

Ottawa County COVID-19 Epidemiology

April 14, 2022

Data as of April 9, 2022, unless otherwise indicated

Executive Summary

- **Transmission in Michigan and the US remains low**
- **Ottawa community transmission levels remain low**
 - This past week positivity increased slightly to 7.6%, compared to 5.3% seen two weeks ago.
 - Weekly case counts **increased** 1% (-21% two weeks ago), from 123 two weeks ago to 124 last week.
 - Cases among children **decreased** 24% (+38% two weeks ago), from 17 two weeks ago to 13 last week.
 - The Omicron variant remains the predominate local strain; the first Omicron subvariant BA.2 reported in Ottawa County was detected in a clinical sample collected March 6, 2022.
- **Ottawa-area and regional hospitals have improved capacity**
 - In Ottawa County, 3% of all available beds and 0% of all ICU beds are occupied by COVID-19 patients.*
 - One Ottawa-area hospital employed Emergency Department diversion last week.
 - All Ottawa hospitals have returned to usual care strategies.
 - No Ottawa-area hospitals reported critical staffing challenges over the last eight weeks.
- **Pediatric hospitalization rates in the US and in Michigan are improving**
 - Regional pediatric hospitalization census fell below the pandemic average the past three weeks.
- **Of Ottawa County residents aged 5+, 62.8% have completed at least their primary vaccination series**

*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

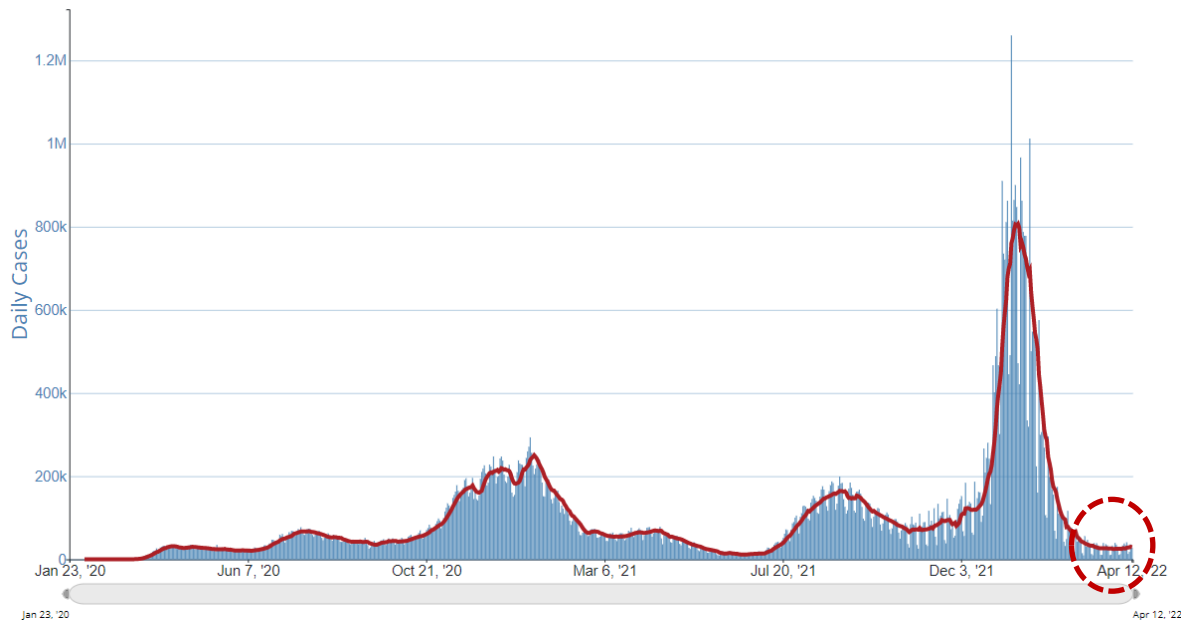
Metric	Goal	Week Ending				
		12-Mar-22	19-Mar-22	26-Mar-22	2-Apr-22	9-Apr-22
Positivity (All Ages)	NA	4.9%	5.1%	5.4%	5.3%	7.6%
Weekly Cases (All Ages)	<592	130	121	147	123	124
Weekly Cases in Children (0-17 years of age)	NA	26	20	13	17	13
Total Deaths (All Ages)	0	1	3	3	0	0
CDC COVID-19 Community Level (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

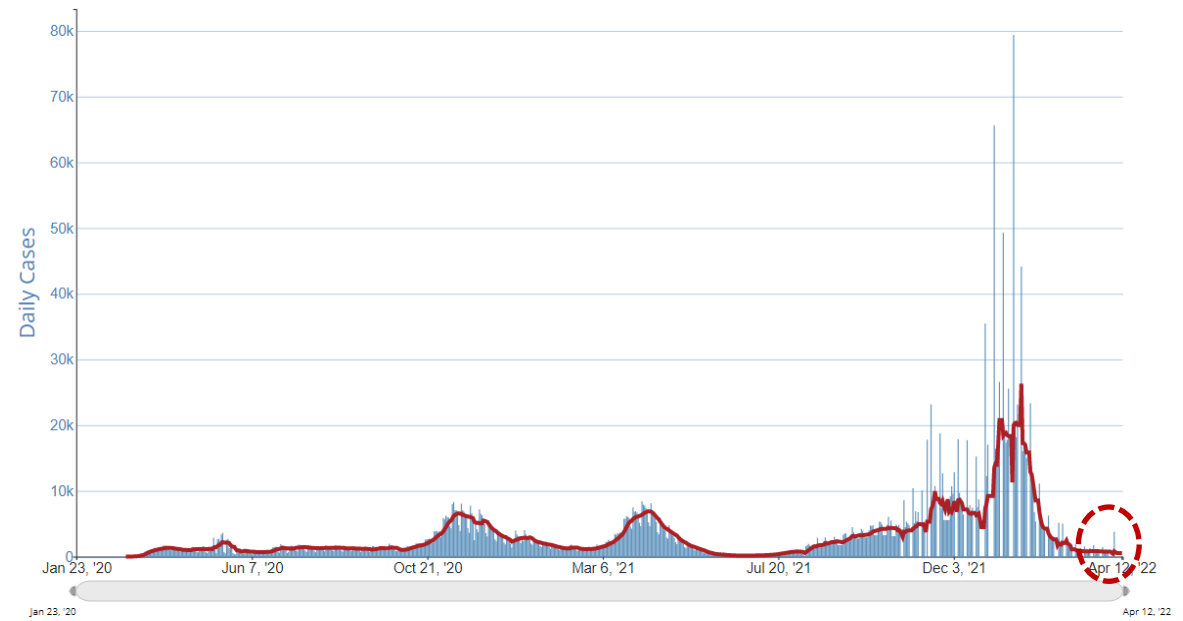
USA

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 much lower than previous times in the pandemic.

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 April 12, 2022

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

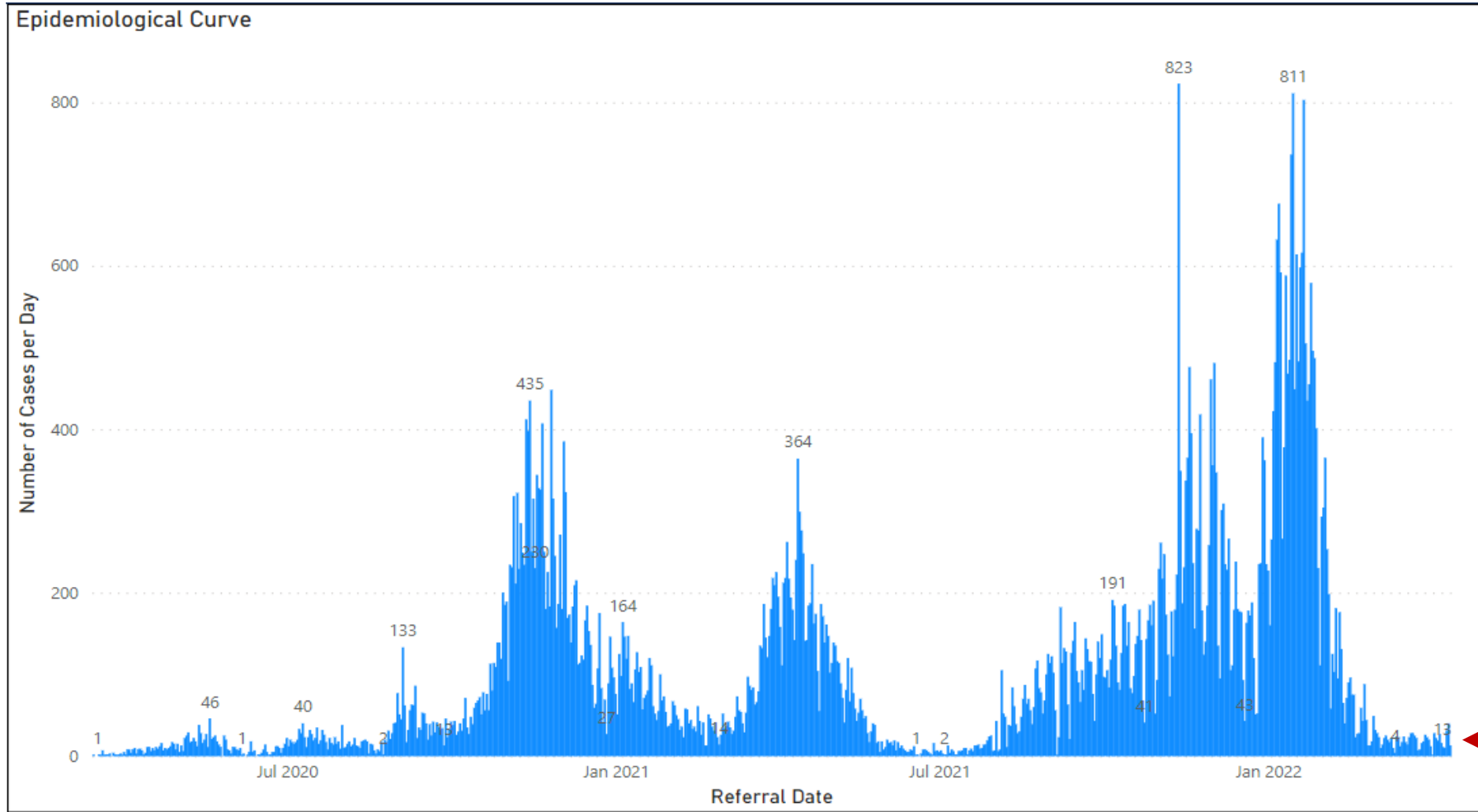
Other

Media

Science
Roundup

Case Trends in Ottawa County

COVID-19 Cases by Day, Ottawa County, March 15, 2020 – April 13, 2022



Total Number of Cases
74,917

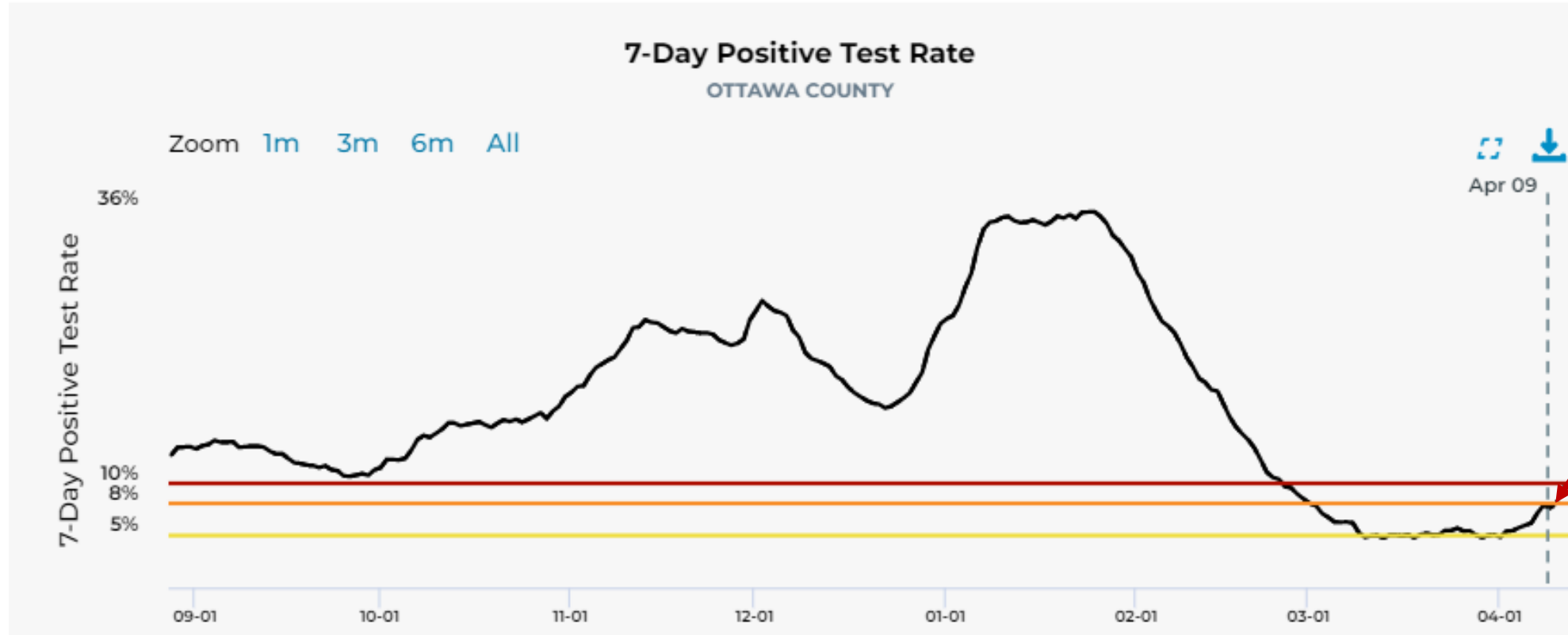
Currently the 7-day average is **21 cases per day**, similar to the 17 cases per day seen at last week at this time.

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, September 1, 2021 – April 9, 2022



Test positivity has been in decline for eight weeks but rebounded to **7.6% last week.**

Please note that since April 9, test positivity has continued to increase, reversing the previous 8-week downtrend.

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



Note: Testing in Ottawa County has continued to decline over the last 4 weeks, with over 2,700 tests in week 11 and declining to about 1,600 tests last week (week 14): [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>

USA & MI

Spread

Children

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Risk Levels

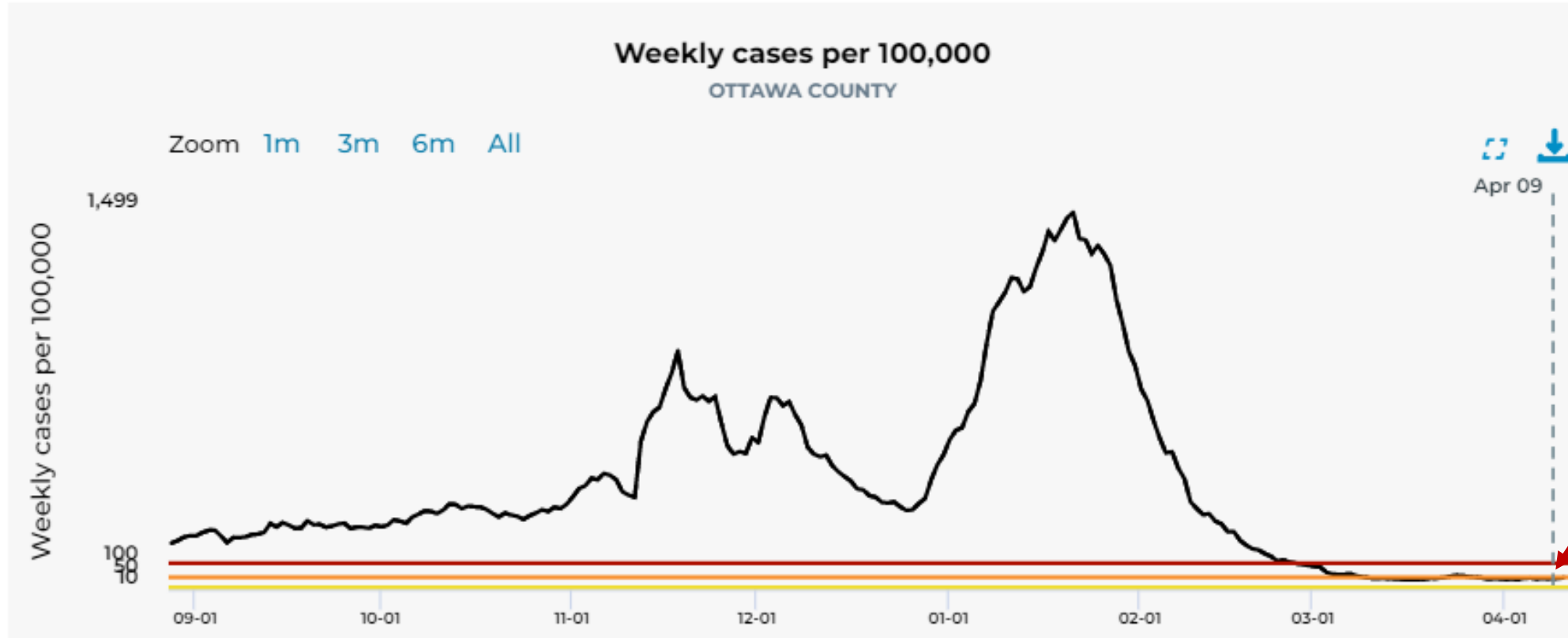
Other

Media

Science Roundup

Case Rates in Ottawa County – All Ages

COVID-19 Cases by Day, Ottawa County, September 1, 2021 – April 9, 2022



Case rates **remained low** at 42 cases per week per 100,000 population (**about the same as 45** 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>

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

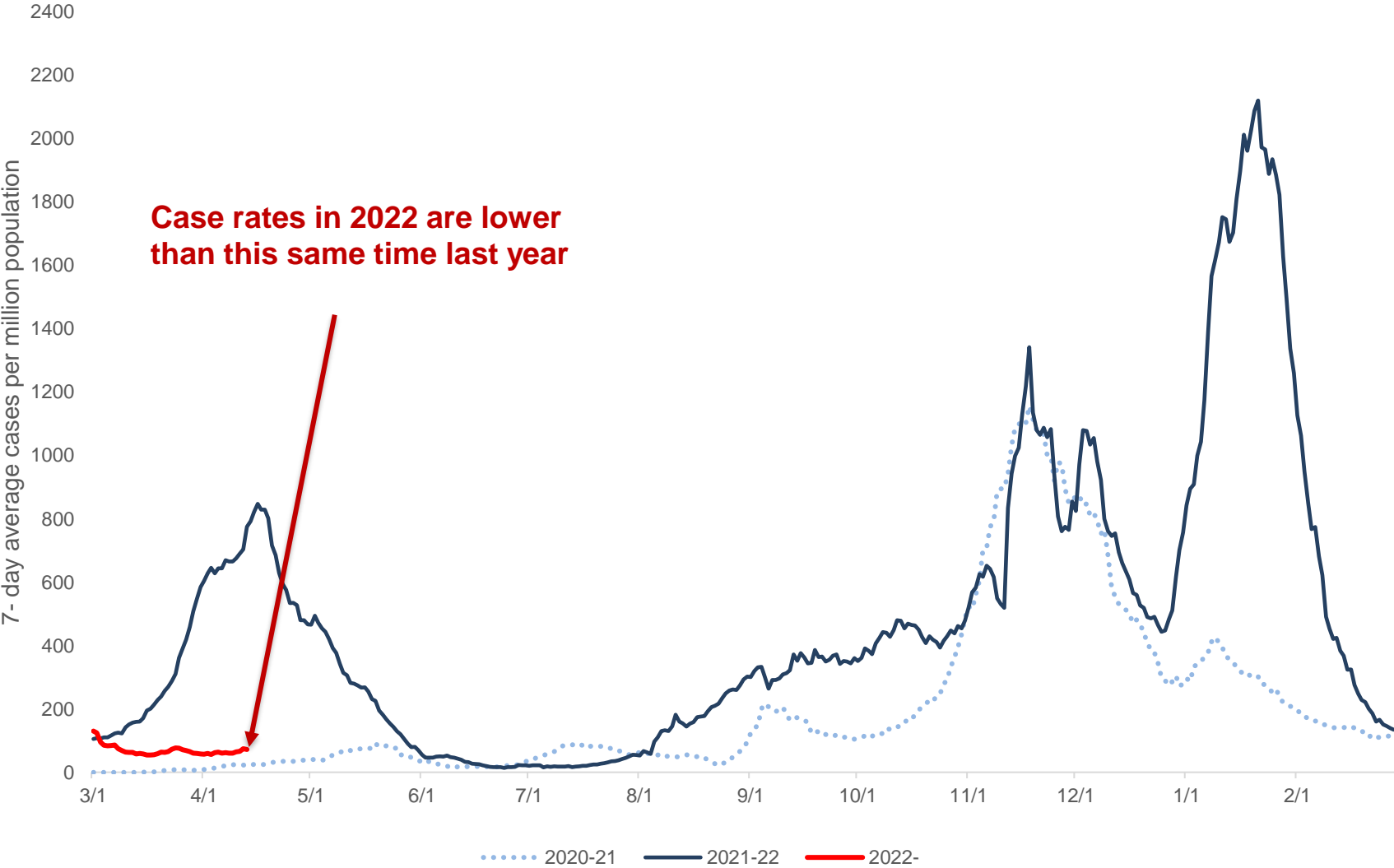
Risk Levels

Other

Media

Science Roundup

Ottawa County Time Trends – Annual Comparison of Case Rates



Case rates in 2022 are lower than this same time last year

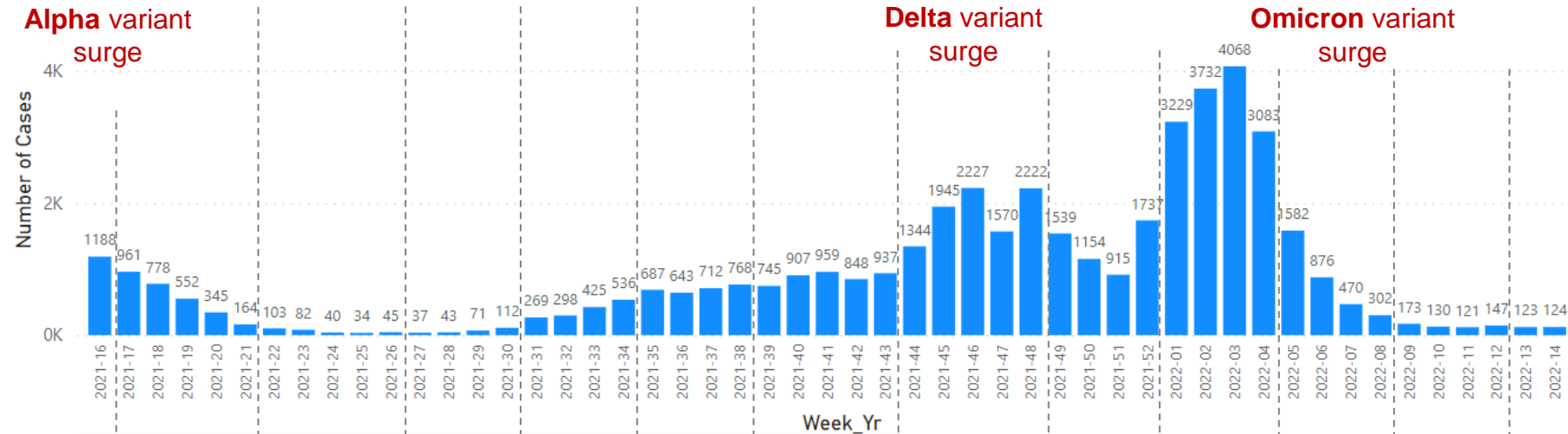
Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

Source: Internal Data

Data through April 13, 2022

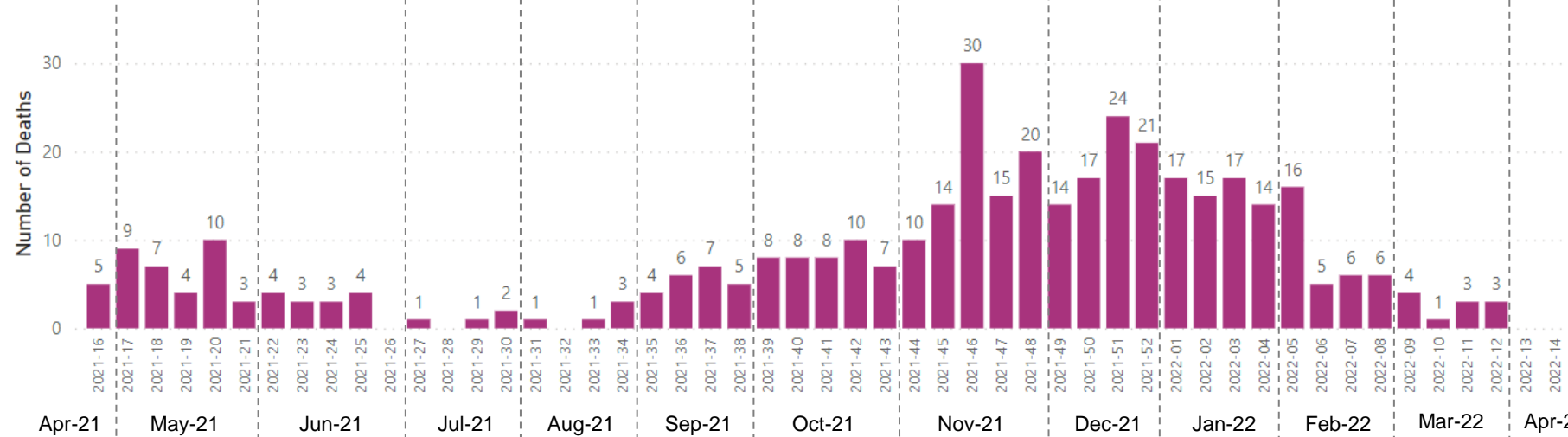
Ottawa County – Cases & Deaths by Week, All Ages

New Cases By Week of Referral



The weekly number of **cases increased 1%** from week 13 to week 14.

New Deaths By Week of Death



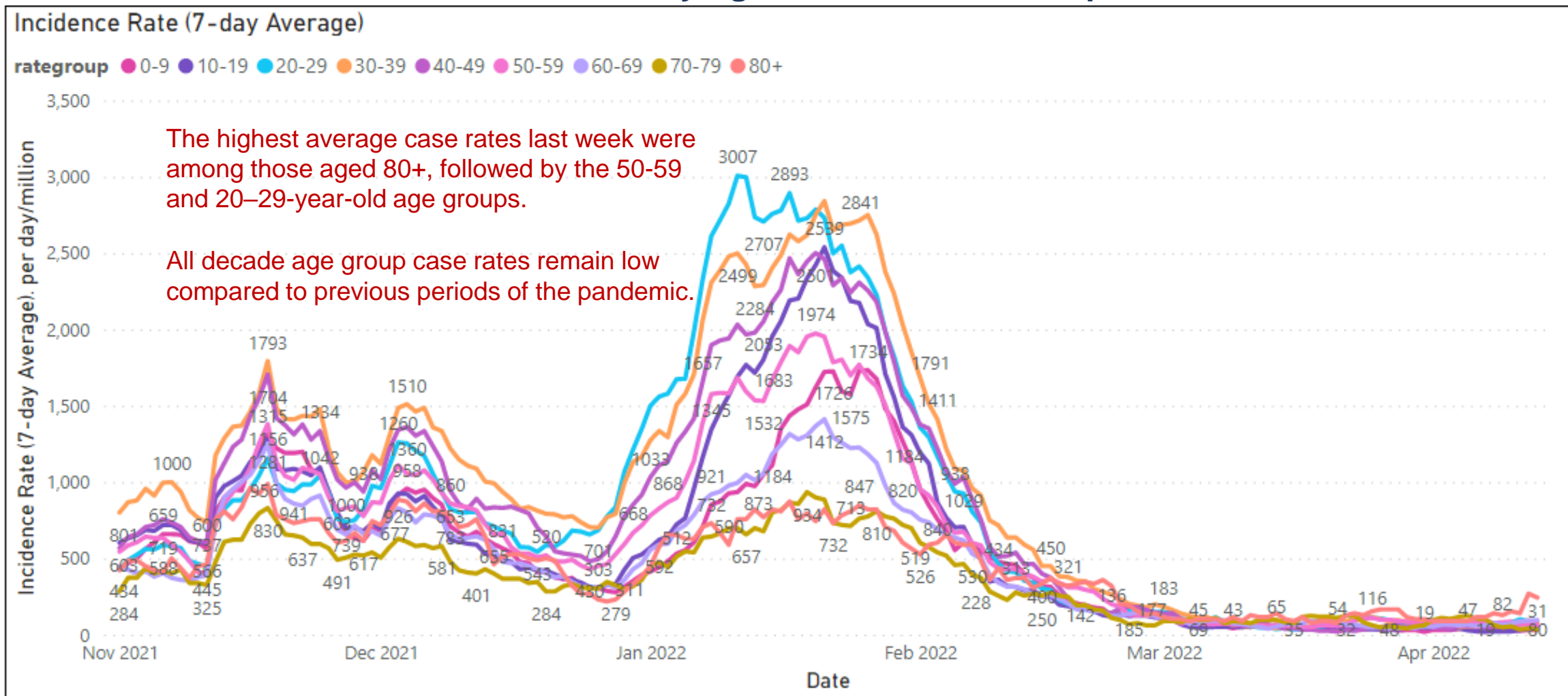
Weekly COVID-19 **deaths have declined.** Current weekly average of deaths over the last 4 weeks stands at about **2 deaths per week.**

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 – April 13, 2022



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 14 (April 3, 2022 – April 9, 2022)

Age Decade (Years)	Average Daily Cases	Average Daily Case Rate	One Week % Rate Change
0-9	1.3	35.0	13%
10-19	0.9	19.4	-54%
20-29	3.3	72.7	35%
30-39	2.6	71.7	12%
40-49	2.0	60.3	40%
50-59	2.9	82.0	11%
60-69	2.0	61.4	-7%
70-79	1.0	48.4	-56%
80+	1.6	141.0	57%

Please note that low case counts may make case rates unstable, reducing reliability. At this time, be cautious using this data to inform decisions.

Age groups with highest average case rates last week:

- 80+
- 50-59
- 20-29

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

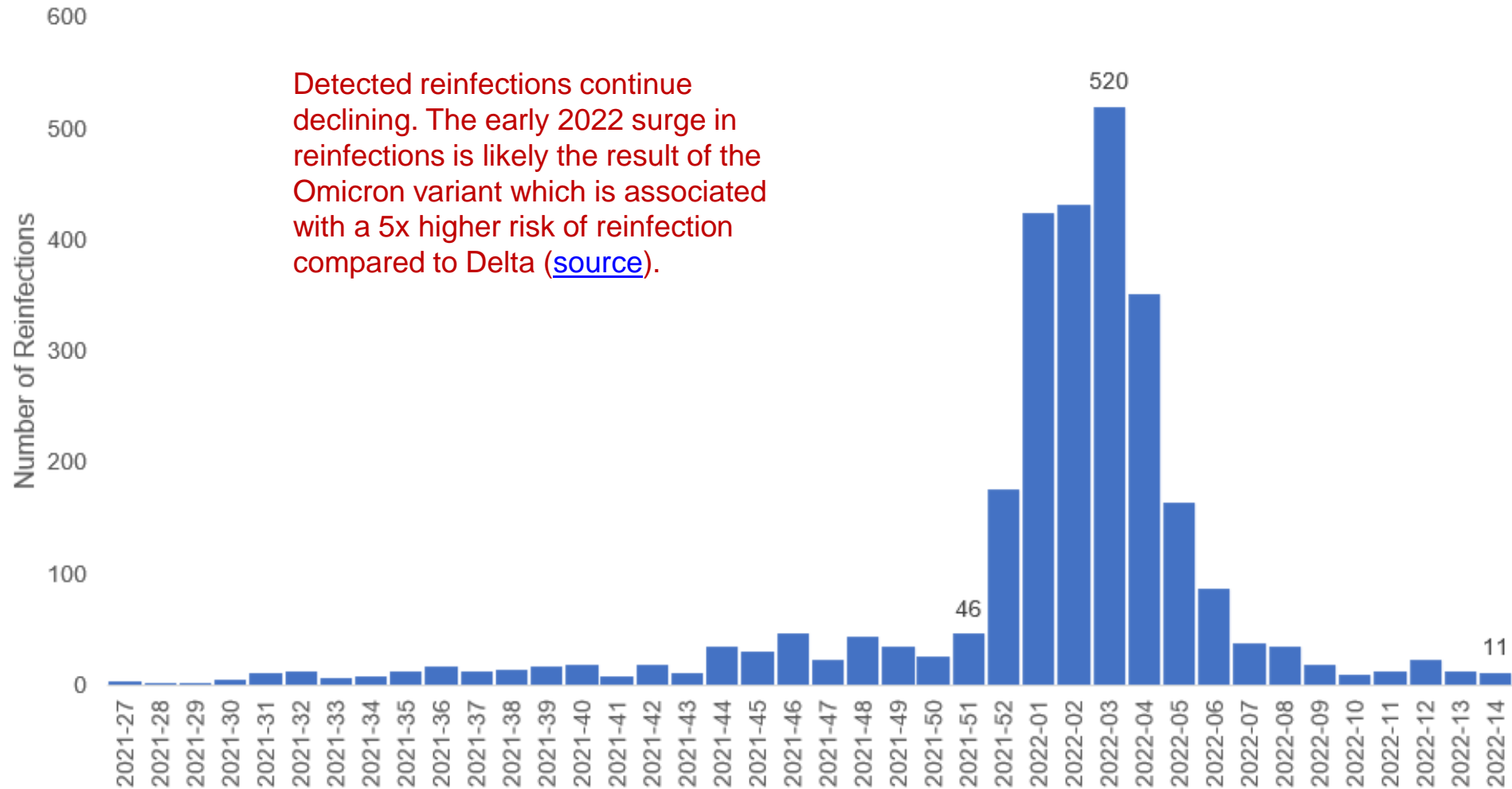
- 80+
- 40-49
- 20-29

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 April 13, 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 April 13, 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	134	33%	13	-35%	147	21%
2-Apr-22	106	-21%	17	31%	123	-16%
9-Apr-22	111	5%	13	-24%	124	1%

Adults

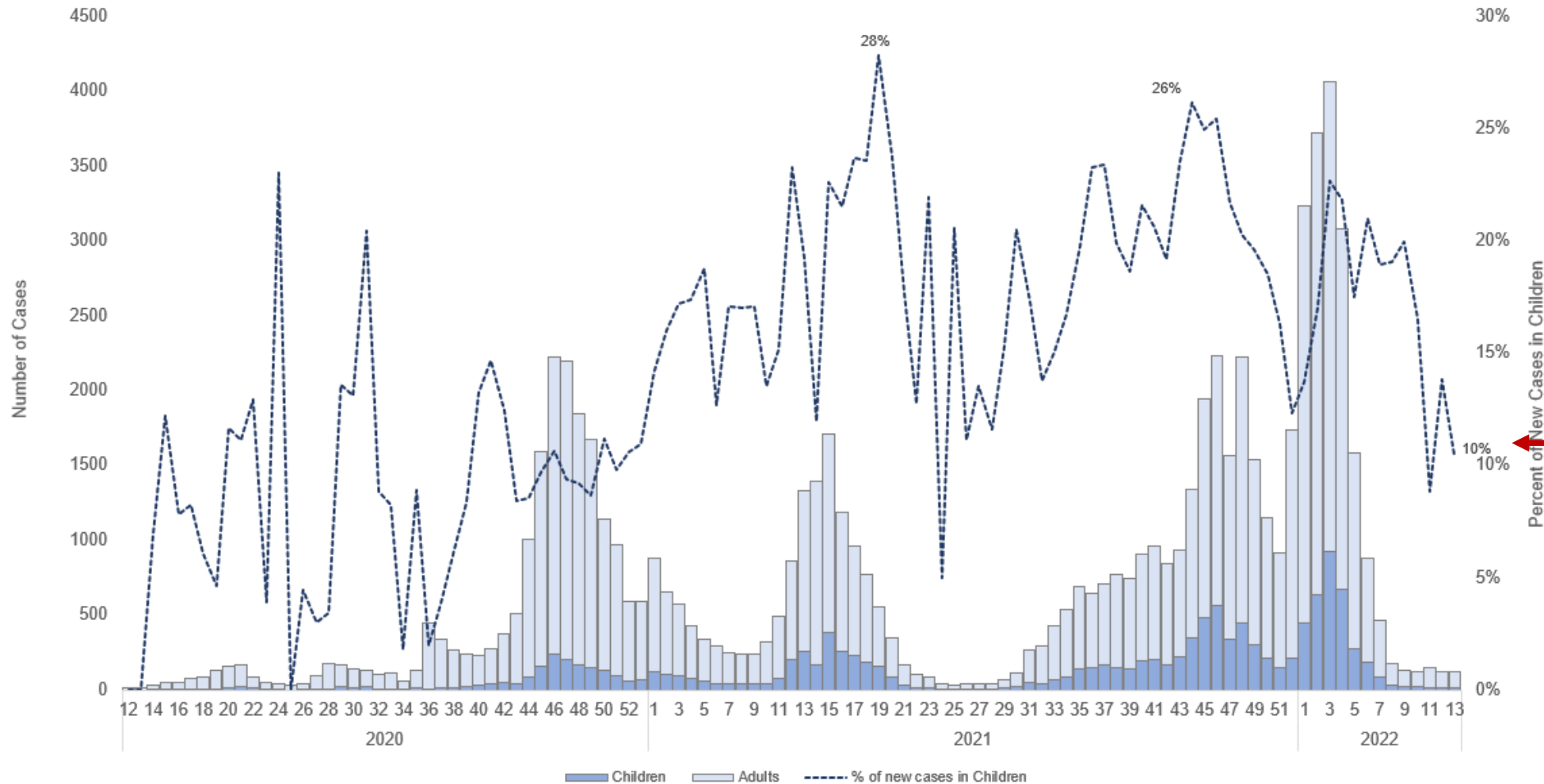
Children

Weekly case counts among **children decreased 24%** last week, and cases in **adults increased 5%**.

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 14 in 2022, children made up 10% of cases reported, lower compared to other times of the pandemic, and lower 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 14, 2022

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

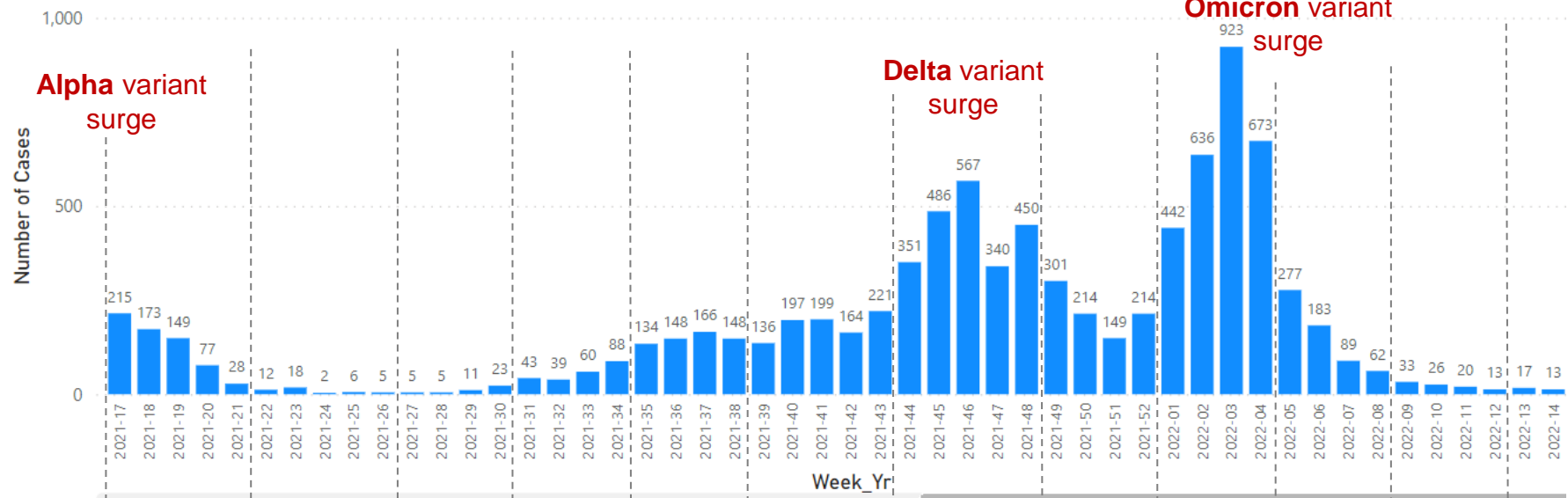
Other

Media

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Roundup

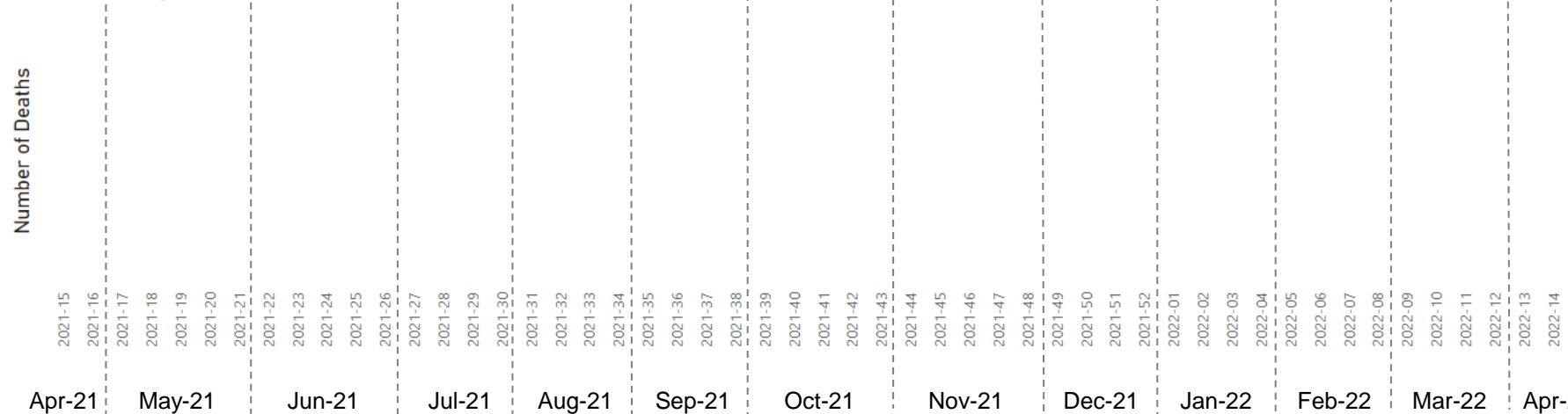
Ottawa County – Cases & Deaths by Week Among Children (0-17 years)

New Cases By Week of Referral



The weekly number of cases among children **decreased 24%** from week 13 to week 14.

New Deaths by Week of Death

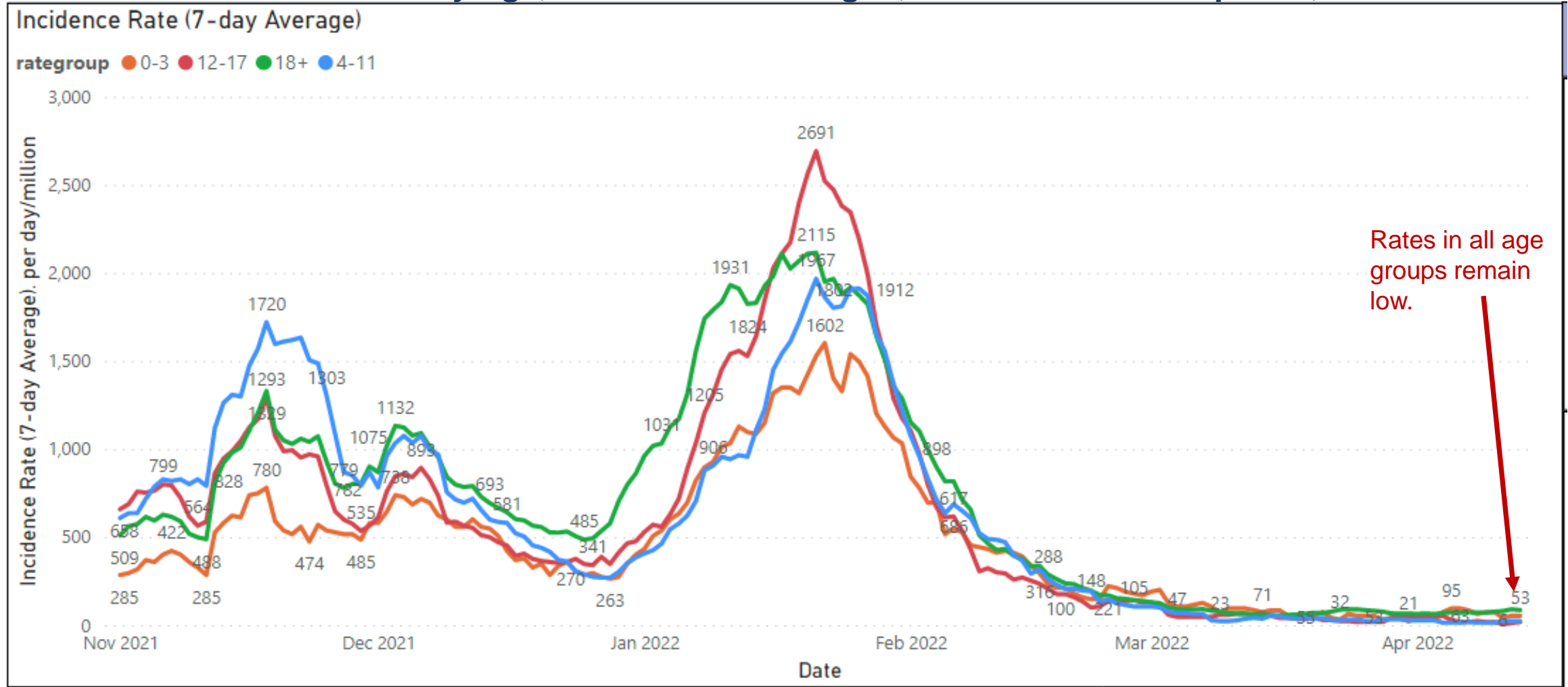


Apr-21 May-21 Jun-21 Jul-21 Aug-21 Sep-21 Oct-21 Nov-21 Dec-21 Jan-22 Feb-22 Mar-22 Apr-22

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 – April 13, 2022

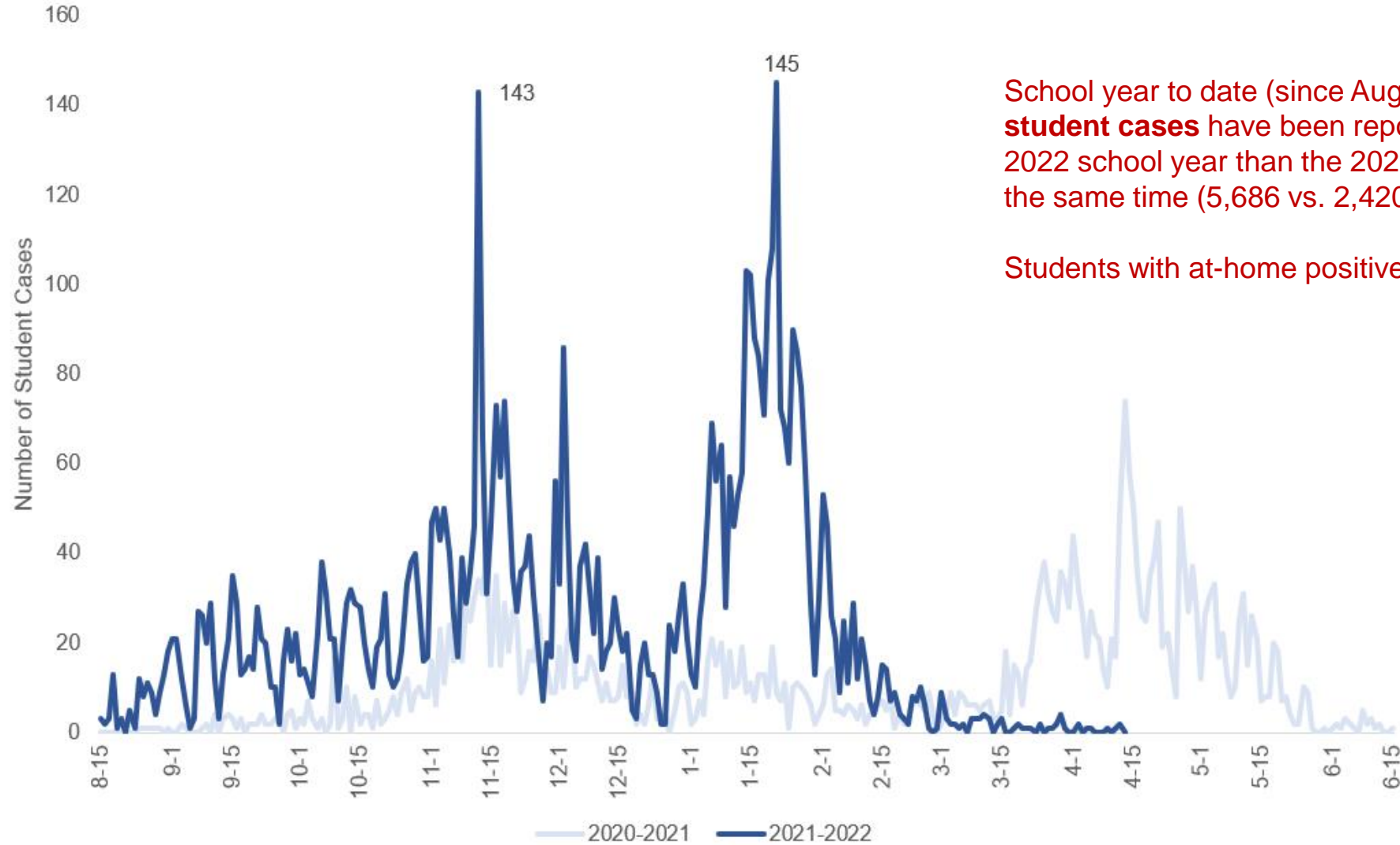


Note: Use of at home tests likely reduces the number of positive tests reported to Public Health, resulting in artificially deflated case rates.

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

Data as of April 13, 2021

Ottawa County Cases in PreK-12 School Students



School year to date (since August 15), **2.3x more student cases** have been reported during the 2021-2022 school year than the 2020-2021 school year at the same time (5,686 vs. 2,420, respectively).

Students with at-home positive tests are not included.

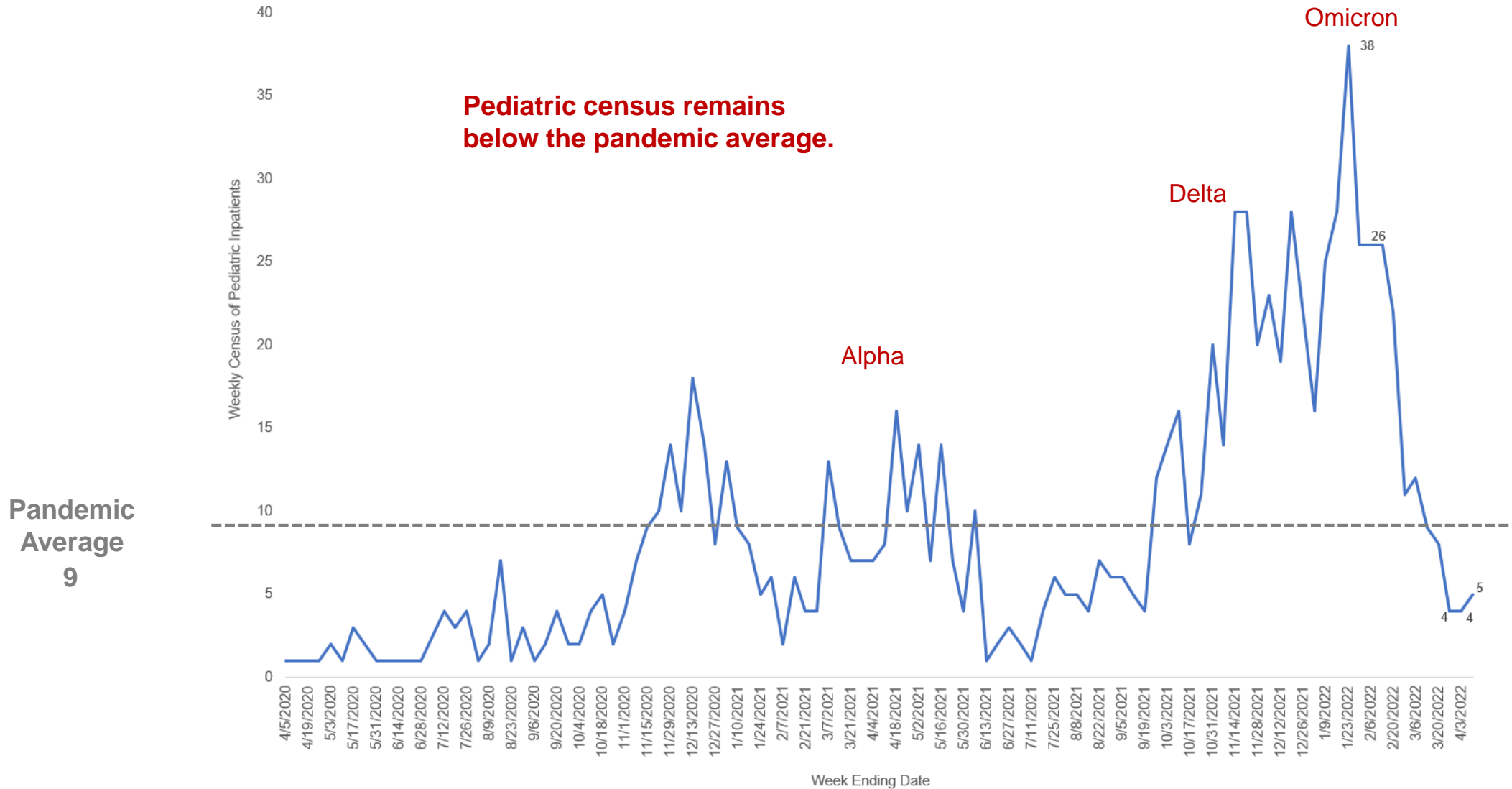
Method: Includes PreK-12 students known to attend a school in Ottawa County who are classified as a confirmed or probable case of COVID-19.

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 April 13, 2022

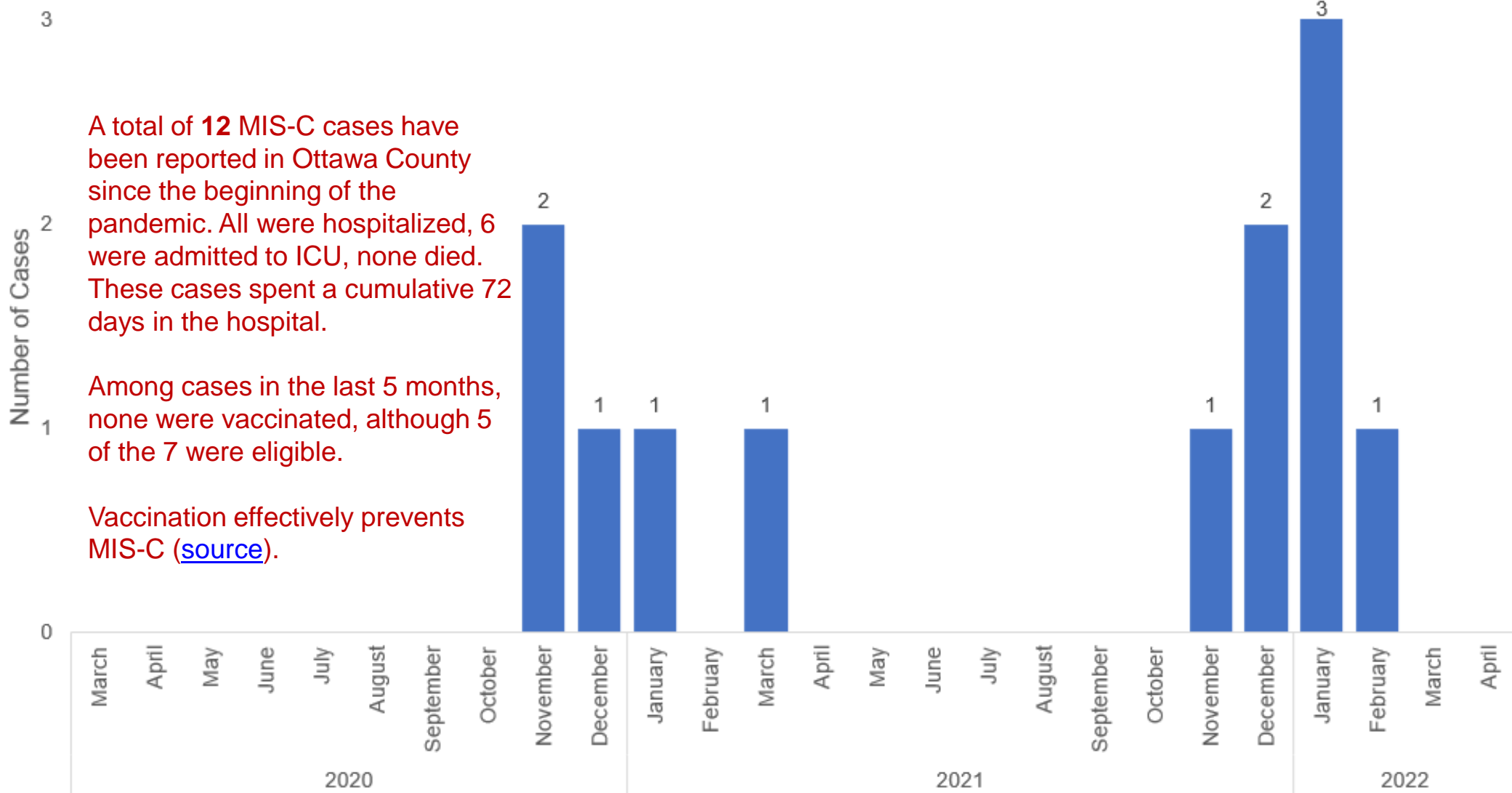
Weekly Hospital Pediatric Census – A Regional Healthcare System



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 April 10, 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 5 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 April 13, 2022

Ottawa County Hospital Capacity – All Beds

Hospital Inpatient Bed Occupancy - By County

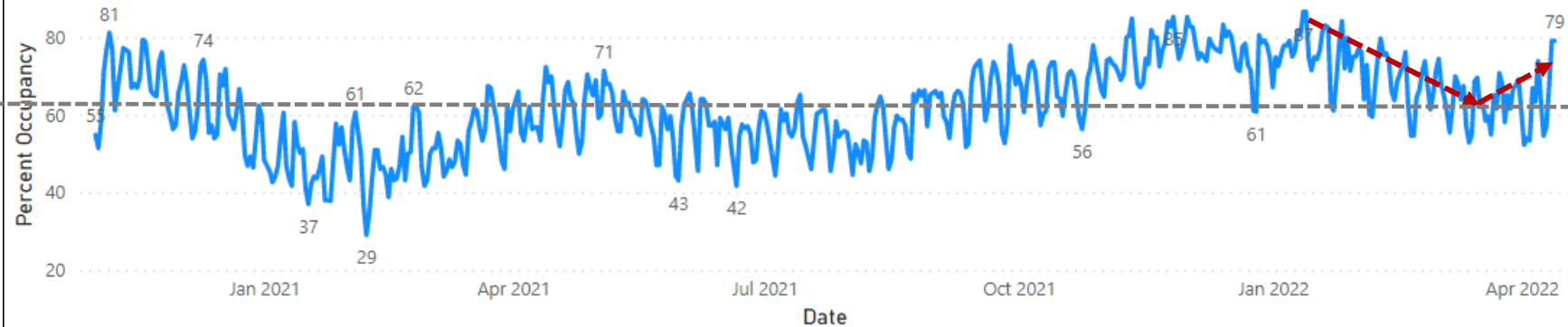
Total Inpatient Bed Occupancy (All Patients, COVID and Non-COVID)

Pandemic Average

62%

Percent Occupancy by Date and County

County ● Ottawa



Total hospital bed occupancy is **above the pandemic average of 62%**

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

14%

Percent Occupancy by Date and County

County ● Ottawa



Currently **3%** of all inpatient beds are occupied by COVID-19 patients. The proportion of beds occupied by COVID-19 patients has plateaued, after a prolonged downtrend since December 2021.

Source: EMResources

Data through April 13, 2022

Ottawa County Hospital Capacity – ICU Beds

Hospital ICU Bed Occupancy - By County

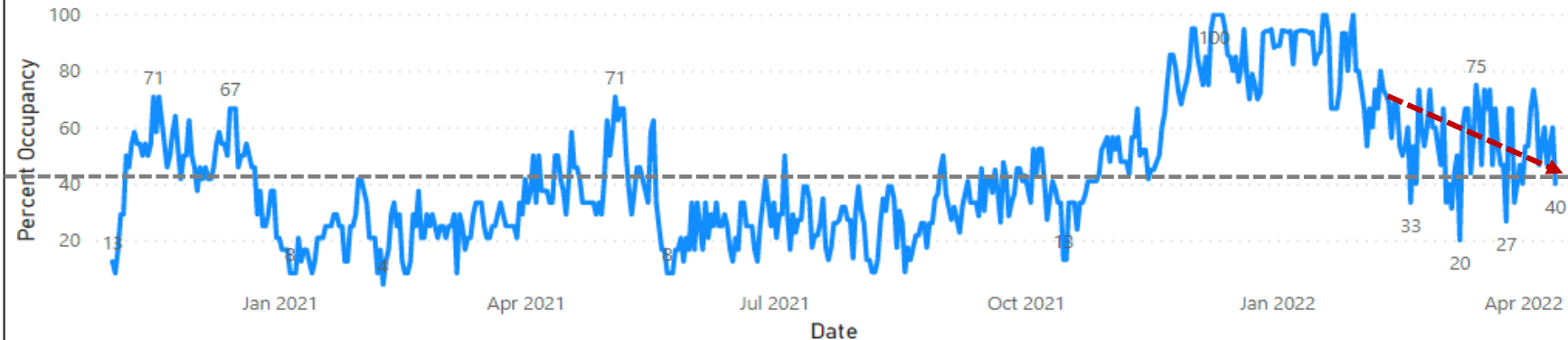
Total ICU Bed Occupancy (All Patients, COVID and Non-COVID)

Pandemic Average

41%

Percent Occupancy by Date and County

County ● Ottawa



Overall ICU bed occupancy **remains at the pandemic average.**

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

21%

Percent Occupancy by Date and County

County ● Ottawa



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

Source: EMResources

Data through April 13, 2022

Ottawa County Age-Standardized Rates of COVID-19 Cases, Hospitalizations, & Deaths by Vaccination Status

Unvaccinated people aged 5 years and older had:

1.6x

Risk of Becoming a COVID-19 Case

AND

11.5x

Risk of Dying from COVID-19

10.5x

Risk of Being Hospitalized for COVID-19

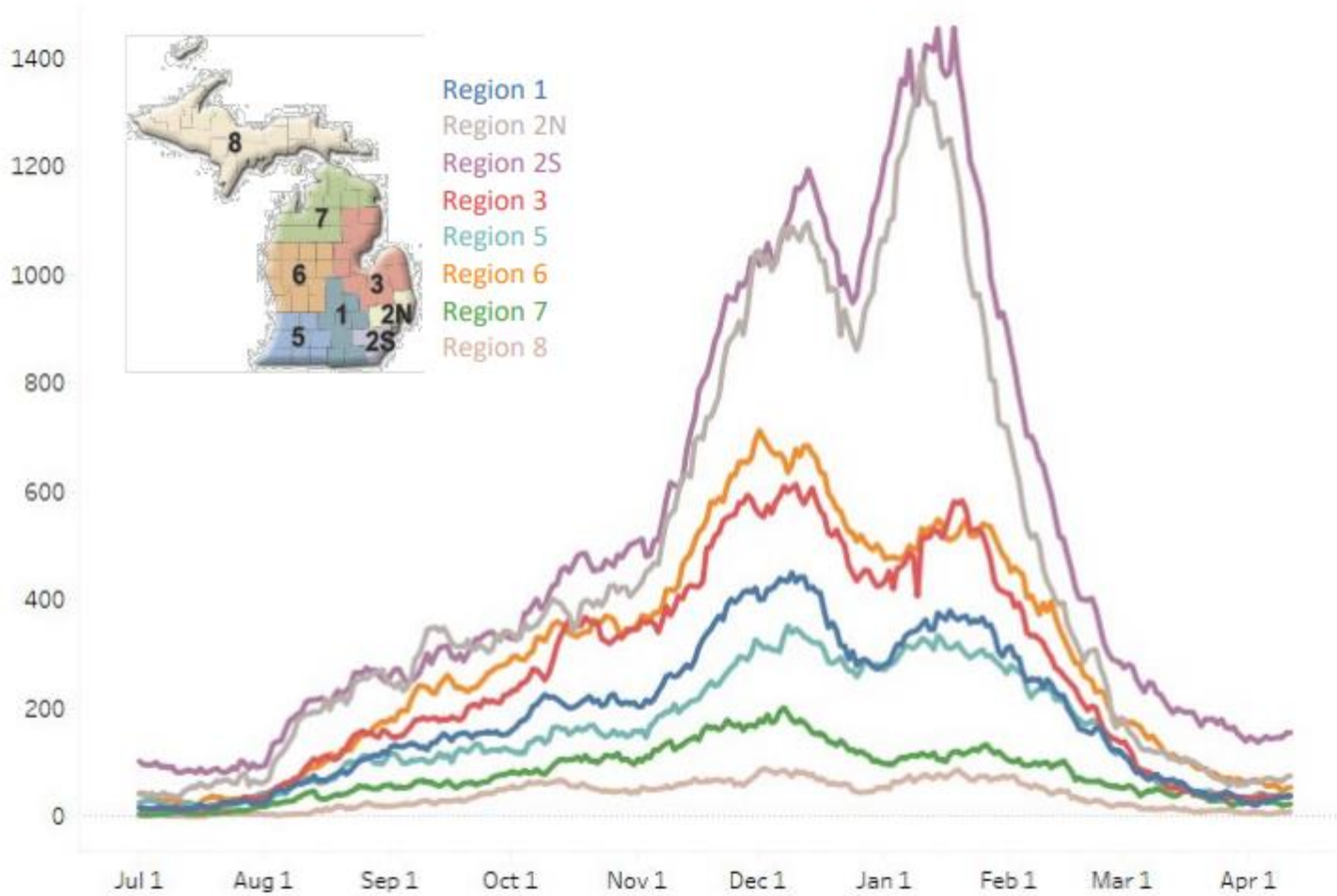
in February 2022, compared to people vaccinated with at least a primary series.

Notes: For comparison to the nation please see: <https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccine-status>

Methods: Both probable and confirmed cases were included, denominators were obtained from CDC Wonder (2019), and standardized population is 2000 US population. Methods may be refined, resulting in updated data.

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 7/1/2021 – 4/11/2022
Confirmed Positive by Region



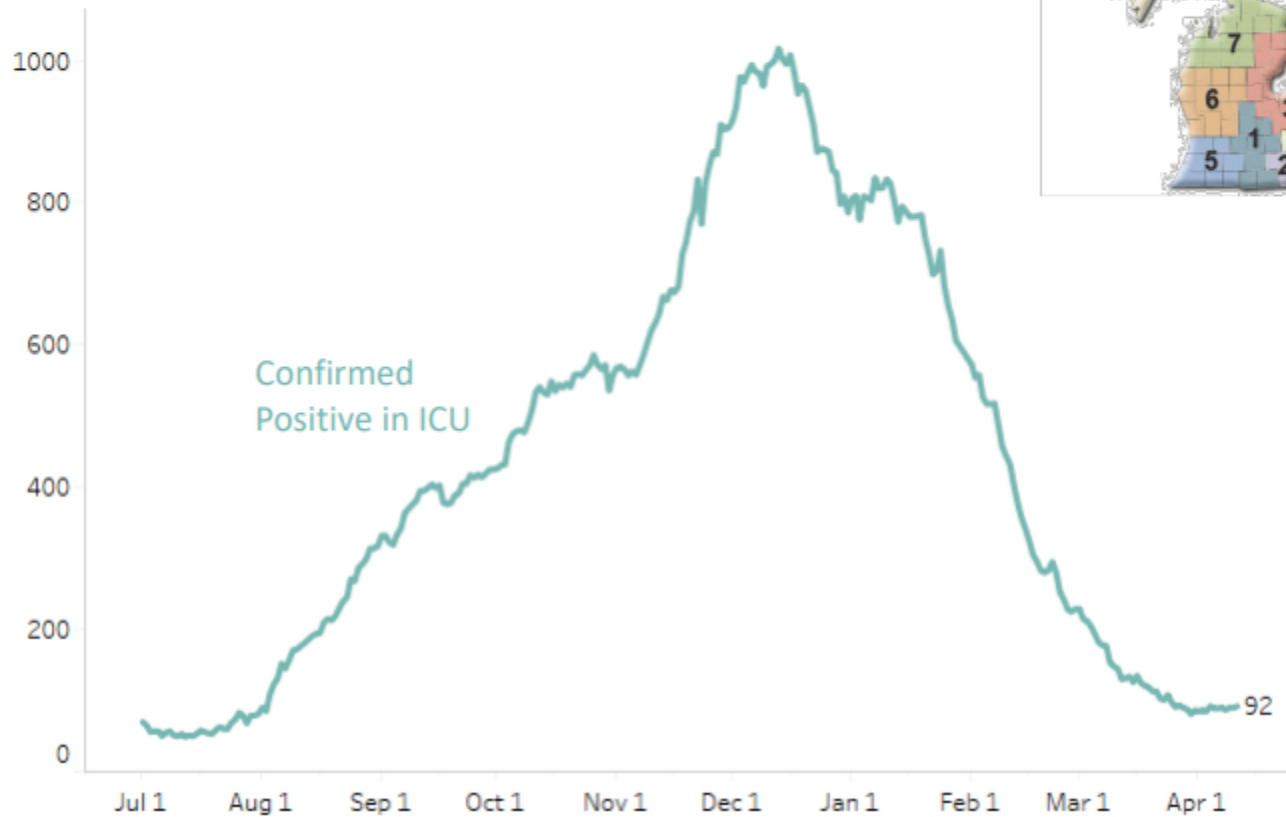
This week hospitalizations have decreased in Regions 3, 5, 6, and 7. Hospitalizations have increased in Regions 1, 2N, 2S, and in Region 8.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	39 (34%)	36/M
Region 2N	75 (12%)	34/M
Region 2S	155 (9%)	70/M
Region 3	37 (-5%)	33/M
Region 5	38 (-10%)	40/M
Region 6	54 (-16%)	37/M
Region 7	23 (-21%)	46/M
Region 8	9 (29%)	29/M

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20220412_Data_and_modeling_update_vMEDIA_DECK_751014_7.pdf

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 7/1/2021 – 4/11/2022
Confirmed Positive in ICUs



Overall, the census of COVID+ patients in ICUs has remained stable vs. the week prior. There are 92 patients with COVID in our ICUs. Region 1 and 2N saw a large increase while most other regions were flat or declined.

All regions have 6% or fewer of ICU beds filled with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	ICU Occupancy	% of ICU beds COVID+
Region 1	6 (200%)	77%	3%
Region 2N	18 (64%)	70%	3%
Region 2S	40 (-13%)	75%	6%
Region 3	9 (0%)	81%	3%
Region 5	5 (0%)	68%	3%
Region 6	7 (-30%)	74%	3%
Region 7	6 (-33%)	83%	4%
Region 8	1 (0 last week)	55%	1%

Source: MDHHS Data and Modelling: https://www.michigan.gov/documents/coronavirus/20220412_Data_and_modeling_update_vMEDIA_DECK_751014_7.pdf

Pediatric Hospitalization Rates – USA, Georgia, Michigan



Pediatric hospitalization rates across the US, in Georgia, and in Michigan **show continued improvement.**

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

Accessed April 14, 2022

Pediatric Hospitalization Rates – Select Midwest States

OH | 0 - 17 Years

IN | 0 - 17 Years

IL | 0 - 17 Years

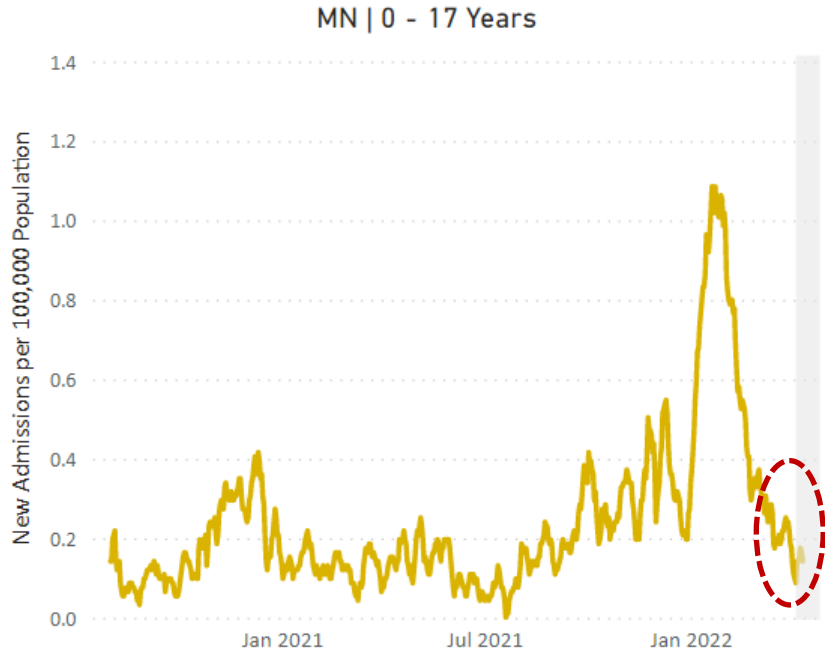


Ohio, Indiana, and Illinois are all showing **improving pediatric hospitalization rates.**

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

Accessed April 14, 2022

Pediatric Hospitalization Rates – Select Midwest States



Pediatric hospitalization rates in Minnesota, Wisconsin, and Iowa are low compared to other times in the pandemic.

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

Accessed April 14, 2022

USA & MI

Spread

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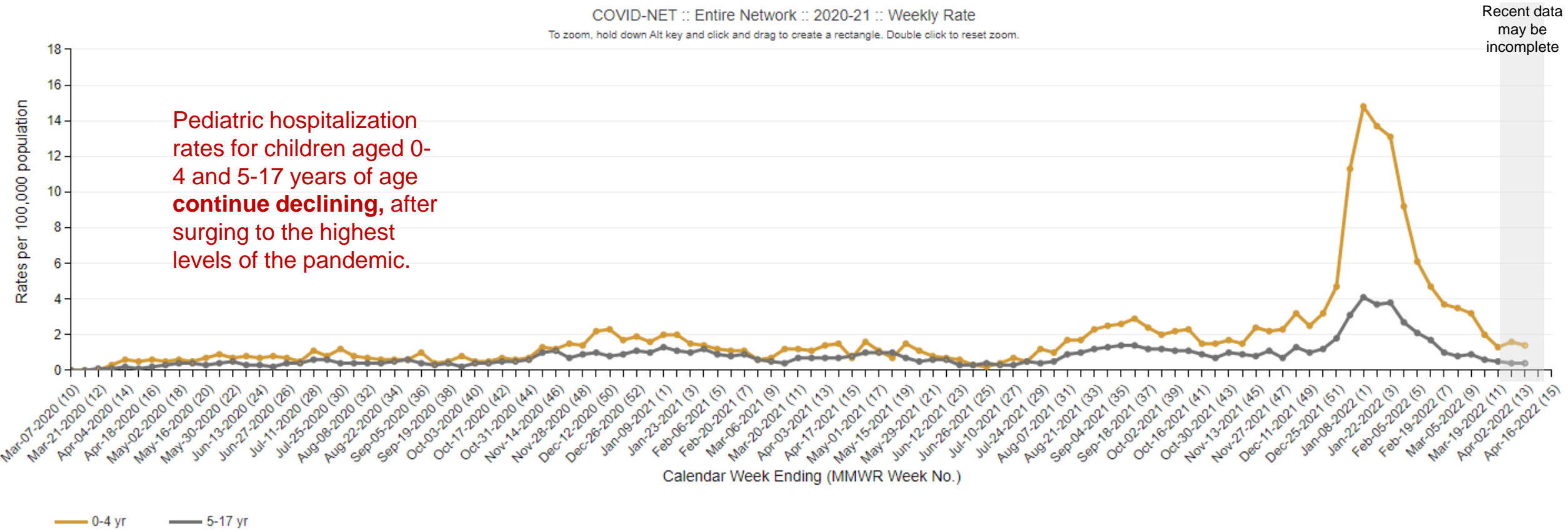
Risk Levels

Other

Media

Science
Roundup

Pediatric Hospitalization Rates by Age Group – USA



Recent data may be incomplete

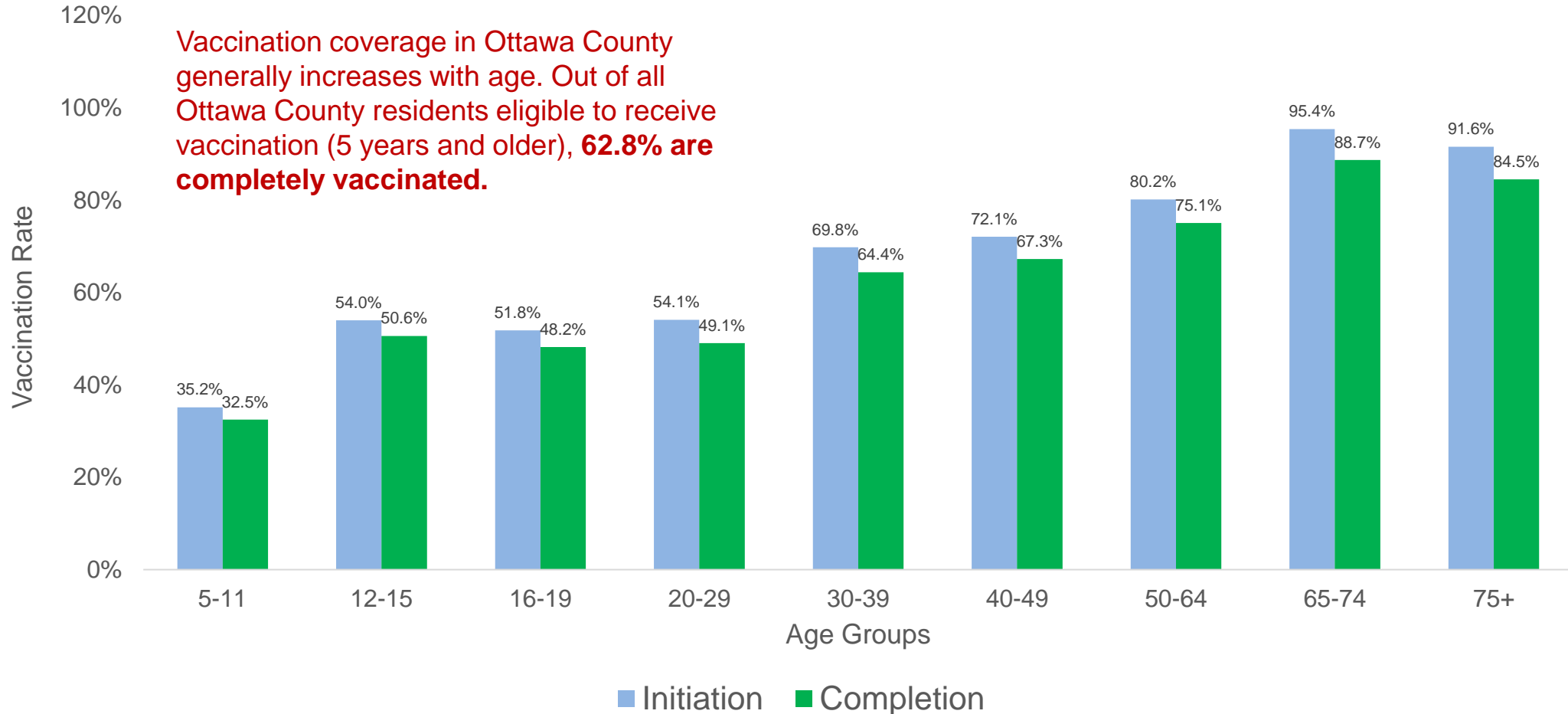
The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. Lag for COVID-NET case 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 April 14, 2022

Vaccination Coverage by Age



Notes:

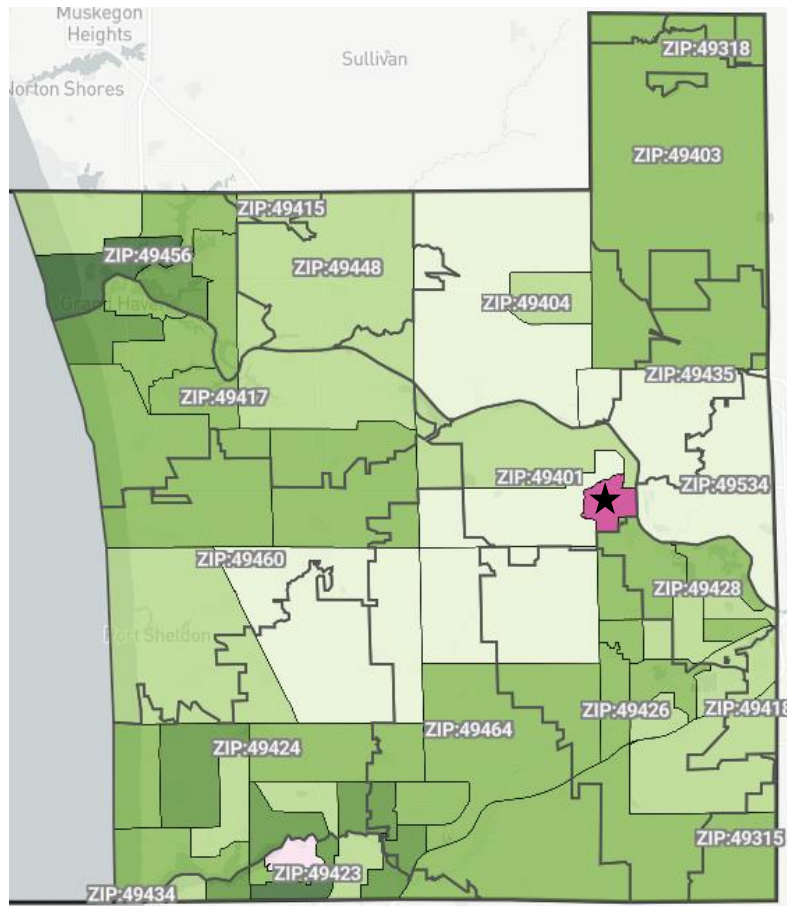
Completion is the percentage of people receiving at least 2 doses of Pfizer or Moderna or 1 dose of J&J.

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

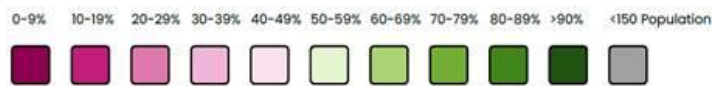
Data through April 13, 2022

Vaccination Coverage by Place of Residence

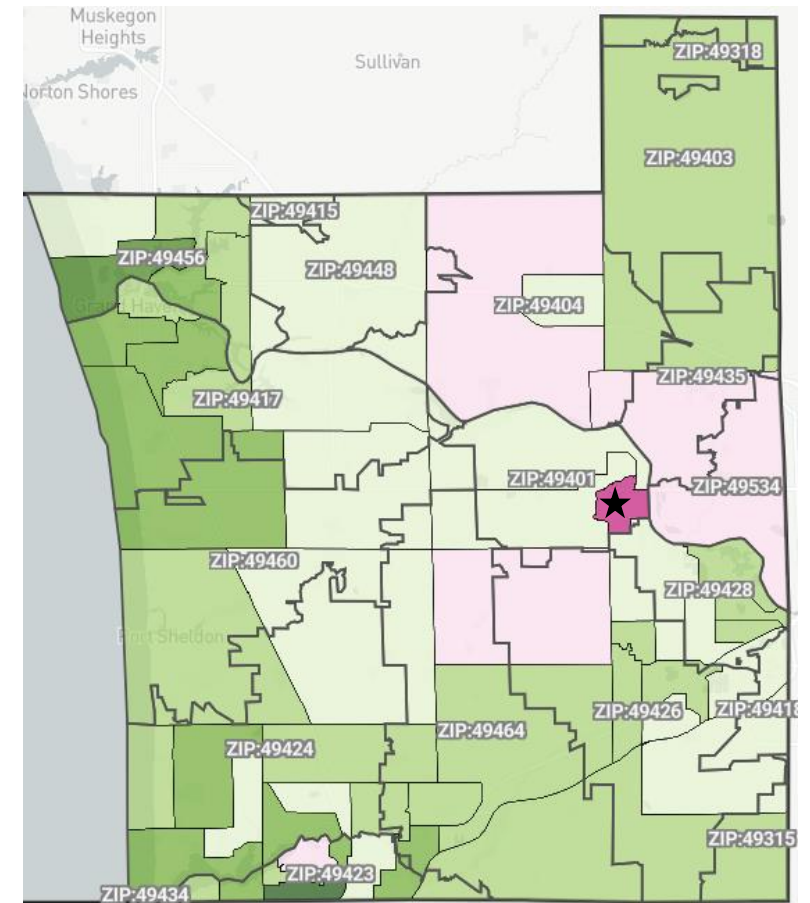
Fully vaccinated: % Ages 16+ years



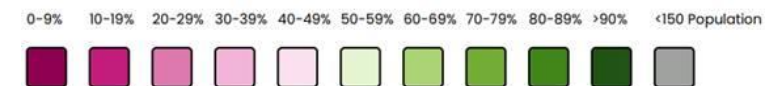
Color coded by: Fully Vaccinated (% Ages 16+)



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).

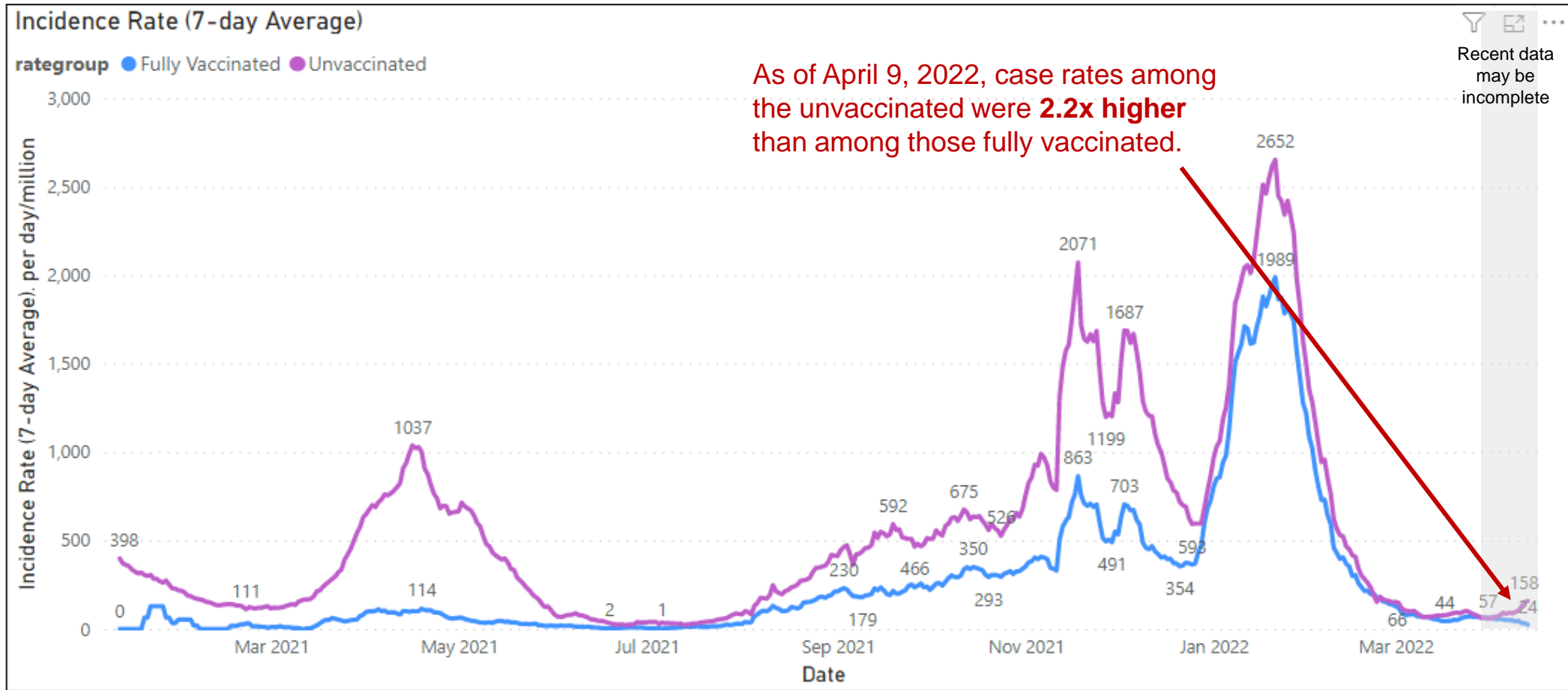
★ The vaccination rate for this census tract is likely underestimated because census estimates in this tract may be inflated by seasonal students at a large university.

Cumulative Cases by Vaccination Status, Ottawa County, January 15, 2021 – April 9, 2022

Fully Vaccinated People (171,949)	
Cases	Deaths
Percent of Cases in People Not Fully Vaccinated (36,121 / 54,744) 66.0%	Percent of Deaths in People Not Fully Vaccinated (286 / 440) 65.0%
Total Cases Not Fully Vaccinated 36,121	Total Deaths Not Fully Vaccinated 286
Total Breakthrough Cases 18,588	Total Breakthrough Deaths 154
Percent of Fully Vaccinated People who Developed COVID-19 (18,623 / 171,949) 10.8%	Percent of Fully Vaccinated People who Died of COVID-19 (154 / 171,949) 0.09%
Percent of Cases who were Fully Vaccinated (18,623 / 54,744) 34.0%	Percent of Deaths who were Fully Vaccinated (154 / 440) 35%
Total Cases 54,744	Total Deaths 440

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



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:

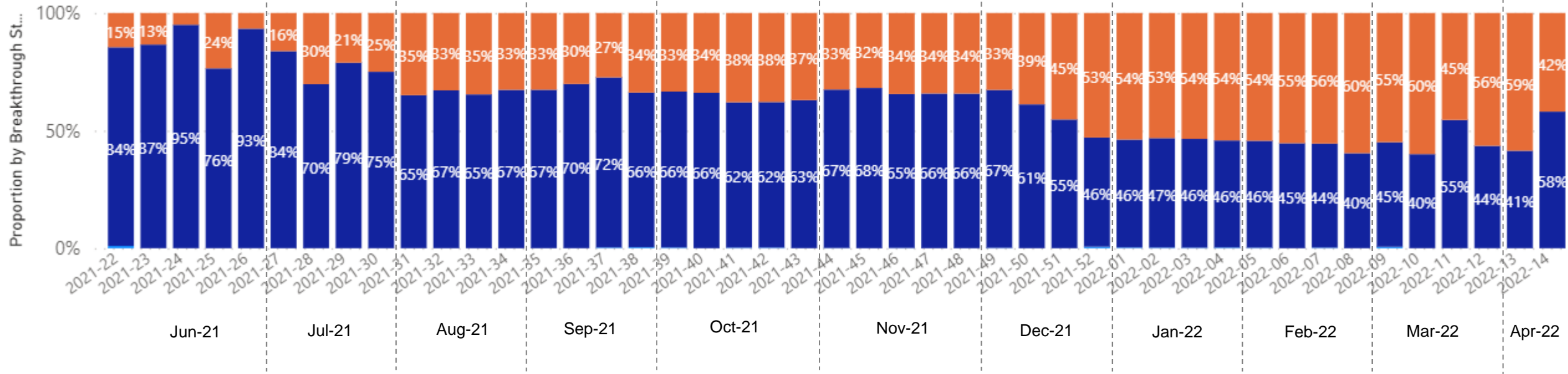
Michigan Department of Health and Human Services, Michigan Disease Surveillance System
 MDHHS COVID-19 Dashboard: https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

Ottawa County COVID-19 Vaccination Breakthrough Case Trends

By Week

Breakthrough Proportions by Week

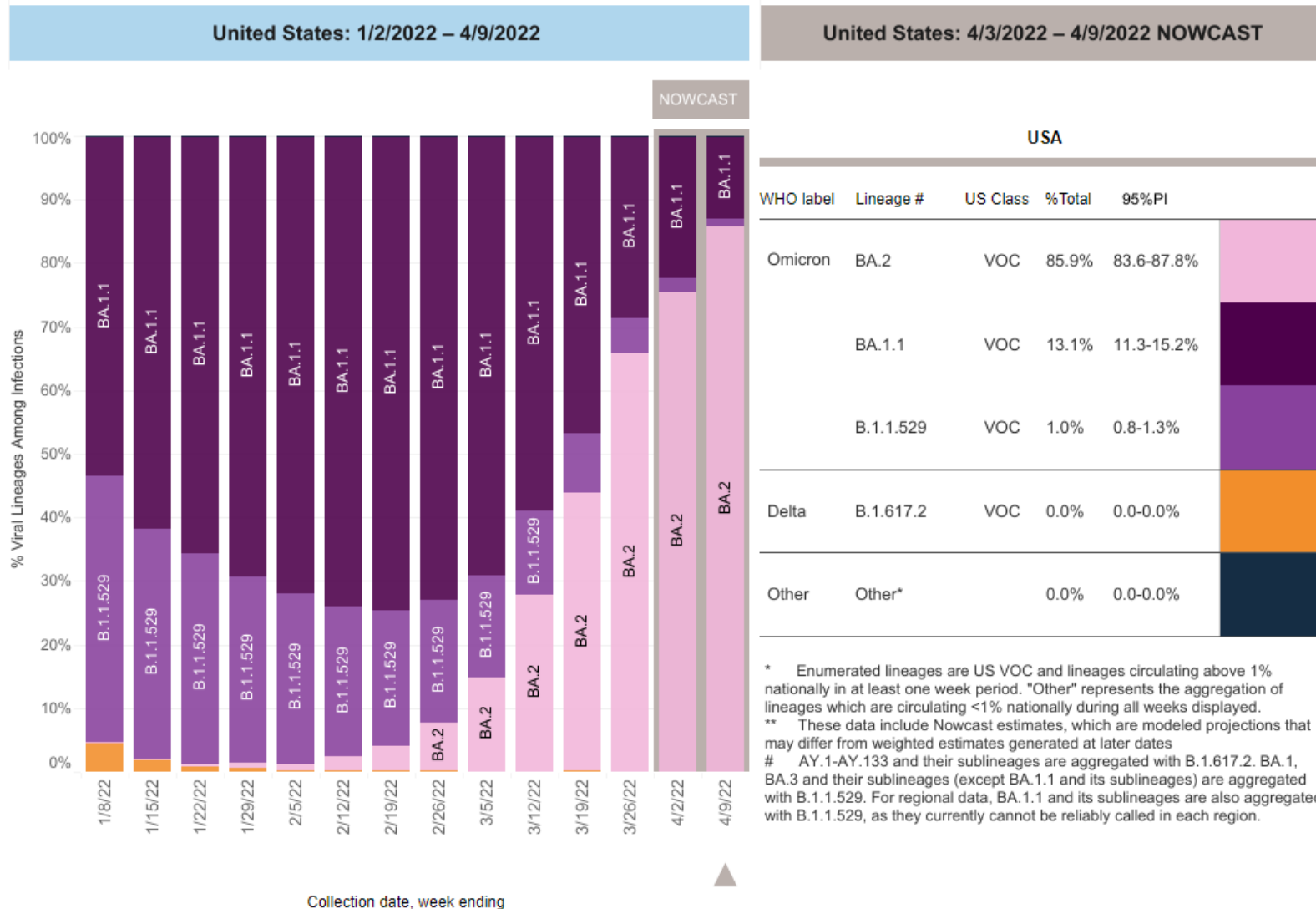
Vaccine_Breakthrough ● NO ● YES



Through the Delta wave, which was most pronounced August through early December of 2021, about 34% of all cases reported to public health were breakthrough cases. At the end of 2021 and into 2022, the proportion of vaccine breakthrough cases increased to roughly 53% of cases reported each week. Weekly breakthrough rates observed in Ottawa County are similar to [other geographies reporting this same data](#).

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 April 9, 2022.

Omicron subvariants are also circulating, but their impact on transmission in near-term is unknown.

Variants – Wastewater Sampling – Holland/Zeeland

Y = Detected
N = Not Detected

Sample Date	Site	Delta	Omicron
01/09/2022	North Holland	N	N
01/10/2022	Zeeland	N	Y
01/12/2022	North Holland	N	Y
01/13/2022	Zeeland	N	Y
01/16/2022	North Holland	N	Y
01/17/2022	Zeeland	N	Y
01/23/2022	North Holland	N	Y
01/30/2022	North Holland	N	Y
01/31/2022	Zeeland	N	Y
02/06/2022	North Holland	N	Y
02/07/2022	Zeeland	N	N
02/13/2022	North Holland	N	Y
02/14/2022	Zeeland	N	Y
02/16/2022	North Holland	N	Y
02/17/2022	Zeeland	N	Y
2/20/2022	North Holland	N	Y
2/21/2022	Zeeland	N	Y
02/23/2022	North Holland	N	Y
02/24/2022	Zeeland	N	N
02/27/2022	North Holland	N	N
02/28/2022	Zeeland	N	N
03/02/2022	North Holland	N	N
03/03/2022	Zeeland	N	N
03/10/2022	Zeeland	N	N
03/13/2022	North Holland	N	N
03/14/2022	Zeeland	N	N
03/17/2022	Zeeland	N	N
03/21/2022	Zeeland	N	Y
03/23/2022	North Holland	N	N
03/24/2022	Zeeland	N	N
03/27/2022	North Holland	N	N
04/03/2022	North Holland	N	N
04/04/2022	Zeeland	N	N

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

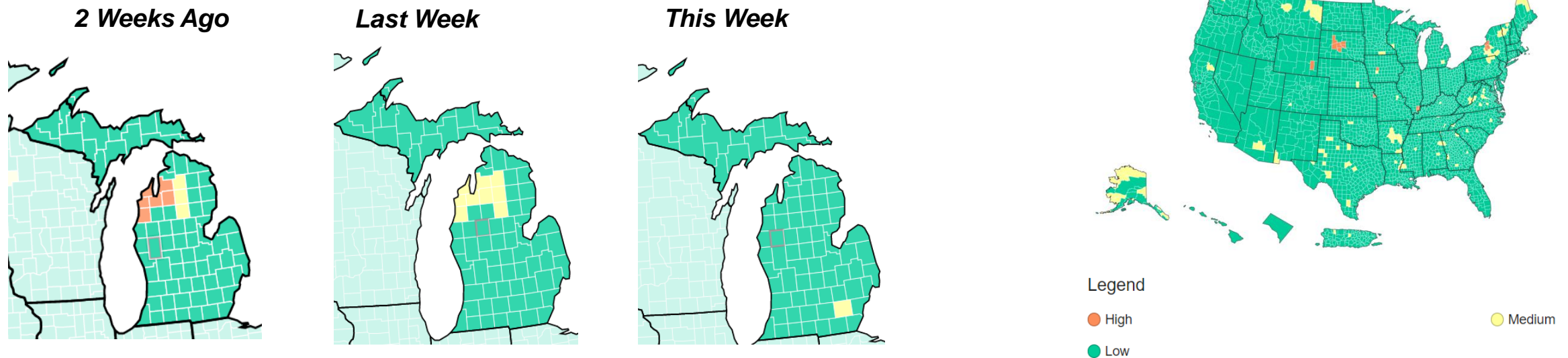
The **Omicron** variant has been detected in wastewater in Holland and Zeeland since early January 2022, with very little detection in recent weeks – corresponding to reduced case rates and test positivity.

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) = **40.78**
 - COVID-19 Hospital Admissions (per 100K pop 7-day total) = **1**
 - COVID Inpatient Hospital Bed Utilization (7-day average) = **3.3%**

USA - This Week



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

Data updated by CDC on April 13, 2022

COVID-19 Case Rates by County Across the US

Last Week

This Week

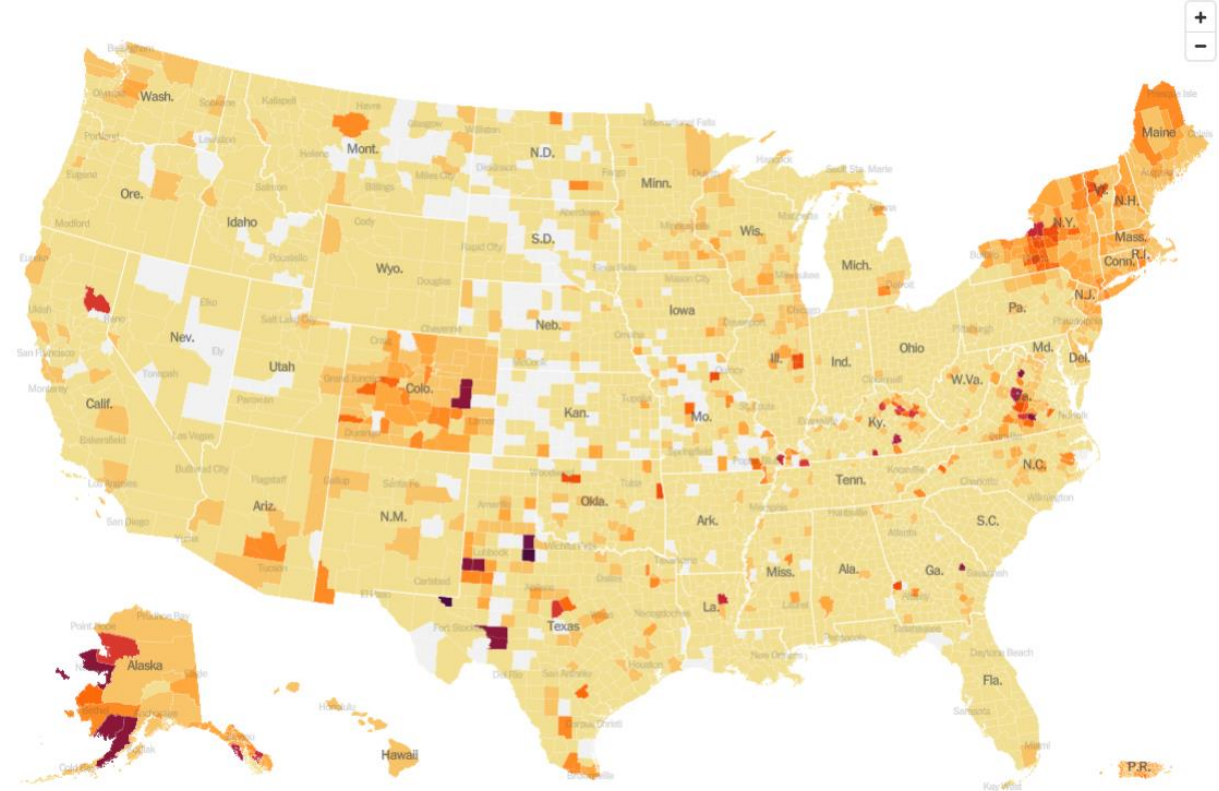
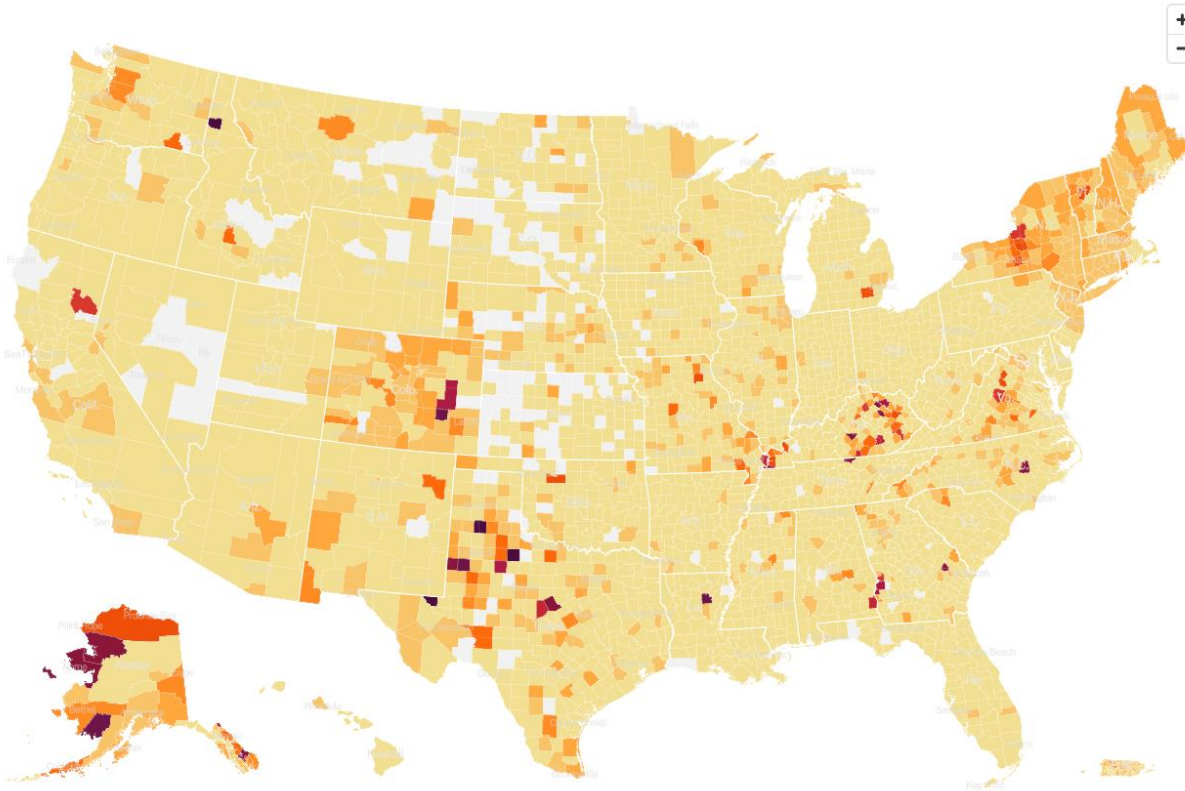
Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK
10 30 50 70 100 250 FEW OR NO CASES



Hot spots

AVERAGE DAILY CASES PER 100,000 PEOPLE IN PAST WEEK
10 30 50 70 100 250 FEW OR NO CASES



Case rates remain low across the nation.

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

Accessed April 14, 2022

USA & MI

Spread

Children

Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

COVID-19 Hospitalization Rates by County Across the US

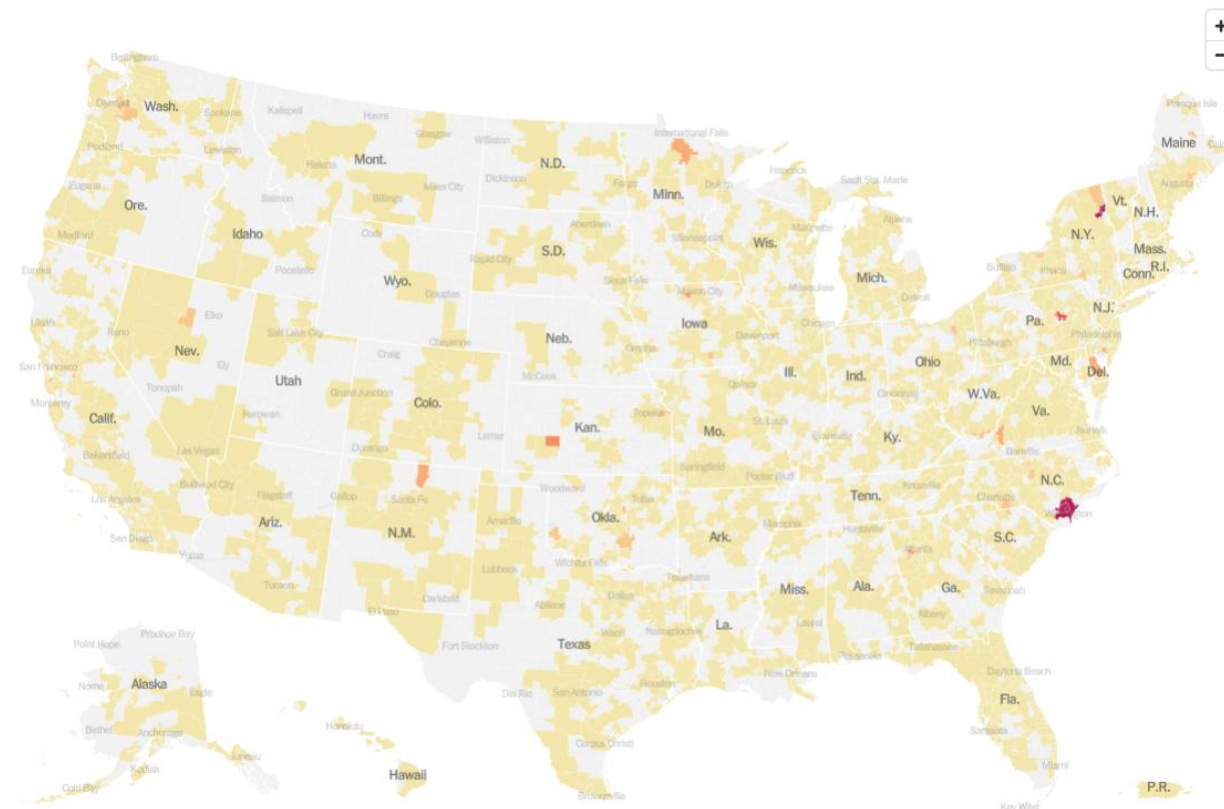
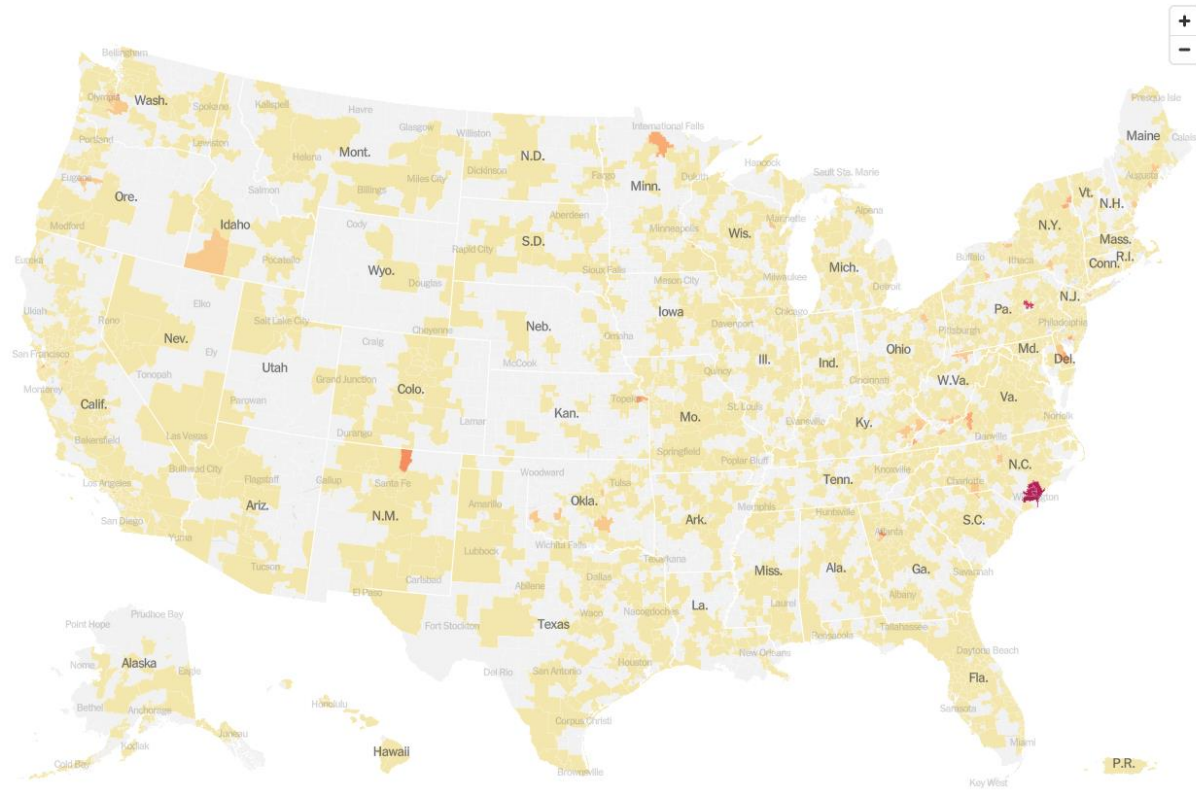
Last Week

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 April 14, 2022

USA & MI

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Hospitalizations

Vaccinations

Variants

Risk Levels

Other

Media

Science Roundup

COVID-19 News Headlines

Michigan schools get creative in spending federal COVID-19 relief funds

[Michigan schools get creative spending federal COVID-19 relief funds \(freep.com\)](https://www.freep.com/story/news/local/michigan/2022/05/02/michigan-schools-covid-relief-funds/7048444002/)

Mask mandate aboard planes, trains and buses in the US extended until May 3

[Mask mandate aboard planes, trains and buses in the US extended until May 3 - CNNPolitics](https://www.cnn.com/2022/05/02/health/covid-mask-mandate-extended/index.html)

Michigan sees increases in 7-day average of COVID cases, percentage of positive tests and hospitalizations

[Michigan sees increases in 7-day average of COVID cases, percentage of positive tests and hospitalizations - mlive.com](https://www.mlive.com/news/michigan/2022/05/02/michigan-sees-increases-in-7-day-average-of-covid-cases-percentage-of-positive-tests-and-hospitalizations/)

New omicron XE Covid variant first detected in the UK spreads to Japan as cases rise

[New omicron XE variant detected in Japan as UK cases rise \(cnbc.com\)](https://www.cnn.com/2022/05/02/health/covid-variant-xe-japan/index.html)

Science Roundup

A Test-to-Stay Modified Quarantine Program for COVID-19 in Schools **FREE**

<https://publications.aap.org/pediatrics/article/doi/10.1542/peds.2021-055727/184750/A-Test-to-Stay-Modified-Quarantine-Program-for>

← A study of a Test-to-Stay (TTS) program in Massachusetts found that between 300,000 – 500,000 days of in-person learning were saved due to TTS. The study also found a positivity rate among exposed children of 2.9%.

Fourth Dose of BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting

[Fourth Dose of BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting | NEJM](#)

← A study out of Israel found that a fourth dose of the Pfizer vaccine was effective in reducing the short-term risk of Covid-19–related outcomes among persons who had received a third dose at least 4 months earlier.

Trends in Maternal Outcomes During the COVID-19 Pandemic in Alabama From 2016 to 2021

[Trends in Maternal Outcomes During the COVID-19 Pandemic in Alabama From 2016 to 2021 | Pregnancy | JAMA Network Open | JAMA Network](#)

← Findings from a population-based study conducted in Alabama identified a higher rate of maternal mortality and morbidities during both the initial and Delta pandemic periods compared with the baseline period from 2016 to 2019.

Dosing interval strategies for two-dose COVID-19 vaccination in 13 low- and middle-income countries of Europe: health impact modelling and benefit-risk analysis

[Dosing interval strategies for two-dose COVID-19 vaccination in 13 middle-income countries of Europe: Health impact modelling and benefit-risk analysis - ScienceDirect](#)

← A modelling study conducted to evaluate the health impact and benefit-risk of dosing interval strategies for two dose vaccination in 13 middle income European countries (MICs) with limited COVID-19 vaccine supply found that longer dosing intervals of over six months could reduce COVID-19 mortality in MICs of Europe. The model assumed characteristics similar to the Oxford/AstraZeneca vaccination.