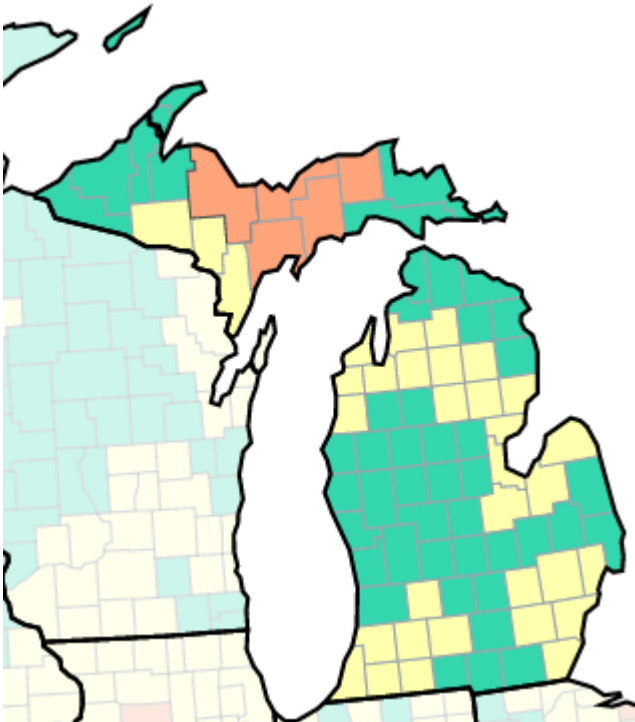


MI COVID RESPONSE DATA AND MODELING UPDATE

January 3, 2023

As of Dec 29, 5 Michigan Counties are at High COVID-19 Community Level



- In the US, 9% of counties have high risk for medically significant disease and healthcare strain
- In Michigan, 6% (5/83) of counties are at high risk. This represents 1% of the population
- 33 Michigan counties are currently at Medium level (40%). This represents 62% of the population
- 45 Michigan counties are currently at Low level (54%). This represents 37% of the population

Percent of Counties This Week

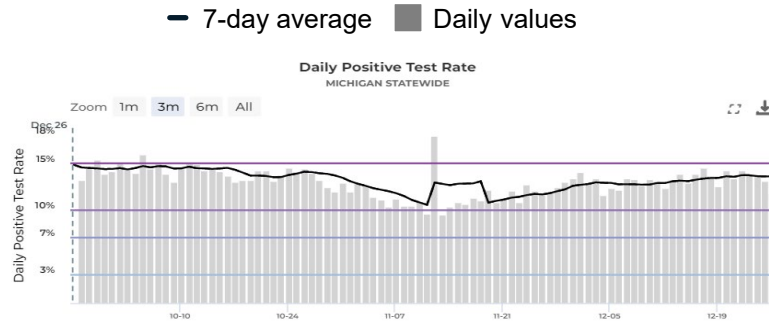
	United States	Michigan	Percent of MI Population
Low	51%	54%	37%
Medium	40%	40%	62%
High	9%	6%	1%

Low	Medium	High
<ul style="list-style-type: none">• Stay up to date with COVID-19 vaccines• Get tested if you have symptoms	<ul style="list-style-type: none">• If you are at high risk for severe illness, talk to your healthcare provider about whether you need to wear a mask and take other precautions• Stay up to date with COVID-19 vaccines• Get tested if you have symptoms	<ul style="list-style-type: none">• Wear a mask indoors in public• Stay up to date with COVID-19 vaccines• Get tested if you have symptoms• Additional precautions may be needed for people at high risk for severe illness

Recent statewide COVID trends are plateaued

Statewide trends

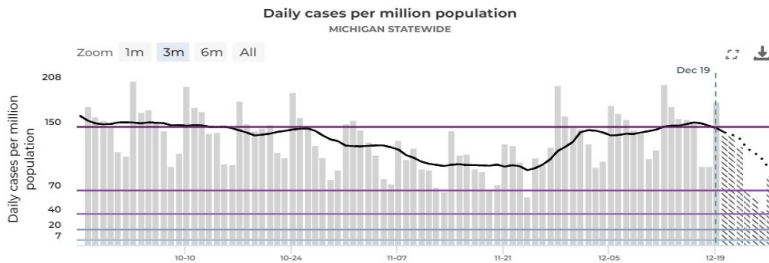
Positivity, %



Current: 13.4%

Last Week: 13.6%

Daily cases per million

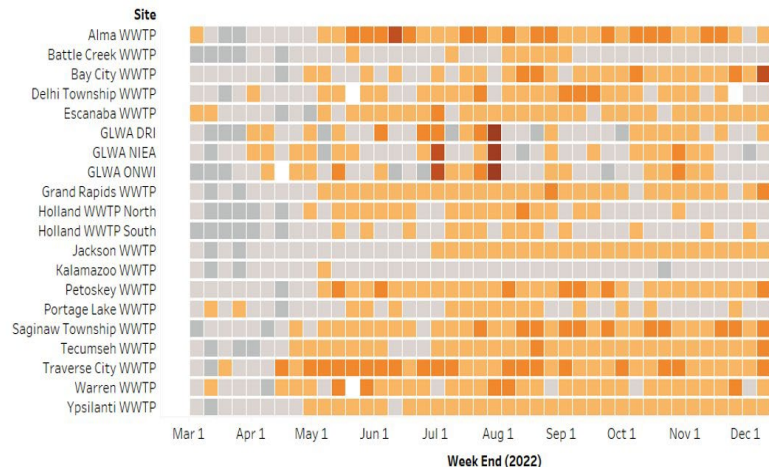
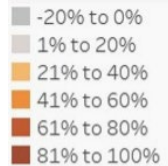


Current: 143.3

Last Week: 145.0

Wastewater

Percent Change



Current: 75% of sites are above 20% baseline threshold

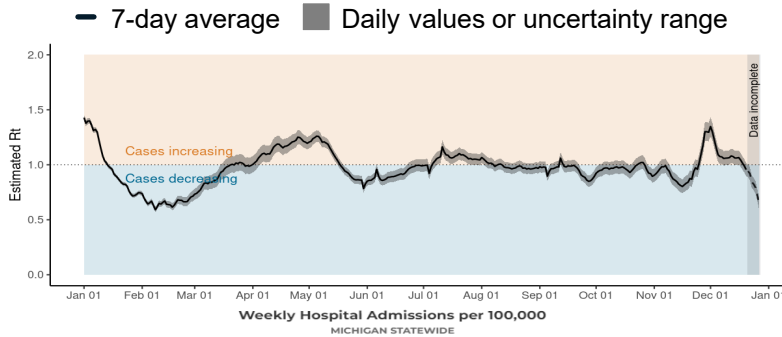
Last Week: 60% of sites are above 20% baseline threshold

- Test percent positivity, is steady compared to last week
- Case rates have leveled off but remain higher than 6-month lows seen in November
- 6 counties are currently showing increases in cases and an additional 16 reported an elevated incidence plateau in case rates (via mistartmap.info as of 12/29/22, data through 12/19/22)
- 75% (12/16) of wastewater sentinel sites have reported levels that are 20% or higher than baseline threshold levels this week

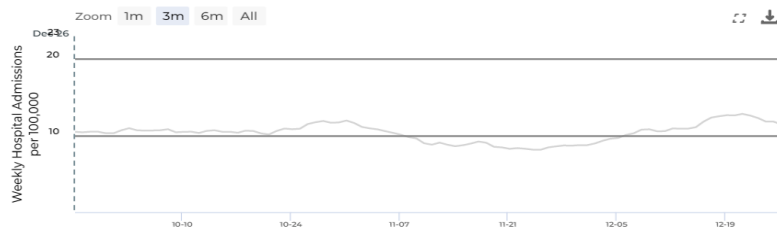
Recent statewide COVID trends are plateaued

Statewide trends

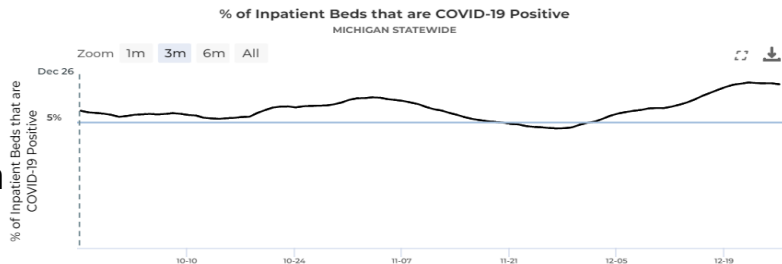
Reproductive Number, R_t



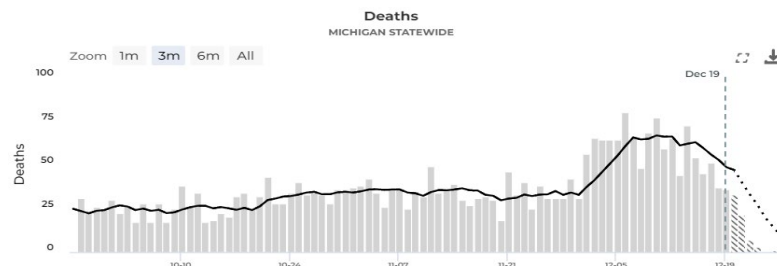
Hospital Admissions



Daily hospitalization rate, %



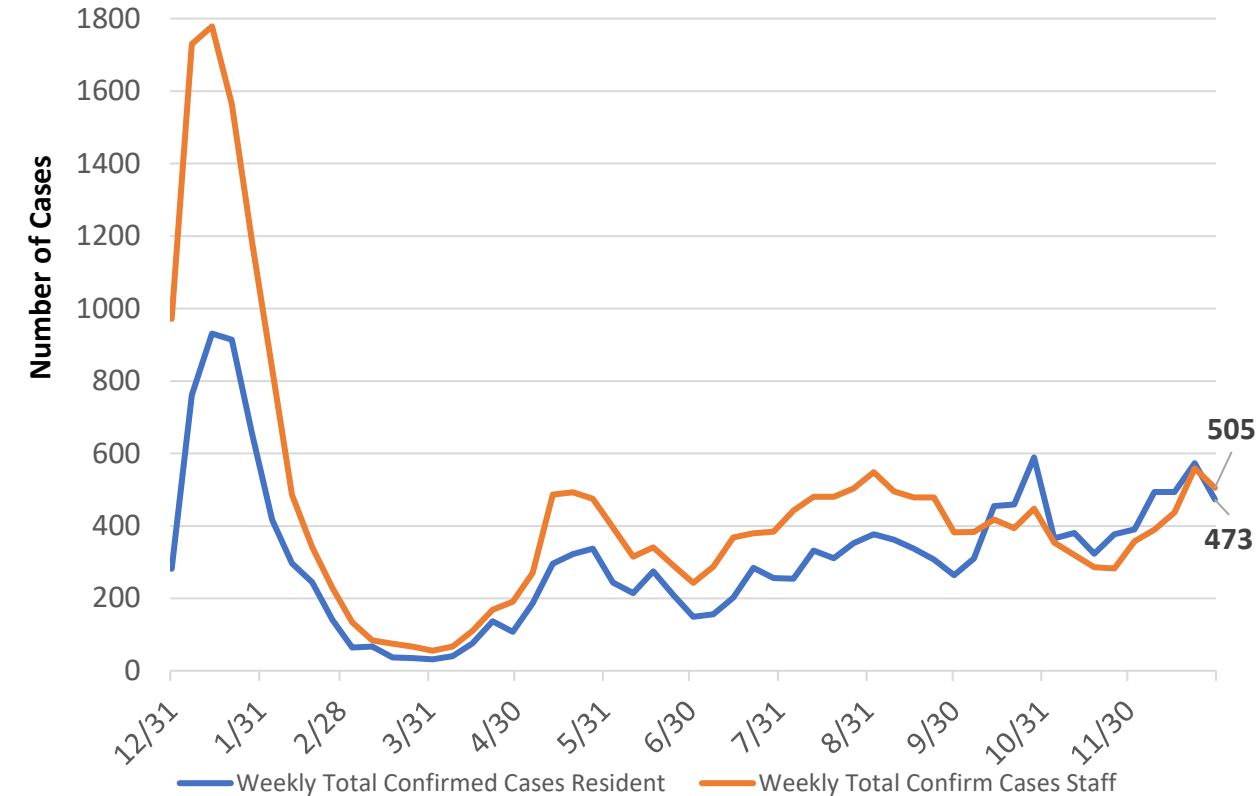
Deaths



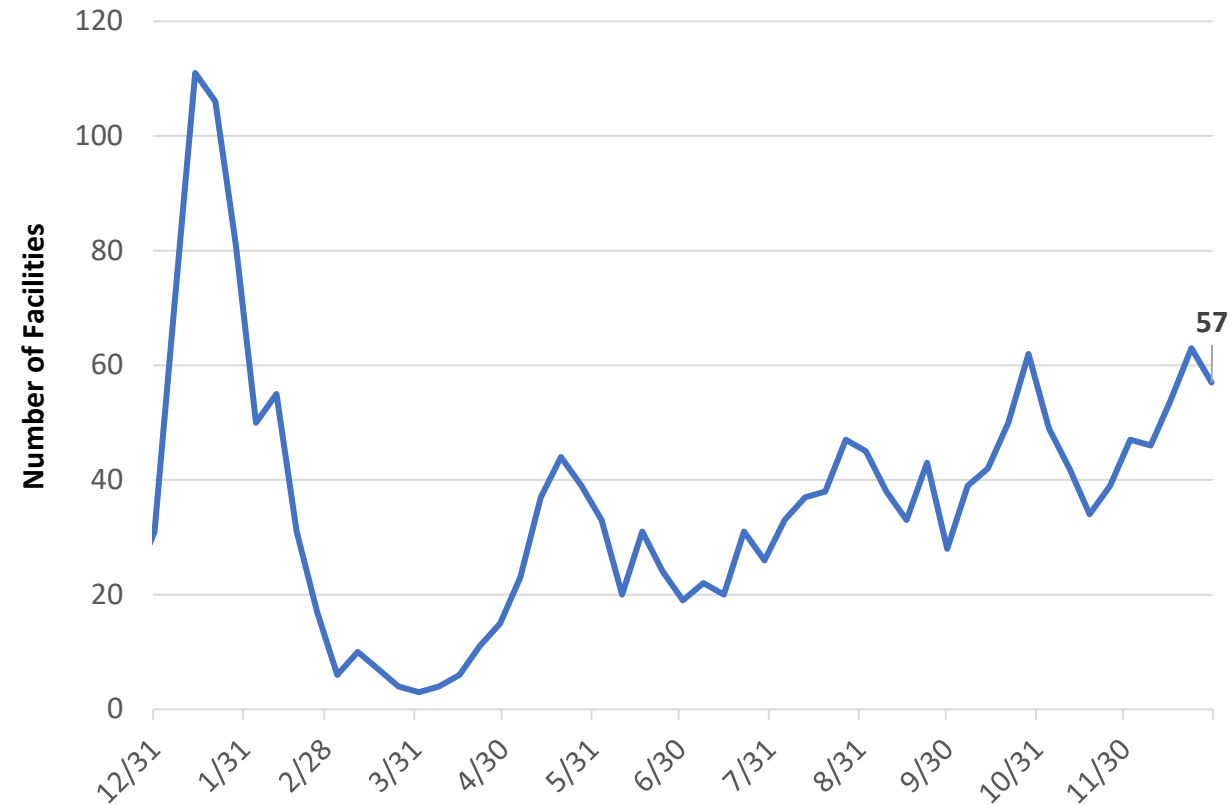
- The reproductive number (R_t) in Michigan is around 1 indicating plateau
- There are an average of 11.5 hospital admissions per 100,000 Michiganders day which is a decrease from last week
- The percent of inpatient beds that have patients diagnosed with COVID-19 have seen a slight increase from the past week
- Deaths are a lagging indicator but are plateaued some over the past week

COVID-19 Cases Among Staff and Residents in Long Term Care Facilities

STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN SNF
RESIDENTS AND STAFF
12/31/2021 TO 12/30/2022



Number of SNFs with 3 or more Confirmed Cases



- Case counts decreased over the holidays in SNF residents (573 to 473) and in SNF staff (559 to 505) since last week [left graph]
 - The number of SNF facilities reporting 3 or more cases have decreased over the past week (63 to 57) [right graph]
 - Currently, **29%** of SNFs are reporting **nursing shortages** and **28%** of SNFs are reporting **aide shortages**, which is plateaued since end of July
- Abbreviations: AFC: Adult Foster Care; HFAs: Homes for the Aged; and SNF: Skilled Nursing Facilities

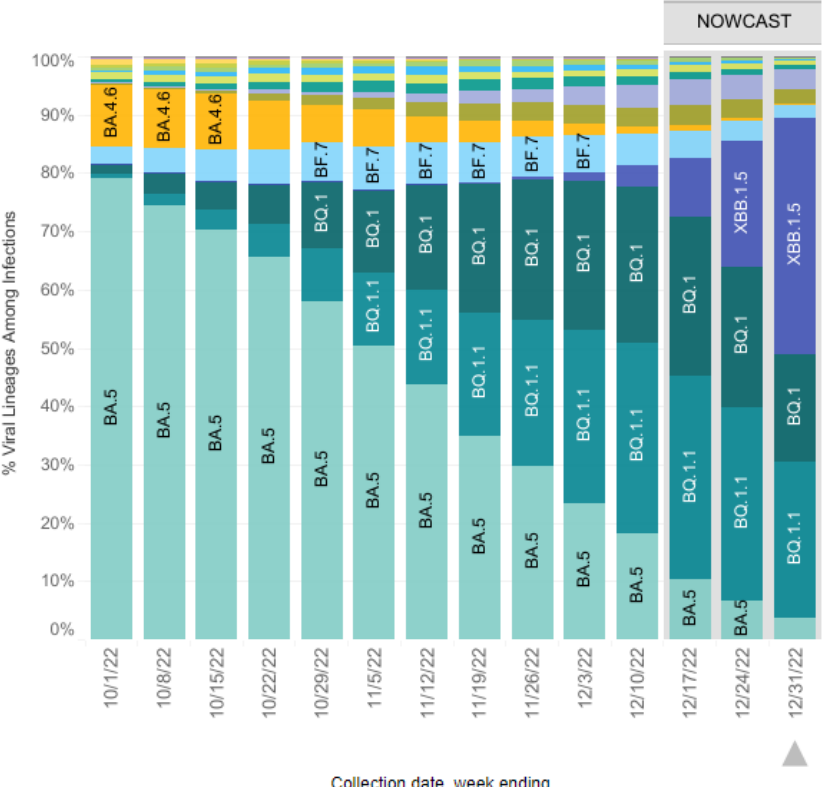
Identified COVID-19 Cases Caused by Variants of Concern (VOC) in US and Michigan: Predominately BA.5 and BA.4 sublineages

SARS-CoV-2 Variants Circulating in the United States, Sep 30 – Dec 31 (NOWCAST)

United States: 12/25/2022 – 12/31/2022 NOWCAST

United States: 9/25/2022 – 12/31/2022

USA					
WHO label	Lineage #	US Class	%Total	95%PI	
Omicron	XBB.1.5	VOC	40.5%	22.7-61.0%	
	BQ.1.1	VOC	26.9%	18.9-36.5%	
	BQ.1	VOC	18.3%	12.5-25.9%	
	BA.5	VOC	3.7%	2.6-5.2%	
	XBB	VOC	3.6%	2.5-5.0%	
	BN.1	VOC	2.4%	1.6-3.5%	
	BF.7	VOC	2.1%	1.4-3.1%	
	BA.2.75	VOC	0.9%	0.5-1.4%	
	BA.5.2.6	VOC	0.6%	0.4-0.9%	
	BA.4.6	VOC	0.3%	0.2-0.5%	
	BA.2	VOC	0.3%	0.2-0.5%	
	BF.11	VOC	0.3%	0.2-0.4%	
	BA.2.75.2	VOC	0.1%	0.1-0.2%	
	BA.4	VOC	0.0%	0.0-0.0%	
	BA.1.1	VOC	0.0%	0.0-0.0%	
	B.1.1.529	VOC	0.0%	0.0-0.0%	
	BA.2.12.1	VOC	0.0%	0.0-0.0%	
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%	
Other	Other*		0.0%	0.0-0.0%	



National Distribution

- 100% of the VOC currently circulating in the U.S. are Omicron
- Nowcast estimates project that BA.5 sublineages of BQ.1.1 (26.9%, 95% P.I. 18.9-36.5%), BQ.1 (18.3%, 95% P.I. 12.5-25.9%), and XBB.1.5 (40.5%, 95% P.I. 22.7-61.0%) are most prevalent during the week ending on December 31

Distribution in Michigan

- Since November 15, there have 2,146 VOC specimens sequenced
- 100% of specimens sequenced are Omicron
 - Since November 15, 91% of specimens sequenced and reported (n=1,953) have been identified as BA.5; of which 15.8% of those specimens are BF.7 (n=309), 17.9% have been identified as BQ.1 (n=349), and 33.6% as BQ.1.1 (n=656)

* 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

BA.1, BA.3 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. Except BA.2.12.1, BA.2.75, BA.2.75.2, BN.1, XBB and their sublineages, BA.2 sublineages are aggregated with BA.2. Except BA.4.6, sublineages of BA.4 are aggregated to BA.4. Except BF.7, BF.11, BA.5.2.6, BQ.1 and BQ.1.1, sublineages of BA.5 are aggregated to BA.5. Except XBB.1.5, sublineages of XBB are aggregated to XBB. For all the lineages listed in the above table, their sublineages are aggregated to the listed parental lineages respectively. Previously, XBB.1.5 was aggregated to XBB. Lineages BA.2.75.2, XBB, XBB.1.5, BN.1, BA.4.6, BF.7, BF.11, BA.5.2.6 and BQ.1.1 contain the spike substitution R346T.

Over 6.2 Million Michiganders have completed the primary series – 62.2% of the total population

Vaccination Coverage

Over 6.2 million people in MI have completed the primary series*

91.2% of people aged 65 and older in MI have completed the primary series*

69.3% of the total MI population have initiated the primary series*

Race/Ethnicity¶ for those 6 months and older:

- Up-to-date coverage is highest among those of Non-Hispanic (NH) White (14.1%), then NH Asian, Native Hawaiian or Pacific Islander Race (12.1%), then NH American Indian (10.5%), NH Black or African American Races (7.2%).
- Initiation is at 8.4% for those of Hispanic ethnicity

Updated Booster Coverage

The percentage of Michiganders who have received the updated (bivalent) booster is higher than national percentages for all reported age groups

42.0% of the population 65 years of age or older has received an updated (bivalent) booster

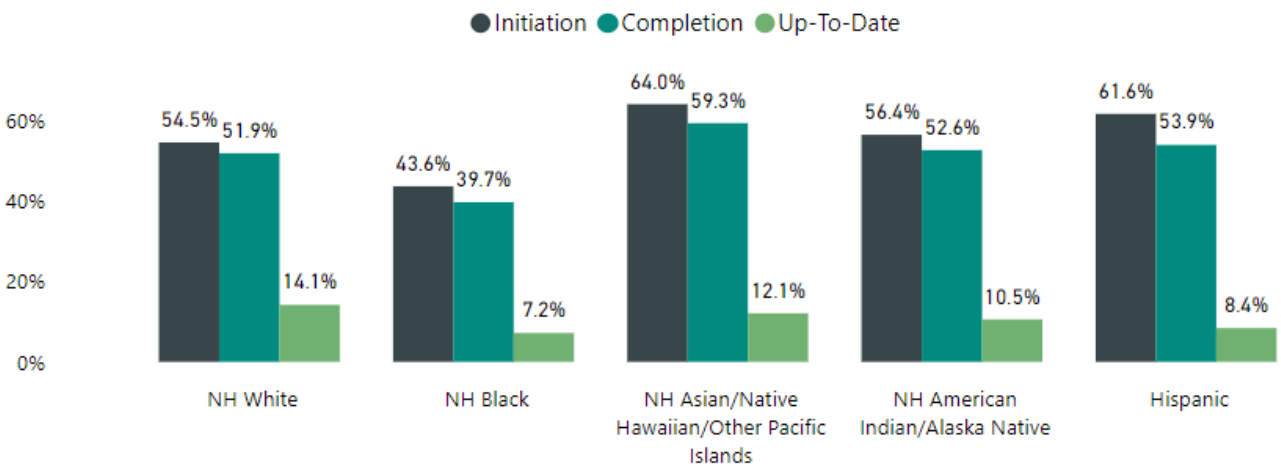
16.5% of Michiganders ages 5 years and older have received their updated (bivalent) booster dose

Vaccination Coverage in Michigan as of 12/28/2022

Age Group	% At Least One Dose	% Completed Primary Series	% Updated Booster**	U.S. % Boosted**	Primary Series Total
Total Population	69.3%	62.2%	NA	NA	6,208,950
≥ 5 years	73.1%	65.8%	16.5%	15.1%	6,195,927
≥ 12 years	77.1%	69.4%	17.8%	16.3%	5,962,280
≥ 18 years	79.3%	71.3%	19.0%	17.3%	5,595,188
≥ 65 years	95.0%	91.2%	42.0%	37.5%	1, 610,856

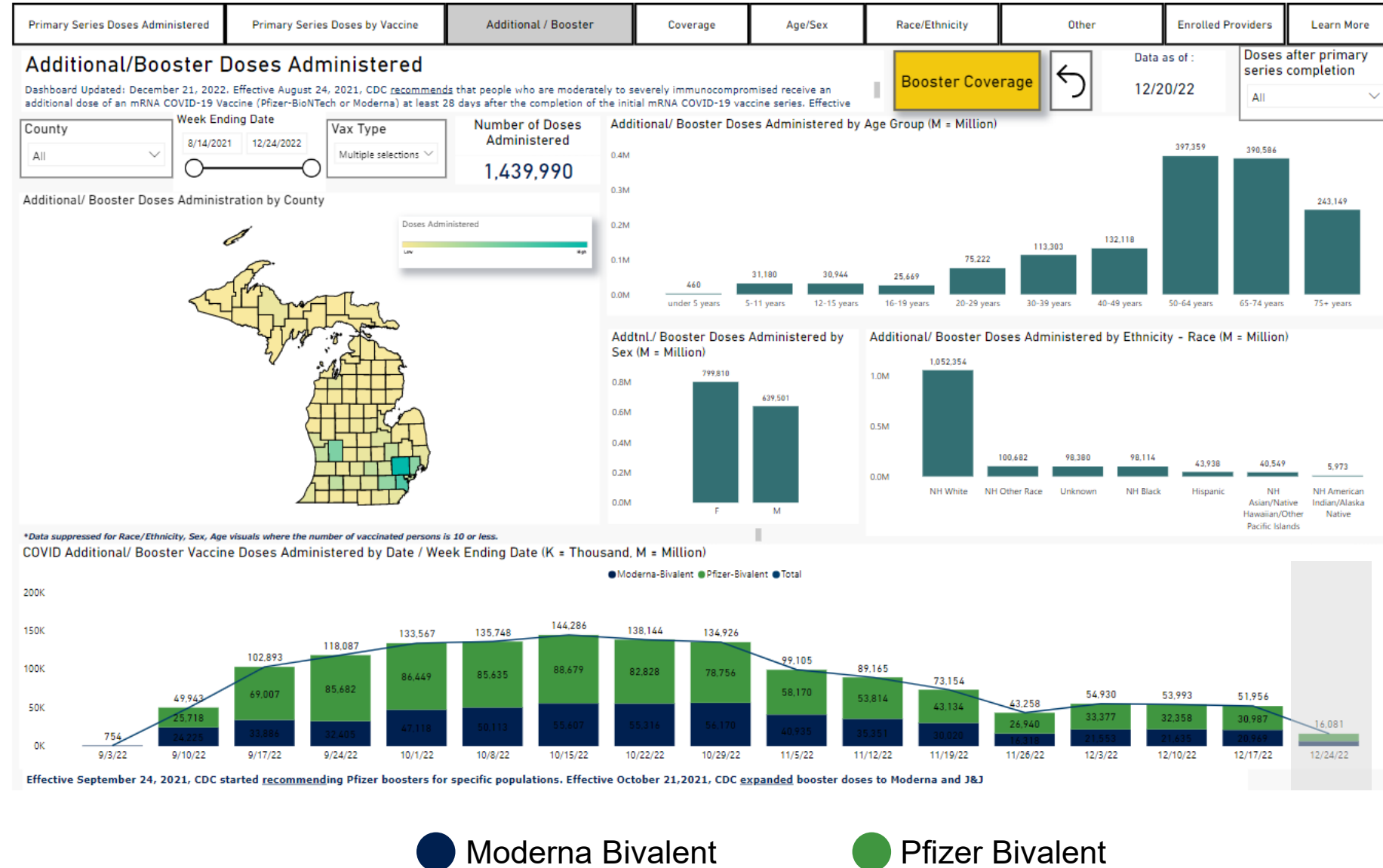
**This shows the percentage of all residents ages 5 years and older in a jurisdiction (state, territory, national) with an updated (bivalent) booster dose. Non-residents who received vaccine are attributed to their jurisdiction of residence.

Coverage by Race*



Bivalent Administration

- FDA has authorized and CDC now recommends expanding the use of the updated bivalent COVID-19 vaccines to everyone over the age of 6 months.*
- As of 12/20[†], 1,439,990 Michiganders had received their bivalent booster
- Note: the data for the week ending 12/24 would have been incomplete on the date the dashboard was last refreshed (12/20)



* [CDC Expands Updated COVID-19 Vaccines to Include Children Ages 6 Months through 5 Years](#)

[†] These data are updated every Wednesday on our COVID-19 vaccination Dashboard under Additional/Booster Administration Trends and then restricting the view to just Moderna and Pfizer bivalent doses

Sources: [Michigan Coronavirus Vaccine Dashboard](#)

Two Years of U.S. COVID-19 Vaccines Have Prevented Millions of Infections, Hospitalizations, and Deaths; Bivalent Booster Provide Additional Protection Especially for Vulnerable Populations

- COVID-19 vaccines have been available since December 2020 with 660 million doses administered in the U.S. (source: CDC COVID Data Tracker)
- Nearly 81% has received at least 1 dose, 69% has completed the primary series, and 14% have received the updated bivalent booster
- The Commonwealth fund estimates that vaccination has had the cumulative effect of preventing an additional 119 million infections, 18 million hospitalizations and 3 million deaths
- Bivalent booster doses provided additional protection against COVID-19–associated emergency department/urgent care encounters and hospitalizations in persons who previously received 2, 3, or 4 monovalent vaccine doses
- Among immunocompetent adults aged ≥65 years hospitalized in one study, a bivalent booster dose provided 73% additional protection against COVID-19 hospitalization compared with past monovalent mRNA vaccination only
- **Key Message:** All persons should stay up to date with recommended COVID-19 vaccinations, including receiving a bivalent booster dose if eligible
 - To maximize protection against severe COVID-19 this winter season, vulnerable populations should receive a bivalent booster dose
 - Vaccination, along with additional prevention strategies including masking in indoor public settings, can further prevent spread of SARS-CoV-2 and other respiratory illnesses



Sources:

- Surie D, DeCuir J, Zhu Y, et al. Early Estimates of Bivalent mRNA Vaccine Effectiveness in Preventing COVID-19–Associated Hospitalization Among Immunocompetent Adults Aged ≥65 Years — IVY Network, 18 States, September 8–November 30, 2022. MMWR Morb Mortal Wkly Rep. ePub: 16 December 2022. DOI: <http://dx.doi.org/10.15585/mmwr.mm715152e2>
- Tenforde MW, Weber ZA, Natarajan K, et al. Early Estimates of Bivalent mRNA Vaccine Effectiveness in Preventing COVID-19–Associated Emergency Department or Urgent Care Encounters and Hospitalizations Among Immunocompetent Adults — VISION Network, Nine States, September–November 2022. MMWR Morb Mortal Wkly Rep. ePub: 16 December 2022. DOI: <http://dx.doi.org/10.15585/mmwr.mm715152e1>
- Fitzpatrick MC, Moghadas SM, Abhishek A, Galvani AP. Two Years of U.S. COVID-19 Vaccines Have Prevented Millions of Hospitalizations and Deaths. The Commonwealth Fund. December 13, 2022. <https://www.commonwealthfund.org/blog/2022/two-years-covid-vaccines-prevented-millions-deaths-hospitalizations>. Accessed December 19, 2022.