MI COVID RESPONSE DATA AND MODELING UPDATE

March 22, 2022

MI COVID response

Data and modeling update

March 22, 2022

Executive Summary

CDC COVID-19 Community Levels

- CDC updates Community Levels for every U.S county weekly and provides recommends for individuals and communities as what COVID-19 prevention strategies to implement
- As of March 17th, 84% of Michigan Counties at Low COVID-19 Community Levels

Harm Reduction

- Current case rates and hospitalizations, and increased access to mitigation, indicate Michigan continues in a post-surge recovery phase
- Isolation & quarantine recommendations adjust as we cycle through periods of response, recovery and readiness; local health department decisions based on local conditions
- Statewide recommendations on universal masking dialed down in recovery. Support individuals making informed choices about their own masking decisions
- Individuals at risk of severe outcomes had higher prevalence of COVID-19 infection in Michigan; vaccination, testing and treatments need to be available to individuals with these conditions
- Unvaccinated people aged 12 and older had greater risks of testing positive and dying in January and February

Situational Awareness

- Globally, nationally, and in Michigan, most metrics are continuing to decline to levels last seen in July and August of 2021
  - We are closely monitoring the emergence of the Omicron BA.2 wave in Europe to determine threat
- Michigan is seeing an increase in BA.2 with the limited number of specimens being sequenced
- Transmission within settings like schools and long-term care facilities are declining but this decline is slowing
- COVID+ census in hospitals, hospital admission, ICU utilization, and pediatric census is declining in all regions

CDC COVID-19 Community Levels: Key Messages

As of March 17th, 84% of Michigan Counties at Low COVID-19 Community Levels

- No counties remain at “high” level for increased burden on healthcare or severe disease

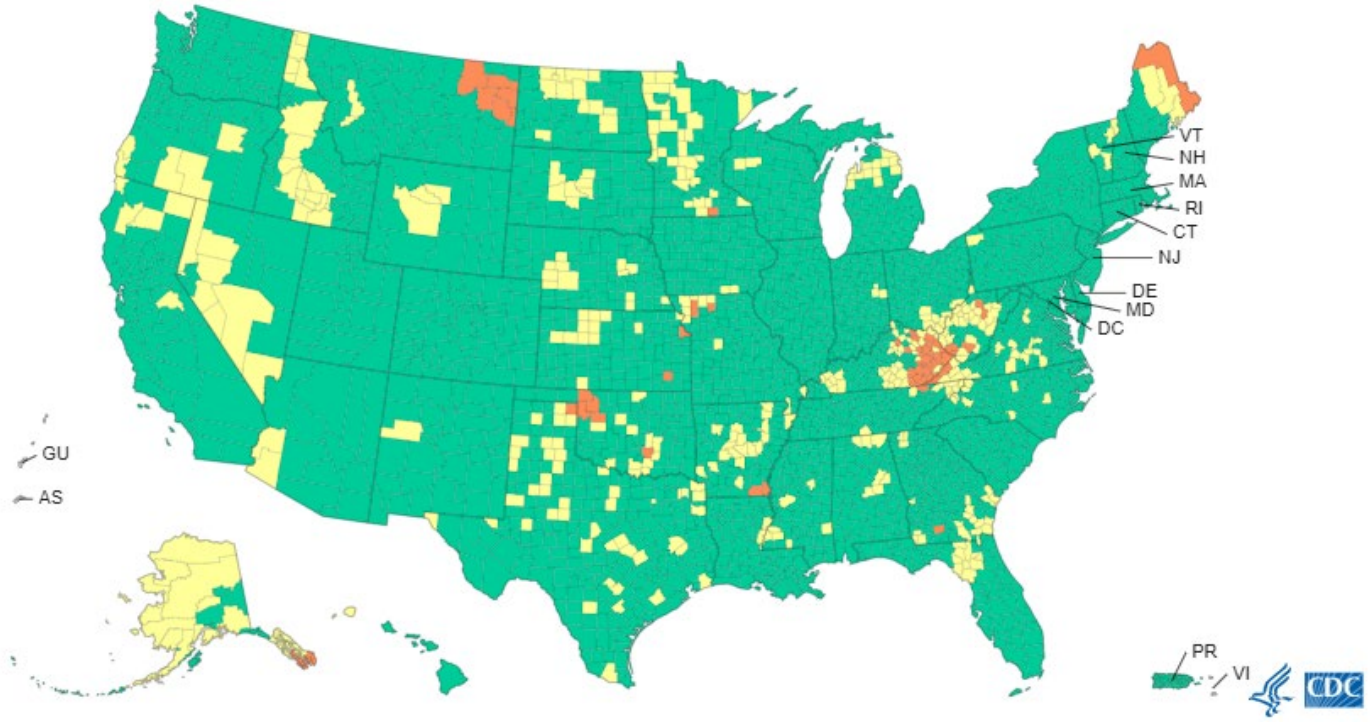
CDC Community Levels and COVID-19 prevention strategies are available here

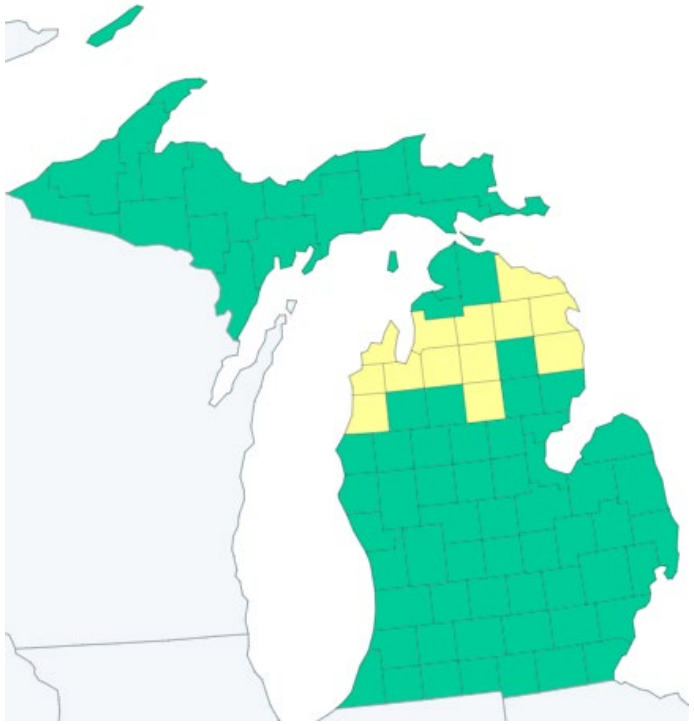
- Levels for each individual county can be viewed at the link above
- Guidance is provided for individual, household and community leaders at all three levels

Case rates in parts of Michigan are no longer at a steady decline

- Some areas showing potential signs of increase or plateau
- From MiStartMap: 13 counties are currently showing a trend of either increase or high incidence plateau

As of March 17th, 0% of Michigan Counties at High COVID-19 Community Levels





Percent of Counties

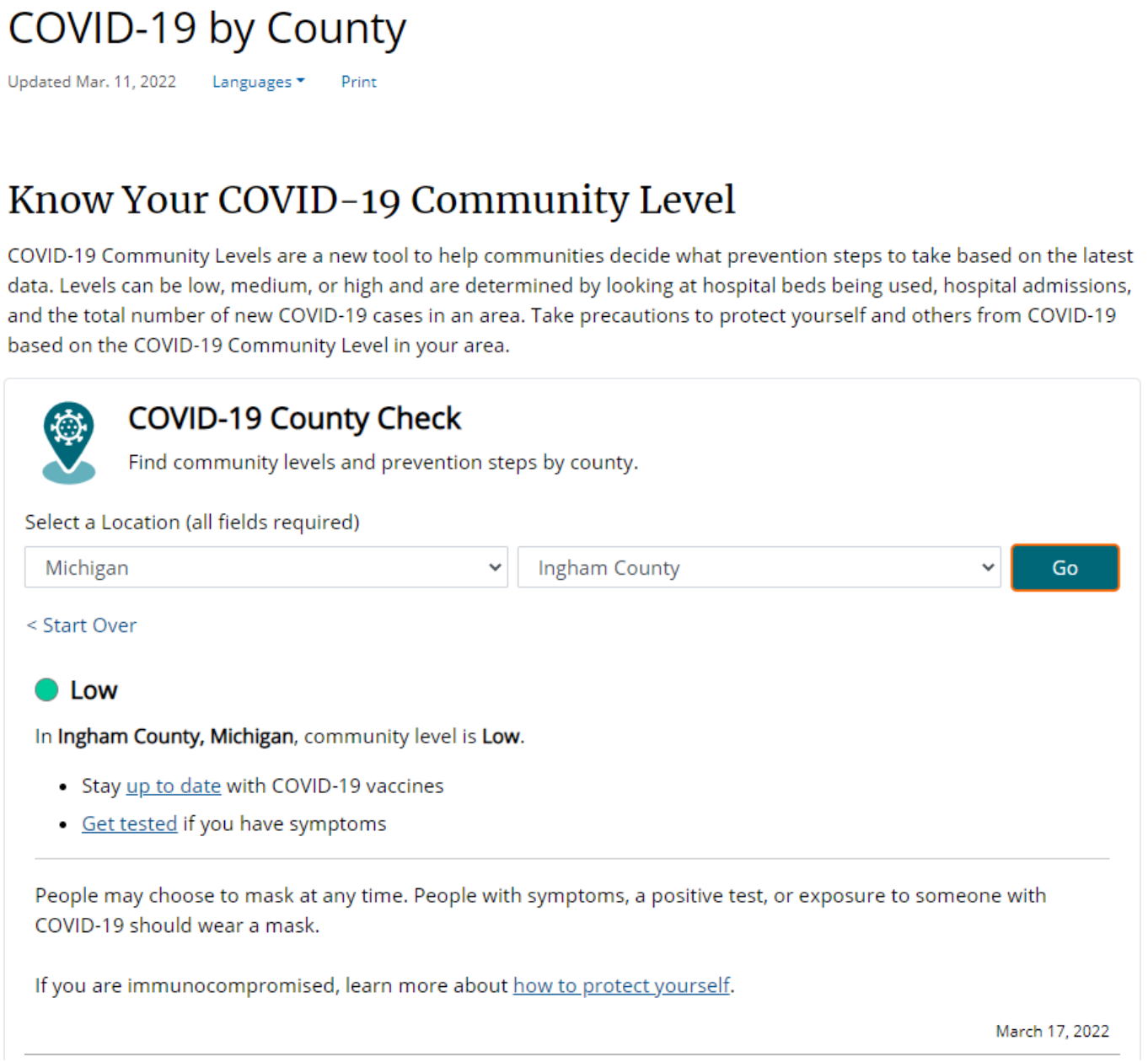
	United States	Michigan
Low	85%	84%
Medium	13%	16%
High	2%	0%

- In the US, 2% of counties have high risk for medically significant disease and healthcare strain; in Michigan, 0% of counties are at high risk.
- CDC will release COVID-19 Community Levels on Thursdays (link: https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html)

CDC new COVID-19 Community Levels are Publicly Available

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

- Easy to access dashboard available on the CDC's website
  - Filter by State and County to get level
  - Or download nationwide database to view all U.S. counties
- Updated at least once weekly (Thursday)



COVID-19 by County

Updated Mar. 11, 2022 Languages Print

Know Your COVID-19 Community Level

COVID-19 Community Levels are a new tool to help communities decide what prevention steps to take based on the latest data. Levels can be low, medium, or high and are determined by looking at hospital beds being used, hospital admissions, and the total number of new COVID-19 cases in an area. Take precautions to protect yourself and others from COVID-19 based on the COVID-19 Community Level in your area.

COVID-19 County Check

Find community levels and prevention steps by county.

Select a Location (all fields required)

Michigan | Ingham County | Go

< Start Over

Low

In **Ingham County, Michigan**, community level is **Low**.

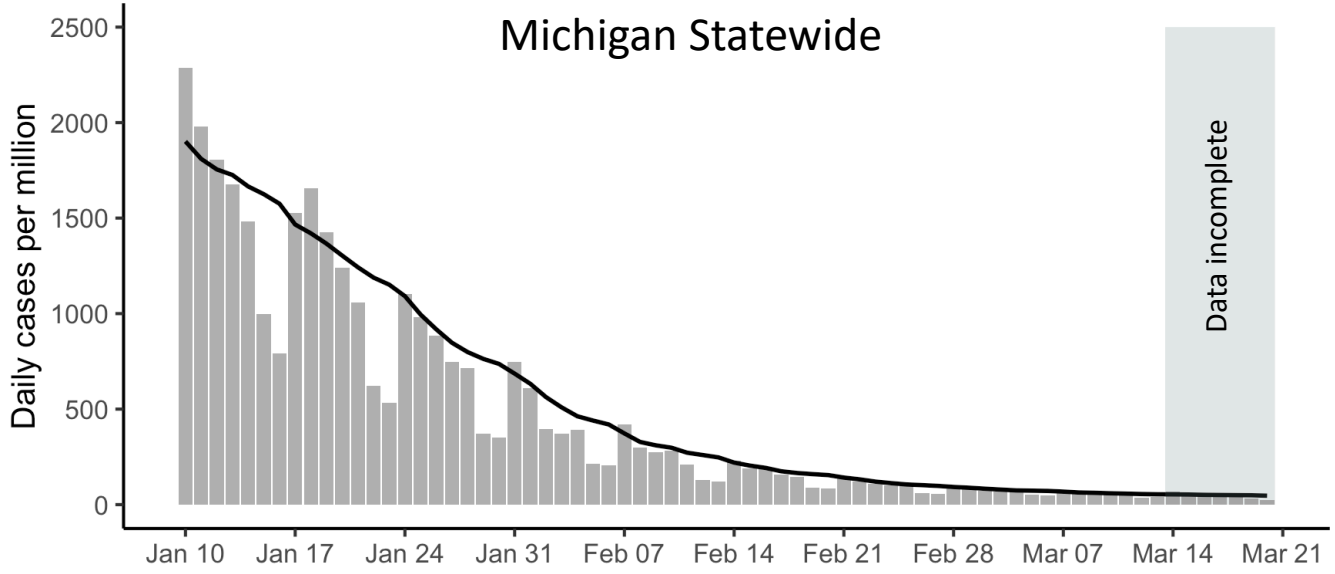
- Stay up to date with COVID-19 vaccines
- Get tested if you have symptoms

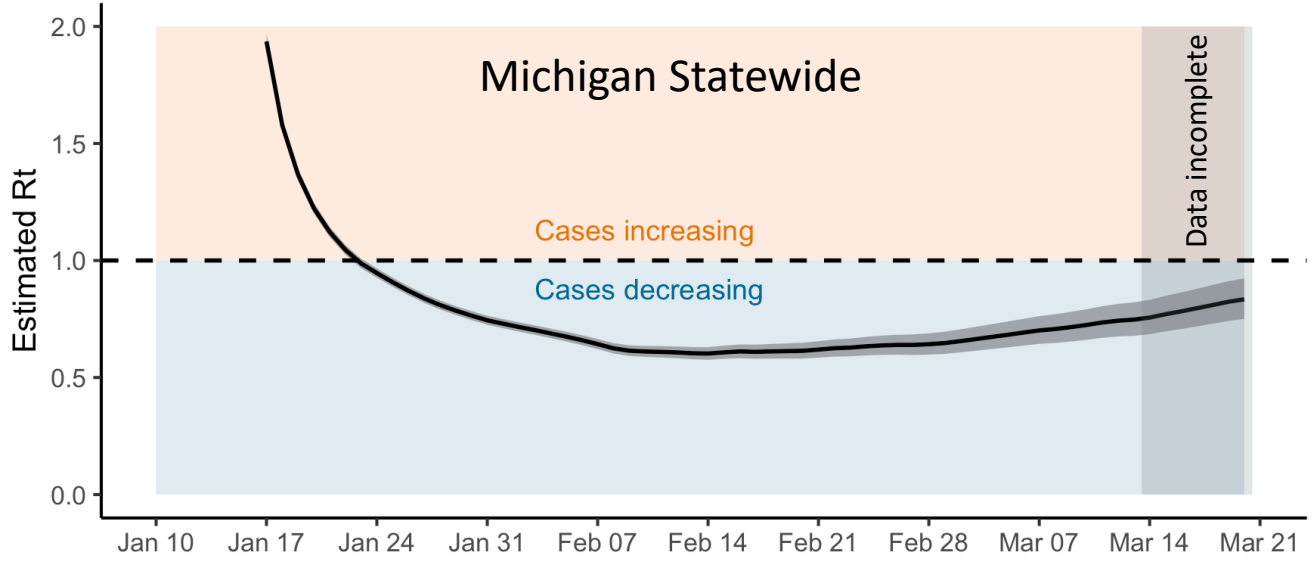
People may choose to mask at any time. People with symptoms, a positive test, or exposure to someone with COVID-19 should wear a mask.

If you are immunocompromised, learn more about how to protect yourself.

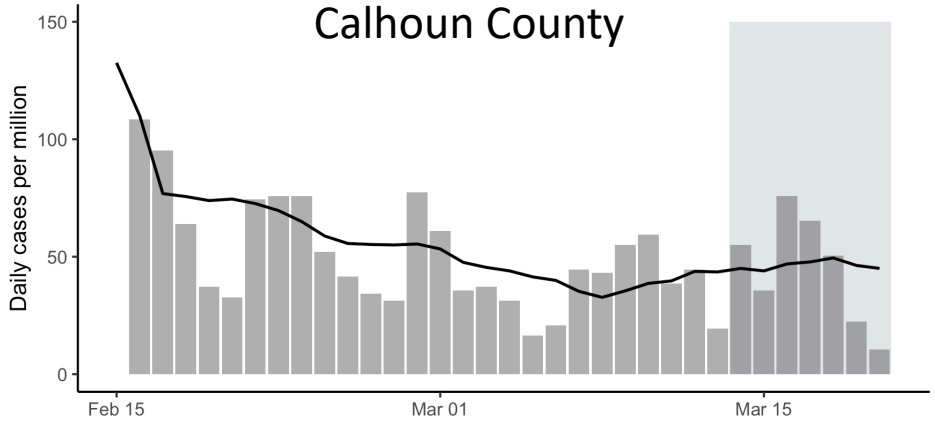
March 17, 2022

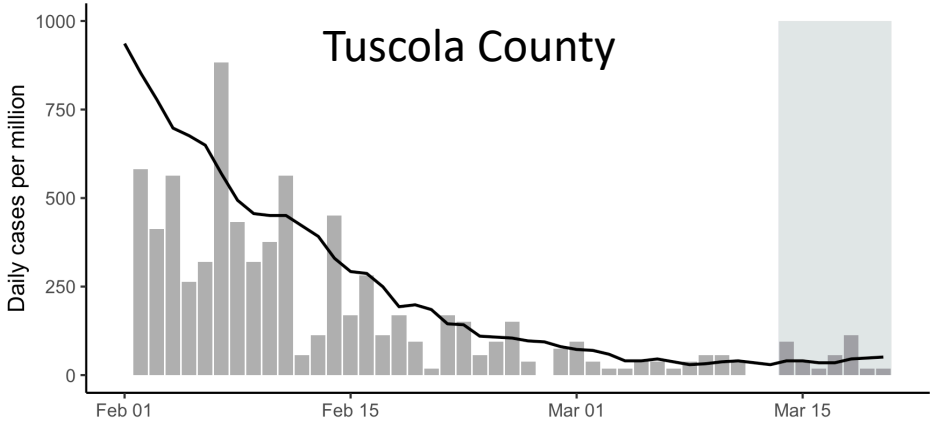
Case rates in Michigan are no longer at a steady decline, with some areas showing potential signs of increase or plateau





5 counties currently showing increases and 8 in high incidence plateaus (via mistartmap.info), including:





Sources: MDSS cases plotted by onset date, if available (otherwise lab specimen collection date or referral date are used).

Harm Reduction: Key Messages

The Michigan COVID-19 response cycle can be broken down into three key phases (Recovery, Readiness, Response)

- Current case rates and hospitalizations, and increased access to vaccines, testing and therapies, indicate Michigan continues in a post-surge recovery phase of the cycle

Isolation and Quarantine Guidance for Michiganders in Recovery Phase

- MDHHS supports adjusting isolation & quarantine recommendations as we cycle through periods of response, recovery and readiness and following local health department decisions based on local conditions
- In the current Recovery phase, Michiganders have many effective tools including vaccination, therapeutics, masking, and access to over-the-counter tests, which can help mitigate spread
- Recommendations regarding isolation and quarantine may change as conditions evolve – such changes could include the presence of a new variant that increases the risk to the public, or an increased number of cases that strains the healthcare system

Masking is still an important component of our layered mitigation strategies

- Statewide recommendations on universal masking has been dialed down in the recovery phase, and at this time we support individuals making informed choices about their own masking decisions

Harm Reduction Key Messages cont.

Vaccinations and Boosters administration has slowed during the recovery phase,

- Slowing occurred in congregate care settings and among children who are most recently eligible for vaccination
- Pharmacies, local health departments, pediatricians and family practice providers most frequently vaccinate children over the age of 5 for COVID-19
- Over 90% of children under the age of 5 vaccinated for influenza are vaccinated by a pediatrician or family practice provider, demonstrating the importance that these providers will have in providing COVID-19 vaccine

Vaccination, masking and testing can aid in safe travel during spring break

- Do **NOT** travel if you are sick or awaiting COVID test results or a close contact recommended to quarantine.
- Remember **masking** is still required on public transportation and indoor transportation hubs (airports, train stations)
- **Vaccinate** or boost before travel Coronavirus - COVID-19 Vaccine (michigan.gov)
- **Testing** is widely available

Pandemic response and reaction to response had significant impact on public health workers

- More than one of half of state, territorial, local and tribal public health workers report mental health symptoms; higher than previously reported in general population
- More than one half of local health officials reported harassment; one third of departures cited harassment
- Failing to address these issues will further deplete an already strained workforce

Ongoing response to COVID-19 cycle

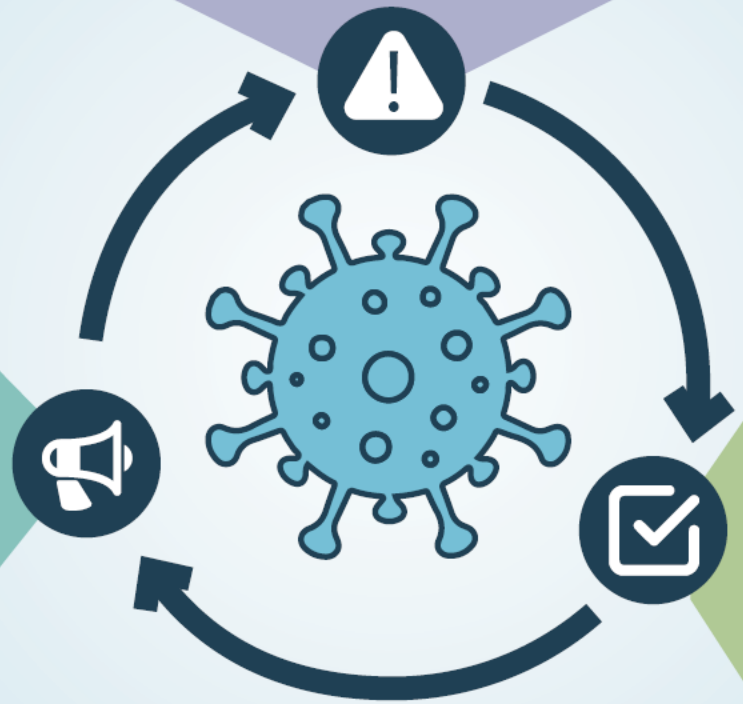
MDHHS
Michigan Department of Health & Human Services

Visit Michigan.gov/Coronavirus for current COVID-19 information.

Response (Surge)

A surge means rapid response by local and state public health.

- Increased supplies for testing, masking and medications.
- Increased masking, testing and social distancing efforts.



Readiness (Pre-Surge)

A surge is expected due to a new variant, local outbreak, seasonal changes.

Expect increased illness severity and overwhelmed hospital capacity.

- Educate public regarding new risks.
- Ensure enough supplies of tests, masks and medications.

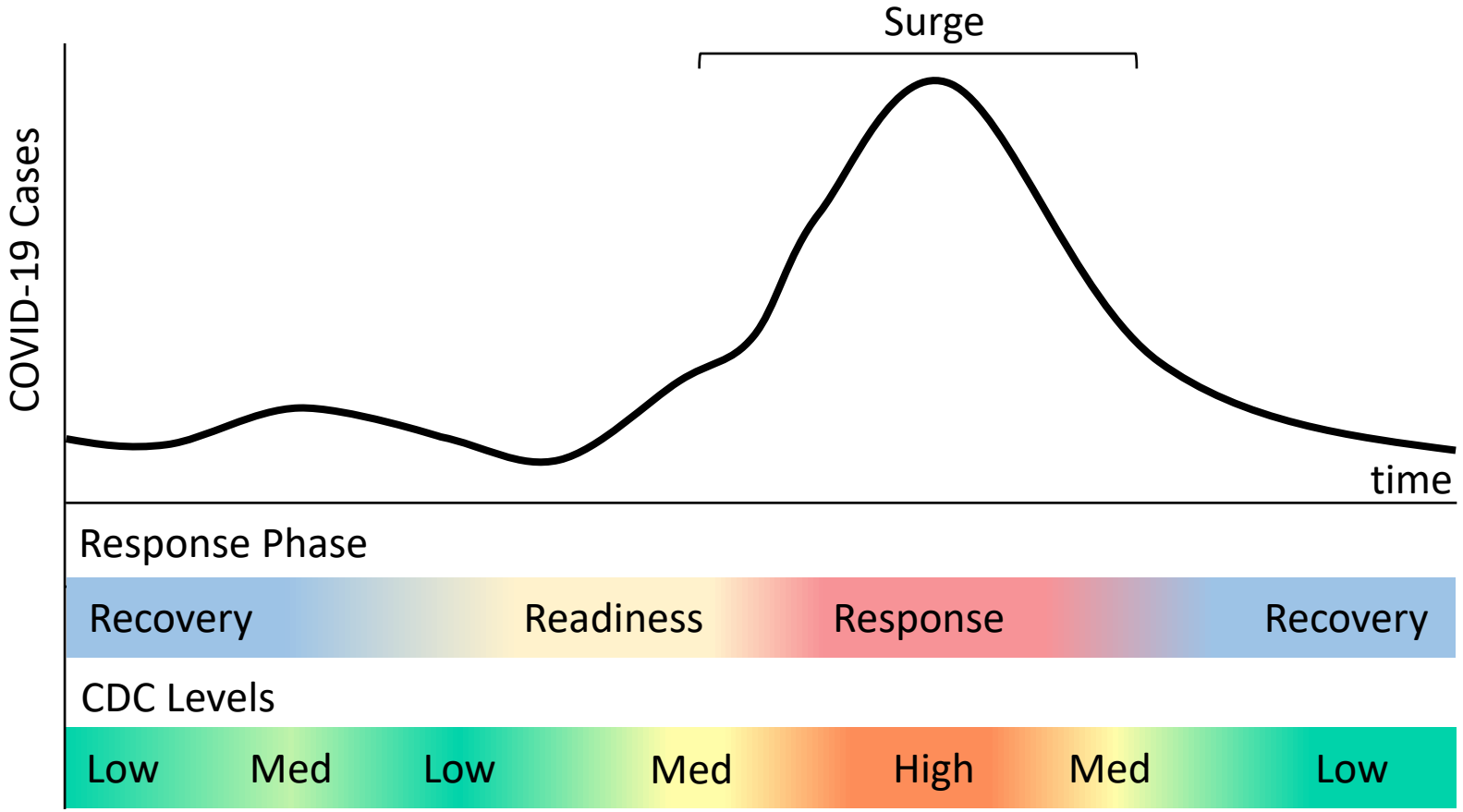
Recovery (Post-Surge)

Expect to remain in this phase for longer periods as COVID-19 evolves.

Monitor conditions that may lead to surges, such as a new variant.

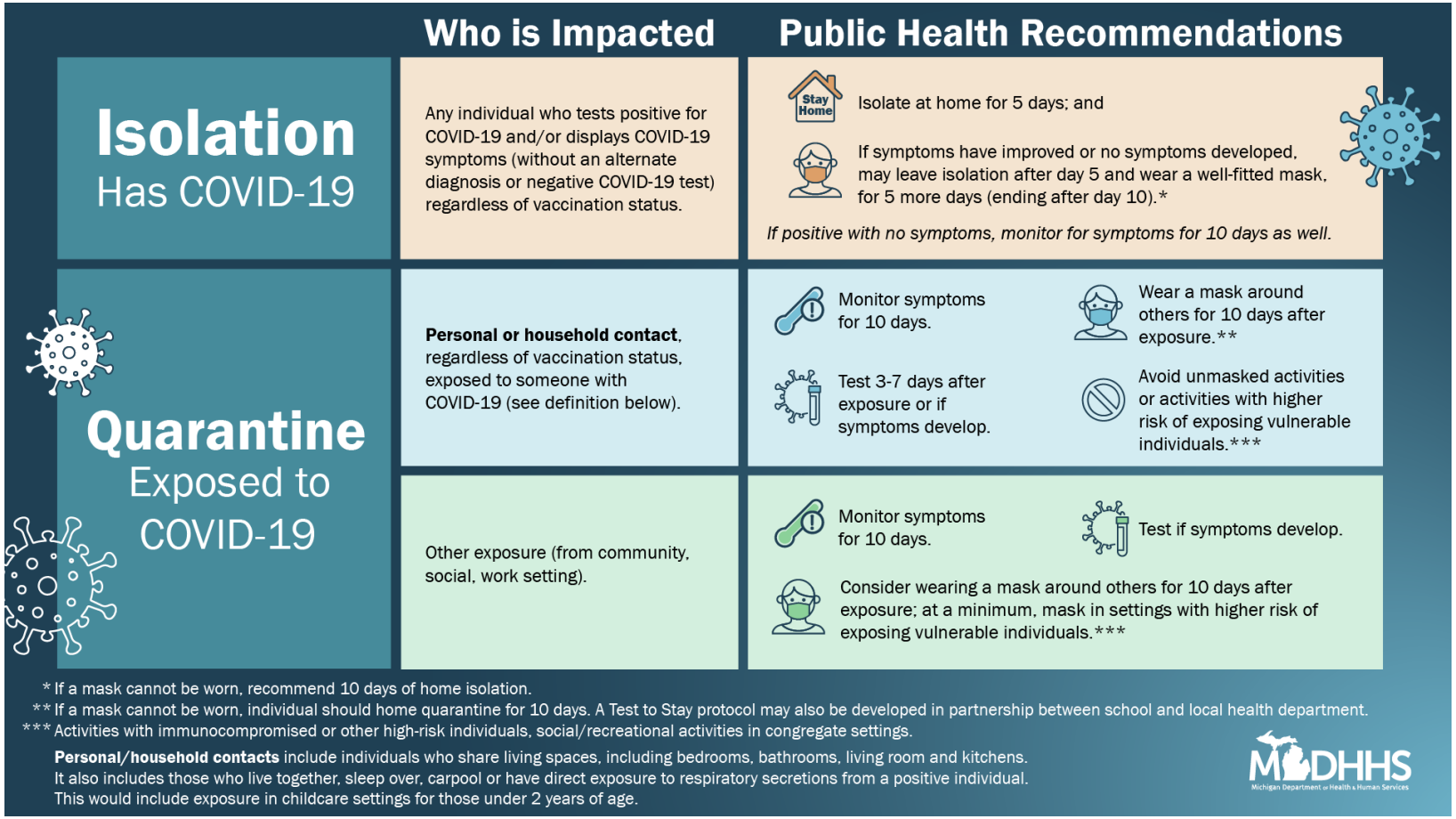
- Encourage vaccines to decrease COVID-19 risks.
- Strengthen community support with local stakeholders.
- Empower community members to make best choices for individual situations.

CDC level changes may not align exactly with transitions in the Readiness-Response-Recovery cycle



- Readiness phase may occur while still low but aware of coming surge
  - Considerations for Recovery-to-Readiness transition include a new variant with changes in transmissibility, severity, or vaccine effectiveness
- Response phase may begin before hospital strain metrics reach CDC level High

Isolation and Quarantine Guidance for Michigan in post surge Recovery Phase



When to Wear a Well-Fitting Mask

Please be respectful of others' choices.

MDHHS recommends mask use in the following settings:

During Isolation and Quarantine
(10 days from onset or last exposure).

- Those with COVID-19 infection and their contacts should wear a mask when around others.

When you are in a congregate setting.

- Long term care, health care or correctional facility.

When you are in an area with a local or federal mask policy.

- Counties, schools, businesses or other settings may have mask policies.

You might also consider masking in these settings:

If you, or those around you, are at high risk for infection or severe disease.

- Immunocompromised or have other medical conditions that increase risk.
- Unvaccinated.

If you feel the risk of exposure is high.

- Crowded indoor settings; a potential for unvaccinated individuals.

If you simply feel more comfortable wearing a mask.

Understanding Personal and Household Risk

Protect yourself from COVID-19 by understanding levels of risk, practicing good hygiene and hand washing, staying home when sick, and staying up to date with vaccinations. Masking is a personal and local community choice. Know your risk; know that others may have a risk different from yours. Respect the choice.

Masking is a proven way to reduce your risk of COVID-19.

When making decisions about risk, consider the setting, your vaccination status and current level of community transmission in addition to the personal and family risk factors* noted below.

	Lower Risk Settings → Higher Risk Settings			
	Outdoor Distanced Spaces (Parks, Trails, Large patios)	Outdoor Crowded Spaces (Concerts, Theme parks, etc...)	Indoor Distanced Spaces (Social distancing ability self-controlled)	Indoor Crowded Spaces (Poorly ventilated and/or social distancing not in personal control)
Lower Risk	Up to date on vaccine, without risk factors			
	Up to date on vaccine, with risk factors			
	Unvaccinated, without risk factors			
Higher Risk	Unvaccinated, with risk factors			

Up to Date on vaccine includes any booster doses as defined by the CDC. Additionally, individuals who have tested positive for COVID-19 in the past 90 days would fall into similar risk categories as those who are up to date on vaccination.

*__Risk factors__ include older adults (60+) and those who have serious chronic medical conditions like heart disease, diabetes or lung disease (at any age), and those who live in high-risk congregate settings (like nursing homes, corrections facilities and shelters). If you live with others who have risk factors, consider their health in addition to your personal health.

MDHHS
Michigan Department of Health & Human Services

Visit Michigan.gov/Coronavirus for current COVID-19 information.

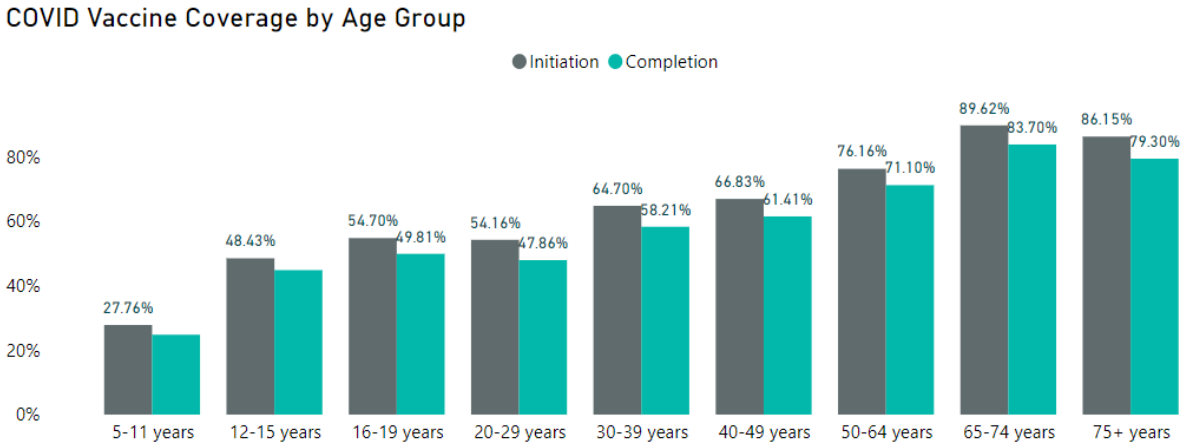
Considerate Mask Use

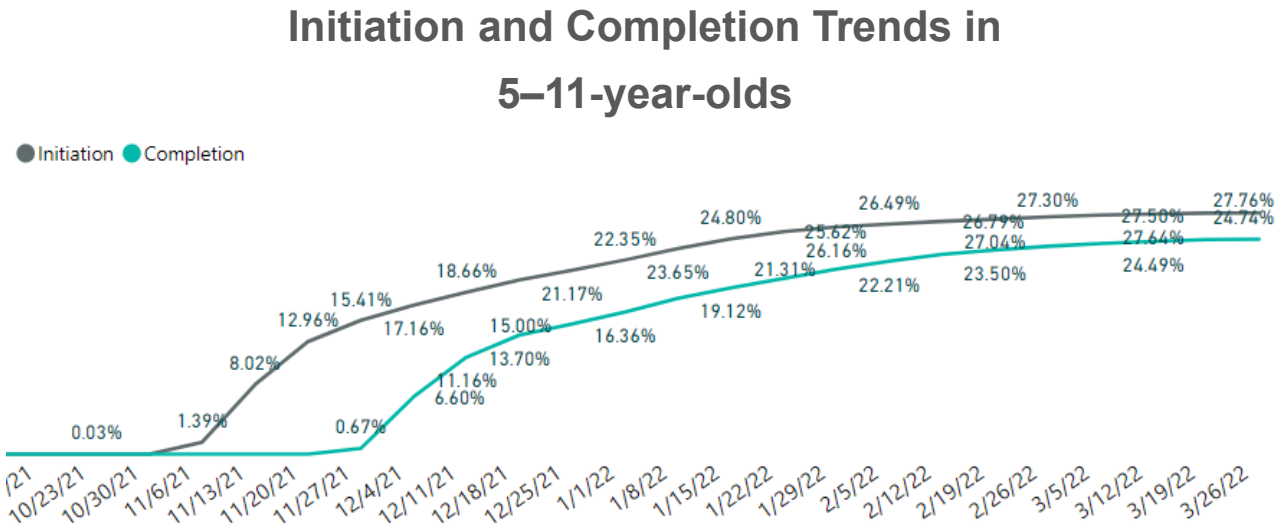
- Masking is one of the most considerate things you can do for other vulnerable members of your community
  - Extra precautions are needed to protect our friends, neighbors, and loved ones who are at increased risk of severe illness.
  - People who are at increased risk of severe illness—and family, friends, and coworkers who spend time with them—should consider taking extra precautions even when the COVID-19 Community Level is low.
  - These precautions can include wearing masks and getting tested before gathering together
  - If you think you are at increased risk of severe COVID-19, talk to your healthcare provider about the precautions you should take
- Be respectful of others decision to wear a mask, regardless of the reason

Source: CDC COVID-19 Information for Specific Groups of People https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html

Administration of vaccinations and boosters has slowed in Recovery phase

- Over 15.4 million COVID-19 vaccine doses have been administered in Michigan
  - Over 6.6 million Michiganders have received at least one dose (66.5%)
  - Over 6.0 million Michiganders have completed a primary series (59.6%)
  - Over 3.17 million additional/booster doses have been administered in Michigan
    - 53.3% of the fully vaccinated population has received a booster
    - 75.7% of the fully vaccinated population 65 years of age or older has received a booster





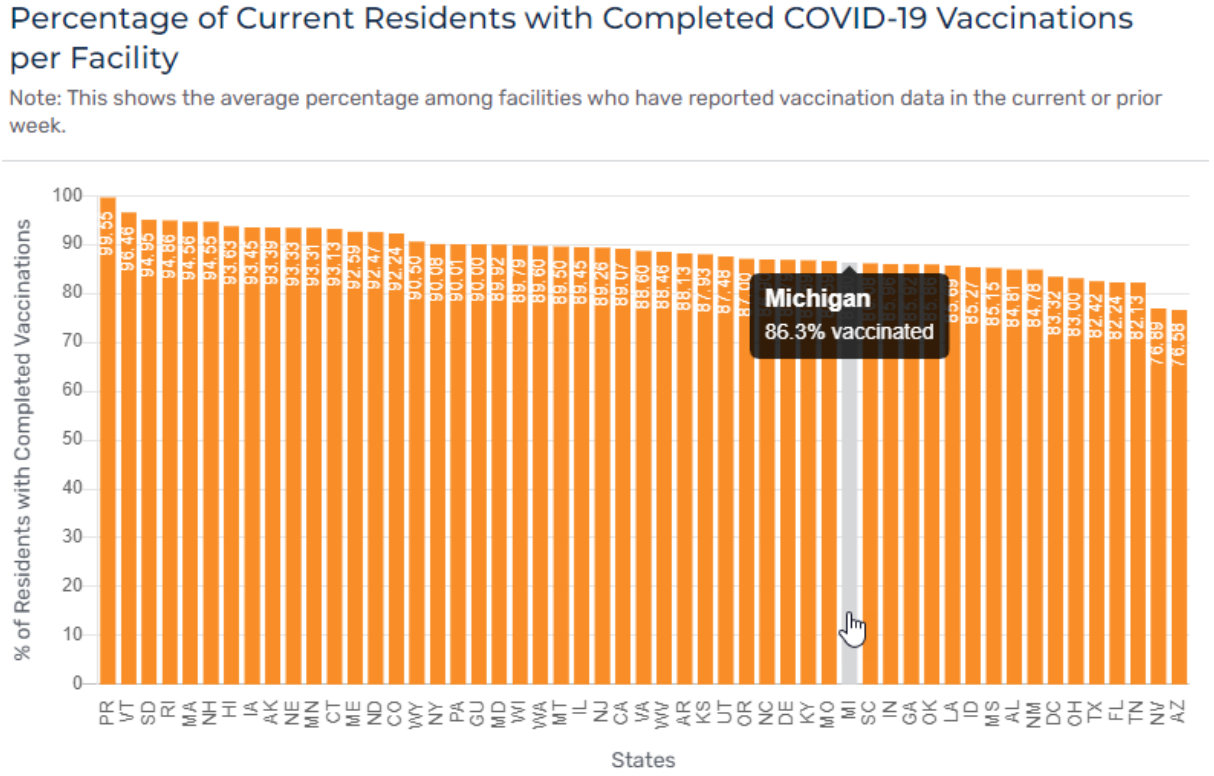
https://covid.cdc.gov/covid-data-tracker/#vaccinations
https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

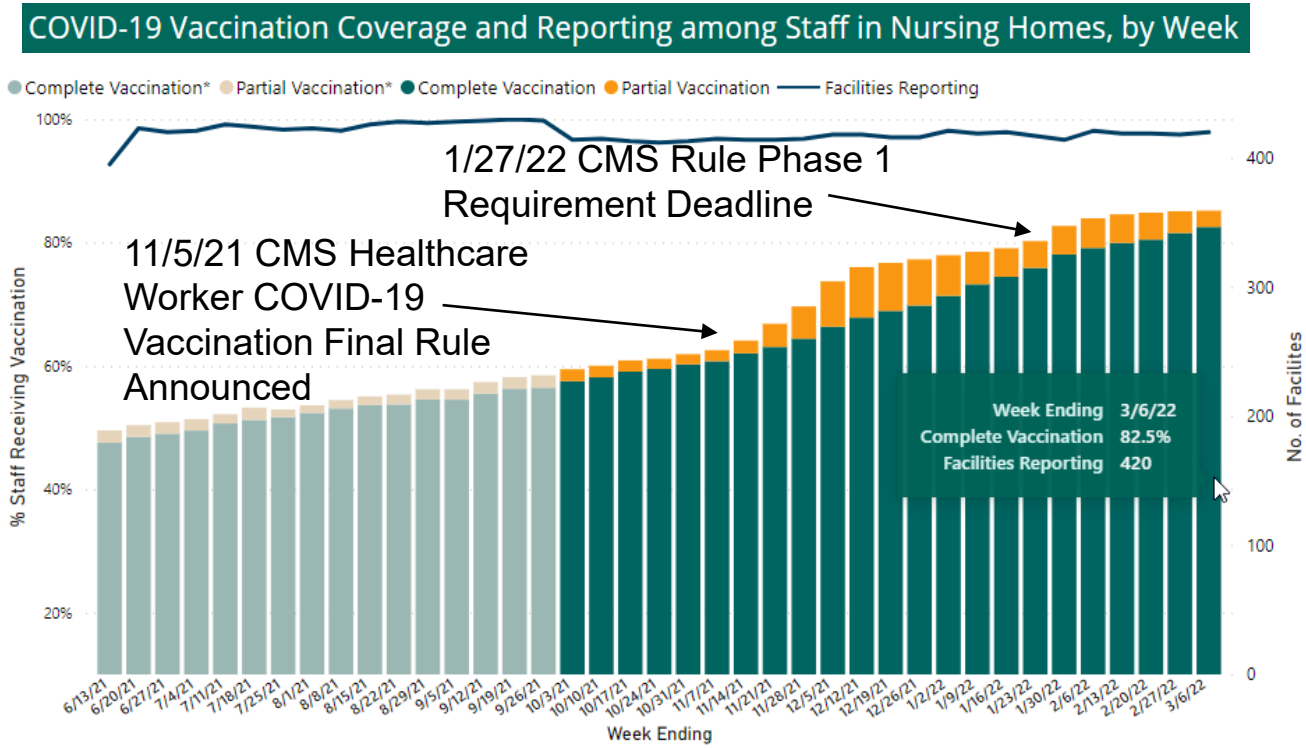
Completed vaccination among Skilled Nursing Residents and Staff is plateauing

86.3% of SNF residents are fully vaccinated; 37 of 53 states/territories

82.5% of SNF staff are fully vaccinated, 42 of 53 states/territories

2.7% of SNF staff are partially vaccinated

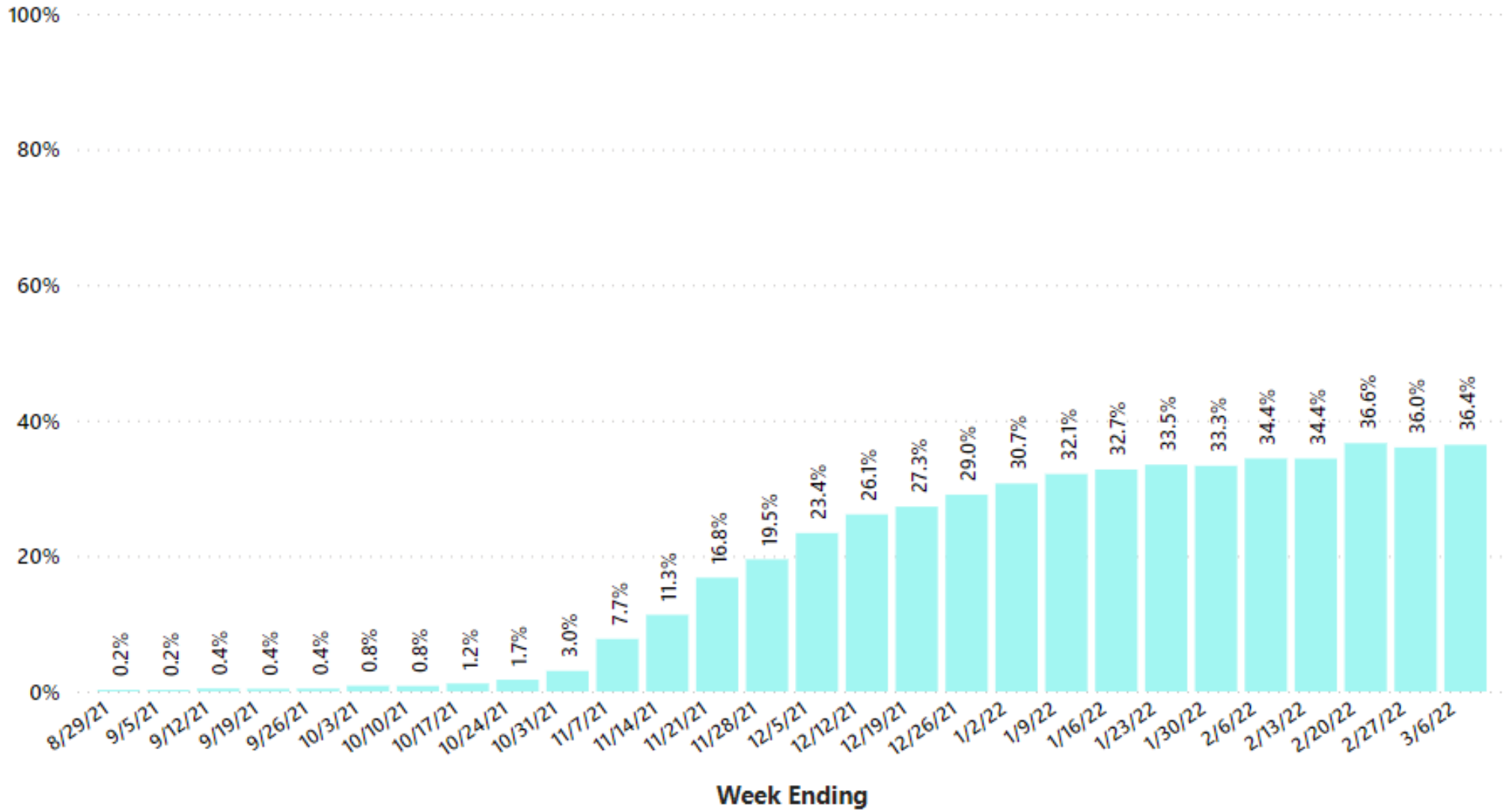




https://data.cms.gov/covid-19/covid-19-nursing-home-data

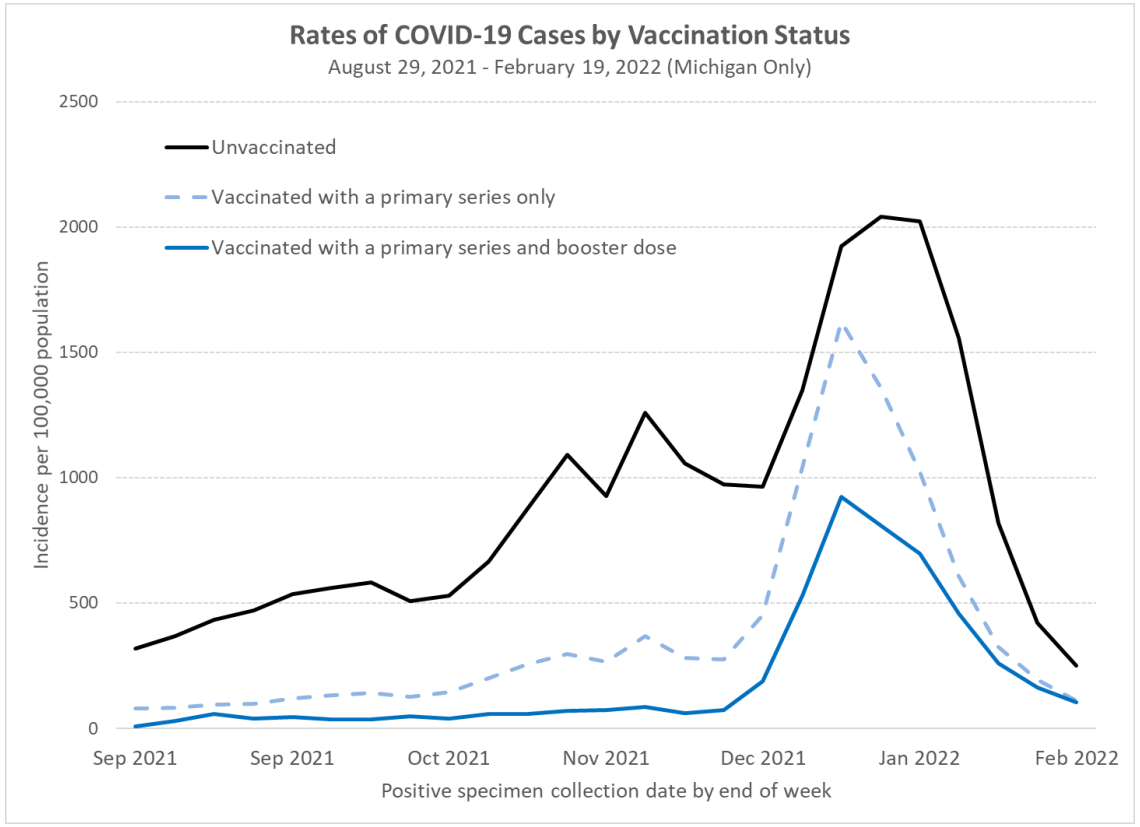
https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html

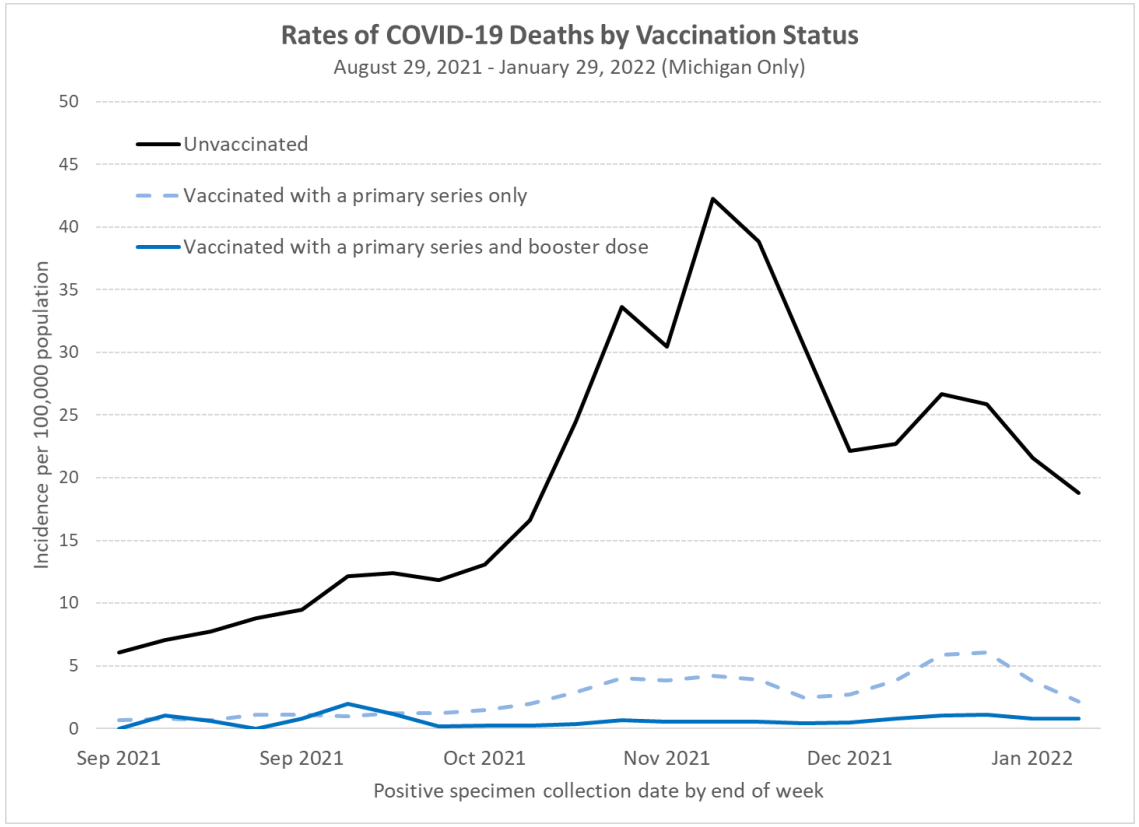
Percentage of Staff in Nursing Homes with Completed Vaccination and Receiving Additional Primary or Booster Dose by Week in Michigan is plateauing



Source: https://www.cdc.gov/nhsn/covid19/ltc-vaccination-dashboard.html

Unvaccinated people in Michigan had 2.9 times the risk of testing positive for COVID-19 in February compared to people up to date on their vaccination





Unvaccinated people aged 12 years and older had:

2.7 X
Risk of Testing Positive for COVID-19

AND

25 X
Risk of Dying from COVID-19

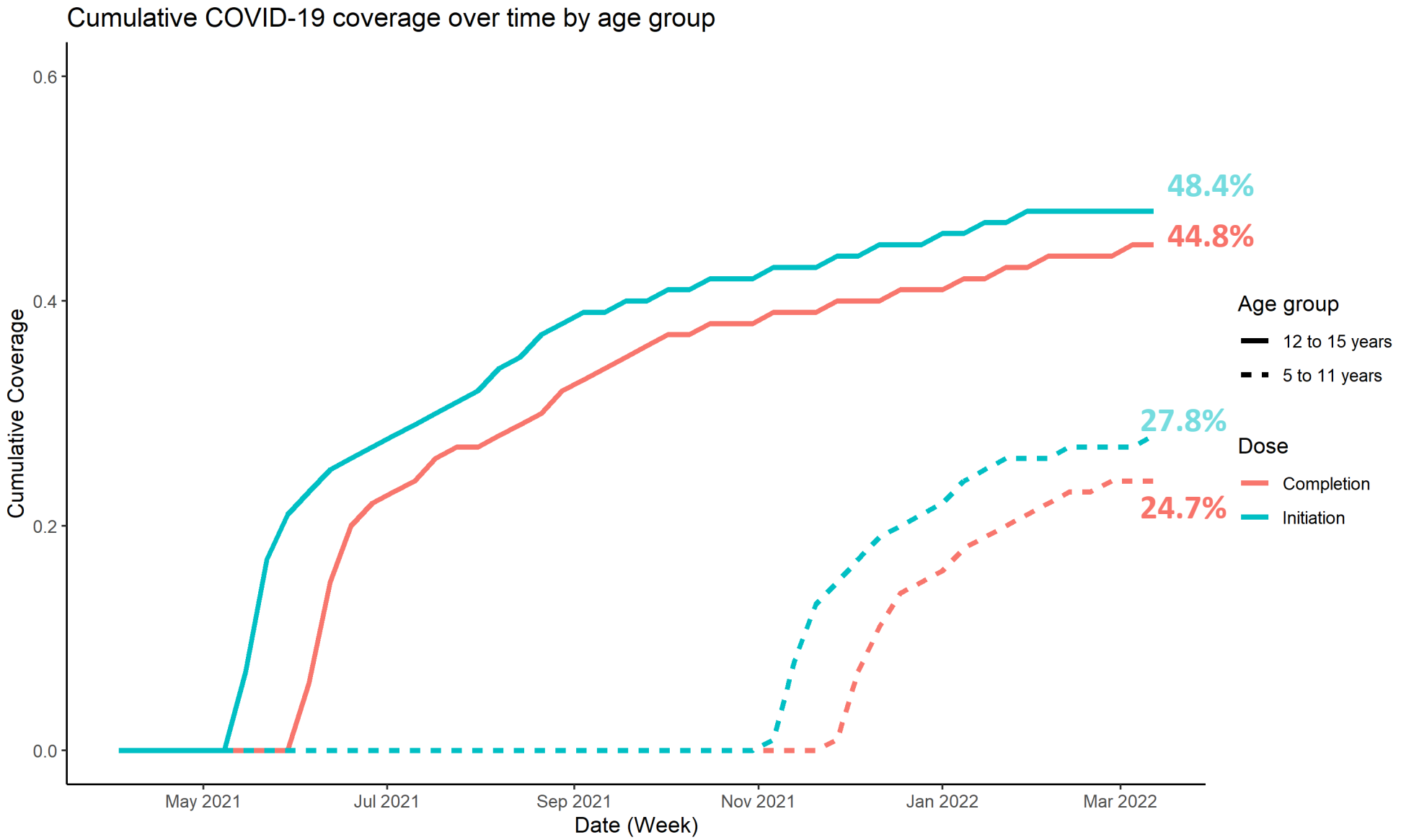
in January, and

2.9 X
Risk of Testing Positive for COVID-19

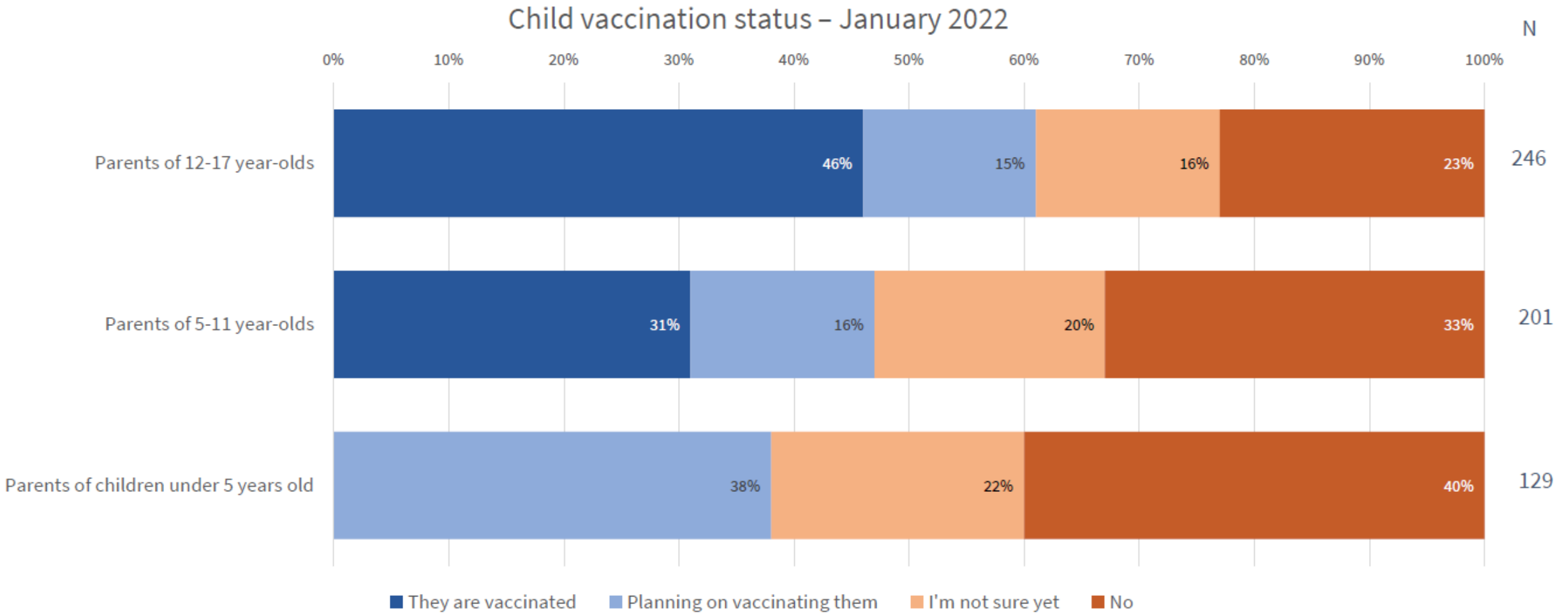
in February,* compared to people vaccinated with a primary series and a booster dose.**

*These data reflect cases among persons with a positive specimen collection date through February 19, 2022, and deaths among persons with a positive specimen collection date through January 29, 2022. Please note that these provisional data are subject to change. **Data on immune status are unavailable, thus an additional dose in an immunocompromised person cannot be distinguished from a booster dose.

Vaccination uptake among youngest eligible children increased early and since plateaued

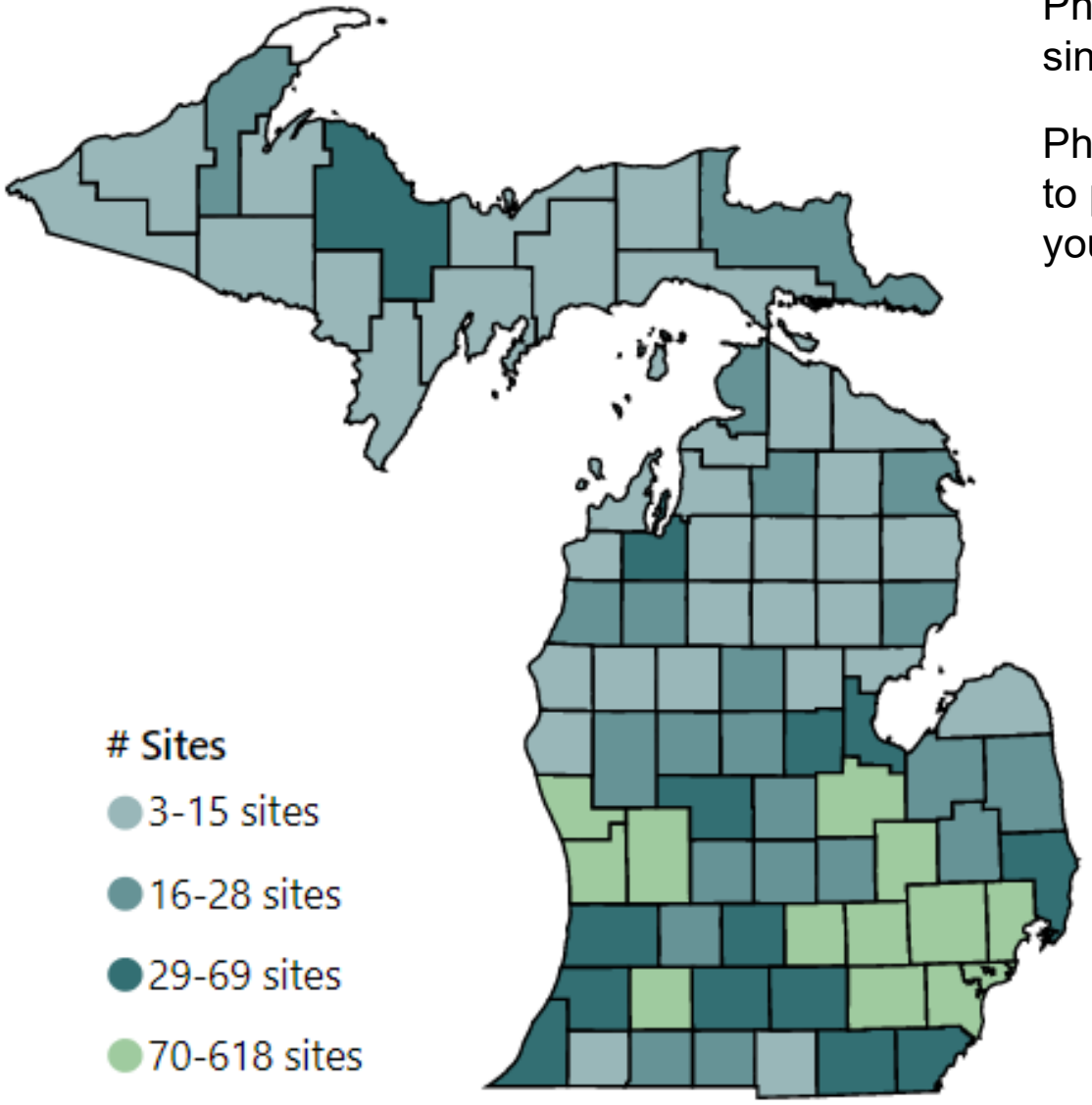


Vaccination rates and intentions by age: Hesitancy is highest for parents of younger children, and those with kids under 5 are evenly split on whether to vaccinate when it becomes available.



Q: Have all of your eligible 12- to 17-year old children / 5-11-year old children been vaccinated for COVID-19? When your under-5 children become eligible, do you plan to get them vaccinated for COVID-19?

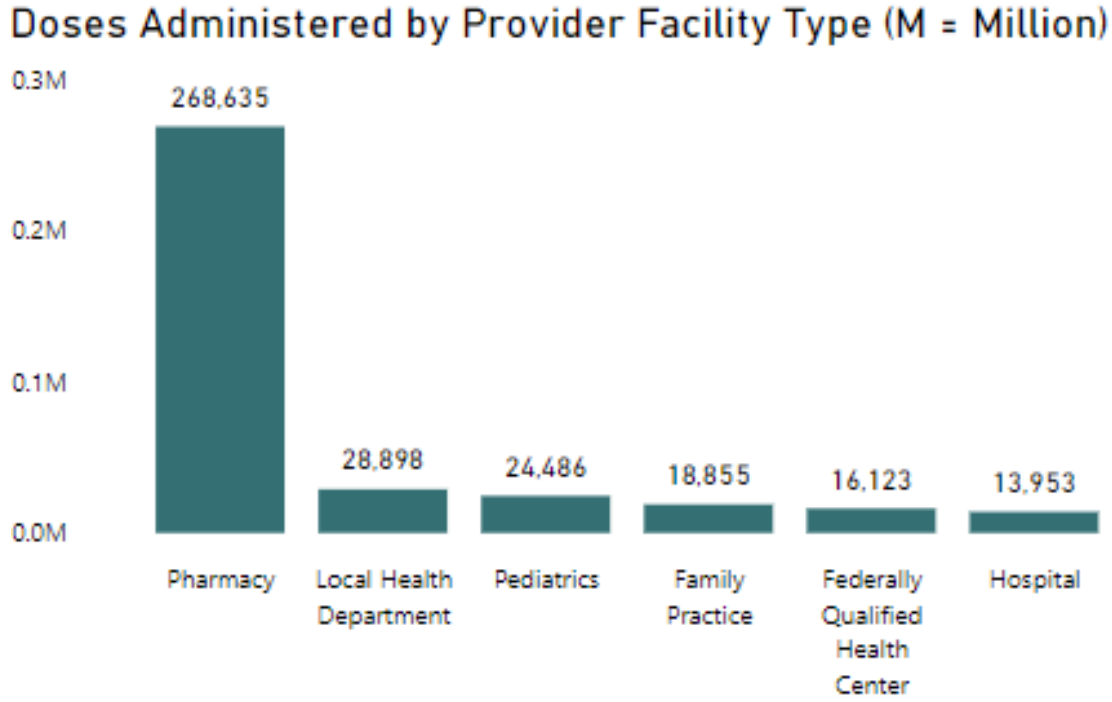
Pharmacies, local health, pediatricians and family practice are most frequent COVID-19 vaccinators for Michiganders 5 and older



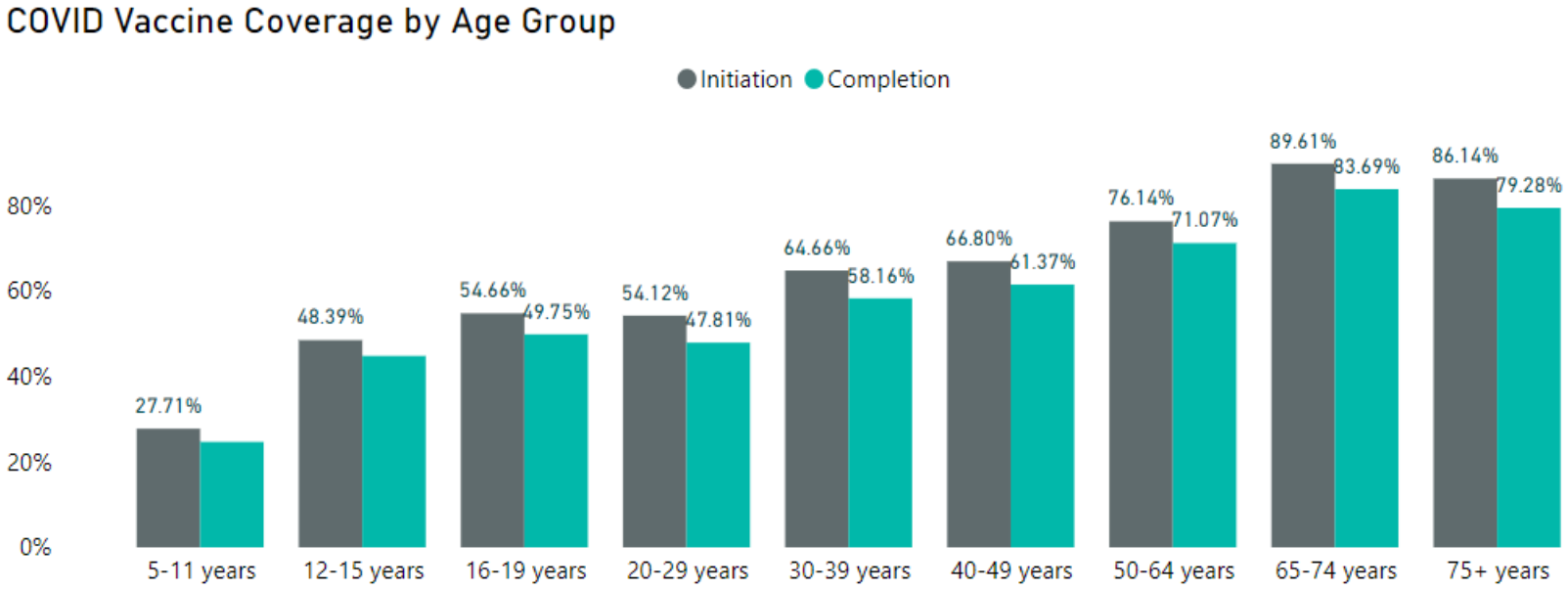
Pharmacies represent over 67% of all COVID-19 vaccine administrations since the beginning of 2022

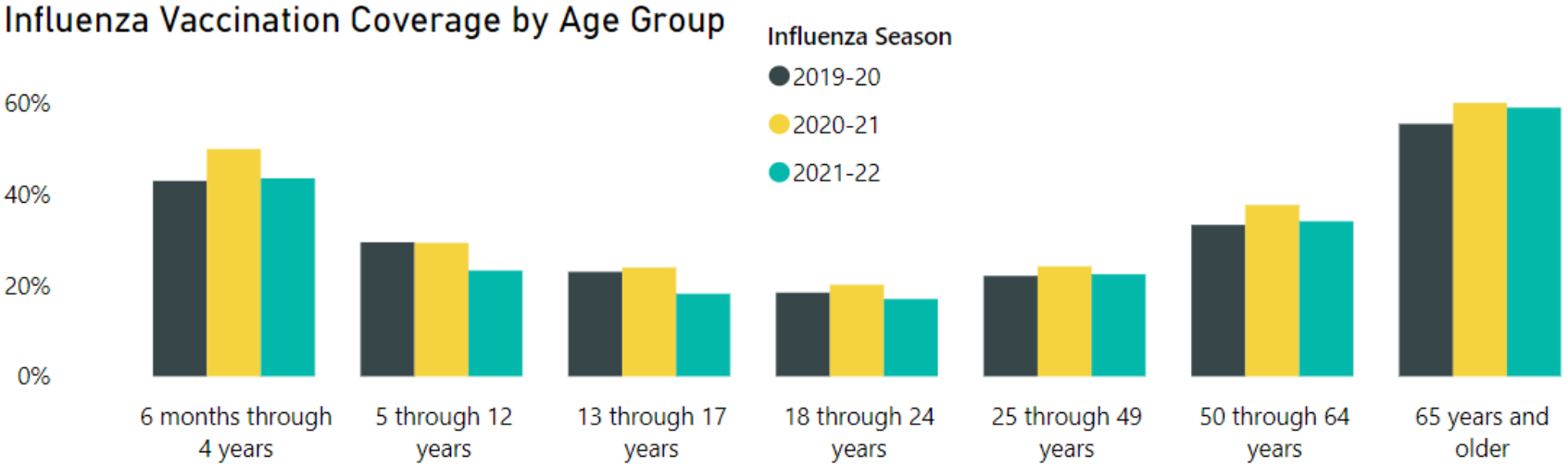
Pharmacies are the largest provider of COVID-19 vaccine, but are unlikely to play such a prominent role in administering COVID-19 vaccine to the youngest pediatric patients (those 6 months to 4 years of age)

COVID-19 Doses Administered by Provider Type since 1/1/2022



Age distribution of COVID and Influenza Vaccination coverage differs





COVID-19 vaccination coverage increases with age

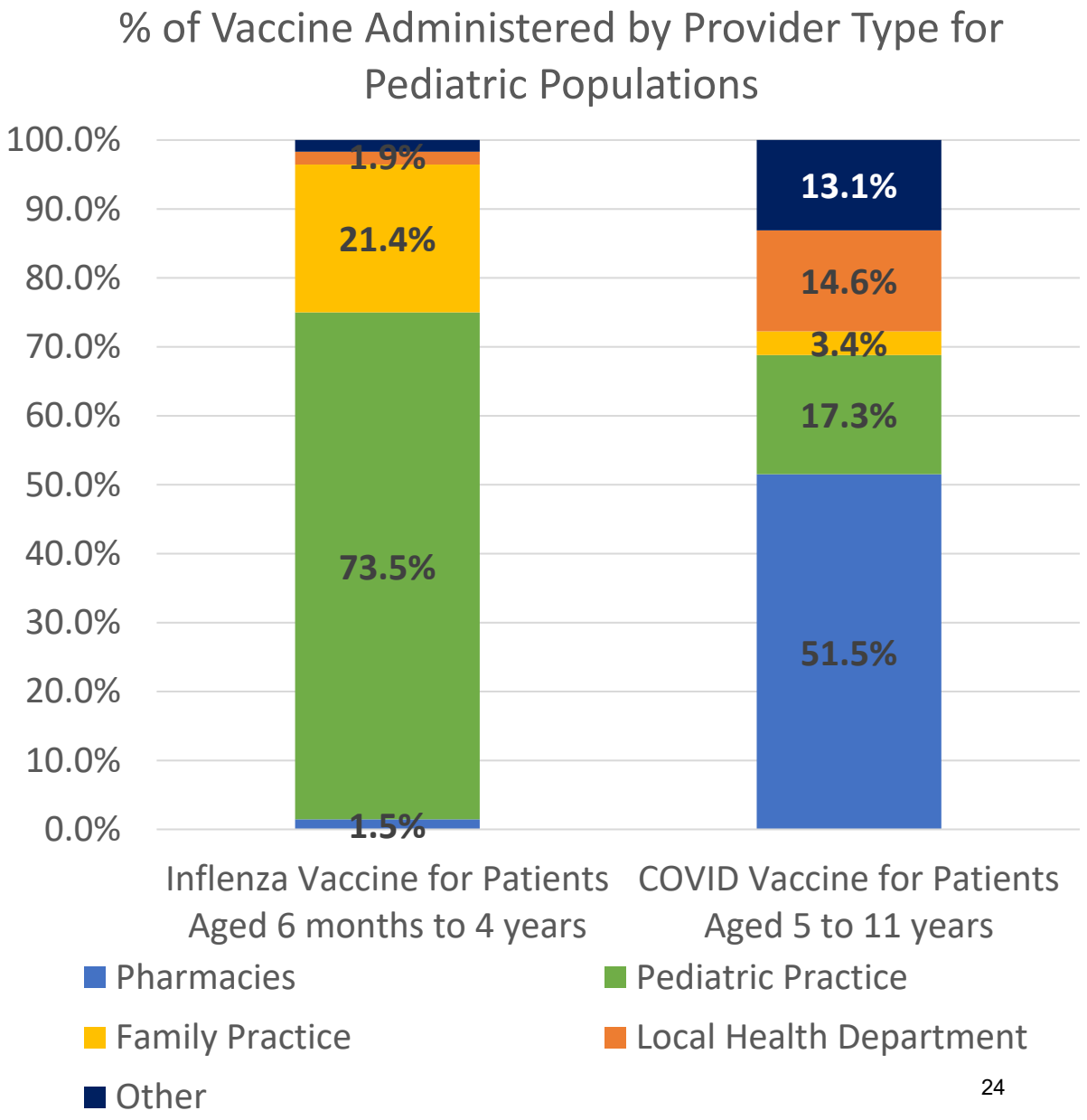
Influenza vaccination coverage forms more of a U-pattern with the highest coverage among the oldest and youngest populations

COVID-19 and influenza vaccination coverage is very similar for 5-11 year olds: 24.6% for COVID-19 completion and 23.2% for influenza in 2021-22

COVID-19 vaccine not yet approved for populations less than 5 at this time, but influenza coverage is 43.4% among those aged 6 months to 4 years

Pharmacies are the largest providers of vaccine, but pediatric and family practice providers are key to administering vaccines in the youngest populations

- In Michigan, there have been over 3.2 million influenza doses administered for the 2021-22 Season
  - Over 1.36 million have been provided by pharmacies (42%)
- 213,298 influenza doses were administered in persons aged 6 months to 4 years
  - By contrast, just 3,328 were administer by pharmacies (1.5%)
  - The largest providers of vaccine for this youngest age group are pediatric practices (156,792; 73.5%) and family practice providers (45,600; 21.4%)
- These data demonstrate the importance that pediatric and family practice providers will have in providing COVID-19 vaccine to youngest pediatric patients
- VFC providers are important access points for children
  - 916 VFC Providers Enrolled to provide COVID-19 vaccine
  - 131 in the City of Detroit and Wayne County



COVID Safety Reminders for Spring Break

Travel Considerations:

- Do **NOT** travel if you are sick or awaiting COVID test results or a close contact recommended to quarantine.
- Check your destination's **CDC Community Levels** (COVID-19 by County | CDC) and travel requirements
- Remember **masking** is still required on public transportation and indoor transportation hubs (airports, train stations)
- **Vaccinate** or boost before travel Coronavirus - COVID-19 Vaccine (michigan.gov)
- **Testing** is widely available
  - Find a Test Near You Search Results (solvhealth.com)
  - Reorder over-the-counter tests through federal, Mi Backpack, or Rockefeller programs Coronavirus - Test (michigan.gov)
- Discuss these factors and safety plans with travel companions

Returning Considerations:

- Test 3-5 days after returning home
- Avoid contact with elderly or immunocompromised loved ones for 10 days after returning

Sources: TSA mask extension https://www.tsa.gov/news/press/statements/2022/03/10/statement-regarding-face-mask-use-public-transportation

Rebuilding work force: more than half of public health workers report mental health symptoms

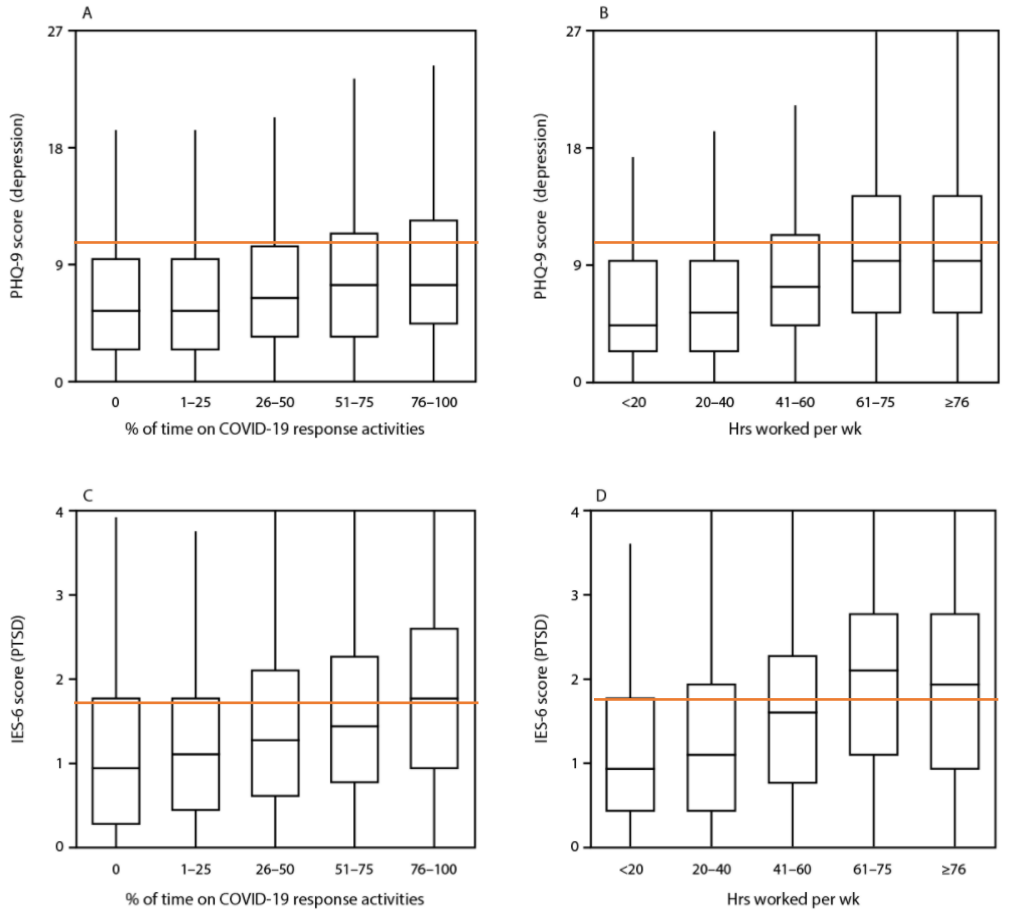
26,174 state, tribal, local, and territorial public health workers surveyed March/April 2021

- 52.8% reported symptoms of at least one mental health condition in the past 2 weeks
- Symptoms more prevalent among those unable to take time off or worked ≥41 hours per week
- Mental health symptoms prevalence among public health workers was higher than previously reported in general population
- Survey being rerun (closes 3/25)

Key message: Rebuilding work force crucial for readiness and response and will offset burden experienced by existing workforce

Source: Bryant-Genevier J, Rao CY, Lopes-Cardozo B, et al. Symptoms of Depression, Anxiety, Post-Traumatic Stress Disorder, and Suicidal Ideation Among State, Tribal, Local, and Territorial Public Health Workers During the COVID-19 Pandemic — United States, March–April 2021. MMWR Morb Mortal Wkly Rep 2021;70:1680–1685.

FIGURE. Distribution* of 9-item Patient Health Questionnaire scores for depression and 6-item Impact of Event Scale scores for post-traumatic stress disorder† among state, tribal, local, and territorial public health worker respondents,§ by percentage of work time spent directly on COVID-19 response activities for the majority of 2020 (panels A, C), and hours worked in a typical week since March 2020 (panels B, D) — United States, March–April 2021



Abbreviations: IES-6 = 6-item Impact of Event Scale; PHQ-9 = 9-item Patient Health Questionnaire; PTSD = post-traumatic stress disorder.

* Upper and lower levels of boxes indicate 75th and 25th percentiles, respectively; horizontal line indicates median; whiskers indicate observation nearest to 1.5 × interquartile range.
† Self-reported symptoms of depression or PTSD were evaluated; respondents who scored ≥10.0 out of 27 on the PHQ-9 for depression or ≥1.75 out of 4 on the IES-6 for PTSD were considered symptomatic for the respective conditions.
§ Only public health worker respondents who completed all PHQ-9 items (n = 22,692) or all IES-6 items (n = 22,248) are included.

Note: Red lines added to indicate mental health condition threshold

Study: Harassment of public health officials widespread during initial phase of COVID-19 pandemic

GETTY IMAGES

1,499 unique reports of harassment across local health departments in the U.S. from March 2020 to January 2021

57% had been targets of harassment

222 state or local public health officials left their positions

- 36% of departures involved officials who had experienced some form of harassment

Recommendations:

- Train public health officials on respond to political and societal conflict
- Provide employee support
- Invest in long-term public health staffing and infrastructure
- Establish reporting systems for incidents

Source: https://hub.jhu.edu/2022/03/17/widespread-harassment-public-health-officials/; Ward JA, Stone EM, Mui P, Resnick B. Pandemic-related workplace violence and its impact on public health officials, March 2020–January 2021. Am J Public Health. e-print March 17, 2022:e1–e11. DOI: https://doi.org/10.2105/AJPH.2021.306649

Epidemiologic Surveillance: Key Messages

- Nationally case rates continue to decline. However, several European counties are experiencing increasing case rates and COVID hospitalizations.
  - We are closely monitoring epidemiology of the Omicron BA.2 sub-lineage
    - In the United States, the proportion of specimens sequenced as BA.2 has increased while the total specimens sequenced has decreased
    - Michigan is also seeing an increase in BA.2 with the limited number of specimens being sequenced

- Fifty-five percent (11/20) of Michigan sentinel wastewater surveillance sites are showing declines in COVID-19 in the previous 15-days

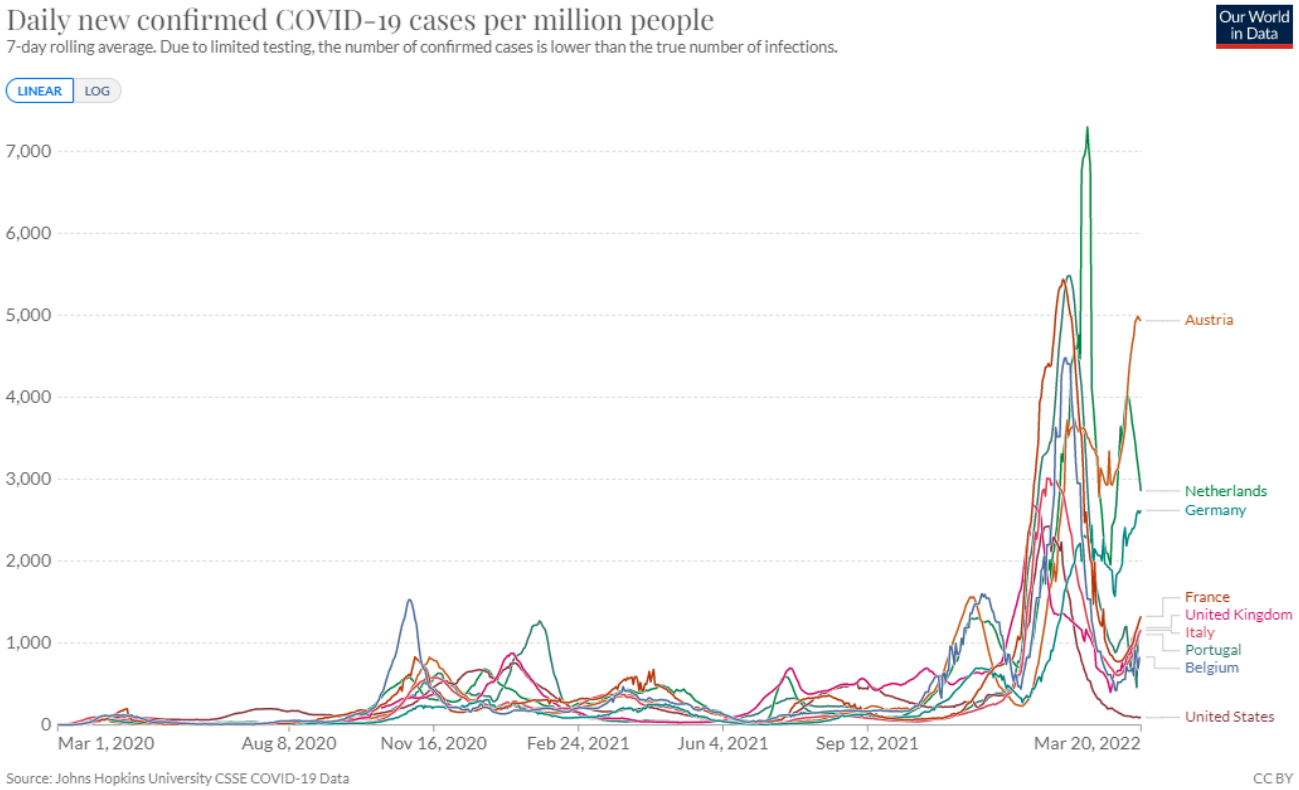
- Case rates continue to decline for all reported age groups & race and ethnic groups

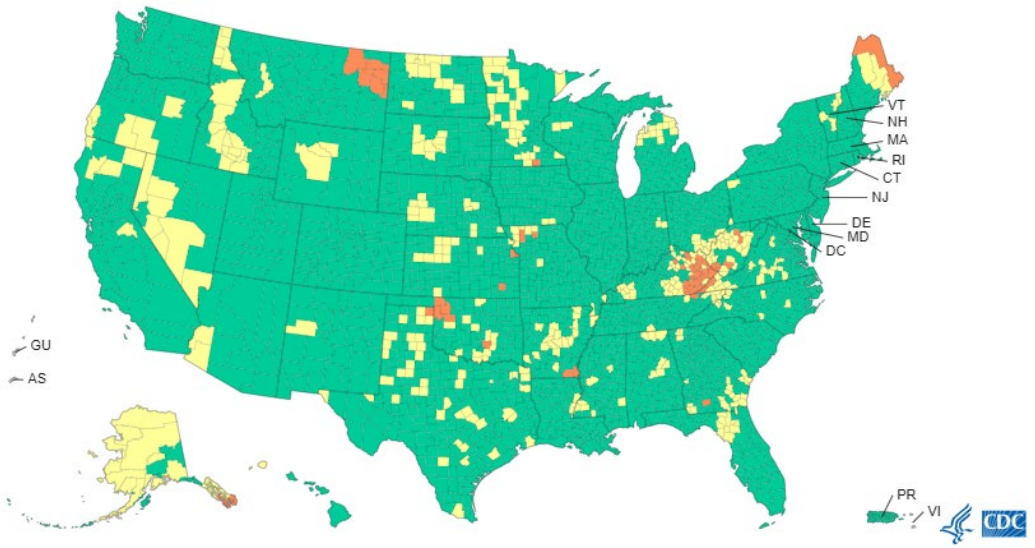
- Nationally during the Delta and Omicron surges, unvaccinated adults and those vaccinated with a primary series, but no booster or additional dose, more likely to be hospitalized
  - Non-Hispanic Blacks experienced a disproportionately greater burden during these surges

- Settings of schools and long-term care have seen a decline in the number of cases and clusters reported to MDHHS

- Michigan COVID+ hospital admissions, census, and ICU capacity has declined or remained level for all regions and most age groups

Global and National Trends





Globally, 470,945,009 cases and 6,078,815 deaths (Data* through 3/21/2022)

- Several European countries are experiencing case rate increases

United States: Reported cases (7-day average) have decreased over 18.5% since the prior week¶

- In the U.S., the case rate is 58.6 cases/100,000 in last 7 days (last week: 71.9 cases per/100,000)

All Region 5 (Midwest) states are declining

- Minnesota and Illinois have the highest case rates *in Region 5* (3/14)

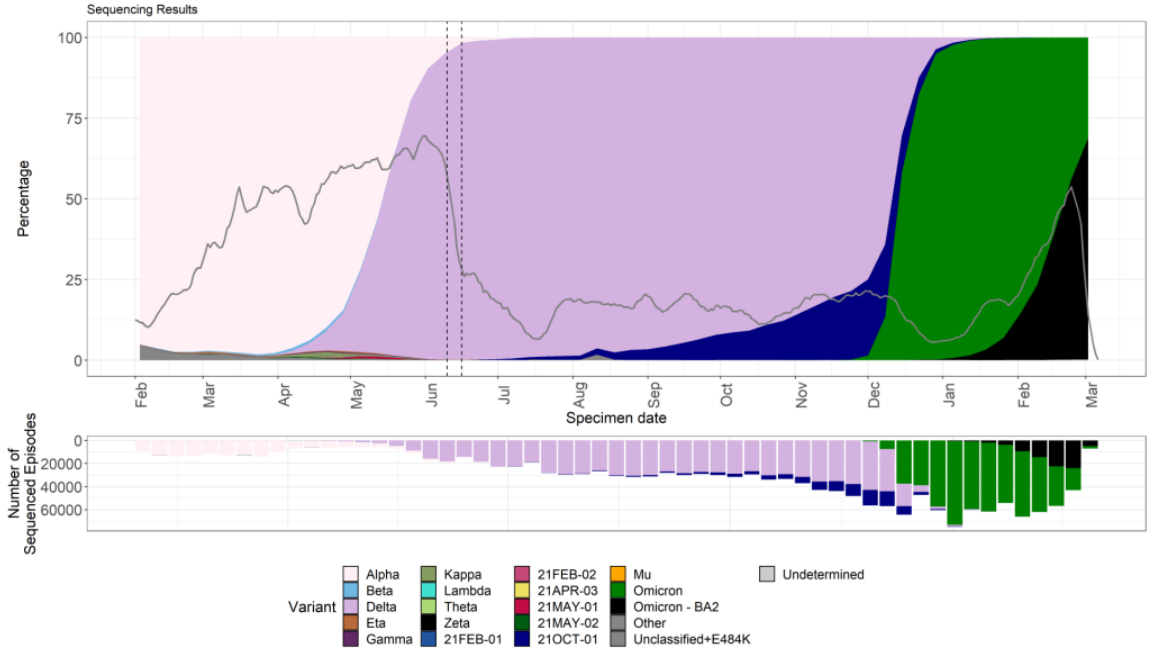
Source: * Johns Hopkins Coronavirus Resource Center; ¶ CDC COVID Data Tracker Weekly Review; † CDC COVID Data Tracker – CDC recently updated their methodology for reporting case rates

BA.2 UK Technical Report – March 11th

- BA.2 is >80% of the sequences in the UK
- Hospitalization rate is similar to BA.1
- Infection rate in household contacts is 14% with BA.2 vs 11% with BA.1 and in non household contacts is 5% with BA.2 vs 4% with BA.1
- Monitoring in highly infected (30%) and vaccinated population (95%) found that reinfection after BA.1 is possible but unclear how common. About 9% of all recent infections (end of February) are reinfections

SARS-CoV-2 variants of concern and variants under investigation in England: Technical briefing 38

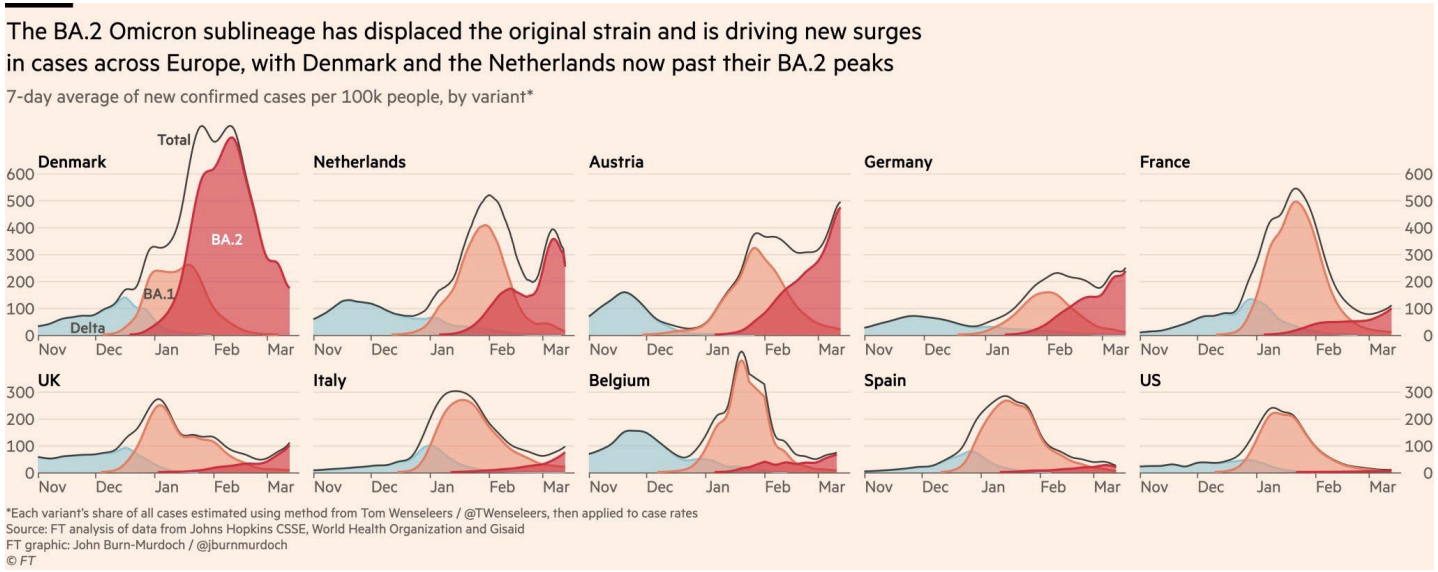
Figure 2. Variant prevalence of available sequenced cases for England from 1 February 2021 as of 8 March 2022
(Find accessible data used in this graph in underlying data. Dashed lines indicate period incorporating issue at a sequencing site. Grey line indicates proportion of cases sequenced.)

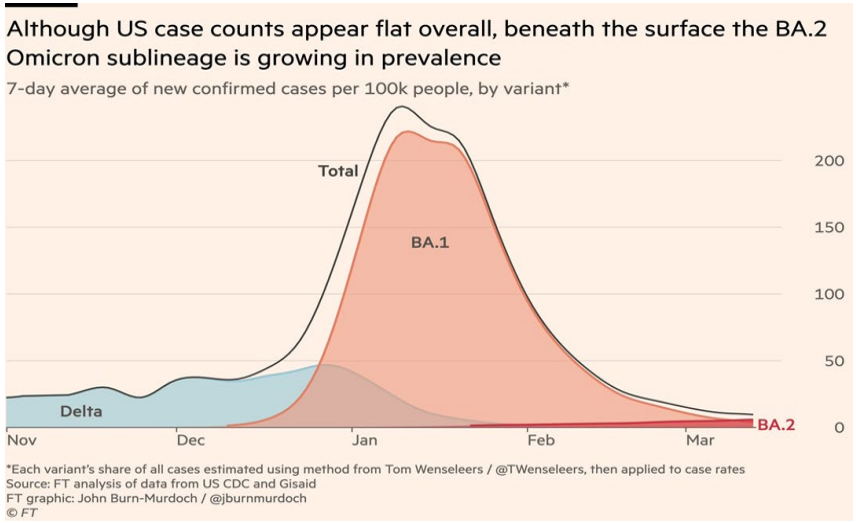


https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1060337/Technical-Briefing-38-11March2022.pdf

Countries across Europe have seen surges of cases with Omicron BA.2 lineage

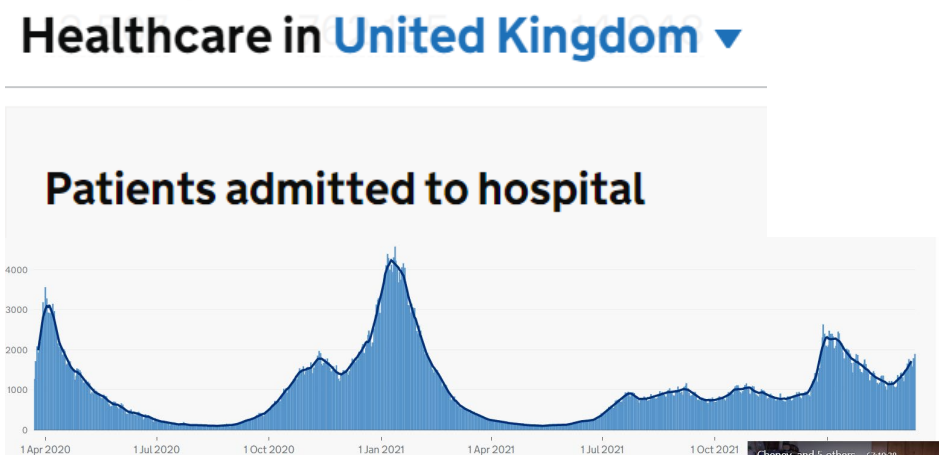
- Many countries in Europe are experiencing a surge attributed to the BA.2 lineage of Omicron
- Within the United States, the proportion of Omicron BA.2 lineage is not as high as what is currently seen in Europe
    - However, the proportion of BA.2 is rising here in the U.S.

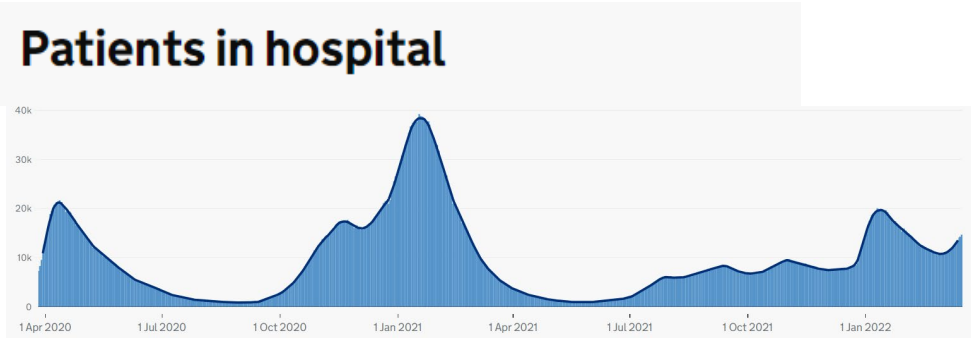




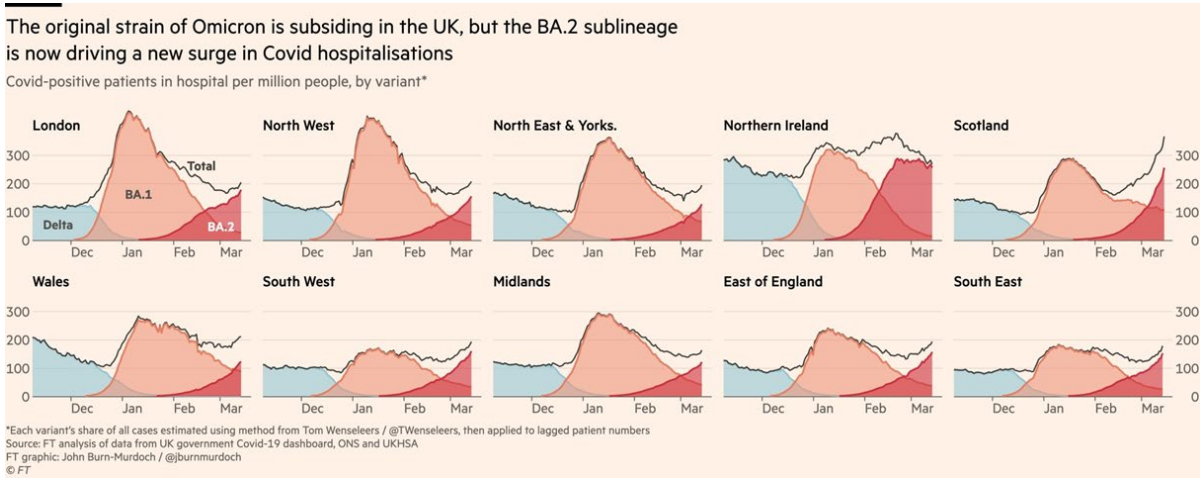
Sources: Financial Times: Coronavirus Tracker, https://coronavirus.data.gov.uk/, https://coronadashboard.government.nl/

A closer look at cases and hospitalizations in the UK: increasing hospitalizations across all areas





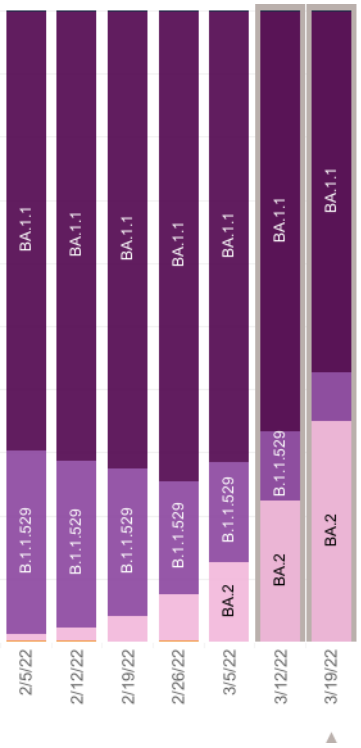
- National surveillance in the UK (England, Northern Ireland, Wales and Scotland) shows an **increase in the number of COVID-19 patients admitted to the hospital** since the end of February (top left)
- National surveillance in the UK shows an increase in the number of confirmed COVID-19 patients hospitalized since early March (top right)
- Hospital trends in the UK are be experienced throughout the regions, albeit at slightly different stages



Sources: Financial Times: Coronavirus Tracker, https://coronavirus.data.gov.uk/, https://coronadashboard.government.nl/

Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan

SARS-CoV-2 Variants Circulating in the United States, Feb 5 – Mar 19 (NOWCAST)



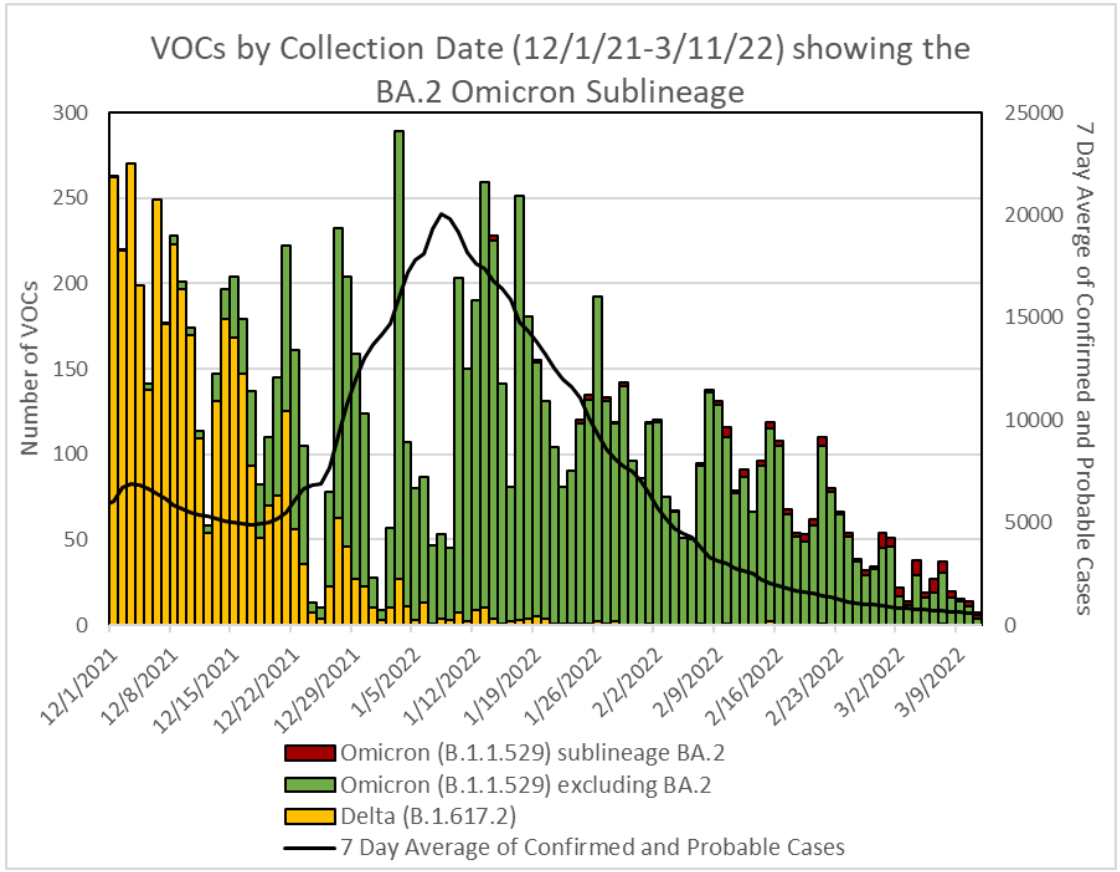
USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.1.1	VOC	57.3%	51.8-62.6%
	BA.2	VOC	34.9%	29.6-40.4%
	B.1.1.529	VOC	7.9%	6.6-9.3%
Delta	B.1.617.2	VOC	0.0%	0.0-0.0%
Other	Other*		0.0%	0.0-0.0%

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
# AY.1-AY.133 and their sublineages are aggregated with B.1.617.2. BA.1 and BA.3 are aggregated with B.1.1.529. For regional data, BA.1.1 is also aggregated with B.1.1.529, as it currently cannot be reliably called in each region.

Data last updated Mar 21, 2022
Source: MDSS
¶ Sequence specimens are from the most recent week by onset date which may change as more specimens are sent in

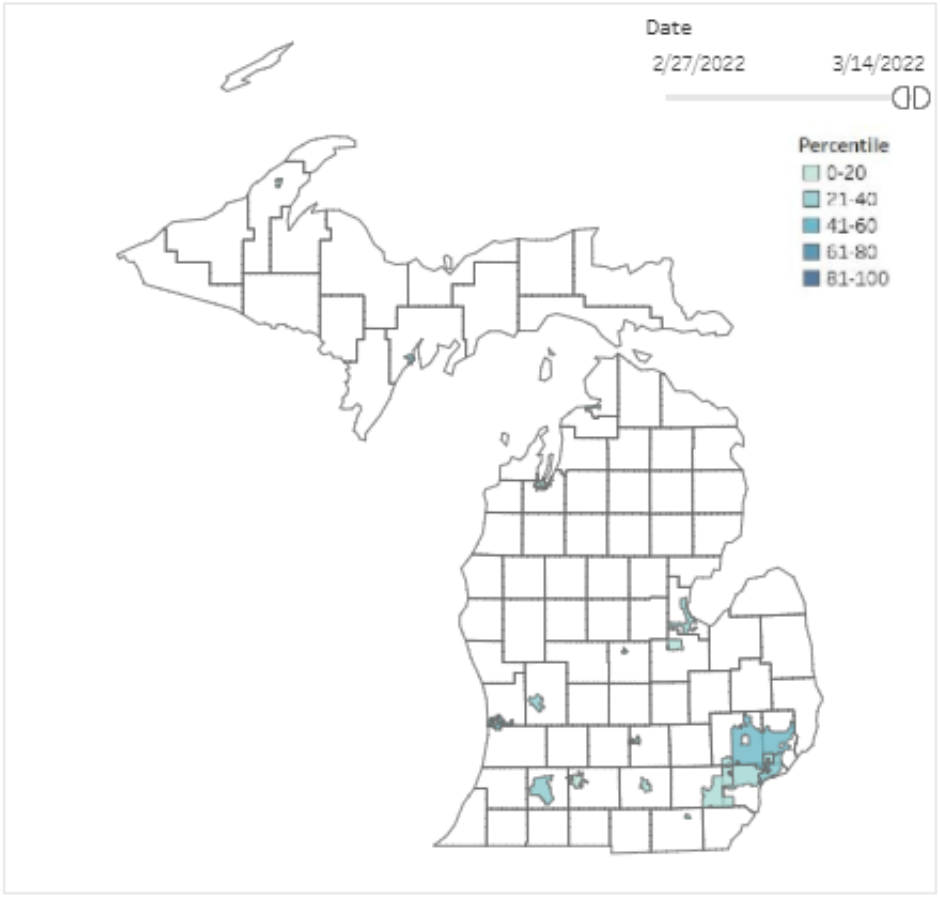
VOC Distribution in Michigan



- Since February 1, there have 2,067 VOC specimens sequenced
- 91 Omicron BA.2 specimens identified from 21 counties and City of Detroit
- Limitations of not sequencing every case reported

Michigan COVID-19 SWEEP Sentinel Wastewater Dashboard

The map below shows 20 sewershed sites in Michigan where wastewater is being monitored for the presence of SARS-CoV-2, the virus that causes COVID-19. These sentinel sites serve as a subset of wastewater surveillance in Michigan distributed across the Michigan Economic Recovery Council (MERC) Regions. Click on each site on the map to see wastewater and clinical case data over time. In the top right corner of the map, slide the white buttons to select the time period for which the site-specific percentile is calculated.



Site	Sewershed Population	Consecutive Weeks of Virus Detection	Trend As Of	15-Day Trend
Alma WWTP	8976	31	3/7/2022	
Battle Creek WWTP	51093	0	3/9/2022	
Bay City WWTP	34000	0	3/10/2022	
Delhi Township WWTP	22500	22	3/3/2022	
Escanaba WWTP	12600	28	3/9/2022	
GLWA Detroit River Interce..	492000	72	3/2/2022	
GLWA North Interceptor-	1482000	49	3/2/2022	
GLWA Oakwood-	840600	73	3/2/2022	
Grand Rapids WWTP	265000	31	3/10/2022	
Holland WWTP North	45606	0	3/9/2022	
Holland WWTP South	36912	0	3/9/2022	
Jackson WWTP	90000	34	3/10/2022	
Kalamazoo WWTP	150000	0	3/10/2022	
Petoskey WWTP	7900	2	3/10/2022	
Portage Lake WWTP	14000	26	3/9/2022	
Saginaw Township WWTP	40000	30	3/10/2022	
Tecumseh WWTP	8680	9	3/11/2022	
Traverse City WWTP	45000	1	3/14/2022	
Warren WWTP	135000	26	3/3/2022	
Ypsilanti WWTP	330000	34	3/7/2022	

Abbreviations: GLWA - Great Lakes Water Authority; WWTP - Waste Water Treatment Plant

Definitions and descriptions of data calculations can be found in the "About" tab.

Current results reflect data that were uploaded to MDHHS as of 3/16/2022. Labs are required to report test results to local partners within 24 hours. Data is subject to change as additional wastewater data and case data are received.

15-Day Trends
- 1000% or more
- 100% to 999%
- 10% to 99%
- 1% to 9%
- -9% to 0%
- -99% to -10%
- -100% to -999%
- -1000% or less

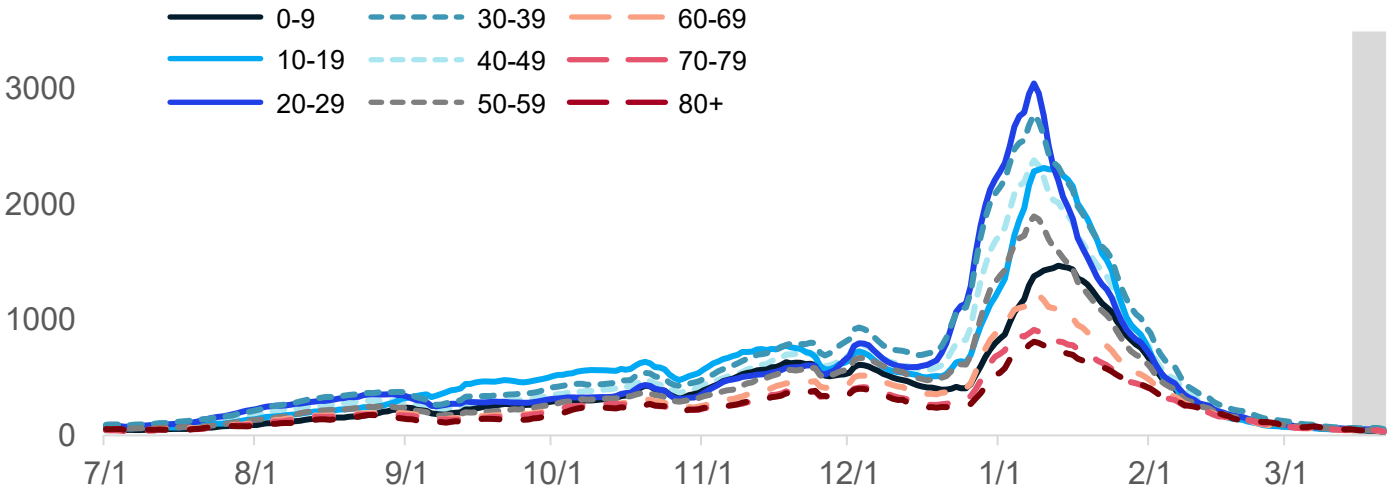
Sentinel Summary

- 55% (11/20) of sentinel sites are showing declines in the previous 15-days
- 25% (5/20) of sentinel sites are showing increasing trends over last 15-days

Source: MDHHS – Sentinel Wastewater Epidemiology Evaluation Project - https://www.michigan.gov/coronavirus/0,9753,7-406-98163_98173-573480--,00.html

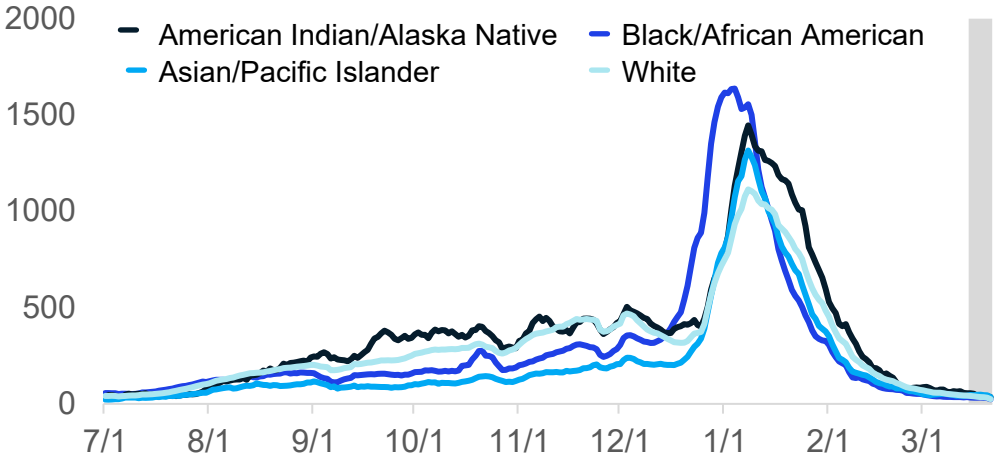
Case rate continue to decline for all age groups & race and ethnic groups

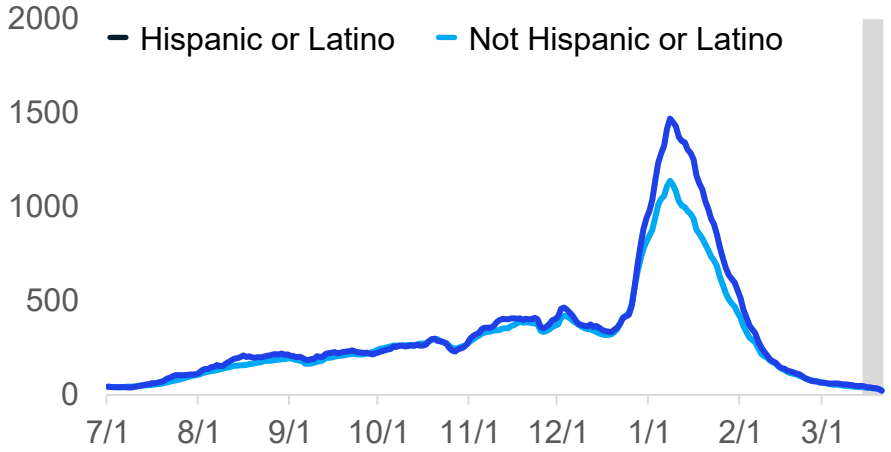
Daily new confirmed and probable cases per million by age group (7-day rolling average)



- Case rates by onset date for all age groups are between 45.9 and 63.7 cases per million (through 3/14)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 40-49 and 20–29-year-olds

Daily new confirmed and probable cases per million (7 day rolling average) by race & ethnicity category

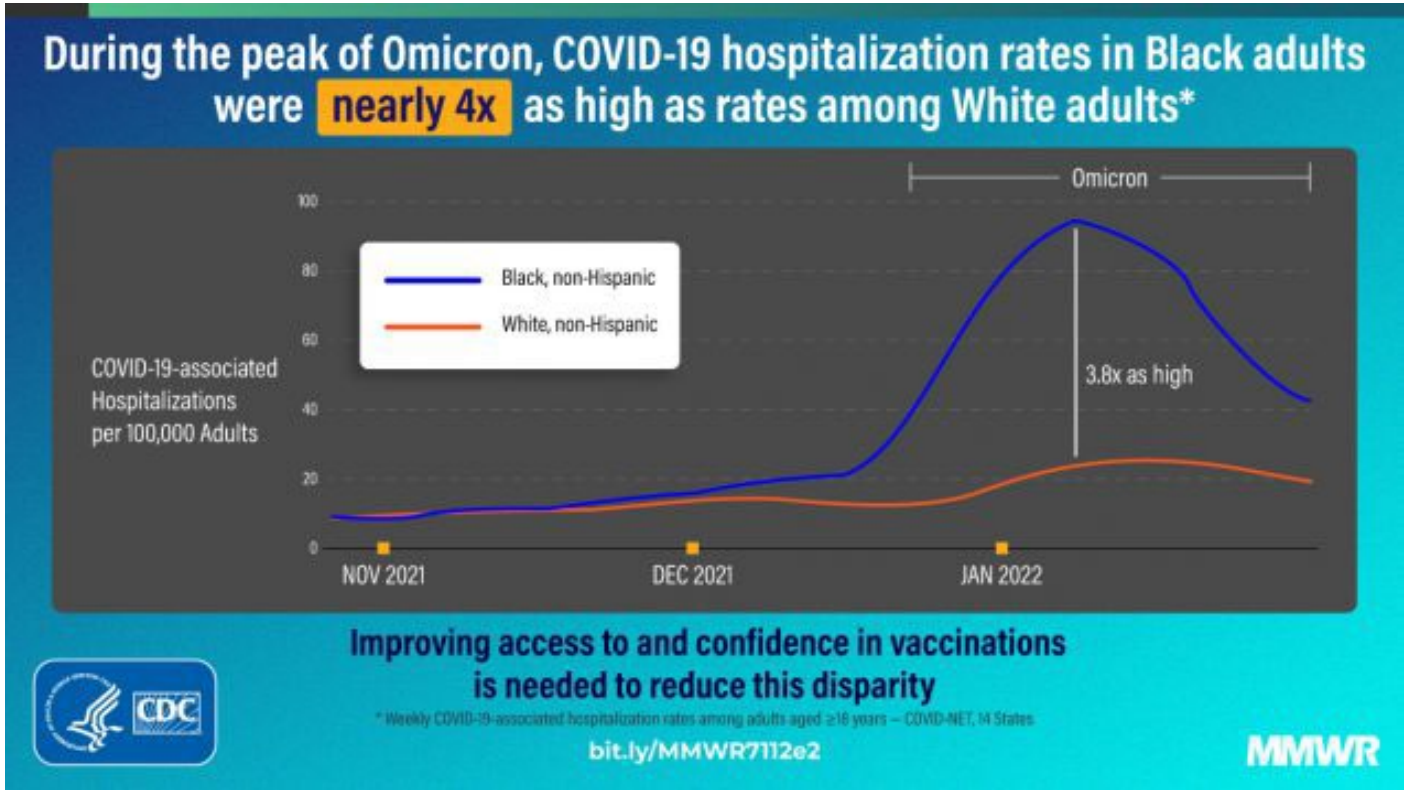




- Case rates are highest for American Indian/Alaska Native populations (56 cases/million)

Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System

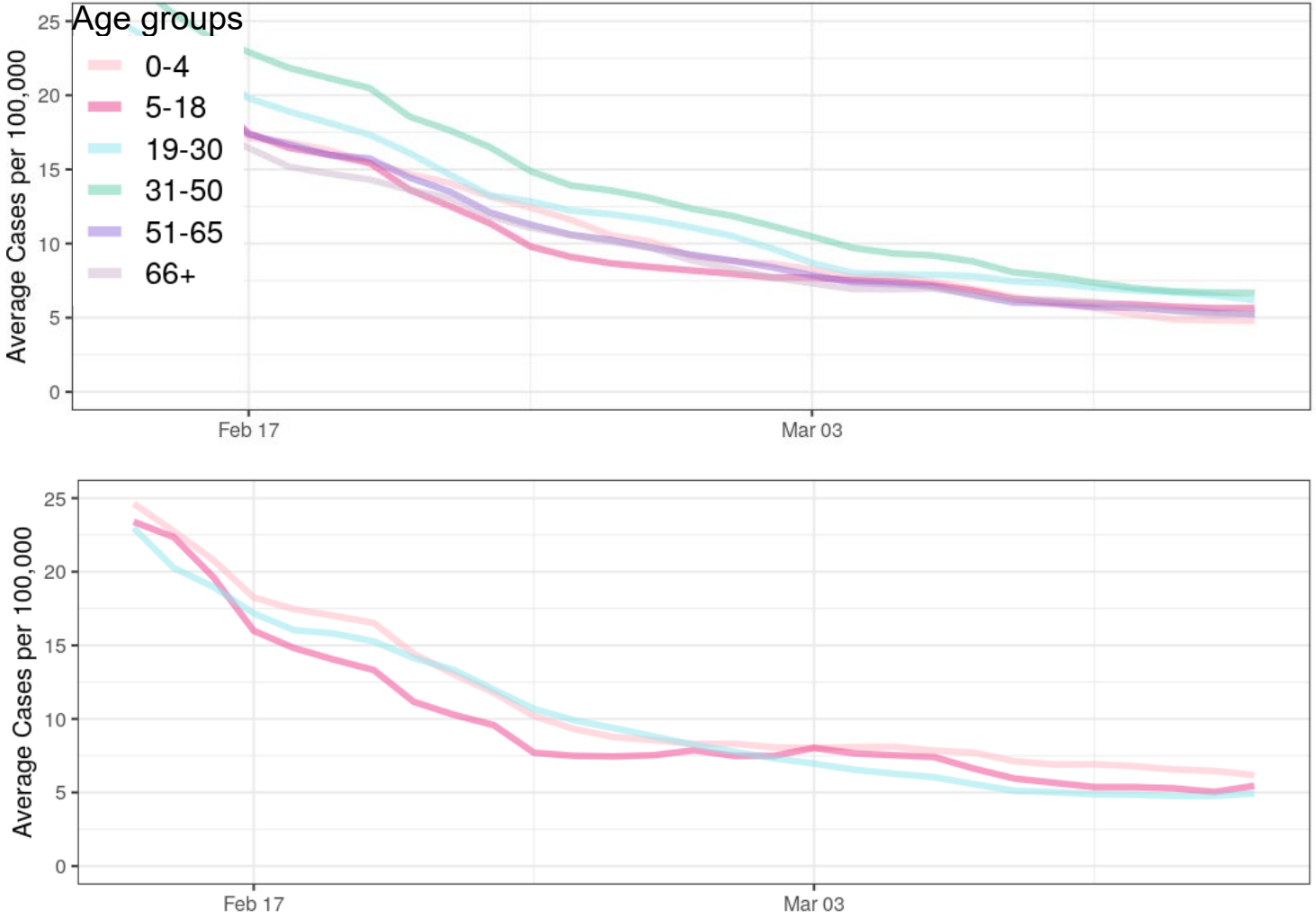
COVID-19–Associated Hospitalizations Among Adults During SARS-CoV-2 Delta and Omicron Variant Predominance, by Race/Ethnicity and Vaccination Status — COVID-NET, 14 States, July 2021–January 2022

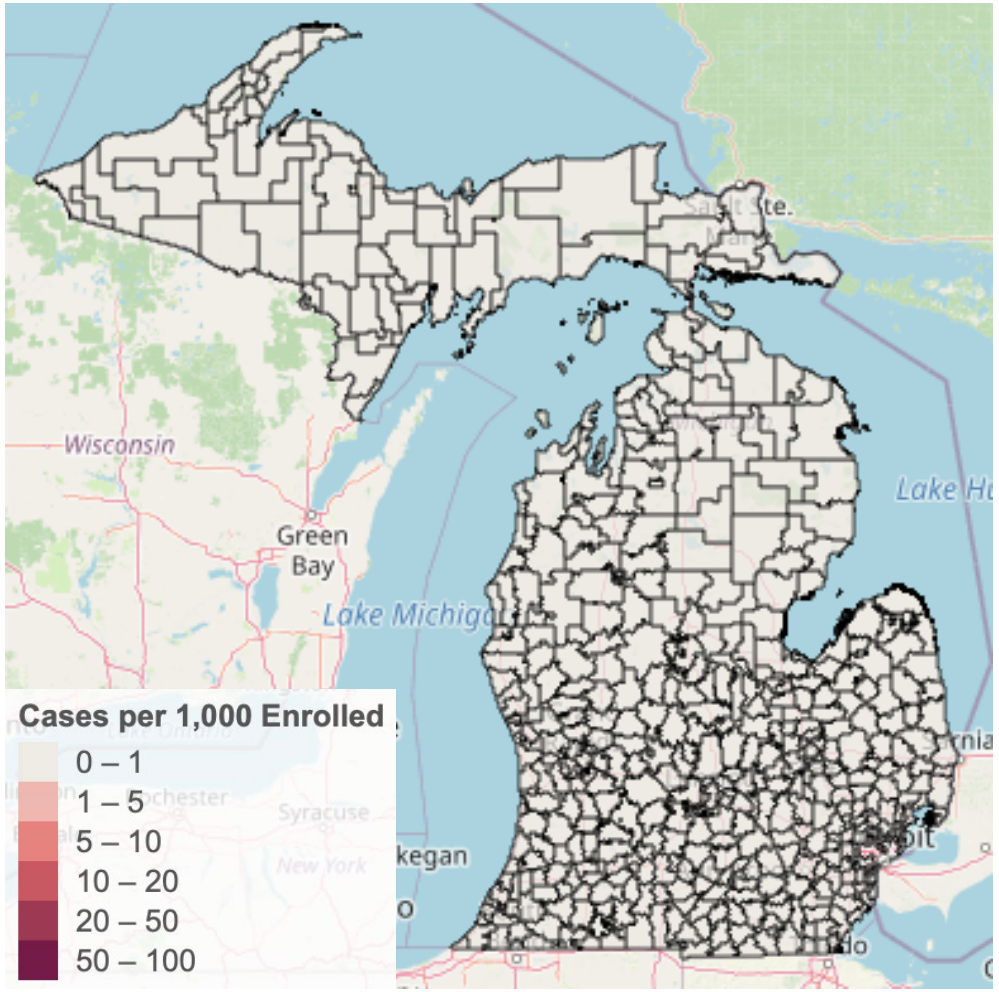


- In January 2022, unvaccinated adults and those vaccinated with a primary series, but no booster or additional dose, were 12 and three times as likely to be hospitalized, respectively
- Hospitalization rates among non-Hispanic Black adults increased more than rates in other racial/ethnic groups
- All adults should stay up to date with COVID-19 vaccination to reduce their risk for COVID-19–associated hospitalization
- Implementing strategies that result in the equitable receipt of COVID-19 vaccinations among persons with disproportionately higher hospitalizations rates, is an urgent public health priority

Decline in case rates slowing in the school-aged population statewide

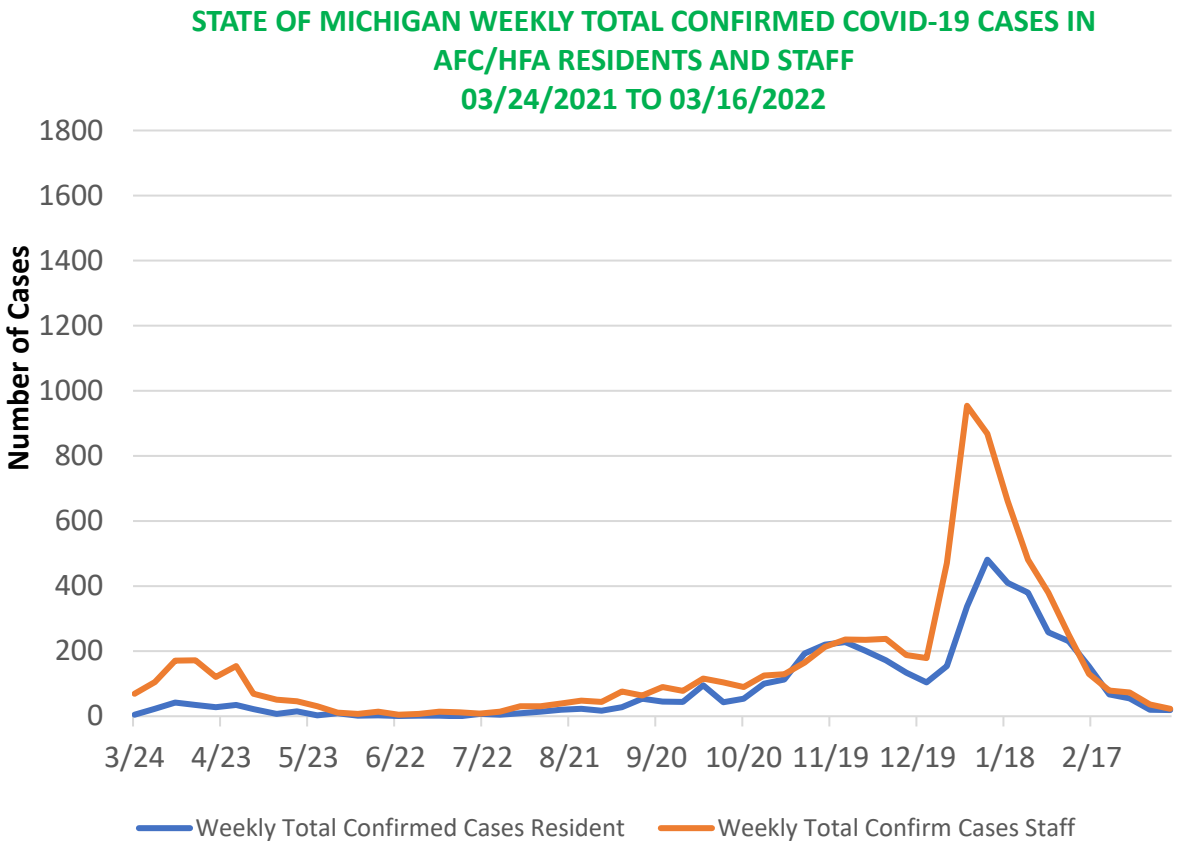
- Case rates in 5–18-year-olds have become more similar to rates in 19–50-year-olds
- Case rates among all populations (school-aged and non) are plateauing

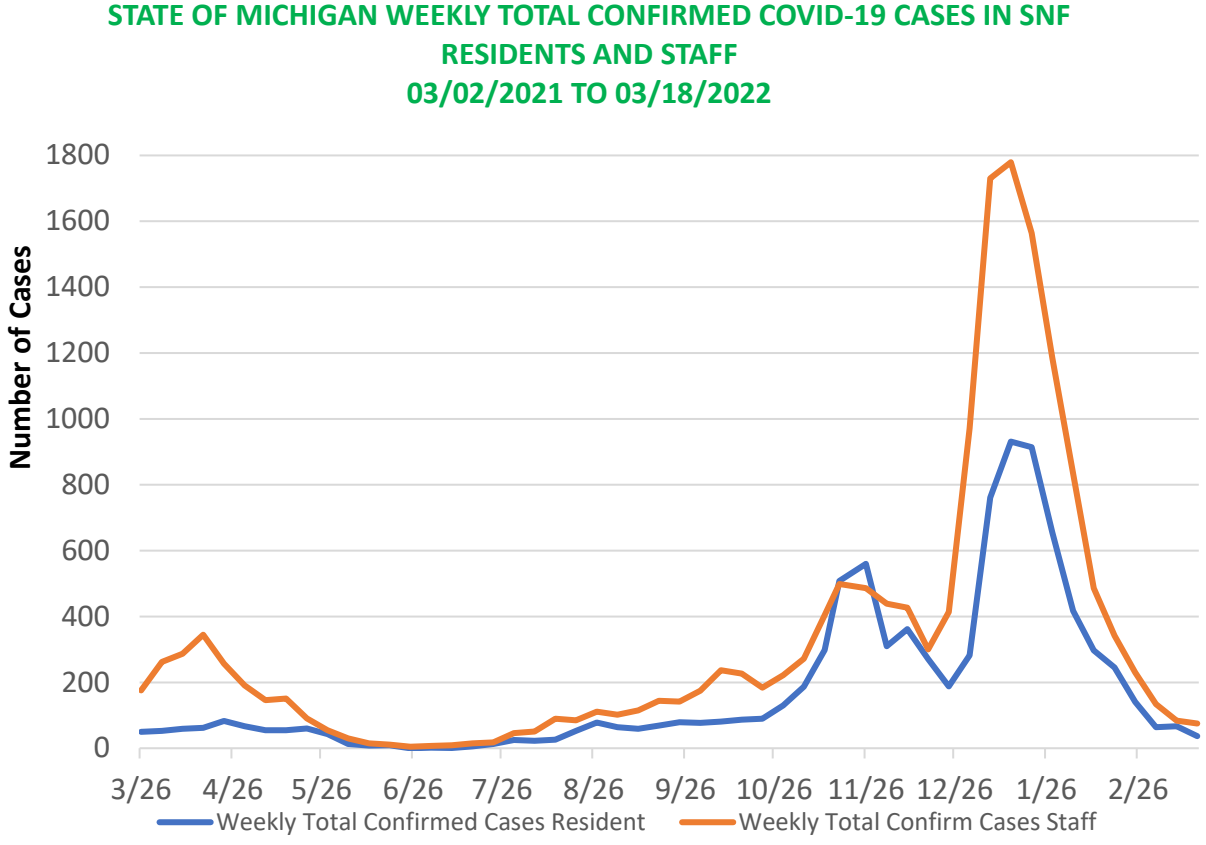




Sources: MDSS case data as of 3/21/2022 (data through 3/10/22), line charts use statewide age group population, map uses ISD enrolled populations from EOG mask tracker data.

Cases continue to decline in staff and residents in Long Term Care Facilities



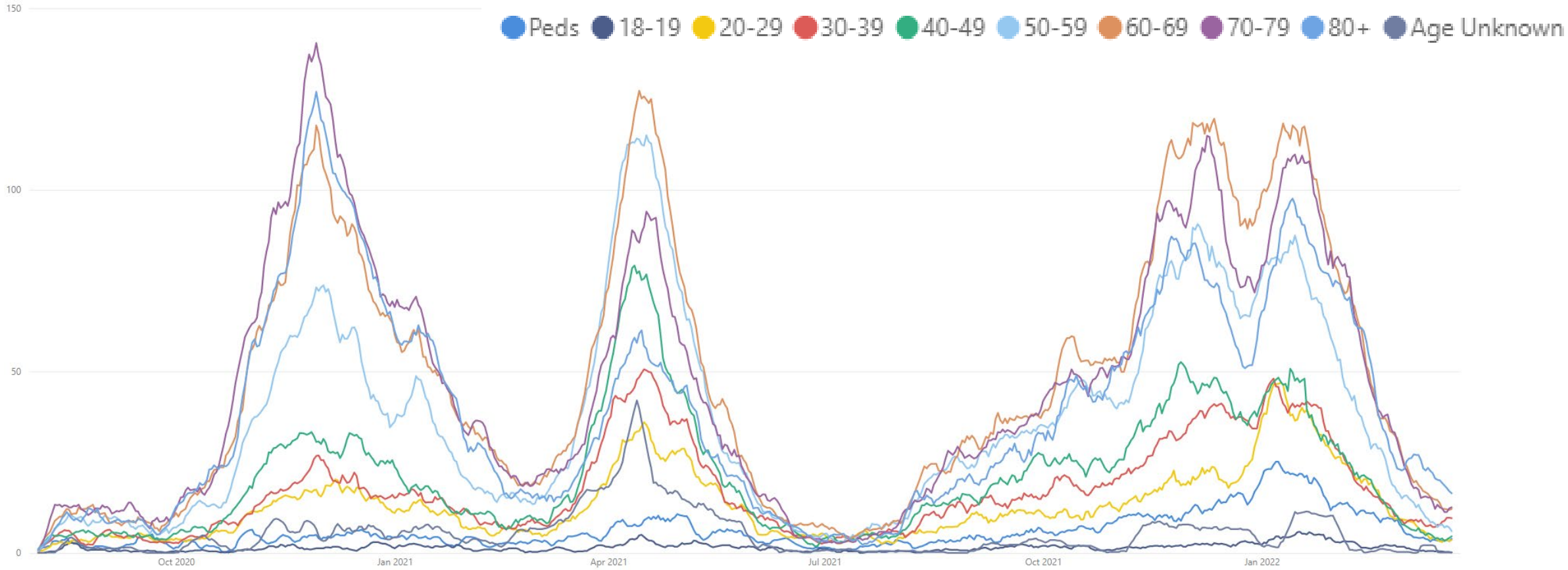


- Case counts in residents decreased for both AFC/HFA (19) and SNFs (37)
- Case counts in staff continues to decrease in both AFC/HFA (23) and SNF (75)
- As has been the case throughout the Delta and Omicron surges, the number of cases among staff continues to exceed the number of cases among residents

Abbreviations: AFC: Adult Foster Care; HFAs: Homes for the Aged; and SNF: Skilled Nursing Facilities

The data is from weekly reporting by facilities with bed occupancy of at least 13 beds.

Hospital admissions due to COVID-19 continue to decline

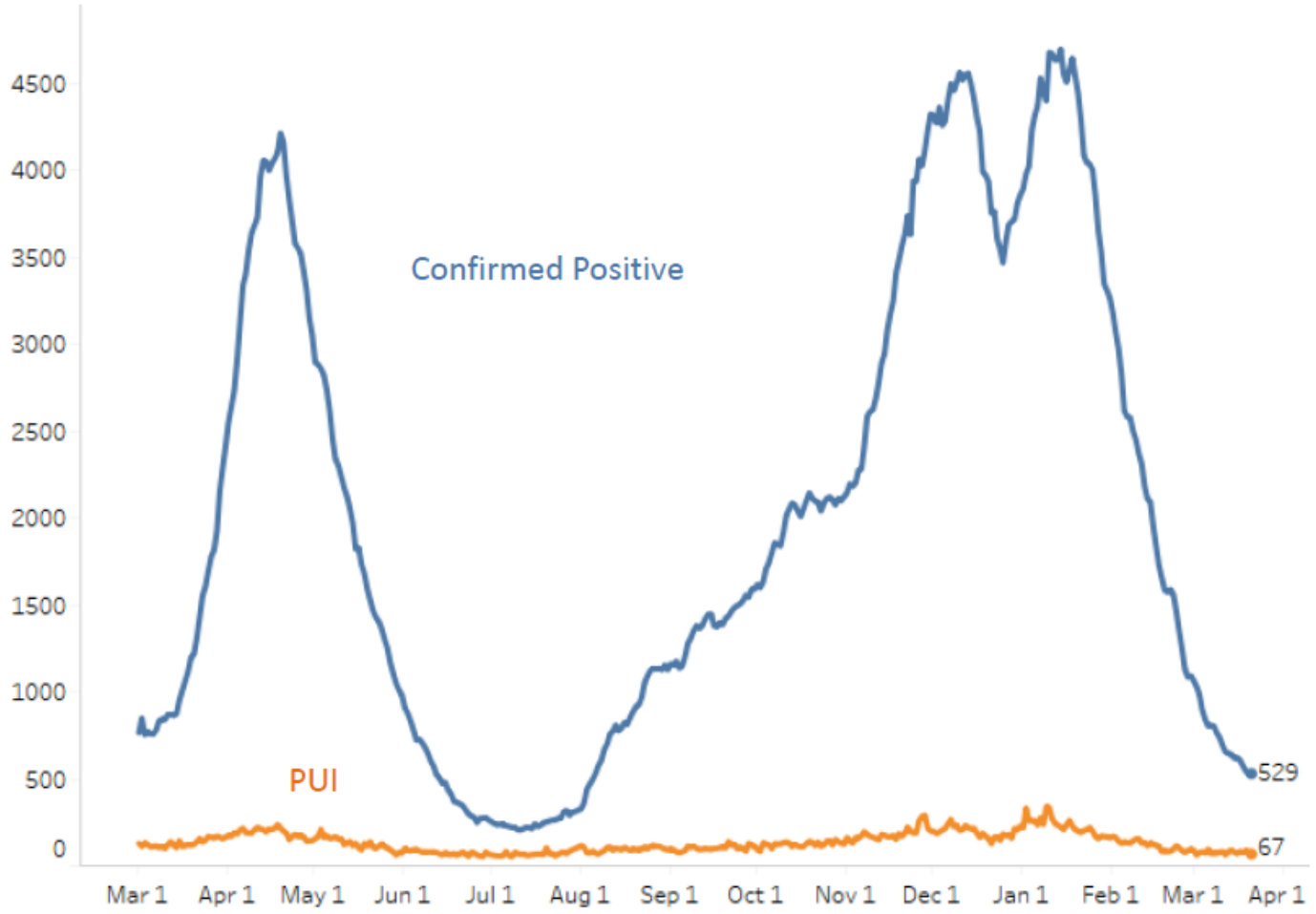


- Trends for daily average hospital admissions declined (-18%) since last week (vs. -21% prior week)
- Most age groups saw declines this week
- Between 10 and 20 daily hospital admissions was seen for each of the age groups of 60-69, 70-79, and 80+

Source: CHECC & EM Resource

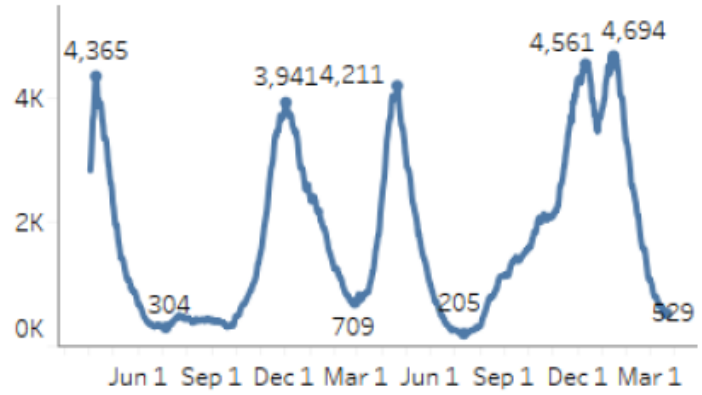
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 3/21/2022
Confirmed Positive & Persons Under Investigation (PUI)

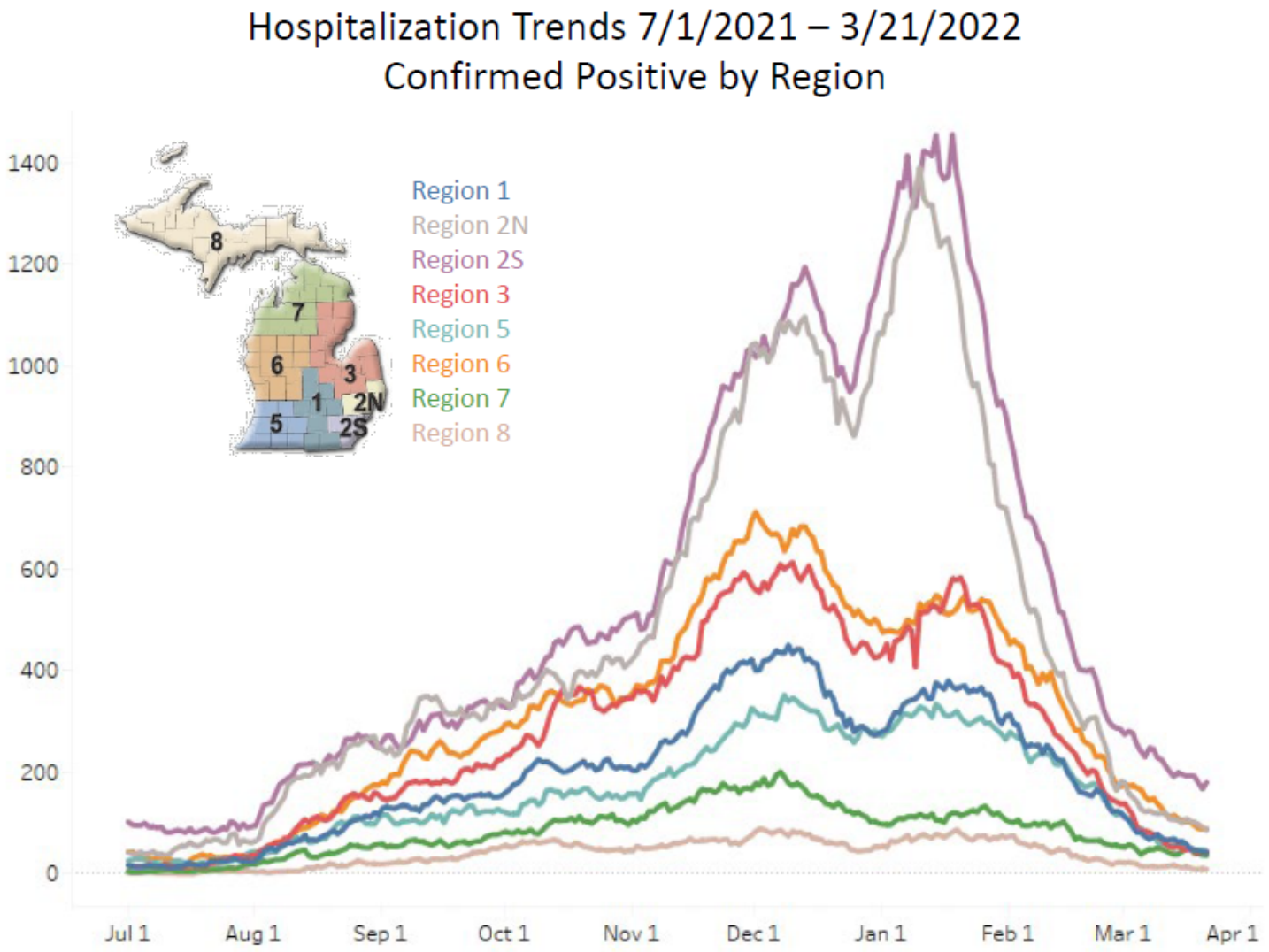


The COVID+ census in hospitals continues to decrease and is down 17% from last week (previous week was down 20%), Total census in hospitals is now 529 patients.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

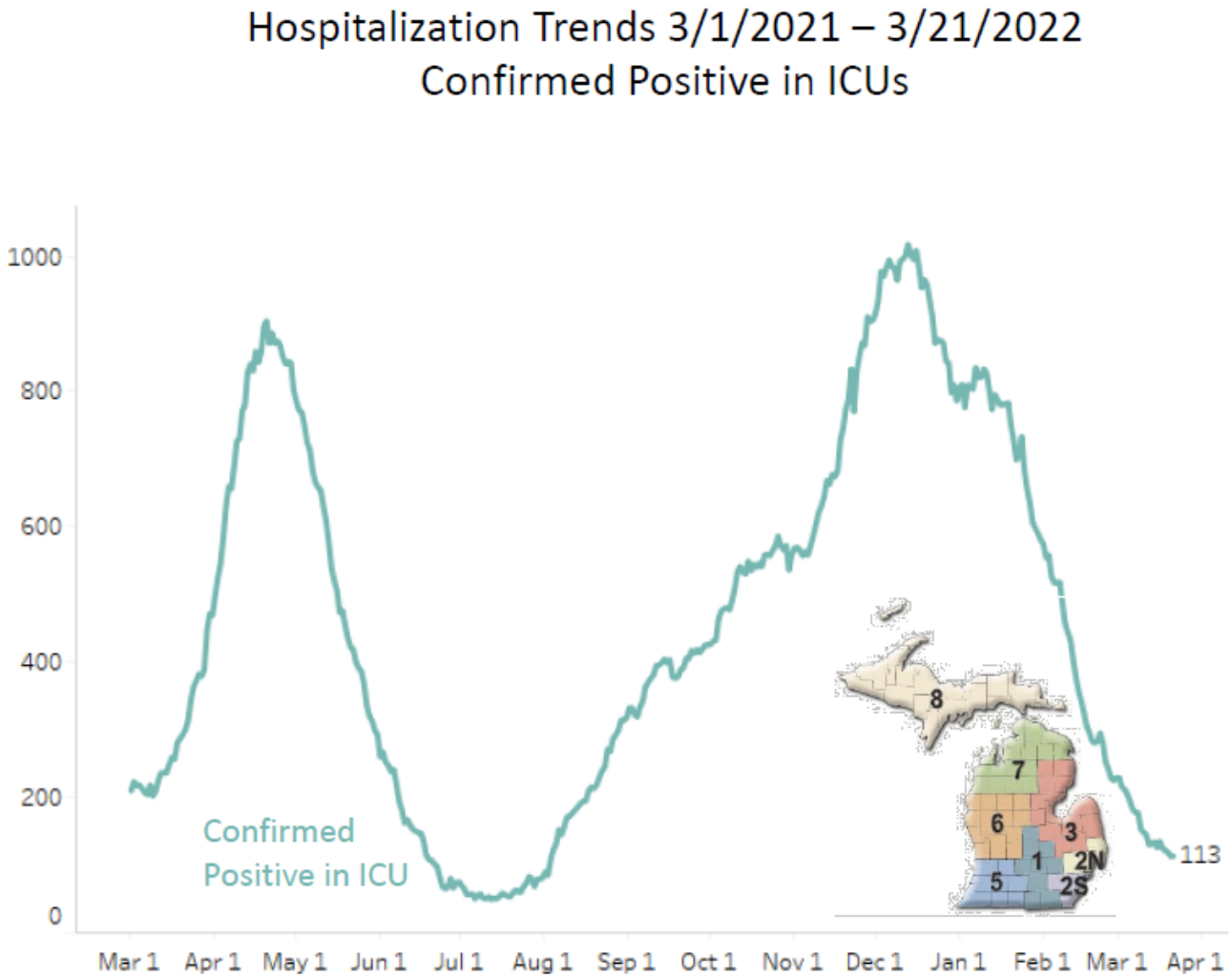


This week hospitalizations have decreased in all regions.

All regions have fewer than 85/Million population hospitalized with COVID.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	42 (-32%)	39/M
Region 2N	86 (-18%)	39/M
Region 2S	180 (-10%)	81/M
Region 3	42 (-22%)	37/M
Region 5	45 (-26%)	47/M
Region 6	89 (-18%)	61/M
Region 7	36 (-5%)	72/M
Region 8	9 (-36%)	29/M

Statewide Hospitalization Trends: ICU COVID+ Census



Overall, the census of COVID+ patients in ICUs has decreased by 16% from last week (previous week was down by 25%). All regions are show decreasing trends in ICU census except Region 2S, which has increased by 3 patients overall since last week.

All regions have 8% 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	7 (-36%)	82%	4%
Region 2N	12 (-8%)	65%	2%
Region 2S	54 (6%)	76%	8%
Region 3	13 (-7%)	87%	4%
Region 5	4 (-50%)	55%	2%
Region 6	10 (-50%)	68%	4%
Region 7	11 (-21%)	79%	8%
Region 8	2 (-33%)	60%	3%

Statewide Hospitalization Trends: Pediatric COVID+ Census

Protect Yourself, Protect Your Community

Vaccines

Protect against severe outcomes

Vaccines are available for ages 5 and up. Boosters are available for ages 12 and up.

Masks, Distancing & Ventilation

Prevent spread

People with symptoms, a positive test, or exposure to someone with COVID-19 should wear a mask. Masking may also be based on personal preference and informed by personal level of risk.

Tests

Prevent spread

Over-the-counter tests allow for testing at home; an important addition to on-site antigen and PCR testing.

Treatment

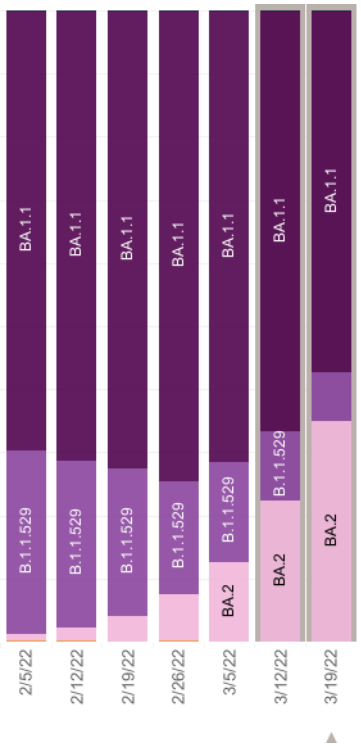
Protect against severe outcomes

Oral antivirals and monoclonal antibodies can reduce the risk of hospitalization and death from COVID-19.

APPENDIX

Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan

SARS-CoV-2 Variants Circulating in the United States, Feb 5 – Mar 19 (NOWCAST)

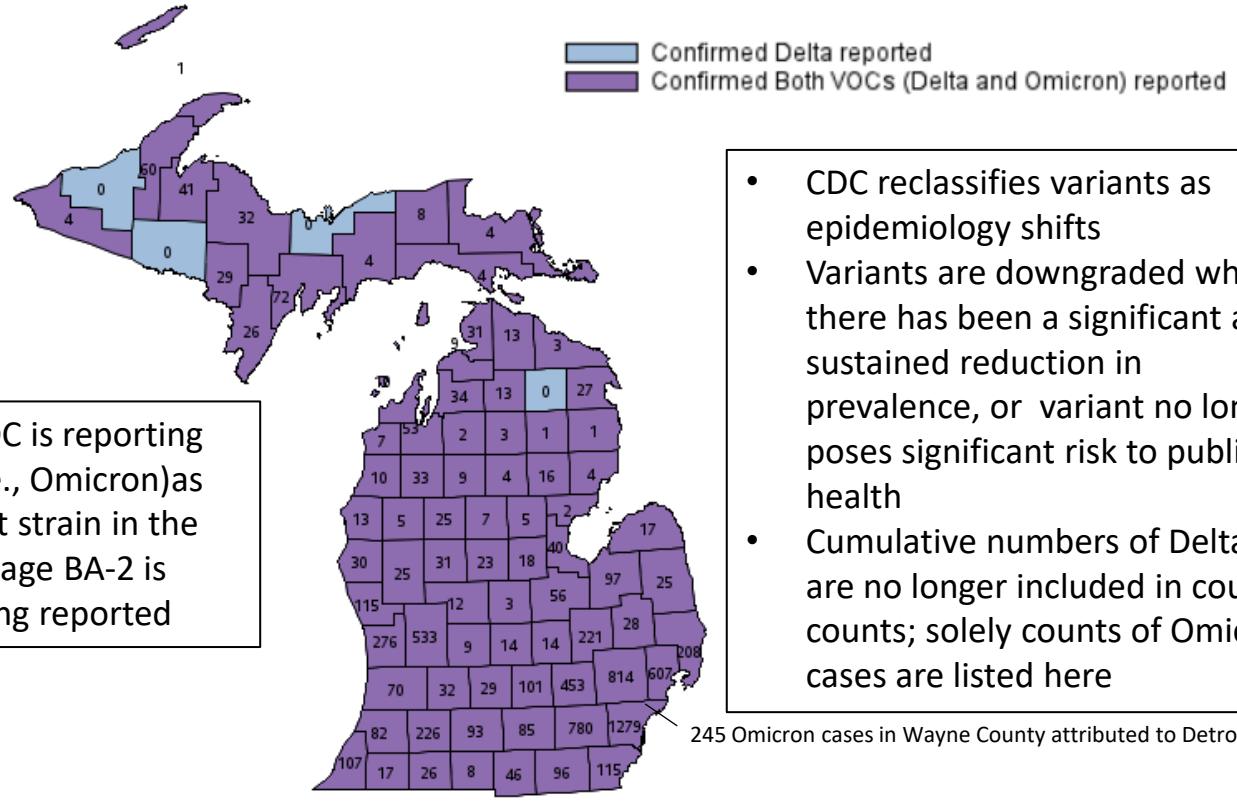


USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.1.1	VOC	57.3%	51.8-62.6%
	BA.2	VOC	34.9%	29.6-40.4%
	B.1.1.529	VOC	7.9%	6.6-9.3%
Delta	B.1.617.2	VOC	0.0%	0.0-0.0%
Other	Other*		0.0%	0.0-0.0%

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
# AY.1-AY.133 and their sublineages are aggregated with B.1.617.2. BA.1 and BA.3 are aggregated with B.1.1.529. For regional data, BA.1.1 is also aggregated with B.1.1.529, as it currently cannot be reliably called in each region.

Variants of Concern in Michigan, Mar 21



245 Omicron cases in Wayne County attributed to Detroit City

Currently, CDC is reporting B.1.1.529 (i.e., Omicron)as the dominant strain in the U.S.; sub-lineage BA-2 is now also being reported

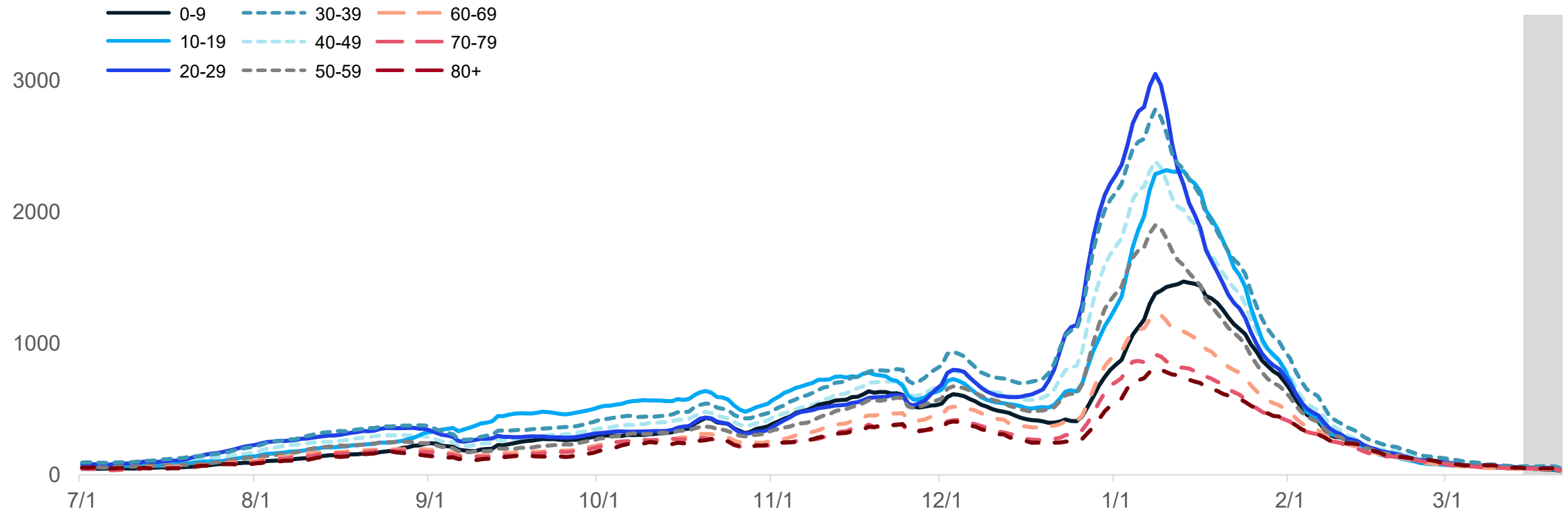
- CDC reclassifies variants as epidemiology shifts
- Variants are downgraded when there has been a significant and sustained reduction in prevalence, or variant no longer poses significant risk to public health
- Cumulative numbers of Delta are no longer included in county counts; solely counts of Omicron cases are listed here

Variant	MI Reported Cases	# of Counties	MDHHS VOC Sequenced Prev. ¶
B.1.617.2 (delta)	31,010	83	1%
B.1.1.529 (omicron)	7,551	79	99%

Data last updated Mar 21, 2022
Source: MDSS
¶ Sequence specimens are from the most recent week by onset date which may change as more specimens are sent in

Case Rate Trends by Age Group

Daily new confirmed and probable cases per million by age group (7-day rolling average)

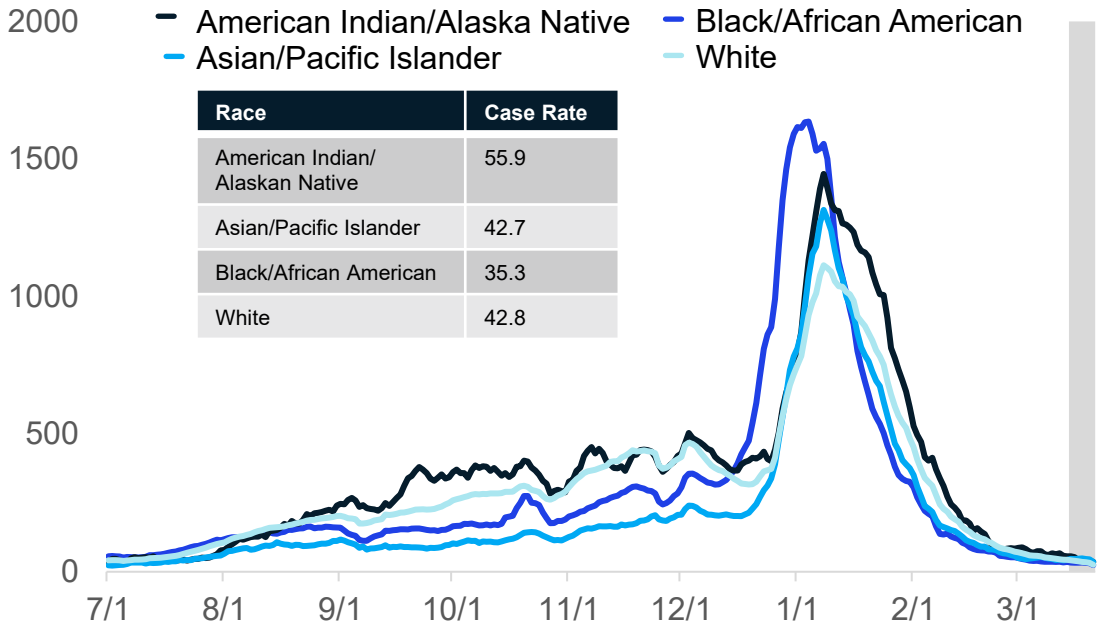


- Case rate trends for all age groups saw decreases over the past week
- Case rates by onset date for all age groups are between 45.9 and 63.7 cases per million (through 3/14/22)
- Case counts and case rates are highest for 30-39-year-olds this week, followed by 40-49, and 20-29 year-olds

Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System

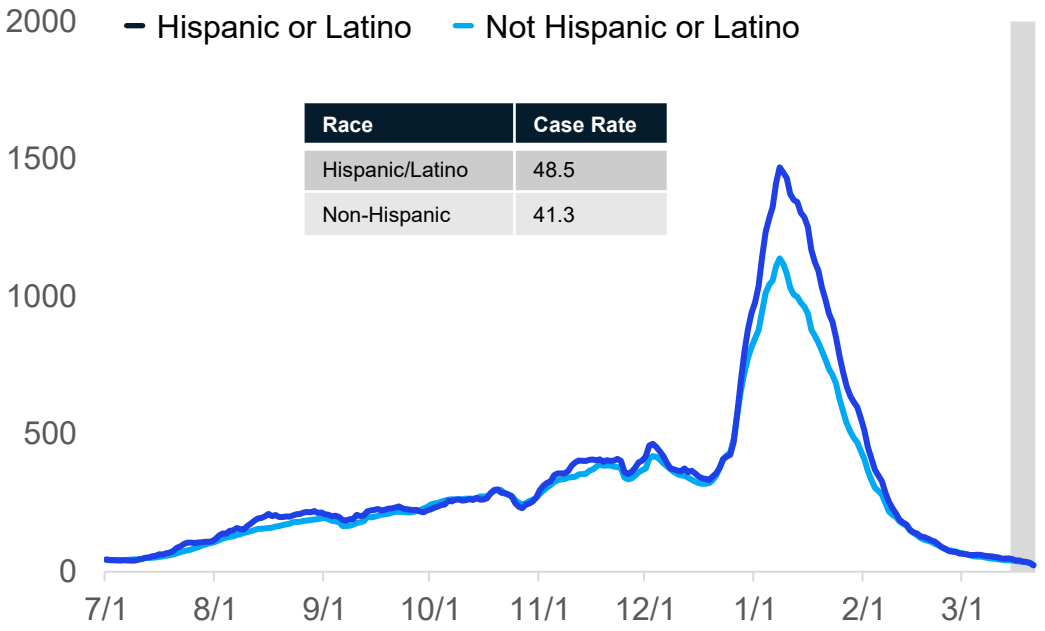
Case Rates by Reported Racial and Ethnic Group

Daily new confirmed and probable cases per million (7 day rolling average) by race category



Race	Case Rate
American Indian/ Alaskan Native	55.9
Asian/Pacific Islander	42.7
Black/African American	35.3
White	42.8

Daily new confirmed and probable cases per million (7 day rolling average) by ethnicity category



Race	Case Rate
Hispanic/Latino	48.5
Non-Hispanic	41.3

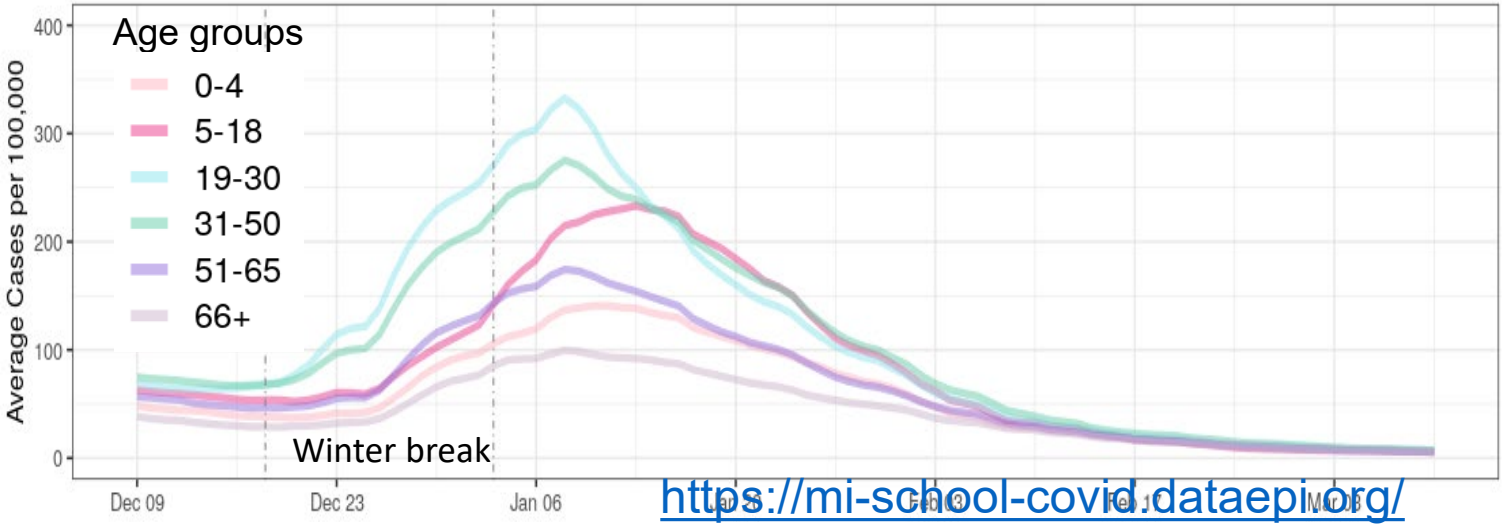
Updates since last week:

- Cases per million are plateauing for all reported racial and ethnic groups
- In the past 30 days, 21% (↓1%) of race data and 27% (↓1%) ethnicity data was either missing or reported as unknown

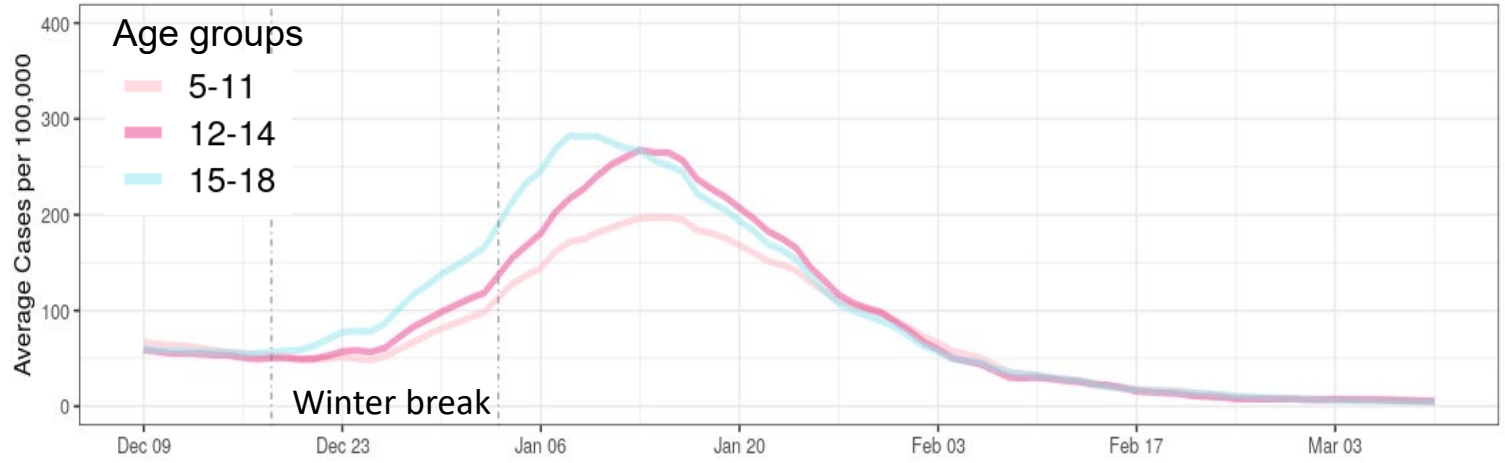
Note: Case information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

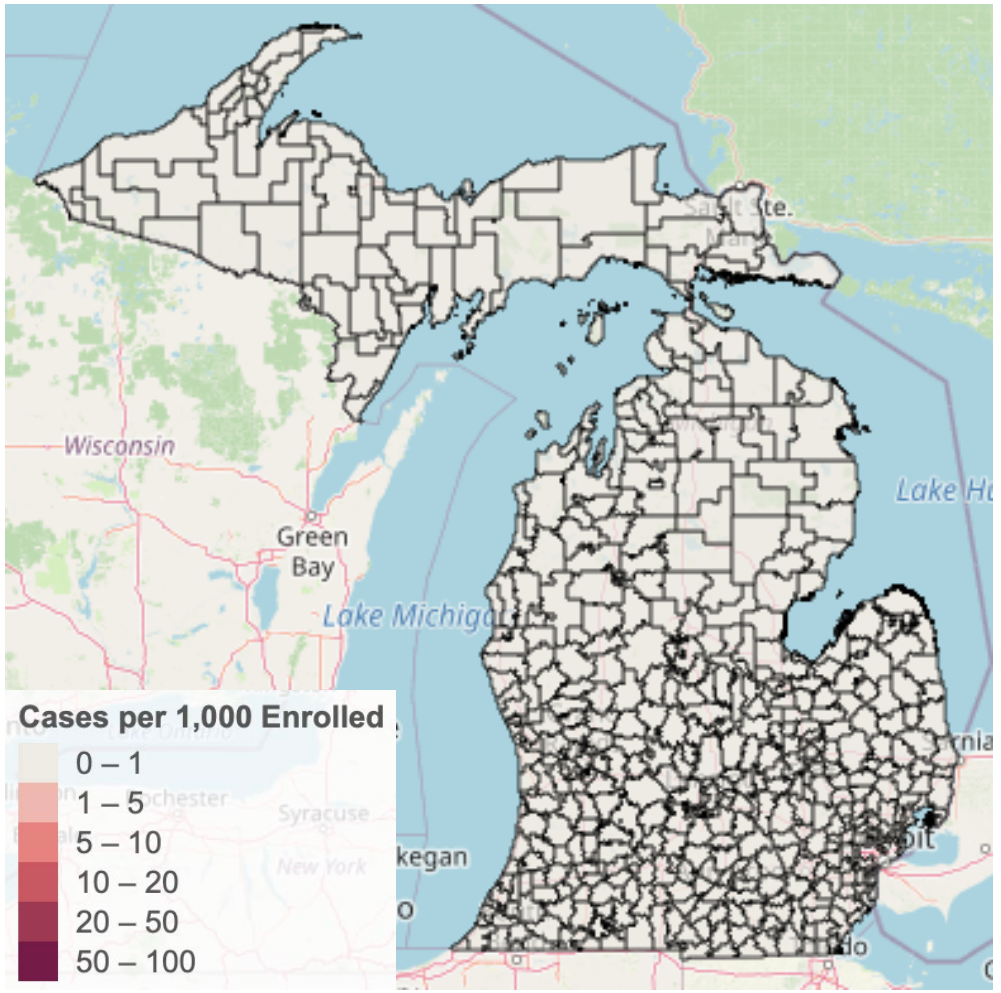
Case rates continue to decline in the school-aged population statewide

- Case rates in 5–18-year-olds have become more similar to rates in 19–50-year-olds
- Case rates among all populations (school-aged and non) are plateauing



https://mi-school-covid.dataepi.org/

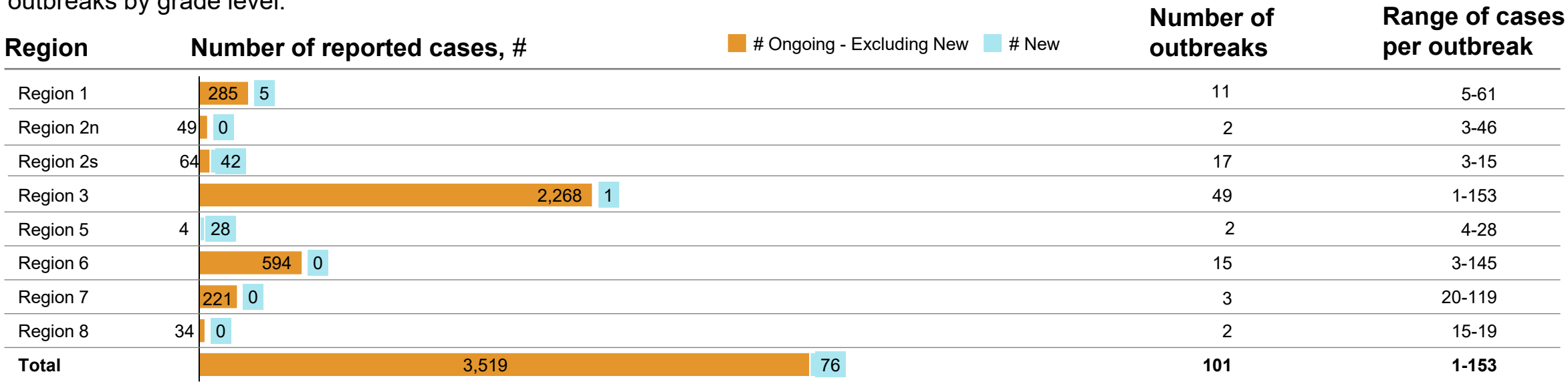




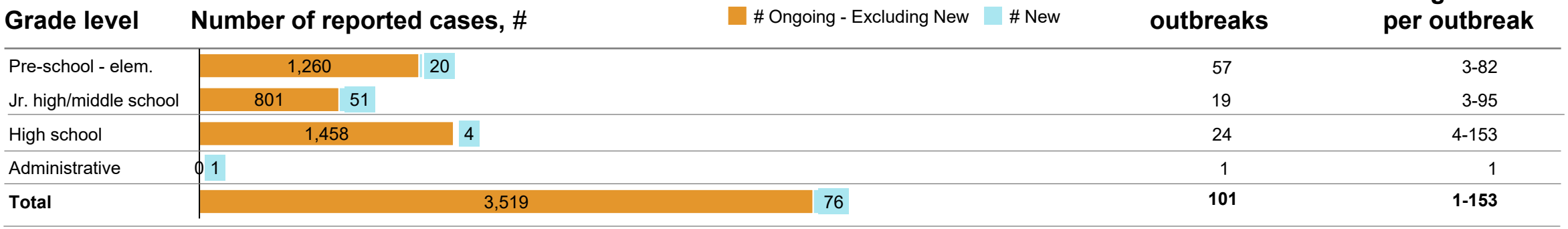
Sources: MDSS case data as of 3/21/2022 (data through 3/10/22), line charts use statewide age group population, map uses ISD enrolled populations from EOG mask tracker data.

Vital Infrastructure: K-12 school clusters and outbreaks, week ending March 17

Number of reported outbreaks/clusters decreased since last week (172 to 101), with many ongoing outbreaks closing and 5 or fewer new outbreaks by grade level.



Region	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Region 1	285	5	11	5-61
Region 2n	49	0	2	3-46
Region 2s	64	42	17	3-15
Region 3	2,268	1	49	1-153
Region 5	4	28	2	4-28
Region 6	594	0	15	3-145
Region 7	221	0	3	20-119
Region 8	34	0	2	15-19
Total	3,519	76	**101**	**1-153**



Grade level	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	1,260	20	57	3-82
Jr. high/middle school	801	51	19	3-95
High school	1,458	4	24	4-153
Administrative	0	1	1	1
Total	3,519	76	**101**	**1-153**

Many factors, including the lack of ability to conduct effective contact tracing in certain settings, may result in significant underreporting of outbreaks. This chart does not provide a complete picture of outbreaks in Michigan and the absence of identified outbreaks in a particular setting in no way provides evidence that, in fact, that setting is not having outbreaks.
NOTE (10/4): MDHHS adopted the new CSTE school cluster and outbreak definition which impacts how transmissions within school-sponsored settings are reported to the health department

Source: LHD Weekly Sitreps

Hospital Admissions and Admission Rates by Age Group

Daily new hospital admission per million by age group (7-day rolling average)

Age Group	Average† daily number of hospital admissions	Average† Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	2.2	1.6	-4% (0)
12-17	0.7	0.9	-56% (-1)
18-19	0.3	1.1	-50% (0)
20-29	3.3	2.4	-23% (-1)
30-39	9.7	8.0	37% (3)
40-49	4.1	3.5	-13% (-1)
50-59	**7.0**	**5.2**	-23% (-2)
60-69	**11.9**	**9.3**	-20% (-3)
70-79	**12.3**	**16.0**	-14% (-2)
80+	**17.0**	**41.0**	-25% (-6)
Total¶	**68.6**	**6.0**	**-18% (-15)**

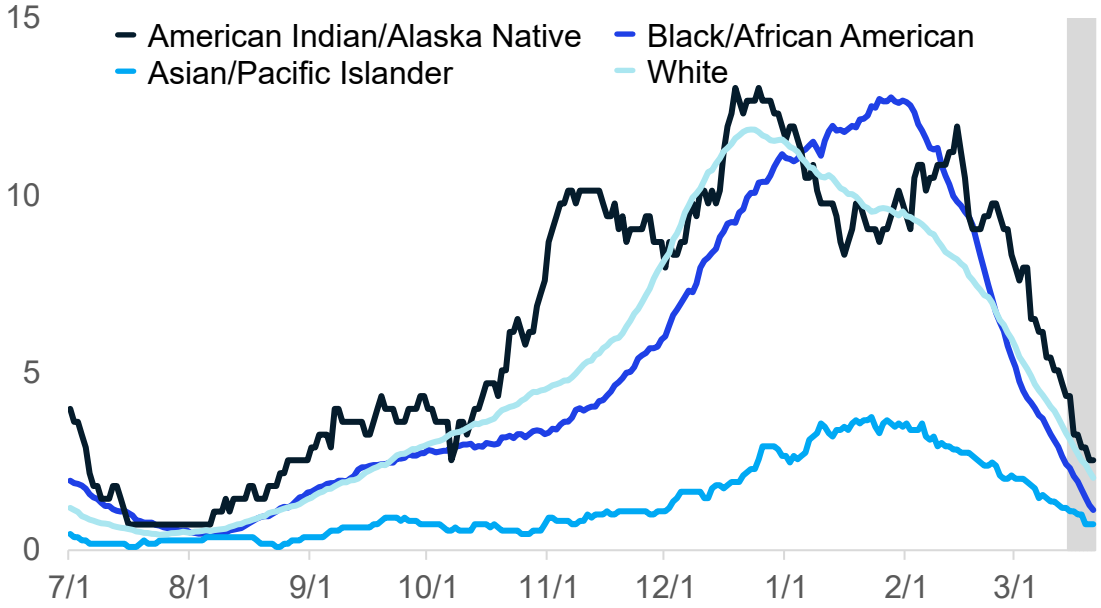
* Rate per 1 million residents; † Rolling 7-day average; ¶ Total may not reflect state due to missing age data
Note: Hospital Admission data reflects date data was submitted
Source: CHECC and EM Resource

- Through Mar 21, there were an average of 68.6 hospital admissions per day due to COVID-19; a decrease from last week (-18%, -15)
- Most age groups saw plateaus or decreases this week
- The largest one-week count decrease was among those 80+ years (-6)
- Average daily hospital admission count (17 hospital admissions per day) were highest among those aged 80+
- Average daily hospital admission rate (41.0 hospital admissions/million) were highest for those aged 80+
- Fewer than 20 daily hospital admissions were seen for all age groups

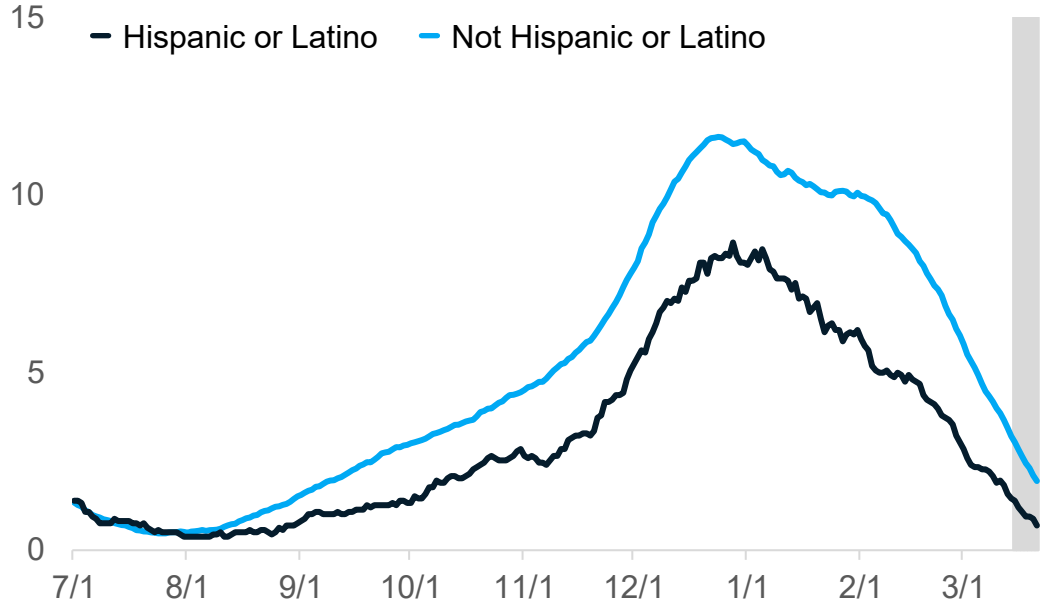
Note: for some age groups, small changes in number of hospitalization admissions can cause large change in One Week Percent Change

30-day rolling average daily deaths per million people by race and ethnicity

Average daily deaths per million people by race



Average daily deaths per million people by ethnicity

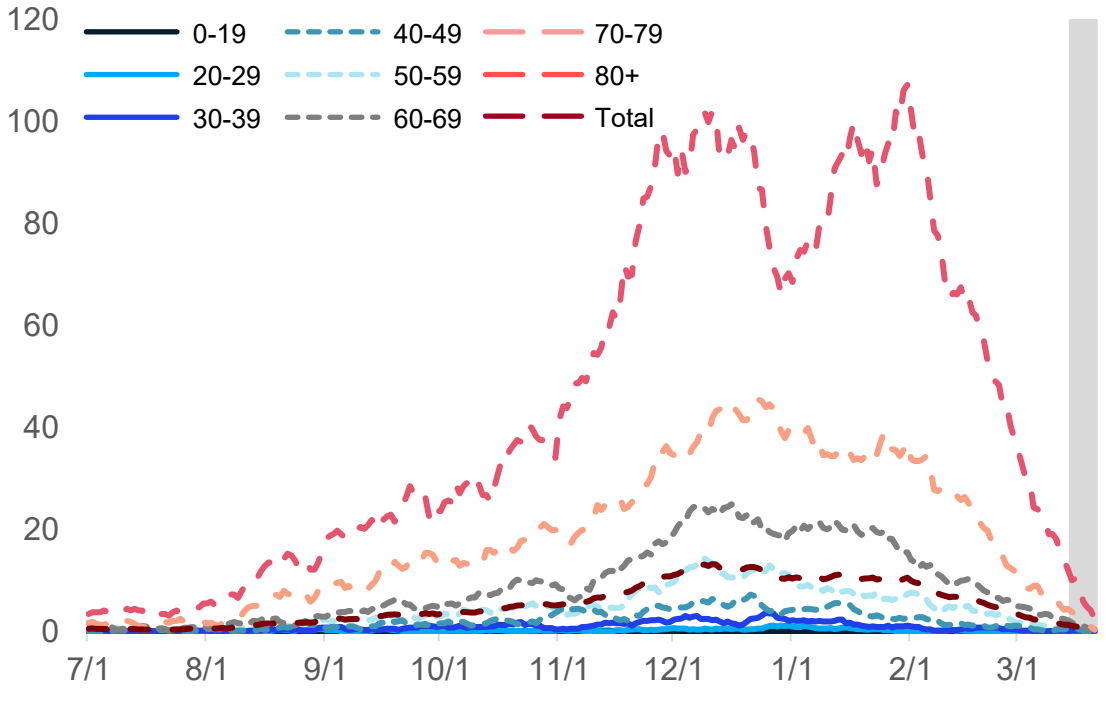


- Deaths are lagging indicator of other metrics
- Currently, American Indian/Alaska Natives have the highest death rate (4.3 deaths/million)

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

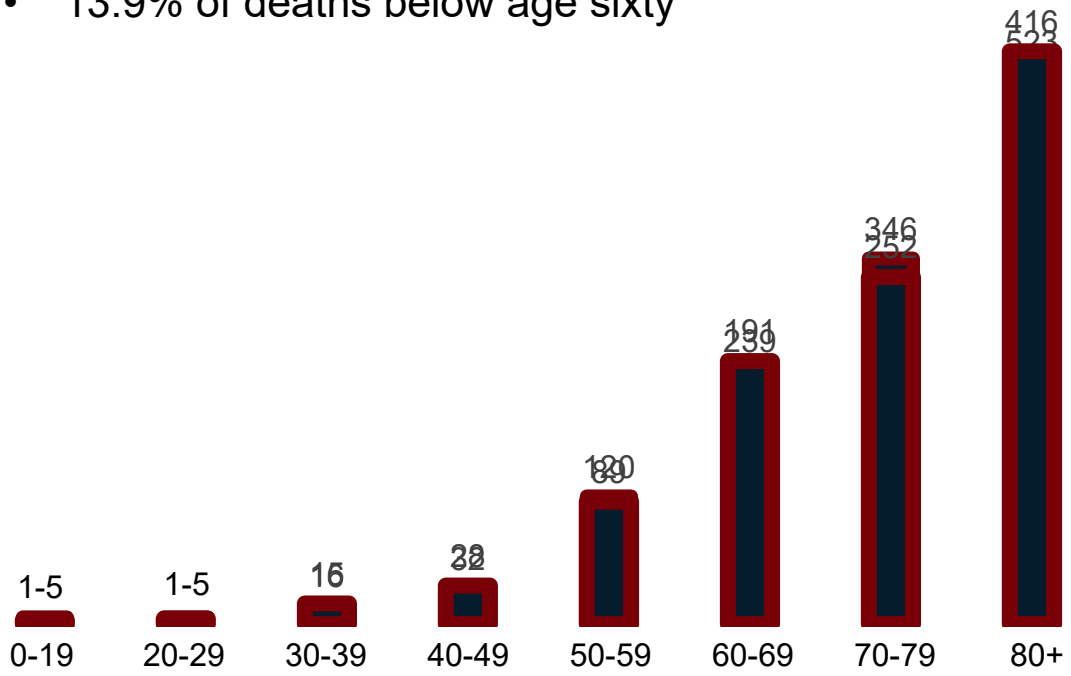
Average and total new deaths, by age group

Daily COVID-19 deaths in confirmed and probable cases per million by age group (7 day rolling average)



Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 3/14/2022)

- 13.9% of deaths below age sixty



- Through 3/14, the 7-day avg. death rate is more than 12 daily deaths per million people for those over the age of 80
- In the past 30 days, there were between 1 and 5 deaths among confirmed and probable COVID-19 cases under the age of 20
- 30-day proportion of deaths among those under 60 years of age is 13.9%

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System (MDSS)

Cumulative COVID-19 Cases by Vaccination Status, Michigan, 1/15/21–3/11/22

Fully Vaccinated People (5,635,630)		
Cases	**Hospitalizations***	**Deaths**
Percent of Cases In People Not Fully Vaccinated (1,203,287 / 1,648,710) **73.0%**	Percent of Hospitalizations In People Not Fully Vaccinated (24,841 / 30,151) **82.4%**	Percent of Deaths In People Not Fully Vaccinated (14,664 / 18,843) **77.8%**
1,203,287 Total Cases Not Fully Vaccinated	**24,841** Total Hospitalized Not Fully Vaccinated	**14,664** Total Deaths Not Fully Vaccinated
Total Breakthrough Cases **445,423**	Total Breakthrough Hospitalizations **5,310**	Total Breakthrough Deaths **4,179**
7.9% Percent of Fully Vaccinated People who Developed COVID-19 (445,423 / 5,635,630)	**0.094%** Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (5,310 / 5,635,630)	**0.074%** Percent of Fully Vaccinated People Who Died of COVID-19 (4,179 / 5,635,630)
27.0% Percent of Cases Who Were Fully Vaccinated (445,423 / 1,648,710)	**17.6%** Percent of Hospitalizations Who Were Fully Vaccinated (5,310 / 30,151)	**22.2%** Percent of Deaths Who Were Fully Vaccinated (4,179 / 18,843)
Total Cases: **1,648,710**	Total Hospitalizations: **30,151**	Total Deaths: **18,843**

***The Michigan Disease Surveillance System (MDSS) may underestimate the frequency of COVID-19 hospitalizations due to the following:
- Universal case investigations are no longer being performed
- Case investigation and follow-up is more difficult for individuals who get hospitalized (e.g., they are too ill to speak to investigators, don't answer their phone, or otherwise).
- These hospitalizations include individuals who are hospitalized for issues other than COVID19 (the same as breakthrough COVID-19).
- Many hospitalizations often lag after initial infection and may occur after case investigation.

Note: Due to a data processing error, hospitalizations were overestimated in the previous update (1/15/21–2/11/22) across both categories, thus overall proportions were not impacted. With data corrections applied, the current totals of hospitalizations are lower than in the previous update, but they reflect the current status in MDSS.