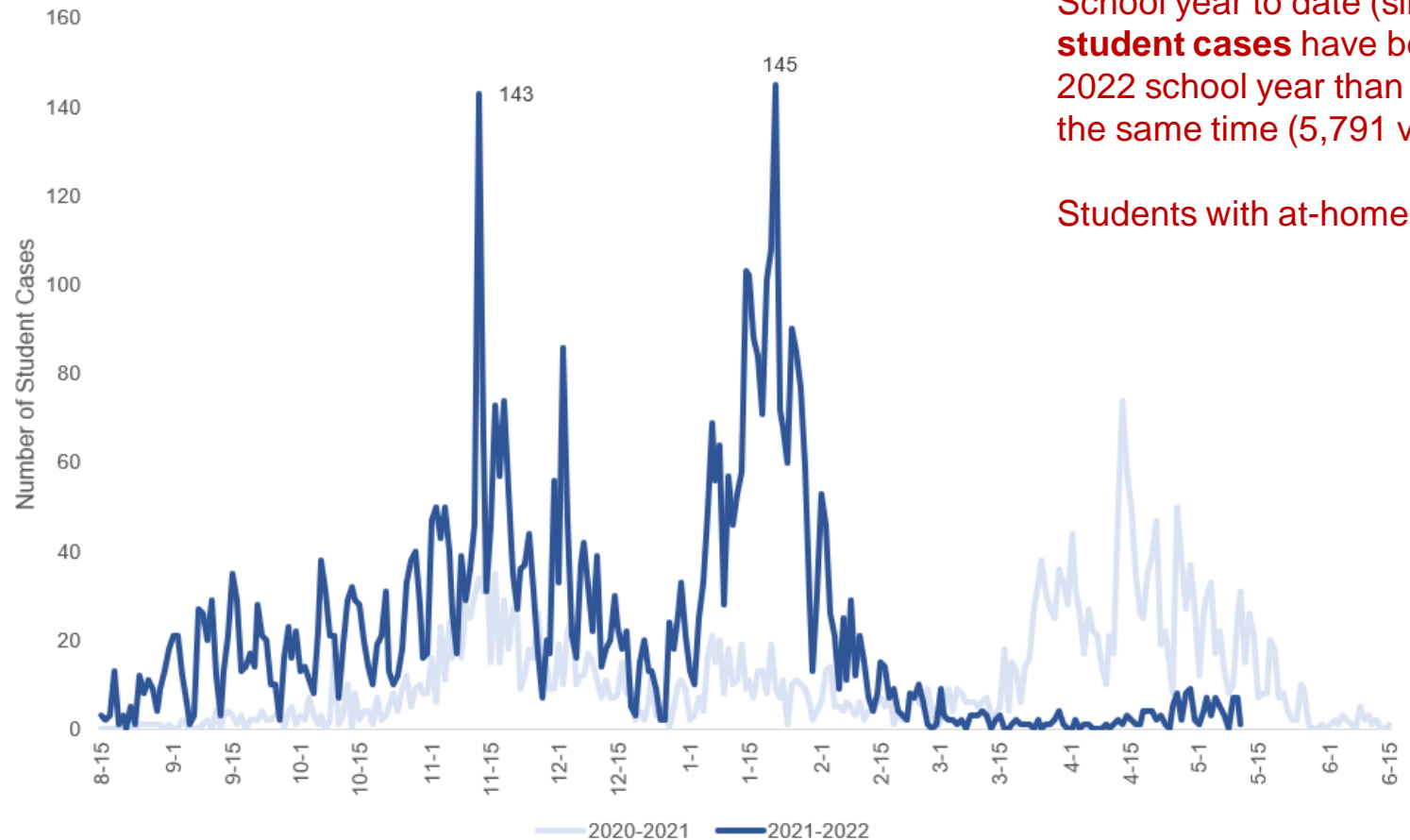


Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

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

Data as of May 11, 2022

Ottawa County Cases in PreK-12 School Students



School year to date (since August 15), **1.8x more student cases** have been reported during the 2021-2022 school year than the 2020-2021 school year at the same time (5,791 vs. 3,204) respectively).

Students with at-home positive tests are not included.

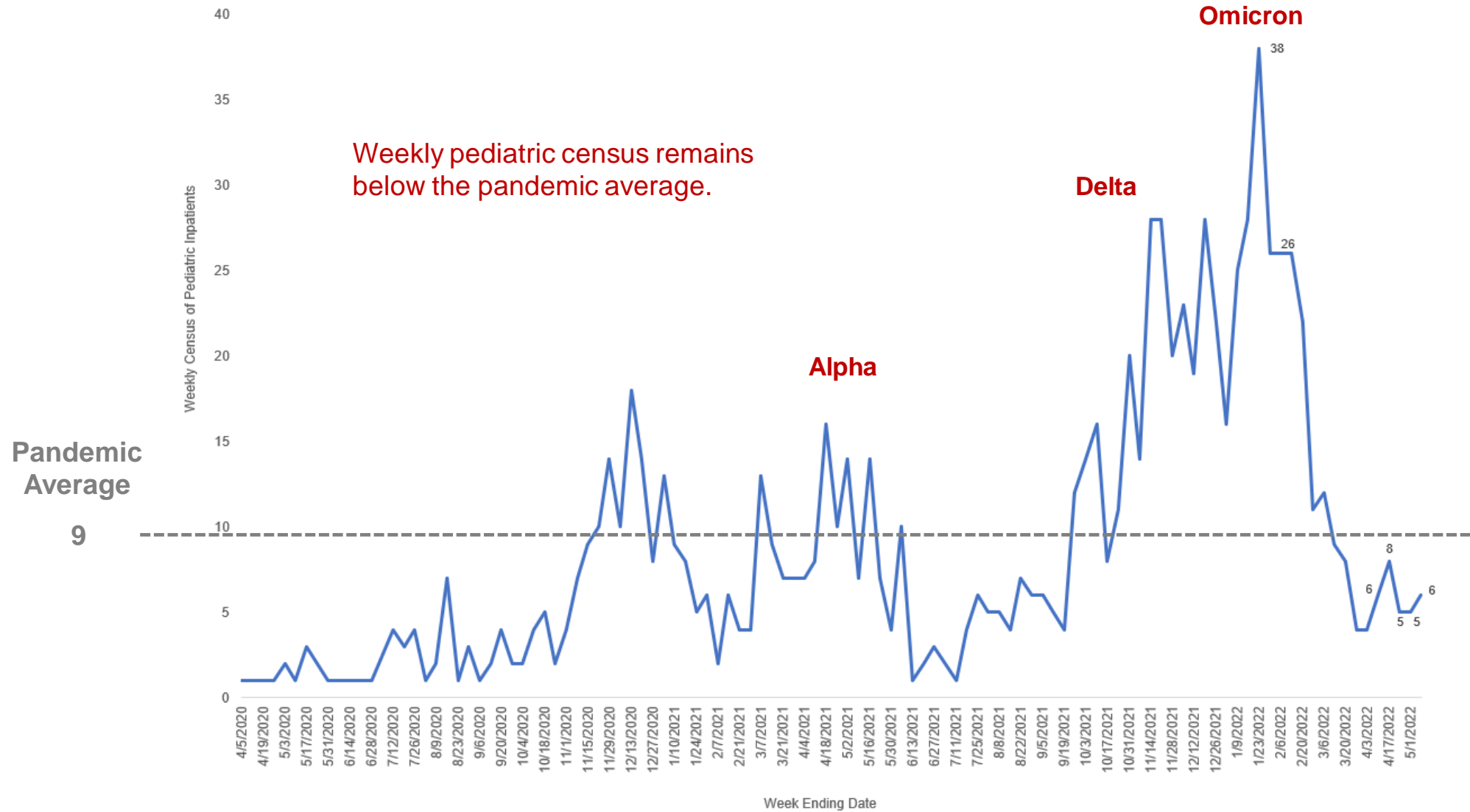
Method: Includes PreK-12 students known to attend a school in Ottawa County who are classified as a confirmed or probable case of COVID-19.

Note: Data may change as information is updated and methods are refined. Cases reported in 2022 will likely increase. The peak of 143 cases reported on November 12, 2021 is the result of a database update by MDHHS that reported a backlog of cases from the previous days. Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case counts.

Source: Michigan Department of Health and Human Services, Michigan Disease Surveillance System; Internal data systems

Data through May 11, 2022

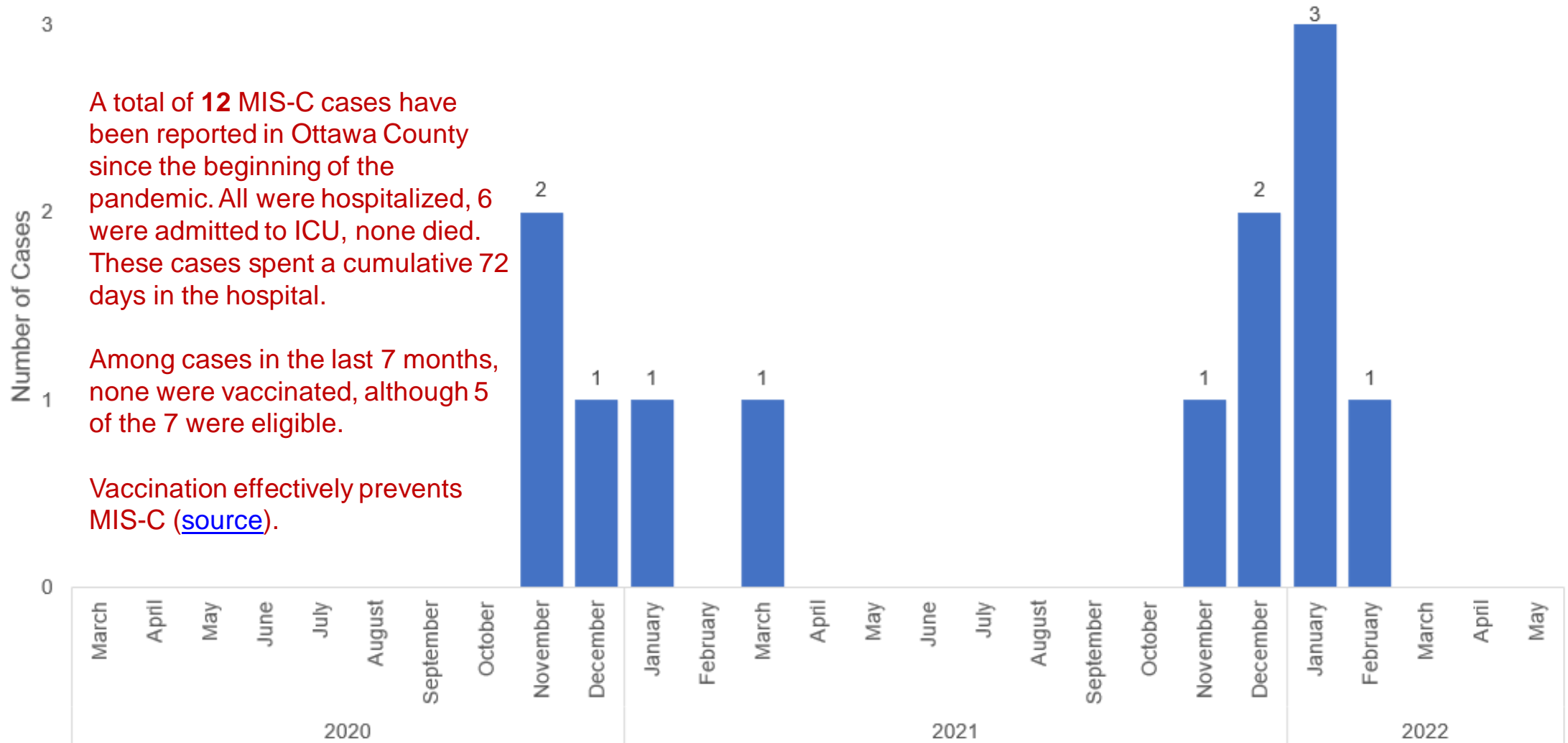
Weekly Hospital Pediatric Census – A Regional Healthcare System



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. Includes patients that reside in counties across the region, including Ottawa County.

Data through May 8, 2022

Ottawa County MIS-C* Cases by Month



A total of **12** MIS-C cases have been reported in Ottawa County since the beginning of the pandemic. All were hospitalized, 6 were admitted to ICU, none died. These cases spent a cumulative 72 days in the hospital.

Among cases in the last 7 months, none were vaccinated, although 5 of the 7 were eligible.

Vaccination effectively prevents MIS-C ([source](#)).

Notes: Includes confirmed and probable cases.

*MIS-C is a rare but serious condition affecting children, associated with recent COVID-19 infection. For more details on MIS-C please visit: <https://www.cdc.gov/mis/index.html>

Data through May 11, 2022

Ottawa County Hospital Capacity – All Beds

Hospital Inpatient Bed Occupancy - By County

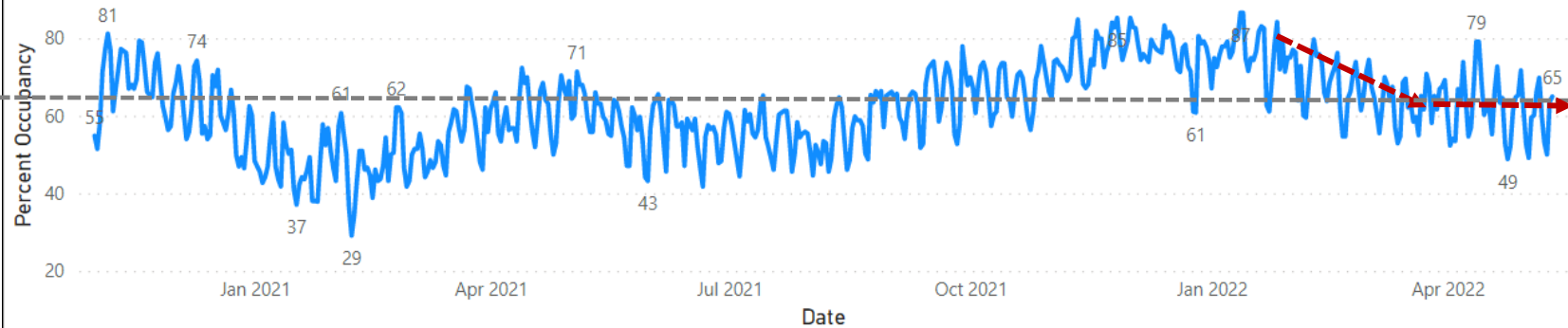
Total Inpatient Bed Occupancy (All Patients, COVID and Non-COVID)

Pandemic Average

62%

Percent Occupancy by Date and County

County ● Ottawa



Total hospital bed occupancy is **slightly above the pandemic average.**

Currently **3%** of all inpatient beds are occupied by COVID-19 patients.

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

13%

Percent Occupancy by Date and County

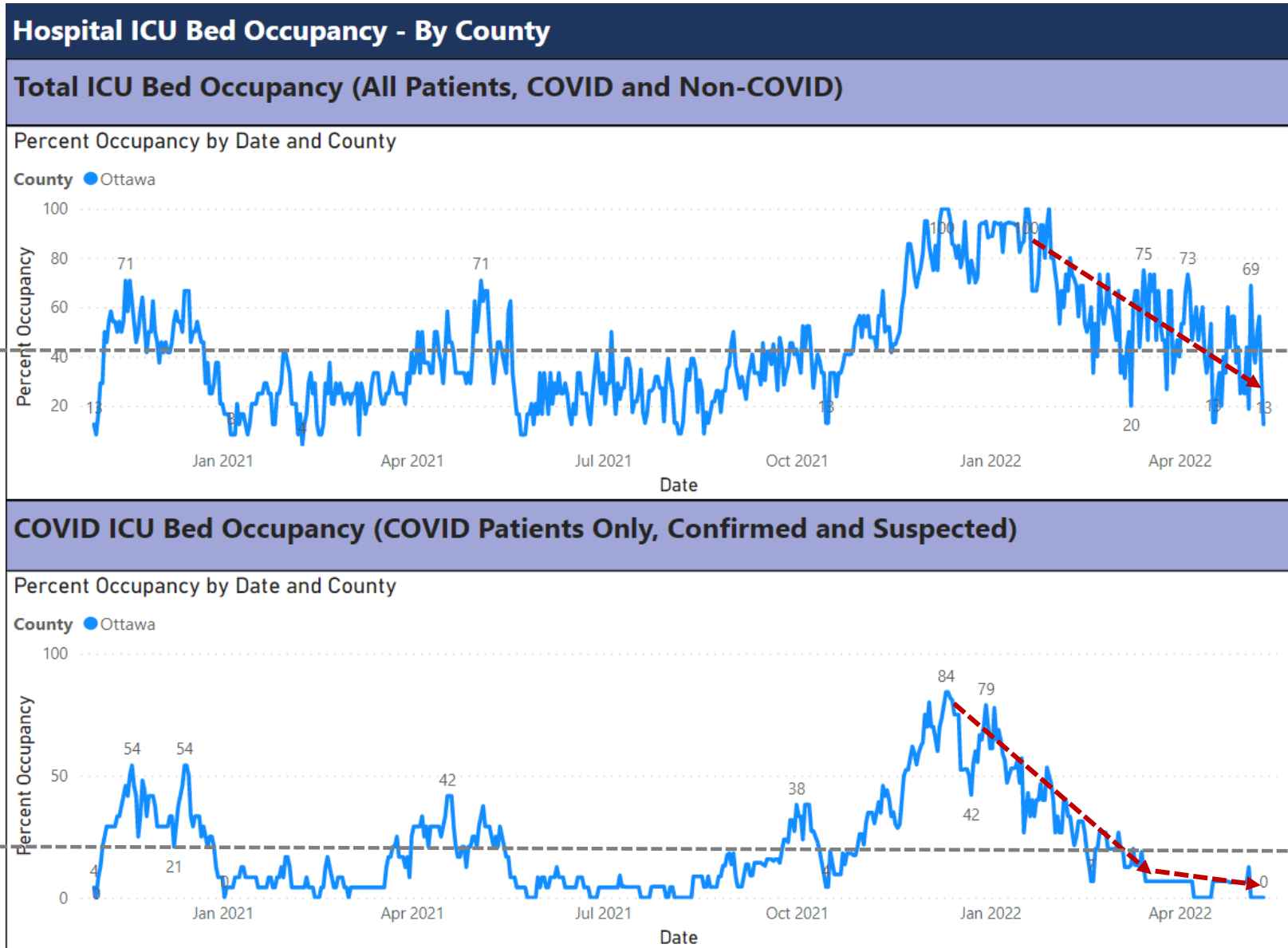
County ● Ottawa



Source: EMResources

Data through May 11, 2022

Ottawa County Hospital Capacity – ICU Beds



Pandemic Average

41%

20%

Overall ICU bed occupancy is **below the pandemic average**.

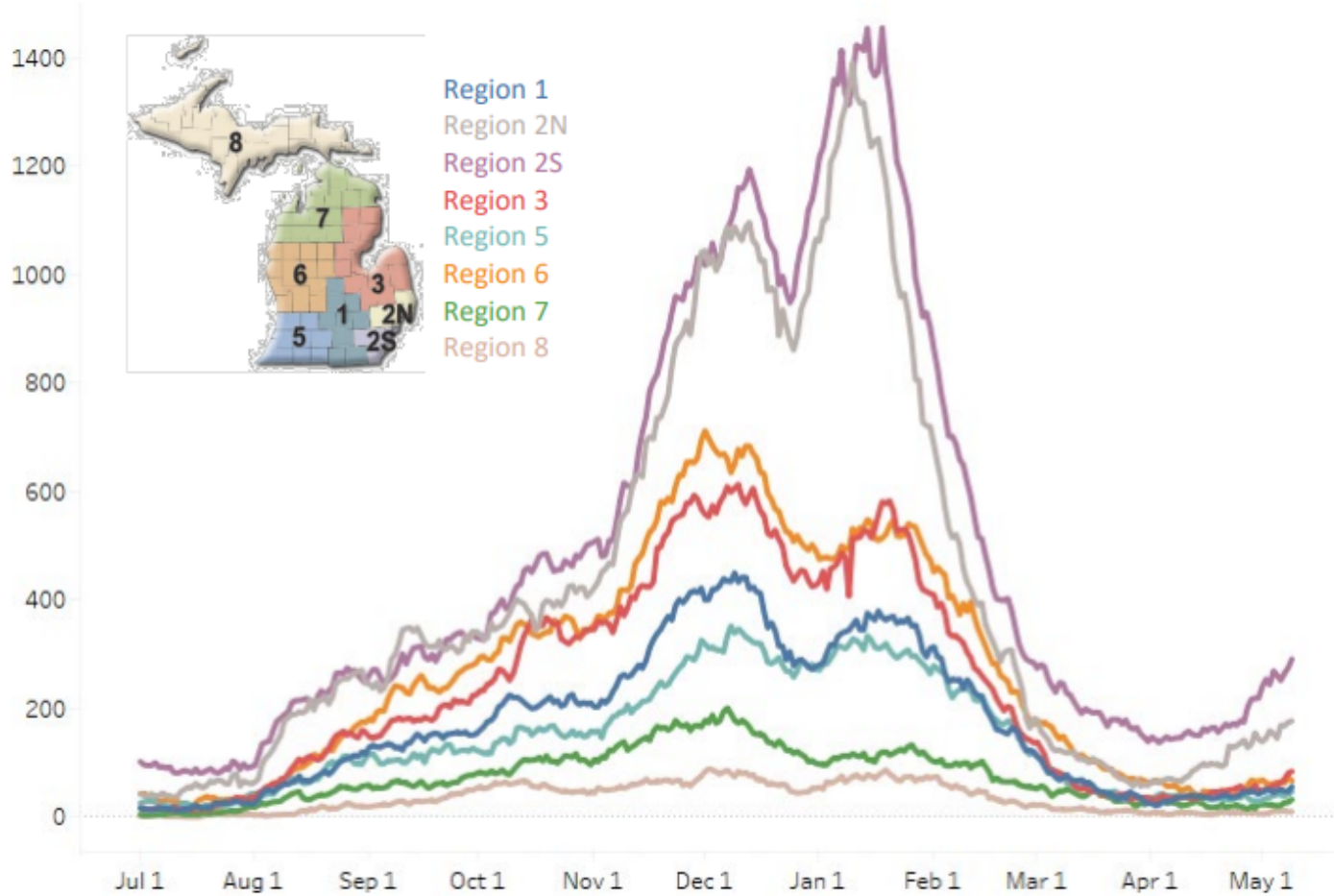
The proportion of ICU beds occupied by COVID-19 patients is **below the pandemic average**. Currently, **0%** of ICU beds are occupied by COVID-19 patients.

Source: EMResources

Data through May 11, 2022

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 5/9/2022
Confirmed Positive by Region



This week hospitalizations have increased across all regions, with the largest percent increases in Regions 3, 5, 7, and 8.

Regions 2S now has greater than 100/Million population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	56 (17%)	52/M
Region 2N	177 (22%)	80/M
Region 2S	291 (15%)	131/M
Region 3	84 (58%)	74/M
Region 5	47 (34%)	49/M
Region 6	67 (6%)	46/M
Region 7	32 (39%)	64/M
Region 8	10 (67%)	32/M

Source: MDHHS Data and Modelling: [MI COVID response Data and modeling update \(michigan.gov\)](https://www.michigan.gov/mdhhs/0,4570,7530_7532_7534_7536_7538,0_0.html)

Pediatric Hospitalization Rates – USA, Georgia, Michigan



Pediatric hospitalization rates across the US, in Georgia, and in Michigan **may be reversing into an uptrend.**

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

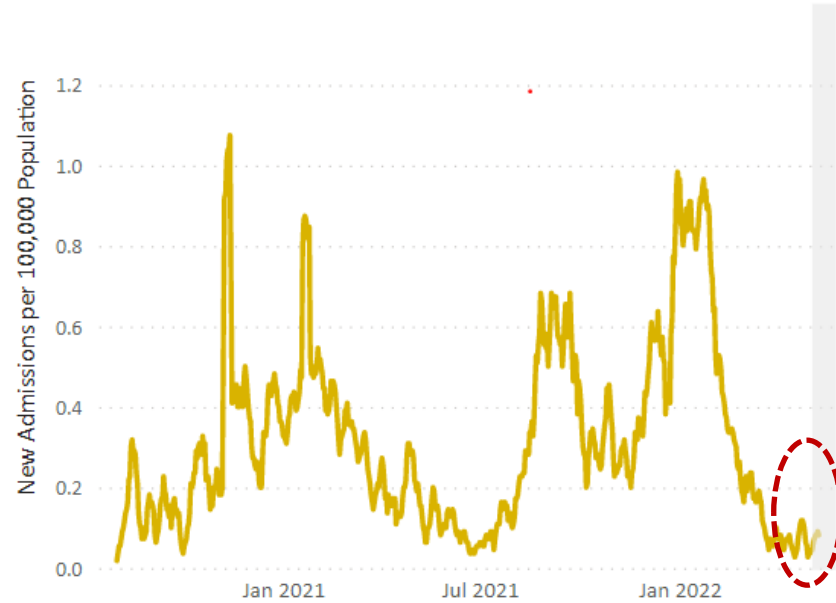
Accessed May 12, 2022

Pediatric Hospitalization Rates – Select Midwest States

OH | 0 - 17 Years



IN | 0 - 17 Years



IL | 0 - 17 Years



Ohio, Indiana, and Illinois are all showing relatively low pediatric hospitalization rates, with some potential uptrend in Illinois.

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

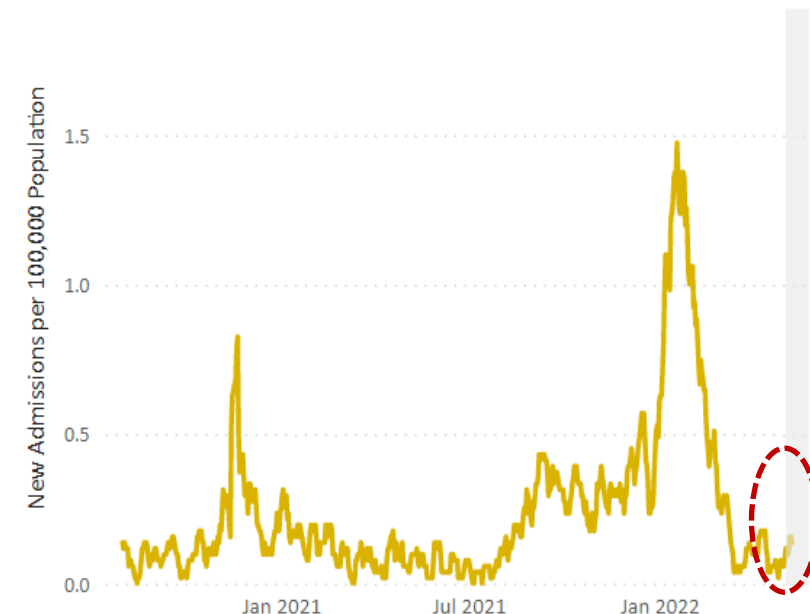
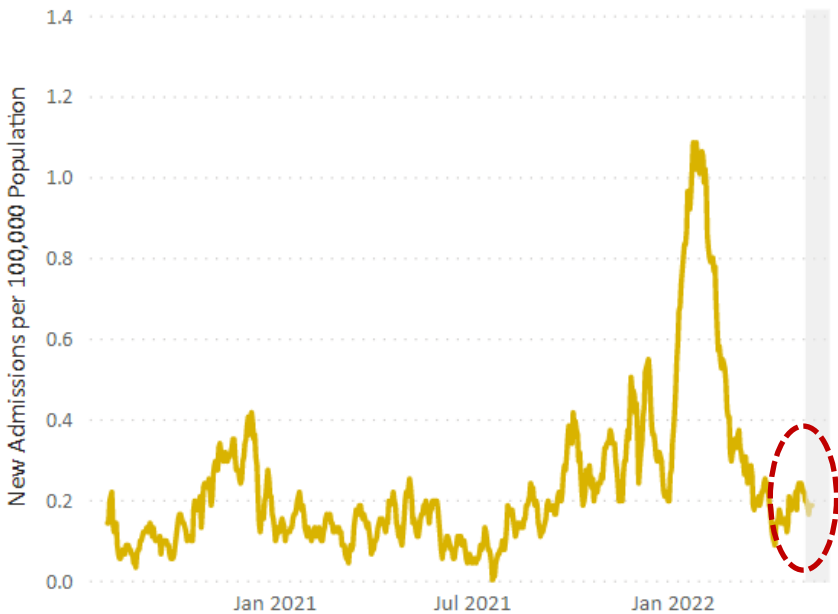
Accessed May 12, 2022

Pediatric Hospitalization Rates – Select Midwest States

MN | 0 - 17 Years

WI | 0 - 17 Years

IA | 0 - 17 Years



Pediatric hospitalization rates in Minnesota, Wisconsin and Iowa **may be reversing**.

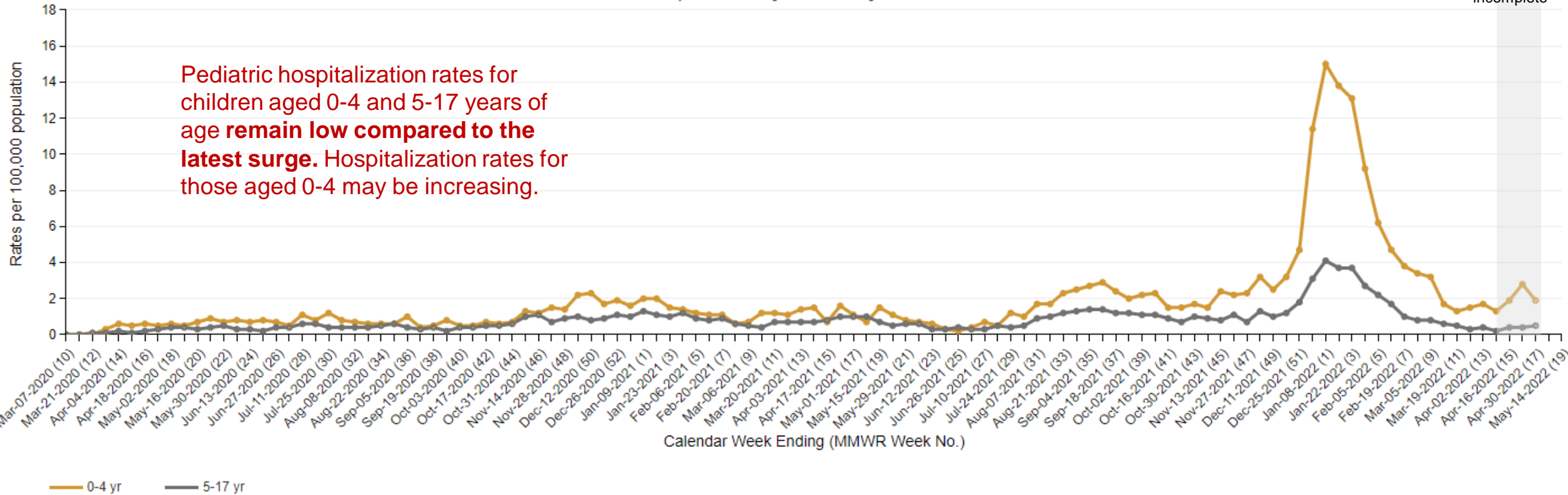
Source: <https://covid.cdc.gov/covid-data-tracker/#new-hospital-admissions>

Accessed May 12, 2022

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.

Recent data may be incomplete



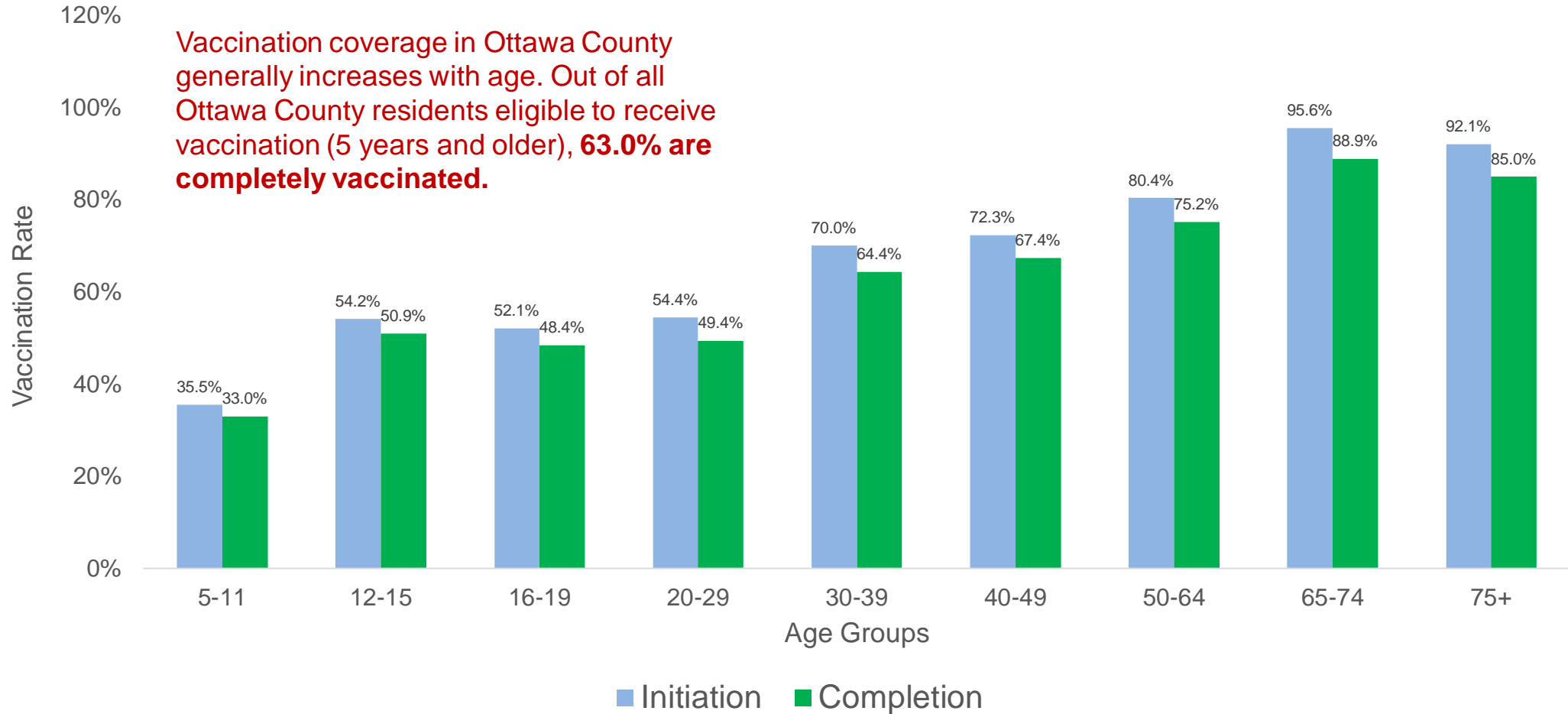
The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. Lag for COVID-NET case identification and reporting might increase around holidays or during periods of increased hospital utilization. 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 2020 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.

Starting MMWR week 48, MD data are temporarily removed from weekly rate calculations.

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

Accessed May 11, 2022

Vaccination Coverage by Age



Notes:

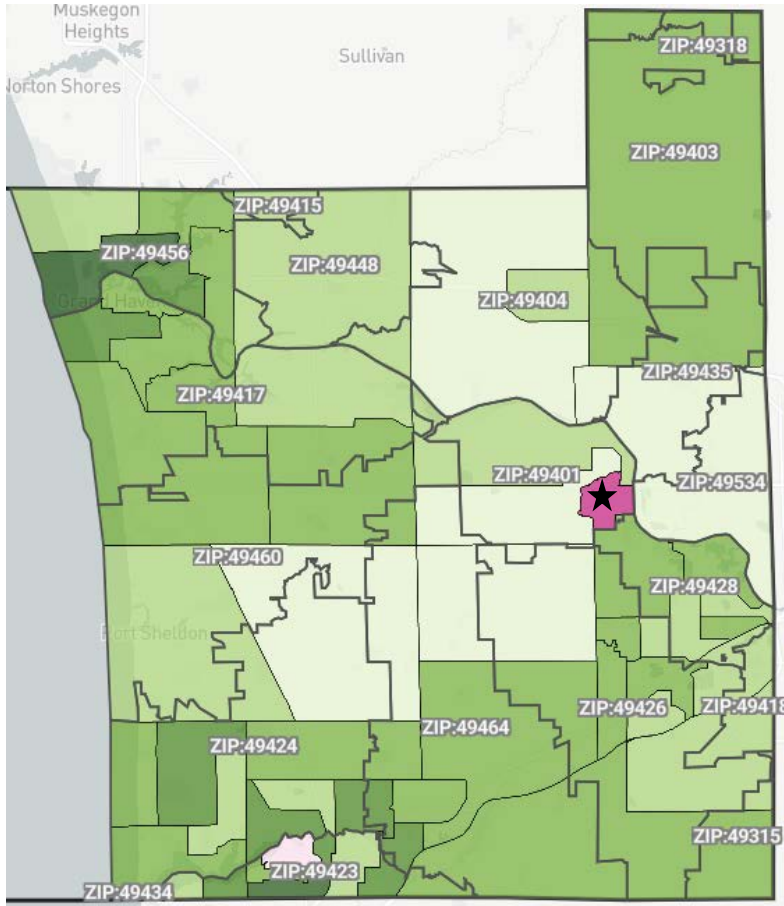
Completion is the percentage of people receiving at least 2 doses of Pfizer or Moderna or 1 dose of J&J.

Source: <https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard>

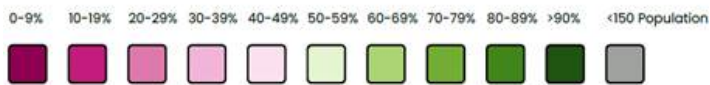
Data through May 11, 2022

Vaccination Coverage by Place of Residence

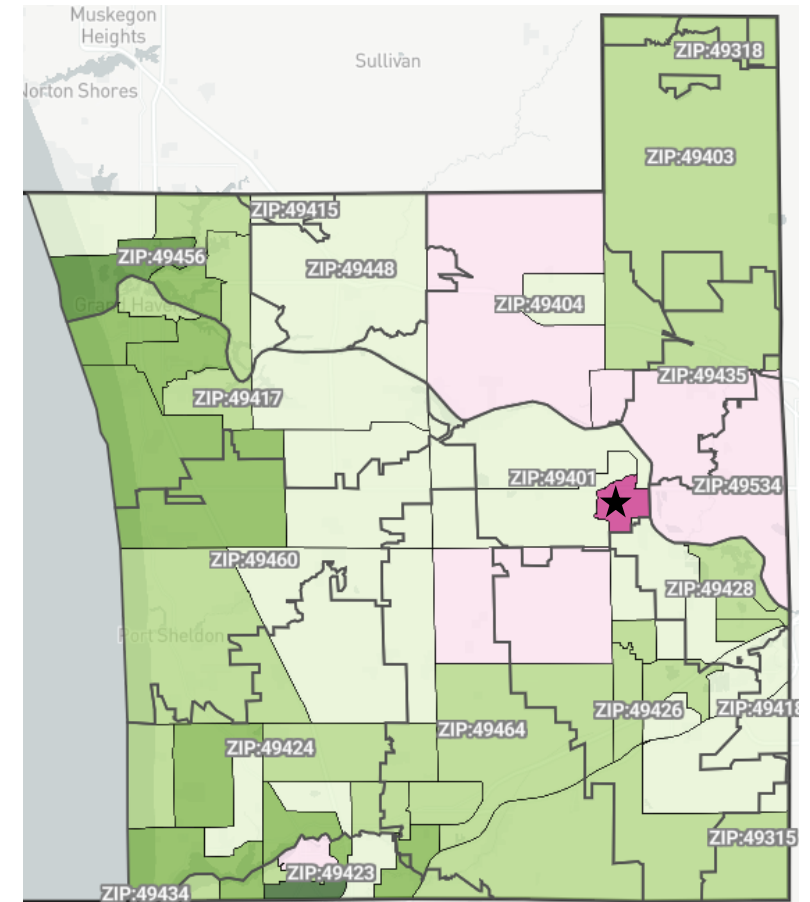
Fully vaccinated: % Ages 16+ years



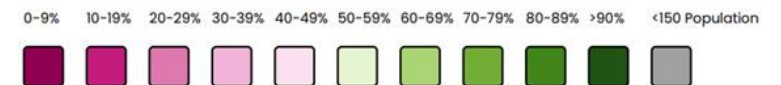
Color coded by: Fully Vaccinated (% Ages 16+)



Fully vaccinated: % Total Population



Color coded by: Fully Vaccinated (% Population)



Vaccination rates vary across Ottawa County, but most areas have at least 50% of the population aged 16+ completely vaccinated (left).

When considering the entire population (not just those aged 16+), there are pockets of the county with much higher and much lower vaccination rates (right).

★ 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.

Cumulative Cases by Vaccination Status, Ottawa County, January 15, 2021 – May 7, 2022

Fully Vaccinated People (172,621)	
Cases	Deaths
Percent of Cases in People Not Fully Vaccinated (36,537 / 55,954) 65.3%	Percent of Deaths in People Not Fully Vaccinated (288 / 444) 64.9%
Total Cases Not Fully Vaccinated 36,537	Total Deaths Not Fully Vaccinated 288
Total Breakthrough Cases 19,417	Total Breakthrough Deaths 156
Percent of Fully Vaccinated People who Developed COVID-19 (19,417 / 172,621) 11.2%	Percent of Fully Vaccinated People who Died of COVID-19 (156 / 172,621) 0.09%
Percent of Cases who were Fully Vaccinated (19,417 / 55,954) 34.7%	Percent of Deaths who were Fully Vaccinated (156 / 444) 35.1%
Total Cases 55,954	Total Deaths 444

Note:

Fully vaccinated is defined as 2 or more doses of an mRNA vaccination or at least one dose of J&J.

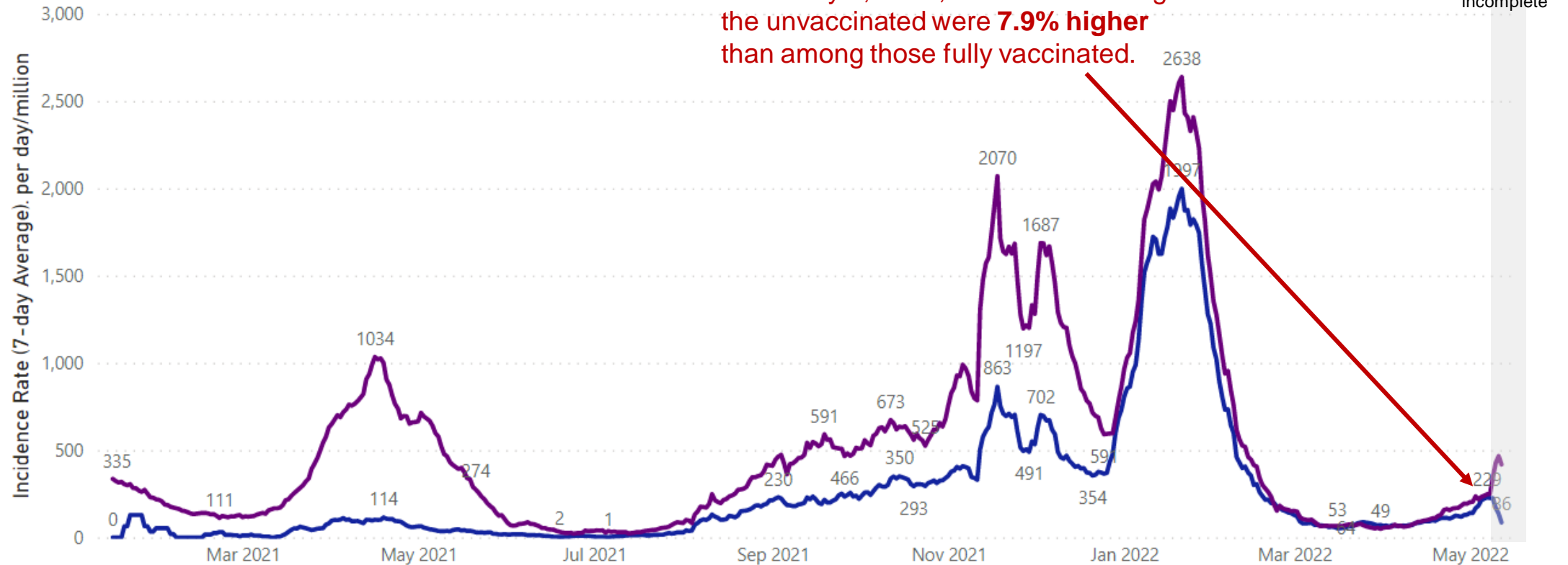
Sources:

Michigan Department of Health and Human Services, Michigan Disease Surveillance System
MDHHS COVID-19 Dashboard: <https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard>

Ottawa County COVID-19 Vaccination Breakthrough Case Trends

Incidence Rate (7-day Average)

rategroup ● Fully Vaccinated ● Unvaccinated



As of May 7, 2022, case rates among the unvaccinated were **7.9% higher** than among those 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. On December 22, 2021 this figure was updated to compare fully vaccinated and unvaccinated persons, to align more closely with [CDC data](#); partially vaccinated persons were excluded. Fully vaccinated is defined as 2 or more doses of an mRNA vaccination or at least one dose of J&J.

Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

Sources:

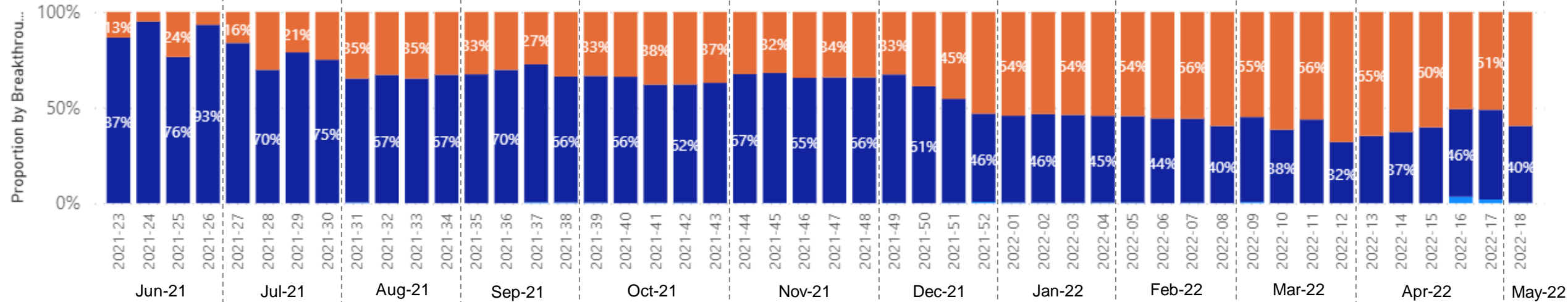
Michigan Department of Health and Human Services, Michigan Disease Surveillance System
 MDHHS COVID-19 Dashboard: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Ottawa County COVID-19 Vaccination Breakthrough Case Trends

By Week

Breakthrough Proportions by Week

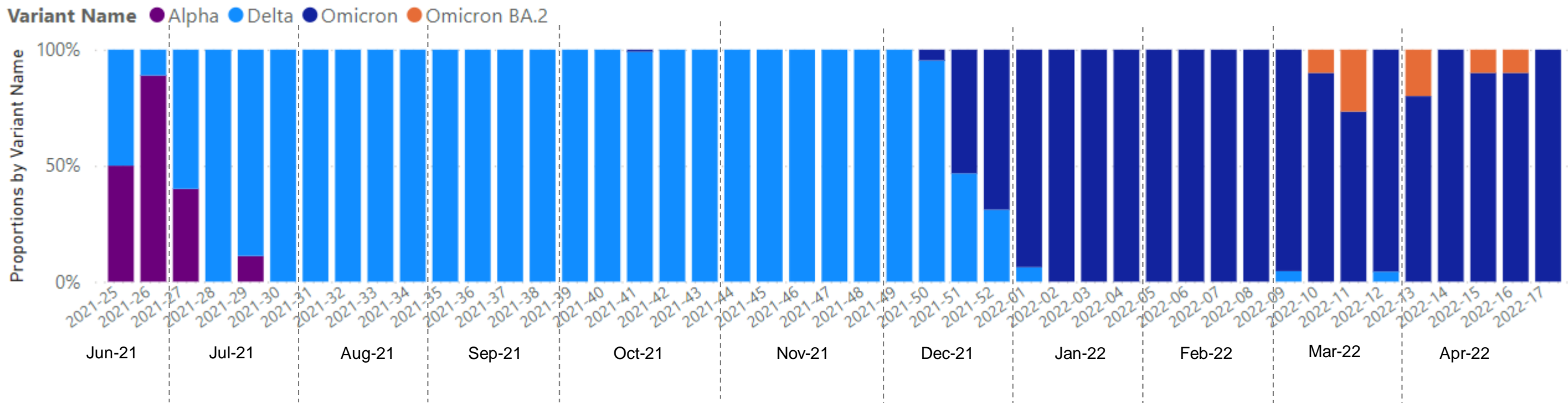
Vaccine_Breakthrough ● NO ● YES



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

Variants – Clinical Samples from Ottawa County Residents

Variant Proportions by Week

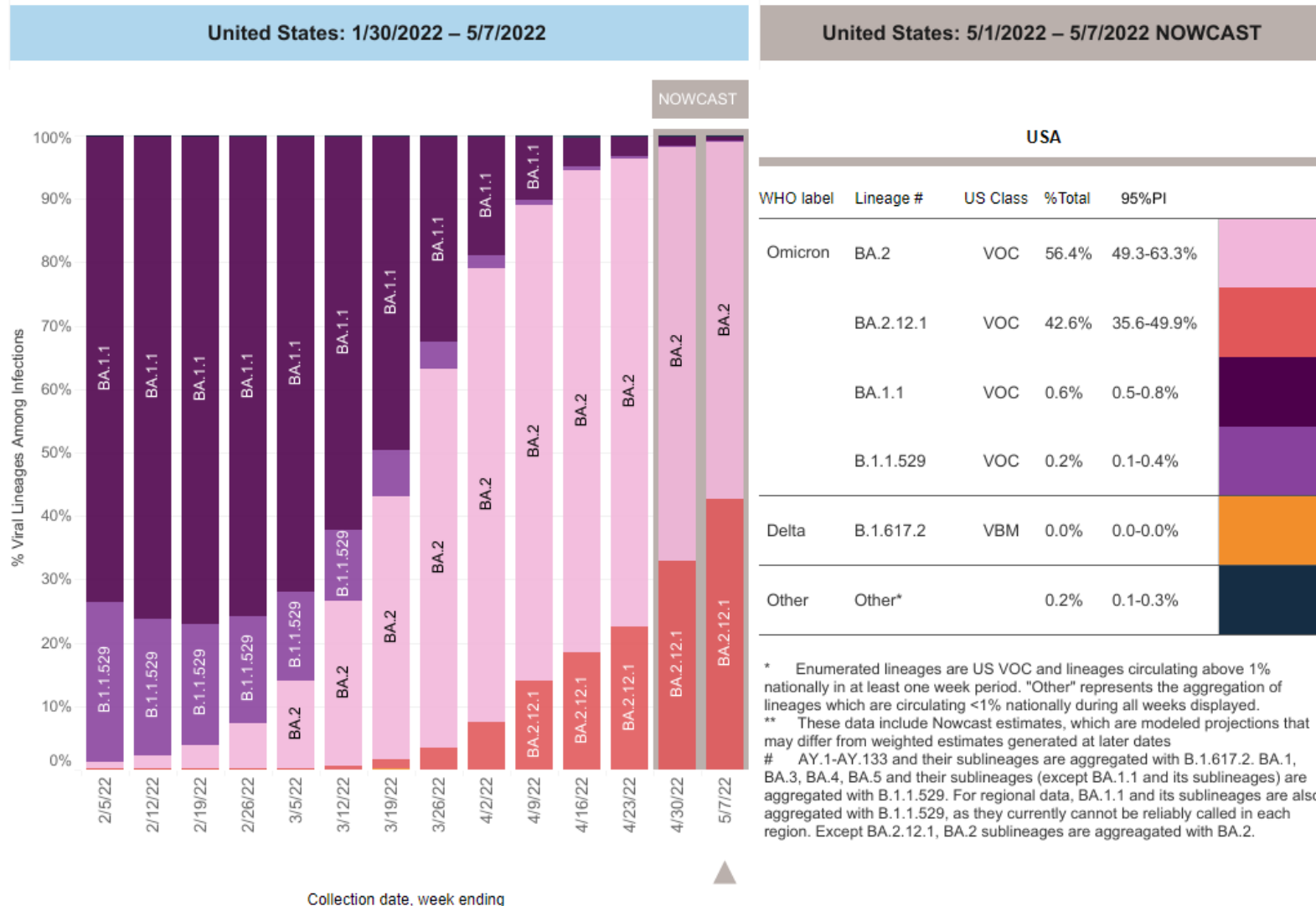


In June of 2021, most clinical samples* submitted for variant testing were identified as the **Alpha** variant. By the end of July 2021, all clinical samples tested were identified as the **Delta** variant. From late July through early December 2021 all clinical samples submitted for variant testing were identified as the **Delta** variant. In mid-December 2021, the first **Omicron** positive samples were collected in an Ottawa County resident, and **Omicron** continues to be detected into 2022, including the BA.2 variant.

* Swabs from Ottawa County residents that tested positive for COVID-19 by PCR; only a small proportion of all COVID-19 positive tests are tested for variants.

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

Variants – Clinical Samples from Across the USA



The **Omicron** variant is estimated to account for close to 100% of all clinical samples collected in the United States the week ending May 7, 2022.

Omicron subvariants are also circulating, with BA.2 variants predominating.

Variants – Wastewater Sampling – Holland/Zeeland

Y = Detected
N = Not Detected

Sample Date	Site	Delta	Omicron
1/9/2022	North Holland	N	N
1/10/2022	Zeeland	N	Y
1/12/2022	North Holland	N	Y
1/13/2022	Zeeland	N	Y
1/16/2022	North Holland	N	Y
1/17/2022	Zeeland	N	Y
1/23/2022	North Holland	N	Y
1/30/2022	North Holland	N	Y
1/31/2022	Zeeland	N	Y
2/6/2022	North Holland	N	Y
2/7/2022	Zeeland	N	N
2/13/2022	North Holland	N	Y
2/14/2022	Zeeland	N	Y
2/16/2022	North Holland	N	Y
2/17/2022	Zeeland	N	Y
2/20/2022	North Holland	N	Y
2/21/2022	Zeeland	N	Y
2/23/2022	North Holland	N	Y
2/24/2022	Zeeland	N	N
2/27/2022	North Holland	N	N
2/28/2022	Zeeland	N	N
3/2/2022	North Holland	N	N
3/3/2022	Zeeland	N	N
3/10/2022	Zeeland	N	N
3/13/2022	North Holland	N	N
3/14/2022	Zeeland	N	N
3/17/2022	Zeeland	N	N
3/21/2022	Zeeland	N	Y
3/23/2022	North Holland	N	N
3/24/2022	Zeeland	N	N
3/27/2022	North Holland	N	N
4/3/2022	North Holland	N	N
4/4/2022	Zeeland	N	N
4/17/2022	North Holland	N	N
4/18/2022	Zeeland	N	N
4/20/2022	North Holland	N	N
4/21/2022	Zeeland	N	N
4/24/2022	North Holland	N	N
4/25/2022	Zeeland	N	N
4/27/2022	North Holland	N	Y
4/28/2022	Zeeland	N	Y
5/1/2022	North Holland	N	Y
5/1/2022	Zeeland	N	Y
5/8/2022	North Holland	N	N
5/9/2022	Zeeland	N	Y

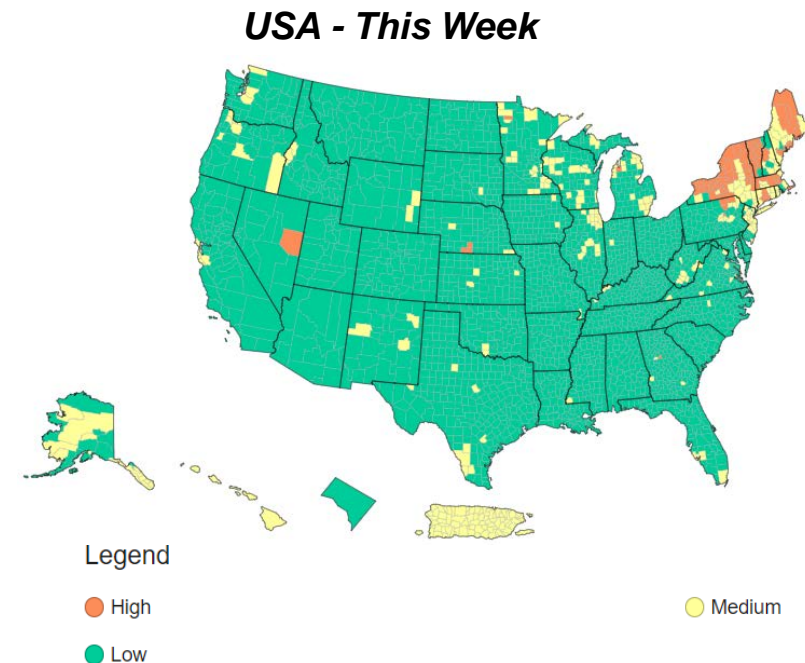
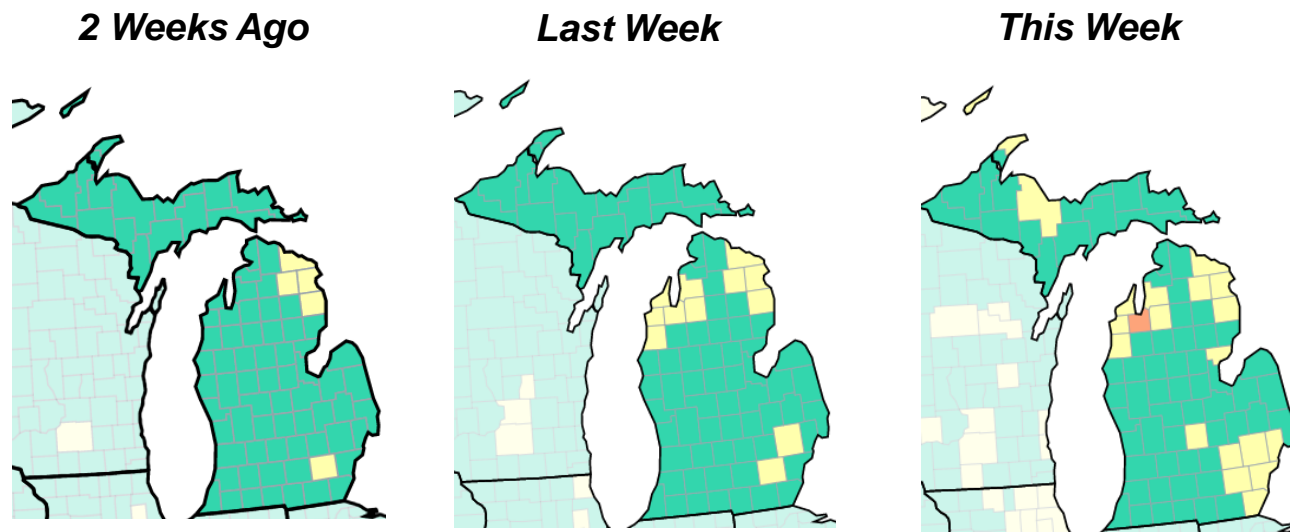
The **Delta** variant was consistently detected in Holland and Zeeland wastewater samples through all of November and December of 2021 (data not displayed here).

The **Omicron** variant has been detected in wastewater in Holland and Zeeland since early January 2022, with more detection over the last week.

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

(NEW) CDC Community Risk Levels – Ottawa County

- Current Risk Level in Ottawa – **LOW**
- Current Data:
 - Case Rate (per 100k pop 7-day total) = **129.18**
 - COVID-19 Hospital Admissions (per 100K pop 7-day total) = **2**
 - COVID Inpatient Hospital Bed Utilization (7-day average) = **3.7%**



Data updated by CDC
on May 11, 2022

Source: <https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html>

COVID-19 Case Rates by County Across the US

Last Week

This Week

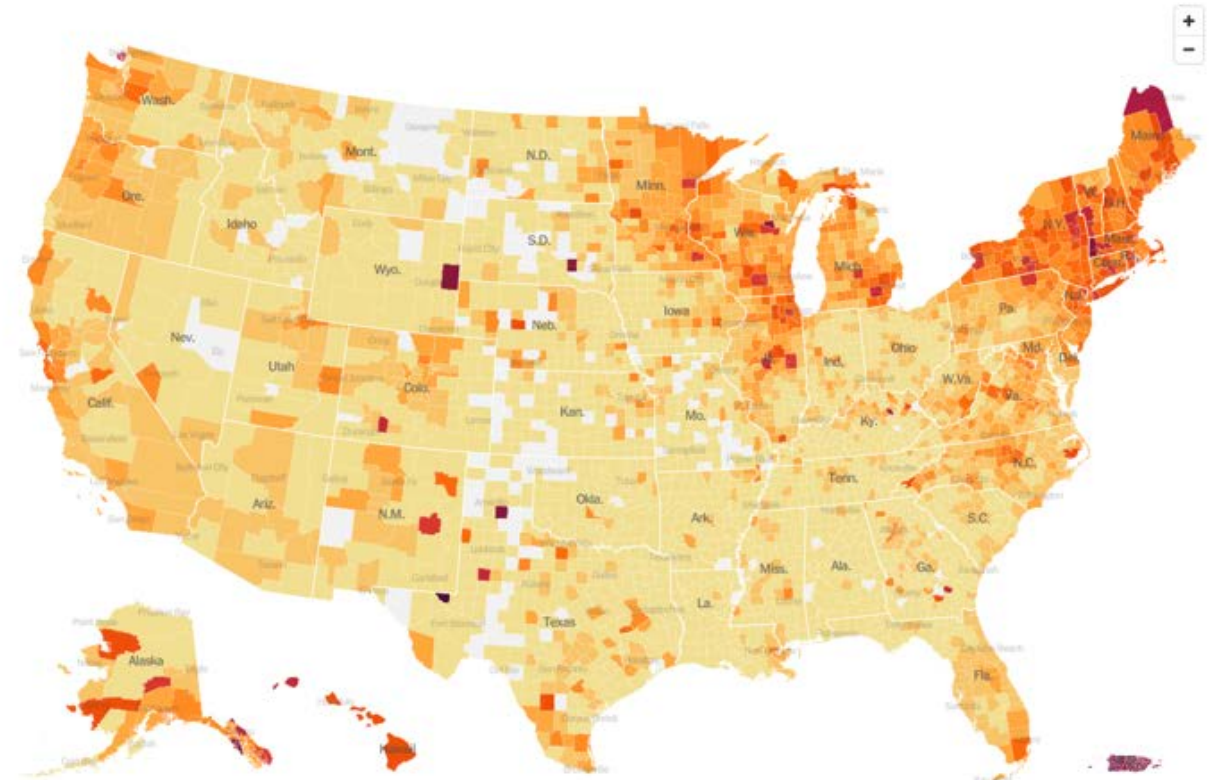
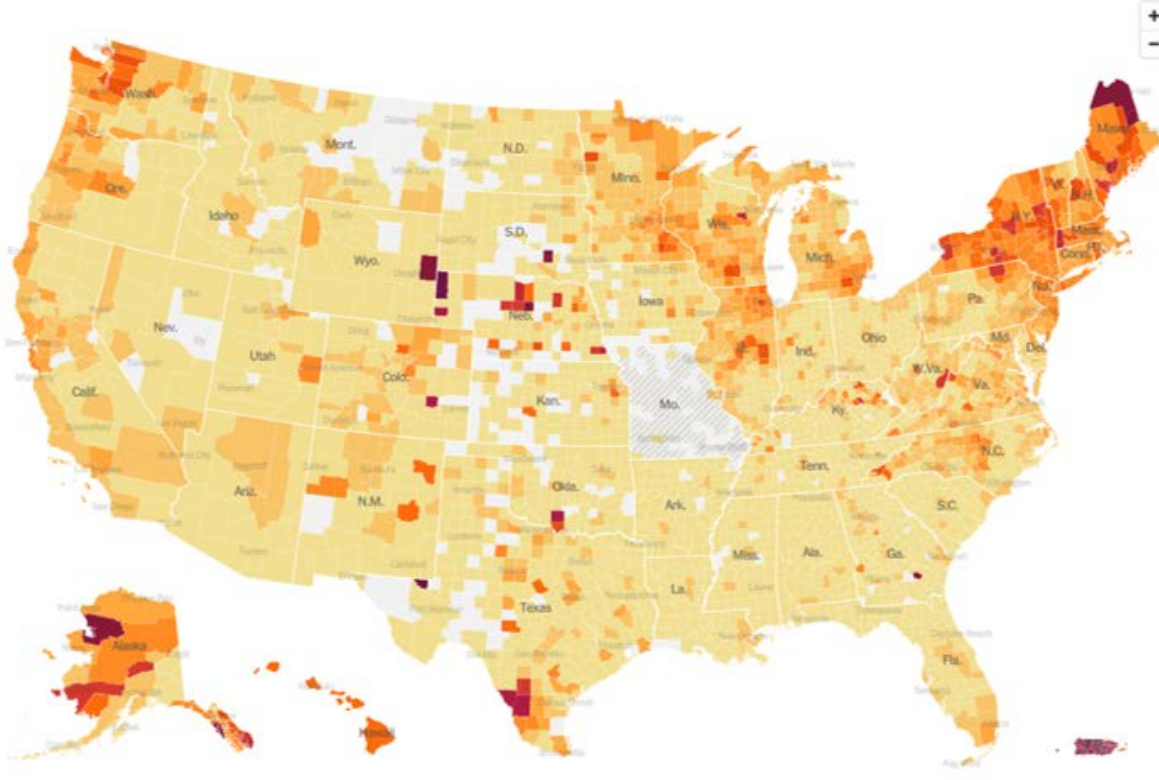
Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK
10 30 50 70 100 200
FEW OR MISSING NO CASES DATA



Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK
10 30 50 70 100 200
FEW OR MISSING NO CASES DATA



Case rates may be increasing across the nation.

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

Accessed May 12, 2022

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

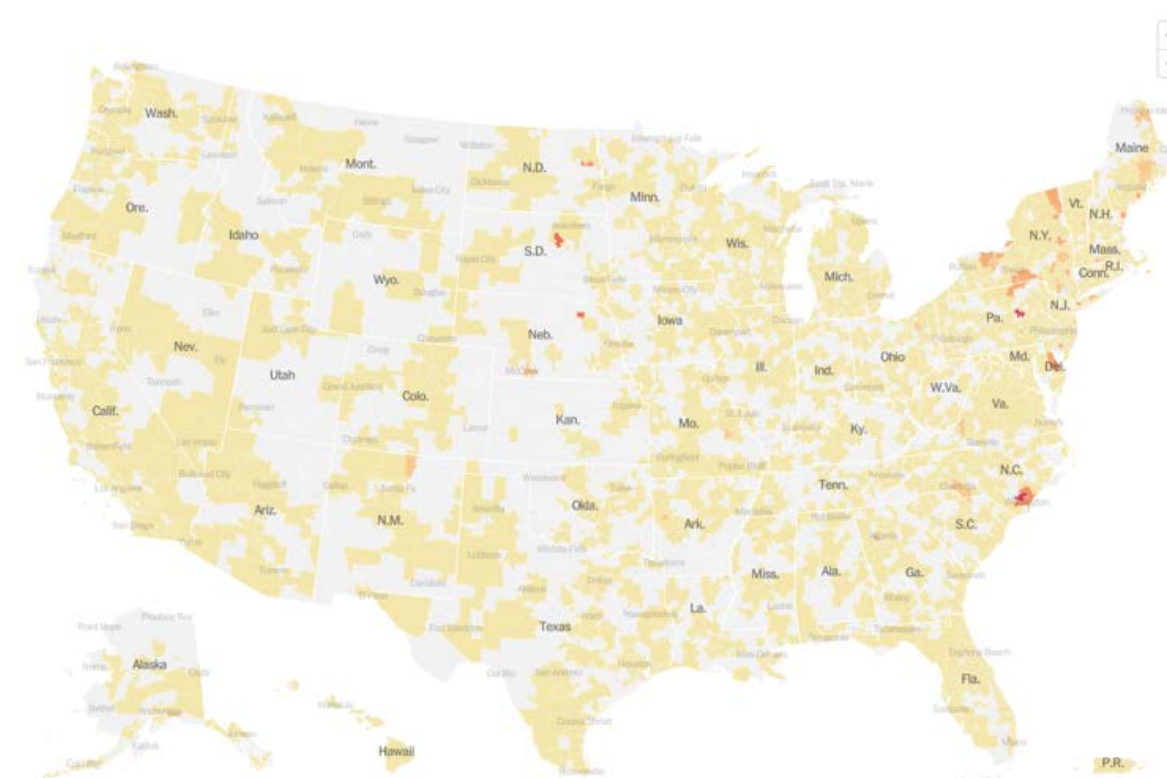
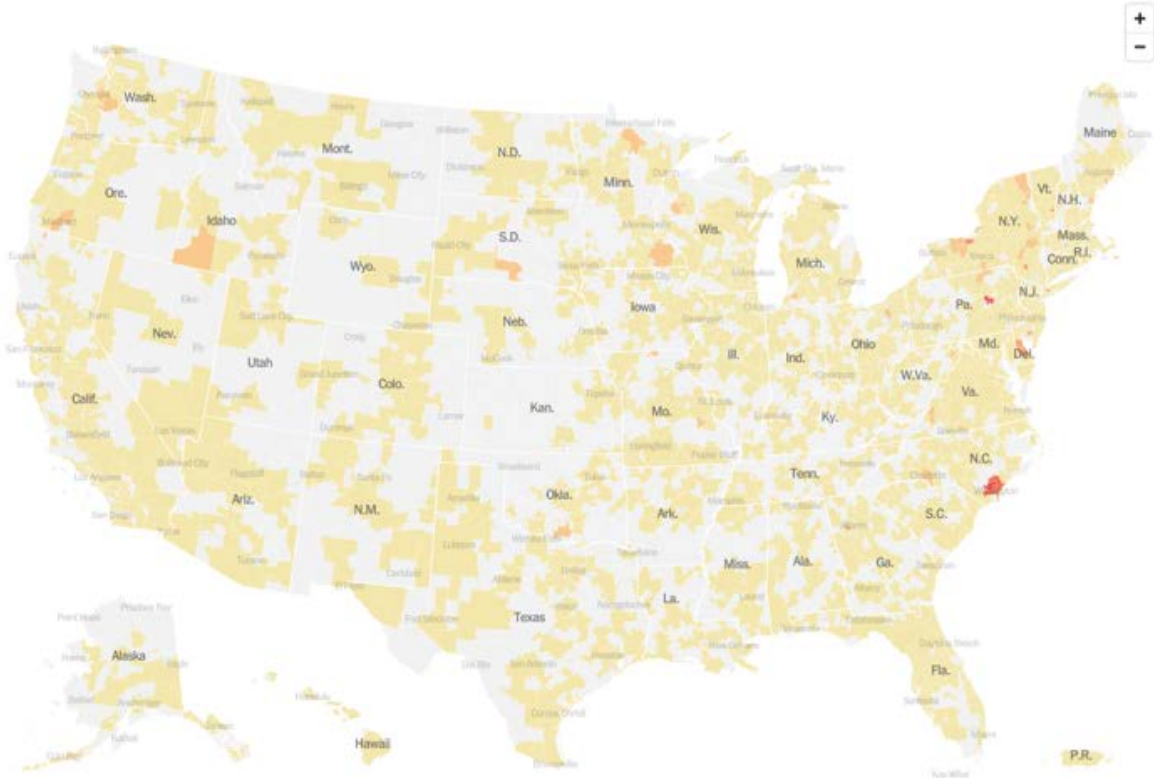
COVID-19 Hospitalization Rates by County Across the US

Last Week

This Week

Current hospitalizations

Current hospitalizations



Hospitalization rates remain low across the nation.

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

Accessed May 12, 2022

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

COVID-19 News Headlines

COVID outbreaks infect 287 students and teachers in Michigan schools

[COVID outbreaks infect 287 students and teachers in Michigan schools - mlive.com](#)

Michigan COVID-19 deaths increase this week as cases, hospitalizations continue to rise

[Michigan COVID-19 deaths increase this week as cases, hospitalizations continue to rise - mlive.com](#)

Health officials: Ottawa County better equipped as it COVID cases spike in past month

[Health officials: Ottawa County better equipped as it COVID cases spike in past month \(hollandsentinel.com\)](#)

'Unthinkable tragedy': U.S. COVID-19 death toll surpasses 1 million

['Unthinkable tragedy': U.S. COVID-19 death toll surpasses 1 million - ABC News \(go.com\)](#)

WHO: COVID-19 falling everywhere, except Americas and Africa

[WHO: COVID-19 falling everywhere, except Americas and Africa | Federal News Network](#)

Science Roundup

Systematic review and meta-analysis of the effectiveness and perinatal outcomes of COVID-19 vaccination in pregnancy

[Systematic review and meta-analysis of the effectiveness and perinatal outcomes of COVID-19 vaccination in pregnancy | Nature Communications](#)



A meta-analysis found that mRNA vaccines appear effective against SARS-CoV-2 in pregnant women. The incidence of adverse pregnancy outcomes was not increased among vaccinated compared with unvaccinated women. The risk of stillbirth was reduced in vaccinated compared to unvaccinated women.

Evaluation of mRNA-1273 Covid-19 Vaccine in Children 6 to 11 Years of Age

[Evaluation of mRNA-1273 Covid-19 Vaccine in Children 6 to 11 Years of Age | NEJM](#)



A study published in the New England Journal of Medicine found two 50- μ g doses of the mRNA-1273 (Moderna) vaccine were safe and effective in inducing immune responses and preventing COVID-19 in children 6 to 11 years of age; these responses were noninferior to those in young adults.

The protective effect of covid-19 vaccination on post-acute sequelae of covid-19 (pasc): a multicenter study from a large national health research network

<https://academic.oup.com/ofid/advance-article/doi/10.1093/ofid/ofac228/6582238?login=false>



Data from a large multicenter study suggests that COVID-19 vaccine is protective against long COVID symptoms, new onset of health conditions, and mortality.

Detection of SARS-CoV-2 by Canine Olfaction: A Pilot Study

[Detection of SARS-CoV-2 by Canine Olfaction: A Pilot Study | Open Forum Infectious Diseases | Oxford Academic \(oup.com\)](#)



A double-blinded, case-control, validation study found canine olfaction may be an accurate and feasible method for diagnosis of SARS-CoV-2, including asymptomatic and pre-symptomatic infected individuals.