MI COVID RESPONSE DATA AND MODELING UPDATE

NOTE: All data as of June 29 unless otherwise noted

June 30, 2021

Note: lower national rankings are more favorable

Executive summary

Percent Positivity is steady, and **Case Rate** is down 27% since last week. Positivity (1.3%, ↔) and case rates 13.1, ↓3.9) have declined or plateaued for eleven weeks

Michigan has the **33rd lowest number of cases (↑3),** and **8th lowest case rate (↑5)** in the last 7 days (source: CDC COVID Data Tracker)

Percent of inpatient beds occupied by individuals with COVID has decreased 14% since last week and is decreasing for nine weeks. There are 1.7% (↓0.3%) inpatient beds occupied by COVID-19 patients.

Michigan has the **12th lowest inpatient bed utilization (↑13),** and the **14th lowest adult ICU bed utilization (↑9)** in the country (source: US HHS Protect)

Deaths have decreased 40% since last week. There were 65 COVID deaths between Jun 16 and June 22, and the **Death Rate** is 0.9 deaths per million residents (↓0.4)

Michigan has the **6th highest number of deaths (↔)**, and **10th highest death rate (↓2)** in the last 7 days (source: CDC COVID Data Tracker)

The 7-day average **state testing rate** has decreased to 1,255.3 tests/million/day. **Daily diagnostic tests (PCR)** is 12.4K per day, and the **weekly average for PCR and antigen tests** conducted in Michigan is 24.9K.

9.4 million **COVID-19 vaccine** doses reported to CDC, 4.693 million people have completed their vaccine series

Agenda

Status of COVID-19 Epidemiological Risk

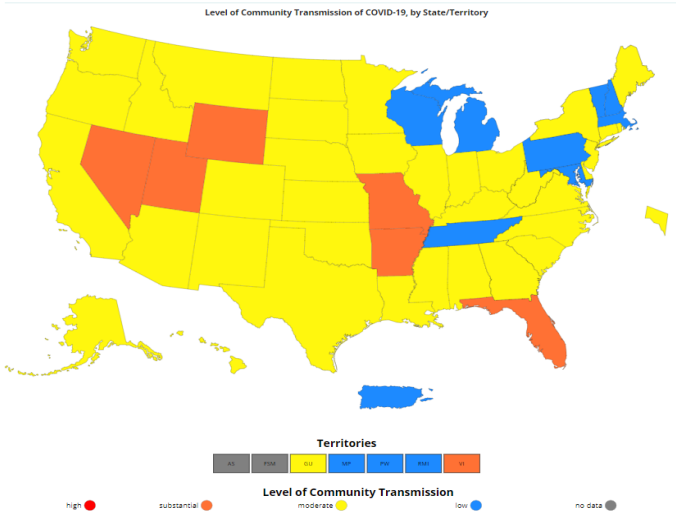
- **State-by-state comparison of epidemic spread**
- Michigan epidemic spread
- Public health response

Science round-up

Global and National Comparisons

What we see today (data through 6/29):

- Globally, 181,533,728 cases and 3,932,077 deaths
- Countries with the highest number of cases are U.S. (33,642,146), India (30,316,897), and Brazil (18,448,402)
- Within the U.S., California (3,712,795), Texas (2,984,640), & Florida (2,321,929) lead the nation in total cases
- CDC Data tracker currently lists Michigan, along with 13 other states and territories, at low transmission level
- Michigan currently has identified 13,485 variants of concern (VOC)
  - Cumulatively, the vast majority are B.1.1.7 (12,753 which is 94%).
    - Other VOCs include B.1.351 (.6%), B.1.427 & B.1.429 (2.3%), P.1 (2.2%) and B.1.617.2(0.4%)
  - In the 4 most recent weeks,
    - 93.6% of specimens were Alpha (B.1.1.7)
    - 0.5% were Beta (B.1.351)
    - 0.5% were Epsilon (B.1.427, B.1.429)
    - 3.6% were Gamma (P.1) (↑)
    - 1.9% were Delta (B.1.617.2) (↑)



Status of COVID-19 Epidemiological Risk

- State-by-state comparison of epidemic spread
- **Michigan epidemic spread**
- Public health response
- Other public health indicators

Science round-up

Appendix

Key Messages: COVID-19 Spread

Statewide positivity has plateaued to 1.3%

- Steady from last week (vs. 31% decrease last week)
  - Early indicators are a suggestion we may be progressing out of exponential decline into a low incidence plateau
- Decreasing for eleven weeks (93% decrease since April 8 high)
- Positivity is declining in all MERC regions, and is below 2% in all regions

Case rate (13.1 cases/million) is decreasing across the state (last week: 17.0 cases/million)

- One week decrease of 27% (vs. 39% decrease last week)
- Decreasing for over two months (98% decrease since mid-April high)
- Cases per million are declining in all MERC regions
- Select variants in Michigan: 12,753 confirmed Alpha (B.1.1.7); 76 confirmed Beta (B.1.351); 307 confirmed Epsilon (B.1.427/ B.1.429); 294 confirmed Gamma (P.1); and 52 confirmed Delta (B.1.617.2)

Number of active outbreaks is down 42% from last week

- Reported school outbreaks have decreased 64% since last week (50 to 18)
- First week in over a year where no new outbreaks were identified in K-12 settings

Confirmed and probable case indicators

Table Date: 6/29/2021 (7 days from date table was produced: 6/22/2021)

Risk levels: Low | A | B | C | D | E

	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	B	12.6	decline [78 days]	1.2	Decrease - 11wk	1306.8	1.6	Decrease - 9wk	0.7	Decrease - 8wk
Grand Rapids	A	16.3	decline [73 days]	1.8	Decrease - 10wk	1212.3	2.3	Decrease - 9wk	1.0	<20 wkly deaths
Kalamazoo	B	20.1	decline [74 days]	1.8	Decrease - 10wk	1188.5	2.2	Decrease - 9wk	1.0	<20 wkly deaths
Saginaw	A	9.1	decline [76 days]	0.8	Decrease - 10wk	980.5	0.6	Decrease - 9wk	2.3	<20 wkly deaths
Lansing	A	8.0	decline [80 days]	1.4	Decrease - 10wk	1045.8	1.8	Decrease - 9wk	1.2	<20 wkly deaths
Traverse City	A	10.7	decline [77 days]	0.9	Decrease - 7wk	1043.2	0.4	Decrease - 1wk	0.6	<20 wkly deaths
Jackson	A	10.4	decline [76 days]	1.1	Decrease - 10wk	1311.2	1.3	Decrease - 9wk	1.4	<20 wkly deaths
Upper Peninsula	A	9.9	decline [74 days]	0.9	Decrease - 10wk	1002.5	0.6	Decrease - 3wk	0.0	<20 wkly deaths
Michigan	B	13.1	decline [77 days]	1.3	Decrease - 11wk	1255.3	1.5	Decrease - 9wk	0.9	Decrease - 8wk

Cases Low: <7 | A: 7-20 | B: 20-40 | C: 40-70 | D: 70-150 | E: >=150

Positivity Low: <3% | A: 3-7% | B: 7-10% | C: 10-15% | D: 15-20% | E: >=20%

PUBLIC HEALTH

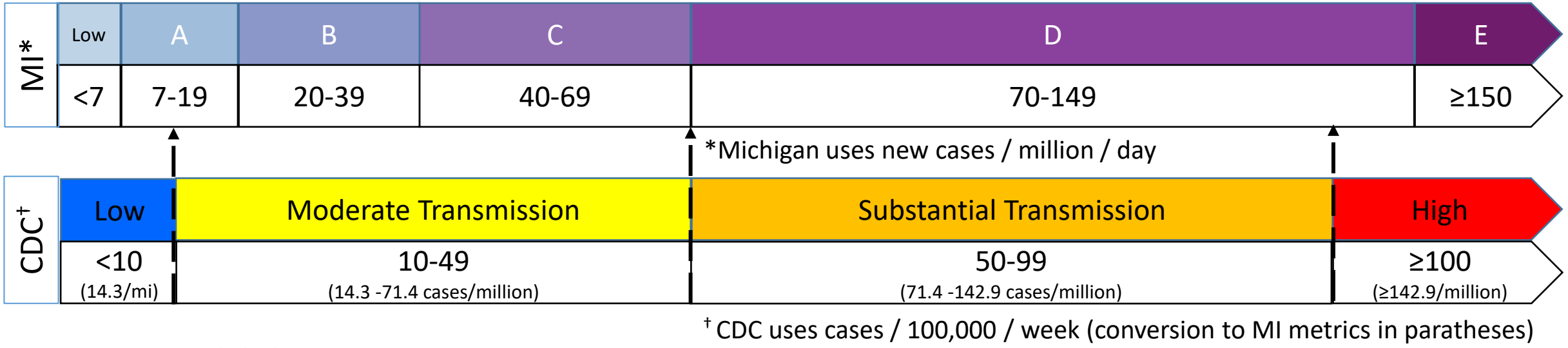
Overview of metrics for individuals <12 years

	Region	Population (<12 yrs)	Population (<18 yrs)	Cumulative Case Count (<12 yrs)	7-day Average Daily Case Count (<12 yrs)	7-day Average Daily Case Rate per Million (<12 yrs)	7-day Average Daily Pediatric Hospitalization Count (<18 yrs)	7-day Average Daily Pediatric Hospitalization Rate per Million (<18 yrs)	7-day Average Daily Death Count (<12 yrs)
1	Detroit	735529	1134247	28588	4.9	6.7	9.6	8.5	0
2	Grand Rapids	230120	350652	9784	1.4	6.1	3.1	8.8	0
3	Kalamazoo	140422	214801	5305	2.0	14.2	2.9	13.5	0
4	Saginaw	78759	122834	3254	0.4	5.1	0.0	0.0	0
5	Lansing	78140	119915	3133	0.6	7.7	2.4	20.0	0
6	Traverse City	53099	83462	1547	0.4	7.5	0.0	0.0	0
7	Jackson	41274	64091	1490	0.3	7.3	0.1	1.6	0
8	Upper Peninsula	34645	53875	1401	0.3	8.7	0.0	0.0	0
99	Michigan	1391988	2143877	54543	10.3	7.4	18.1	8.4	0

Note: Data as of 6/29; case data 6/22, hospitalization data 6/29. Hospitalization data is for pediatric patients (<18)

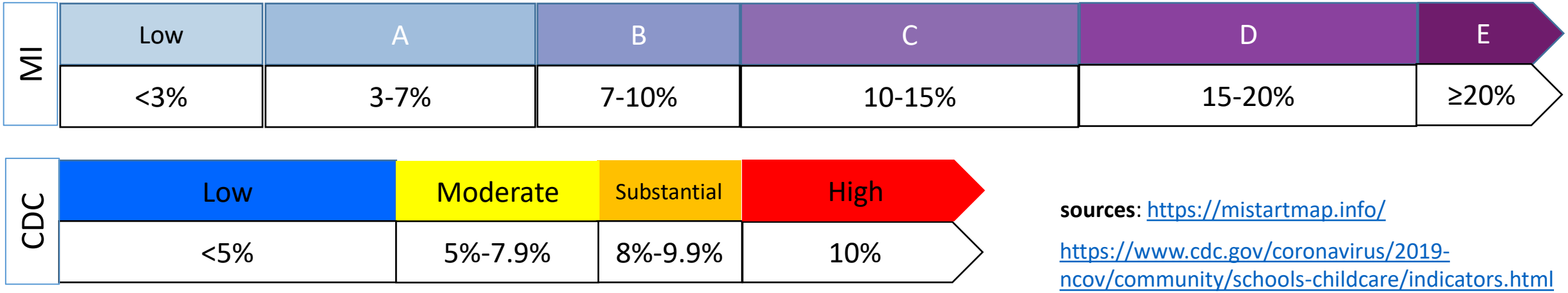
Comparing CDC community transmission thresholds to MI levels

Case Rate*†



† CDC uses cases / 100,000 / week (conversion to MI metrics in paratheses)

Percent Positivity

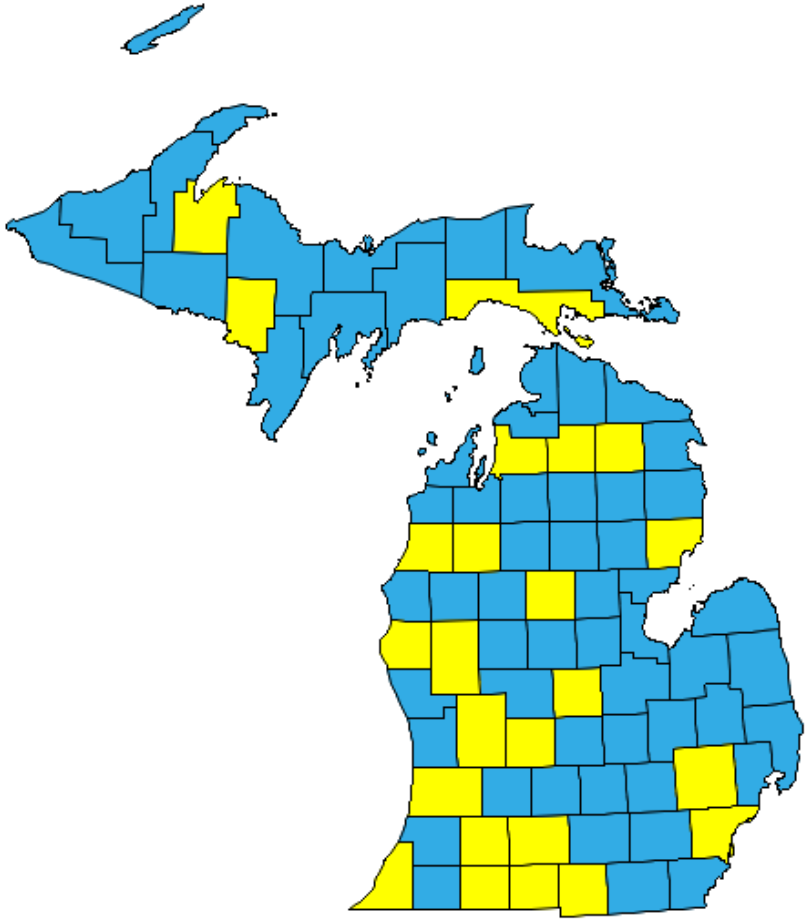


sources: https://mistartmap.info/

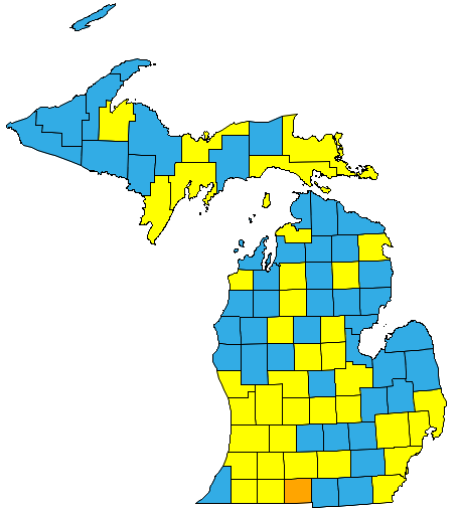
https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/indicators.html

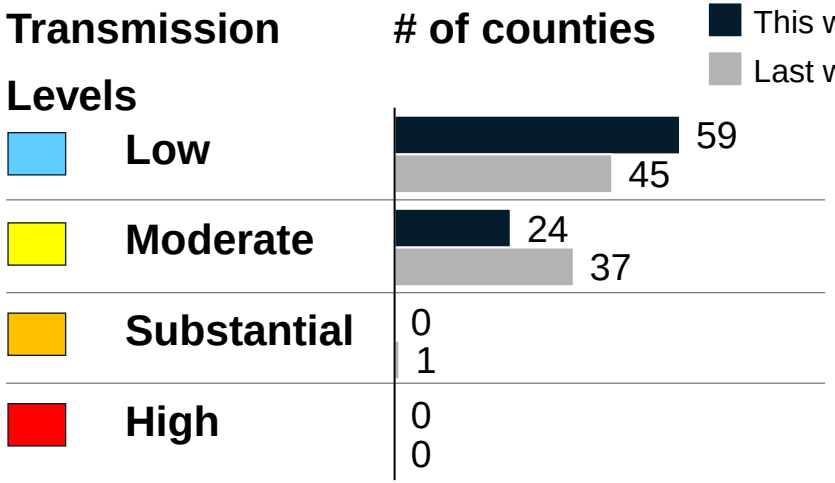
Adjusted* CDC Transmission Levels, 6/22-6/29

This Week, 6/22-6/29



Last week, 6/15-6/21





Updates since last week:

45 of 83 counties met low transmission level this week, a 14 county increase

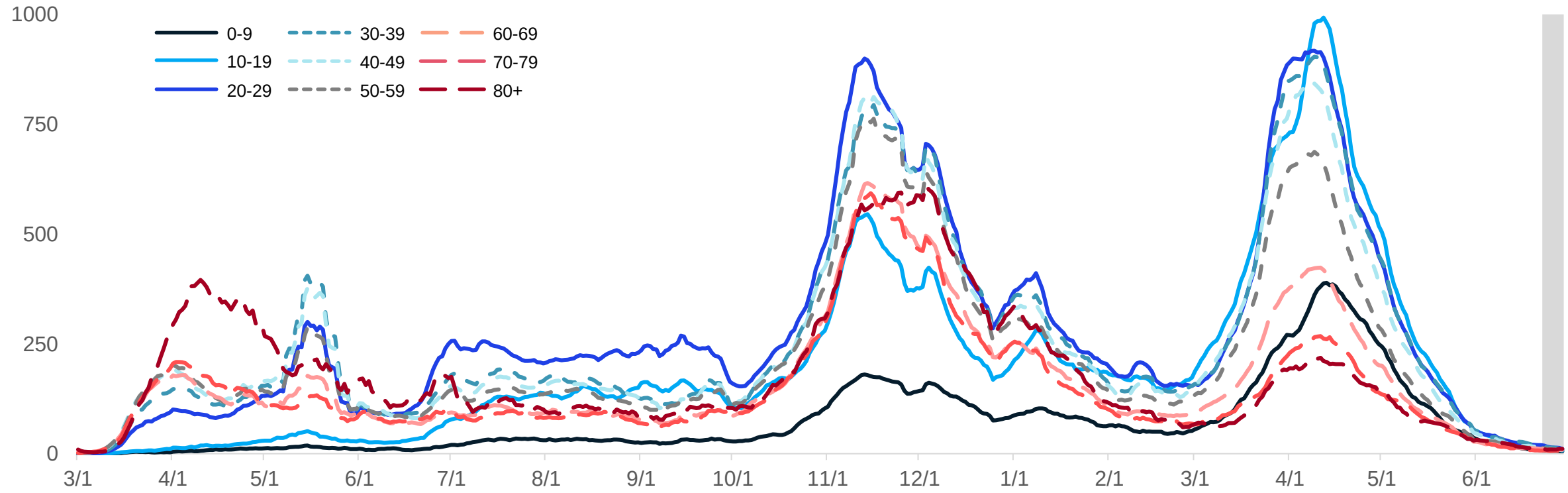
24 of 83 counties met moderate transmission classification, a 13 county decrease from last week

No counties met substantial transmission classification, 1 county decrease from last week

*Source: SEOC Testing Results – Excluding MDOC; MDSS – Cases by onset date incorporating 7-day reporting lag; CDC Levels of Community Transmission are described at https://covid.cdc.gov/covid-data-tracker/#county-view

Age group: average new daily cases

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



- Case rates for all age groups by decade are decreasing
- Case rates for all age groups are between 7 and 20 cases per million

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

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 4/11/21* (Δ #)
0-9	14.9	7.4	-44% (-7)	-97% (-430)
10-19	21.7	12.5	-30% (-7)	-99% (-1,221)
20-29	30.0	19.5	-16% (-1-5)	-98% (-1,234)
30-39	31.1	17.8	-35% (-12)	-98% (-1,069)
40-49	21.3	13.1	-33% (-8)	-98% (-961)
50-59	19.4	14.1	-8% (-1-5)	-98% (-892)
60-69	16.4	10.7	-19% (-1-5)	-97% (-527)
70-79	8.3	7.3	-36% (-1-5)	-97% (-200)
80+	6.0	11.4	-25% (-1-5)	-95% (-86)
Total¶	131.7	13.1	-27% (-48)	-98% (-6,659)

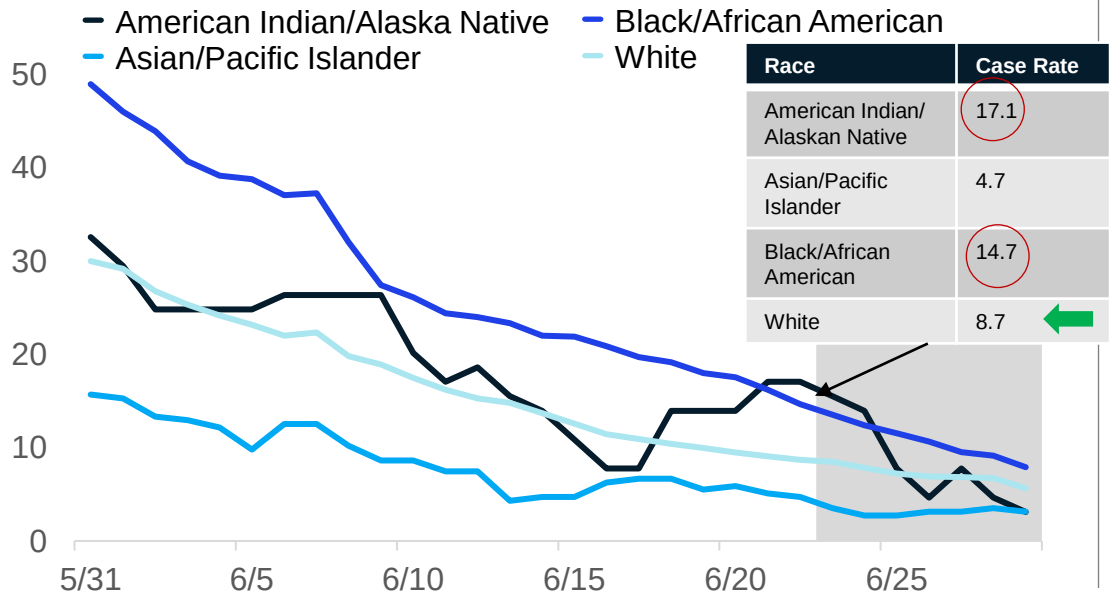
- Avg. daily number of cases (31) and avg. daily case rate (19.5 cases/mil) are currently highest for 30-39 and 20-29, respectively
- Case rates for all age groups are between 7 and 20 cases per million
- Since April 11, case rates have decreased more than 95% for all age groups, with state overall down 98%

* Highest 7-day avg. following spring 2021 surge
¶ Total may not reflect state due to missing age data

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

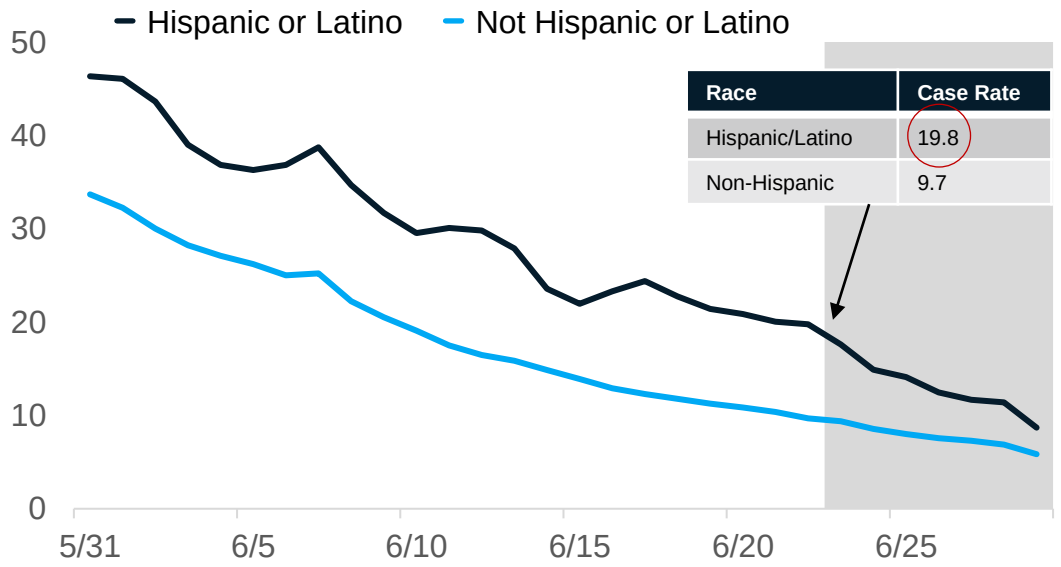
Average daily new cases per million people by race and ethnicity

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



Race	Case Rate
American Indian/ Alaskan Native	17.1
Asian/Pacific Islander	4.7
Black/African American	14.7
White	8.7

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



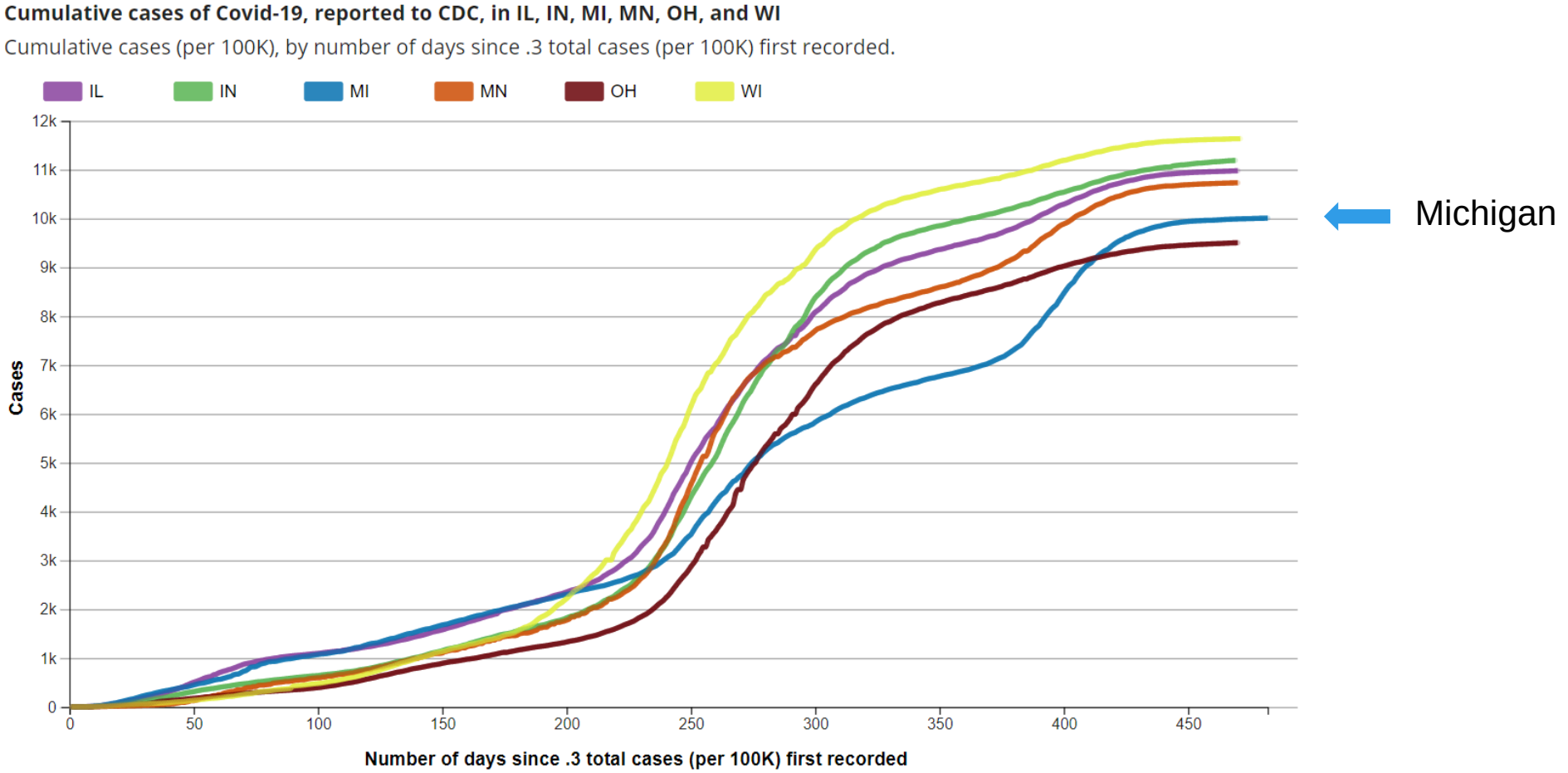
Race	Case Rate
Hispanic/Latino	19.8
Non-Hispanic	9.7

Updates since last week:

- Cases per million are decreasing for all races and ethnicities
- **American Indians/Alaskan Natives, Blacks/African Americans, and Hispanic/Latinos have the highest case rates**
- In the past 30 days, 15% (↔) of race data and 20% (↑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. 30-day timeframe provided to display current differences in rates by race and ethnicity
Source: MDHHS – Michigan Disease Surveillance System

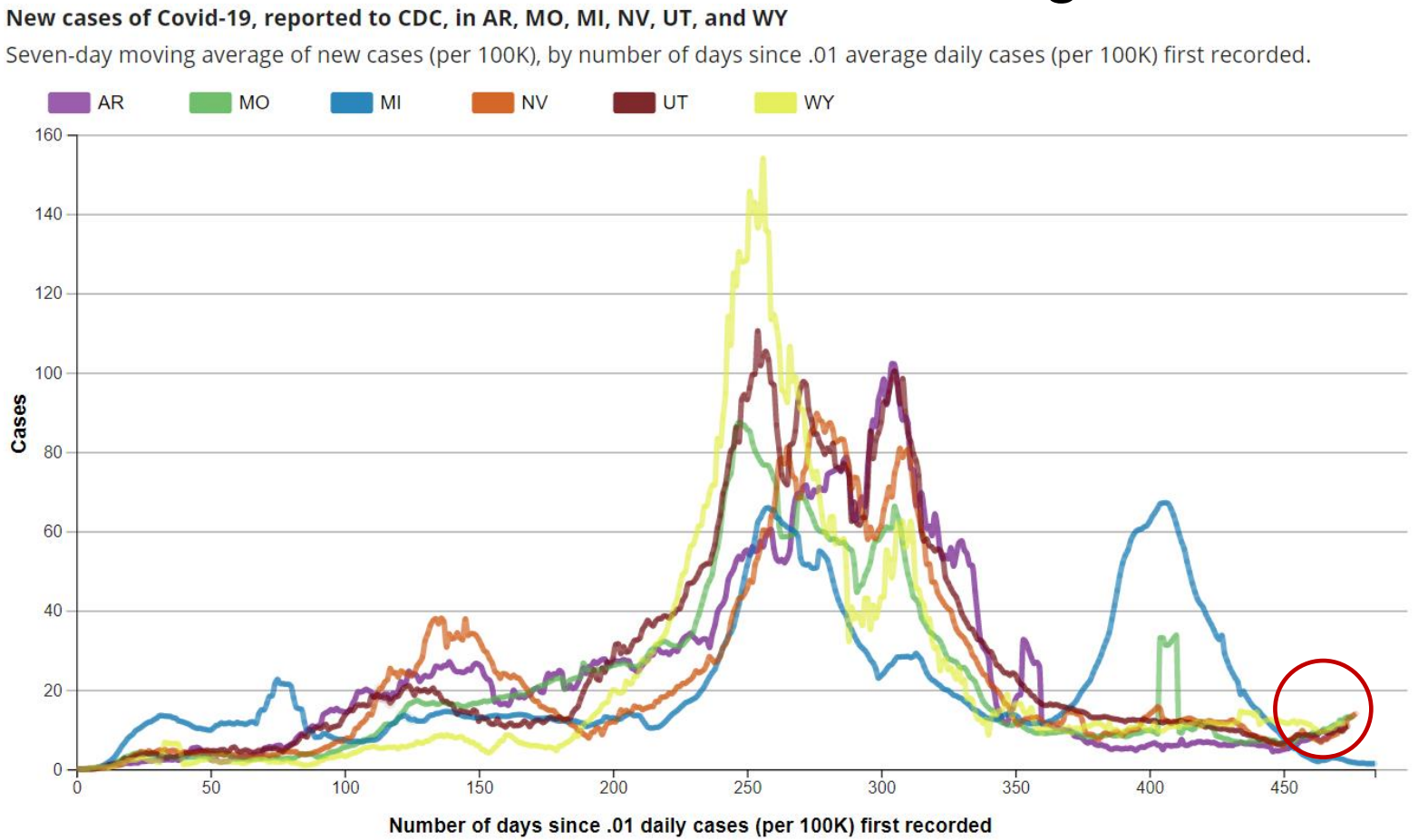
Cumulative COVID-19 Case Rates: Midwest Comparison



- 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, particular during surge in November and December
- The current trajectory in Michigan has brought us into the range of cumulative case rates of our Midwest neighbors

Source: CDC COVID Data Tracker – State Trend Comparison

Cumulative COVID-19 Case Rates: States with high Delta Comparison



Michigan

- Average daily incidence per 100,000 cases in Michigan is currently lower than other states experiencing a surge in delta cases
- Currently, states with delta surges may have lower daily incidence than winter surge but their trajectory indicates increasing case trends (red circle)
- Internationally, delta has led to large surges in countries like the UK (more on this in science round-up)

Source: CDC COVID Data Tracker – State Trend Comparison

Variants, transmissibility, severity, and vaccine effectiveness

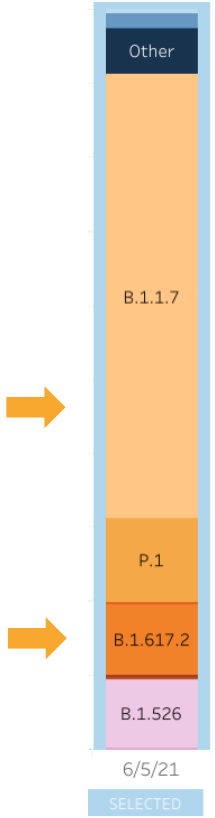
Strain	New WHO nomenclature	Transmissibility	Immune Invasiveness	Increased Severity	Vaccine effective at disease reduction?
Ancestral		-	-	-	✓
B.1.1.7	Alpha	~50% increased transmission	-	Increased hospitalizations and death	✓
B.1.351	Beta	~50% increased transmission	Reduced susceptibility to antibody treatment	-	✓
P.1	Gamma	-	Reduced susceptibility to antibody treatment	-	✓
B.1.427/B.1.429	Epsilon	~20% increased transmissibility	Modest decrease in susceptibility to monoclonal antibody treatment	-	✓
B.1.617.2	Delta	> 50% increased transmission	Reduced susceptibility to antibody treatment	Increased hospitalizations and death	✓

Source: CDC https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-info.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcases-updates%2Fvariant-surveillance%2Fvariant-info.html World Health Organization, accessed June 8, 2021. https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/

Certain mono-clonal antibody therapies are less effective in presence of some variants. Due to national increase in P.1 and B.1.315 variant infections, HHS has paused distribution of bamlanivimab and etesevimab together and etesevimab alone until further notice. FDA recommends health care providers use REGEN-COV.

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

SARS-CoV-2 Variants Circulating in the United States, May 23 – Jun 5



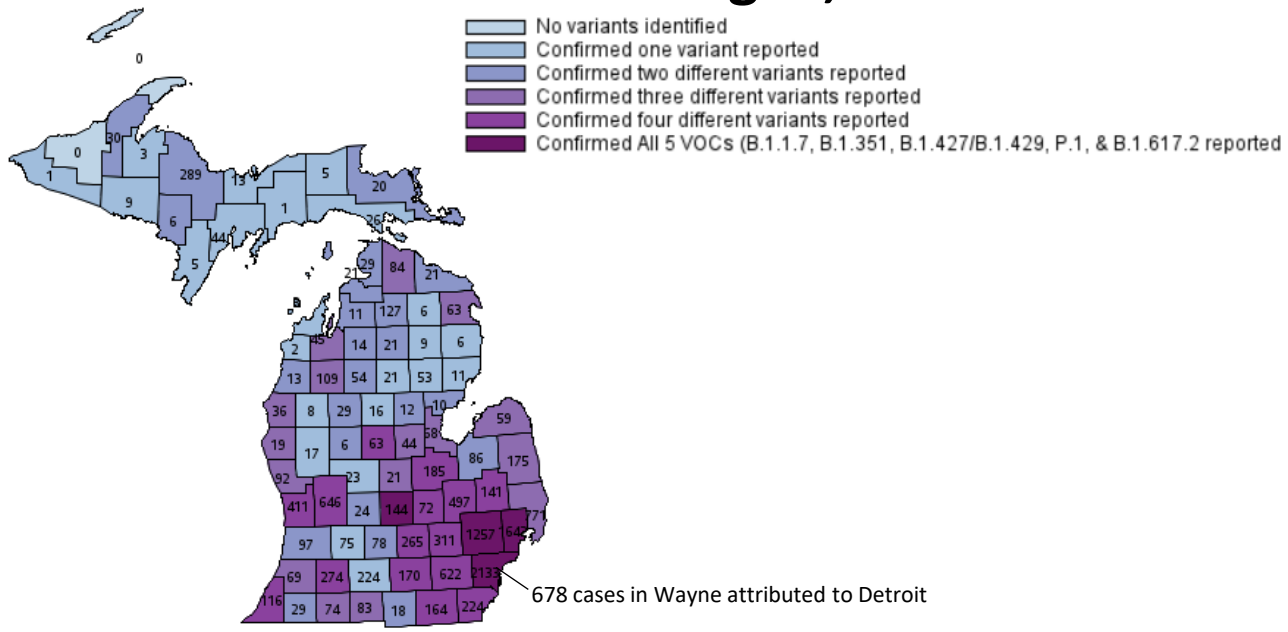
USA

	Lineage		Type	%Total	95%CI
Most common lineages #	B.1.1.7		VOC	60.3%	56.4-64.1%
	P.1		VOC	11.2%	8.7-14.4%
	B.1.617.2		VOC	9.5%	6.8-13.1%
	B.1.526		VOI	9.3%	7.4-11.8%
	B.1			1.9%	1.2-2.9%
	B.1.1.519			0.5%	0.3-0.7%
	B.1.2	†		0.1%	0.0-0.2%
Additional VOI/VOC lineages #	B.1.351		VOC	0.4%	0.2-0.7%
	B.1.427		VOC	0.3%	0.2-0.6%
	B.1.429		VOC	0.3%	0.2-0.5%
	B.1.525	†	VOI	0.1%	0.0-0.3%
	B.1.617.1	†	VOI	0.0%	0.0-0.1%
	P.2	†	VOI	0.0%	0.0-0.1%
	B.1.617	†	VOI	0.0%	NA
	B.1.617.3	†	VOI	0.0%	NA
Other*	Other			6.2%	4.8-7.9%

* Other represents >200 additional lineages, which are each circulating at <1% of viruses
† Fewer than 10 observations of this variant during the selected time/location context
# Sublineages of P.1 and B.1.351 (P.1.1, P.1.2, B.1.351.2, B.1.351.3) are aggregated with the parent linteage and included in parent lineage's proportion.

Data last updated June 29, 2021
Source: https://covid.cdc.gov/covid-data-tracker/#variant-proportions and MDSS

Variants of Concern in Michigan, Jun 29

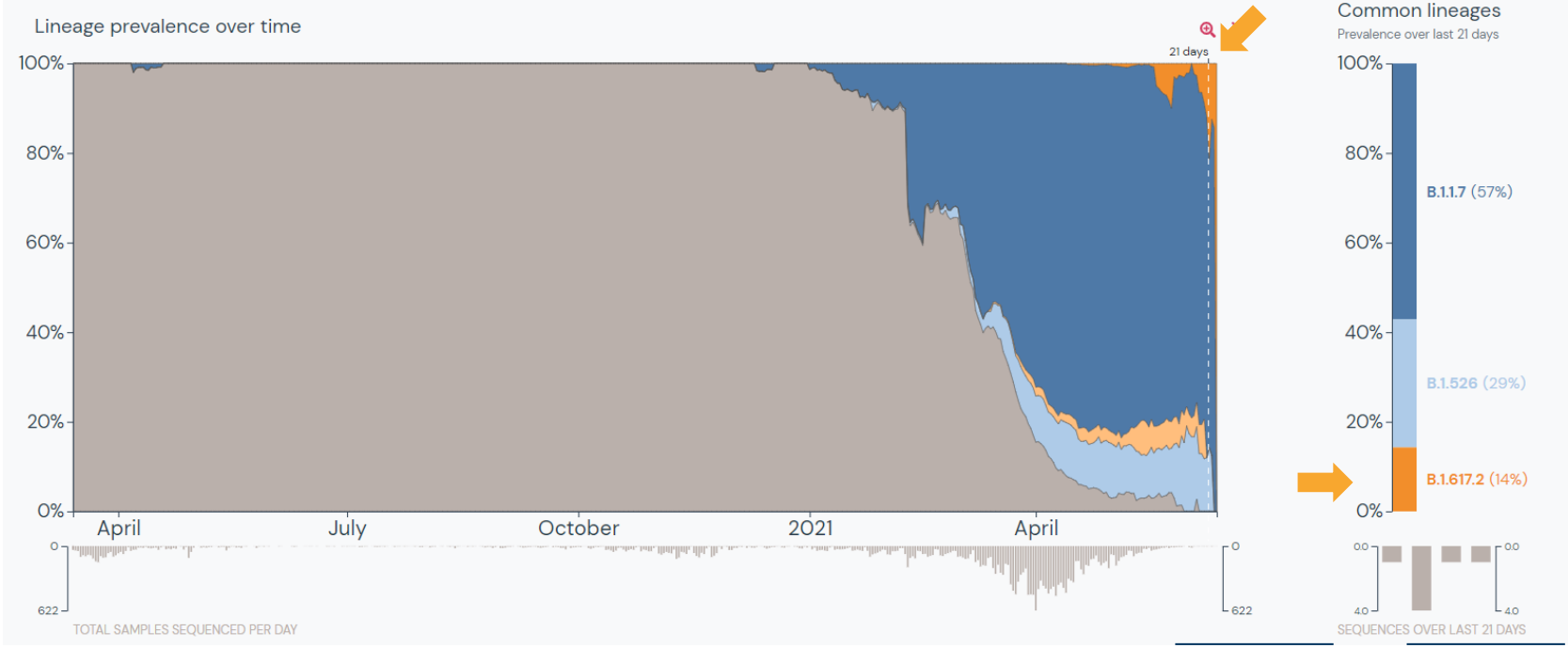


Variant	MI Reported Cases¶	# of Counties	CDC est. prevalence
B.1.1.7 (alpha)	12,753*	81	77.3%
B.1.351 (beta)	76	23	0.5%
B.1.427/B.1.429 (epsilon)	307	45	1.5%
P.1 (gamma)	294	33	6.5%
B.1.617.2 (delta)	52	15	1.0%

* 533 cases within MDOC; ¶ 153 cases with county not yet determined

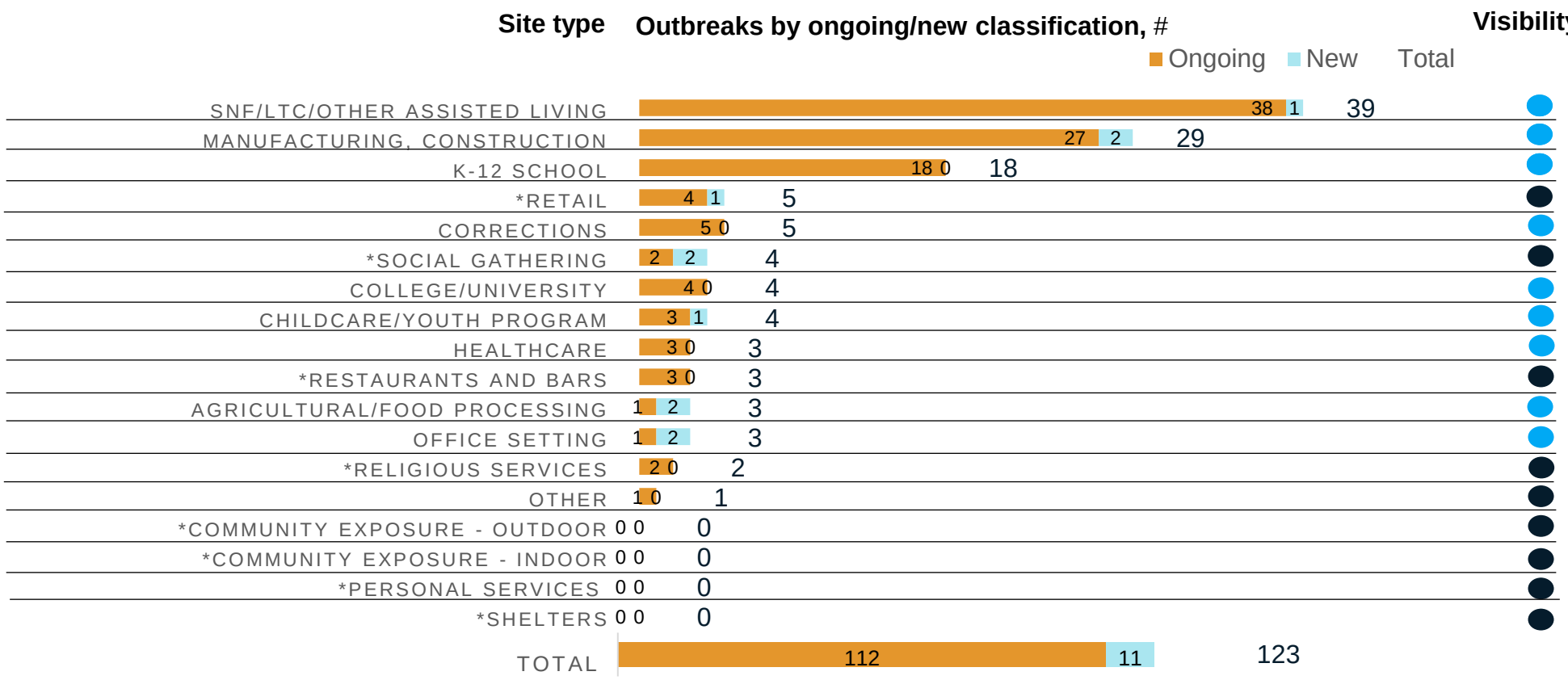
Trends of all Variants of Concern (VOC) in Michigan: Delta Increasing

- The figure on the right shows the proportion of specimens sequenced by lineage in Michigan
  - The inverse bar chart at the very bottom shows the total samples sequenced each day
- Two VOC lineages are highlighted: alpha variant (B.1.1.7) shown in dark blue, and delta variant (B.1.617.2) depicted in dark orange
- In early 2021, alpha quickly became the predominate strain sequenced in Michigan
- **In the past 21 days, delta variant is overtaking alpha and accounts for 14% of all specimens sequenced**



*Source: Trends in at www.outbreak.info and https://outbreak.info/location-reports?loc=USA_US-MI&selected=B.1.1.7&selected=B.1.617.2

Number of outbreak investigations by site type, week ending Jun 24



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

Total number of active outbreaks is **down 38%** from previous week

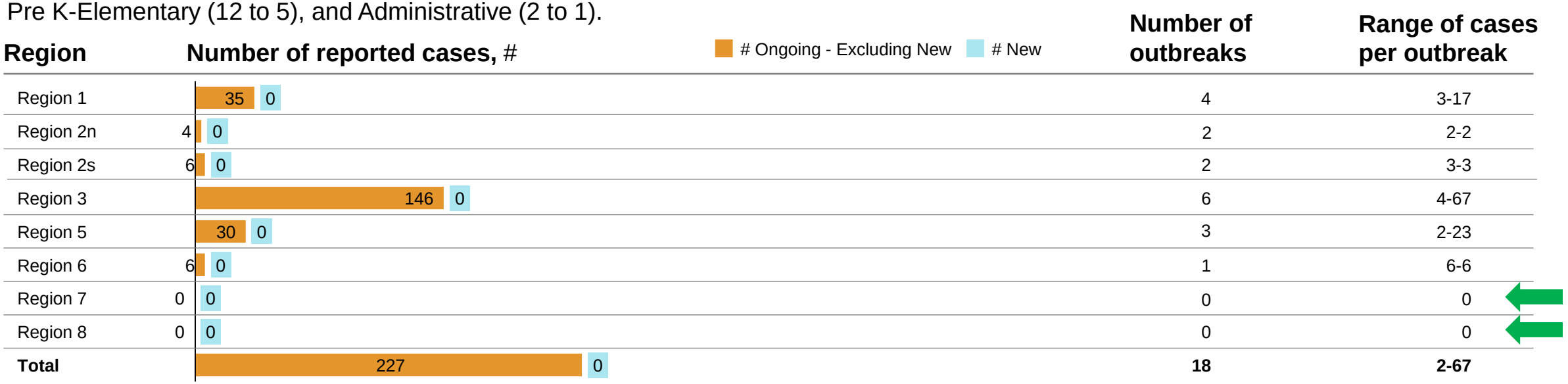
Two new outbreaks were reported in each of the following settings: manufacturing/construction, social gatherings, agriculture/ food processing, and offices.

One new outbreak was reported in LTCF/SNF, retail, and childcare/youth programs.

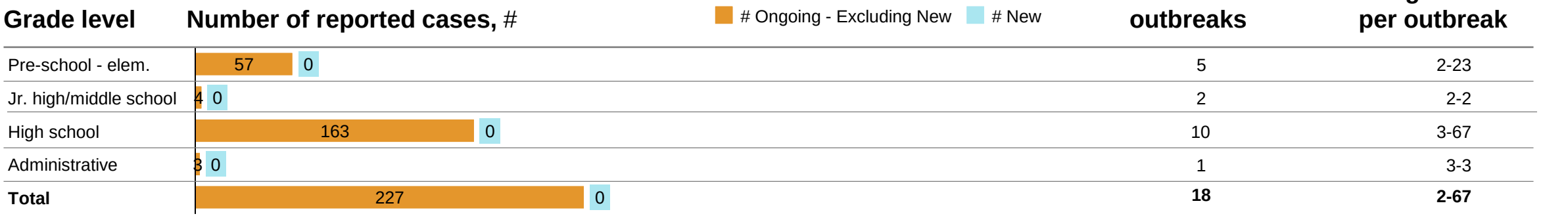
Note: presentation of this slide will be paused until schools reopen in fall

K-12 school outbreaks, week ending Jun 24

Number of reported outbreaks decreased since last week (50 to 18) including decreases in High Schools (28 to 10), Middle/Jr High (8 to 2), Pre K-Elementary (12 to 5), and Administrative (2 to 1).



Region	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Region 1	35	0	4	3-17
Region 2n	4	0	2	2-2
Region 2s	6	0	2	3-3
Region 3	146	0	6	4-67
Region 5	30	0	3	2-23
Region 6	6	0	1	6-6
Region 7	0	0	0	0
Region 8	0	0	0	0
Total	227	0	**18**	**2-67**



Grade level	Number of reported cases, #		Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	57	0	5	2-23
Jr. high/middle school	4	0	2	2-2
High school	163	0	10	3-67
Administrative	3	0	1	3-3
Total	227	0	**18**	**2-67**

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

Key Messages: COVID-19 and Healthcare Capacity and COVID Severity

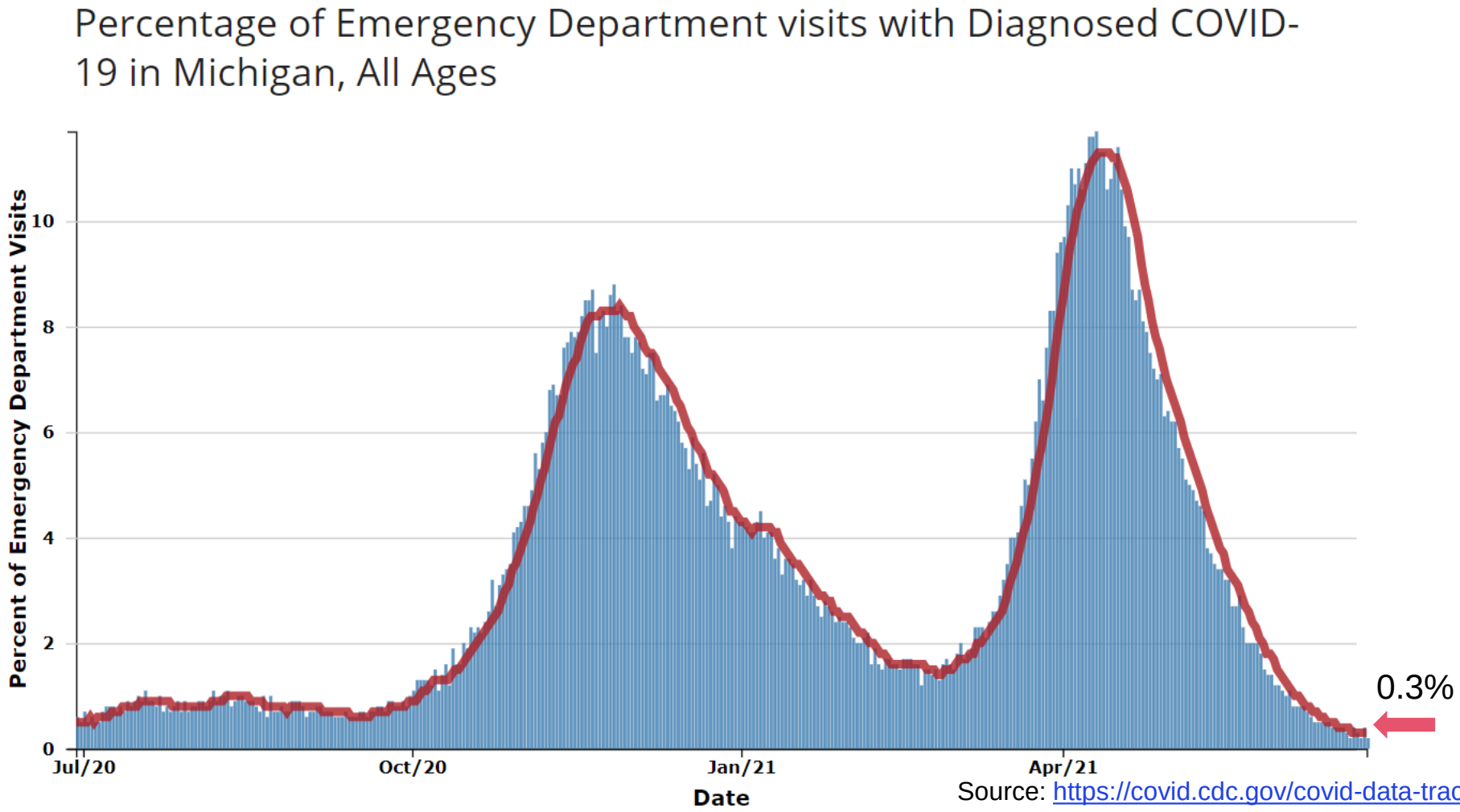
Hospitalizations and ICU utilization are decreasing

- COVID-like illness (CLI) has fallen to 0.3% (vs. 0.4% last week)
- Hospital admissions are decreasing statewide and for most age groups
- Hospitalizations down 15% since last week (vs. 33% decline week prior)
- Most regions are showing decreases or stable trends in hospitalization trends this week
- Volume of COVID-19 patients in intensive care has decreased 26% since last week (vs. 34% decline week prior)

Death rate has decreased to 0.9 daily deaths per million people

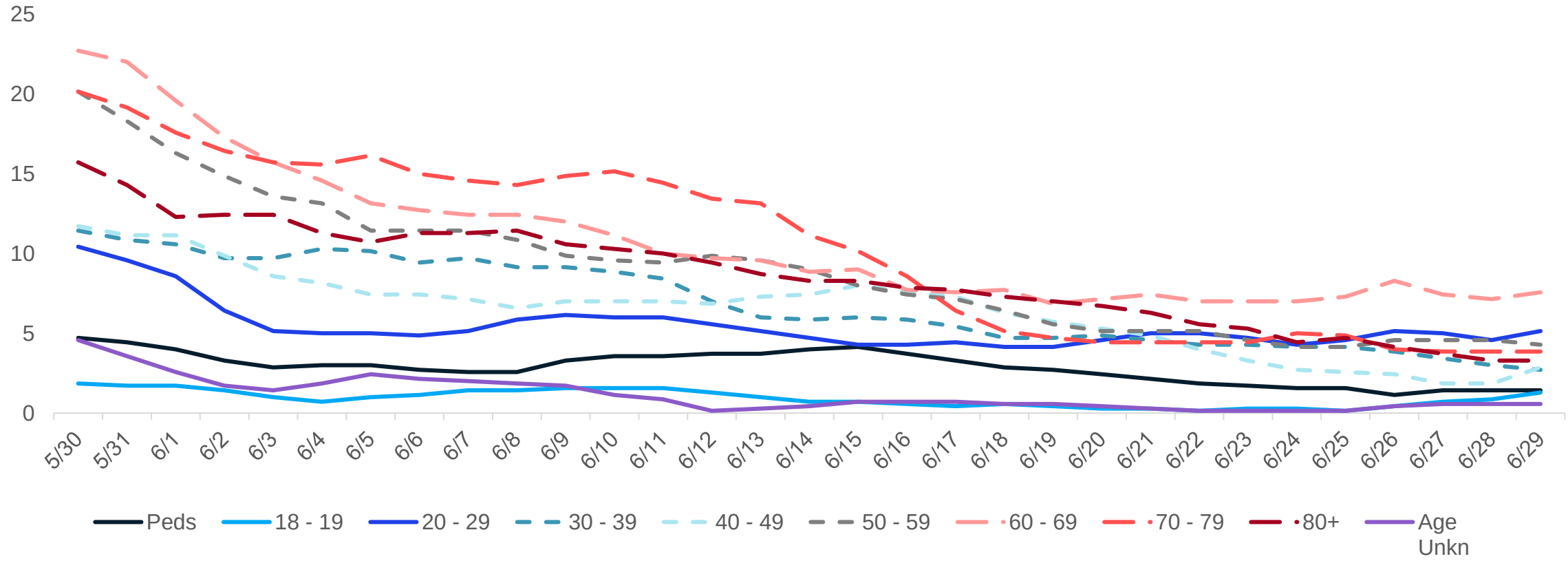
- 40% decrease since last week (vs. 44% decrease last week)
- 88% decrease since April 24 peak
- Proportion of deaths among those under 60 years of age slightly declined from the prior week

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



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

Average Hospital Admissions by Age

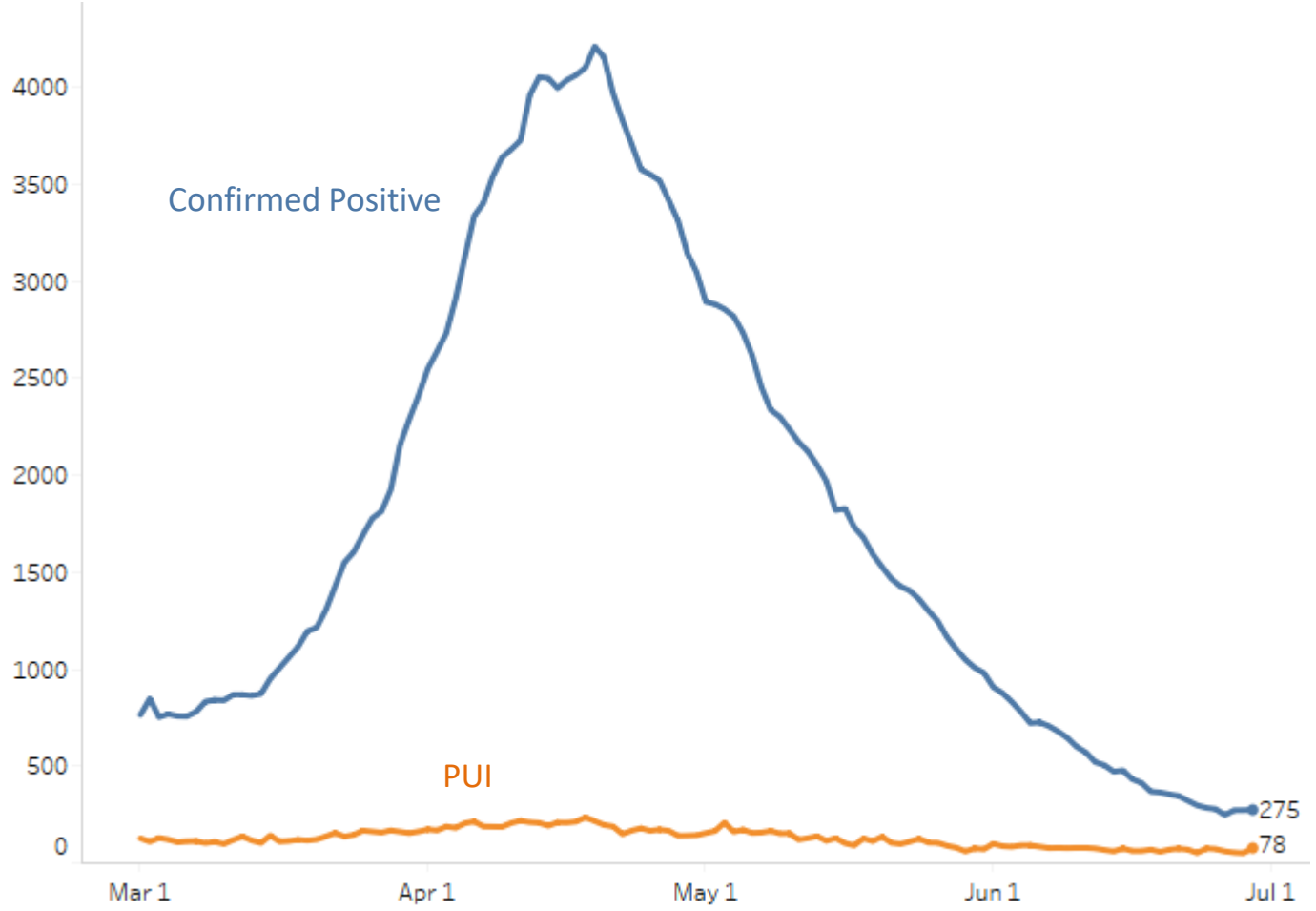


Source: CHECC & EM Resource

- Trends for daily average hospital admissions have decreased 12% since last week
- Trends within most age groups are decreasing
- Over the past week, those 60-69 years have seen the highest number of avg. daily hospital admissions (>7 admissions)

Statewide Hospitalization Trends: Total COVID+ Census

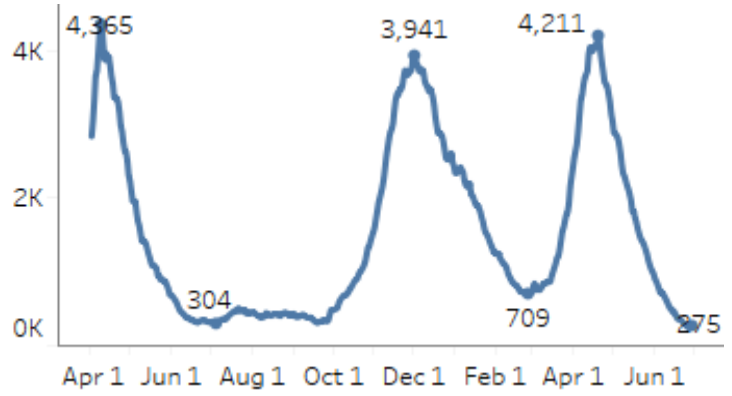
Hospitalization Trends 3/1/2021 – 6/29/2021
Confirmed Positive & Persons Under Investigation (PUI)



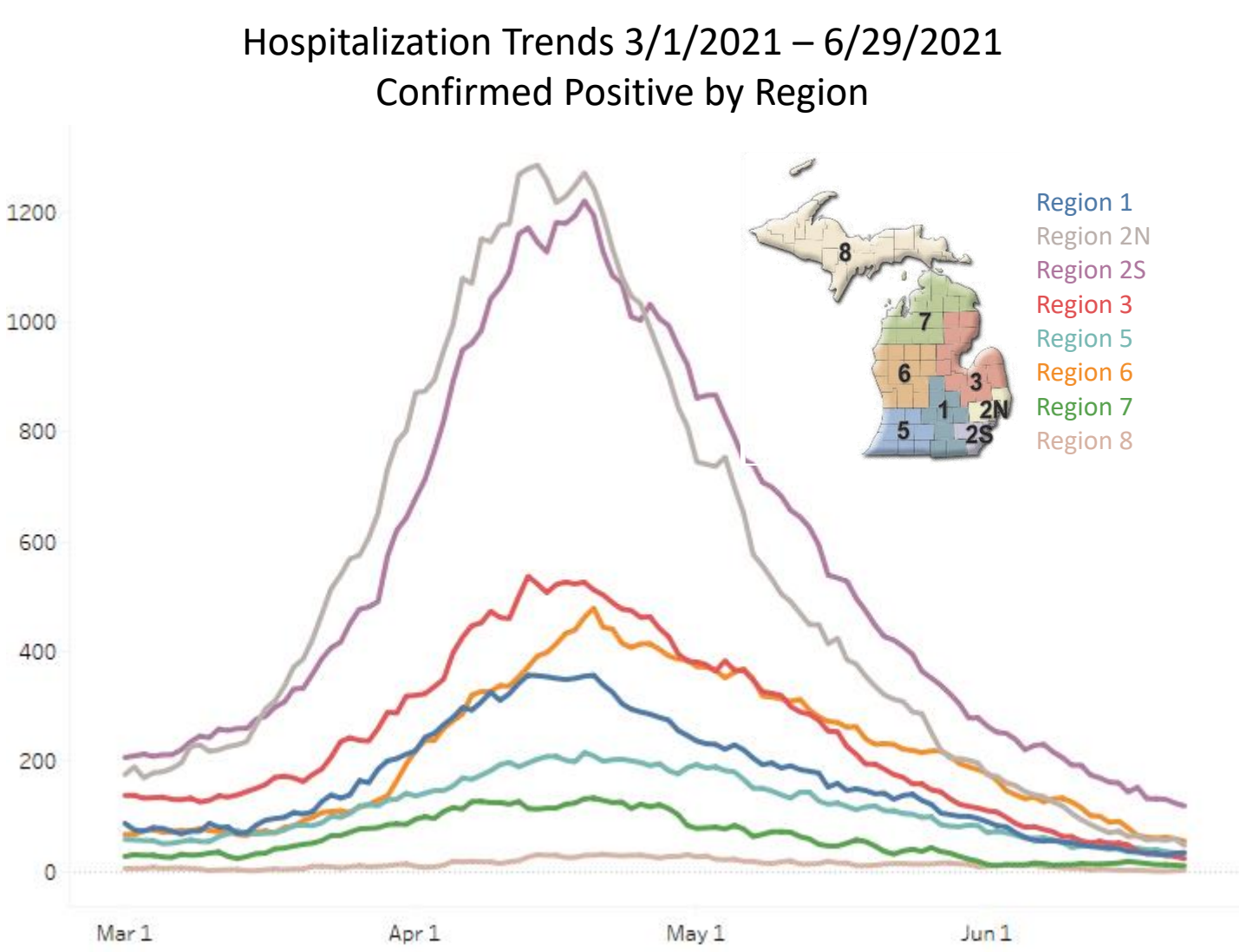
COVID+ census in hospitals continues to decline from the April 19th peak although at a slower pace. This week is down 15% from the previous week (previous week was down 33%).

Hospitalizations are now below the minimum point of summer 2020.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census



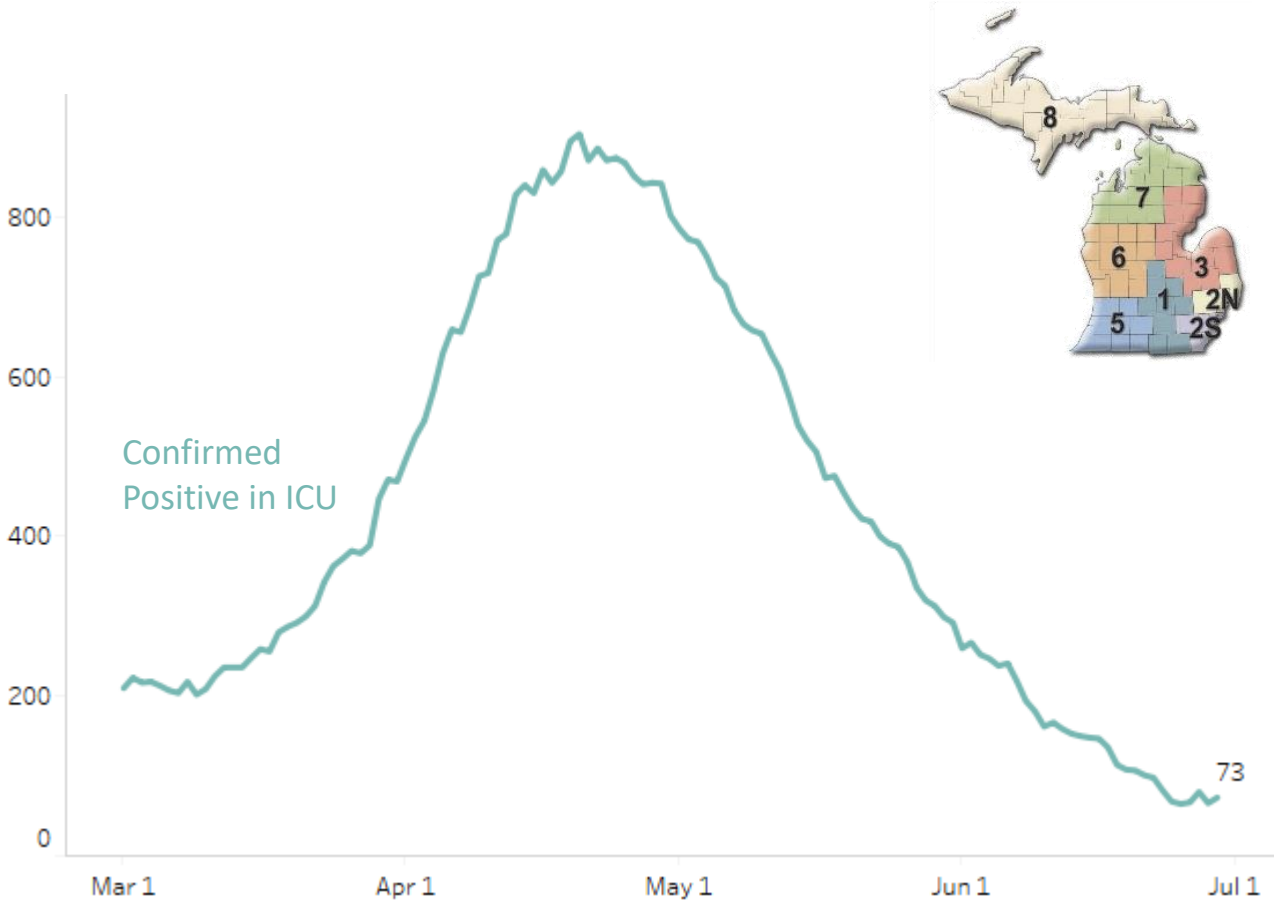
Most regions show generally decreasing or flat trends. UP (Region 8) has very low absolute numbers hospitalized and thus small changes result in large percent increases.

All regions are now below 50/M hospitalized.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	19 (-44%)	18/M
Region 2N	50 (6%)	23/M
Region 2S	104 (-13%)	47/M
Region 3	16 (-30%)	14/M
Region 5	26 (-19%)	27/M
Region 6	52 (-5%)	35/M
Region 7	5 (-50%)	10/M
Region 8	3 (50%)	10/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 6/29/2021
Confirmed Positive in ICUs



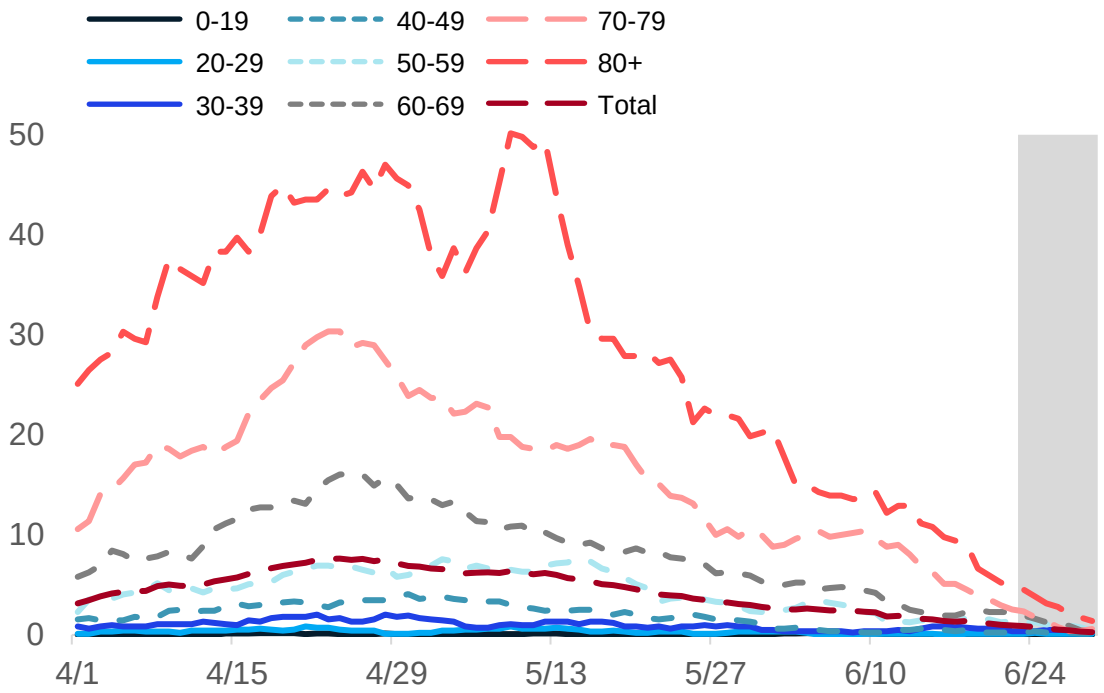
Overall, the census of COVID+ patients in ICUs has decreased 26% from last week, with all regions showing decreasing ICU census except Region 5 which is essentially flat given small number hospitalized.

All regions have <=5% of ICU beds occupied with COVID patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	2 (-78%)	73%	1%
Region 2N	9 (-59%)	70%	2%
Region 2S	32 (-37%)	77%	5%
Region 3	8 (-43%)	80%	2%
Region 5	8 (14%)	69%	5%
Region 6	11 (-70%)	77%	5%
Region 7	2 (-75%)	60%	1%
Region 8	1 (-50%)	58%	2%

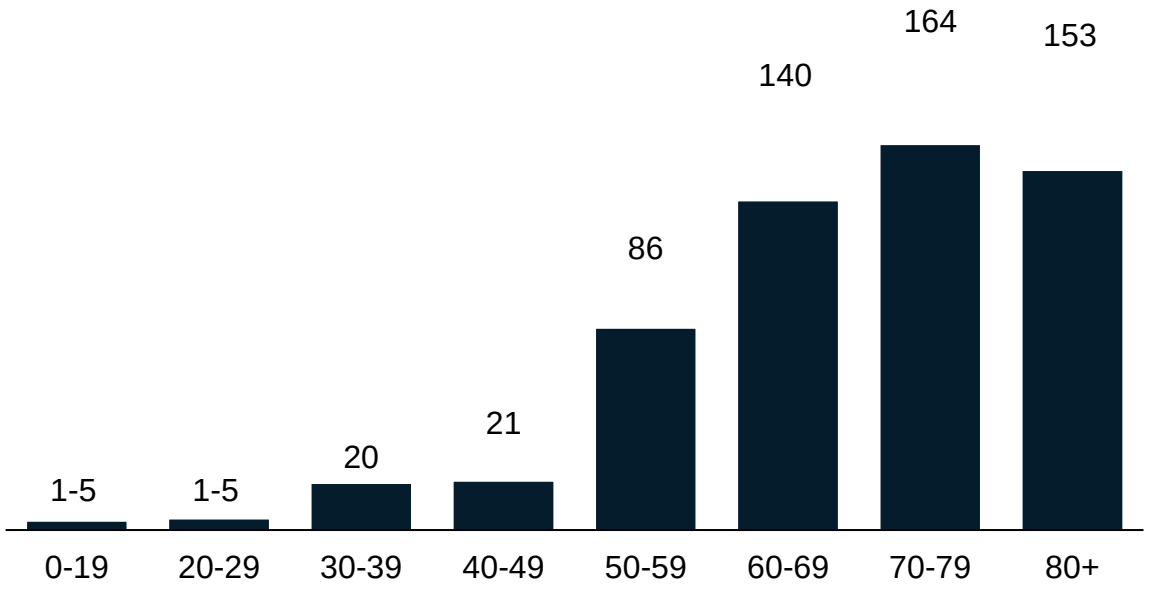
Average and total new deaths, by age group

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



Total confirmed and probable deaths by age group (past 30 days, ending 6/22/2021)

- 23% of deaths below age sixty

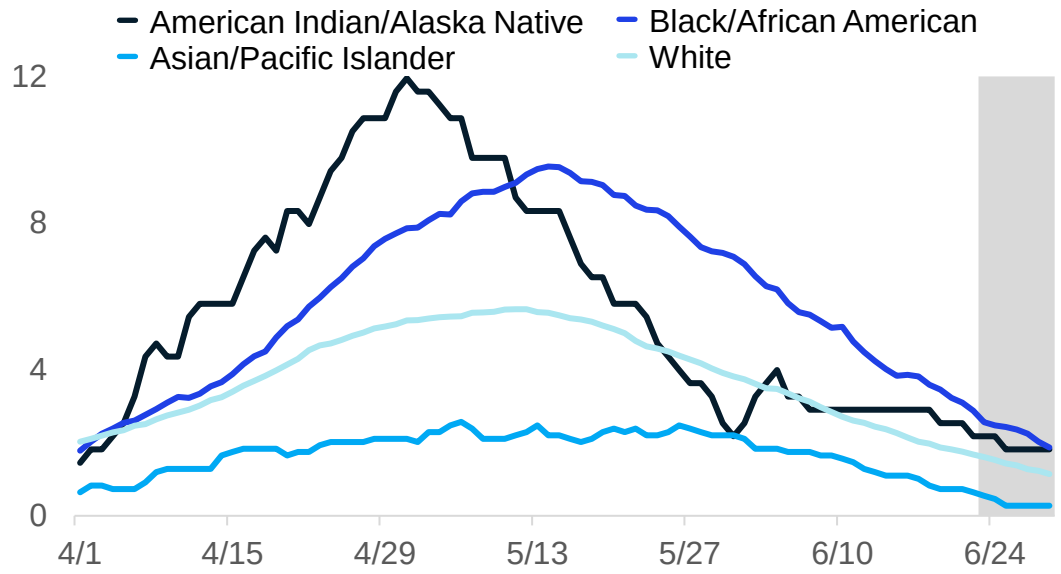


- Overall trends for daily average deaths have decreased 40% since last week
- Through 6/22, the 7-day avg. death rate is below 1.5 daily deaths per million people for those under the age of 60

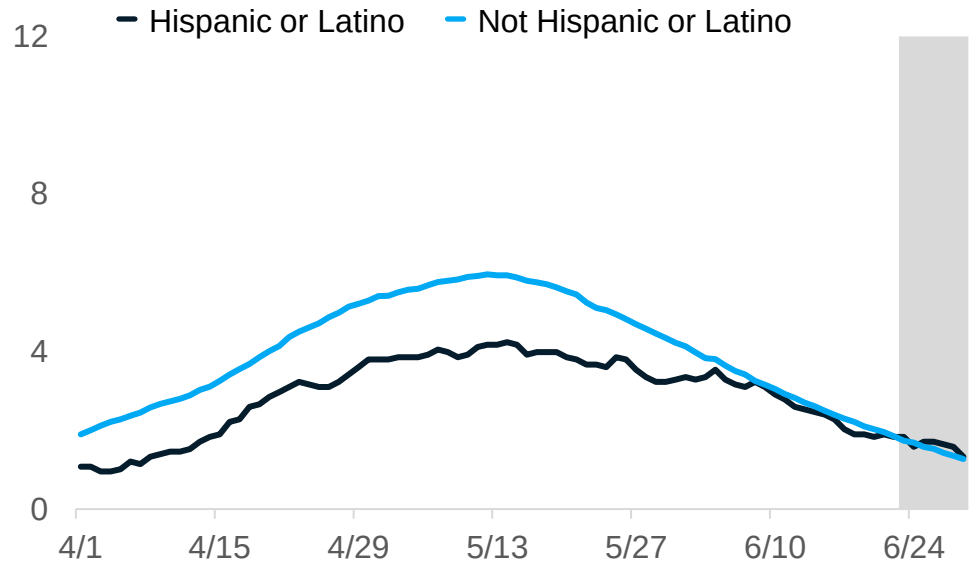
Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System

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:

- All racial and ethnic groups are seeing a decrease in COVID deaths
- **Blacks/African Americans have the most reported deaths per capita**
- Deaths are not adjusted for confounders (e.g., age, sex, comorbidities)

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

COVID-19 Vaccination

Administration (doses administered)

9th state in doses delivered, first doses provided and number of completed individuals (6/28/21)

81.2% adjusted administration ratio (excluding federal entities, CDC channel portfolio 6/25/2021)

84,452 doses last week: most frequently by pharmacies, local health departments, and hospitals (MCIR data only, will be undercount of all doses administered)

Coverage (people vaccinated)

62.4% of those 18+ have received first dose of vaccine

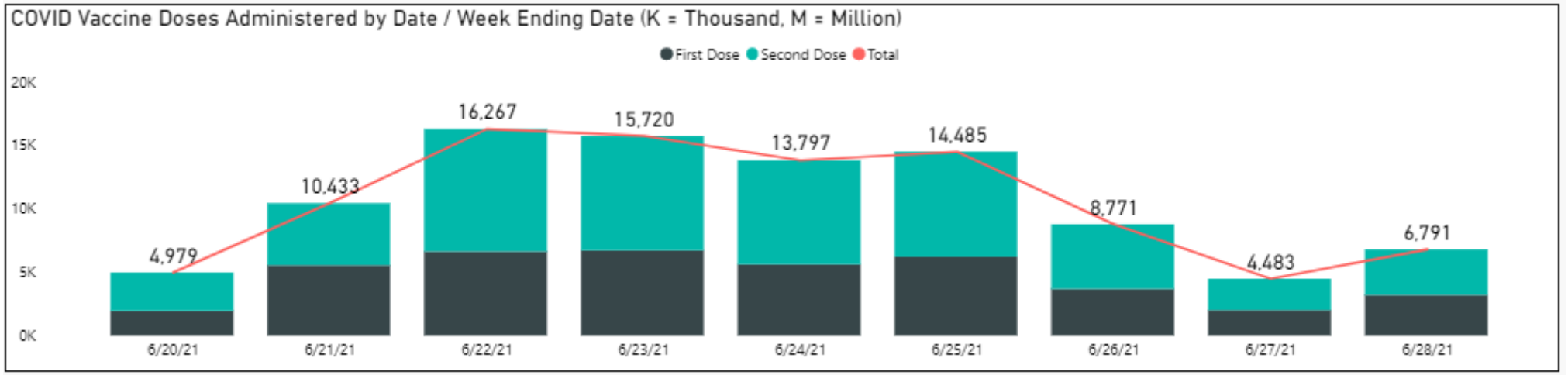
4,693,169 people in Michigan have completed vaccination series (4,608,073 last week)

84.7% of people aged 65 or older have had first dose; 62.4% of people over age 18

Initiation highest among Asian, Native Hawaiian or Pacific Islander and American Indian/Alaskan Native individuals (MI Covid Vaccine Dashboard 6/28/21)

Less than 1% of Vaccinated Individuals Later Tested Positive for COVID-19 (Number of cases who are fully vaccinated (n= 7,135)

Doses Administered as of 6/28/21



11,588,390 doses delivered to providers in Michigan
9.4M doses Administered (CDC tracker)

81.2% adjusted administration ratio (excluding federal entities, CDC channel portfolio 6/25/2021)

- 84K doses administered last week; on average 12K/day (4900-16K)

June 20-26th (inclusive), doses were most frequently administered by
- Pharmacies (138K) (MCIR data may undercount)
- LHD (29K) and hospitals (19K)
- Pediatricians (5.8K), family practice (5.6K), and FQHCs (3.9K)

Nearly 4.7 Million Michiganders fully vaccinated

4.69 million people in the state are fully vaccinated

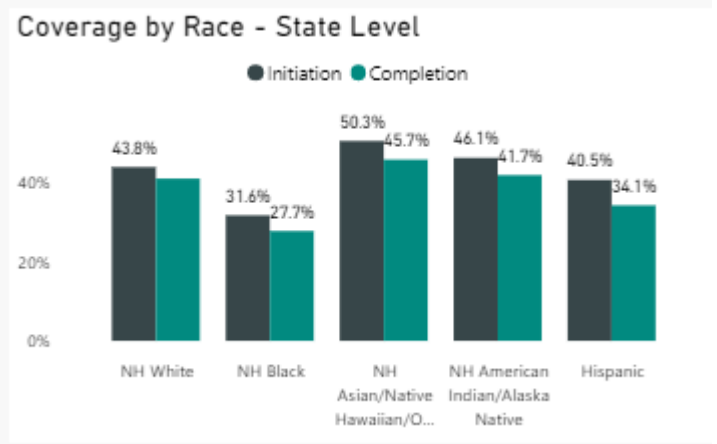
More than 80% of people aged 65 and older have completed the series

Race/Ethnicity for those 12 years and older:

- Initiation coverage highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (50.3%), then NH American Indian (46.1%), NH White (43.8%), NH Black or African American Races (31.6%).
- Initiation is at 40.5% for those of Hispanic ethnicity
- Completion follows the same pattern
- 22.0% data missing or unknown

Vaccination Coverage in Michigan as of 6/28/21

Age Group	% At Least One Dose	% Fully Vaccinated	Number Fully Vaccinated
Total Population	51.4	47.0	4,693,169
>=12 years	59.7	54.6	4,693,087
>= 18 years	62.4	57.4	4,502,779
>=65 years	84.7	80.4	1,418,837



Potential COVID-19 Vaccination Breakthrough Cases

Michigan part of CDC's nationwide investigation (COVID-19 Breakthrough Case Investigations and Reporting | CDC)

Michigan Data (1/1/21 through 6/22/21):

- 7,263 cases met criteria based on a positive test 14 or more days after being fully vaccinated
- Less than 1% of people who were fully vaccinated met this case definition
  - Includes 189 deaths (171 persons age 65 years or older)
  - 482 cases were hospitalized

- Vaccine breakthrough cases are expected. COVID-19 vaccines are effective and are a critical tool to bring the pandemic under control. However, no vaccines are 100% effective at preventing illness in vaccinated people. There will be a small percentage of fully vaccinated people who still get sick, are hospitalized, or die from COVID-19.
- There is some evidence that vaccination may make illness less severe for those who are vaccinated and still get sick.
- To date, no unexpected patterns have been identified in the case demographics or vaccine characteristics among people with reported vaccine breakthrough infections.

Key Messages: Science Round Up

Delta variant is the most transmissible variant of concern to date

- The spring surge would have increased dramatically faster it had been the Delta variant

To obtain effective protection against the Delta variant, two doses of the mRNA vaccine are required

Michigan and the U.S. have followed international trends with other VOC surges

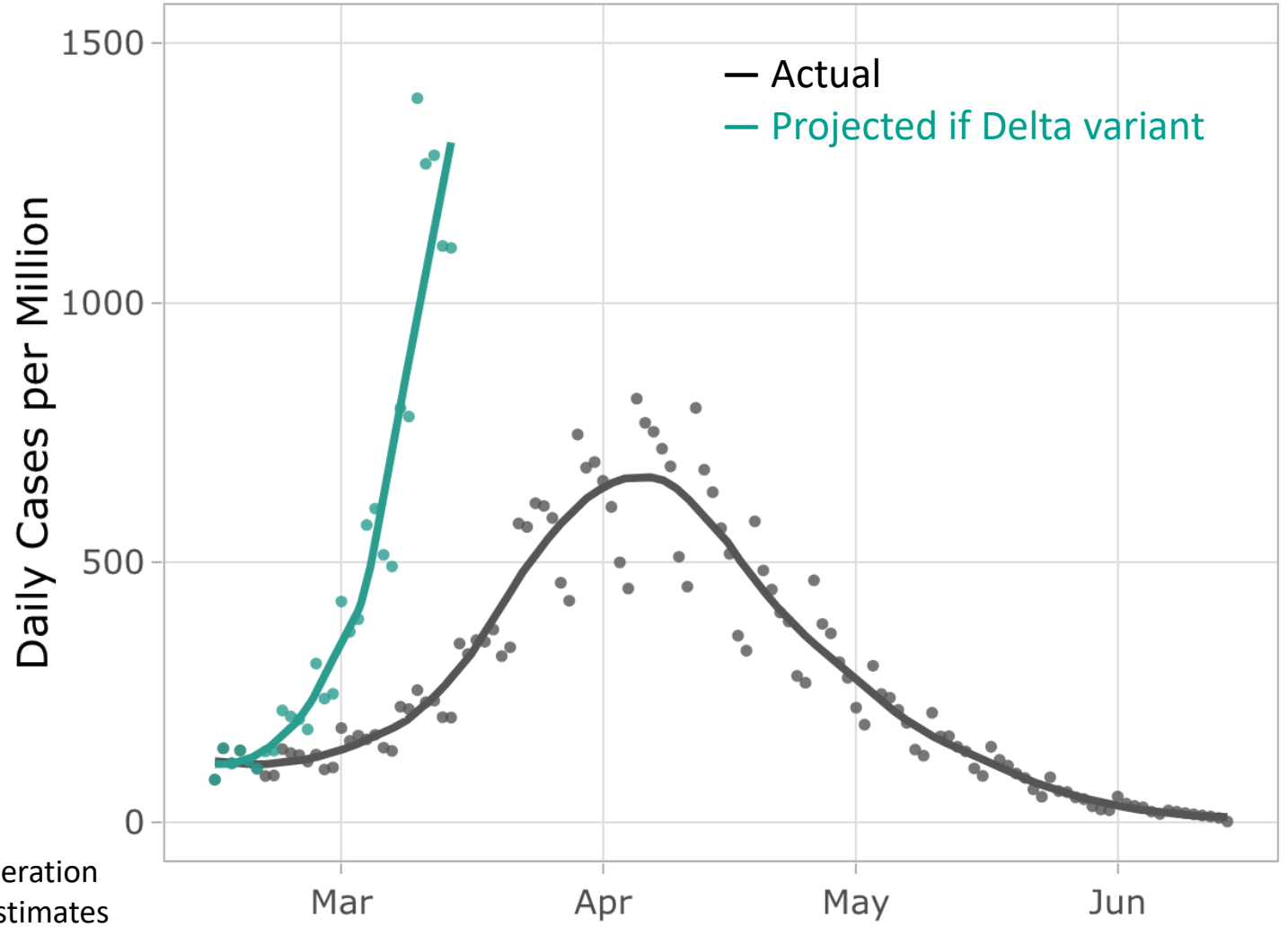
- First, we had the warning of the Alpha (B.1.1.7) in Europe
- The Delta variant has recently impacted other countries greatly including countries with higher vaccination coverage, like Israel and the UK
- There is a potential for another surge in Michigan as Delta prevalence increases

Mobility Update

- Average mobility is increasing
- Stay-at-home levels have declined to near-2019 levels
- Number of trips taken per day have increased to 2019 levels
- Workplace mobility remains below baseline

What might the spring surge have looked like if it had been the Delta (δ) variant?

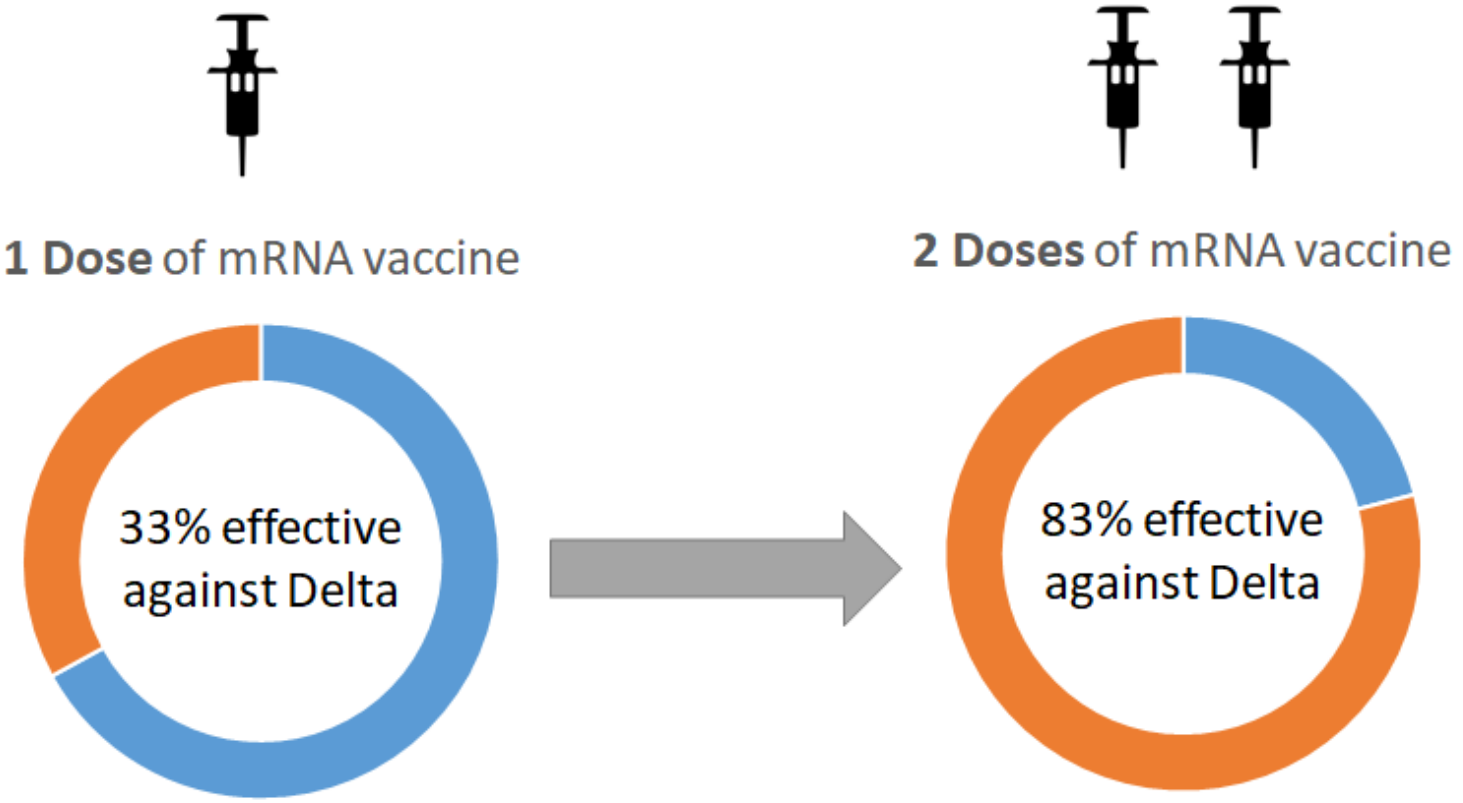
- Delta is more transmissible compared to B.1.1.7 and ancestral (non-variant) COVID
- Based on the estimated Rt, a spring surge with Delta would have shown a faster rise
- Could have led to over 1300 daily cases per million within the first month if unchecked
- Note this does not account for additional responses/interventions that might have occurred following this faster surge (e.g. increased social distancing, etc.)



Sources: Case data from MDSS, actual Rt estimated assuming a 6 day generation time (Reed et al. 2021), then projected for Delta based on increased Rt estimates (Campbell et al., *Eurosurveillance*, 2021) assuming spring surge was primarily Alpha.

Delta variant: Two doses of mRNA vaccine needed

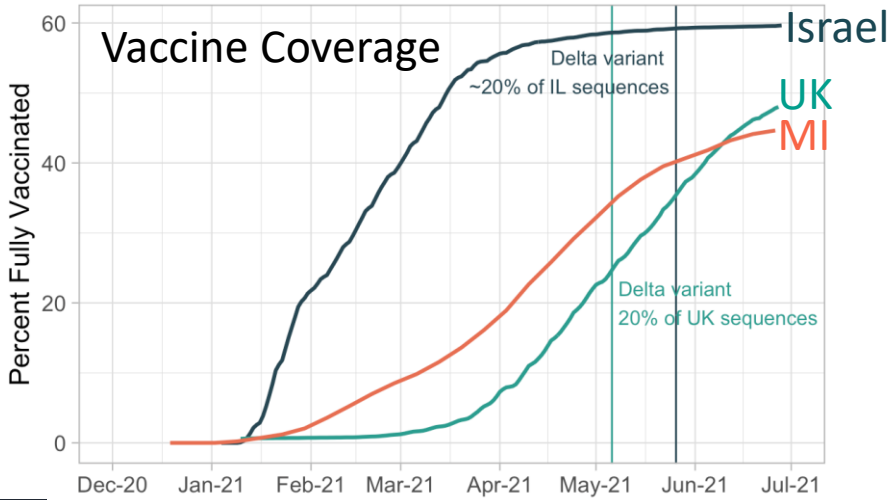
Delta variant SARS-CoV-2 is the most common strain in Scotland. Vaccine effectiveness has been high, <u>but only after the second dose.</u>

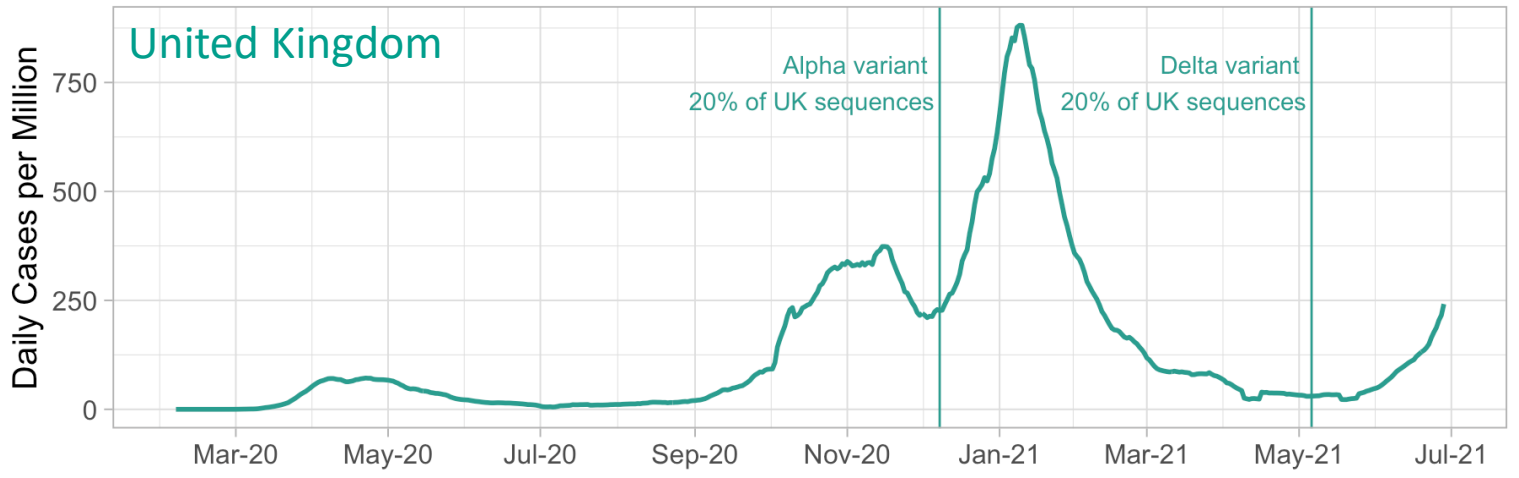


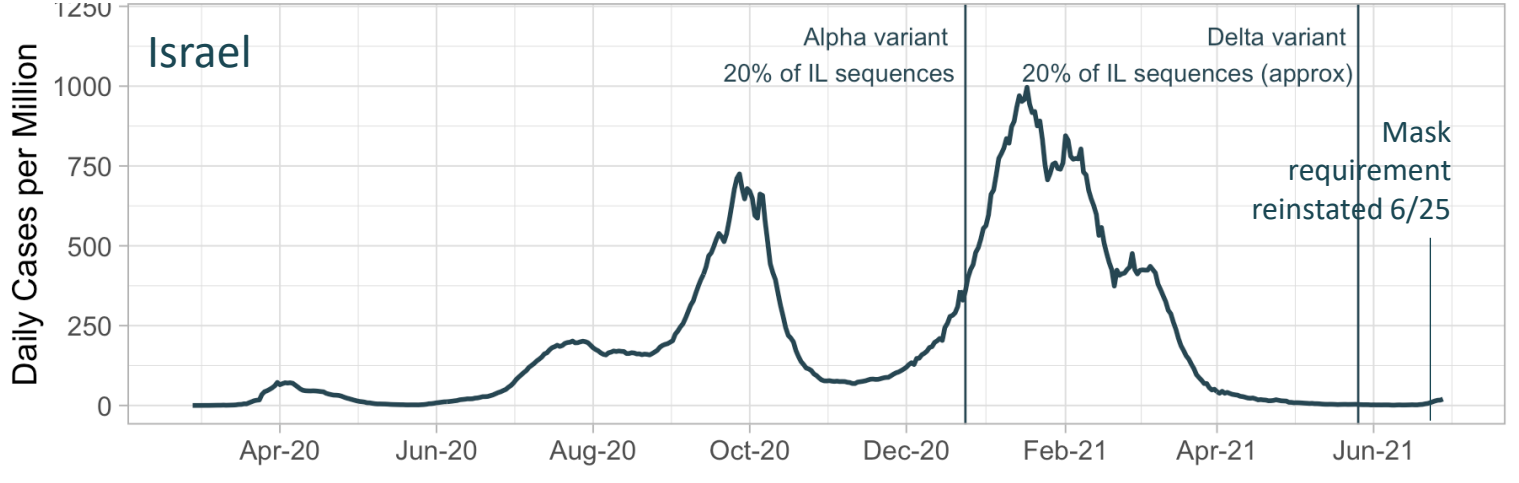
Sheikh, A et al. Lancet. June 14, 2021, DOI:https://doi.org/10.1016/S0140-6736(21)01358-1

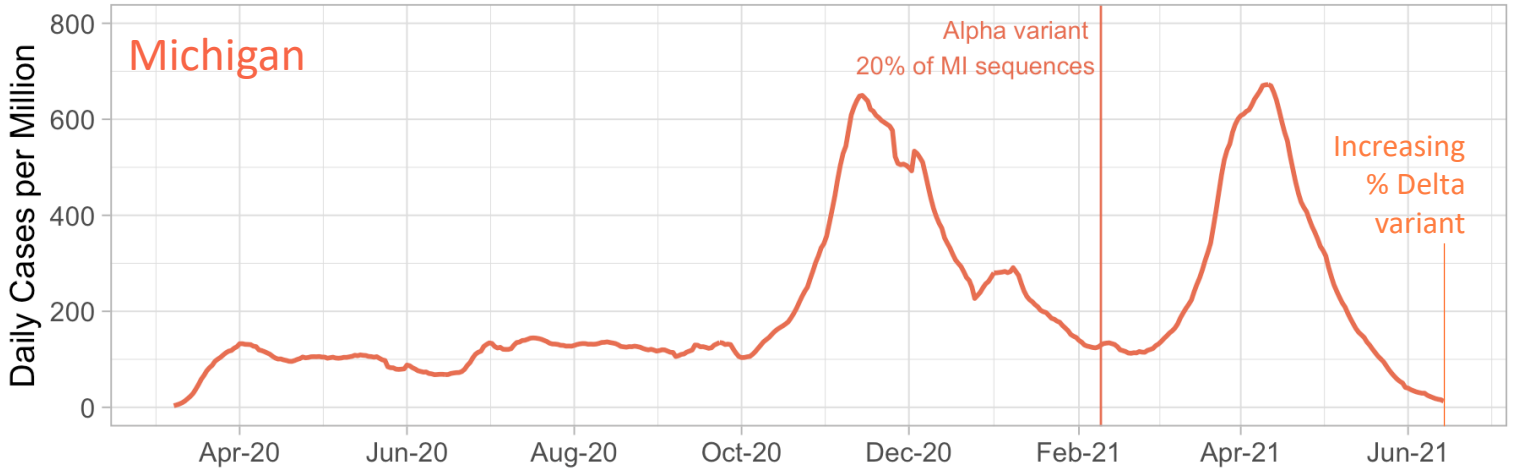
Case surges in Israel and UK after introduction of Alpha and Delta variants

Michigan experienced a similar surge in cases after introduction of Alpha—**potential for a surge in Michigan as Delta increases**









Sources: MDSS, MCIR, Our World In Data.
Sequence data from outbreak.info.

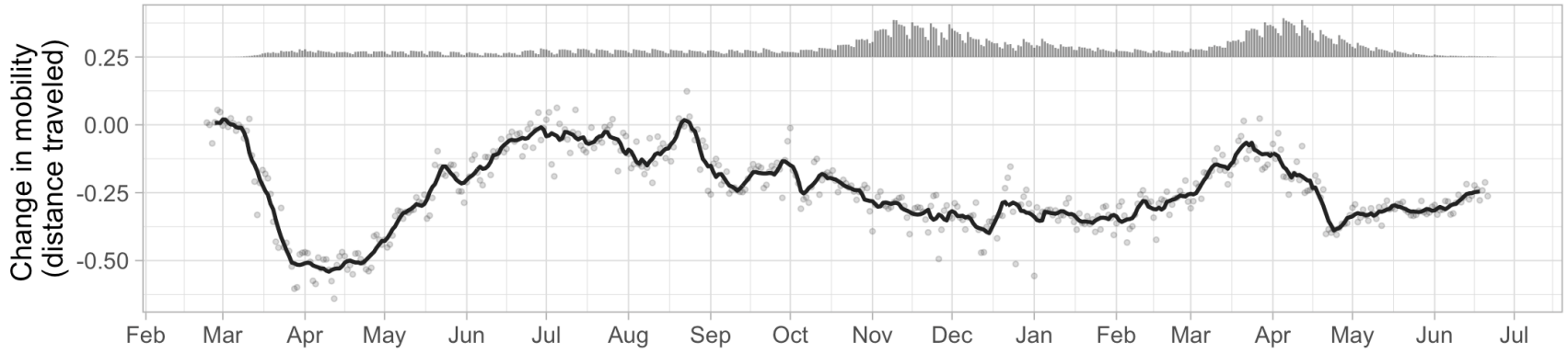
PUBLIC HEALTH

Mobility Update

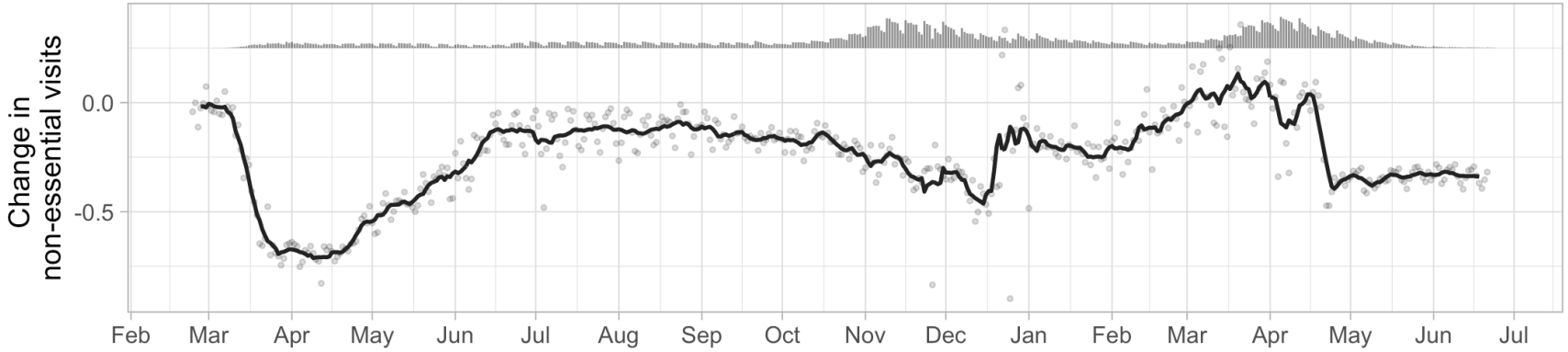
Unacast mobility patterns in MI

- Average mobility increasing
- Non-essential visits and encounter density remain plateaued
- Cases shown as bars at top of each chart
- Data through 6/21/21 (data as of 6/25/21)

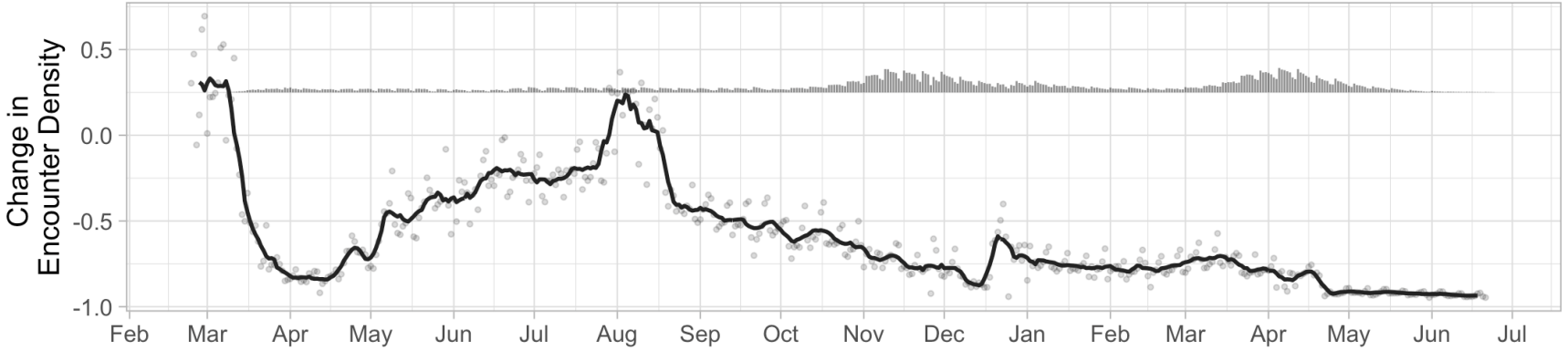
Change in average mobility



Change in non-essential visits



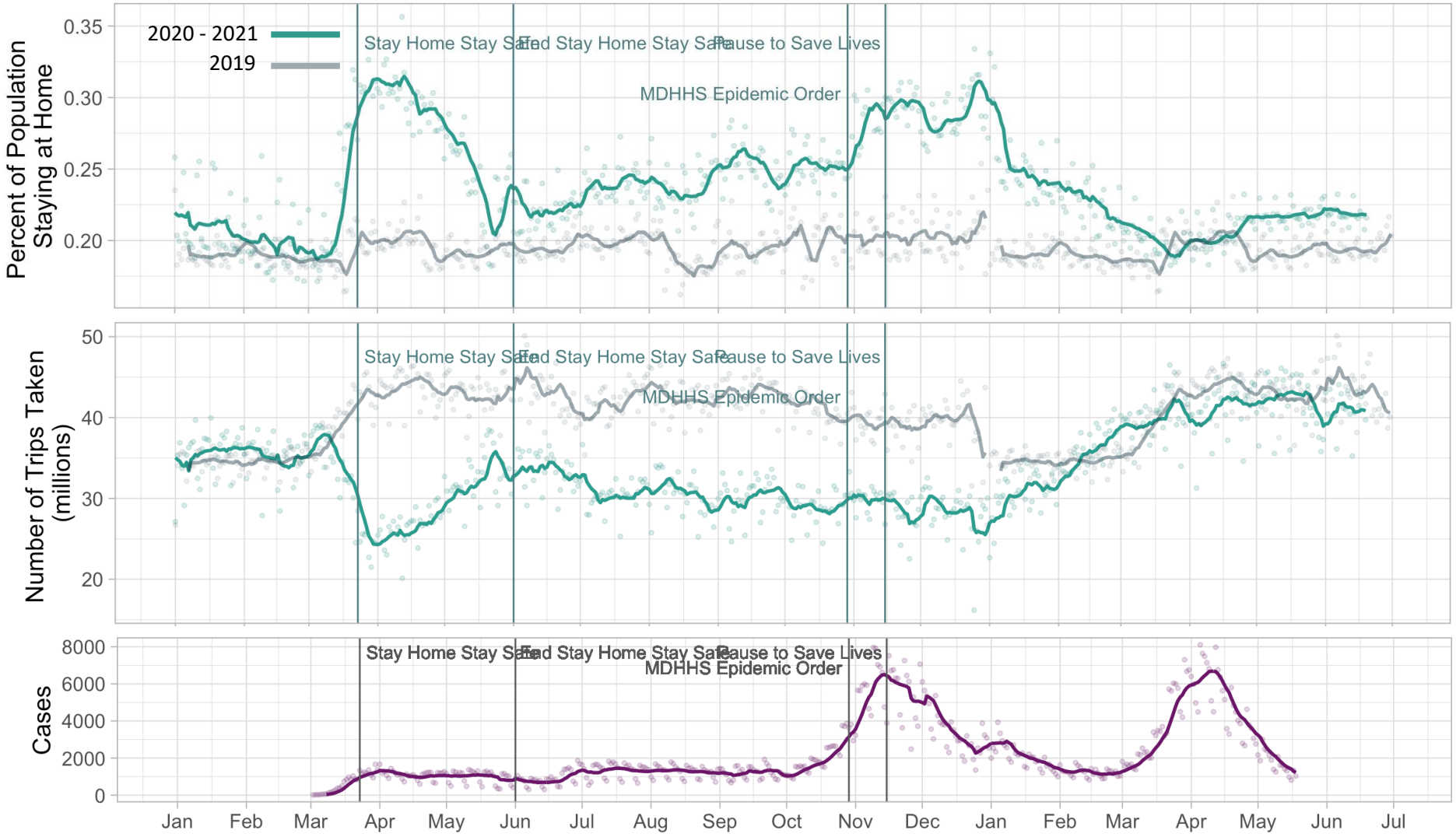
Difference in encounter density



PUBLIC HEALTH

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

How many people are staying at home in Michigan?



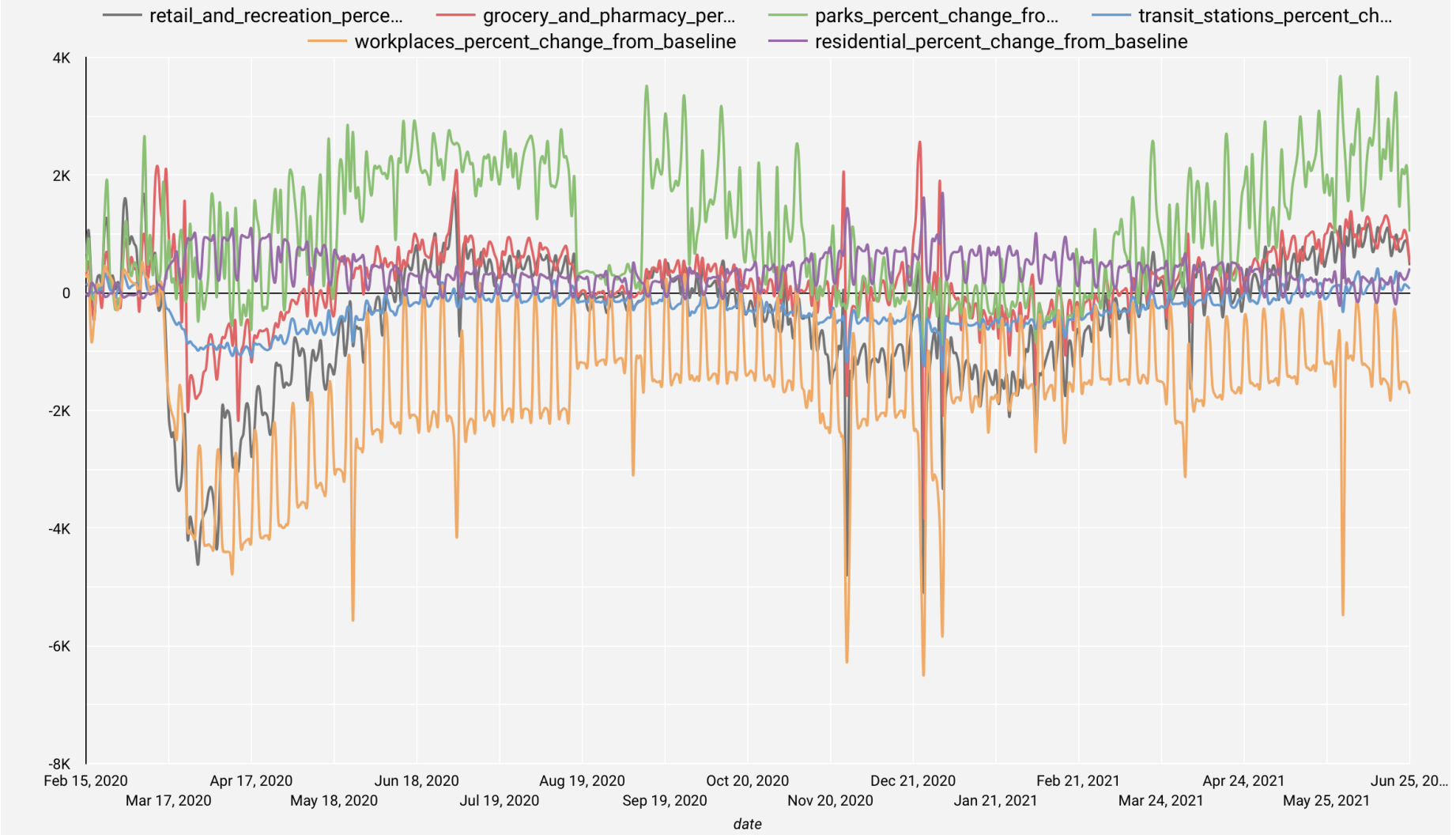
- % Stay-at-home levels have declined to near-2019 levels
- Number of trips taken/day has increased to 2019 levels
- Most recent data is 4/17/21 (data as of 4/26/21)

Data Source: Bureau of Transportation Statistics

PUBLIC HEALTH

Google mobility trends: most metrics have returned to baseline or above

- Most metrics are back to baseline or above
- Workplace mobility is still below baseline



PUBLIC HEALTH

[Google Mobility Reports]
[Google Mobility Dashboard]