MI COVID RESPONSE DATA AND MODELING UPDATE

NOTE: All data as of June 5 unless otherwise noted

June 8, 2021

Executive summary

Percent Positivity is down 36% and **Case Rate** is down 48% since last week. Positivity (3.4%, ↓1.7%) and case rates 52.1, ↓45.2) have decreased for eight weeks

Michigan has the **16th highest number of cases (↓9),** and **36th highest case rate (↓24)** in the last 7 days (source: CDC COVID Data Tracker)

Percent of inpatient beds occupied by individuals with COVID has decreased 28% since last week and is decreasing for six weeks. There are 4.4% (↓1.7%) inpatient beds occupied by COVID-19 patients.

Michigan has the **7th highest inpatient bed utilization (↓3),** and the **5th highest adult ICU bed utilization (↓2)** in the country (source: US HHS Protect)

Deaths have decreased 31% since last week. There were 183 COVID deaths (↓65) between May 23 and May 29, and the **Death Rate** is 2.6 deaths per million residents (↓1.0)

Michigan has the **14th highest number of deaths (↓4)**, and **T11th highest death rate (↔)** in the last 7 days (source: CDC COVID Data Tracker)

The 7-day average **state testing rate** has decreased to 1,551.2 tests/million/day (↓452.1). **Daily diagnostic tests (PCR)** is 15.4K per day (↓4.5), and the **weekly average for PCR and antigen tests** conducted in Michigan is 29.5K (↓5.7K).

8.9 million **COVID-19 vaccine** doses reported to CDC, 4.2 million people have completed their vaccine series

Comparison across states: Summary

What we see today (data through 6/5):

- 2 states are seeing increasing 1 week case trends (>=10%) (stable vs 2 last week)
- 3 states are seeing 1 week increases (>=10%) in new COVID hospital admissions (down vs. 9 last week) but all have very low baselines
- DC, West Virginia, Missouri, Florida, and Washington have highest per capita hospitalized patient numbers.
- Midwest (case data from CDC as of 6/5):
  - Wisconsin with decrease in hospitalizations (37/M) and decrease in cases (15/100k last 7d)
  - Indiana with decrease in hospitalizations (86/M), and decrease in cases (31/100k last 7d)
  - Illinois showing decrease in hospitalizations (70/M), and decrease cases (28/100k last 7d)
  - Ohio with decrease in hospitalizations (86/M) and decrease in cases (23/100k last 7d)
  - Michigan showing decrease in hospitalizations (81/M) and decrease in cases (13/100k last 7d)

COVID-19 Spread

Statewide positivity has decreased to 3.4%

- One week decrease of 36% (vs. 25% decrease last week)
- Decreasing for eight weeks (82% decrease since April 8 high)
- Positivity is declining in all MERC regions and below 7% in all regions

Case rate (52.1 cases/million) is decreasing in the state (97.3 cases/million last week)

- One week decrease of 48% (vs. 35% decrease last week)
- Decreasing for eight weeks (92% decrease since April 11 high)
- Cases per million are declining in all MERC regions
- Select variants in Michigan: 11,137 confirmed α (B.1.1.7); 67 confirmed β (B.1.351); 299 confirmed ε (B.1.427/ B.1.429); 236 confirmed (γ) P.1; and 23 confirmed δ/κ (B.1.617.2/ B.1.617.1)

- Number of active outbreaks is down 24% from last week
  - Reported school outbreaks have decreased since last week (217 to 150)
  - High schools continue to experience the highest number of outbreaks (66) among K-12 settings
  - In the past week, the highest number of new clusters have been identified in track and field, and basketball

Confirmed and probable case indicators

Table Date: 6/5/2021 (7 days from date table was produced: 5/29/2021)

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	C	47.1	decline [55 days]	3.0	Decrease - 8wk	1591.7	4.1	Decrease - 6wk	2.4	Decrease - 4wk
Grand Rapids	D	73.0	decline [49 days]	4.6	Decrease - 7wk	1585.7	6.8	Decrease - 6wk	2.9	Decrease - 3wk
Kalamazoo	D	59.2	decline [50 days]	3.7	Decrease - 7wk	1408.2	5.4	Decrease - 6wk	2.5	<20 wkly deaths
Saginaw	D	57.2	decline [52 days]	4.2	Decrease - 7wk	1336.9	3.5	Decrease - 6wk	4.2	Decrease - 2wk
Lansing	C	49.0	decline [56 days]	3.1	Decrease - 7wk	1316.0	6.3	Decrease - 6wk	2.7	<20 wkly deaths
Traverse City	C	34.9	decline [53 days]	3.6	Decrease - 4wk	1094.0	1.6	Decrease - 7wk	2.6	<20 wkly deaths
Jackson	D	43.3	decline [52 days]	3.5	Decrease - 7wk	1646.2	5.3	Decrease - 6wk	2.8	<20 wkly deaths
Upper Peninsula	C	42.8	decline [50 days]	1.8	Decrease - 7wk	1446.9	2.1	Increase - 1wk	1.4	<20 wkly deaths
Michigan	C	52.1	decline [53 days]	3.4	Decrease - 8wk	1551.2	4.4	Decrease - 6wk	2.6	Decrease - 4wk

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%

https://mistartmap.info/

Risk Level Algorithm

7-day Average Case Rate – use the worst value over the last two weeks

MI	Low	A	B	C	D	E
	<7	7-19	20-39	40-69	70-149	≥150

7-day Percent Positivity

MI	Low	A	B	C	D	E
	<3%	3-7%	7-10%	10-15%	15-20%	≥20%

- Risk Level is determined by the worst of cases and percent positivity
- However, once a risk level has been changed, no further decrease in risk is permitted for two weeks, to ensure consistent risk level setting and to account for the time delay before transmission increases will be detected

Overview of metrics for individuals <12 years

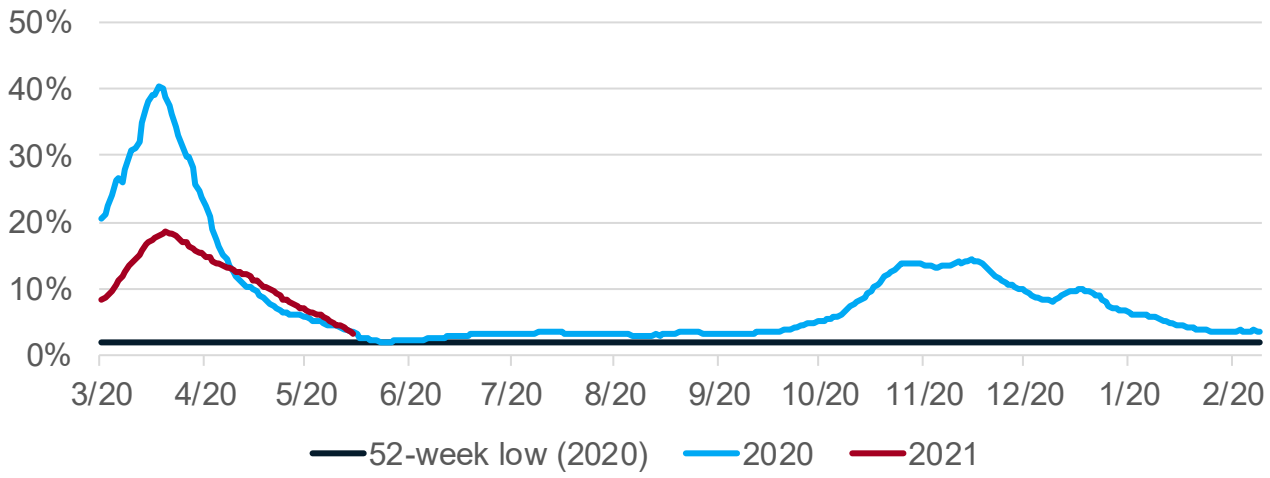
	Region	Population (<12 yrs)	Cumulative Case Count (<12 yrs)	7-day Average Number of Daily Cases (<12 yrs)	7-day Average Number of Daily Cases (<12 yrs) per Million	7-day Average Number of Daily Pediatric Hospitalizations
1	Detroit	735529	28020	50.1	68.1	33.6
2	Grand Rapids	230120	9606	20.0	86.9	5.0
3	Kalamazoo	140422	5190	11.7	83.3	4.3
4	Saginaw	78759	3188	6.9	87.6	0.4
5	Lansing	78140	3072	5.1	65.3	5.9
6	Traverse City	53099	1526	2.1	39.5	0.0
7	Jackson	41274	1470	1.0	24.2	0.7
8	Upper Peninsula	34645	1379	2.4	69.3	0.9
99	Michigan	1391988	53500	99.6	71.6	50.7

Data as of 6/7; case data 5/31, hospitalization data 6/7. Hospitalization data is for pediatric patients (<18)

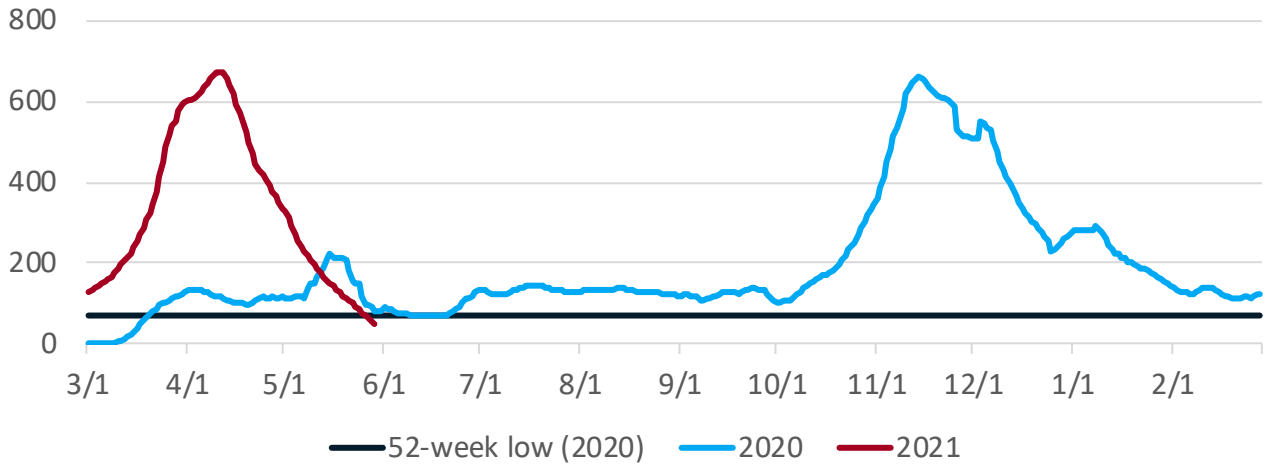
Positivity and Case Rates, 2020 vs 2021

- Positivity and case rates in Michigan are improving following the third surge
- Over a 52-week period, positivity is nearing one-year low (2.02%)
- Over a 52-week period, case rate is at a one-year low (52.2 cases/million)
- In 2020, the months of June through August saw lower positivity and cases rates

Michigan Positivity

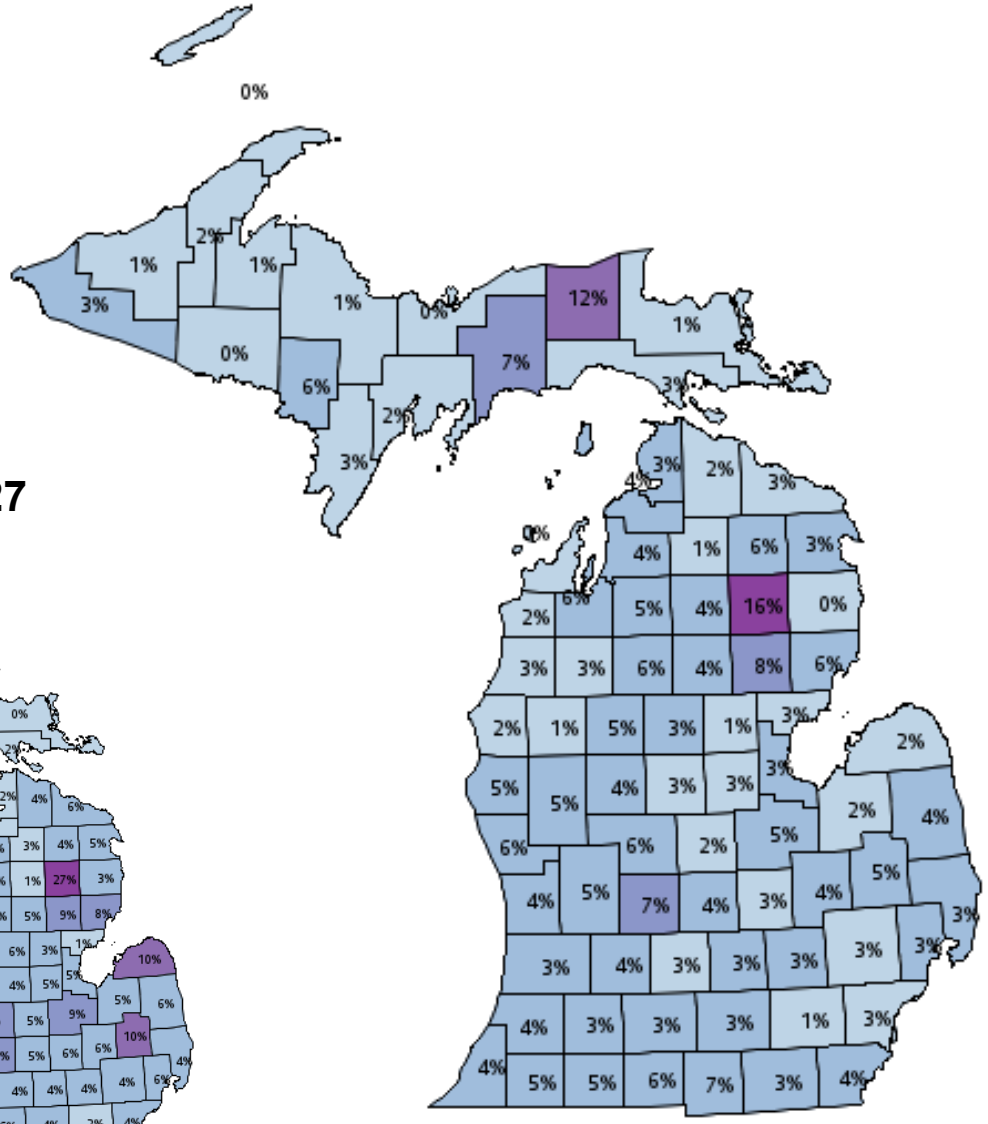


Michigan Case Rate

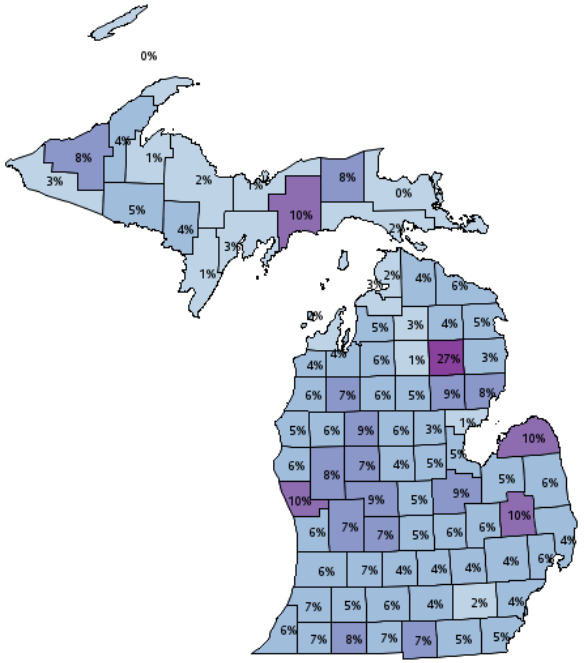


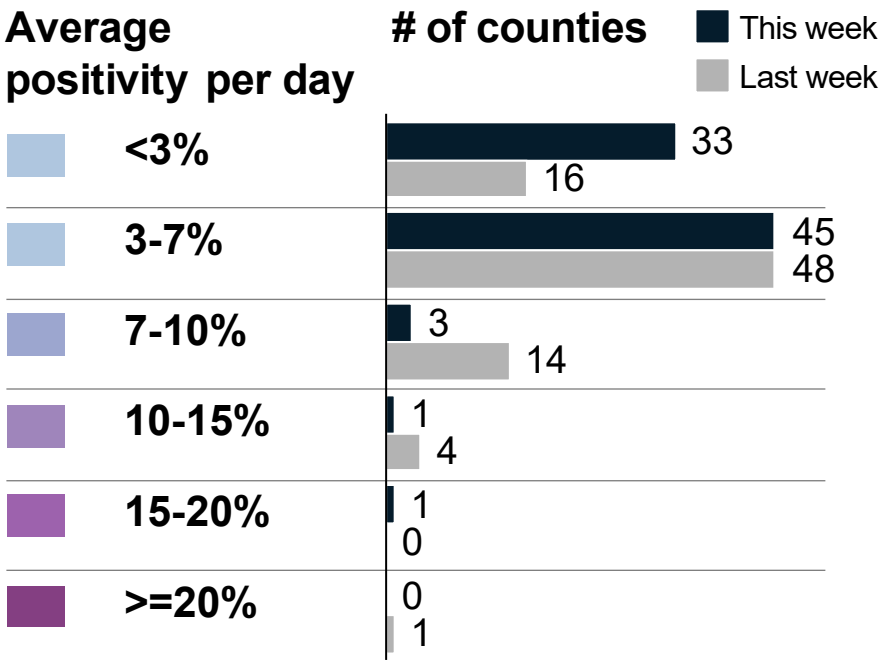
Source: SEOC Testing Results – Excluding MDOC

Positivity by county, 5/28-6/3



Last week, 5/21-5/27





Updates since last week:

2 of 83 counties saw double digit positivity in the last week (3 county decrease)

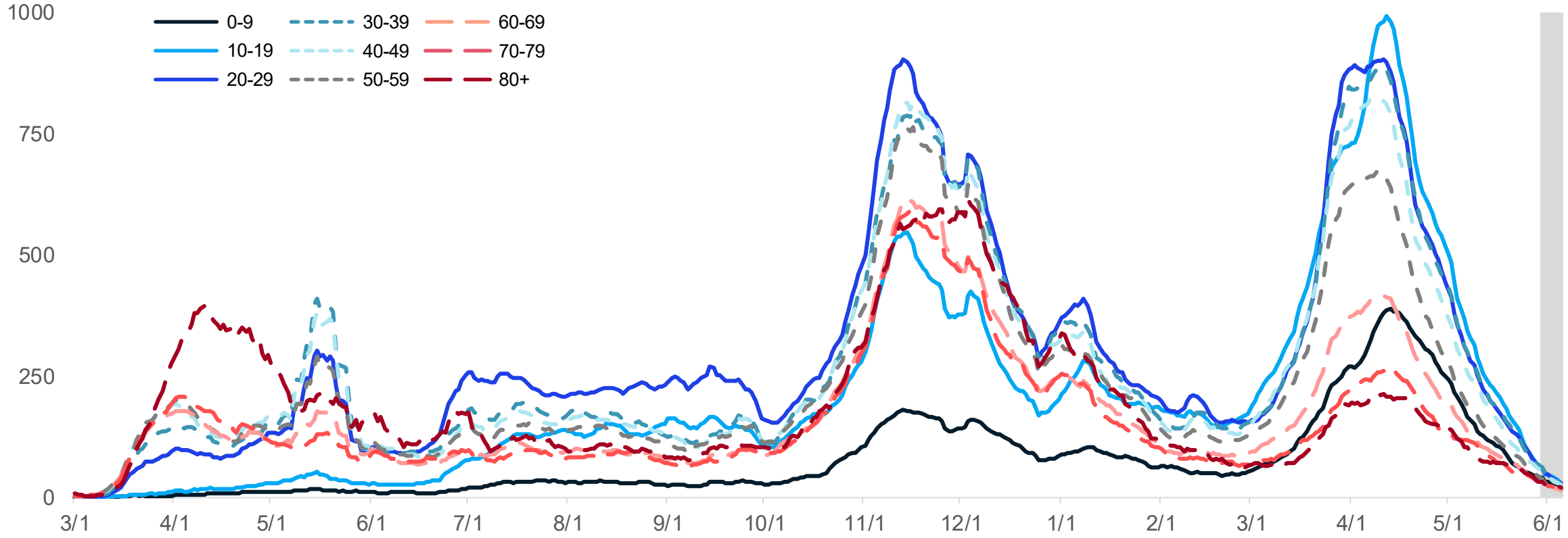
5 of 83 counties saw positivity > 7% in the last week (14 county decrease)

50 of 83 counties saw positivity > 3% in the last week (17 county decrease)

Source: SEOC Testing Results – Excluding MDOC

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 decreasing
- Those aged 30-39 have the highest case rates, followed by 10-19 and 20-29 age groups
- Case rates for age groups between 0 and 59 years are above 40 and below 70 cases per million (Risk Level C)

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	49.0	42.5	-35% (-26)	-89% (-388)
10-19	85.6	68.2	-54% (-101)	-93% (-1,145)
20-29	91.0	66.0	-50% (-89)	-93% (-1,154)
30-39	83.7	69.0	-47% (-75)	-92% (-993)
40-49	71.1	60.3	-42% (-51)	-93% (-891)
50-59	58.0	43.0	-50% (-59)	-94% (-840)
60-69	41.6	32.6	-52% (-44)	-92% (-490)
70-79	24.9	32.4	-40% (-16)	-88% (-175)
80+	13.7	33.1	-47% (-12)	-85% (-75)
Total¶	521.9	52.1	-48% (-478.9)	-92% (-6,186)

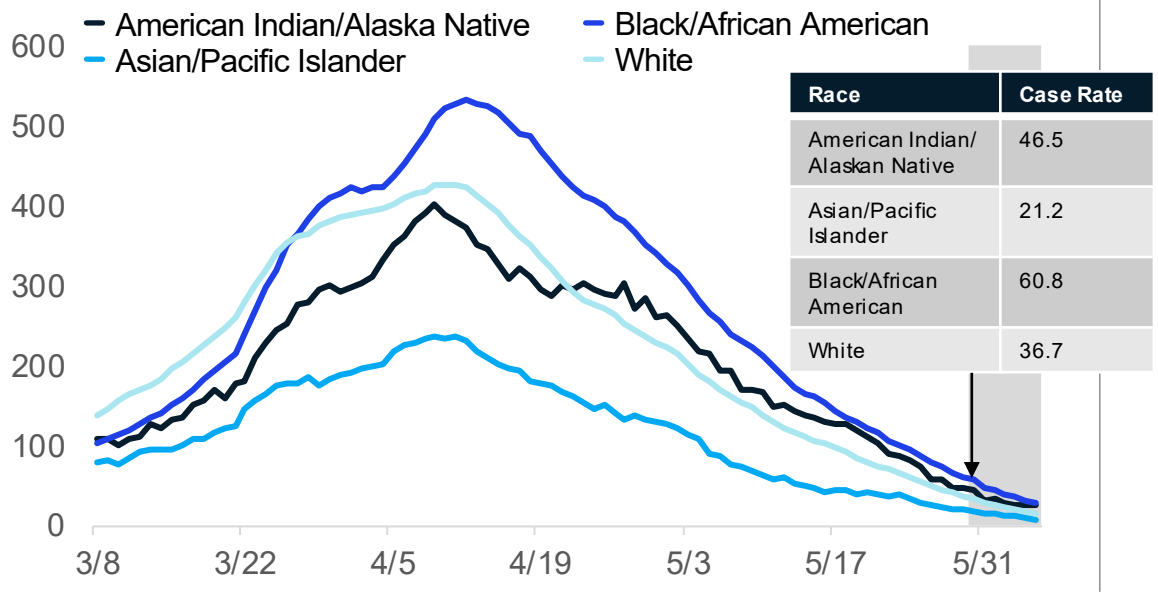
* Highest 7-day avg. following spring 2021 surge
¶ Total may not reflect state due to missing age data

- Avg. daily number of cases (91) and avg. daily case rate (69 cases/mil) are currently highest for 20-29 and 30-39, respectively
- All age groups between 10 and 59 are experiencing an average of more than 50 cases per day
- Since April 11, case rates have decreased more than 80% for all age groups, with state overall down 92%

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

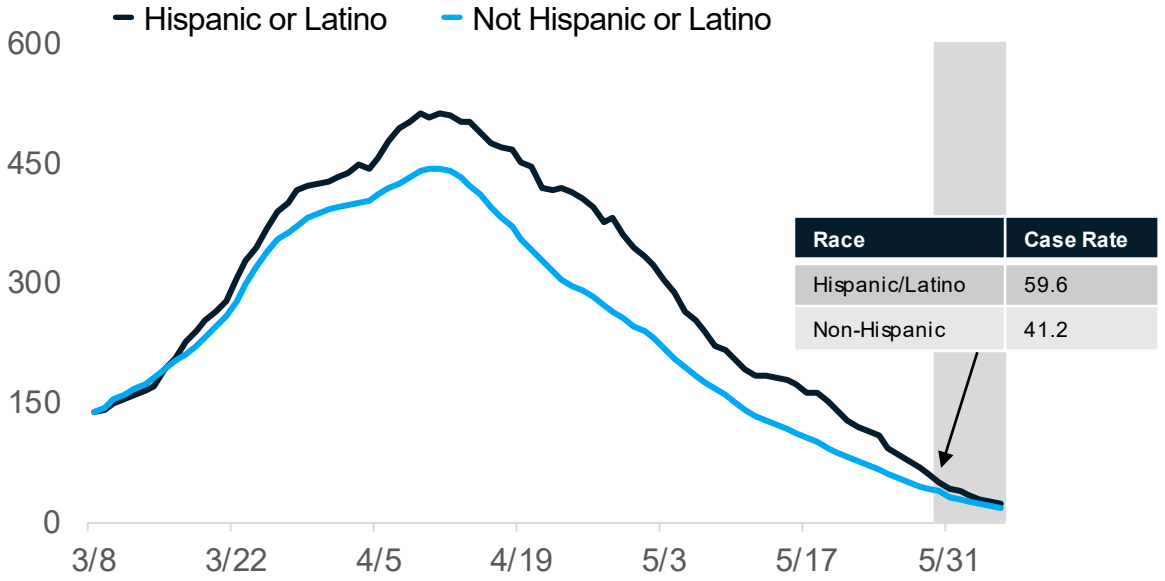
Average daily new cases per million people by race and ethnicity

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



Race	Case Rate
American Indian/ Alaskan Native	46.5
Asian/Pacific Islander	21.2
Black/African American	60.8
White	36.7

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



Race	Case Rate
Hispanic/Latino	59.6
Non-Hispanic	41.2

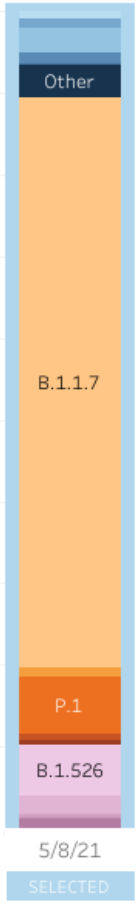
Updates since last week:

- Cases per million are decreasing for all races and ethnicities
- **Blacks, American Indian/Alaskan Natives, and Hispanic/Latinos have the highest case rates**
- In the past 30 days, 25% of all cases represent unknown, multiple, or other races (17% of race is unknown, ↓1%)
- In the past 30 days, 21% of all cases have an unknown ethnicity reported (↓1%)

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

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

SARS-CoV-2 Variants Circulating in the United States, Apr 25 – May 8



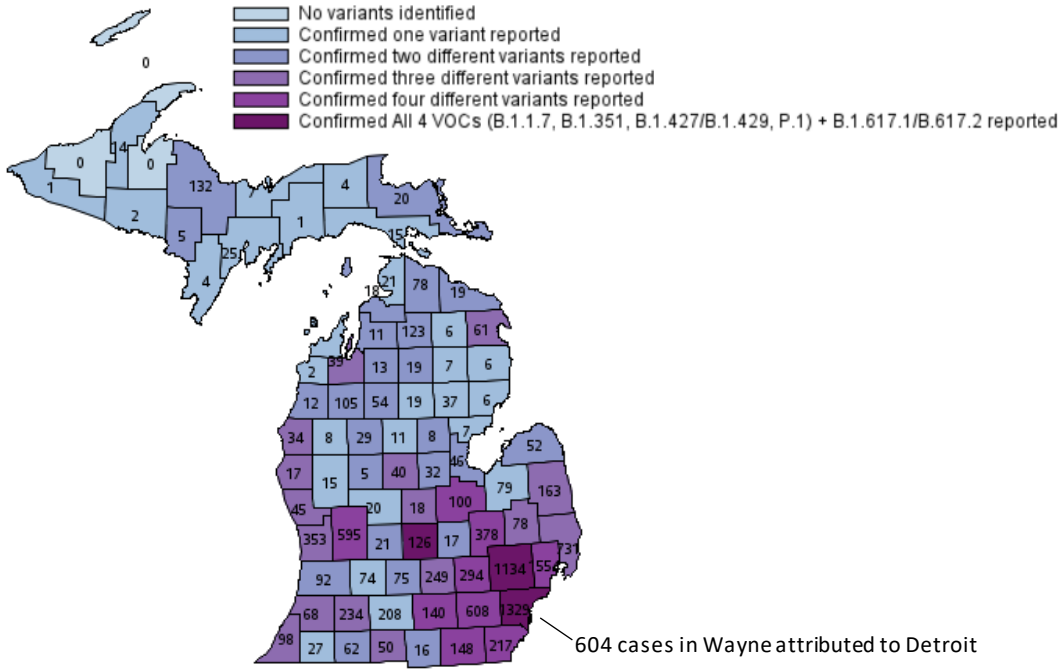
USA

	Lineage	Type	%Total	95%CI
Most common lineages	B.1.1.7	VOC	69.8%	66.8-72.6%
	P.1	VOC	6.9%	5.1-9.3%
	B.1.526	VOI	6.1%	4.6-8.0%
	B.1.526.2		3.0%	2.3-4.0%
	B.1.526.1	VOI	2.4%	1.8-3.2%
	B.1		1.3%	1.0-1.7%
	B.1.429	VOC	1.3%	0.8-2.0%
	B.1.617.2	VOI	1.3%	1.0-1.7%
	B.1.1.519		1.2%	0.9-1.6%
	B.1.2		0.9%	0.6-1.2%
	B.1.596		0.1%	0.0-0.2%
Additional VOI/VOC lineages	B.1.351	VOC	0.7%	0.5-1.0%
	B.1.427	VOC	0.7%	0.4-1.0%
	B.1.525	VOI	0.3%	0.2-0.5%
	B.1.617.1	VOI	0.1%	0.0-0.1%
	P.2 †	VOI	0.0%	0.0-0.0%
	B.1.617 †	VOI	0.0%	NA
	B.1.617.3 †	VOI	0.0%	NA
Other*	Other		4.0%	3.3-4.7%

* 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

Variants of Concern in Michigan, Jun 7



Variant	MI Reported Cases¶	# of Counties	CDC est. prevalence
B.1.1.7 (alpha)	11,137*	80	81.3%
B.1.351 (beta)	67	20	0.4%
B.1.427/B.1.429 (epsilon)	299	42	1.1%
P.1 (gamma)	236	28	2.4%
B.1.617.1/B.1.617.2 (kappa/delta)	23	6	N/A

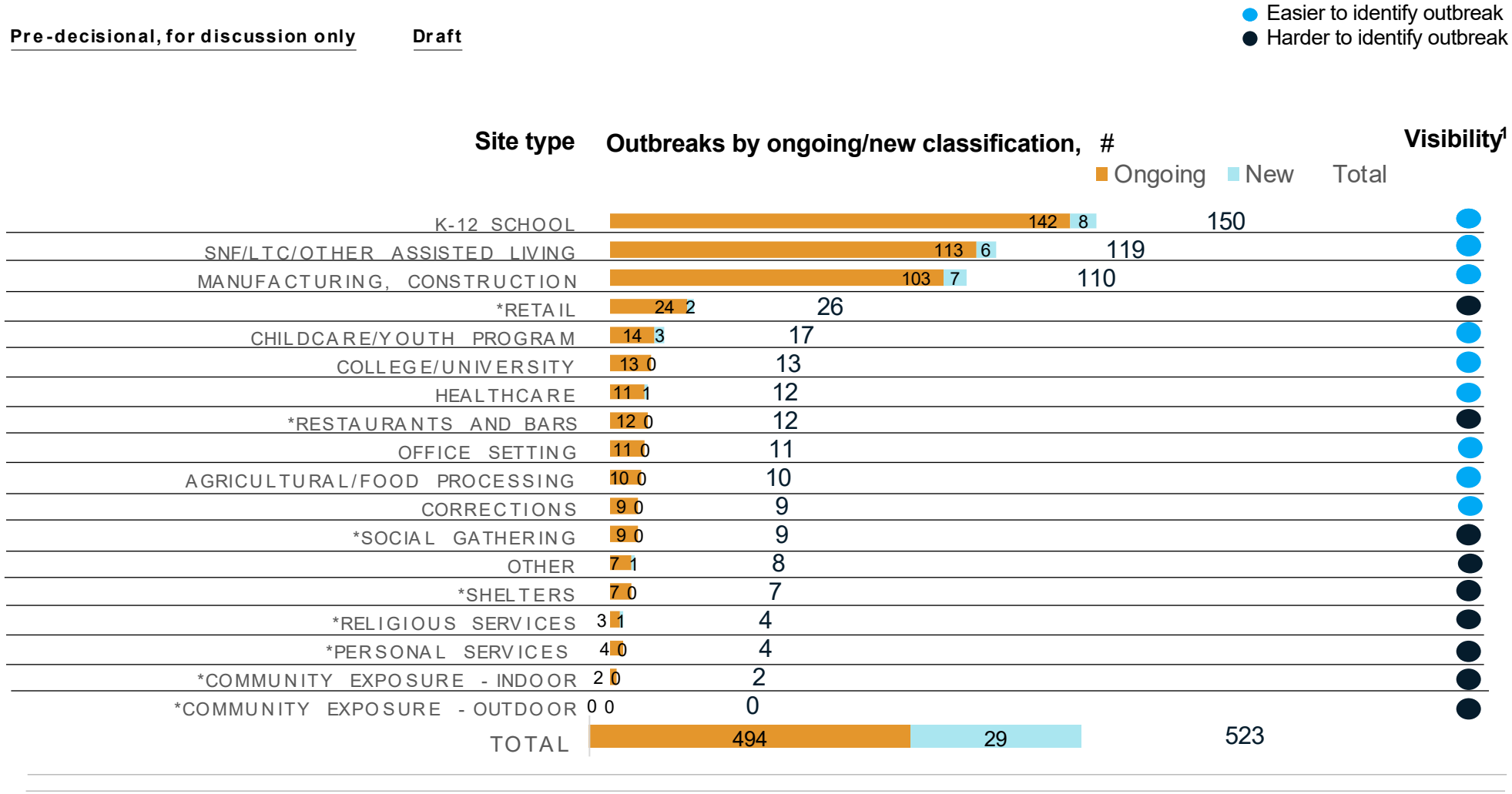
Data last updated June 7, 2021

Source: https://covid.cdc.gov/covid-data-tracker/#variant-proportions and Michigan Disease Surveillance System (MDSS)

* 533 cases within MDOC; ¶ 23 cases with county not yet determined

Number of outbreak investigations by site type, week ending Jun 3

Pre-decisional, for discussion only **Draft**



Total number of active outbreaks is **down 24%** from previous week

Following K-12 (8), the greatest number of new outbreaks were reported in manufacturing/construction (7), and SNF/LTC (6).

LHDs reported new outbreaks in all settings except in College and Universities, Restaurants and Bars, Office Setting, Agriculture and Food Processing, Corrections, Social Gatherings, Shelters, Personal Services 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

K-12 school outbreaks, recent and ongoing, week ending Jun 3

Number of reported outbreaks decreased since last week (217 to 150) including decreases in High Schools (96 to 66), Middle/Jr High (54 to 38), and Pre K-Elementary (64 to 42). Only Administrative saw a slight increase (3 to 4).

Region	Number of reported cases,#	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Region 1		255	0	29	2-41
Region 2n		79	4	28	2-10
Region 2s		27	0	7	2-5
Region 3		432	12	46	2-62
Region 5		60	5	8	2-43
Region 6		251	0	19	2-48
Region 7		29	0	7	2-33
Region 8		57	0	6	2-21
Total		1,190	21	**150**	**2-61**

Grade level	Number of reported cases,#	# Ongoing - Excluding New	# New	Number of outbreaks	Range of cases per outbreak
Pre-school - elem.		234	5	42	2-23
Jr. high/middle school		213	2	38	2-21
High school		733	13	66	2-62
Administrative		10	1	4	2-6
Total		1,190	21	**150**	**2-61**

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

Cumulative Since Jan 2021 through May 2021

491 cases
126 clusters

368 cases
61 clusters

283 cases
73 clusters

108 cases
23 clusters

89 cases
44 clusters

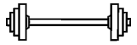
58 cases
24 clusters

55 cases
16 clusters

41 cases
11 clusters

44 cases
4 clusters

41 cases
18 clusters

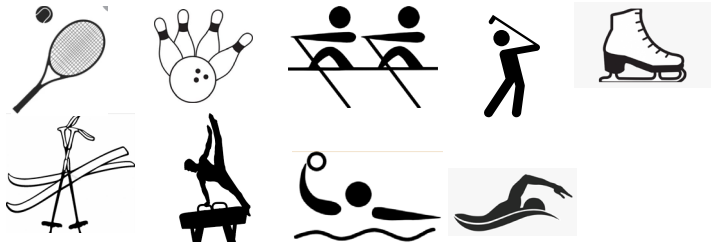


32 cases
13 clusters

22 cases
12 clusters

14 cases
3 clusters

38 cases
23 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)
- Largest number of new cases and clusters identified in past week are track and field, and basketball
- Cases and clusters have occurred in 25 different sport settings

Source: MDHHS – Michigan Disease Surveillance System

COVID-19 and Healthcare Capacity and COVID Severity

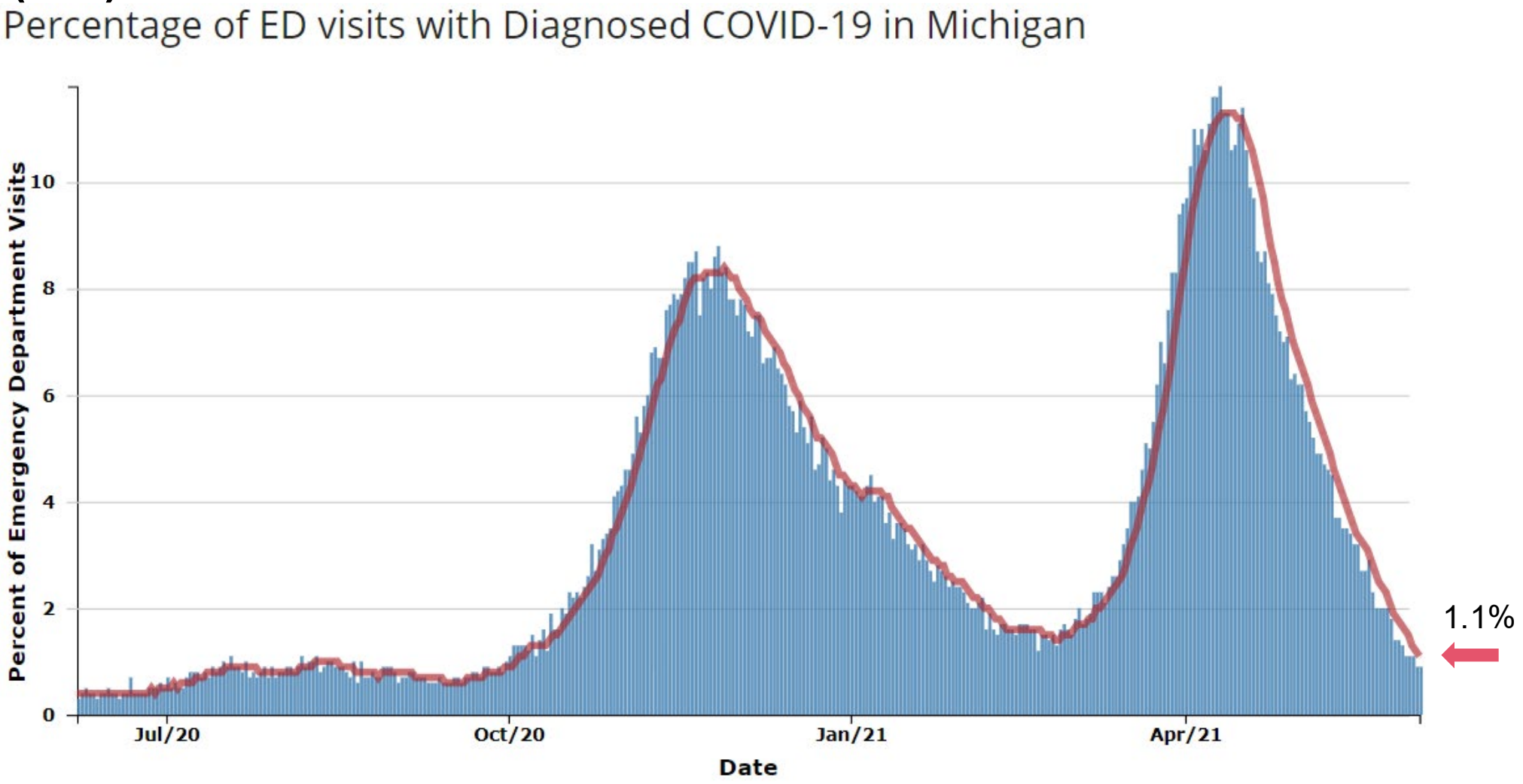
Hospitalizations and ICU utilization are decreasing

- COVID-like illness (CLI) has fallen to 1.1% (vs. 1.8% last week)
- Hospital admissions are decreasing statewide and for all age groups
- Hospitalizations down 22% since last week (vs. 28% decline week prior)
- All regions are showing decline in hospitalization trends this week
- Volume of COVID-19 patients in intensive care has decreased 25% since last week (vs. 20% decline week prior)

Death rate has decreased to 2.6 daily deaths per million people

- 31% decrease since last week (vs. 32% decrease last week)
- 66% decrease since April 24 peak
- Proportion of deaths among those under 60 years of age is slightly higher than the previous week

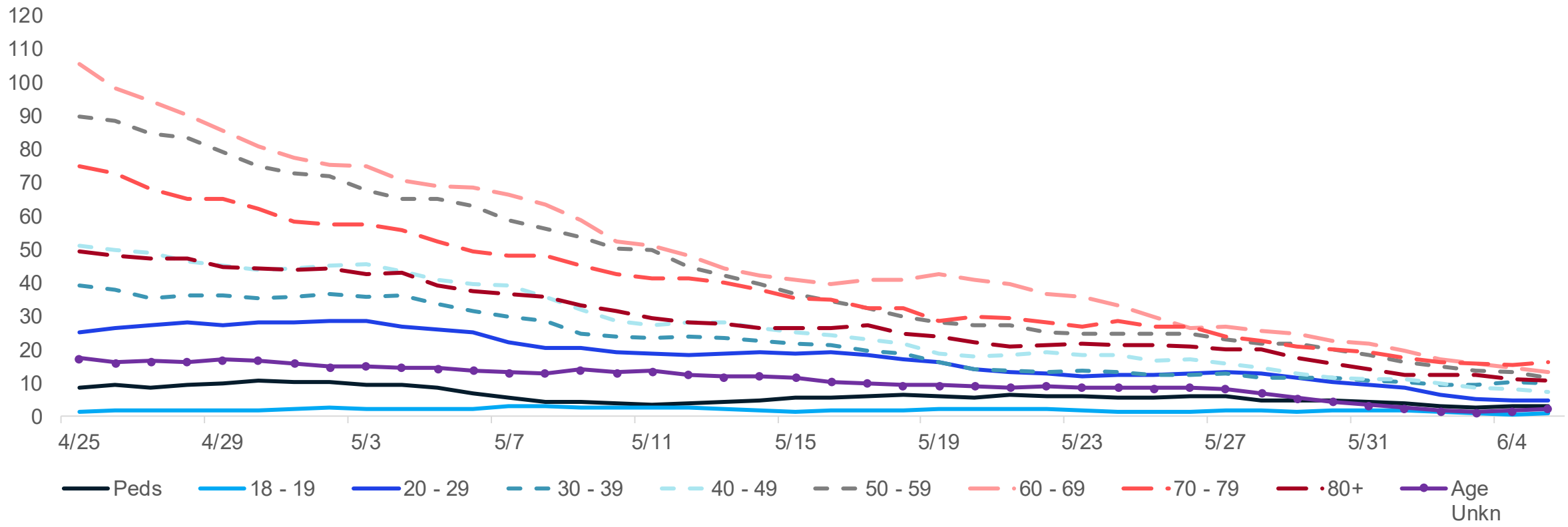
Michigan Trends in Emergency Department Visits for COVID-19-Like Illness (CLI)



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

Average Hospital Admissions by Age

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



- Currently, there are approximately 81 daily hospital admissions for COVID-19
- Over the past week, those 70-79 have seen the highest avg. daily hospital admissions (16 admissions)
- Since the Apr 14 high, overall avg. daily hospital admissions for COVID-19 have decrease 87%

Source: CHECC & EM Resource

Average Hospital Admissions by Age

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

Age Group	Daily Avg Admissions	Average Daily Adm. Rate†	One Week % Change (#)	% Change since 4/14* (#)
Peds	1-5	1.4	-36% (-1-5)	-60% (-1-5)
18-19	1-5	3.8	-36% (-1-5)	-79% (-1-5)
20-29	1-5	3.6	-57% (-7)	-85% (-29)
30-39	10.1	8.4	-13% (-1-5)	-79% (-38)
40-49	7.4	6.3	-42% (-1-5)	-90% (-70)
50-59	11.4	8.5	-48% (-11)	-90% (-103)
60-69	13.1	10.3	-47% (-12)	-90% (-115)
70-79	16.1	21.1	-24% (-1-5)	-81% (-69)
80+	10.7	25.9	-40% (-7)	-82% (-50)
Total¶	80.4	8.1	-37% (-48)	-87% (-520)

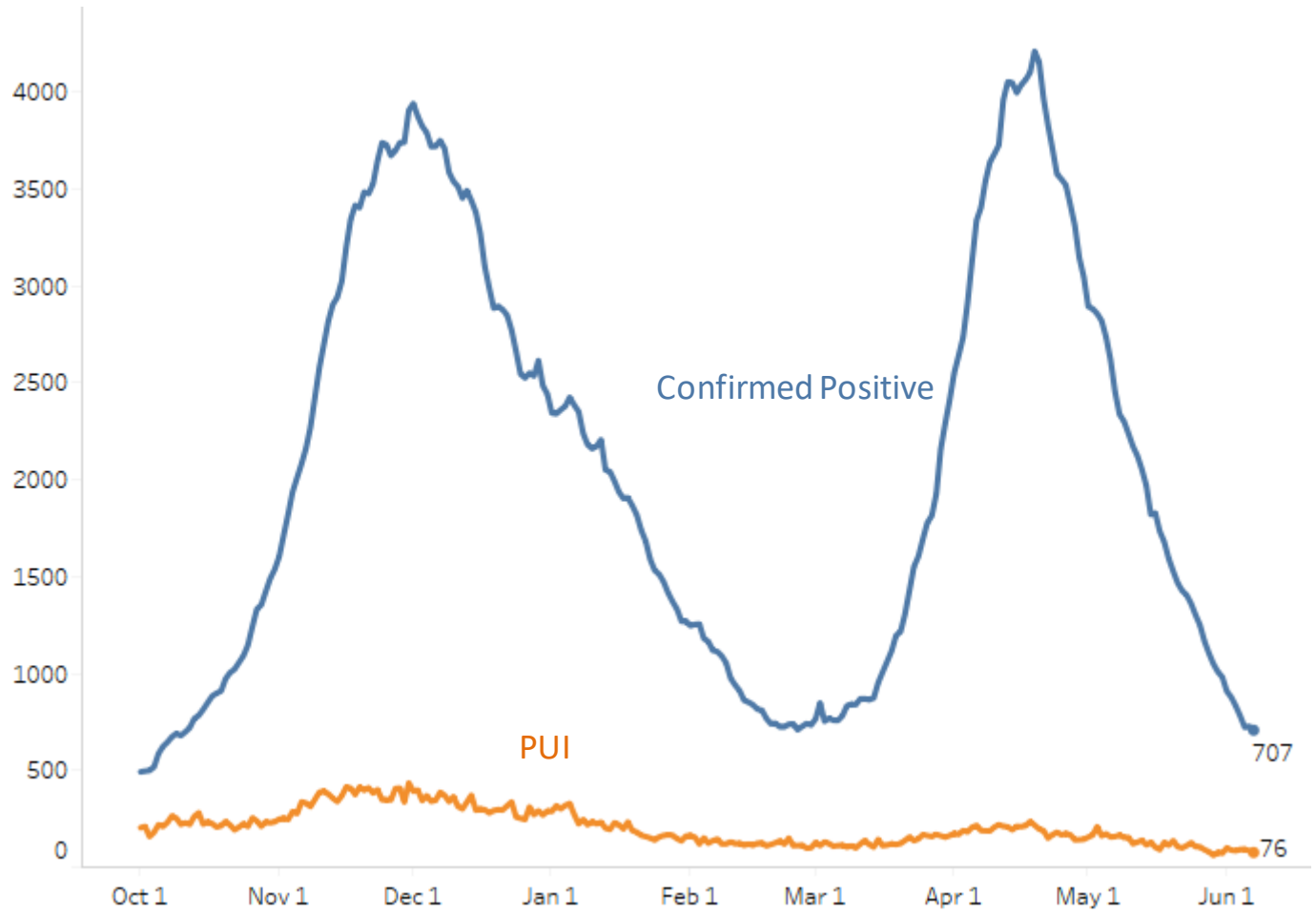
† Rate per 1,000,000 MI residents
* Highest 7-day avg. hosp. adm. following Spring 2021 surge
¶ Total may not reflect state due to missing age data

- Currently, there are approximately 81 daily hospital admissions for COVID-19
- Over the past week, those 70-79 have seen the highest avg. daily hospital admissions (16 admissions)
- Since the Apr 14 high, overall avg. daily hospital admissions for COVID-19 have decrease 87%

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

Statewide Hospitalization Trends: Total COVID+ Census

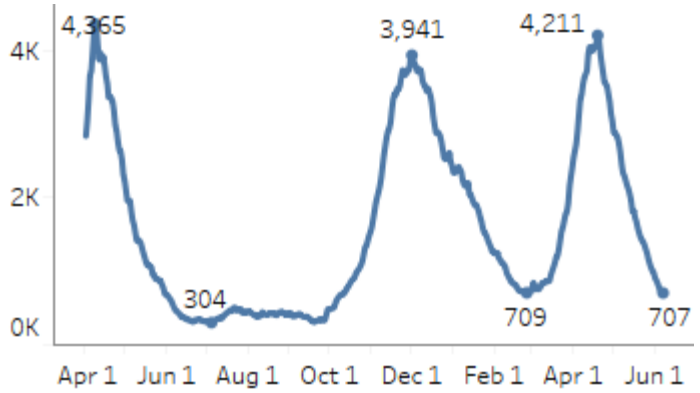
Hospitalization Trends 10/1/2020 – 6/7/2021
Confirmed Positive & Persons Under Investigation (PUI)



COVID+ census in hospitals continues to decline from the April 19th peak. This week is down 22% from the previous week (previous week was down 28%).

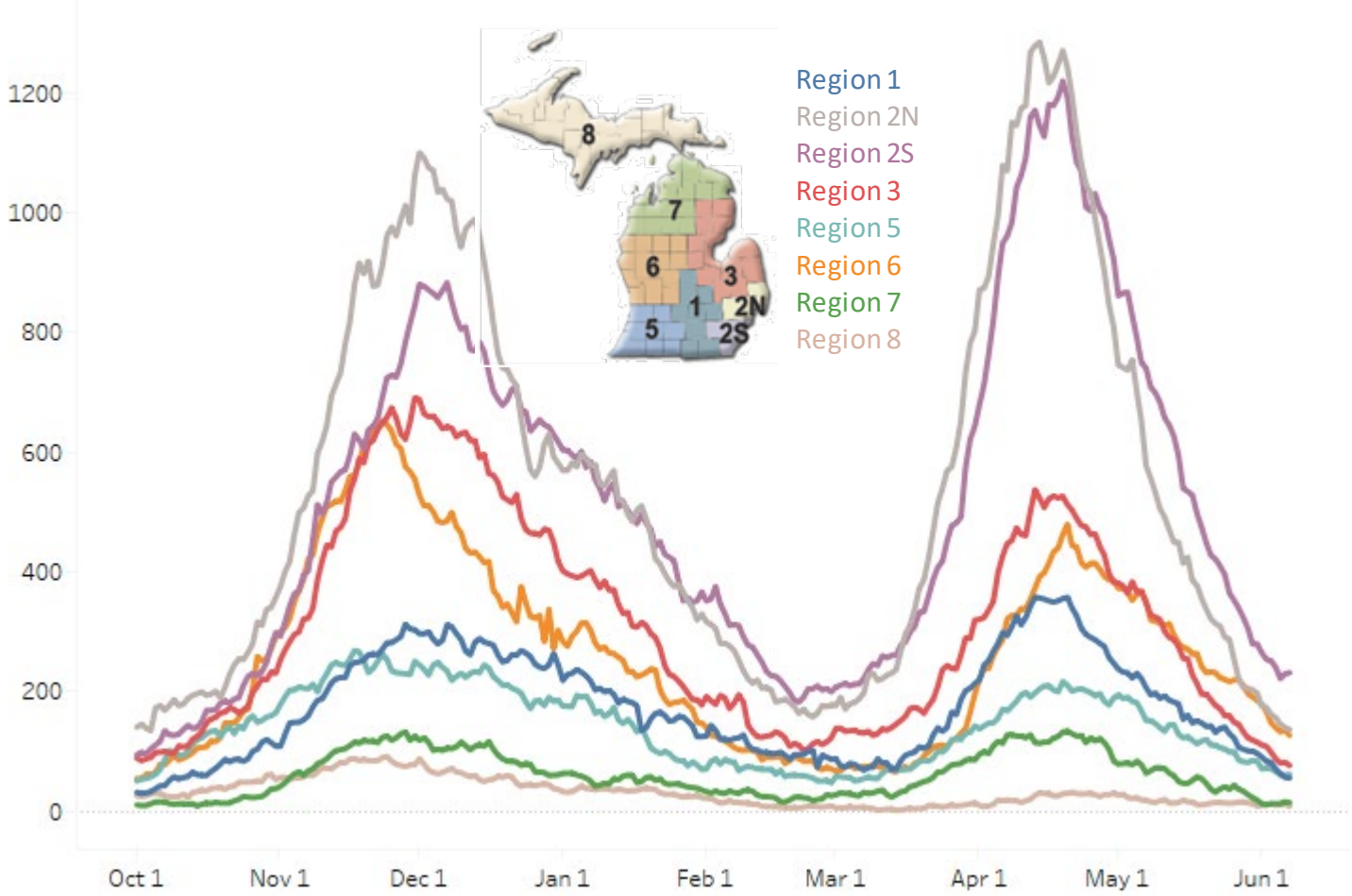
Hospitalizations are now lower than the minimum point of the Feb/Mar 2021 nadir.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 10/1/2020 – 6/7/2021
Confirmed Positive by Region

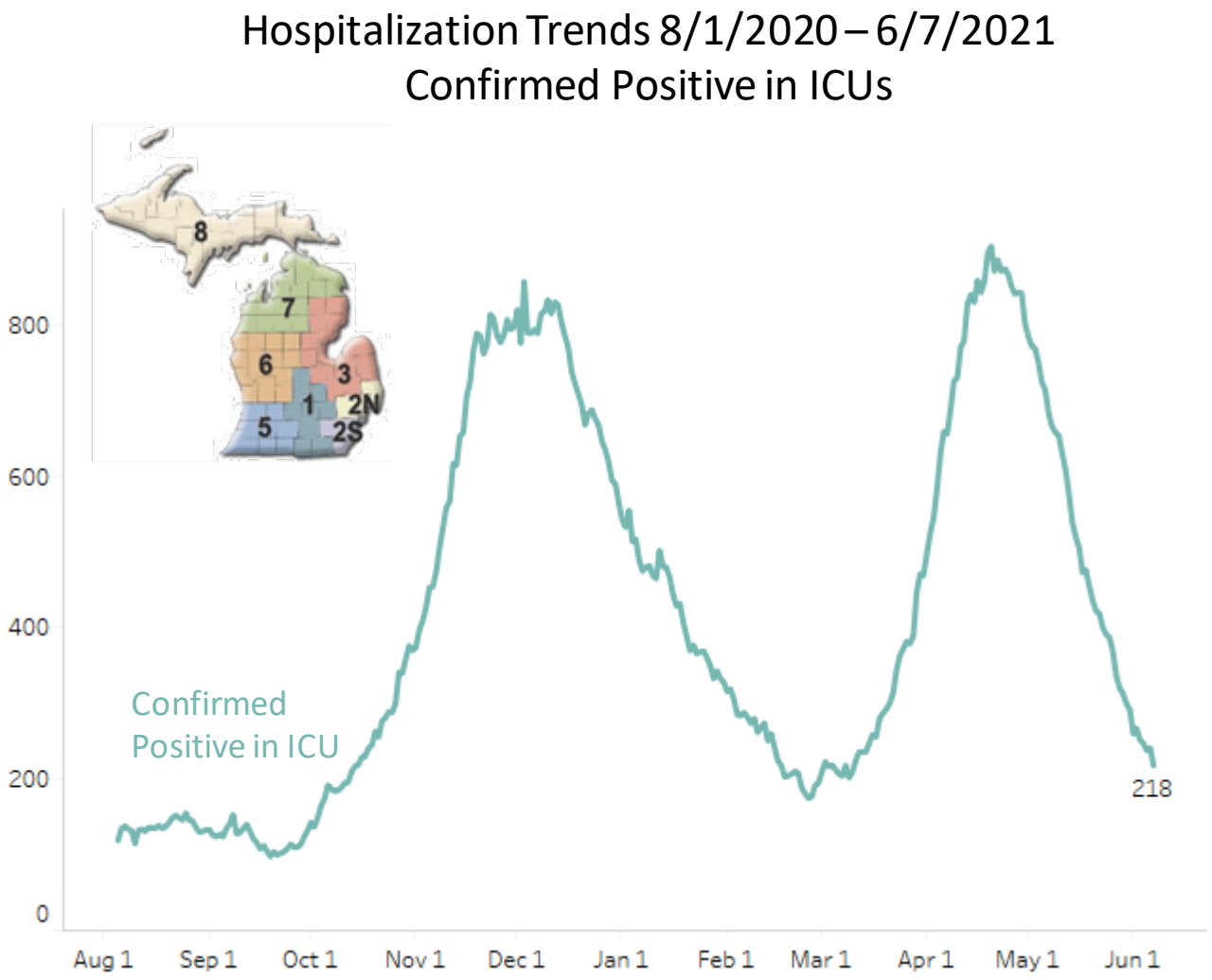


All regions show decreasing or flat hospitalization trends this week.

All regions are now below 100/M hospitalized, with the exception of Region 2S, which is just slightly above this level.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	55 (-43%)	51/M
Region 2N	136 (-31%)	61/M
Region 2S	231 (-17%)	104/M
Region 3	76 (-34%)	67/M
Region 5	61 (-27%)	64/M
Region 6	126 (-32%)	86/M
Region 7	14 (-22%)	28/M
Region 8	8 (0%)	26/M

Statewide Hospitalization Trends: ICU COVID+ Census



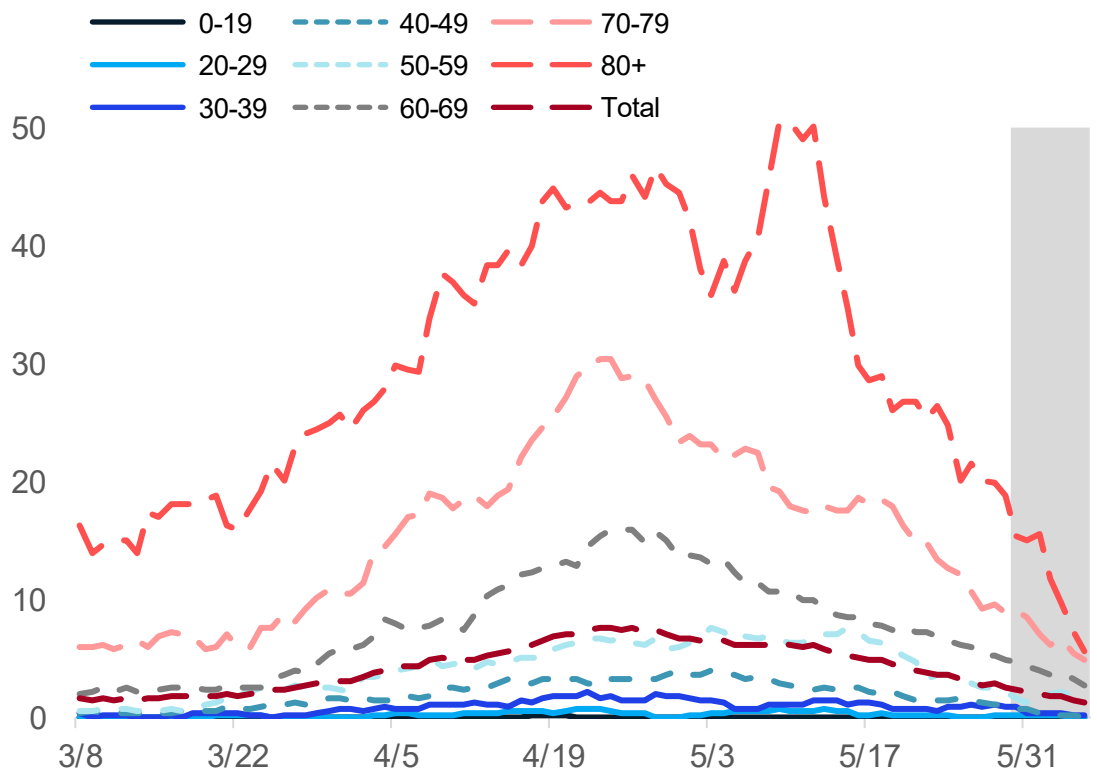
Overall, volume of COVID+ patients in ICUs has decreased 25% from last week, with 7/8 regions showing decreasing ICU census.

All regions except Region 6 have <=10% 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	17 (-37%)	88%	9%
Region 2N	34 (-37%)	78%	6%
Region 2S	69 (-22%)	83%	10%
Region 3	27 (-16%)	87%	8%
Region 5	17 (-29%)	67%	9%
Region 6	42 (-24%)	79%	16%
Region 7	6 (-14%)	65%	3%
Region 8	6 (+50%)	64%	10%

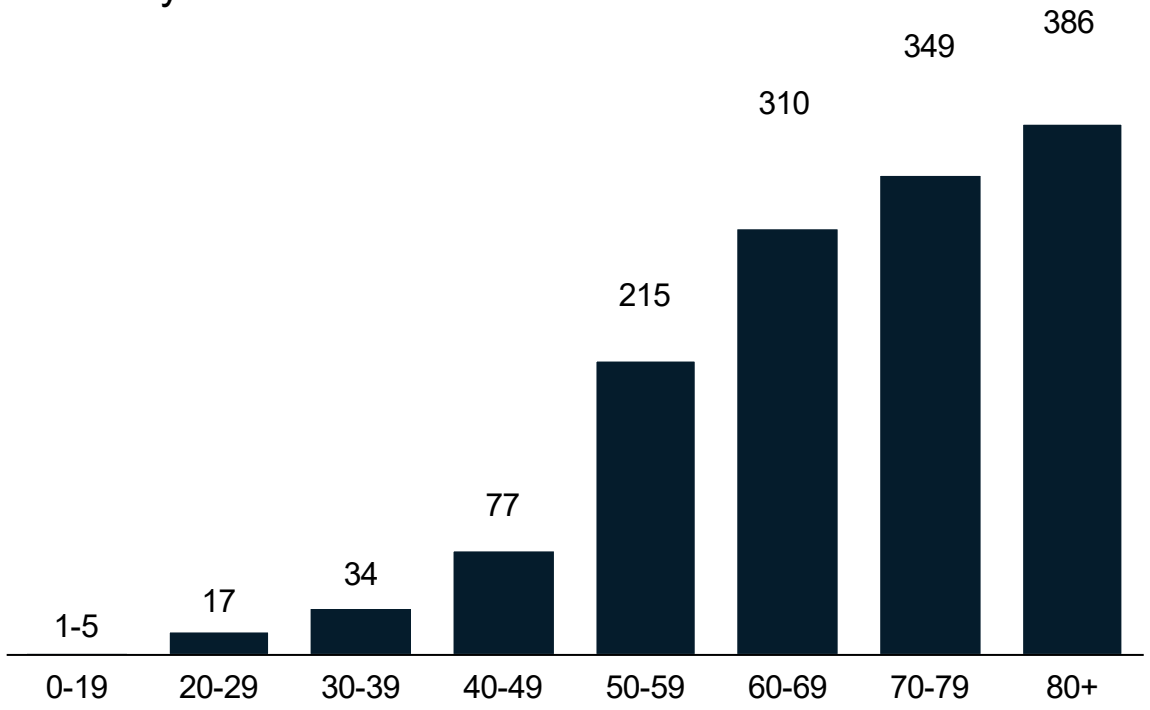
Average and total new deaths, by age group

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 5/29/2021)

- 25% of deaths below age sixty

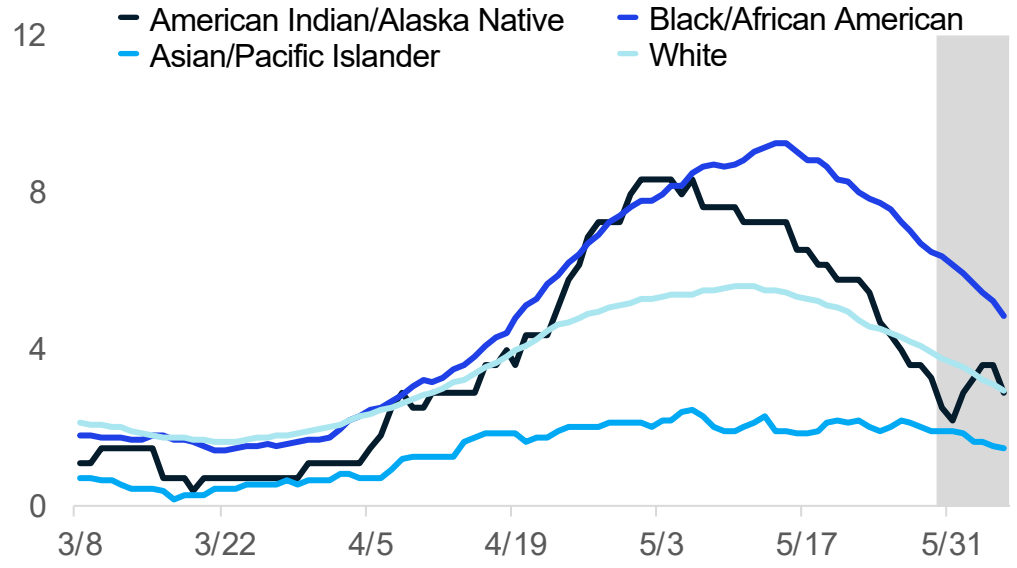


Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.

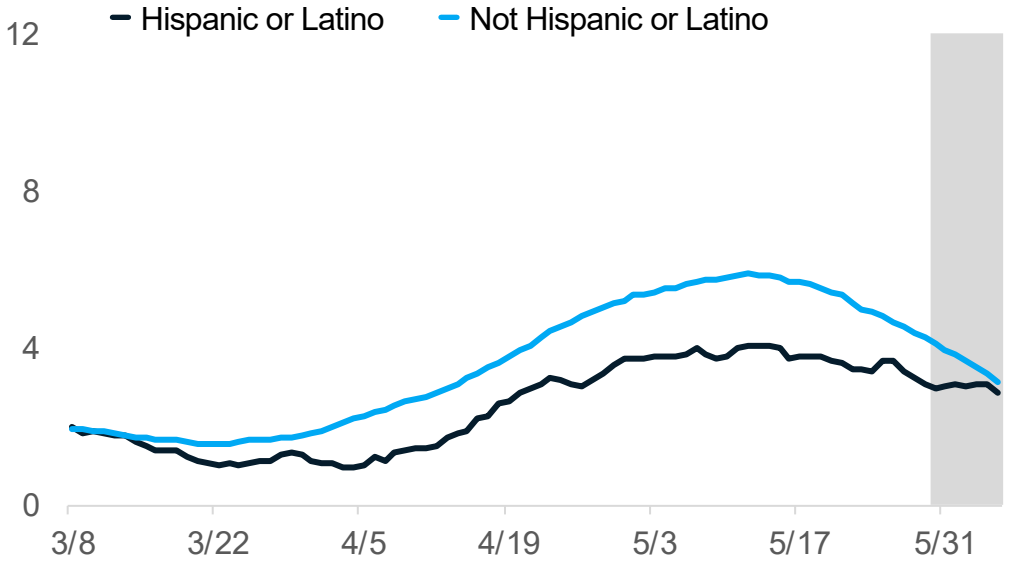
Source: MDHHS – Michigan Disease Surveillance System

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
- All racial and ethnic groups are seeing a decrease or plateau in COVID deaths
- **Blacks and Non-Hispanics/Latinos 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

How is public health capacity?

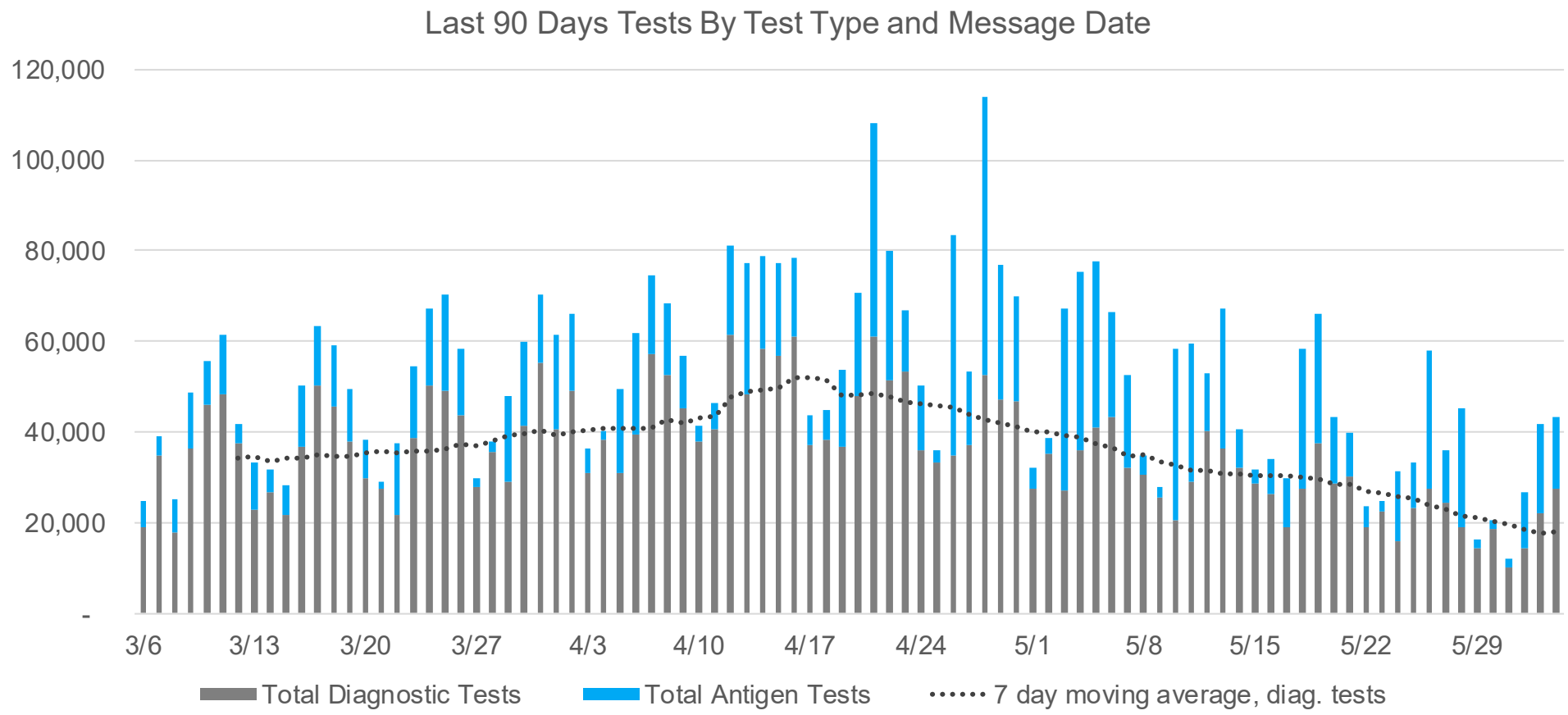
Diagnostic testing volume (PCR and antigen) has decreased from last week

- PCR testing decreased since last week
- Percent of antigen tests has increased since last week

Cases identified for investigations has declined

- Number of cases not investigated this week (1,059) is 45% lower than prior week (1,915)
  - As cases have decreased, the percent of interviews attempted has improved
- Consistent low proportion of cases interviewed with a source of known infection (indicating community acquisition)
- 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

- 29,544 rolling 7-day average daily diagnostic tests reported to MDHHS (PCR + Ag) (↓)
- 18,125 average daily PCR tests (↓)
- 39.0% are antigen tests over the past week (↑)
- 3.4% positivity in PCR tests (↓)

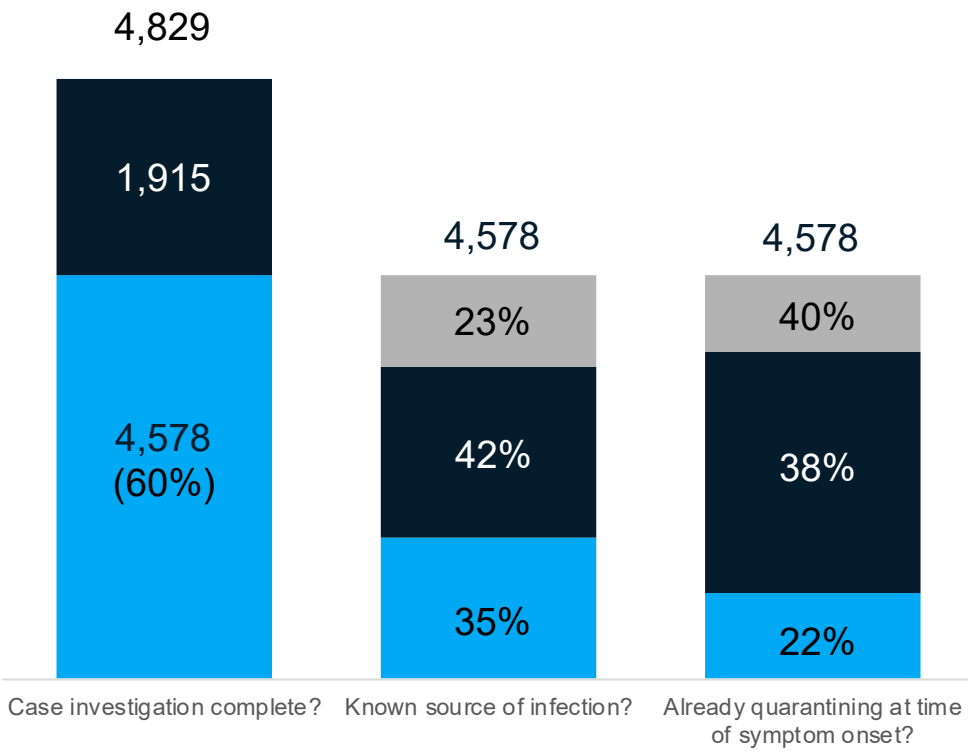
Source: MDSS/Michigan Medical Advantage Group, MDHHS, testing labs

New Case Investigation Metrics (Statewide)

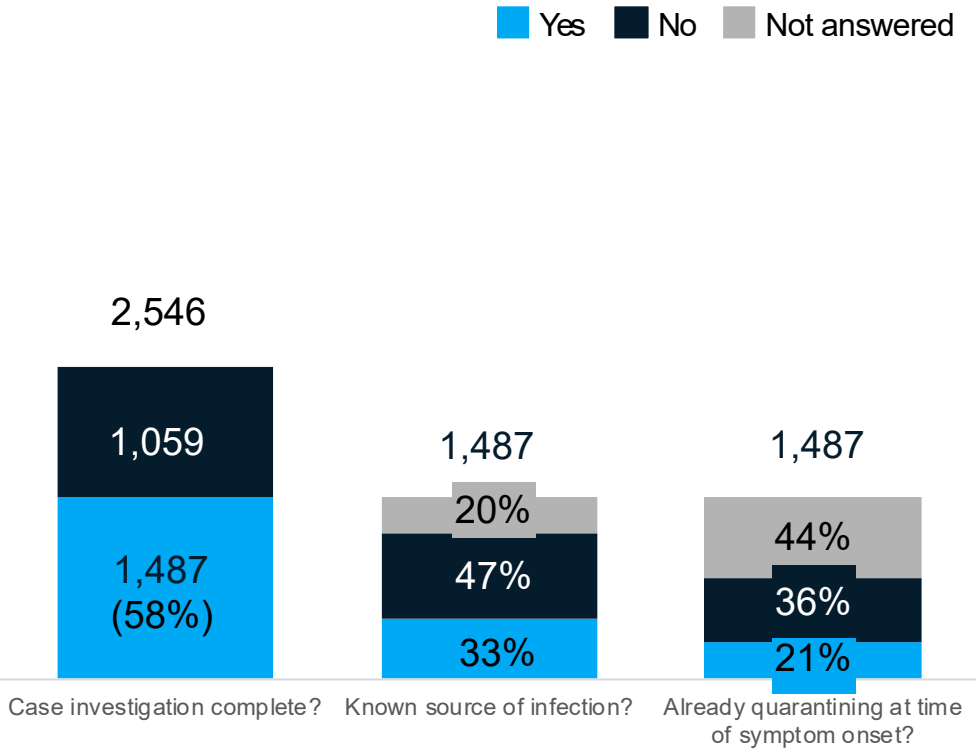
New Communicable Disease metrics this week:

- The percent (58%, ↓2%) of completed interviews decreased from prior week
- Fewer cases identified for investigations (2,546, ↓2,283) have improved from prior week
- 33% of investigated cases having a known source (35% last week, 37% week prior)
- 21% of investigated cases noted that they were quarantining before symptoms (22% last week)

05/22-05/28 Case report form information

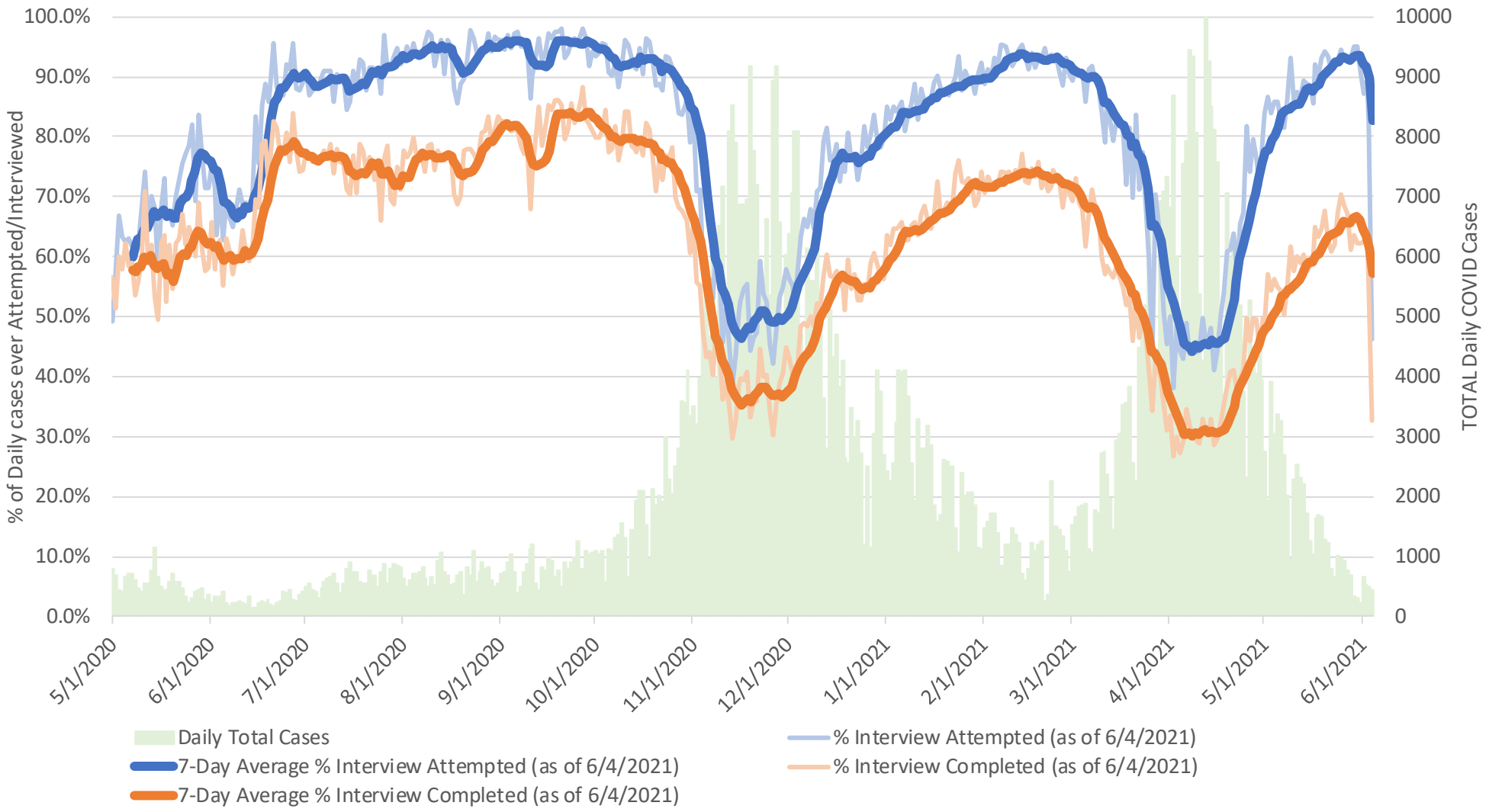


05/29-06/04 Case report form information



Source: MDHHS – Michigan Disease Surveillance System

New Case Investigation Trends (Statewide)



Weekly Update

- Case burden directly impact the feasibility to perform case investigation on everyone
- Recently, case investigators attempt to contact over 90% of COVID-19 cases
- However, only ~65% of case investigations are completed

Source: MDHHS – Michigan Disease Surveillance System; TraceForce

COVID-19 Vaccination

Administration

9th state in doses delivered, first doses provided and number of completed individuals (6/7/21)

78.5% adjusted administration ratio (excluding federal entities, CDC channel portfolio 5/25/2021)

155K doses last week: most frequently by pharmacies, local health departments, and hospitals

Coverage

60.4% of those 18+ have received first dose of vaccine

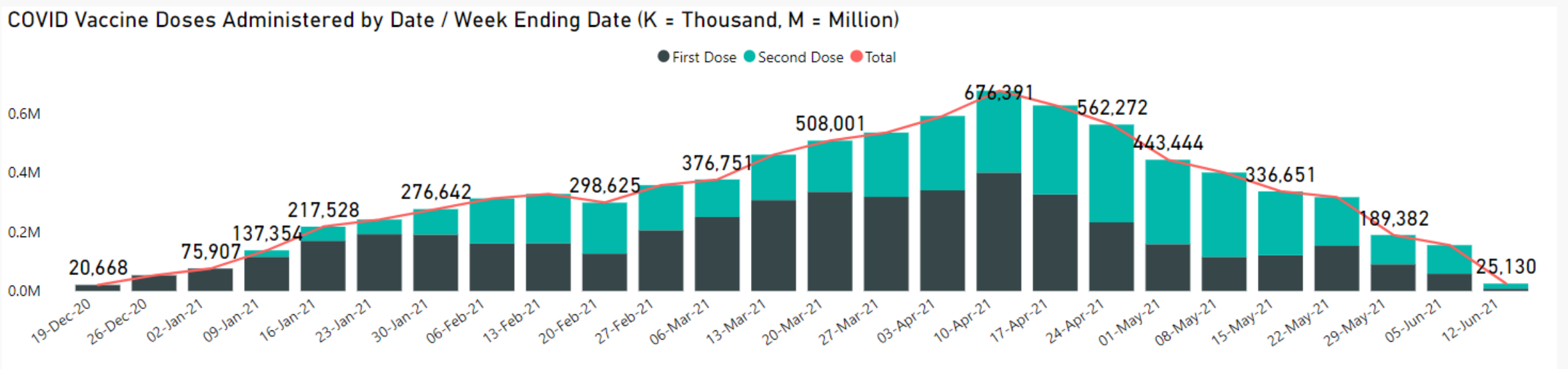
4,220,924 people in Michigan have completed series

70.7% of people aged 50 or older have had first dose; 41.6% of people aged 12-49 (up 1% last week)

Initiation highest among Asian, Native Hawaiian or Pacific Islander and American Indian/Alaskan Native individuals (MI Covid Vaccine Dashboard 6/8/21)

Less than 1% of Vaccinated Individuals Later Tested Positive for COVID-19 (Number of cases who are fully vaccinated (n= 6,187))

Doses Delivered and Administered, and Coverage as of 6/8/21



11,374,440 doses delivered to providers in Michigan
8,848,018 doses Administered (CDC tracker) – MI has detail on 8,524,065

78.4% adjusted administration ratio (excluding federal entities, CDC channel portfolio 5/30/2021) – up 0.4% from last week

- 155,004 doses administered last week (down from 184,135)

In 7 days, doses most frequently provided by
- Pharmacies (115K),
- LHD (23K), and hospitals (18K),
- FQHCs, family practice and pediatricians (5000 or less)

Coverage Demographics as of 6/8/2021

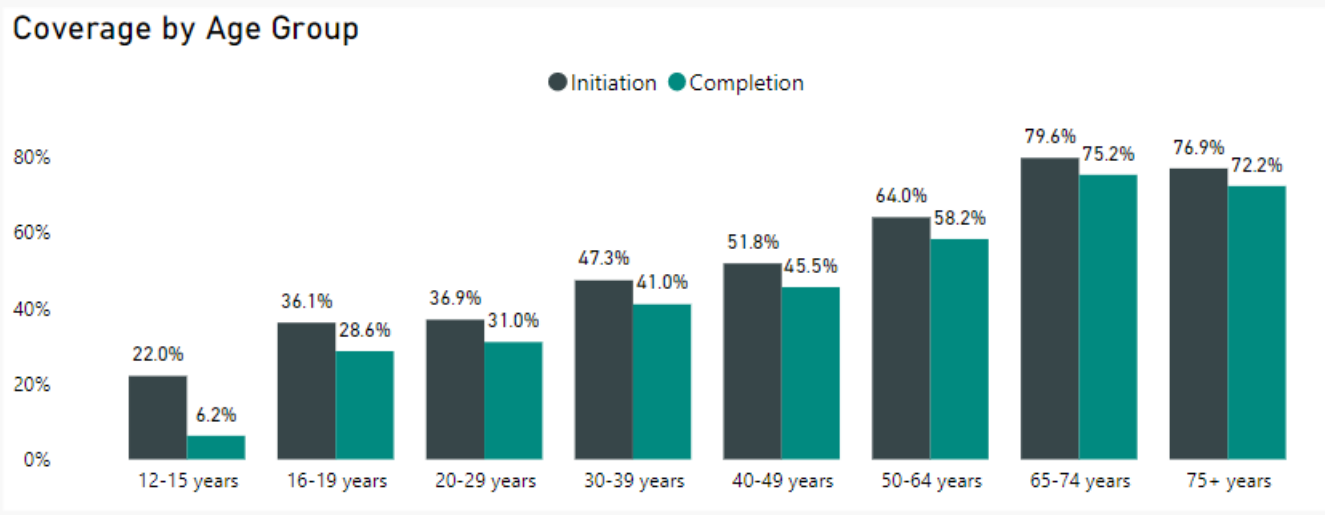
4,220,924 people completed series (CDC) (20K+ people)

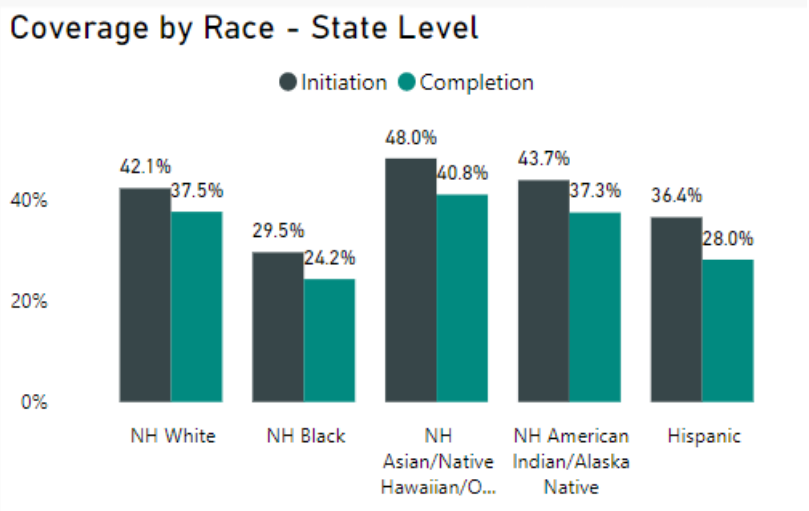
Age Group (Michigan dashboard)

- 41.6% people age 12-49 initiated vaccination (up from 1% last week)
- 70.7% people aged 50 or older have initiated their vaccine series;

Race/Ethnicity for 12 and older: ~1-1.5%

- Initiation coverage highest among those of Asian, Native Hawaiian or Pacific Islander Race then NH (Non-Hispanic) American Indian, NH White, NH Black or African American Races.
- Initiation is at 36.4% for those of Hispanic ethnicity
- 22% data missing or unknown





Source: Michigan Coronavirus Dashboard https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214-547150--,00.html

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 6/2/21):

- 6,747 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 149 deaths (138 persons age 65 years or older)
  - 370 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.

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	α	~50% increased transmission	-	Increased hospitalizations and death	✓
B.1.351	β	~50% increased transmission	Reduced susceptibility to antibody treatment	-	✓
P.1	γ	-	Reduced susceptibility to antibody treatment	-	✓
B.1.427/B.1.429	ε	~20% increased transmissibility	Modest decrease in susceptibility to monoclonal antibody treatment	-	✓
B.1.617.1/B.1.617.2	κ / δ	> 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/

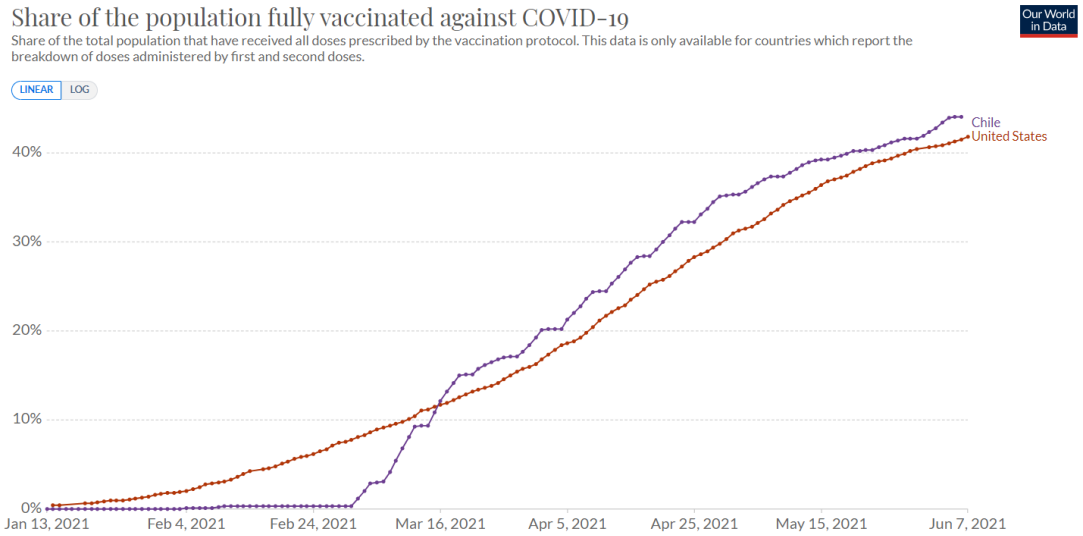
COVID-19 Vaccines and Vaccinations

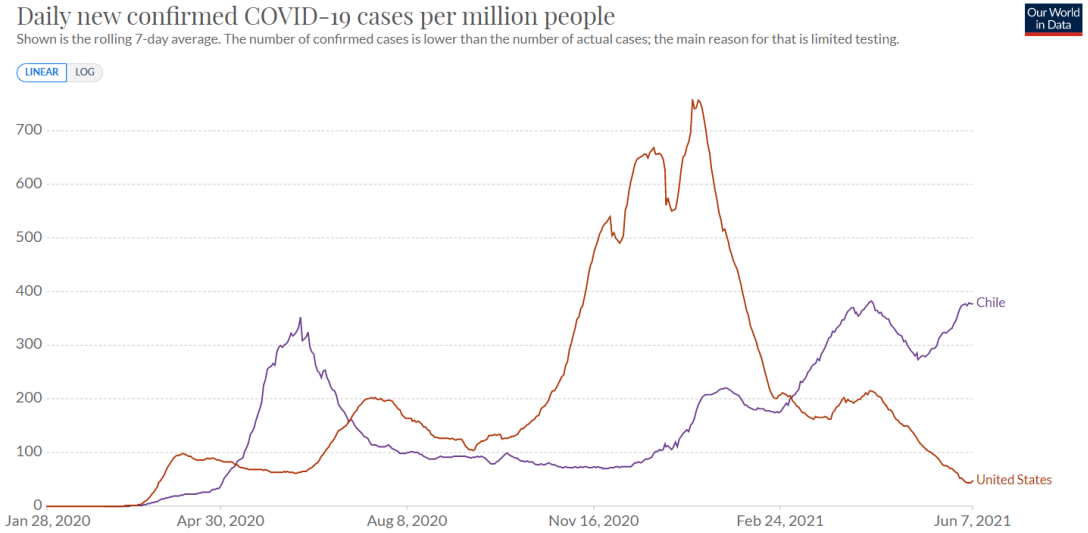
- All COVID-19 vaccines currently authorized in the United States are effective against COVID-19, including serious outcomes like severe disease, hospitalization, and death
- mRNA COVID-19 vaccines (e.g., Pfizer-BioNTech and Moderna) provide protection against a variety of strains
- People fully vaccinated with an mRNA vaccine (Pfizer-BioNTech and Moderna) are less likely to have asymptomatic infection or to transmit SARS-CoV-2 to others
- However, the risk for SARS-CoV-2 infection in fully vaccinated people cannot be completely eliminated as long as there is continued community transmission of the virus
- Limited data on vaccine effectiveness in people who are immunocompromised
  - People with immunocompromising conditions, including those taking immunosuppressive medications, should discuss the need for personal protective measures after vaccination with their healthcare provider

Source: World Health Organization, accessed June 1, 2021. https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/

Vaccination and SARS-CoV-2 Spread – International Comparison

- SARS-CoV-2 correlates with seasonality, with winter months seeing greater surges than summer months
- Nationally, more than 50% of Americans have received at least one dose of the COVID-19 vaccine, and over 40% are fully vaccinated
- Chile is achieving vaccine progress similar to the United States, with nearly 60% of their population receiving at least one COVID-19 dose, and 45% are fully vaccinated
- Chile, as it heads into its winter months in the southern hemisphere, is currently experiencing near 400 cases per million
- The current experience in Chile may not necessarily indicate what would happen in US or Michigan if vaccination coverage plateaus, as differences may be attributed to vaccines used, seroprevalence, and policy

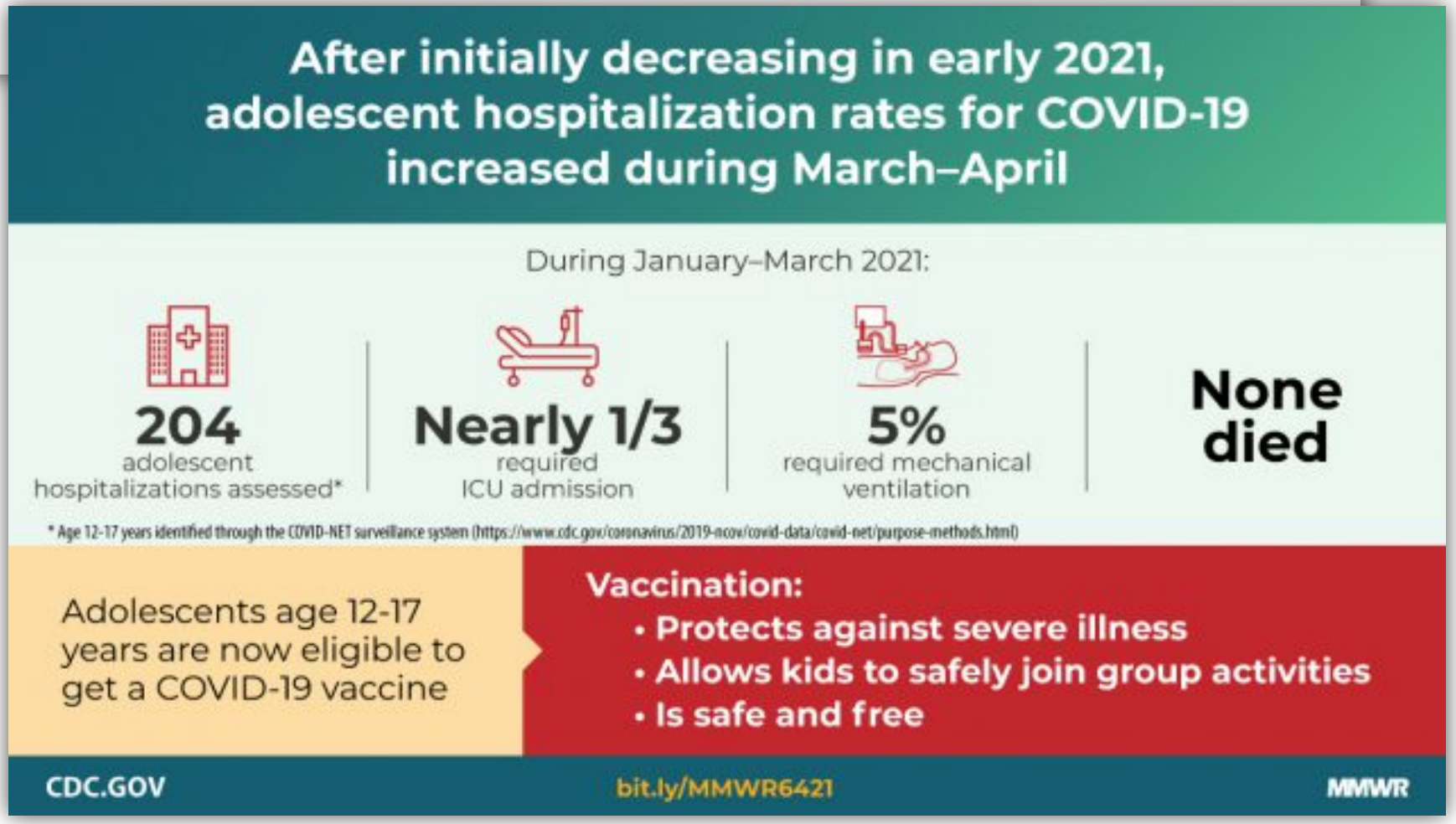




Source: Our World in Data, COVID -19 Pandemic Statistics and Research accessed June 8, 2021. https://ourworldindata.org/coronavirus

Hospitalization of Adolescents Aged 12–17 Years with Laboratory-Confirmed COVID-19 — COVID-NET, 14 States, March 1, 2020–April 24, 2021

Early Release / June 4, 2021 / 70



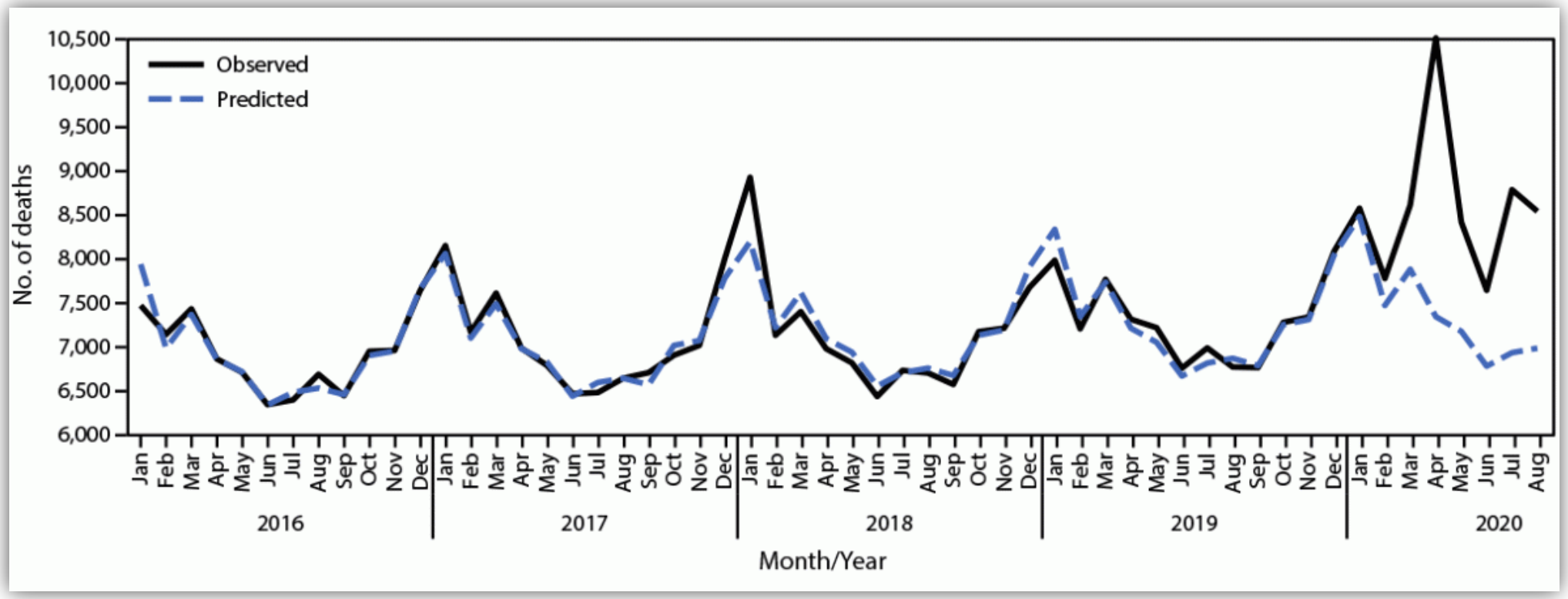
Excess Death Estimates in Patients with End-Stage Renal Disease — United States, February–August 2020

Weekly / June 4, 2021 / 70(22);825–829

On June 1, 2021, this report was posted online as an MMWR *Early Release.*

Over 7 months, 6,953–10,316 excess deaths in ESRD patients (8.7–12.9 per 1,000)

- Unmet need for health services? Increased transmission?
- Varied by geography



Public Health England

Protecting and improving the nation's health

SARS-CoV-2 variants of concern and variants under investigation in England

Technical briefing 14

3 June 2021

Table 1. Variant lineage and designation as of 2 June 2021 (provisionally extinct variants removed)

WHO nomenclature as of 31 May 2021	Pangolin Lineage	Designation	First detected in sequence from	Status
Alpha	B.1.1.7	VOC-20DEC-01	UK	VOC
Beta	B.1.351	VOC-20DEC-02	South Africa	VOC
Gamma	P.1	VOC-21JAN-02	Japan ex Brazil	VOC
	B1.1.7 with E484K	VOC-21FEB-02	UK	VOC
Delta	B.1.617.2	VOC-21APR-02	India	VOC

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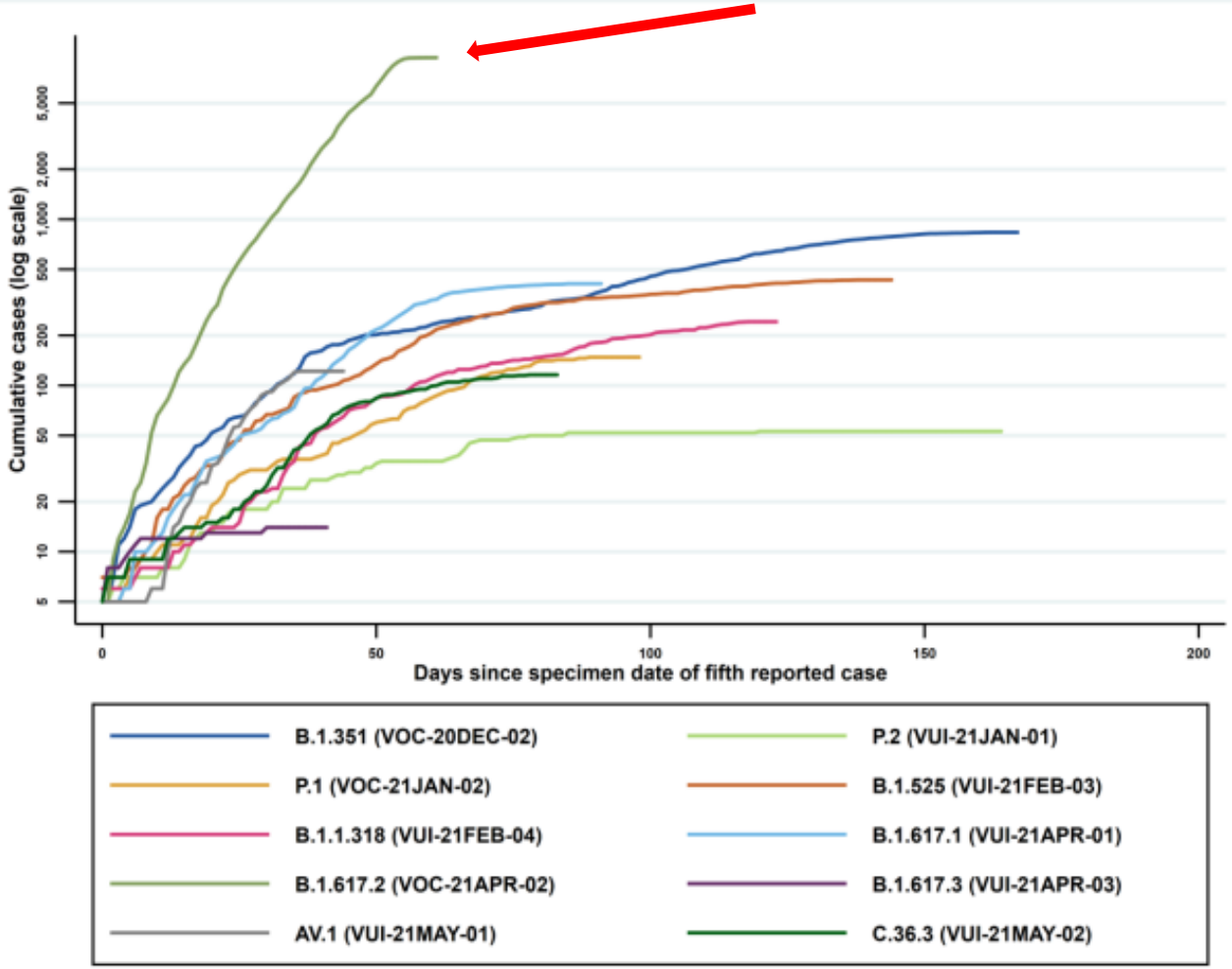
3 June 2021

Delta versus Alpha

- Growth rates are higher
- Spreading more easily
- Increased risk of hospitalization

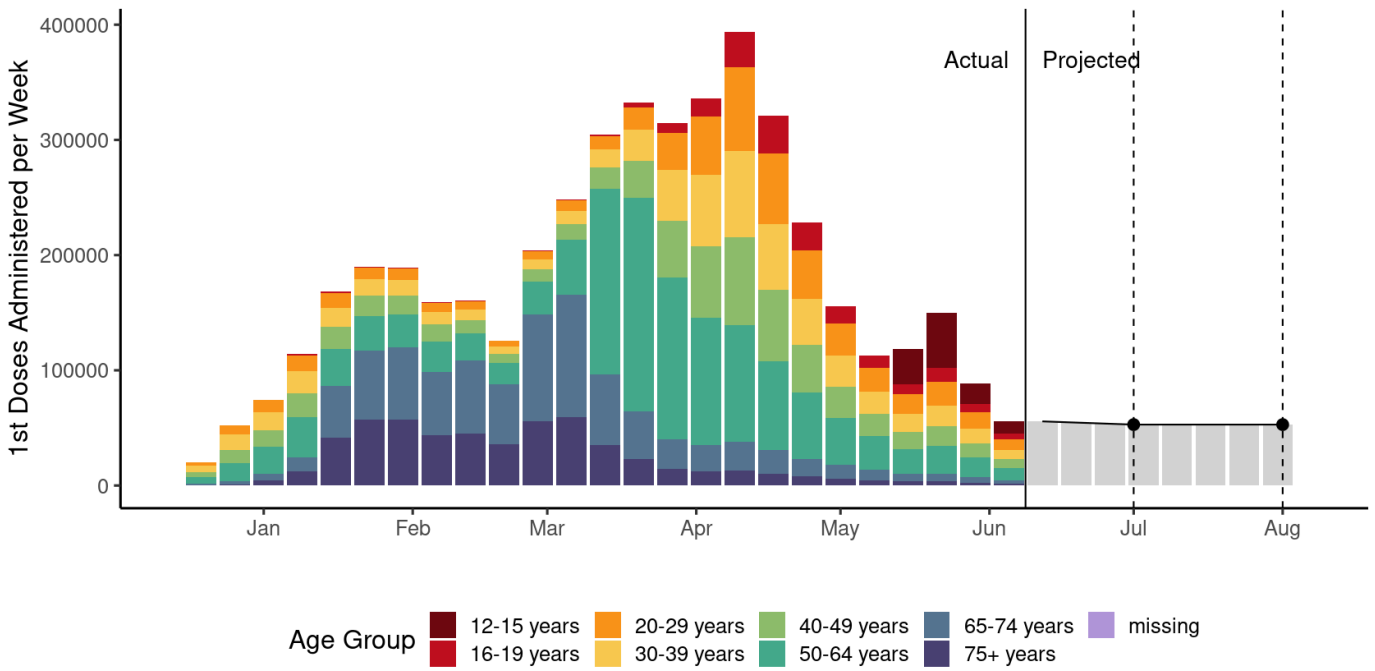
- in the week commencing 17 May 2021, the most recent week where sequencing data are complete, 61% of sequenced cases are Delta
- growth rates using genomic and S gene target data continue to show a substantially increased growth rate for Delta compared to Alpha
- secondary attack rates have been iterated and remain higher for Delta than Alpha in both traveller and non-traveller cases and amongst both household and non-household contacts
- early data from both England and Scotland suggest an increased risk of hospitalisation with Delta compared to Alpha; confirmatory analyses are required
- new data on outbreaks managed by health protection teams and exposure settings identified through contact tracing are included
- the vaccine effectiveness analysis is being further updated and reviewed at present and no new estimates are provided this week

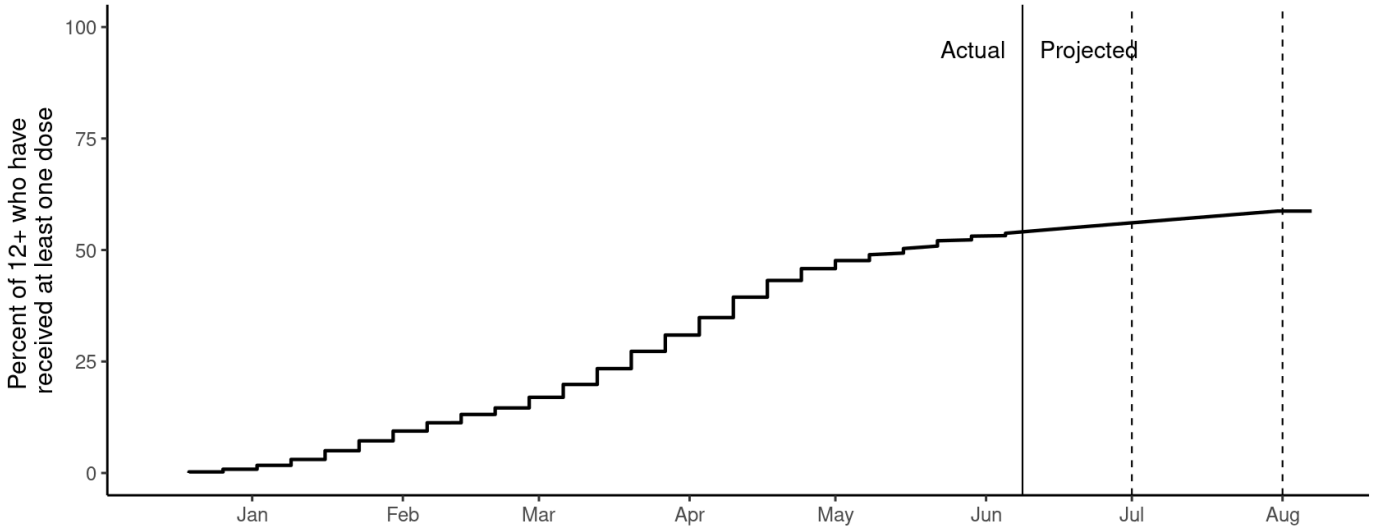
Figure 2. Cumulative cases in England of variants indexed by days since the fifth reported, data as of 31 May 2021
(Find accessible data used in this graph in underlying data).
Figure 2 demonstrates the rapid identification of Delta cases over a short period of time.

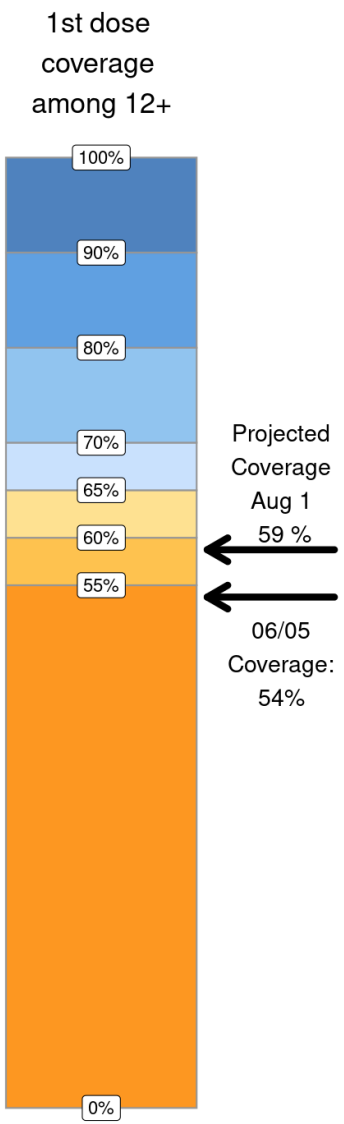


How might vaccination levels change through the summer?

- If 1st doses/week stay the same as last week, expect ~60% 1st dose coverage by August 1
- Sooner if 1st doses/week return to previous weeks levels
- Note that coverage projections are based on MCIR data, which does not include data from Veterans Affairs, Department of Defense, Bureau of Prisons, and most out-of-state providers, so will slightly undercount the total coverage





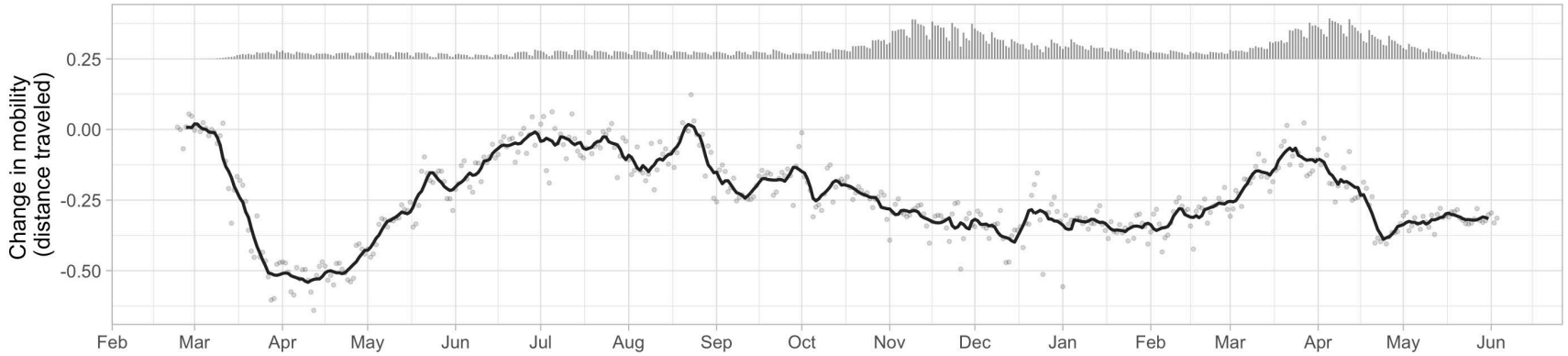


https://dataepi.org/#vaccine-projections

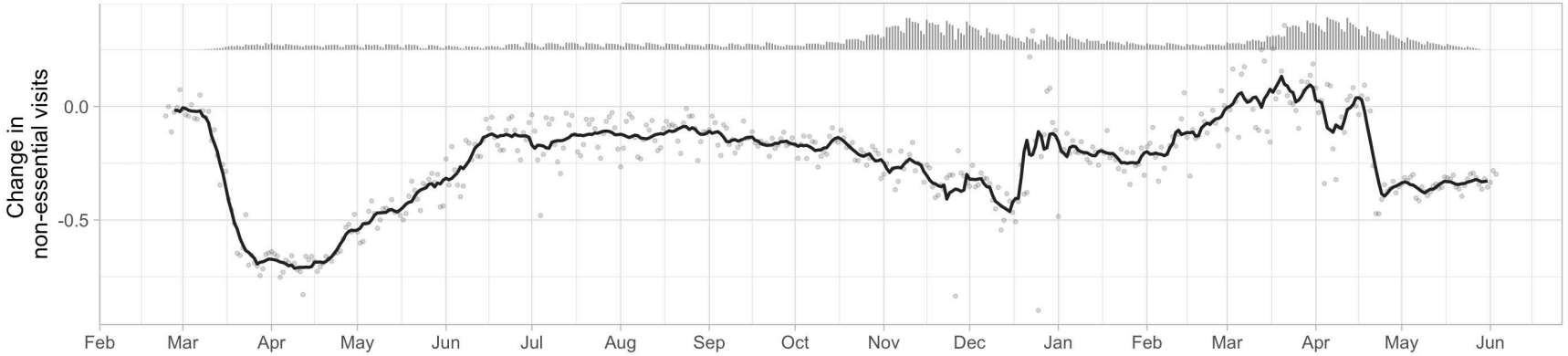
Unacast mobility patterns in MI

- All metrics recently decreased preceding case decreases
- Most recent data appears to be more plateaued at levels similar to winter
- Cases shown as bars at top of each chart
- Data through 6/3/21 (data as of 6/7/21)

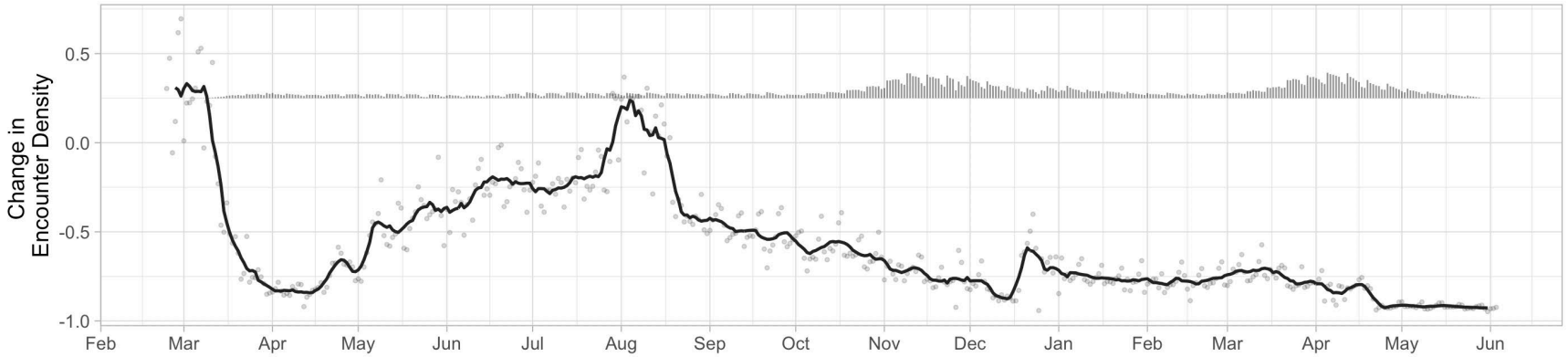
Change in average mobility



Change in non-essential visits



Difference in encounter density



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