

# MI COVID RESPONSE DATA AND MODELING UPDATE

**NOTE:** All data as of April 10 unless otherwise noted

April 13, 2021

# Executive summary

**Percent Positivity** is up 17% and **Case Rates** are up 14% since last week. Positivity (18.5%, ↑2.9%) and case rates (552.2, ↑61.2) have been increasing for seven weeks

Michigan has the **highest number of cases (↑2)**, and **highest case rate (↑2)** in the last 7 days (source: CDC COVID Data Tracker)

**Percent of inpatient beds occupied by individuals with COVID-19** has increased 39% since last week to 16.5% (↑4.6%). Trends for COVID hospitalizations are increasing for five weeks

Michigan has the **highest inpatient bed utilization (↔)**, and the **highest adult ICU bed utilization (↔)** (source: US HHS Protect)

**Deaths** have increased 39% since last week. There were 237 (↑71) deaths between Mar 28 and Apr 3, and the **Death Rate** is 3.4 deaths per million residents (↑1.0)

Michigan has the **8<sup>th</sup> highest number of deaths (↑4)**, and **T8<sup>th</sup> highest death rate (↑20)** in the last 7 days (source: CDC COVID Data Tracker)

The 7-day average **state testing rate** has increased to 3,915.2 tests/million/day (↑418.1). **Daily diagnostic tests (PCR)** is 38.9K per day (↑4.1K), and the **weekly average for PCR and antigen tests** conducted in Michigan is 56.7K (↑5.0K).

5.4 million **COVID-19 vaccine** doses reported to MDHHS, 41.9% of Michigan population 16+ has at least one dose

# Comparison across states: Summary

What we see today (data through 4/11):

- 16 states are seeing increasing 1 week case trends ( $\geq 10\%$ ) (down vs. 26 last week)
- 23 states are seeing weekly increases ( $\geq 10\%$ ) in new COVID hospital admissions (up vs. 21)
- Michigan, DC, New Jersey, New York and Maryland have highest per capita hospitalized patient numbers.
- Midwest (case data from CDC):
  - Wisconsin with increase in hospitalizations (57/M) and increase in cases (108/100k last 7d)
  - Indiana with increase in hospitalizations (120/M), and increase in cases (116/100k last 7d)
  - Illinois showing increase in hospitalizations (145/M), and increase in cases (182/100k last 7d)
  - Ohio with increase in hospitalizations (133/M) and increase in cases (132/100k last 7d)
  - Michigan showing increase in hospitalizations (389/M) and increase in cases (515/100k last 7d)

# COVID-19 Spread

Statewide positivity has increased to 18.5%, and is increasing in all MERC regions

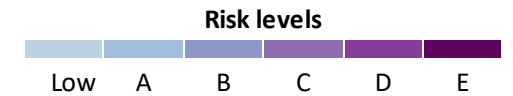
- One week increase of 17% (compared to 35% last week)
- Increasing for seven weeks (429% cumulative increase since mid-February)
- Seven MERC regions are now above 15% (Risk Level D)
- One MERC region, Saginaw, above 20% (Risk Level E)
- Highest state, regional, and county levels recorded since mid-April 2020

Case rates (552.2 cases/million) have also increased in the state

- One week increase of 14% (compared to 55% last week)
- Increasing for seven weeks (434% cumulative increase since mid-February)
- All eight MERC regions showing an elevated increase growth
- Increases are seen among all age groups, races, and ethnicities
- Variants in Michigan: 2,658 (↑841) confirmed B.1.1.7; 9 (↑2) confirmed B.1.351; 9 (↑7) confirmed P.1
- Number of active outbreaks is up 16% from previous week
  - Reported school outbreaks have increased since last week (301 to 312)

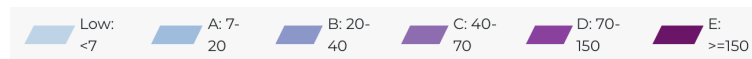
# Confirmed and probable case indicators

Table Date: 4/10/2021 (7 days from date table was produced: 4/3/2021)



	Overall Risk Level	Absolute Cases (per million)	CDC Case Trend	Average Percent Positivity	Positivity Trend	Tests (per million)	% IP Beds Occupied by COVID-19 Cases	% Occupied IP Beds Trend	Absolute Deaths (per million)	Death Trend
Detroit	E	635.3	elevated incidence growth	19.1	Increase - 7wk	4421.2	18.8	Increase - 6wk	3.9	Increase - 3wk
Grand Rapids	E	458.4	elevated incidence growth	17.8	Increase - 6wk	3426.9	12.0	Increase - 3wk	2.3	<20 wkly deaths
Kalamazoo	E	395.1	elevated incidence growth	16.2	Increase - 5wk	2979.4	13.0	Increase - 5wk	2.4	<20 wkly deaths
Saginaw	E	584.6	elevated incidence growth	23.4	Increase - 6wk	3009.3	12.2	Increase - 3wk	4.2	Increase - 1wk
Lansing	E	561.3	elevated incidence growth	17.3	Increase - 5wk	3574.0	21.0	Increase - 3wk	3.2	<20 wkly deaths
Traverse City	E	434.4	elevated incidence growth	19.0	Increase - 7wk	2231.3	12.4	Increase - 6wk	4.2	<20 wkly deaths
Jackson	E	496.6	elevated incidence growth	17.9	Increase - 4wk	3714.5	19.4	Increase - 4wk	3.8	<20 wkly deaths
Upper Peninsula	E	225.7	elevated incidence growth	6.8	Increase - 5wk	2614.0	3.1	Increase - 3wk	1.4	<20 wkly deaths
Michigan	E	552.2	elevated incidence growth	18.5	Increase - 7wk	3915.2	16.5	Increase - 5wk	3.4	Increase - 3wk

Cases

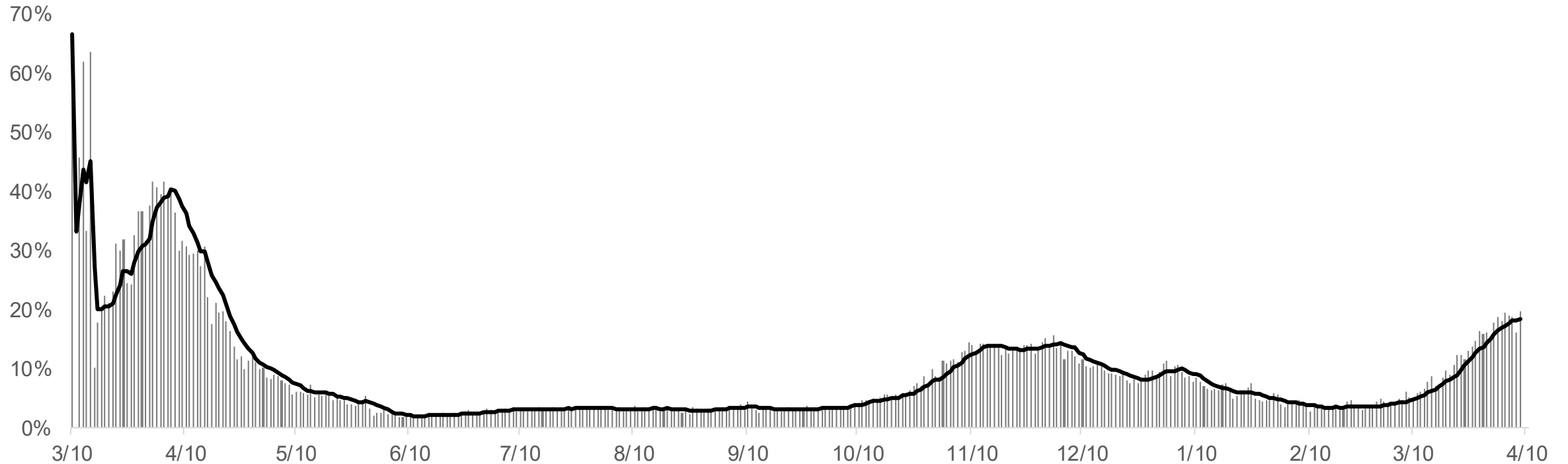


Positivity



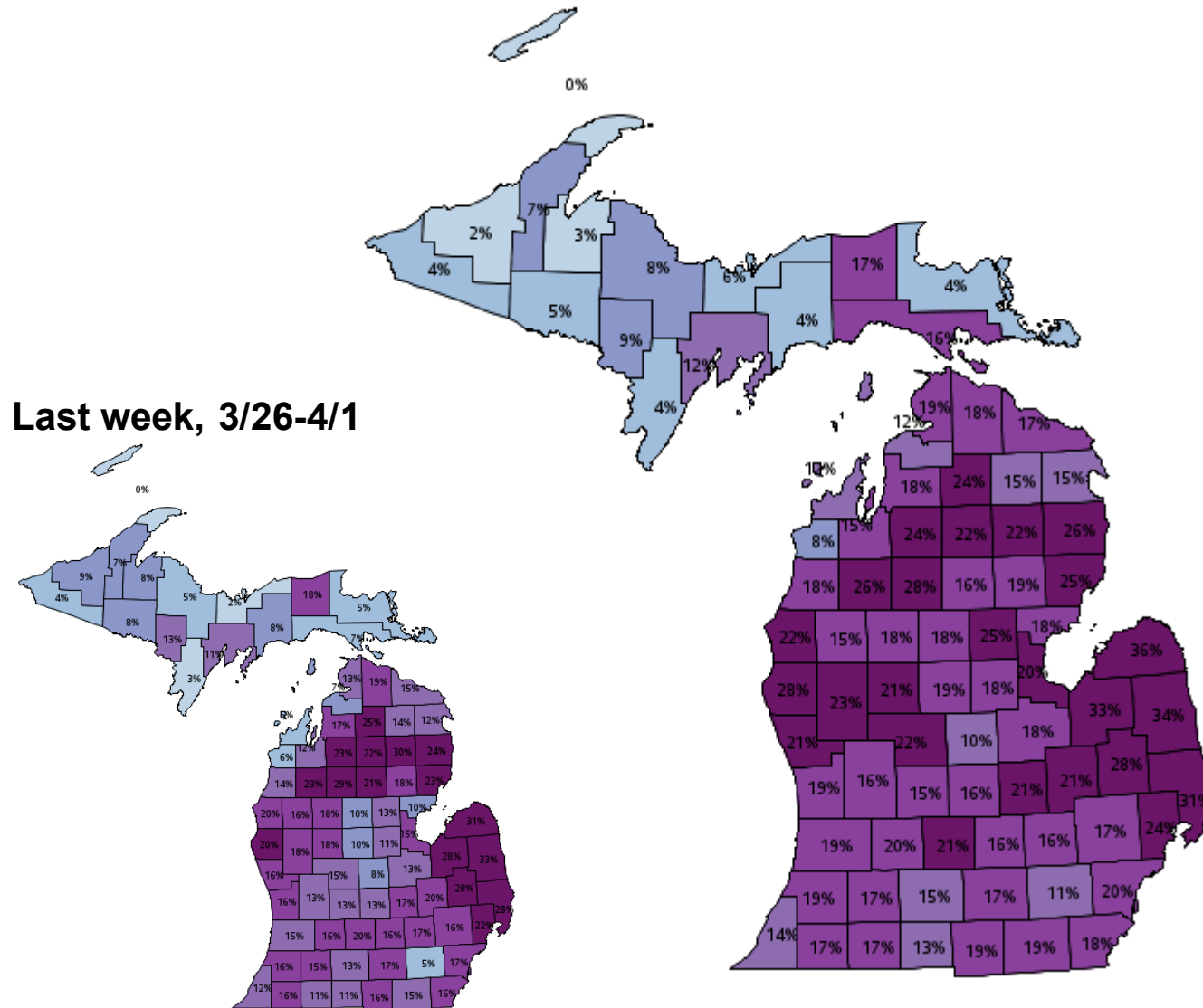
# Statewide Positivity Trends

## Daily positivity and 7-day rolling average positivity for Michigan



- Early in the pandemic, testing was not as robust as it has been since July 2020 to present
- Positivity is an early indicator of SARS-CoV-2 Transmission (as positivity increases, we expect case rates to follow)
- Current statewide positivity is the highest it has been since April 22, 2020\*
- These are for PCR tests only and exclude tests conducted with Michigan Department of Corrections

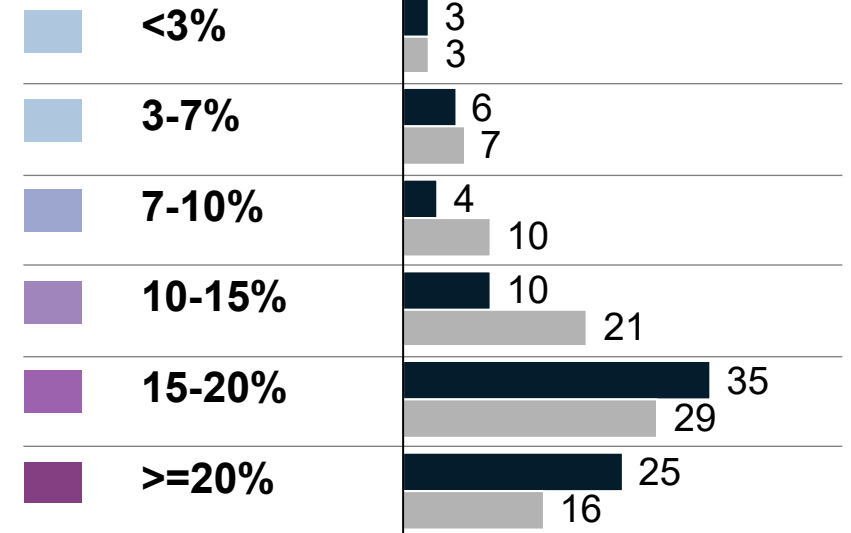
# Positivity by county, 3/26-4/1



**Average  
positivity per day**

**# of counties**

■ This week  
■ Last week

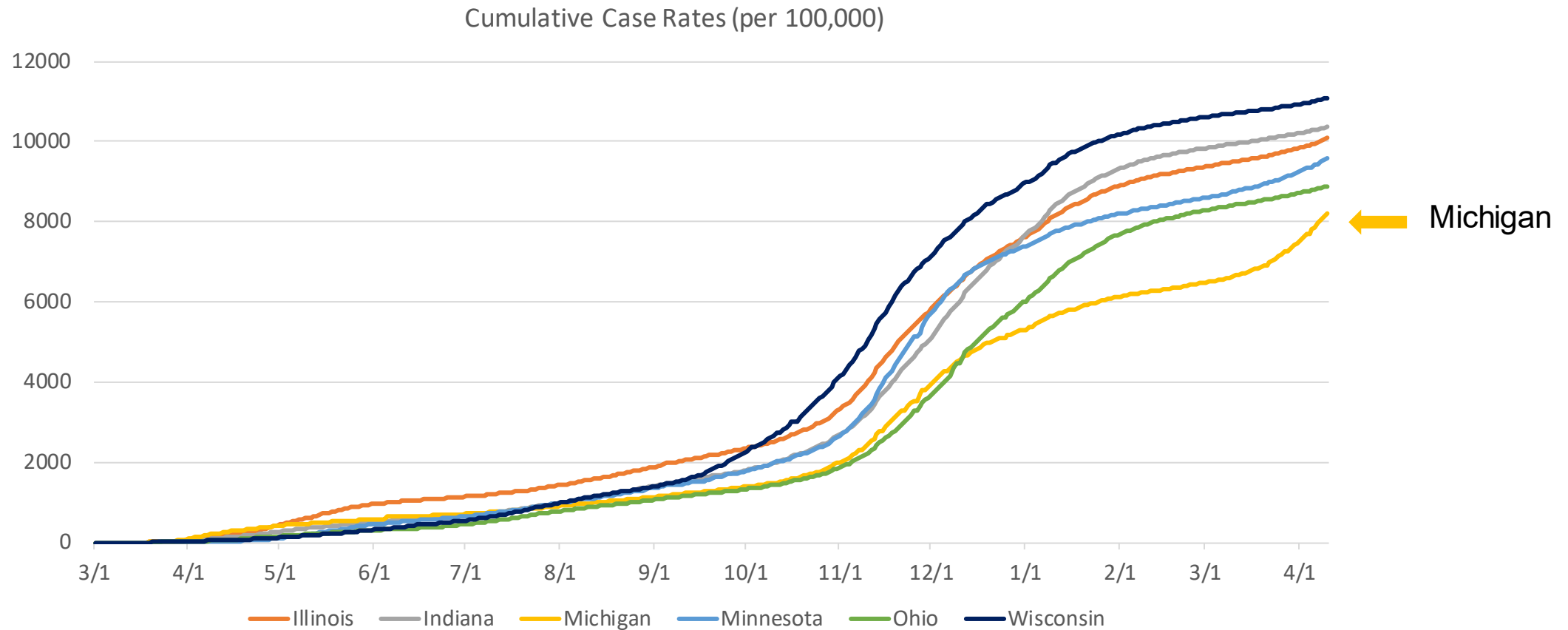


## Updates since last week:

70 of 83 counties saw double digit positivity in the last week (7 county increase)

74 of 83 counties saw positivity > 7% in the last week (1 county increase)

# Cumulative COVID-19 Case Rates: Midwest Comparison

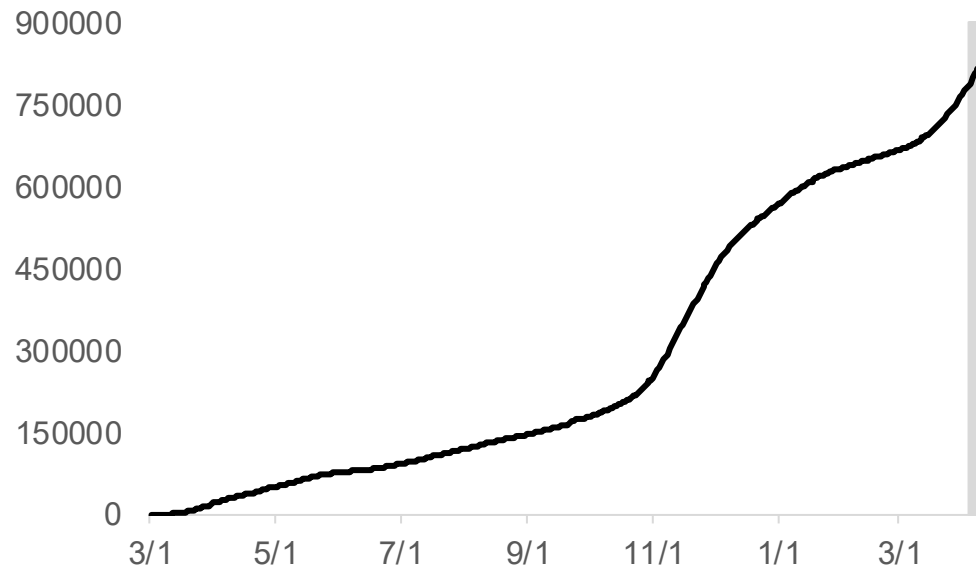


- Cumulative incidence per 100,000 cases in Michigan has been lower than other states in the Midwest following spring 2020 surge
- Michigan's mitigation policies helped control the spread of SARS-CoV-2 relative to other states in the Midwest, particularly during surge in November and December
- The current trajectory in Michigan is bringing us closer to case rates of our Midwest neighbors

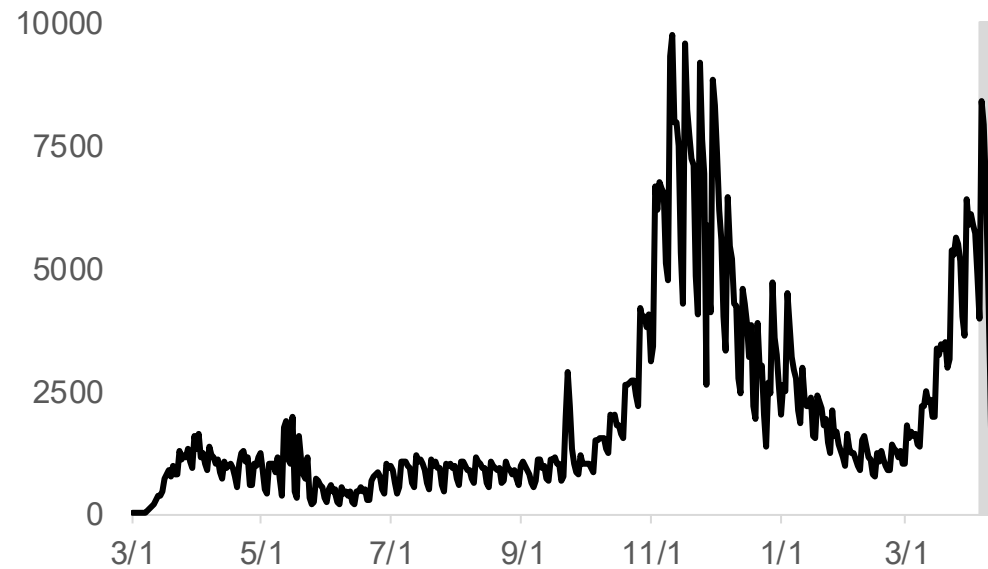


# COVID-19 cases by onset date: State of Michigan

**Cumulative confirmed and probable cases** by date of onset of symptoms



**New confirmed and probable cases** by date of onset of symptoms

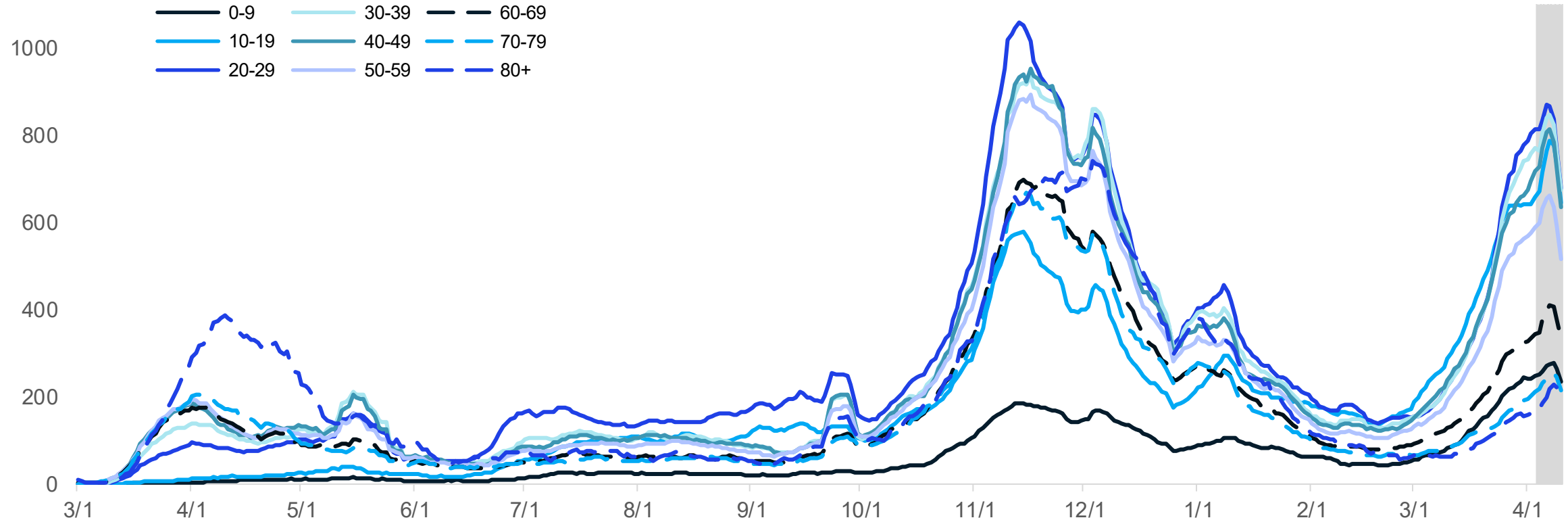


## Updates since last week:

- Cases have increased for over seven weeks
- Statewide case rate above risk level E (above 150 cases/million)
- There are over 5,500 new cases per day

# Age group: average new daily cases

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



- All age groups by decade are increasing
- Those aged 20-29 and 30-39 have the highest case rates
- There are over 5,500 new cases per day

# Age group: average new daily cases and daily case rate

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

Age Group	Average daily cases	Average Daily Case Rate	One Week % Change (Δ #)	% Change since 2/19* (Δ #)
0-9	285.3	247.5	14% (35)	479% (236)
10-19	827.3	659.2	3% (27)	386% (657)
20-29	1123.6	814.4	15% (146)	483% (931)
30-39	935.3	771.0	16% (126)	501% (780)
40-49	845.3	716.7	16% (116)	482% (700)
50-59	796.4	589.8	13% (89)	457% (653)
60-69	440.0	344.9	15% (56)	331% (338)
70-79	162.4	211.8	26% (33)	231% (113)
80+	70.9	171.1	18% (11)	138% (41)
Total <sup>¶</sup>	5,513.1	552.2	13% (639)	429% (4,450)

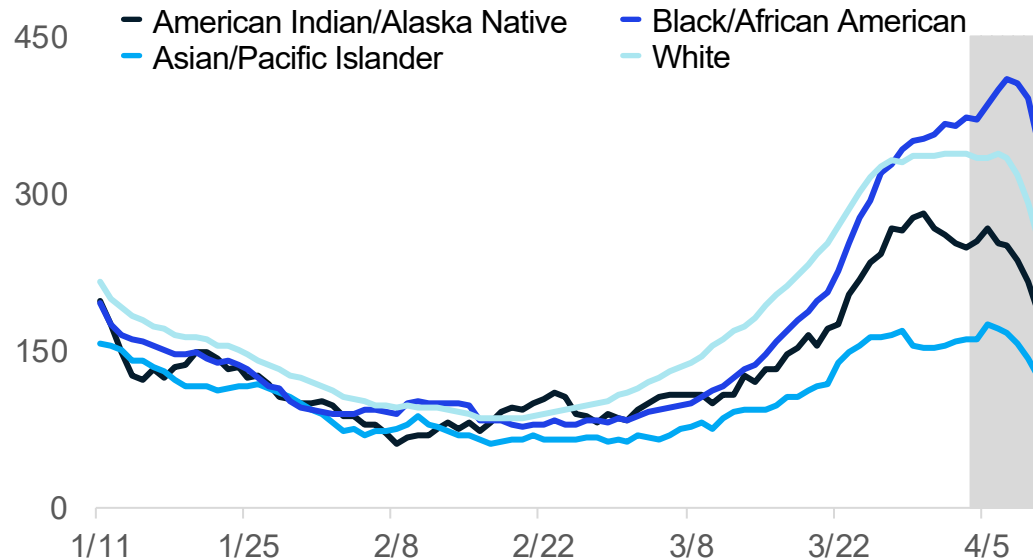
\* lowest 7-day avg. following winter surge

¶ Total may not reflect state due to missing age data

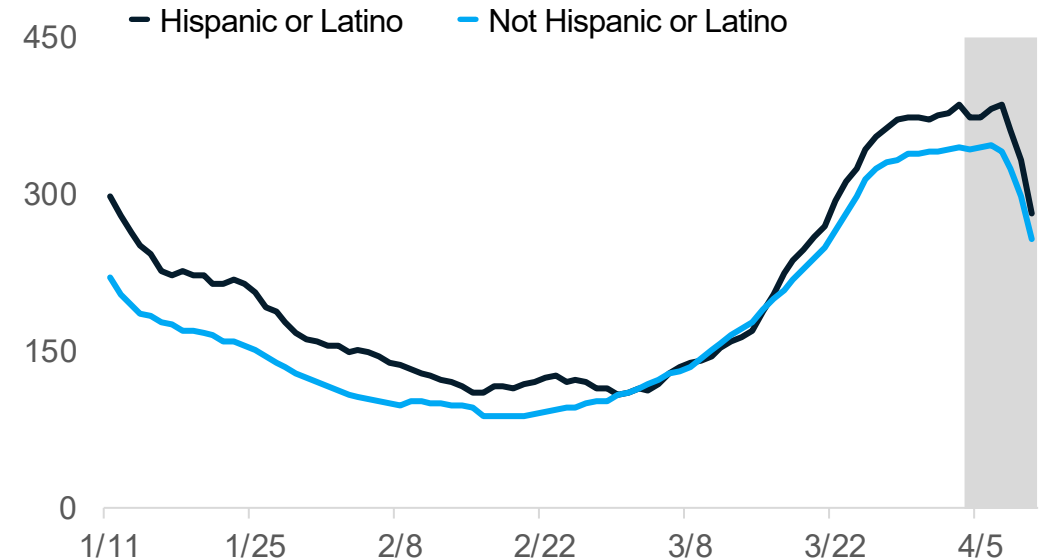
- Daily number of cases (1,123.6) and daily case rate (814.4 cases/mil) is currently highest for those 20-29
- All age groups under 70 are experiencing an average of more than 200 cases per day
- Since February 19, case rate increases and number of cases have been highest among those under 70 years of age

# Average daily new cases per million people by race and ethnicity

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



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



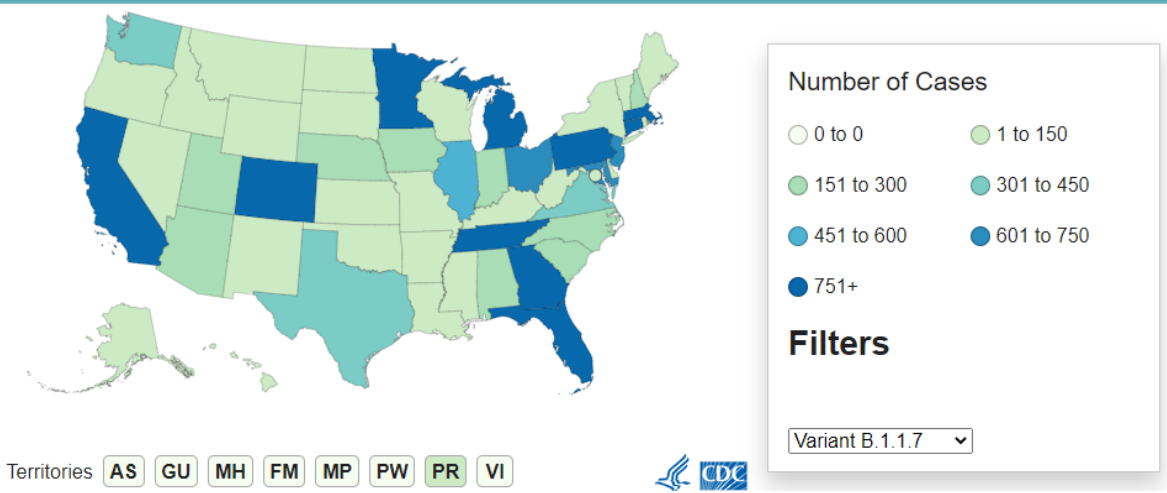
## Updates since last week:

- Cases per million are increasing for all races and ethnicities
- Most recent data show that Blacks and Hispanic/Latinos have the highest case rates
- In the past 30 days, 37% of all cases represent unknown, multiple, or other races (31% of race is unknown, ↑1%)
- In the past 30 days, 36% of all cases have an unknown ethnicity reported (↑ 3%)

# Identified COVID-19 Cases Caused by All Variants of Concern in US and Michigan

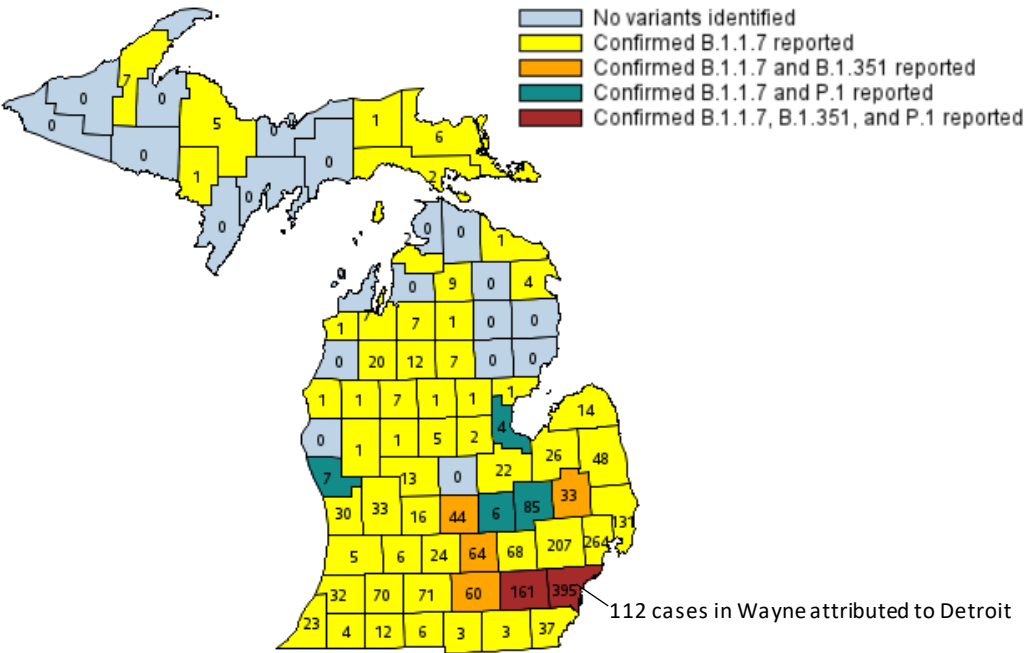
## Emergent Variant Cases of Concern in the United States

Cases of Variants of Concern in the United States\*†



Variant	Reported Cases in US	Number of Jurisdictions Reporting
B.1.1.7	20915	52 (↑1)
B.1.351	453	36 (↑5)
P.1	497	31 (↑9)

## Emergent Variants of Cases in Michigan



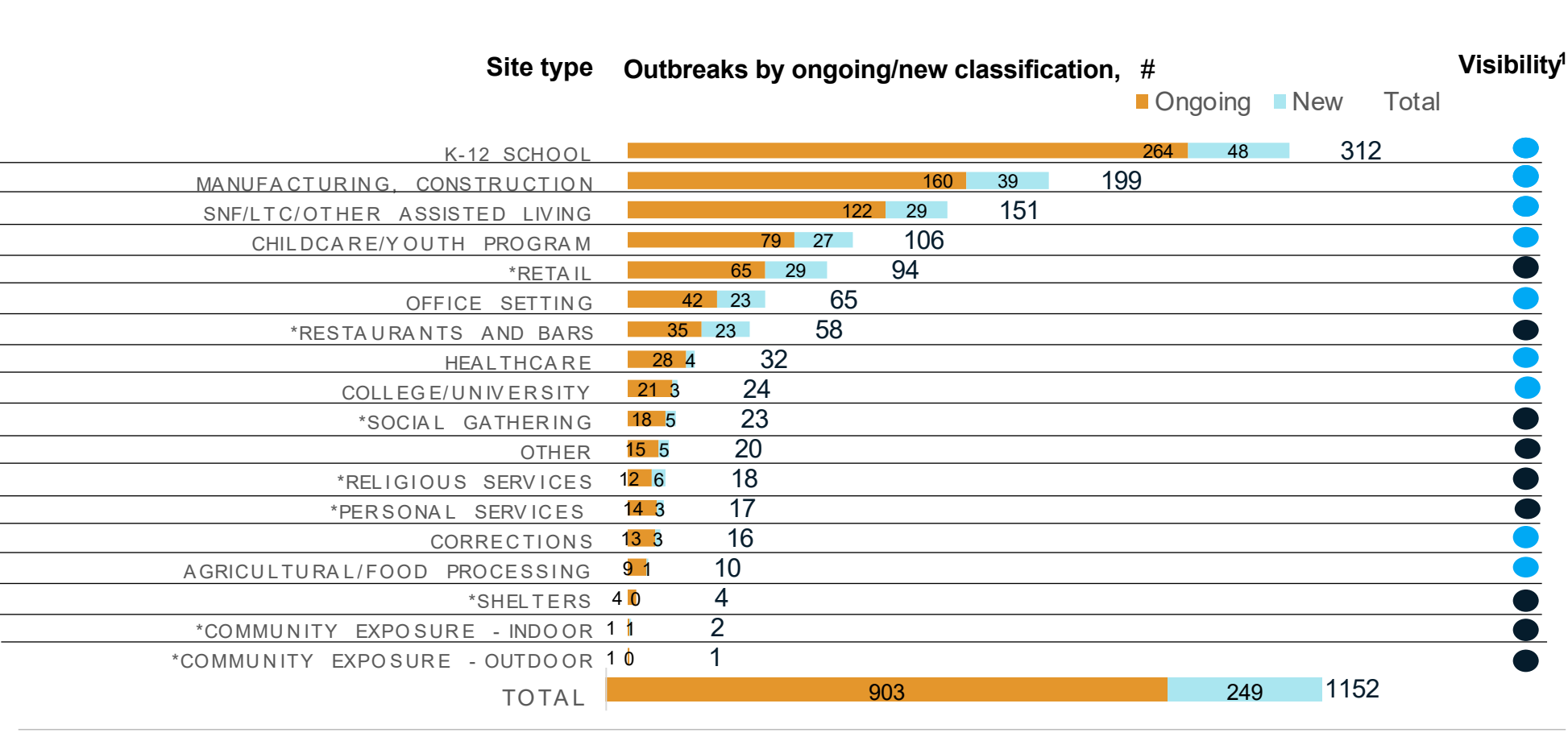
Variant	Reported Cases in MI	Number of Counties Reporting Cases
B.1.1.7	2,640*	62
B.1.351	9	6
P.1	9	5

\* 513 cases within MDOC; 4 cases currently out of state or county unknown

# Number of outbreak investigations by site type, week ending Apr 8

Pre-decisional, for discussion only      Draft

- Easier to identify outbreak
- Harder to identify outbreak



Total number of active outbreaks is up 16% from previous week

Following K-12 (48), the greatest number of new outbreaks were reported in manufacturing/ construction (39), SNF/LTC (29), retail (29), childcare/youth programs (27), office settings (23), and restaurants & bars (23).

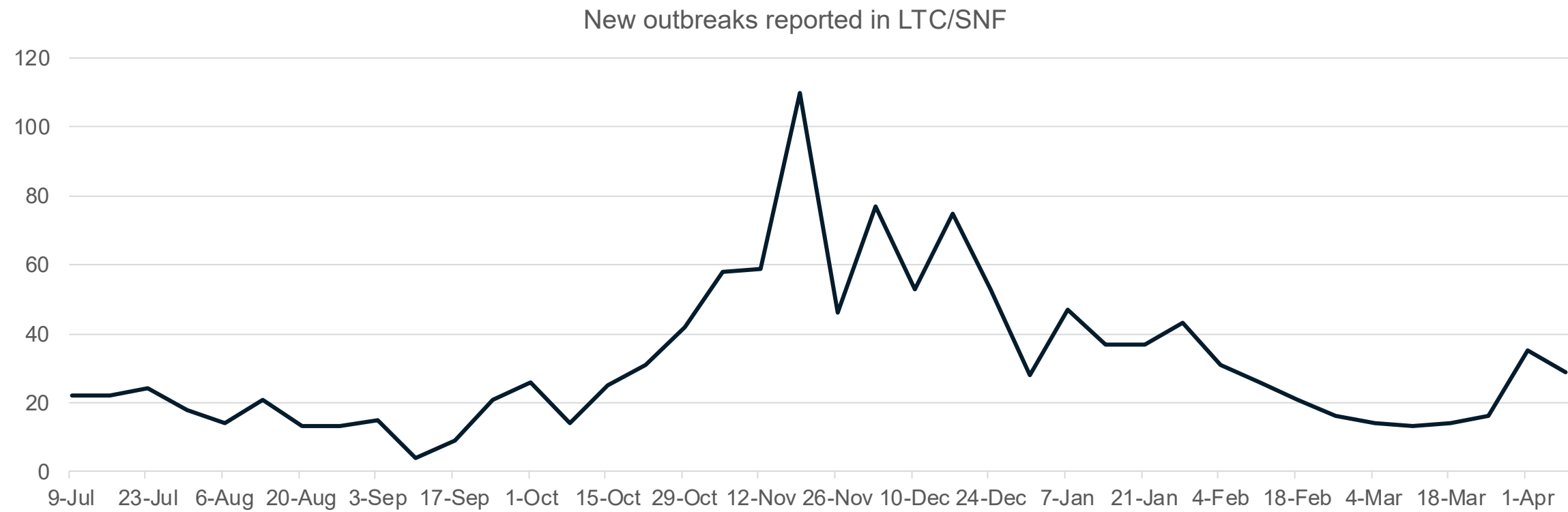
LHDs reported new outbreaks in all settings except shelters and outdoor community exposures.

1. Based on a setting's level of control and the extent of time patrons/residents spend in the particular setting, different settings have differing levels of ability to ascertain whether a case derived from that setting

NOTE: 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.  
Source: LHD Weekly Sitreps

# Long-Term Care Facilities: Number of Outbreak Investigations by Week

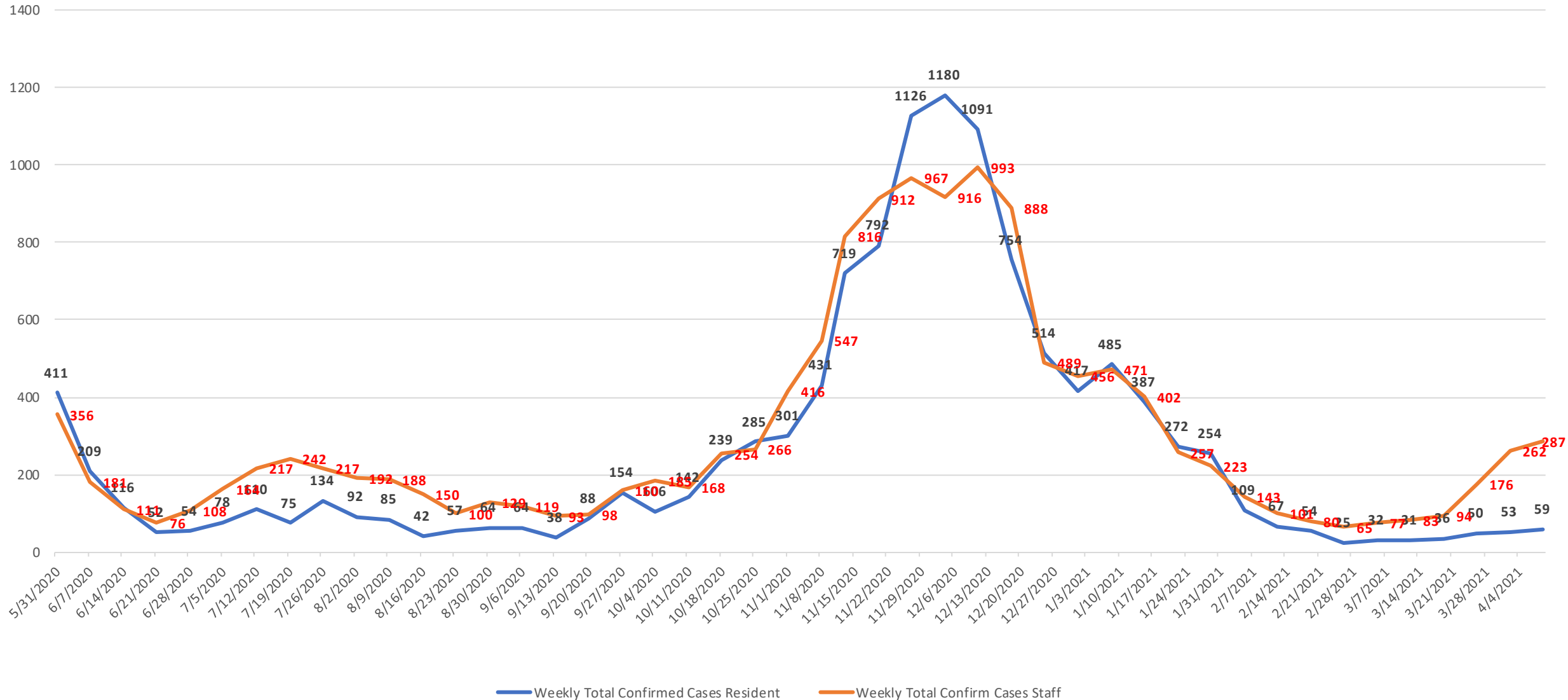
Weekly new outbreaks in LTC/SNF through April 8



- The number of outbreaks in long term care facilities had been reflecting case trends in the community
- Outbreaks peaked in mid-November
- Increases are again seen recently in LTC/SNF

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.  
Source: LHD Weekly Sitreps

# STATE OF MICHIGAN WEEKLY TOTAL CONFIRMED COVID-19 CASES IN NURSING HOMES - RESIDENTS AND STAFF 05/31/2020 to 04/09/2021





# K-12 school outbreaks, recent and ongoing, week ending Apr 8

Number of reported outbreaks increased since last week (301 to 312) including increases in Administrative (4 to 5), Middle/Jr High (64 to 68), and Pre-K – Elementary (61 to 74). Only High Schools decreased (172 to 165).

Region	Number of reported cases,#	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Region 1	385	99		60	2-59
Region 2n	306	61		103	2-28
Region 2s	139	30		27	2-20
Region 3	539	65		43	2-54
Region 5	143	15		22	2-41
Region 6	246	27		30	2-45
Region 7	151	21		25	2-26
Region 8	19	0		2	2-17
Total	1,928	318		312	2-59

Grade level	Number of reported cases,#	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	244	80		74	2-44
Jr. high/middle school	355	60		68	2-59
High school	1,321	176		165	2-54
Administrative	8	2		5	2-2
Total	1,928	318		312	2-59

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.

Source: LHD Weekly Sitreps

# COVID-19 K-12 Sports Related Clusters and Cases

*Over 291 clusters associated with 1,091 cases since January 2021*



394 cases  
106 clusters



271 cases  
51 clusters



229 cases  
62 clusters



63 cases  
21 clusters



32 cases  
8 clusters



27 cases  
3 clusters



14 cases  
3 clusters

12 cases  
6 clusters



11 cases  
8 clusters



9 cases  
4 clusters



10 cases  
7 clusters



20 cases  
13 clusters



- Cases identified by local public health which include school-affiliated and club/travel/regional sports (spectators, collegiate, and professional sports as well as secondary cases to collegiate/professional sports are excluded)
- Since January 2021, basketball, hockey, and wrestling have had the highest number of cases and clusters
- Cases and clusters have occurred in 20 different sport settings

# COVID-19 and Healthcare Capacity and COVID Severity

Hospitalizations and ICU utilization are increasing

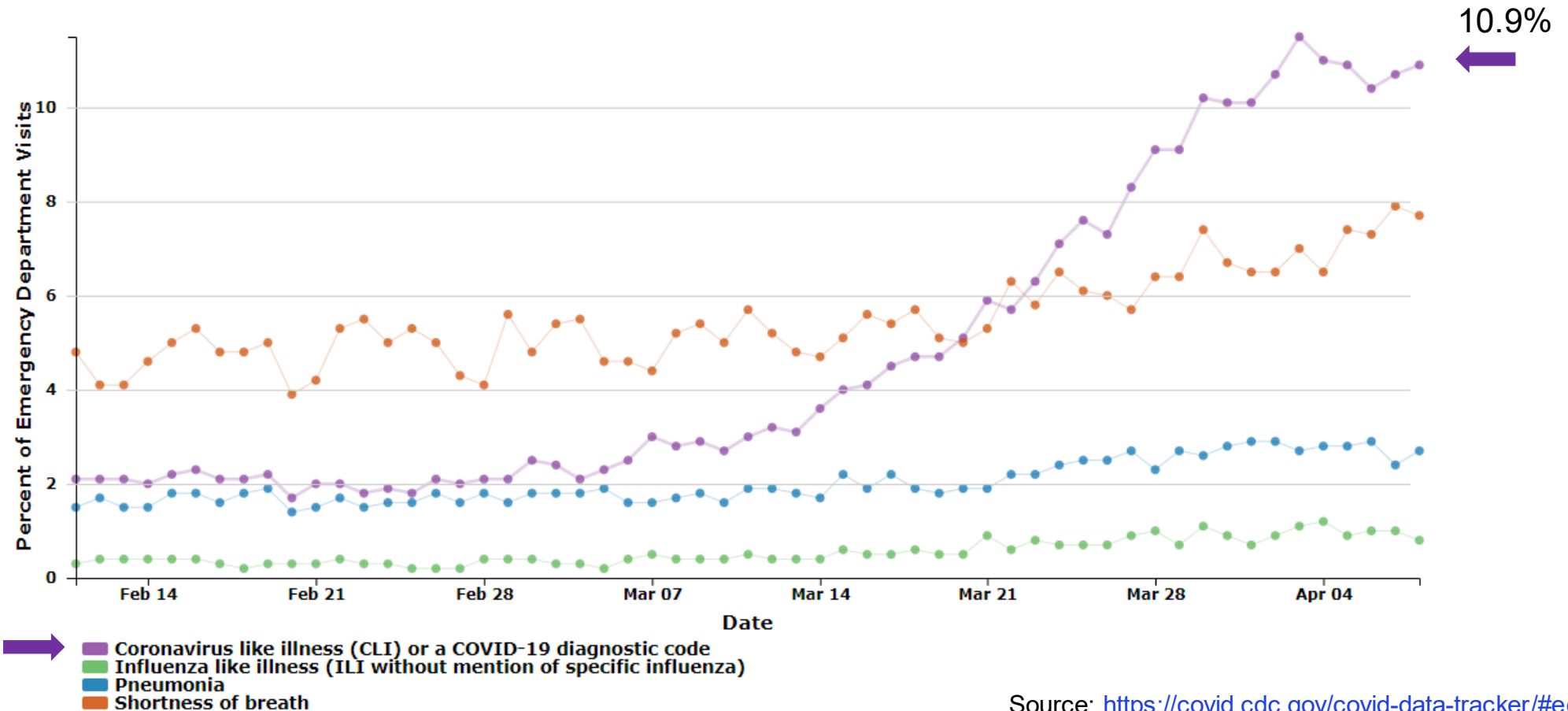
- COVID-like illness (CLI) has increased to 10.9%
- Hospital admissions are increasing for all age groups and are highest for those 50-59 and 60-69 years
- Hospitalizations up ~26% since last week
- All regions are showing increasing hospitalization trends this week
- Volume of COVID-19 patients in intensive care (ICU) has increased 25% since last week

Deaths trends have shifted and are now increasing to 3.4 deaths per million

- Deaths are a lagging indicator of cases and hospitalization
- Deaths are up 39% since last week (accelerated growth)
- Deaths are up 144% since the March 9 low
- Proportion of deaths among those 60+ is slowly declining

# Michigan Trends in Emergency Department Visits for COVID-19-Like Illness (CLI)

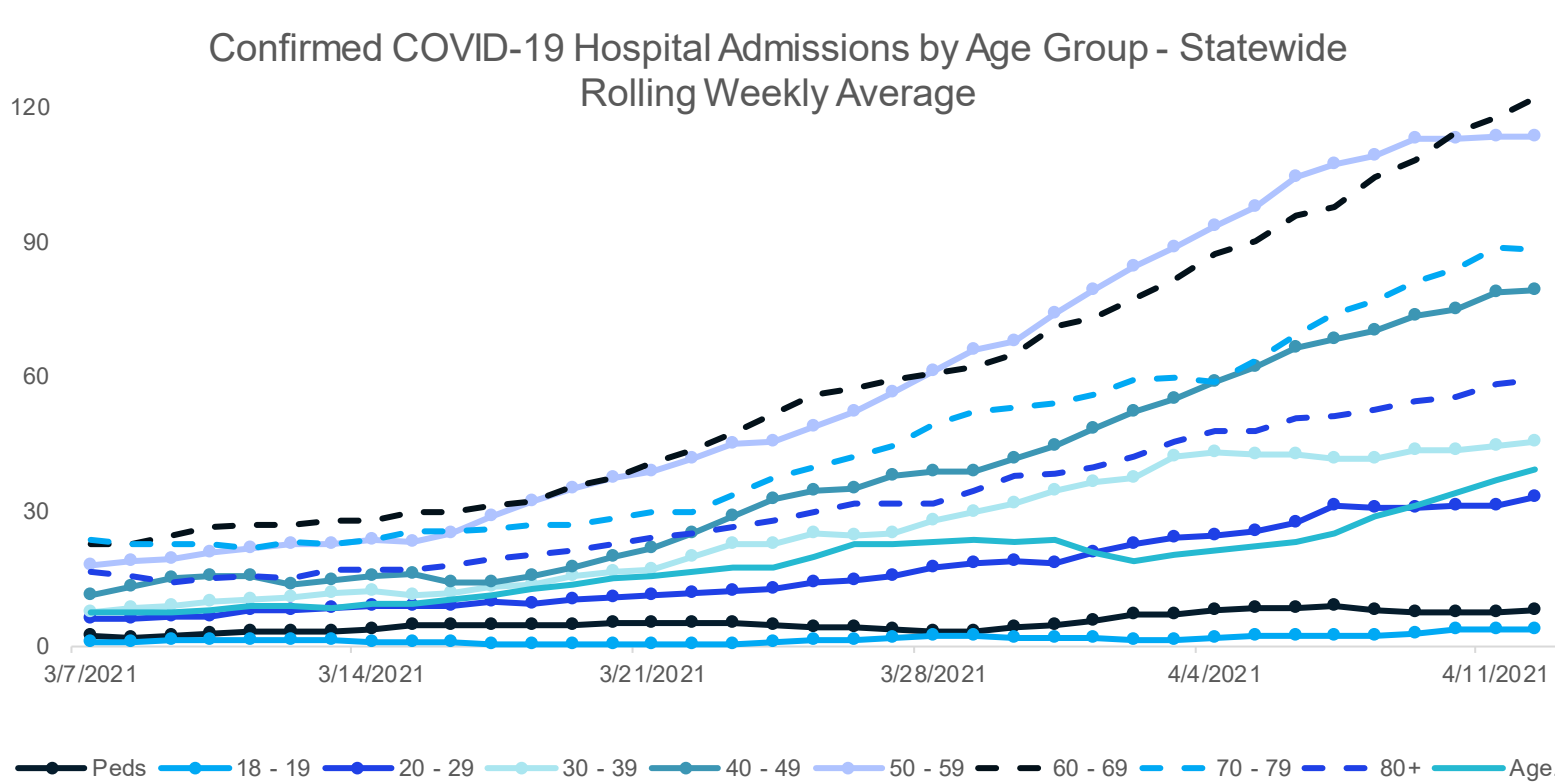
Percentage of ED visits by syndrome in Michigan: COVID-19-Like Illness, Shortness of Breath, Pneumonia, and Influenza-Like Illness



Source: <https://covid.cdc.gov/covid-data-tracker/#ed-visits>

# Average Hospital Admissions by Age

## Confirmed COVID-19 Hospital Admissions by Age Group - Statewide Rolling Weekly Average



Age Group	Daily Avg Adm.	One Week % Change (#)	% Change since 2/28* (#)
Peds	7.9	-10% (-0.9)	139% (4.6)
18-19	3.7	73% (1.6)	767% (3.3)
20-29	33.1	30% (7.6)	544% (28.0)
30-39	45.6	7% (3.0)	423% (36.9)
40-49	79.4	28% (17.4)	672% (69.1)
50-59	113.6	16% (15.7)	774% (100.6)
60-69	122.0	35% (31.7)	533% (102.7)
70-79	88.1	38% (24.4)	378% (69.7)
80+	59.6	24% (11.6)	293% (44.4)
Total <sup>¶</sup>	592.6	28% (129.6)	489% (492.0)

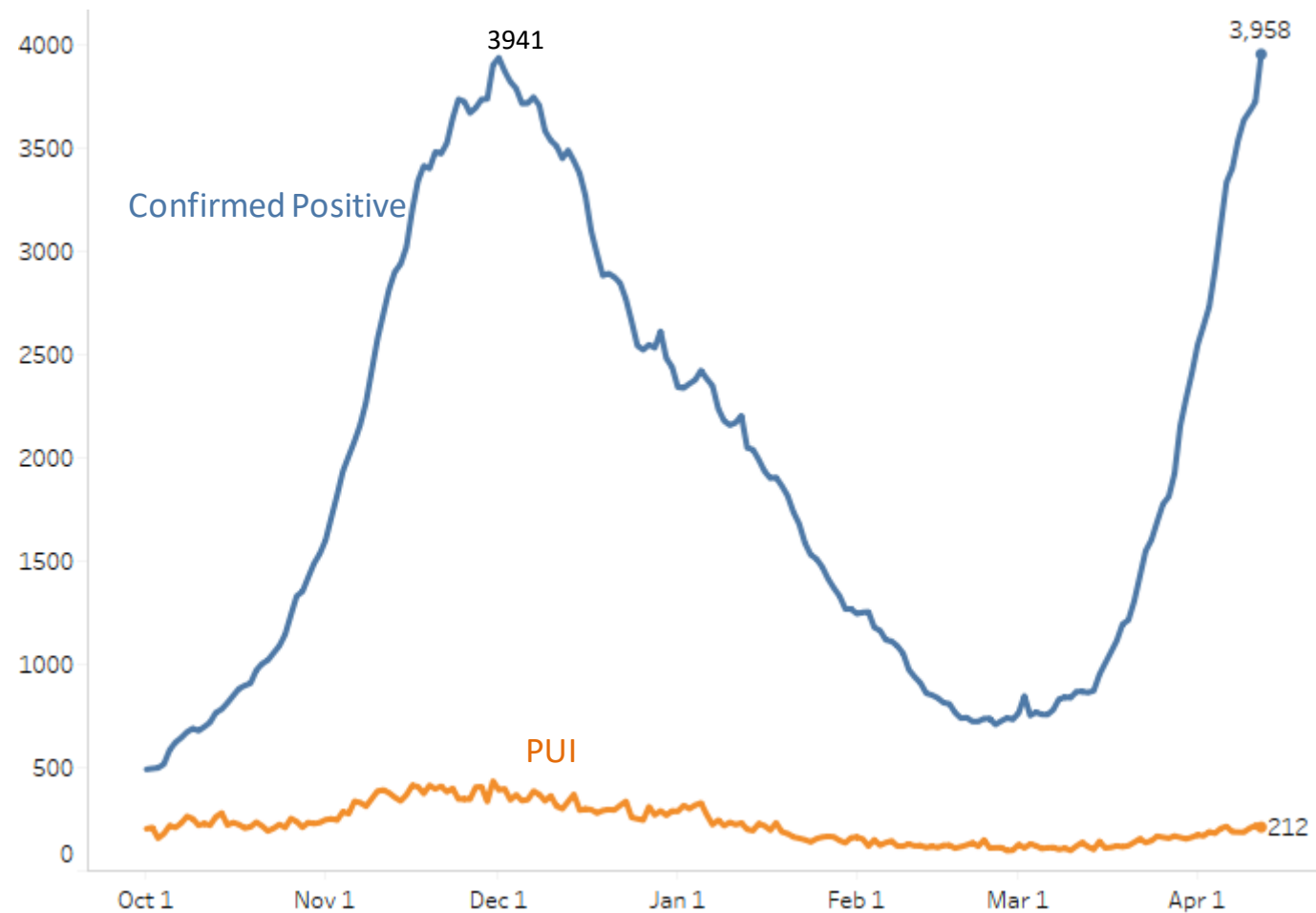
\* Lowest 7-day avg. hospital admissions following winter surge

¶ Total may not reflect state due to missing age data

- Currently, there are approximately 593 daily hospital admissions for COVID-19
- Over the past week, those 60-69 have seen the greatest increase in avg. daily hospital admissions
- Since Feb 28 low, those 50-69 have seen the greatest increase in avg. daily hospital admissions and percent change

# Statewide Hospitalization Trends: Total COVID+ Census

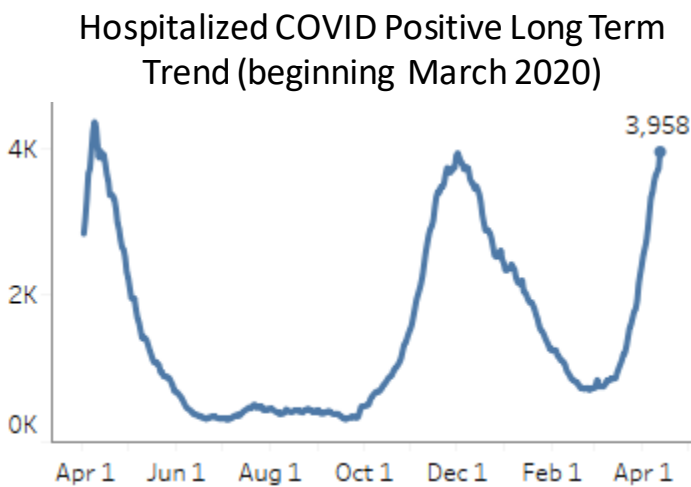
Hospitalization Trends 10/1/2020– 4/12/2021  
Confirmed Positive & Persons Under Investigation (PUI)



COVID+ census in hospitals continues to rise, though at a slower rate. This week is up 26% from the previous week (vs. 45% increase last week) and exceeds the Dec. 1<sup>st</sup> 2020 winter peak.

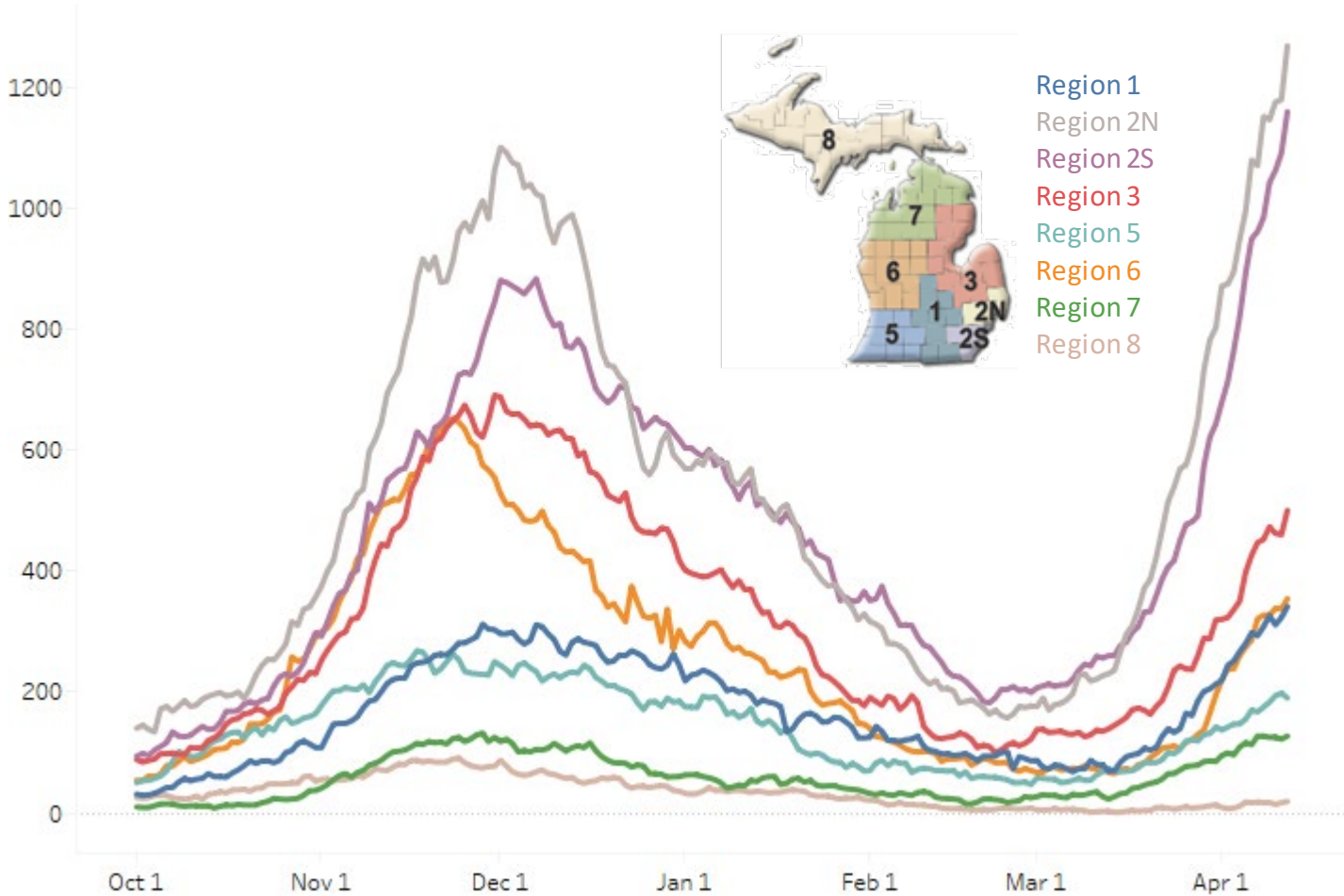
Doubling time has slowed to ~21 days this week (from doubling every 12-14 days over the past 3 weeks)

Slower increase is driven mainly by faster discharge rates as new admissions for COVID were up ~40% week over week (~4100 new admissions this week)



# Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 10/1/2020– 4/12/2021  
Confirmed Positive by Region



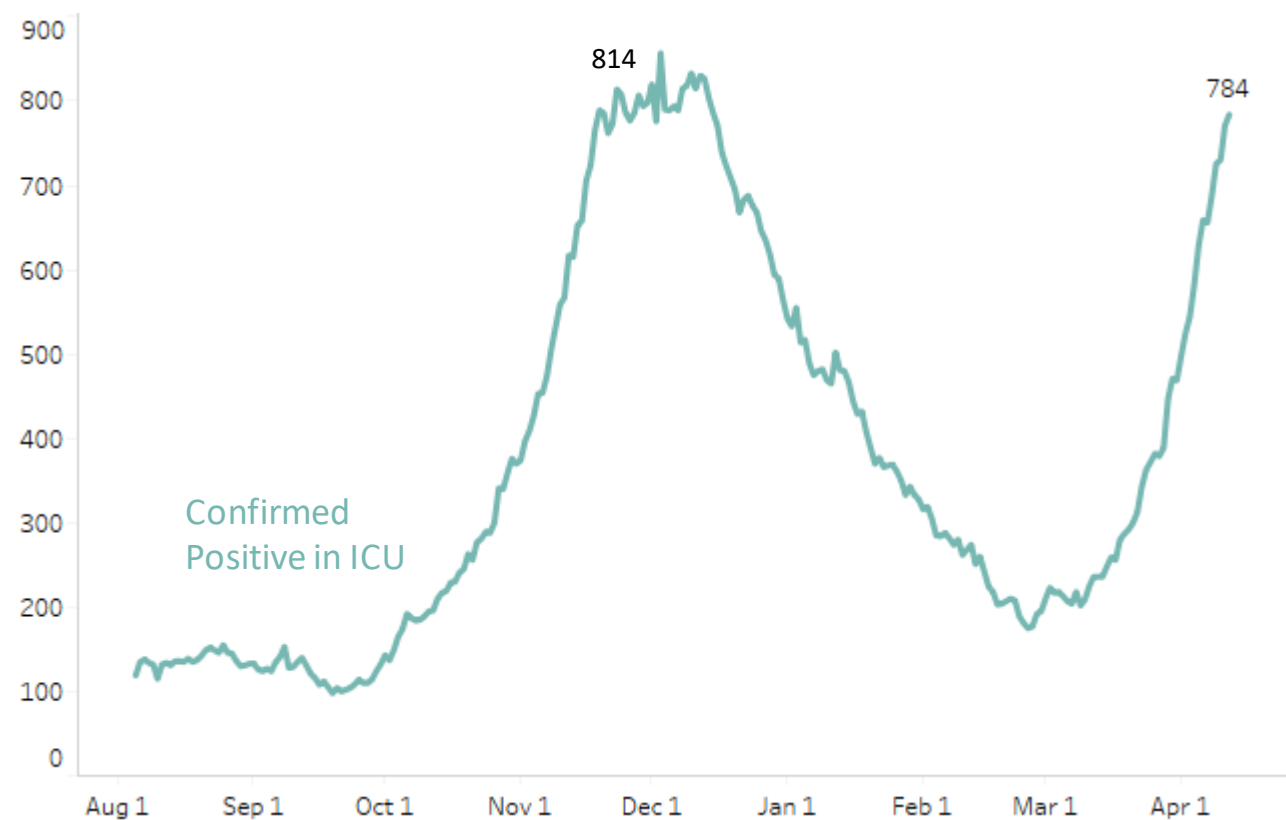
All regions are showing increasing hospitalization trends this week although growth is slower in Region 7 and 8 this week.

4 Regions are >300/M and Region 2N + 2S are >500/M population hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	341 (+22%)	315/M
Region 2N	1268 (+27%)	573/M
Region 2S	1159 (+30%)	520/M
Region 3	500 (+26%)	441/M
Region 5	190 (+23%)	199/M
Region 6	354 (+29%)	241/M
Region 7	127 (+9%)	254/M
Region 8	19 (+6%)	61/M

# Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 8/1/2020 – 4/12/2021  
Confirmed Positive in ICUs



Overall, volume of COVID+ patients in ICUs has increased 25% from last week mainly in Regions 2S, 2N and 3.

Total ICU COVID+ census is nearing winter peak levels.

Regions 1 and 3 have >90% overall ICU occupancy.

4 regions have >30% of ICU beds occupied with COVID patients.

Region	Adult COVID+ in ICU	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	46 (-4%)	95%	24%
Region 2N	198 (+30%)	78%	34%
Region 2S	250 (+51%)	82%	33%
Region 3	115 (+28%)	92%	32%
Region 5	42 (+11%)	88%	26%
Region 6	81 (+4%)	78%	32%
Region 7	42 (-14%)	77%	23%
Region 8	10 (+25%)	66%	17%

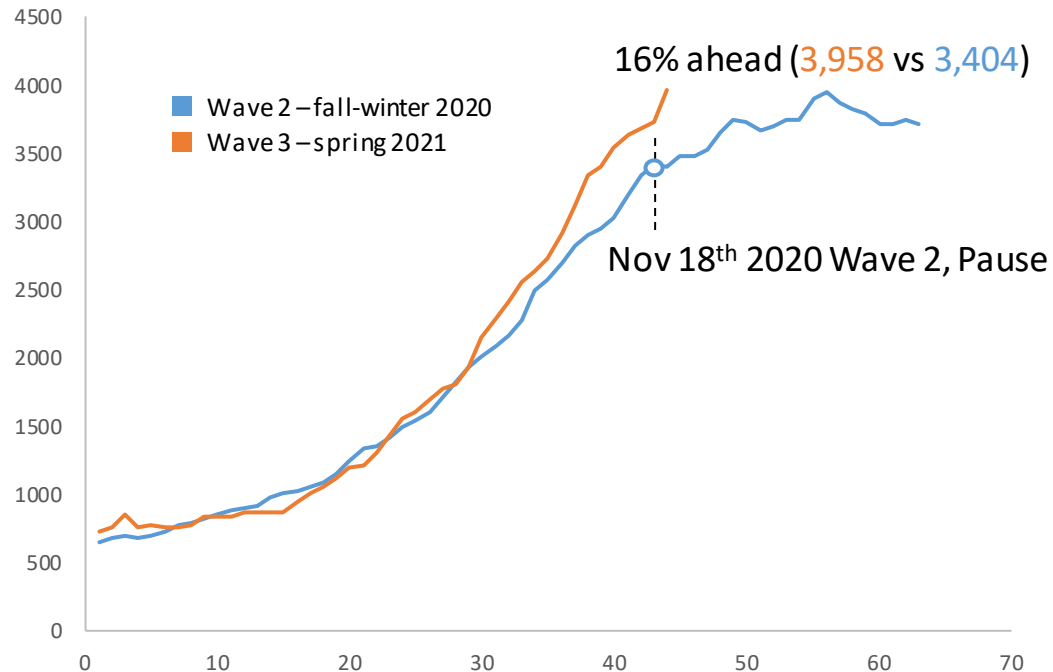
Hospital bed capacity updated as of 4/9



# Wave 2 and 3 Growth Rate Comparison (through 4/12)

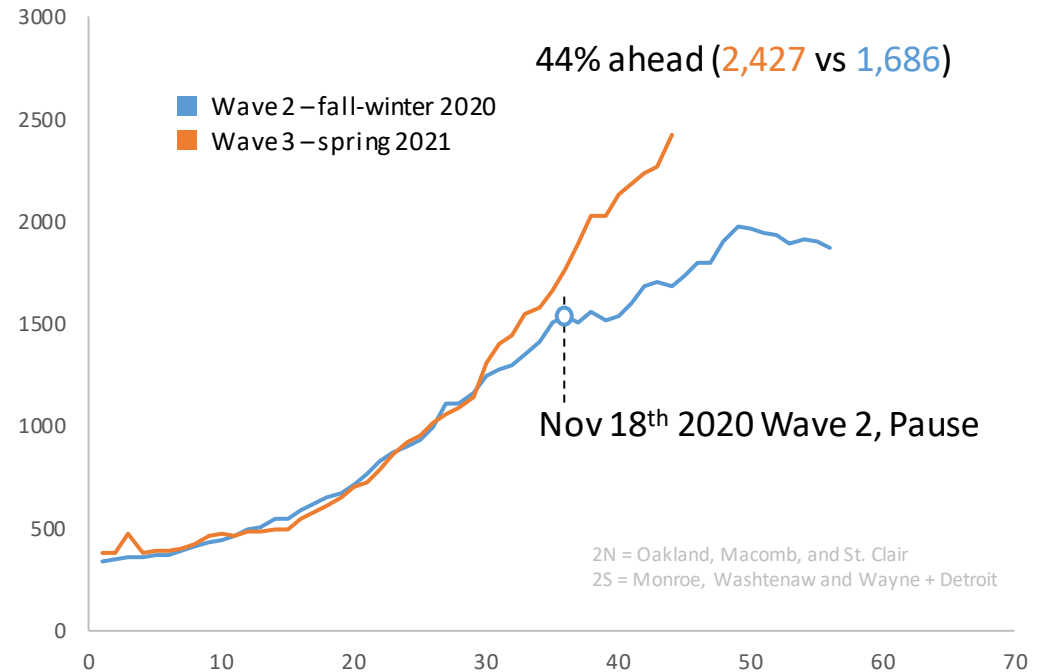
- Statewide hospitalizations are 16% higher than the winter wave (wave #2) when aligned to the same starting point.
- Regions 2N and 2S (SE) are a week ahead of their winter wave growth with 44% higher hospitalizations vs. comparable starting point reflecting earlier start and continued rise in census this wave (wave #3)

**Covid+ hospital census, State overall**



Days since start date: Oct 7<sup>th</sup> 2020 for Wave 2  
and Feb 28<sup>th</sup> 2021 for Wave 3

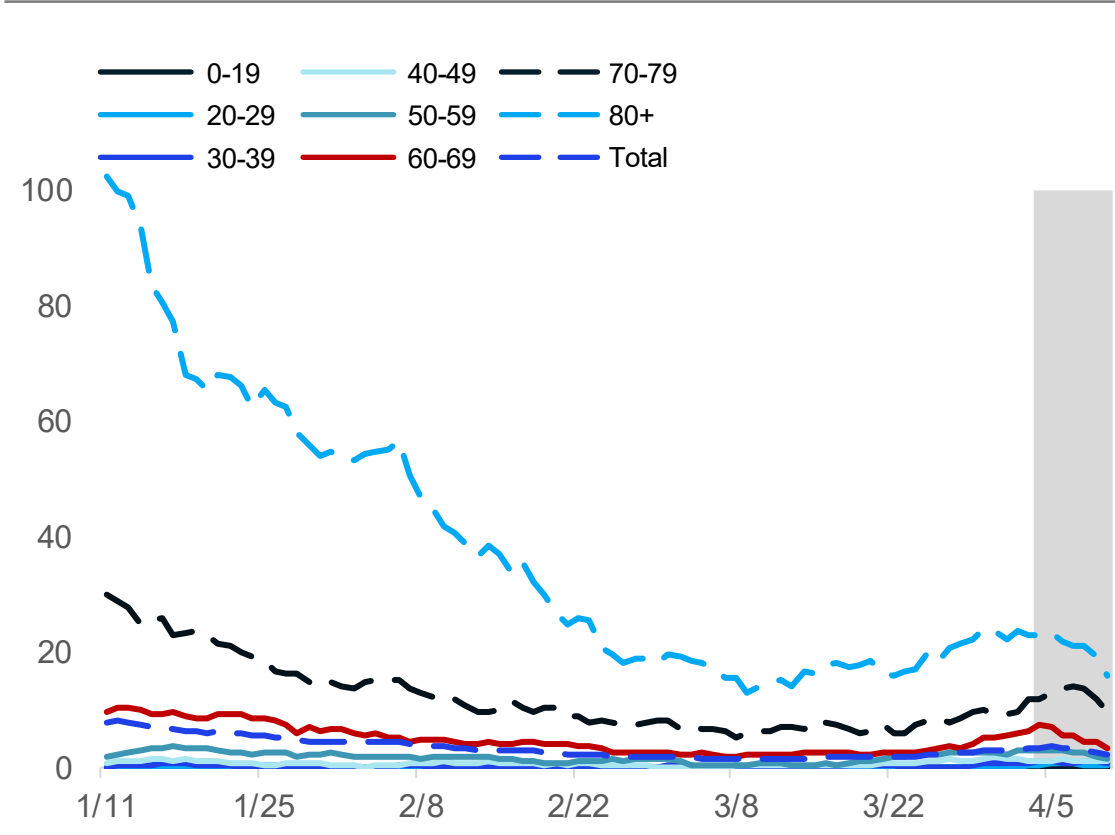
**Covid+ hospital census, Regions 2N + 2S (SE)**



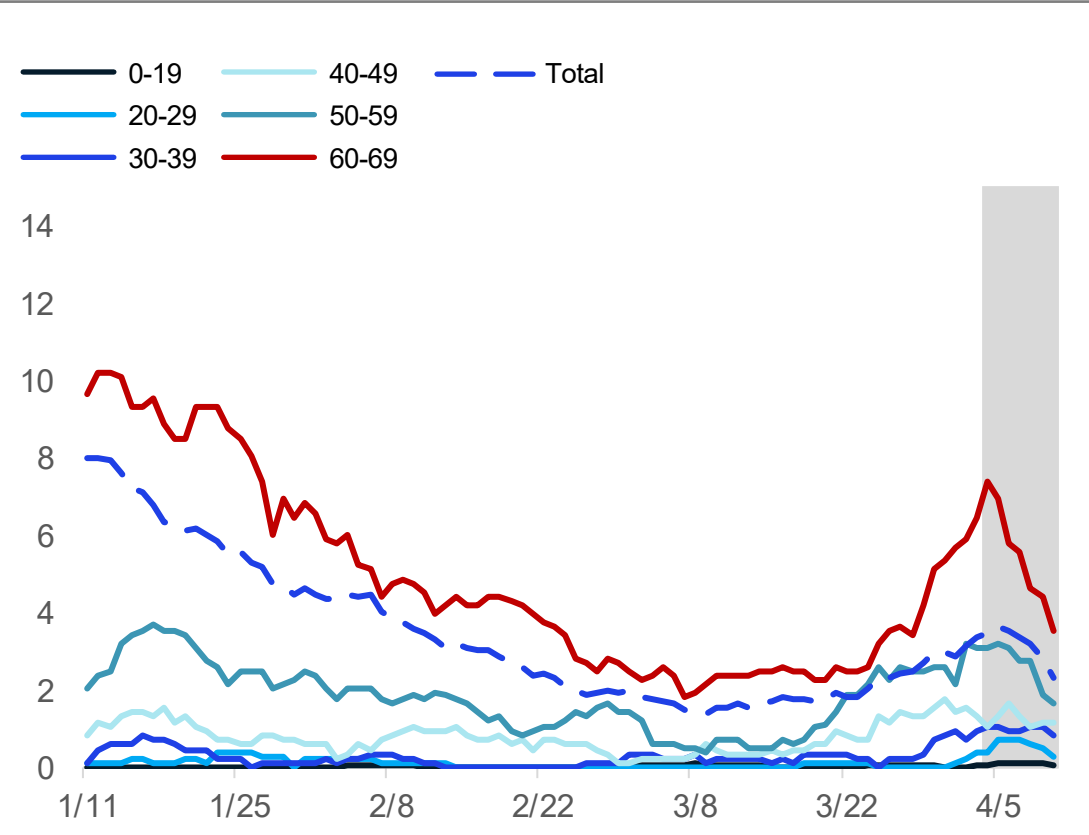
Days since start date: Oct 14<sup>th</sup> 2020 for Wave 2  
and Feb 28<sup>th</sup> 2021 for Wave 3

# Average and total new deaths, by age group

Daily confirmed and probable deaths per million by age group (7 day rolling average)



Under 70 daily confirmed and probable deaths per million by age group (7 day rolling average)

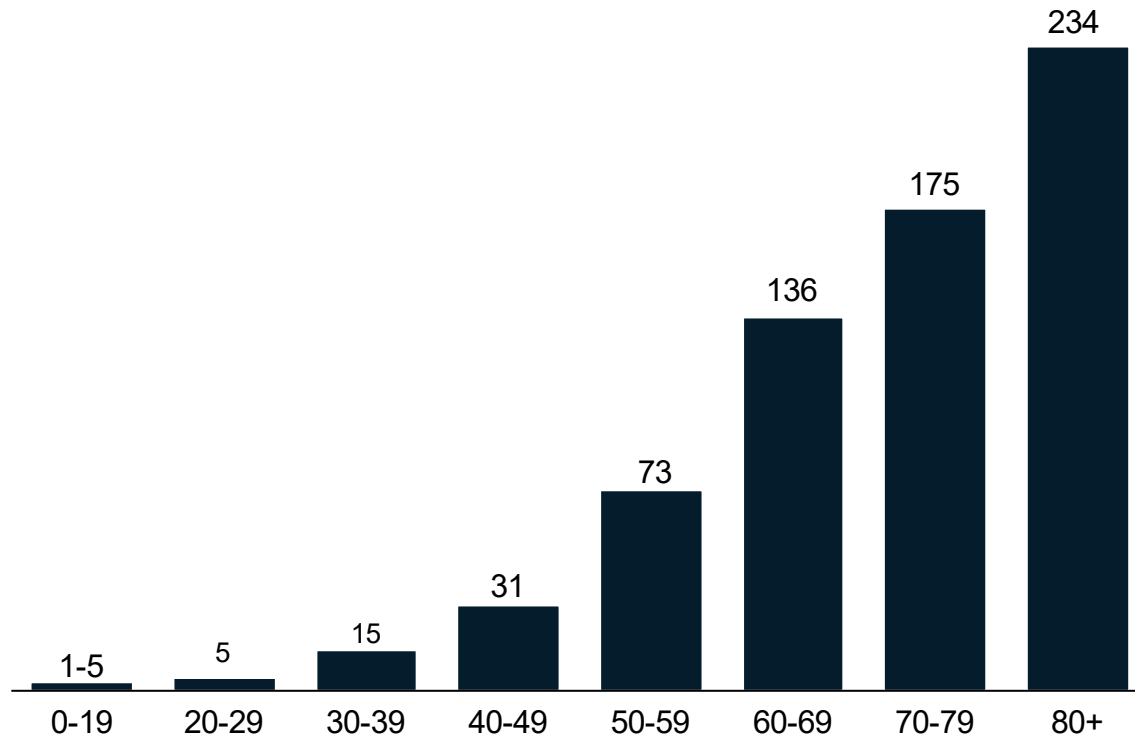


Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.

Source: MDHHS – Michigan Disease Surveillance System

# Average and total new deaths, by age group

Total confirmed and probable deaths by age group  
(past 30 days, ending 4/3/2021)



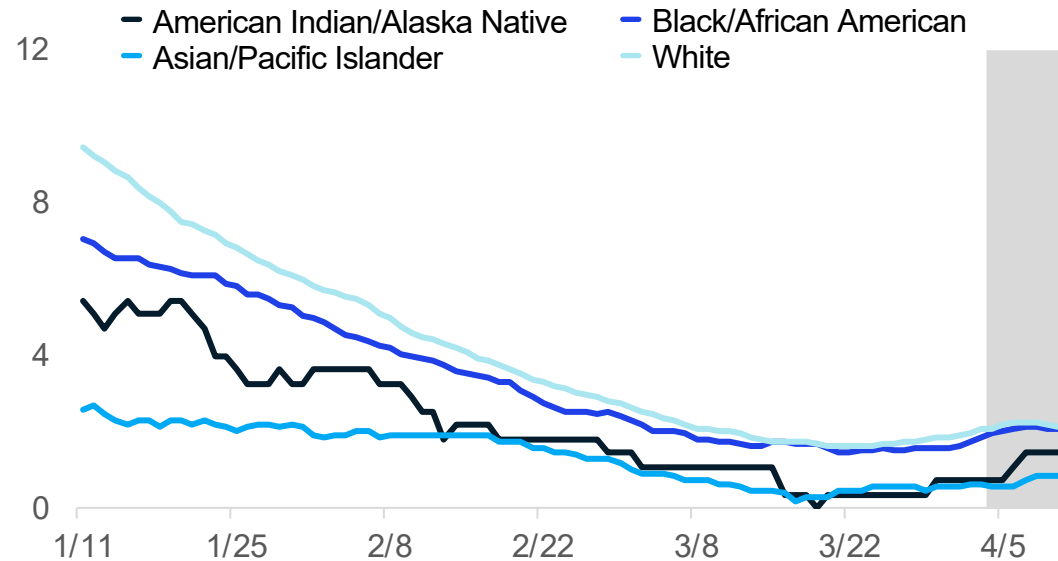
- All age groups (by decade) are seeing increases in deaths
- In the past 30 days, 19% of deaths occurred in those under 60 years of age
  - This is an increase of 4% from last week

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.

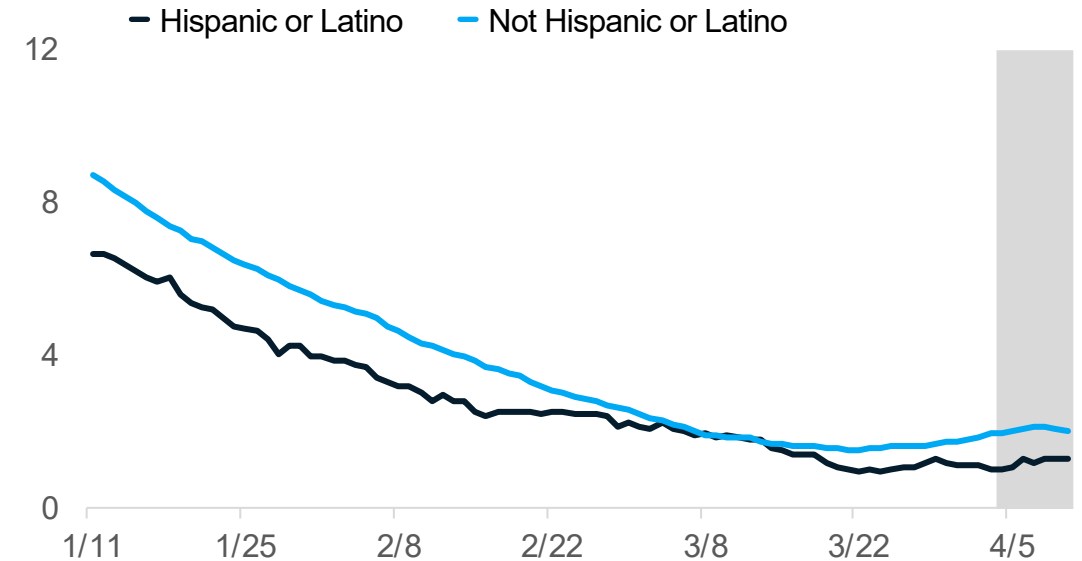
Source: MDHHS – Michigan Disease Surveillance System

# 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



### Updates since last week:

- Deaths are a lagging indicator of cases, and death rates are increasing among racial and ethnic groups
- Whites and Blacks have the most reported deaths per capita while Non-Hispanic Latino have experienced a larger increase
- Deaths are not adjusted for confounders (e.g., age, sex, comorbidities)

# How is public health capacity?

Diagnostic testing volume (PCR and antigen) has increased from last week

- PCR testing increased since last week
- Percent of antigen tests declined slightly since last week

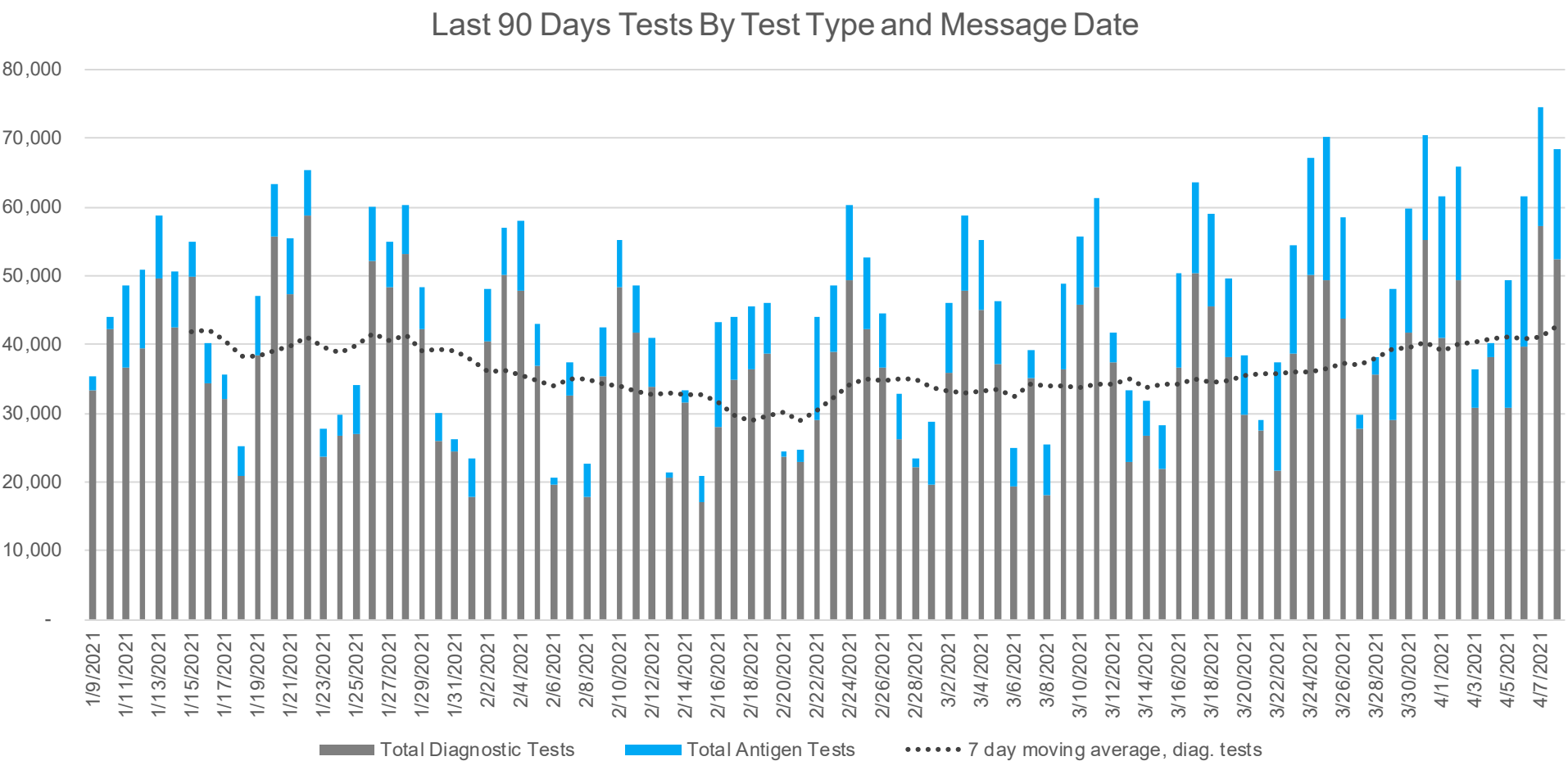
## Testing

- Testing is higher in Michigan compared to the nation, but this doesn't explain the higher positivity
  - K-12
  - College and University
  - Pop-up testing for spring break travelers
- Support for community testing sites in socially vulnerable areas continues

Cases identified for investigations has sharply increased

- Number of cases not investigated this week (39,107) exceeds total number of cases reported the prior week (34,666)
- Consistent low proportion of cases interviewed with a source of known infection (indicating community acquisition)
  - As cases have increased, the percent of interviews completed has declined
- Consistent low proportion of those quarantining when their symptoms begin (indicating no effective halt in community transmission)

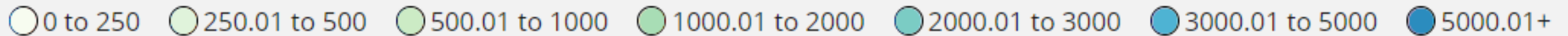
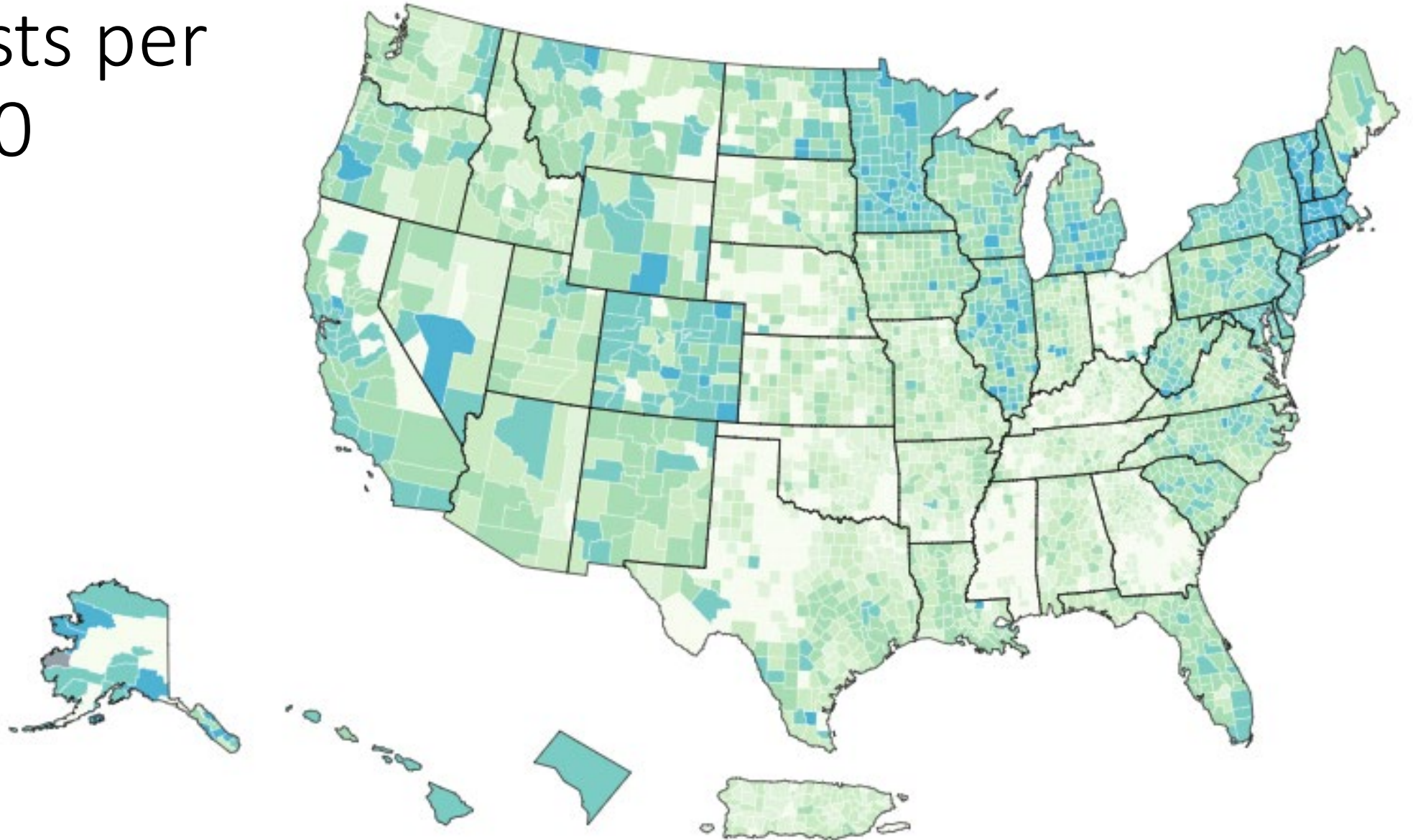
# Daily diagnostic tests, by message date



## Weekly Update

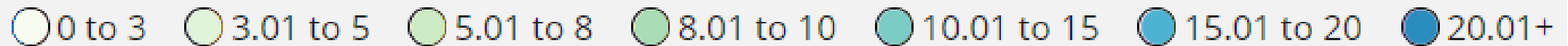
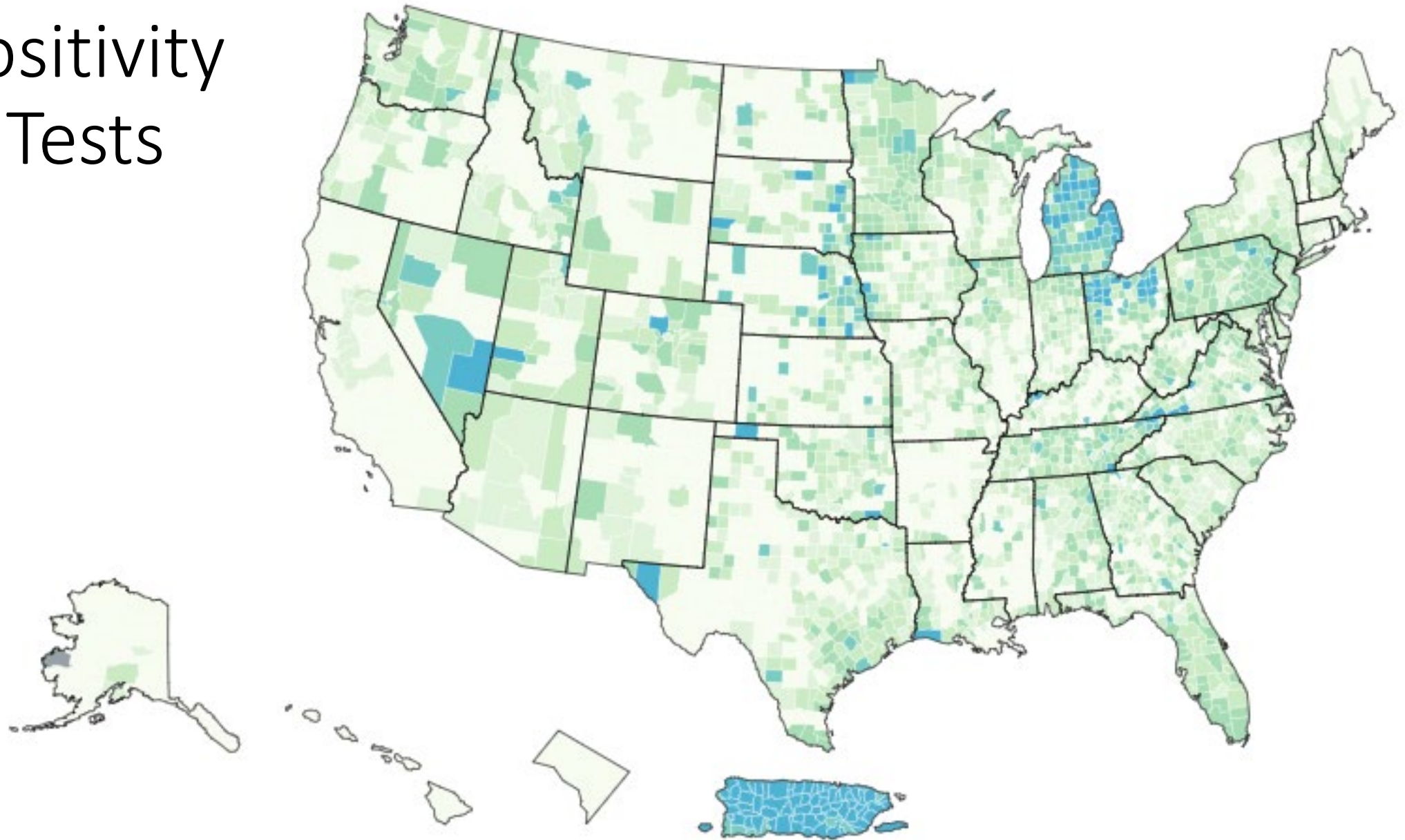
- 56,658 rolling 7-day average daily diagnostic tests reported to MDHHS (PCR + Ag) (↑)
- 42,623 average daily PCR tests (↑)
- 24.8% are antigen tests over the past week (↓)
- 18.5% positivity in PCR tests (↑)

# PCR Tests per 100,000





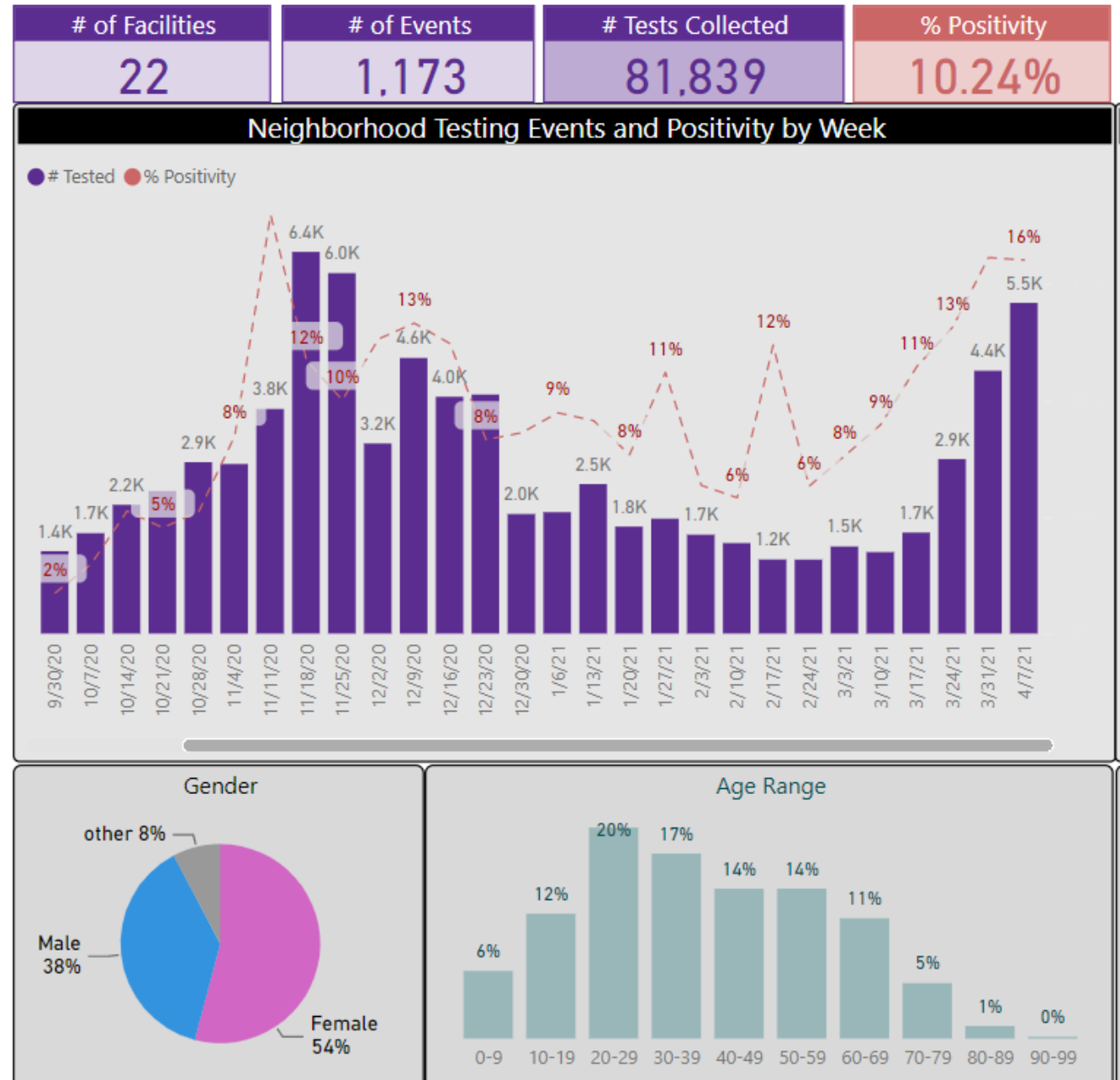
# % Positivity PCR Tests





# Neighborhood Testing Sites\*

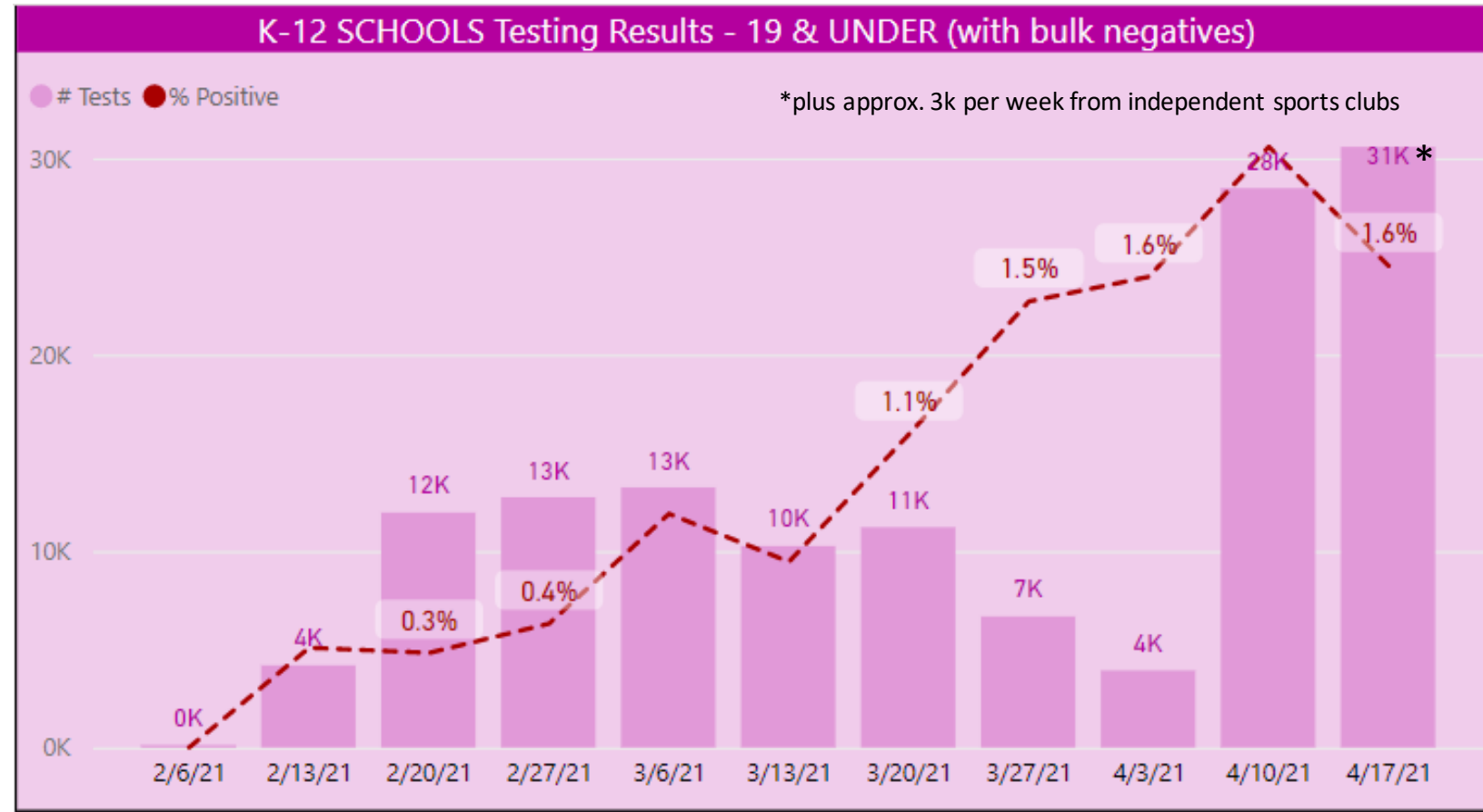
\*We continue to support community testing sites in socially vulnerable areas



# K-12 and Sports Testing

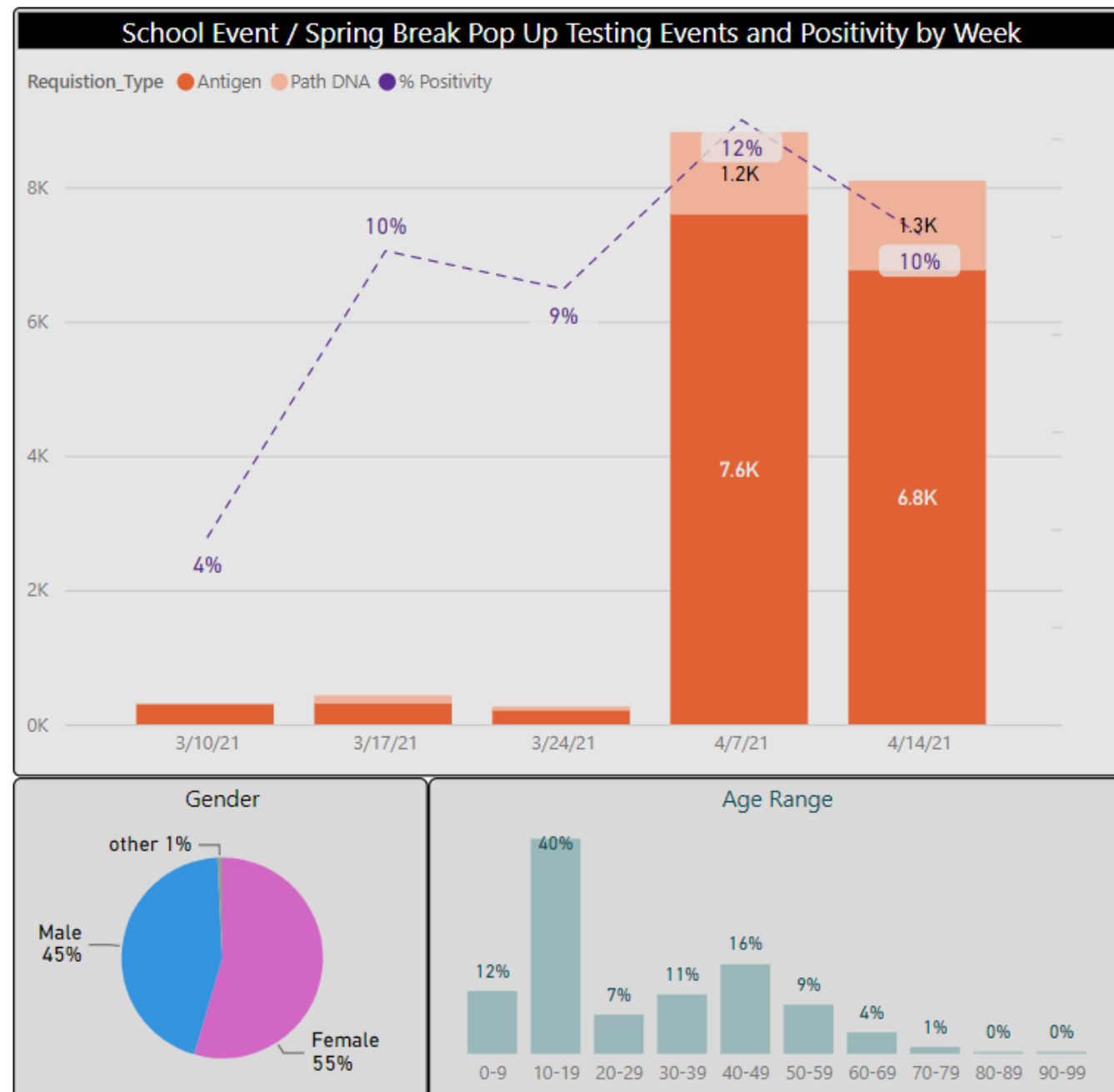
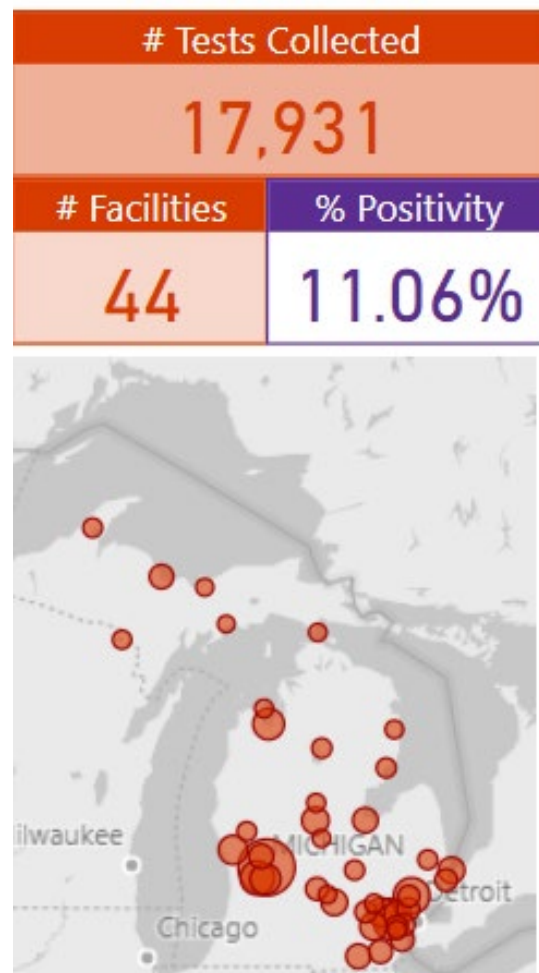


Total Tests Re...	Positives	% Positive
142,998	1,752	1.23%

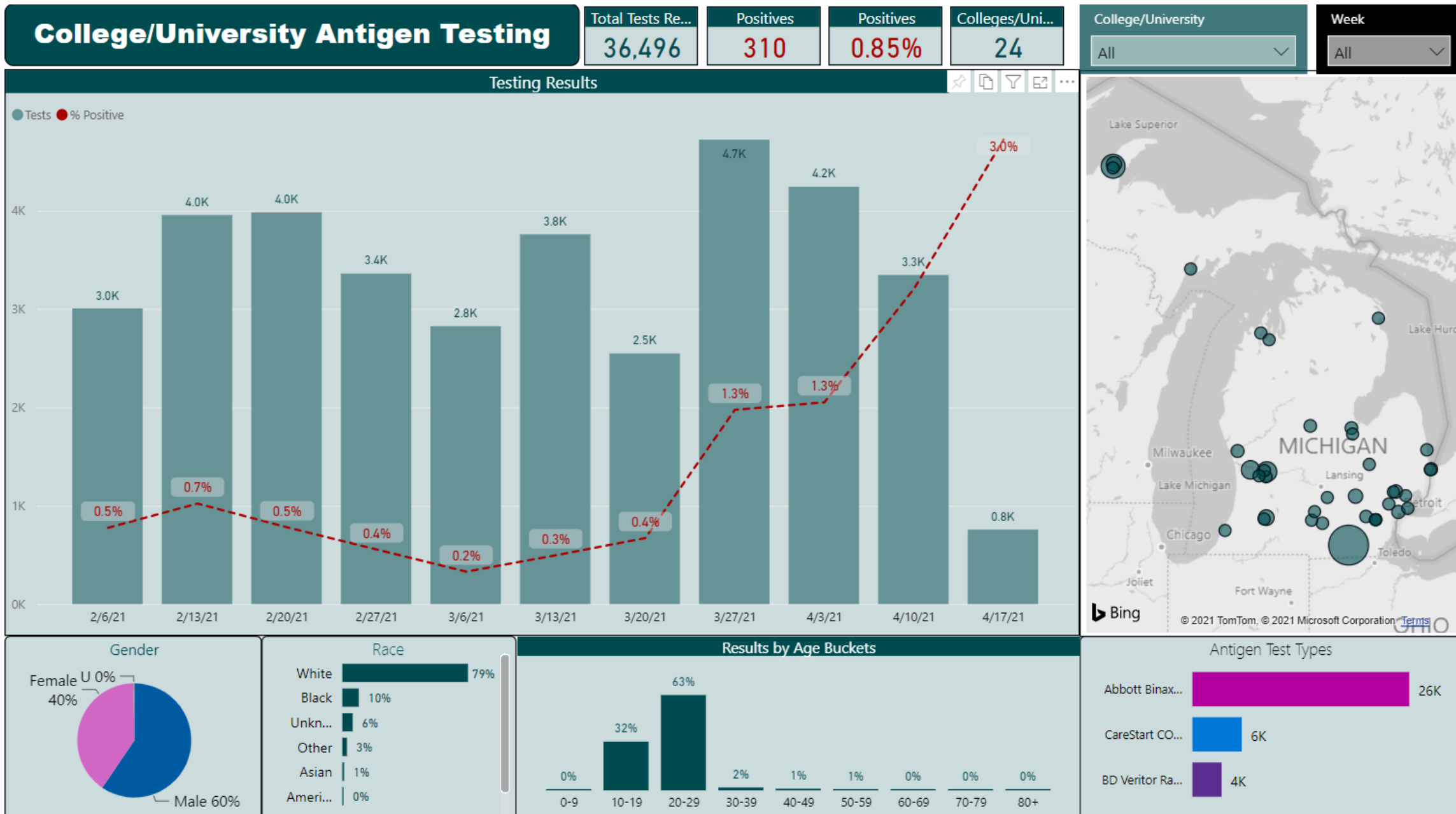


- Testing in K-12 students is at an all time high
  - We have **received 34K tests from schools and youth sports clubs in the current week alone**
- We continue to have testing available for educators on a weekly basis

# Spring Break Pop-Up Events



- We continue to work with school districts to host post-spring break testing sites
- We have collected over 17k tests thus far, with many more events planned



We are following this trend in percent positivity closely

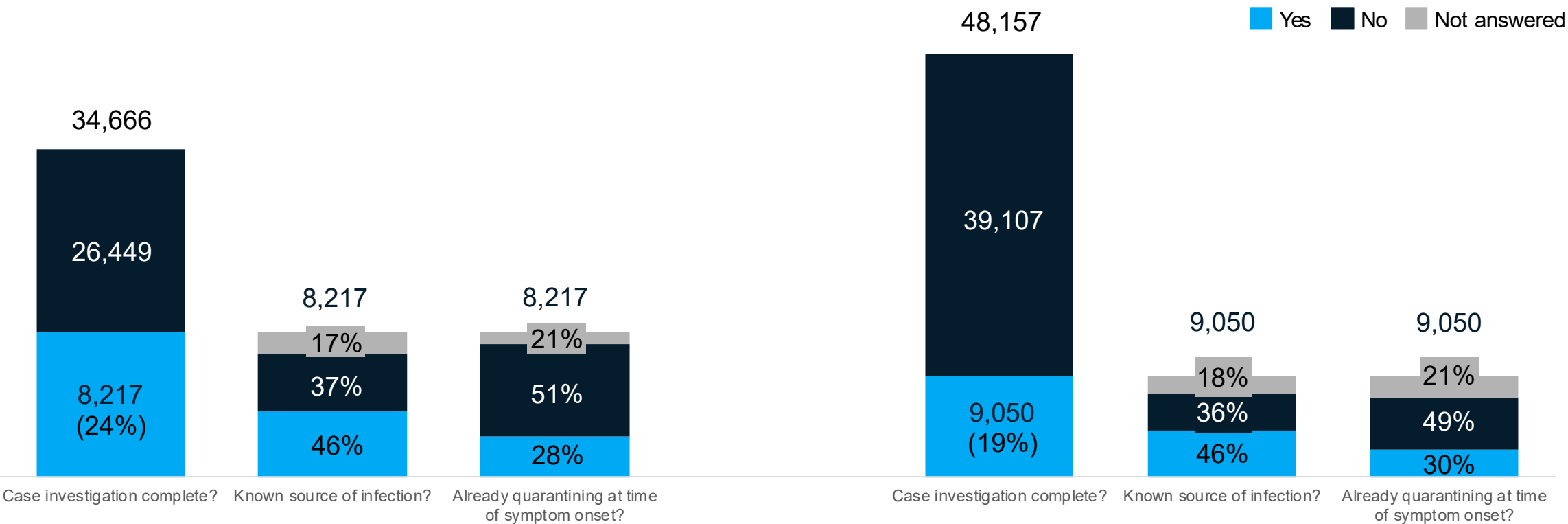
# New Case Investigation Metrics (Statewide)

New Communicable Disease metrics this week:

- Number of cases not investigated this week (39,107) exceeds total number of cases reported the prior week (34,666)
- Number of case investigations completed increased although percent completed (19%) decreased
- 46% of investigated cases having a known source (46% last week, 45% week prior)
- 30% of investigated cases noting that they were quarantining before symptoms (28% last week)

03/27-04/02 Case report form information

04/03-04/10 Case report form information



# COVID-19 Vaccination

## National Comparisons

- 10<sup>th</sup> for number with first dose; 10th for number fully vaccinated

## Vaccine Coverage

- 41.9% of MI residents have initiated COVID vaccination series and 27.5% have completed their series

## Addressing vaccine disparities

- Coverage was highest among Non-Hispanic White individuals
- Racial/ethnic disparities smaller in 65 years and older age group
- Case rates are lower in age groups with higher vaccination coverage

## Vaccinated Individuals Who Test Positive

- Number of cases who are fully vaccinated (n=334) is not in excess of what might be expected with vaccines with 95% efficacy.
- Possibility of infection and further transmission is why recommend precautions in public (e.g. wearing masks, washing hands and social distancing) even after receiving the vaccine until more Michiganders have been able to be vaccinated

## Doses Shipped, Administered, and Coverage

6,233,325 state doses shipped (including state doses transferred to federal programs)

5,445,355 doses administered

4 weeks with more than 500,000 doses administered in a week; 10 days over 100,000 in a day

632,661 doses administered last week

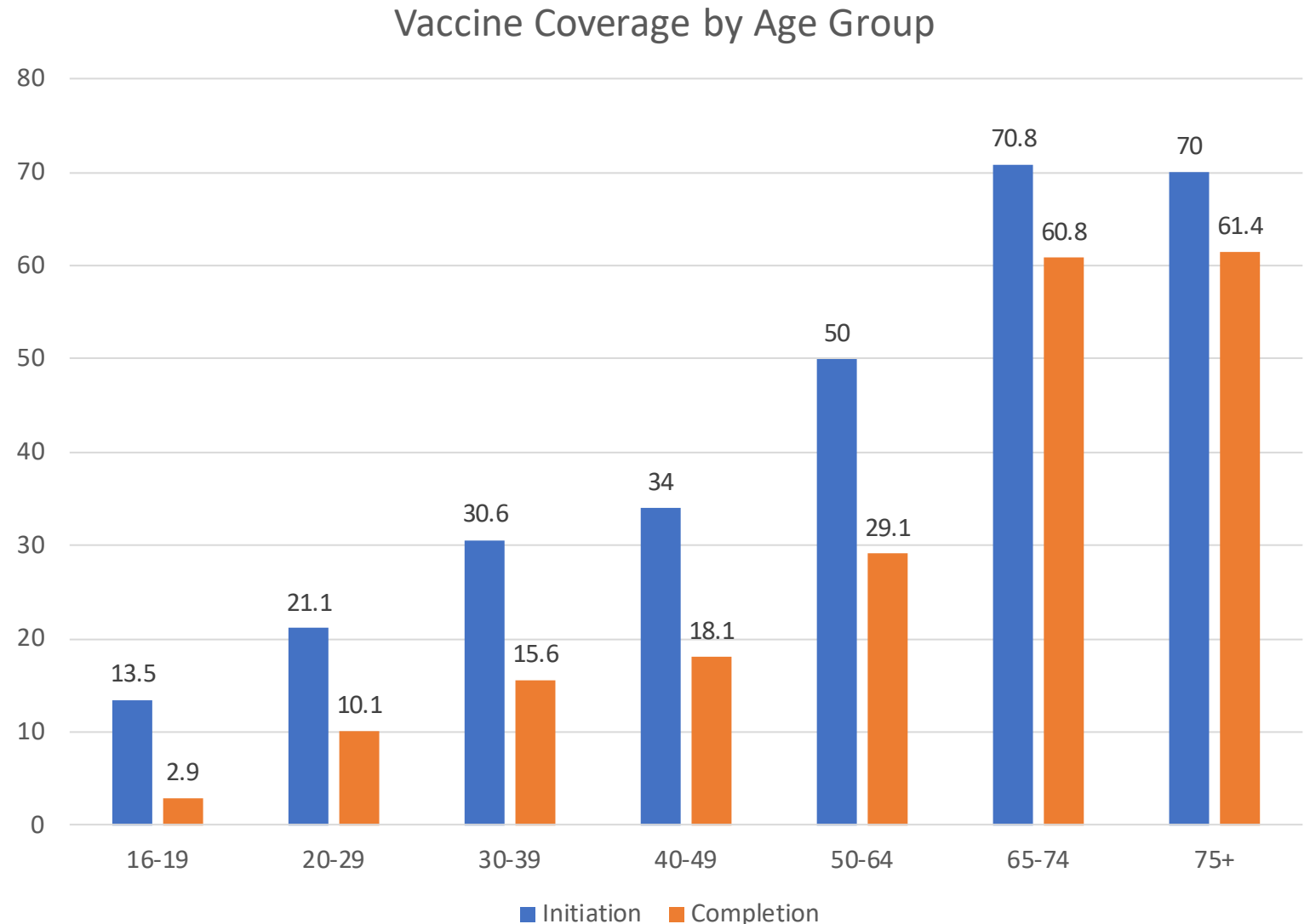
41.9% of MI residents have initiated COVID vaccination series

27.5% have completed their series or **2,226,729 people**

# Vaccination by Age Group (4/12/21 data)

70.5% people aged 65 or older (1.24M) have received one or more doses of vaccine

61.4% people aged 65 or older have completed their vaccine series

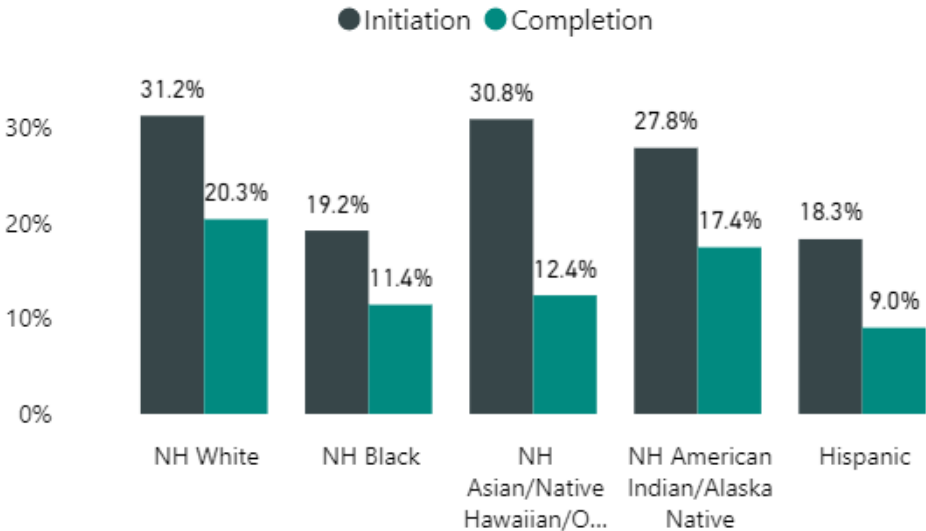




# Coverage by Race: State Level data 4/12/21

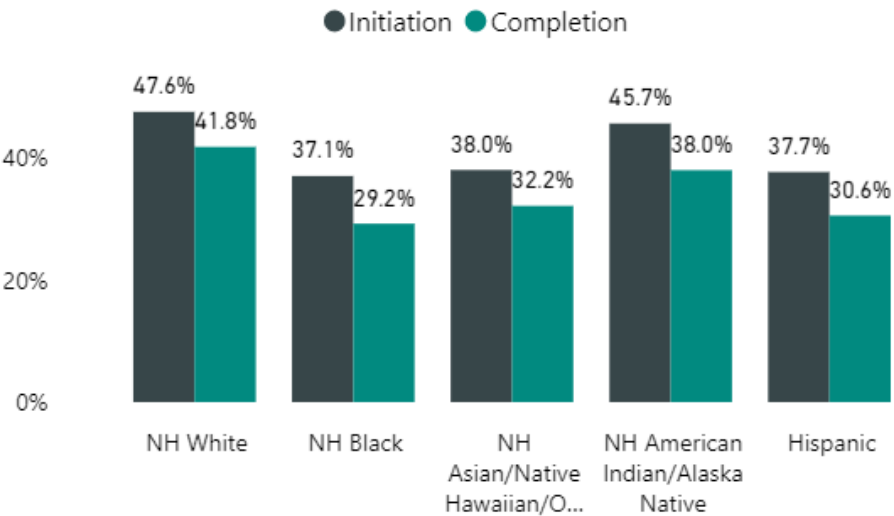
## 16 and older

Coverage by Race - State Level



## 65 and older

Coverage by Race - State Level

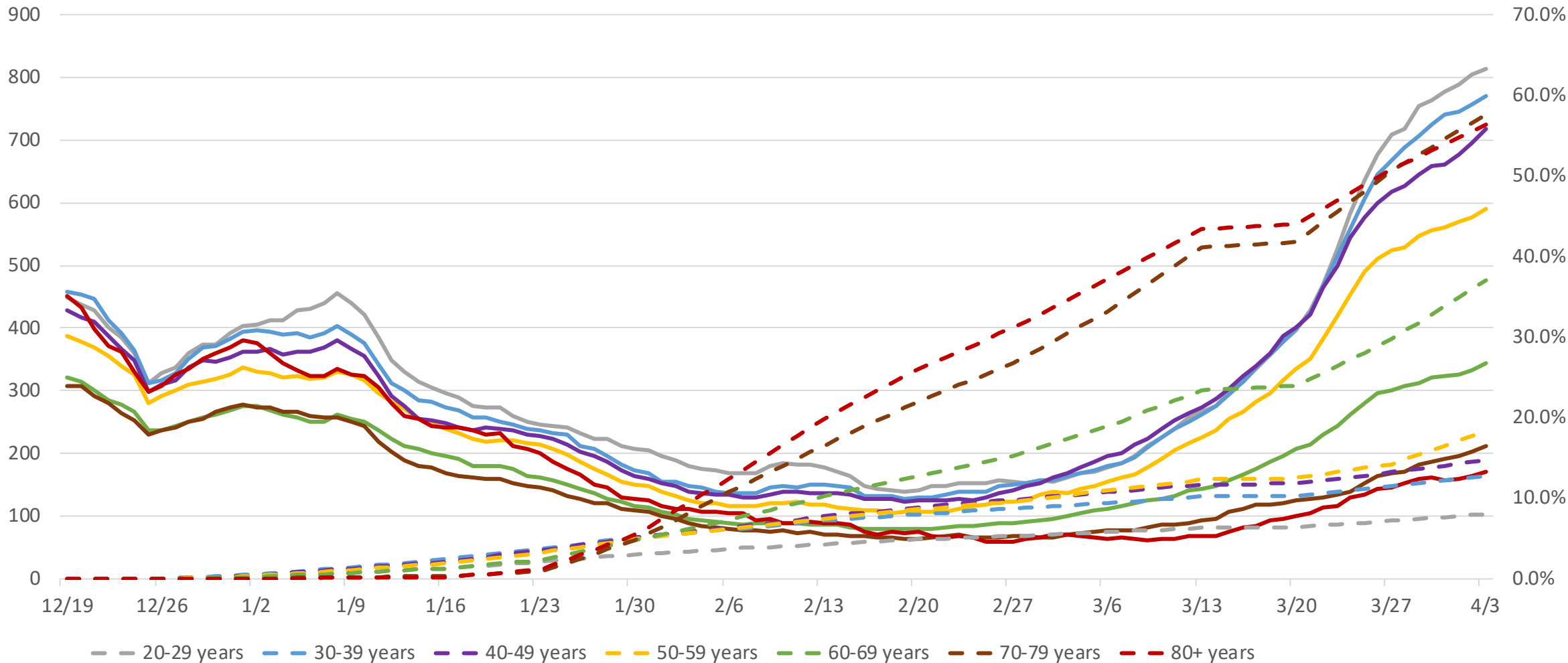


- Coverage was highest among those of NH (Non-Hispanic) White Race (31.2%), then NH Asian, Native Hawaiian or Pacific Islander Race (30.8), NH American Indian (27.8%), NH Black or African American (19.2%) Races, and Hispanic (18.3%) ethnicity
- Initial Coverage disparities are seen in 65+ age group showed the same disparity, but the differences between Non-Hispanic White individuals (47.6%) and Non-Hispanic Black or Hispanic individuals (37.1% and 37.7%) were smaller.
- 28.7% data missing or unknown

# Comparing Vaccine Coverage and Case Rate Trends (Dec 19 – Apr 3)

Solid lines – case rates per million (7-day rolling average)

Dashed lines – vaccine coverage (%)



Source: Michigan Disease Surveillance System (MDSS) and Immunization Program

# Potential COVID-19 Vaccination Breakthrough Cases

## Process:

- Michigan part of CDC's nationwide investigation (CDC website forthcoming)
- Weekly match COVID-19 cases to records of all fully vaccinated persons
- Absence of a positive test less than 45 days prior to the post-vaccination positive test
- Send data to CDC and, if available, gather respiratory specimens for whole genome sequencing

## Michigan Data (1/1/21 through 4/6/21):

- 334 cases met criteria based on symptom onset or positive test 14 or more days after being fully vaccinated
- Less than 1% of people who were fully vaccinated met this case definition
  - Includes 4 deaths, all persons 65 years or older, three had prior PCR positive greater than 45 days prior
  - 16 cases were hospitalized

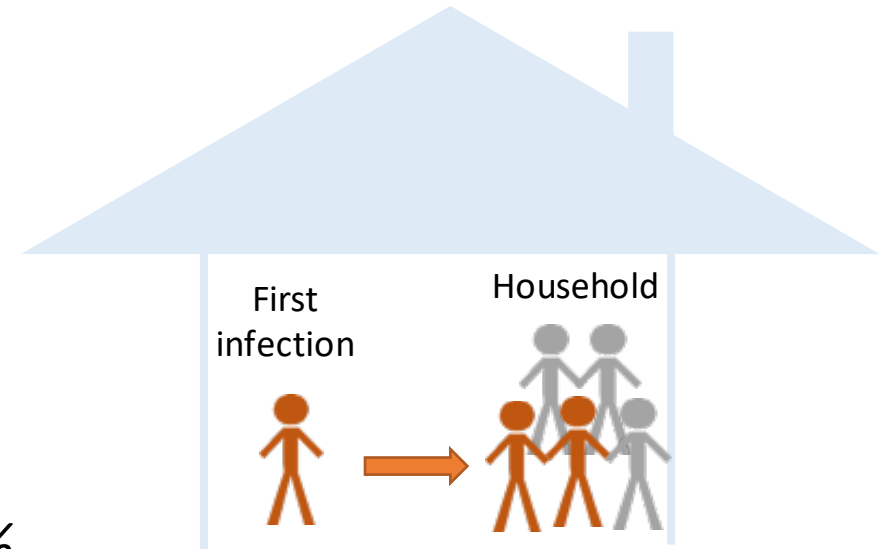
## Summary Points:

- Number of potential cases identified to date is not in excess of what might be expected with vaccines with 95% efficacy.
- Proportions of those symptomatic, hospitalized, and who died are all lower than those who are unvaccinated.
- Continue to encourage precautions while out in public, including wearing masks, washing hands and social distancing, even after receiving the vaccine until more Michiganders have been able to be vaccinated.

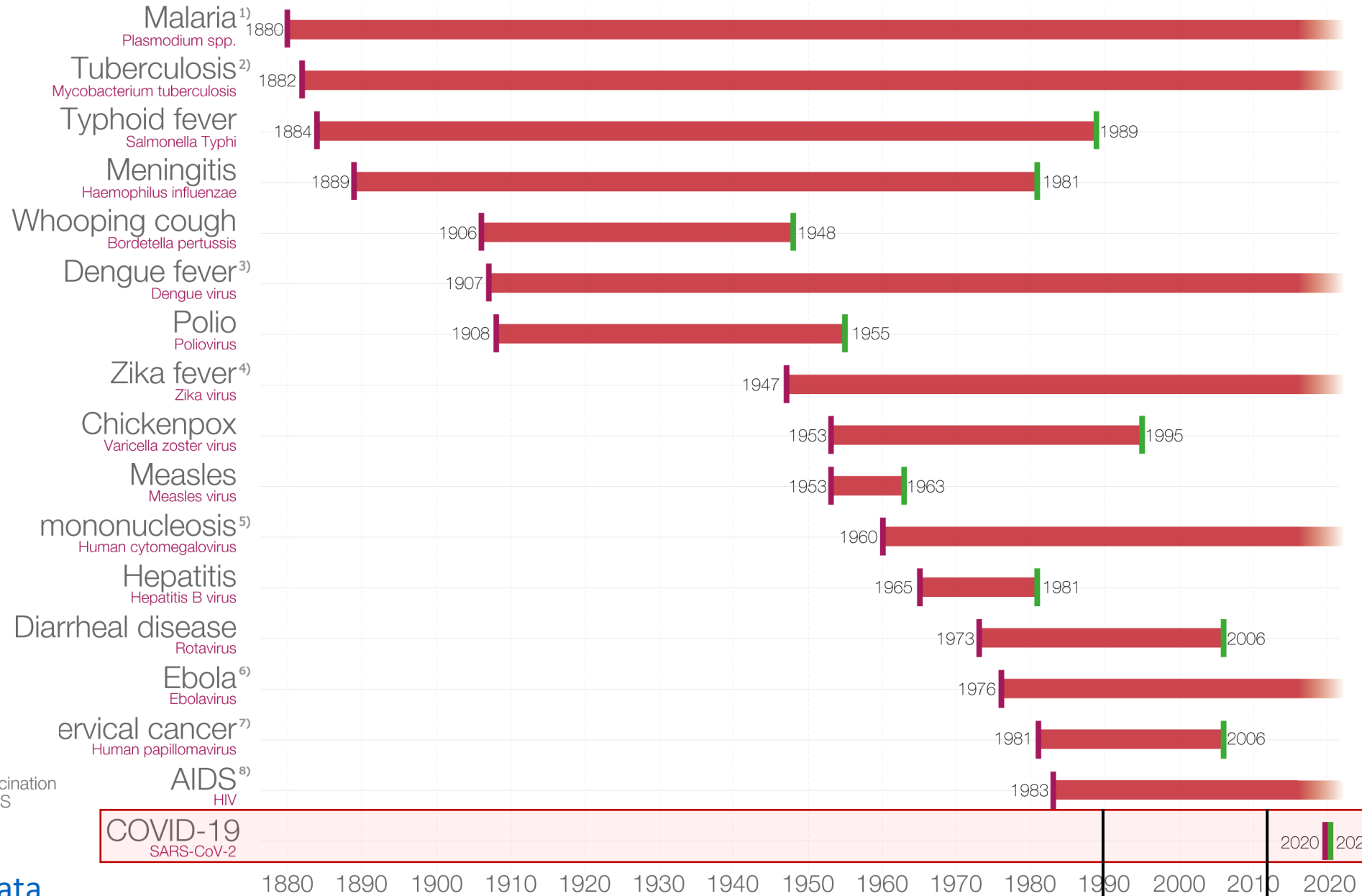
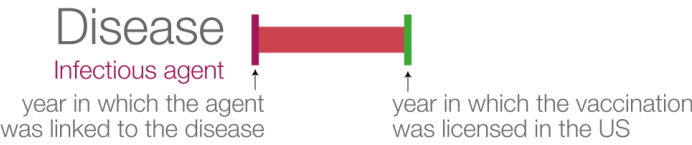
# Household Infection Rate (Secondary Attack Rate)

*The % of housemates infected from a single person*

- SARS-CoV-2: 16.6%
  - *Compare to SARS-CoV (2003) 7.5% and MERS 4.7%.*
- New study of 55 Dutch households:  
**69% of households** had additional infections and  
**43% of household members** infected.



# COVID-19 vaccines: an unprecedented leap in vaccine development and rollout



Our World in Data Source: [Our World in Data](https://ourworldindata.org)

1) – 2016 vaccine RTS,S undergoing pilot trials in select countries after being approved by European regulators in 2015.  
2) – The only approved vaccine is bacilli Calmette-Guérin (BCG), developed in 1921 but its efficacy in adults is variable. Other tuberculosis vaccines are currently in development.  
3) – 2016 partially effective vaccine CYD-TDV, sold under the brand name Dengvaxia.  
4) – Successful first human clinical trials of a vaccine against the virus in 2016. Only in 2016 did the WHO issue statements of concern about the zika virus' links to Guillain-Barré Syndrome (GBS) and microcephaly.  
5) – A number of vaccine candidates are under investigation.  
6) – 2016 VSV-EBOV vaccine in human clinical trials and allowed for use in emergency through the WHO 'Emergency Use Assessment and Listing' (EUAL).  
7) – Not all cervical cancers are caused by the HPV virus and the HPV vaccine can protect against other cancers caused by the HPV virus.  
8) – 2009 efficacy findings for vaccine candidate RV 144 has shown some promise. In stage III human trials.

Initial studies of mRNA vaccines

Human testing of RNA vaccines for rabies, avian flu, Zika, & other viruses



EXTRA

# The Michigan Daily

EXTRA

Latest Deadline in the State

VOL. LXV, No. 129

ANN ARBOR, MICHIGAN, TUESDAY, APRIL 12, 1955

SIX PAGES

# SALK POLIO VACCINE EFFECTIVE



—Daily—Esther Goudsmit  
**TODD LEIF**  
... top Union officer



—Daily—Esther Goudsmit  
**BOB BLOSSEY**  
... executive secretary

## Union To Be Led By Leif, Blossey

The Michigan Union will enter its second half century under the leadership of Todd Leif '56 and Bob Blossey, 56BA, it was

## Adlai Raps Ike's Policy On Quemoy

### Force Censure In Straits Asked

CHICAGO (AP)—Adlai Stevenson said last night the Eisenhower administration's Far Eastern policy has gotten the United States into a position where it faces "either another damaging and humiliating retreat, or else the hazard of war."

He said he has "the greatest misgivings about risking a third world war in defense of" Quemoy and the Matsu Islands, Chiang Kaishek's Nationalist outposts off the Red China coast.

#### 'Dead-End Policy

Stevenson said in a broadcast on two nationwide radio networks that the Eisenhower administration is "pursuing a dead-end policy in Asia," which he said was dictated by political expedience at



**DR. THOMAS FRANCIS JR. (left) AND DR. JONAS E. SALK (right)**—Dr. Francis reported success of Salk vaccine to scientists and newsmen today after months of intensive statistical analysis. Dr. Salk made medical history by discovering the first effective means of preventing paralytic polio.



## Report It Works 8-9 Times in 10

### Vaccine Completely Safe—Francis; Polio Fight Enters Final Stage

By LEE MARKS

Salk vaccine works.

After months of anticipation, an anxious world today heard Dr. Thomas Francis, Jr. report that the vaccine is between 80 and 90 per cent effective.

It is absolutely safe.

Speaking at a meeting of more than 500 scientists and physicians, Dr. Francis claimed the vaccine had produced "an extremely successful effect" among bulbar patients in areas where vaccine and a harmless substitute had been used interchangeably.

There is now no doubt that the fight against polio is nearing an end. Children can definitely be inoculated successfully against the crippling effects of paralytic polio, Dr. Francis' report proved.

## Aid to Asia

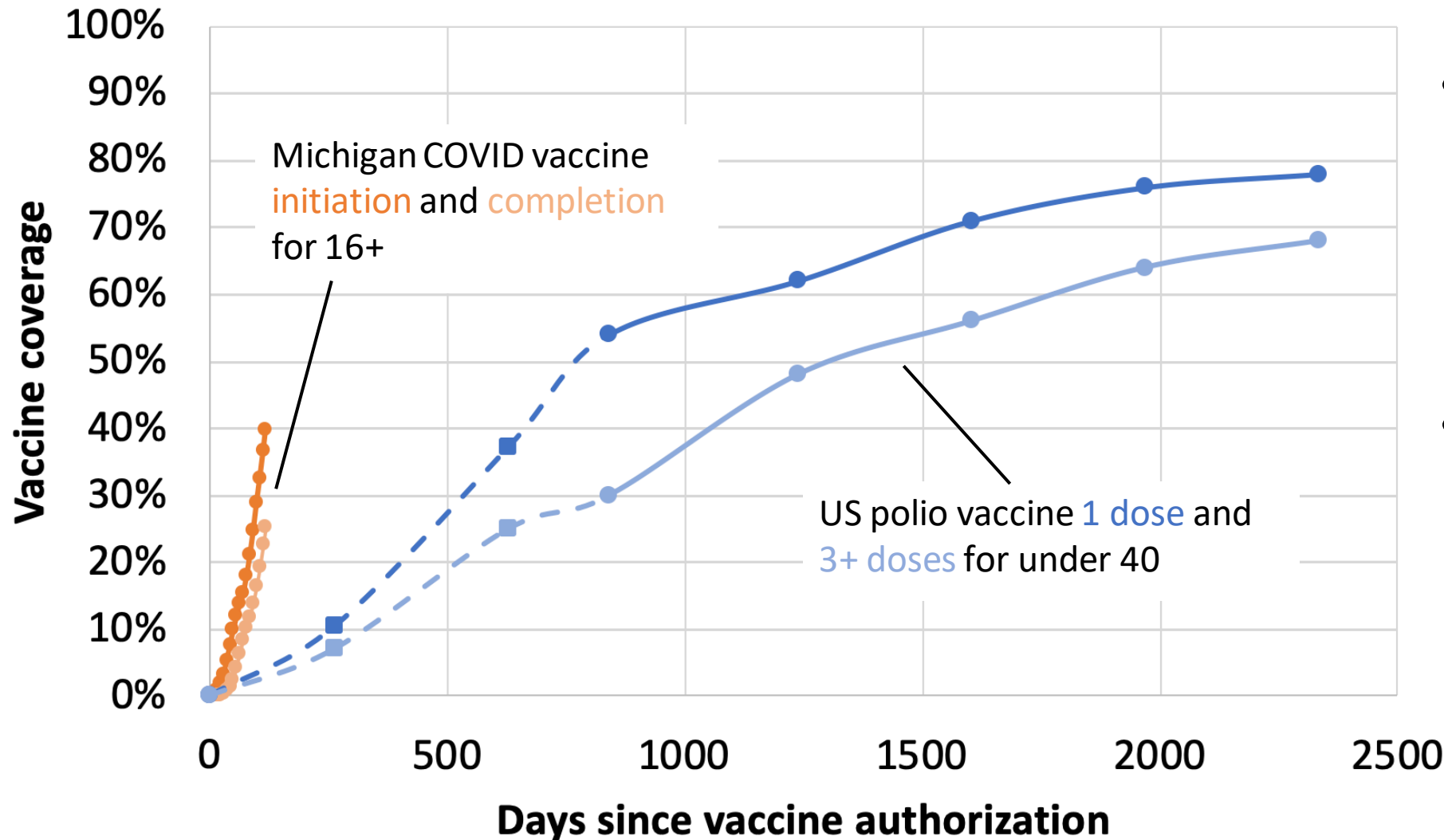
WASHINGTON (AP)—President Dwight D. Eisenhower an-

#### LEGAL QUESTION:

## Committee To Consider



# COVID-19 vaccines represent an unprecedented leap forward in vaccine development & rollout




- Rapid coverage increase in COVID vaccine coverage (16+) compared to 1955 polio vaccine rollout (<40)
- Note that priority groups are different for the two vaccines and both have changed over time

Sources: MDHHS, Sirken, 1962, National Participation Trends, 1955-61 in the Poliomyelitis Vaccination Program. Thrupp et al, Surveillance of Poliomyelitis in the United States in 1957

# MI Start Map updates: new disparities dashboard

- Cases, deaths, and hospitalized cases can now be compared by:
  - Race
  - Ethnicity
  - Age group
  - Gender
- Disparity indicated if a group has at least 33% more cases, deaths, or hospitalized cases than expected based on their proportion of the population
- [Mistartmap.info](https://mistartmap.info)

 **MI Safe Start Map**  
Track the risk levels of COVID-19 indicators

Dashboard **Compare** Resources About

Geographic Area **Race** Ethnicity (Hispanic) Ethnicity (Arab) Age Group Gender

### Configure

DATE  
2021-04-06

METRIC CALCULATION  
CUMULATIVE PRIOR 28 DAYS

METRICS SELECTED  
Select...

\* Over previous 7 days

INCLUDE:  
☐ correctional facilities  
☒ probable cases

AREAS SELECTED  
Select region or county...  
☒ Michigan State

### MICHIGAN STATEWIDE Metrics By Race

Mar 1, 2020 - Apr 6, 2021

disparity present

RACE	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
Known	78.2%	94.6%	95.5%	61,287.7	1,651.3	3,414.8
Unknown	21.7%	5.3%	4.4%	--	--	--
Any	--	--	--	78,303.4	1,745.1	3,574.4

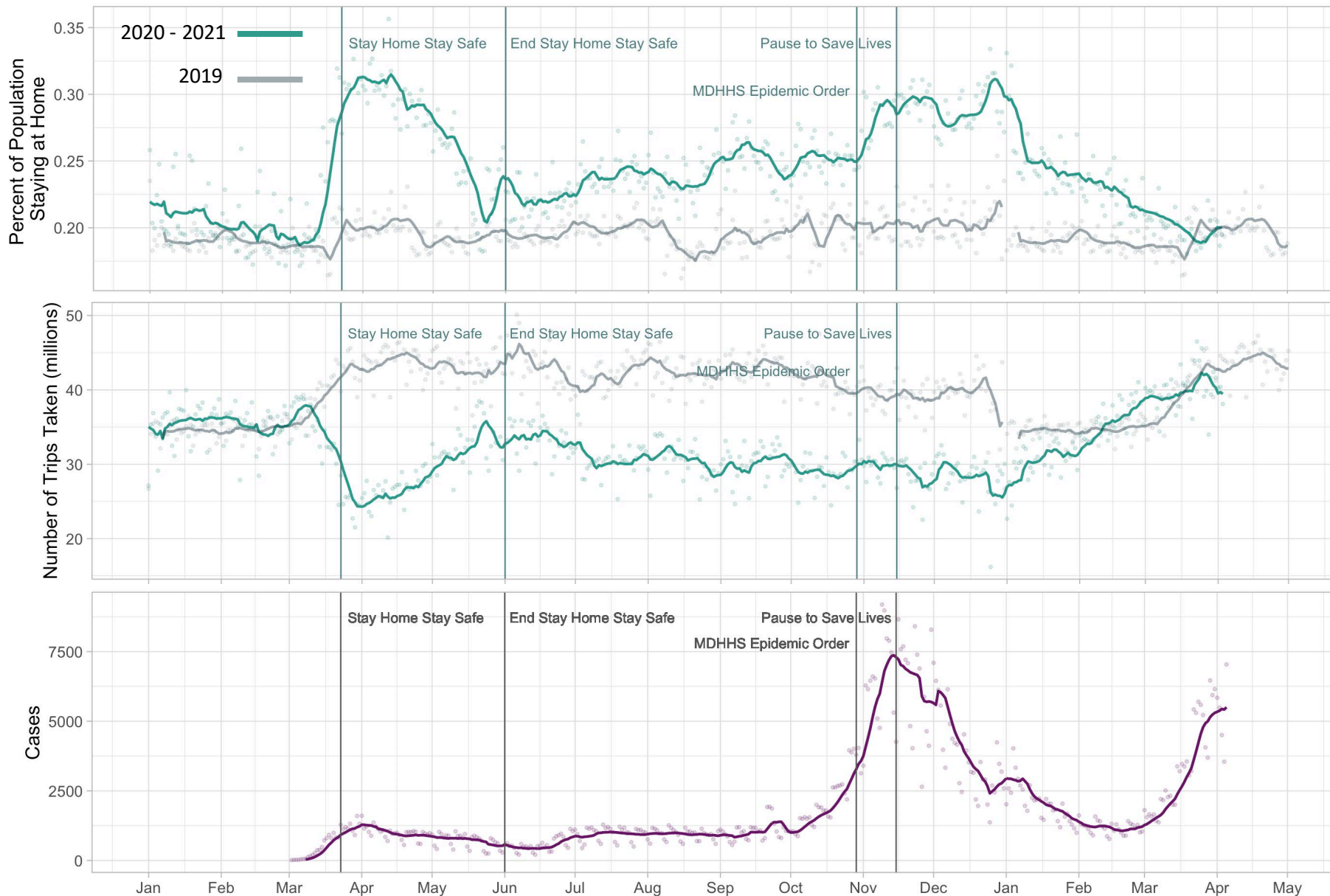
  

KNOWN RACE ONLY	% OF POP	% OF CASES	% OF DEATHS	% OF HOSPITALIZED CASES	CASES PER MIL.	DEATHS PER MIL.	HOSPITALIZED CASES PER MIL.
American Indian / Alaskan Native	0.5%	0.6%	0.4%	0.5%	77,655.6	1,521.5	3,362.4
Asian	3.0%	1.8%	1.0%	1.5%	37,962.8	588.0	1,783.8
Black / African American	13.8%	12.6%	22.3%	26.0%	55,971.1	2,671.1	6,445.2
Hawaiian / Pacific Islander	< 0.1%	< 0.1%	< 0.1%	< 0.1%	160,456.5	2,349.7	10,741.8
Multiple Race	2.8%	4.6%	1.7%	3.3%	100,120.5	993.9	4,018.0
Other	1.1%	6.7%	2.7%	3.7%	345,179.2	3,751.8	10,600.8
White	78.5%	73.3%	71.5%	64.6%	57,246.7	1,505.7	2,811.3

[read more about the data](#)



# How many people are staying at home in Michigan?

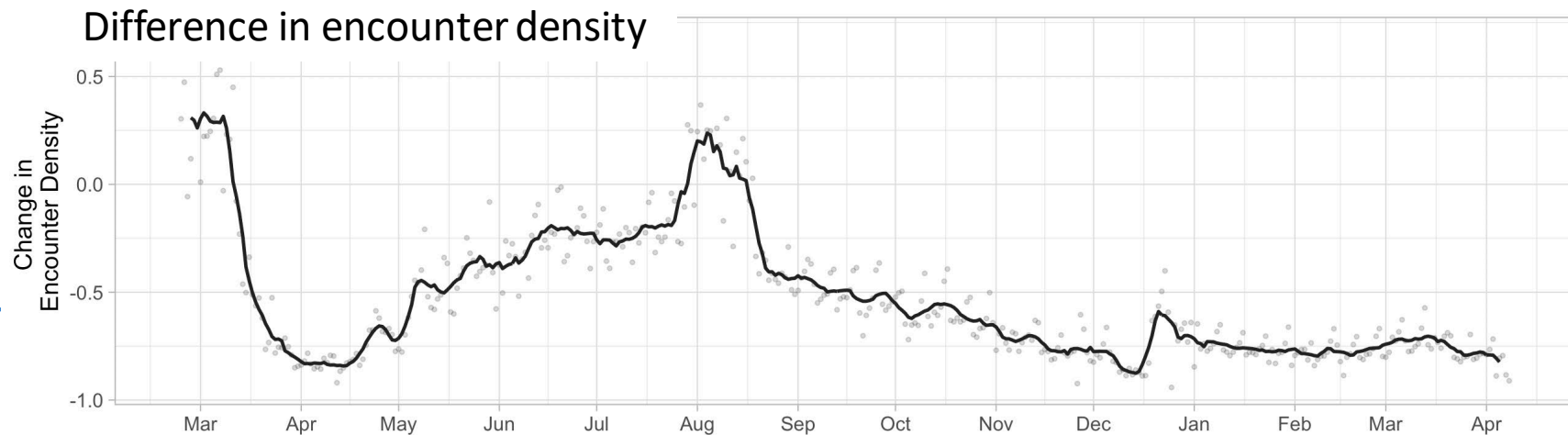
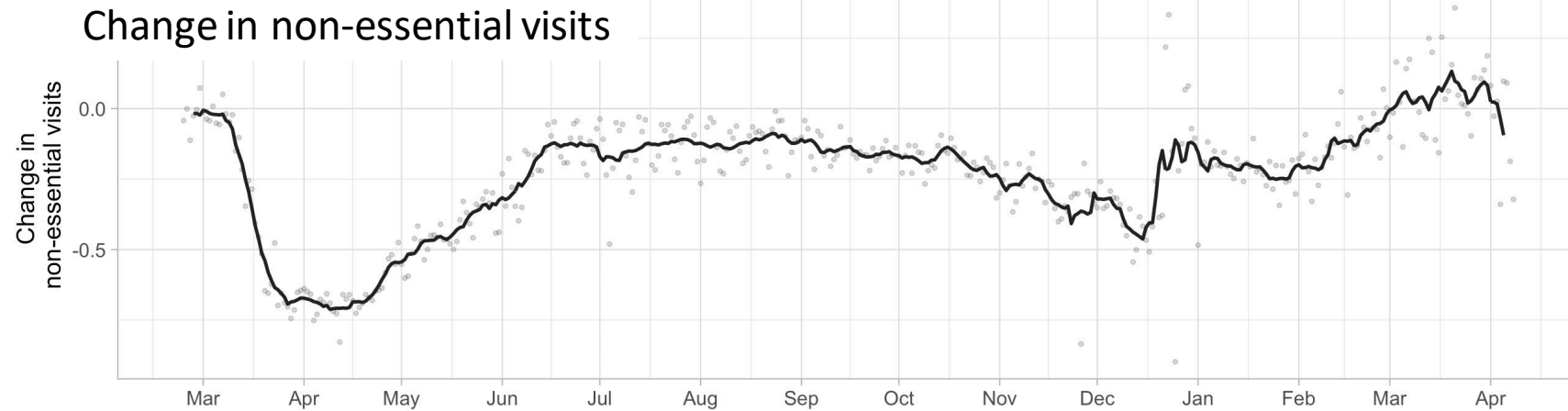
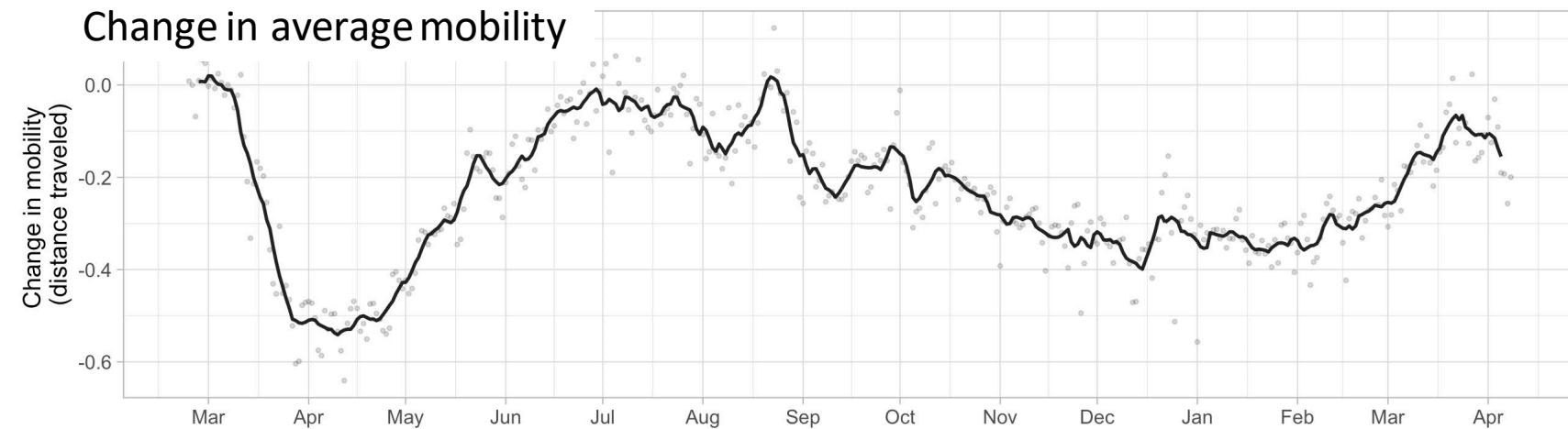


- % Stay-at-home levels have recently declined to 2019 levels
- Number of trips taken/day has recently increased to 2019 levels
- Most recent data is 4/3/21 (data as of 4/12/21)

Data Source: [Bureau of Transportation Statistics](#)

# Unacast mobility patterns in MI

- Most recent data shows a return toward baseline mobility patterns, particularly for non-essential visits and average mobility.
- Encounter density has stayed relatively low.
- Data through 4/8/21 (data as of 4/12/21)



unacast social distancing  
scoreboard

<https://www.unacast.com/covid19/social-distancing-scoreboard>