MI COVID RESPONSE DATA AND MODELING UPDATE

November 2, 2021

Executive Summary

Michigan remains at <u>High Transmission</u>

Percent positivity (11.6%) is plateaued over the last few week (11.4% last week) as shown in the trend graphs

Case rate (283.8 cases/million) is decreasing for about 2 weeks (312.8 cases/million prior week)

  Longer backfill times are impacting trend numbers and weekly comparisons for cases by onset date

  In the last 7 days, no other states/territories/jurisdictions reported more cases than Michigan (this week rank: highest; 3rd highest last week), and Michigan case rate is 12th highest nationally (11th highest last week)

  Cases among pediatric populations have declined since last week

Percent of inpatient beds occupied by individuals with COVID (10.55%) is increasing for 15 weeks (up from 10.45% last week)

  Michigan has 14th highest inpatient bed utilization (13th highest last week) and 14th highest adult ICU bed utilization (14th highest last week)

  Number of pediatric hospitalizations increased since last week

Death rate (4.7 deaths/million) is increasing for four weeks (4.0 last week). There were 325 COVID deaths between Oct 19-Oct 25

  Michigan has the 10th highest number of deaths (18th highest last week), and T35th highest death rate (T37th highest last week) in the last 7 days

7-day average **state testing rate** is plateaued around 3,494.9 tests/million/day. **Daily diagnostic tests (PCR)** is 34.8K per day, and the weekly average for PCR and antigen tests conducted in Michigan is 45.7K.

More than 11.5 million **COVID-19 vaccine** doses administered, 53.5% of the population is fully vaccinated (5.35 million people)

Vaccine rollout for 5-11 occurring this week

Global, National and Michigan Trends

Global and National Comparisons

Globally, 246,819,825 cases and 5,001,932 (Data* through 10/31/21)

- Countries with the highest case count are U.S. (45,971,267), India (34,285,814), and Brazil (21,810,855)
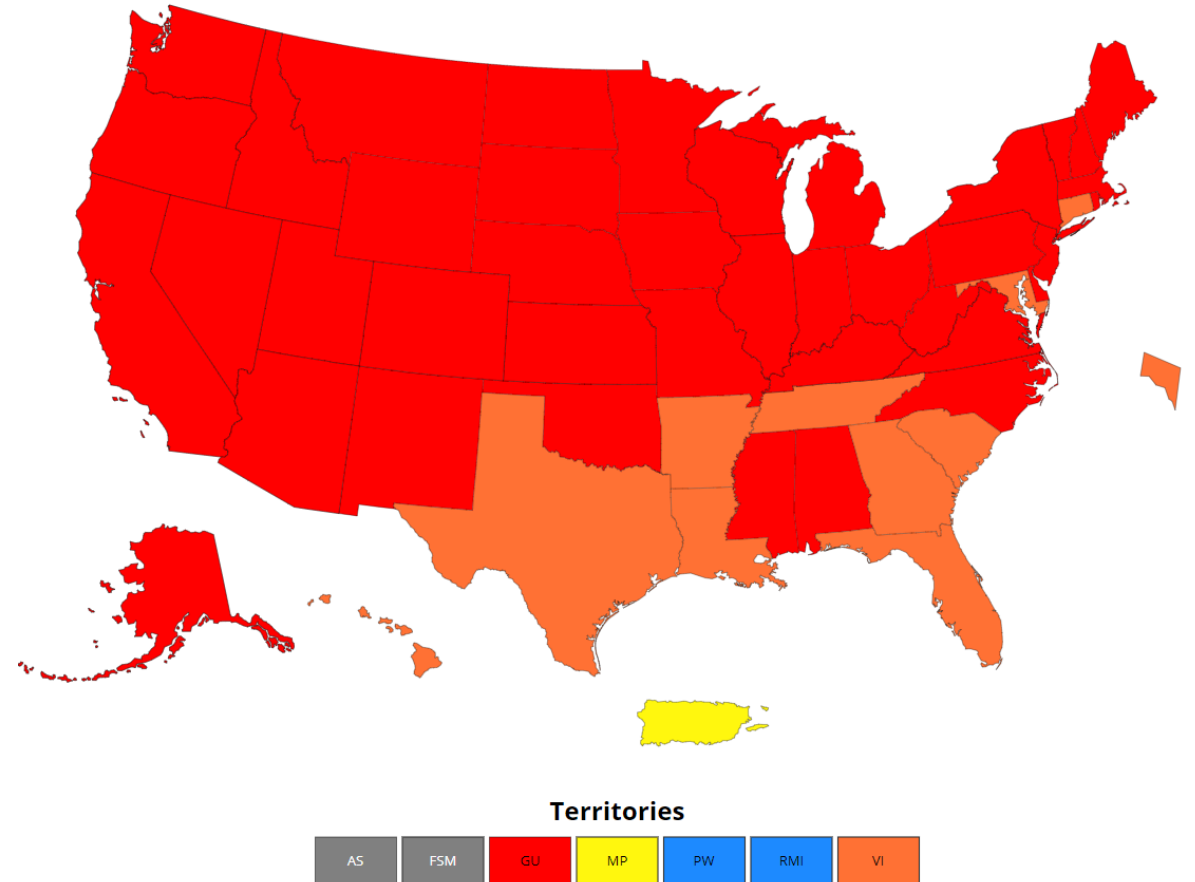
United States: Nearly all US jurisdictions have High or Substantial community transmission¶

- The U.S. is at high transmission level (157.7 cases/100,000 in last 7 days) with 53 states/territories in substantial or high transmission
- Nationally, the 7-day moving average of daily new cases decreased 7.4% compared with previous 7-day moving average
- Percent positivity has decreased from the previous week, now at 4.9%. The number of PCR tests performed has decreased.
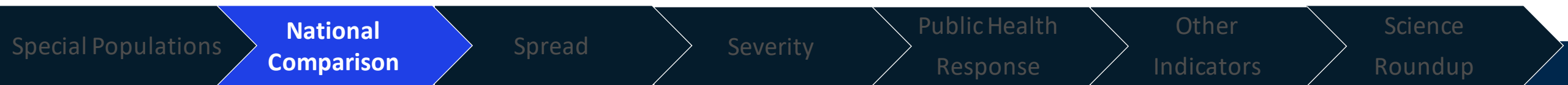- *Michigan case rates are currently higher than U.S. rate*

Midwest states maintain High transmission levels†

- Region 5 showing early signs of increases over last several days
- CDC data tracker shift to only using referral date now
- Michigan ranked in the worst 20 nationally for many core indicators (cases, hospitalization and deaths)

Level of Community Transmission of COVID-19, by State/Territory

Territories
| AS | FSM | GU | MP | PW | RMI | VI |

Special Populations | **National Comparison** | Spread | Severity | Public Health Response | Other Indicators | Science Roundup

Key Messages: COVID-19 Some Transmission Metrics Shift to Declines

Statewide positivity is 11.6% (last week: 11.4%)

- The general trend is a plateau over the past several weeks

- Positivity is increasing again in half of the MERC regions

- Positivity in four regions is above 15%

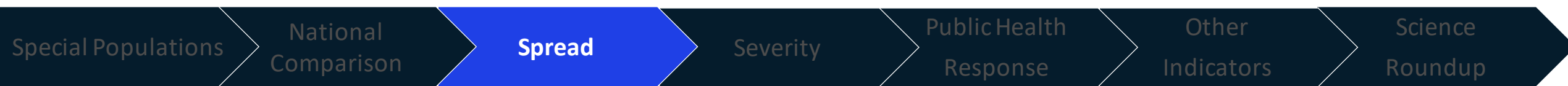**Case rate has decreased to 283.8 cases/million (last week: 312.8 cases/million)**

- Longer backfill times are impacting trend numbers and weekly comparisons for cases by onset date
- Decreasing now for about 2 weeks
- Cases per million are declining in all MERC regions
- Cases per million are declining among all age groups
- 10-19-years-olds are experiencing the greatest case burden (515 daily cases; 410.4 cases/mil)

Michigan is at High Transmission level

- All counties in Michigan are at high transmission level

- CDC recommends all individuals, regardless of vaccination status, should mask indoors

Number of <u>active</u> outbreaks is up 4% from last week

- 195 <u>new</u> outbreaks were identified in the past week, which is up from 137 <u>new</u> outbreaks reported last week
- K-12 reported the most <u>total</u> outbreaks and clusters (493) and <u>new</u> outbreaks (100) this week
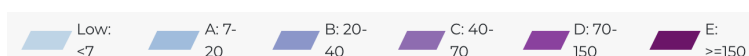
Confirmed and probable case indicators

Table Date: 11/1/2021 (7 days from date table was produced: 10/25/2021)
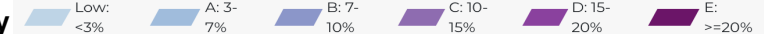
Risk levels

Low | A | B | C | D | E
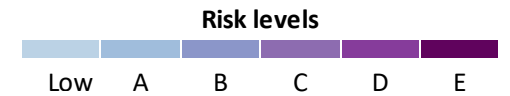
	CDC Transmission Risk Level	Absolute Cases (per million)	CDC Case Trend	Average Percent Positivity	Positivity Trend	Tests (per million)	% IP Beds Occupied by COVID-19 Cases	% Occupied IP Beds Trend	Absolute Deaths (per million)	Death Trend
Detroit	High	230.3	decline [15 days]	8.5	Decrease - 2wk	3836.1	9.1	Increase - 15wk	3.5	Decrease - 1wk
Grand Rapids	High	347.2	decline [16 days]	17.2	Increase - 1wk	3279.8	13.5	Increase - 1wk	4.4	Increase - 2wk
Kalamazoo	High	283.5	decline [18 days]	14.4	Increase - 1wk	2826.5	11.9	Decrease - 1wk	4.8	Increase - 3wk
Saginaw	High	396.1	decline [16 days]	17.3	Increase - 1wk	2885.4	11.2	Decrease - 1wk	9.6	Increase - 5wk
Lansing	High	304.9	decline [17 days]	14.0	Increase - 1wk	2683.0	13.7	Decrease - 1wk	5.4	<20 wkly deaths
Traverse City	High	349.0	decline [16 days]	15.3	Decrease - 2wk	2406.3	12.3	Increase - 6wk	7.4	Increase - 1wk
Jackson	High	410.8	decline [10 days]	17.7	Decrease - 1wk	3232.5	20.4	Increase - 1wk	7.5	<20 wkly deaths
Upper Peninsula	High	404.4	decline [23 days]	14.1	Decrease - 3wk	2863.2	9.2	Decrease - 2wk	8.0	<20 wkly deaths
Michigan	High	283.8	decline [16 days]	11.6	Decrease - 2wk*	3494.9	10.5	Increase - 15wk	4.7	Increase - 4wk

* Positivity uses a linear trend indicator comparing two dates, visually, positivity is plateaued (shown on next slide)

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% |

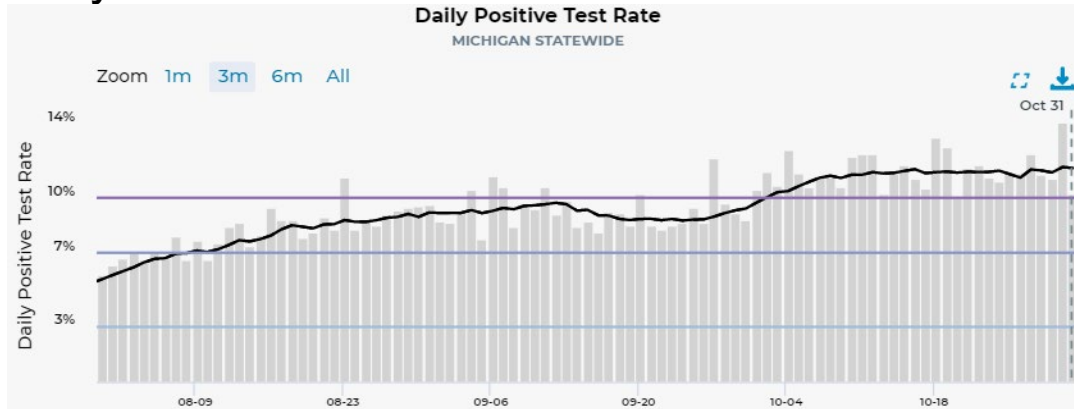Special Populations | National Comparison | **Spread** | Severity | Public Health Response | Other Indicators | Science Roundup
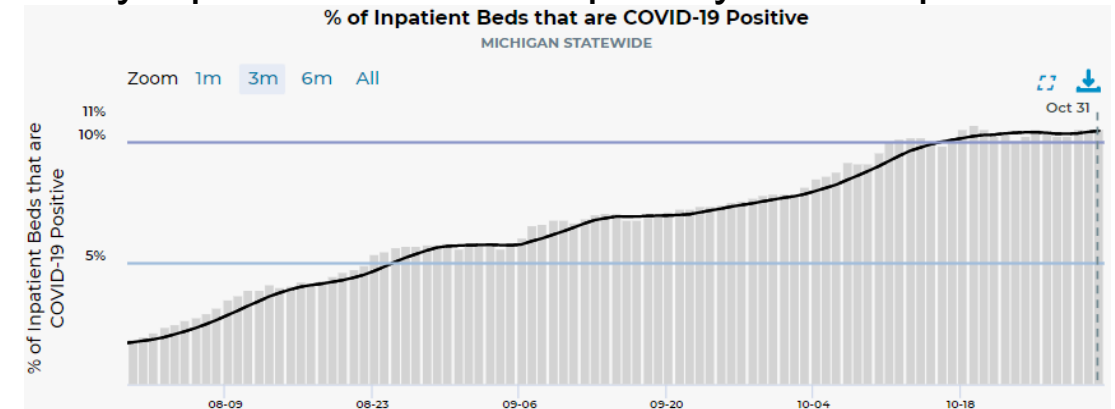
Time Trends – Positivity, Case Rates, Hospitalizations, Deaths

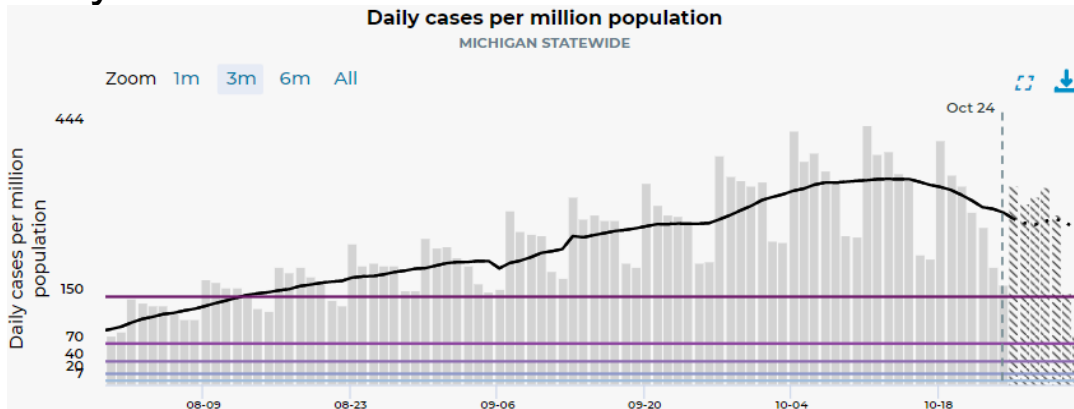➢ Core COVID-19 indicators show that transmission and burden remain high in Michigan
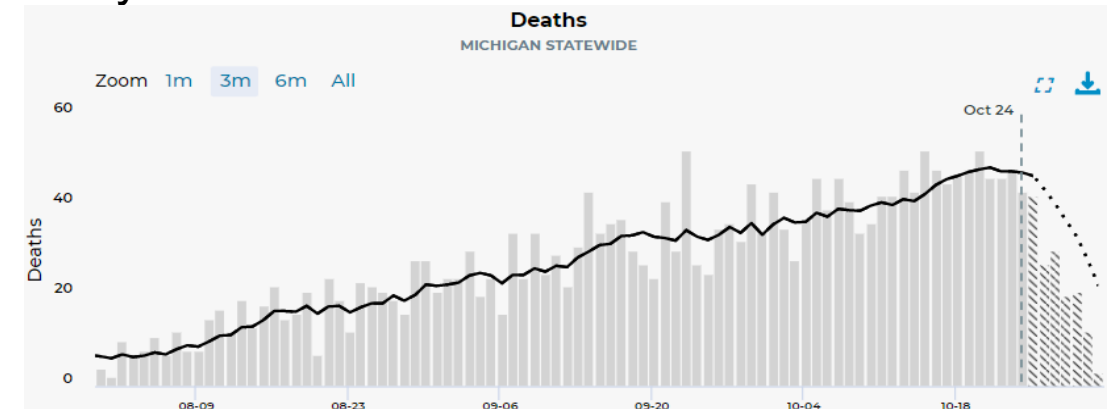
Daily Positive Test Rate

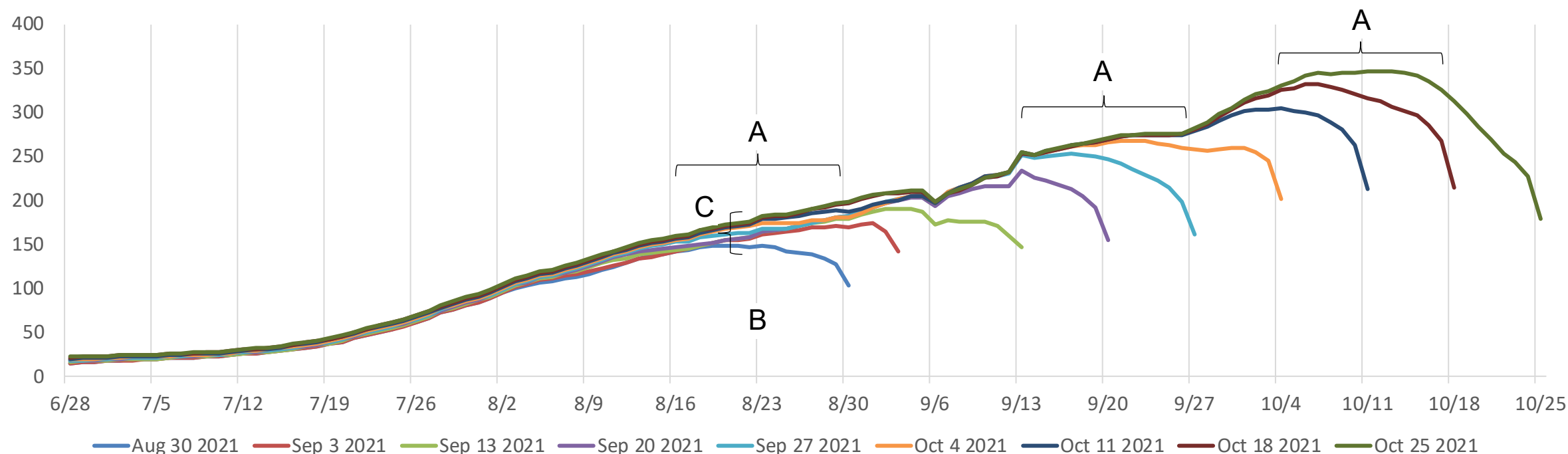## Daily Inpatient Beds Occupied by COVID patients

Daily Case Rate

Daily Deaths

Longer backfill times are delaying reliable daily new confirmed and probable cases per million (7-day rolling average) by more than 7 days

Legend: Aug 30 2021 — Sep 3 2021 — Sep 13 2021 — Sep 20 2021 — Sep 27 2021 — Oct 4 2021 — Oct 11 2021 — Oct 18 2021 — Oct 25 2021

- Each vertical line represents 7 days and, currently, the reporting lag for cases by onset date is 7 days
- Longer backfill times are impacting trend numbers and weekly comparisons as data 7 days prior is further updated 14 days prior [shown in A]
- Data continues to be updated even after 7 days. For example, the **8/23 case rate** was reported to be 148.7 on 8/30 (traditional 7-day lag) but was updated to 162.3 as of 9/3* (10-day lag) and continues to update to 181.9 as of 10/25 (9-week lag) [shown in B]
- Delays in seeking tests and reporting symptoms can result in case rate differences up to 22% or +33.2 cases/million 60-days out [shown in C]

Source: MDHHS – Michigan Disease Surveillance System; * 9/5 was a data holiday due to Labor day so data for that week was based on values from 9/3 daily file

Michigan lag-adjusted new COVID cases by onset date

New confirmed cases by onset actual and adjusted as of November 1, 2021 (-2 days)

- The **gray line** is cases reported as of 11/1 by onset date.
- The **blue line** is the expected adjustment for cases by onset date as data is backfilled
- The increasing delay between onset of symptoms and date of testing means that recent case numbers underestimate the true number of cases
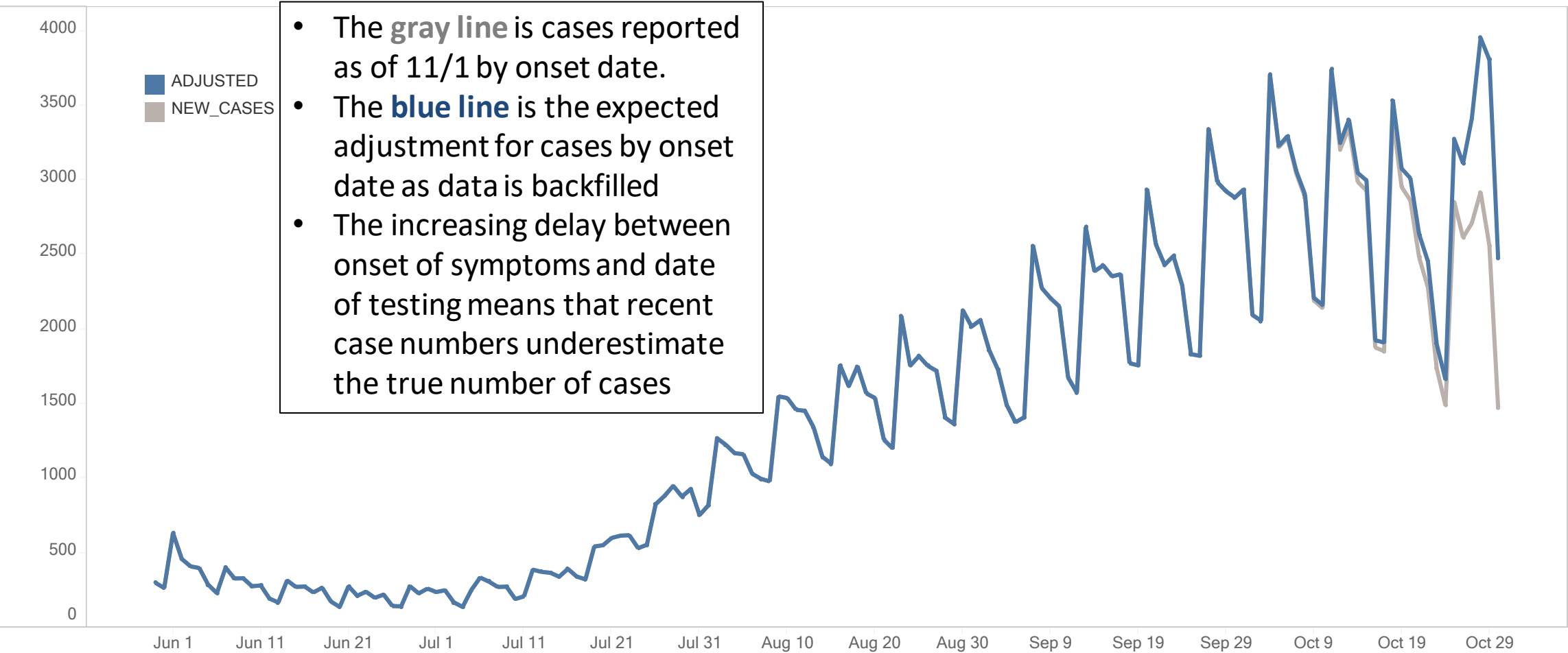
Michigan at High Transmission Level

[Dashboard | CDC | MI Start Map](#) for most recent data by reporting date

Weekly cases per 100,000
MICHIGAN STATEWIDE

Zoom   1m   **3m**   6m   All

Oct 31
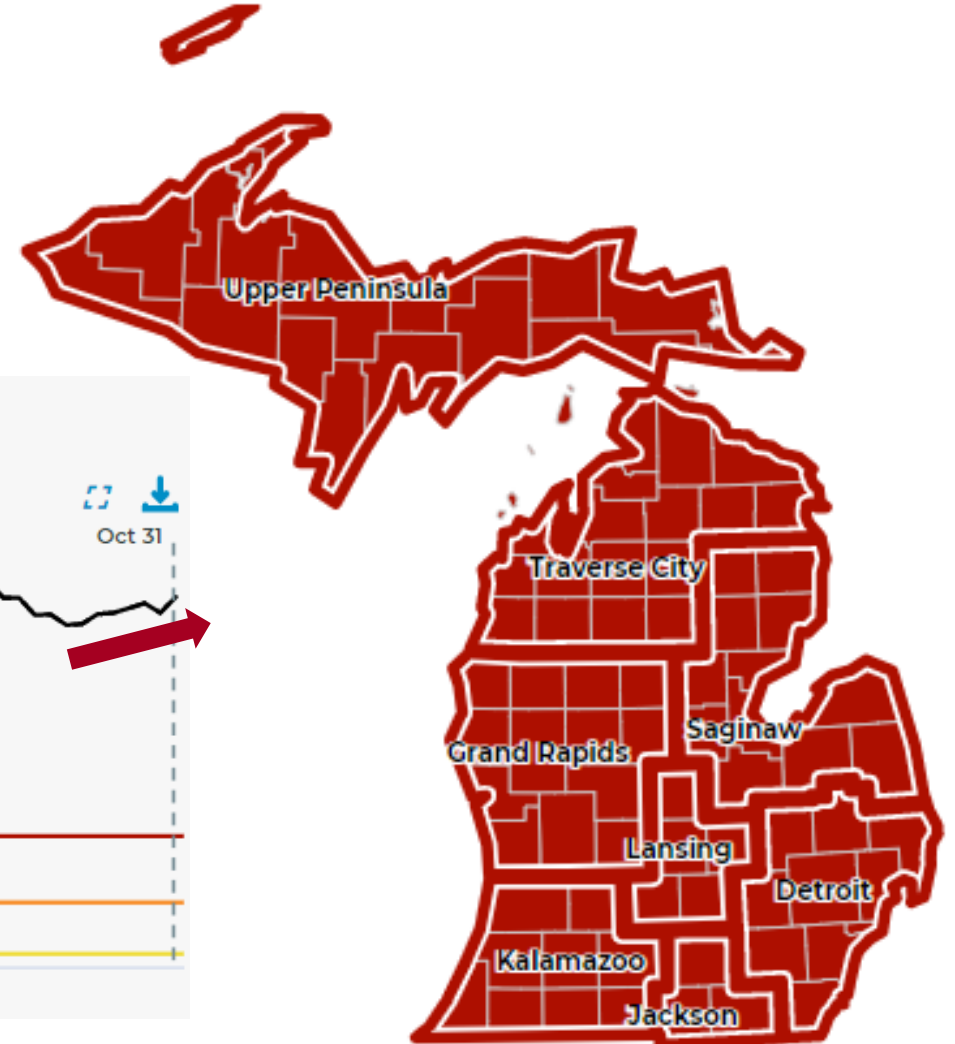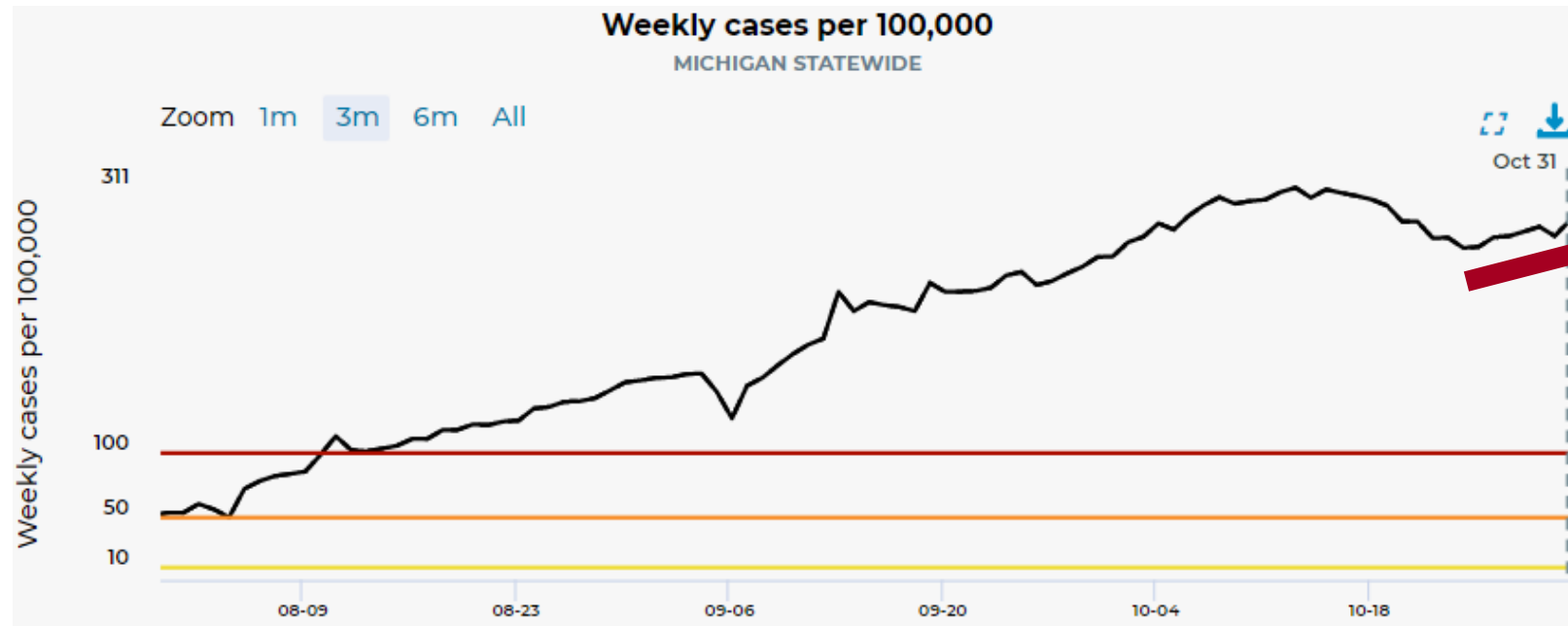
- Most recent data using referral date show increases in case trends (red arrow)
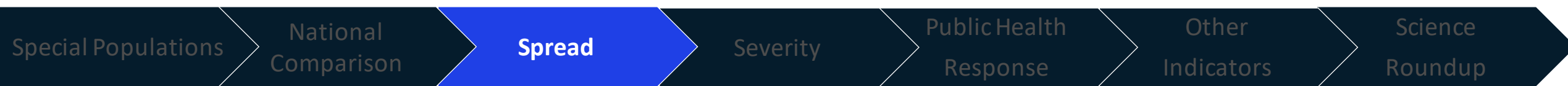
Case Rate Trends by Age Group

Daily new confirmed and probable cases per million by age group (7-day rolling average)
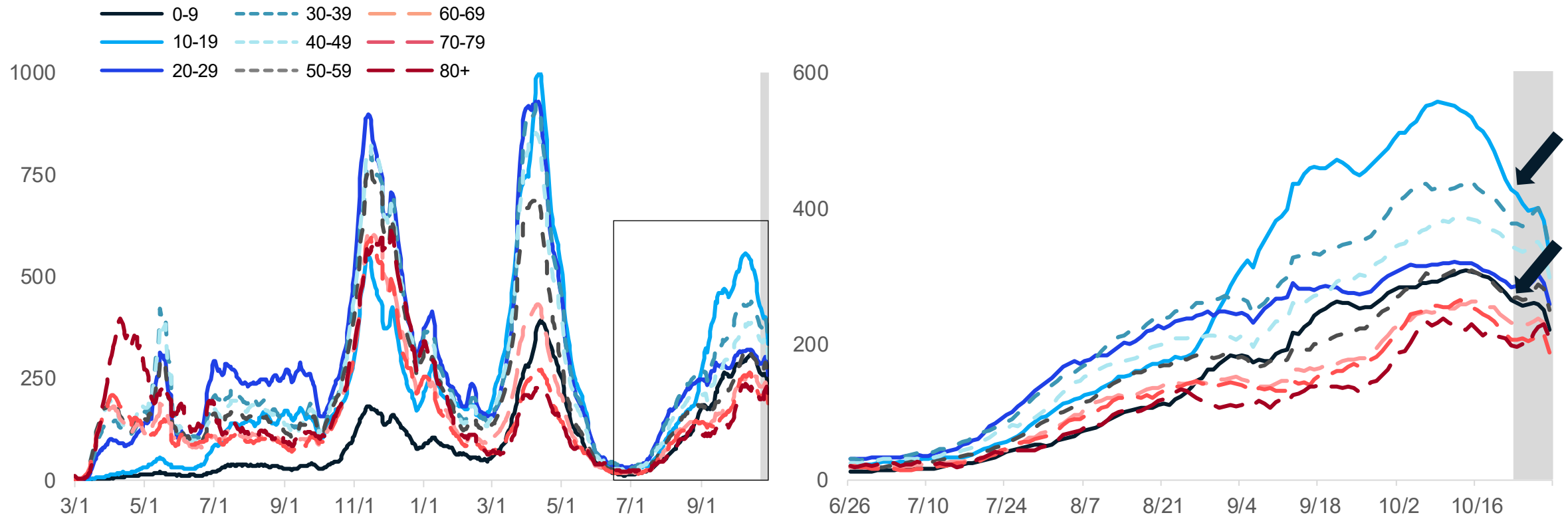
- Case rate trends for all age groups are currently decreasing or plateaued

- Case rates for all age groups are between 178 and 410 cases per million (through 10/25)

- Case rates remain highest for 10-19-year-olds

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

Number of Cases and CaseRates by Age Group, data as of Nov 1

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 #)*
0-9	303.9	263.6	-13% (-45)
10-19	**515.0**	**410.4**	**-19% (-121)**
20-29	371.4	269.2	-13% (-55)
30-39	434.6	**358.2**	-15% (-80)
40-49	379.1	**321.5**	-14% (-61)
50-59	333.0	246.6	-18% (-73)
60-69	269.0	210.9	-18% (-59)
70-79	142.9	186.3	-23% (-43)
80+	73.9	178.3	-19% (-17)
Total¶	**2839.3**	**283.8**	**-16% (-553)**

† Rolling 7-day average; ¶ 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

- **Trend numbers and comparisons are being impacted by longer backfill times – the data in this table are comparing the two time points from the most recent data file**

- Average daily number of cases (515.0) and avg. daily case rate (410.4 case/mil) are highest for those aged 10-19

- Case rates for age groups 10-19, 30-39, and 40-49 are higher than the state

- 52-week low case rates were on June 26, 2021
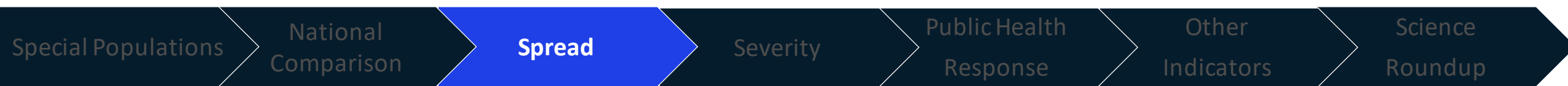
Example of How Backfill is Impacting Case Rates by Age Group

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

Age Group	Oct 18 Avg† Daily Case Rate as of 10/25	One Week % Change (Δ #)*	Oct 18 Avg† Daily Case Rate as of 11/1	One Week % Change (Δ #)*
0-9	276.5	-7% (-45)	302.4	0% (+2)
10-19	465.0	-15% (-121)	506.6	-8% (-59)
20-29	285.6	-10% (-55)	309.3	-3% (-15)
30-39	390.0	-8% (-80)	423.8	-1% (-6)
40-49	343.5	-9% (-61)	373.0	-2% (-10)
50-59	276.6	-8% (-73)	300.8	-1% (-5)
60-69	238.2	-5% (-59)	257.1	2% (+5)
70-79	228.0	-10% (-43)	241.8	-5% (-10)
80+	203.5	-11% (-17)	219.3	-6% (-5)
Total¶	**312.8**	**-10% (-334)**	**338.7**	**-3% (-107)**

* Comparison of 7-day rolling average on 10/18 to that on 10/11
† Rolling 7-day average for Oct 18 through the date displayed in headers
¶ 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

- **Trend numbers and comparisons are being impacted by longer backfill times**
- The data in this table are comparing the Oct 18 case rates to those from Oct 11
  - The first two columns are comparing using the traditional one-week lag (i.e., Oct 25 data file)
  - The last two columns are comparing using a two-week lag (i.e., Nov 1 data file)
- Even after a 1-week lag, case rates by age group increased high enough to shift some trends
- Therefore, caution should be applied when inferring current trends

Time Trends – Annual Comparison

➤ We are heading into the winter months (and holiday season) starting at higher cases rates than last year

7- day rolling average of Rates 2020 vs 2021
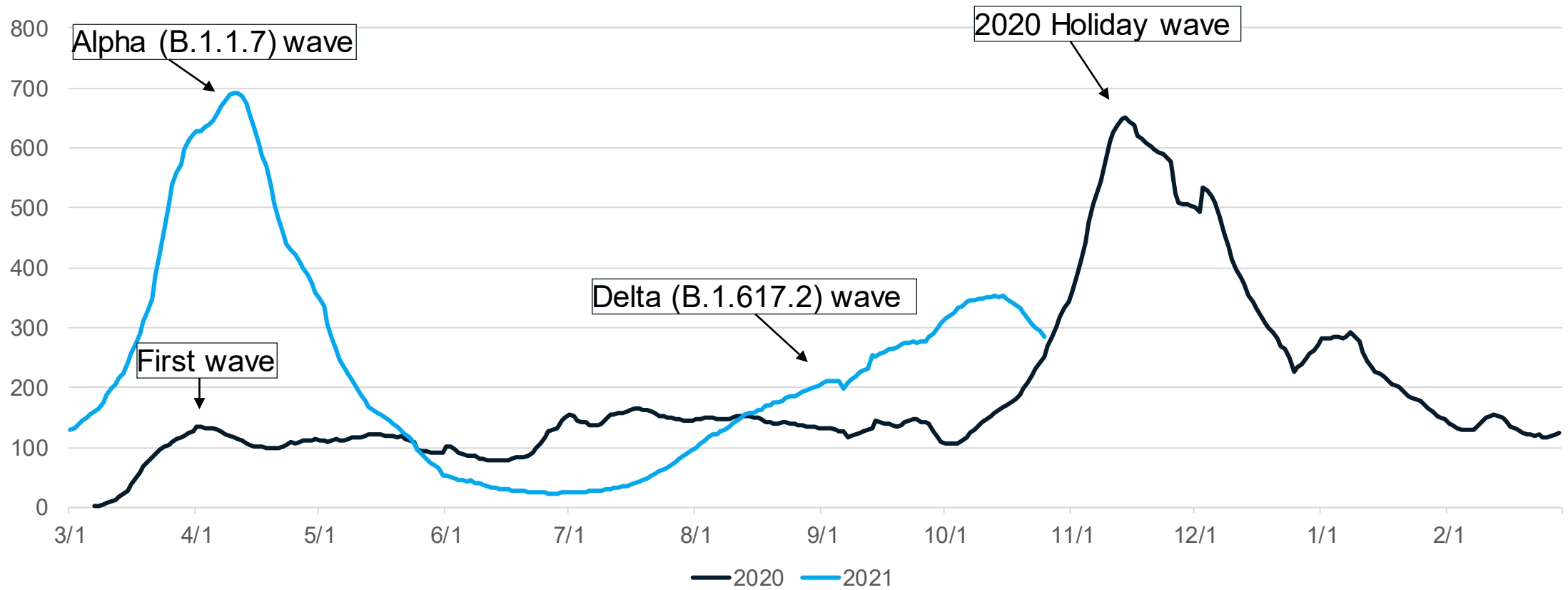
Case Rates by Reported Racial and Ethnic Group

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

Legend:
- American Indian/Alaska Native
- Asian/Pacific Islander
- Black/African American
- White

Race	Case Rate
American Indian/Alaskan Native	273.1
Asian/Pacific Islander	91.4
Black/African American	141.9
White	214.7

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

Legend:
- Hispanic or Latino
- Not Hispanic or Latino

Race	Case Rate
Hispanic/Latino	192.7
Non-Hispanic	200.1
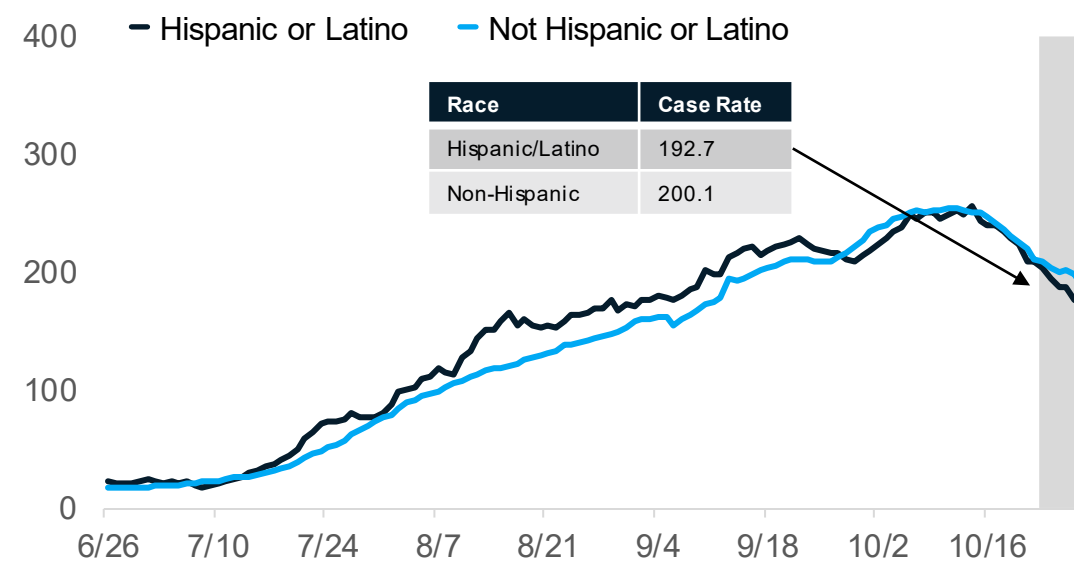
Updates since last week:

- Cases per million are declining or plateaued for most racial and ethnic groups but the delay in reporting is impacting trend analysis

- The high number of cases with missing race/ethnicity data, and those multiracial or other are also impacting the case rates shown here

- **American Indian/Alaskan Native have the highest case rates but are declining**

- In the past 30 days, 25% (↔) of race data and 30% (↔) ethnicity data was either missing or reported as unknown

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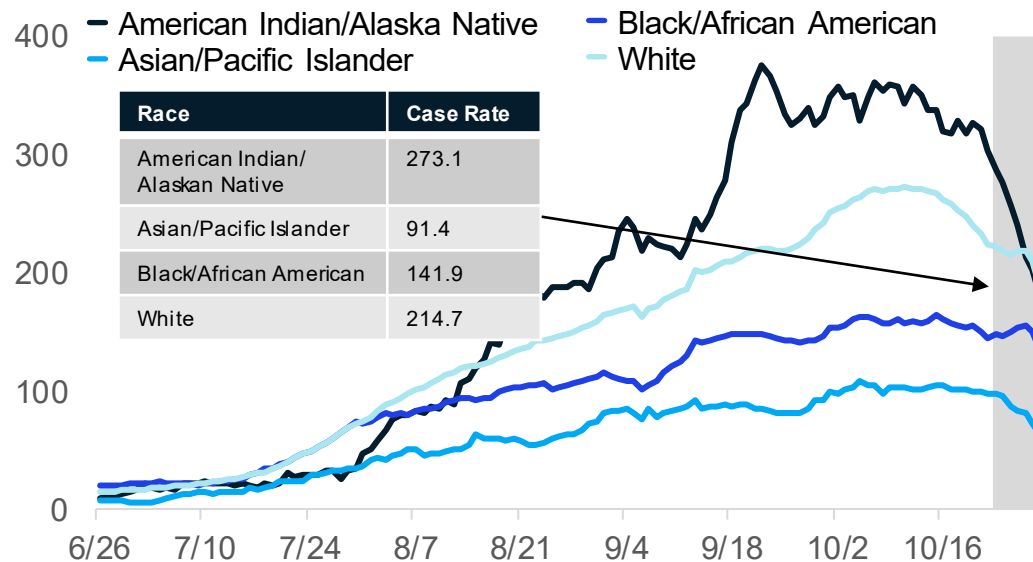Source: MDHHS – Michigan Disease Surveillance System

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

SARS-CoV-2 Variants Circulating in the United States, Oct 17 – Oct 23 (NOWCAST)

USA

WHO label	Lineage #	US Class	%Total	95%PI
Alpha	B.1.1.7	VBM	0.0%	0.0-0.0%
Delta	B.1.617.2	VOC	99.5%	99.2-99.7%
	AY.1	VOC	0.1%	0.0-0.1%
	AY.2	VOC	0.0%	0.0-0.0%
Other	Other*		0.4%	0.3-0.8%

B.1.617.2

10/23/21

*   Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
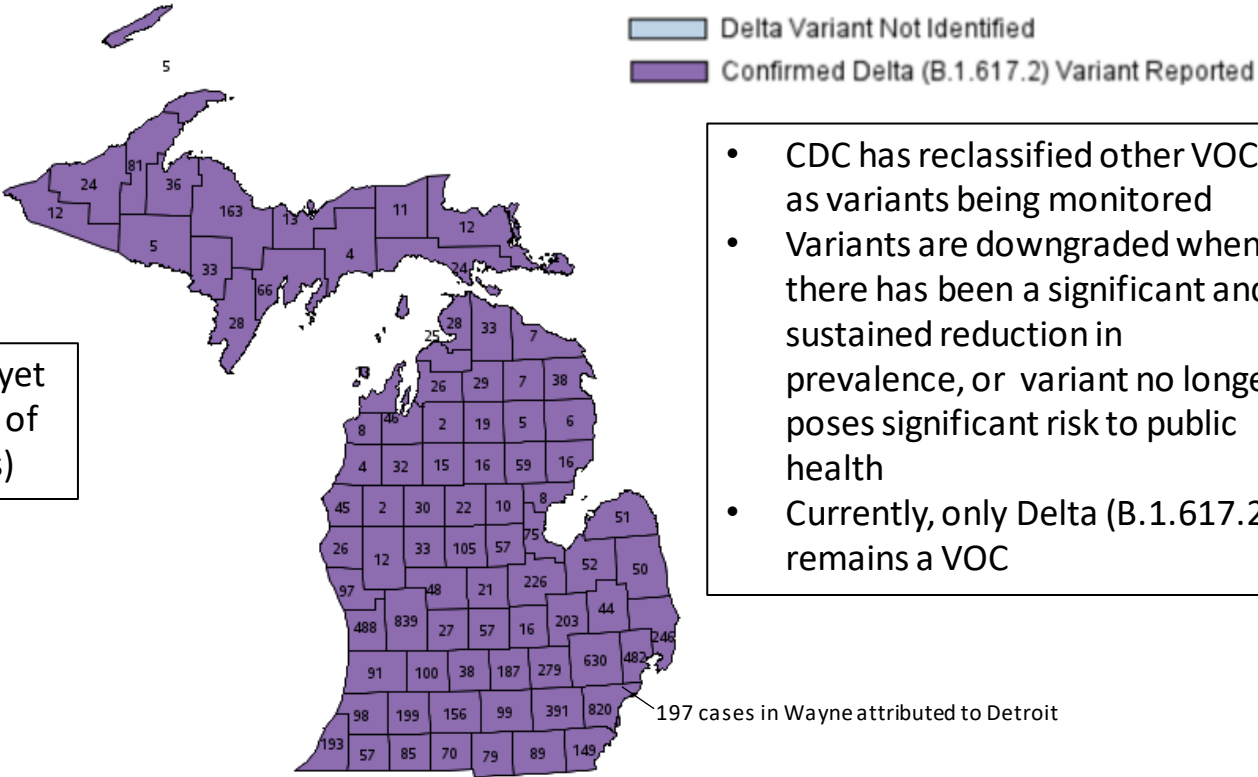**   These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
\#   Q.1-Q.8 are aggregated with B.1.1.7. AY.3-AY.38 and their sublineages are aggregated with B.1.617.2.

Currently, CDC is not yet reporting prevalence of AY.4.2 (i.e., Delta plus)

Data last updated Nov 1, 2021
Source: MDSS

Variants of Concern in Michigan, Nov 1

Delta Variant Not Identified
Confirmed Delta (B.1.617.2) Variant Reported

- CDC has reclassified other VOCs as variants being monitored
- Variants are downgraded when there has been a significant and sustained reduction in prevalence, or variant no longer poses significant risk to public health
- Currently, only Delta (B.1.617.2) remains a VOC

197 cases in Wayne attributed to Detroit

Variant	MI Reported Cases¶	# of Counties	MDHHS Sequenced Prevalence
B.1.617.2 (delta)	8,252	83	100%

New Delta variant

US Variant Statistics (CDC):

Delta

B.1.617.2 — >99% of US sequences

AY.1 — 0.1% of US sequences

AY.2 — 0% of US sequences

AY.4

AY.4.2 — <20 total US cases
outbreak.info

https://covid.cdc.gov/covid-data-tracker/#variant-proportions
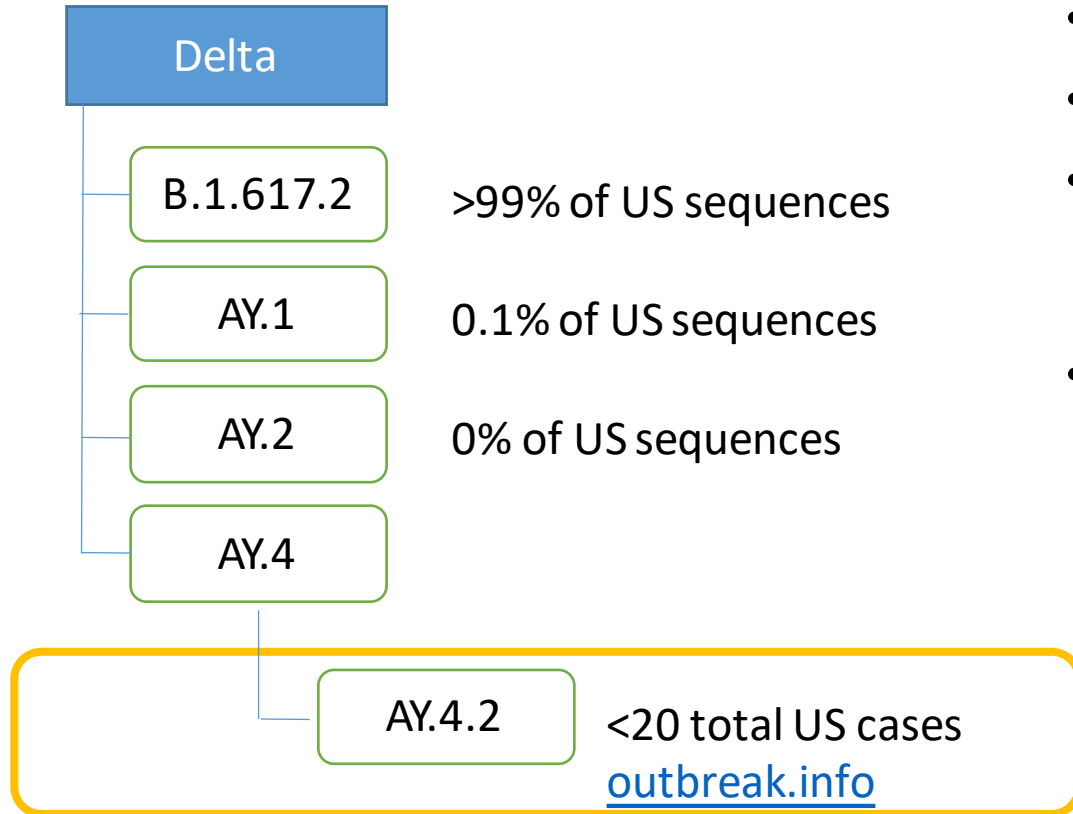
UK Health Security Agency Technical Report 27

What we know:

- AY.4.2 has Delta mutations plus additional changes
- Increasing in UK (19% faster than other variants)
- No concerns identified for vaccine effectiveness
- No increased severity in UK (medical visits or hospitalization

What we don't yet know:

- Clinical relevance (Is this different from other Delta infections?)

UK Data showing slow increases in AY.4.2 (~10%):

Figure 7. Variant prevalence for all England available sequenced cases from 1 February 2021 as of 25 October 2021 (excluding 245 case where the specimen date was unknown)
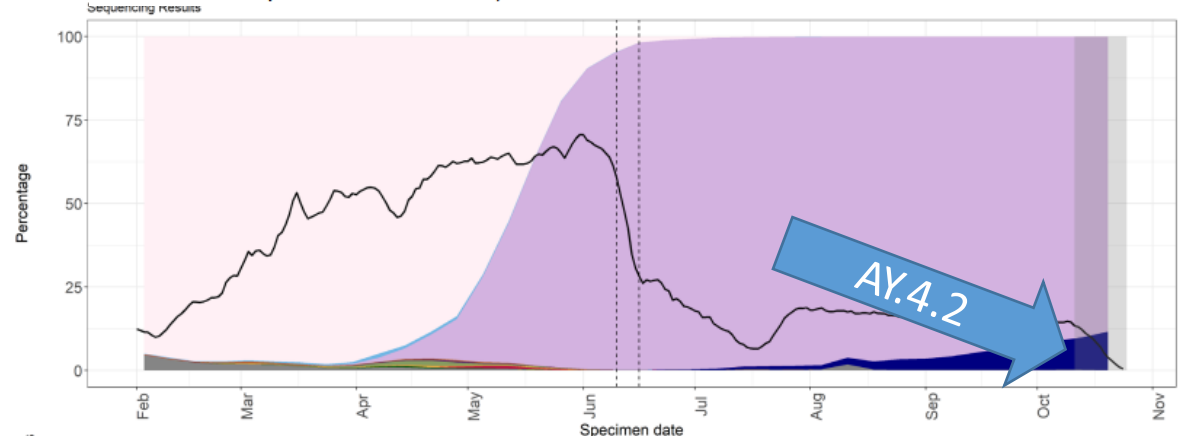
Potential COVID-19 Vaccination Breakthrough Cases

Michigan part of CDC's nationwide investigation ([COVID-19 Vaccine Effectiveness | CDC](#))

Michigan Data (1/1/21 through 10/26/21):

- **68,629 cases met criteria based on a positive test 14 or more days after being fully vaccinated**
- **Approximately 1% of people who were fully vaccinated met this case definition**
  - **Includes 793 deaths (699 in persons ages 65 years or older)**
  - **1,961 cases were hospitalized**

COVID-19 Vaccines Work

- All COVID-19 vaccines currently available in the United States are effective at preventing COVID-19.
- CDC studies COVID-19 data to make sure that the vaccines are working.
- To receive the most protection, people should receive all recommended doses of a COVID-19 vaccine.
- Some people, who are fully vaccinated against COVID-19, will still get sick because no vaccine is 100% effective— these are called breakthrough cases.
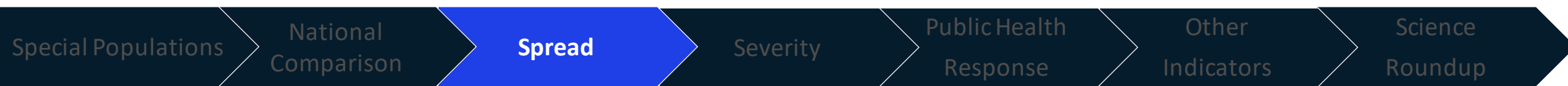
Cumulative COVID-19 Cases by Vaccination Status, Michigan, Jan 15 – Oct 26

Fully Vaccinated People (5,037,024)		
Cases	**Hospitalization**	**Deaths**
Percent of Cases In People Not Fully Vaccinated (552,935 / 621,564) **89.0%**	Percent of Hospitalizations In People Not Fully Vaccinated (14,439 / 16,400) **88.0%**	Percent of Deaths In People Not Fully Vaccinated (6,321 / 7,114) **88.9%**
552,935 Total Cases Not Fully Vaccinated	**14,439** Total Hospitalized Not Fully Vaccinated	**6,321** Total Deaths Not Fully Vaccinated
Total Breakthrough Cases **68,629**	Total Breakthrough Hospitalizations **1,961**	Total Breakthrough Deaths **793**
1.362% Percent of Fully Vaccinated People who Developed COVID-19 (68,629 / 5,037,024)	**0.039%** Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (1,961 / 5,037,024)	**0.016%** Percent of Fully Vaccinated People Who Died of COVID-19 (793 / 5,037,024)
11.0% Percent of Cases Who Were Fully Vaccinated (68,629 / 621,564)	**12.0%** Percent of Hospitalizations Who Were Fully Vaccinated (1,961 / 16,400)	**11.1%** Percent of Deaths Who Were Fully Vaccinated (793 / 7,114)
Total Cases: **621,564**	Total Hospitalizations: **16,400**	Total Deaths: **7,114**

Michigan Disease Surveillance System may underestimate the frequency of COVID-19 hospitalizations:

- Case investigation and follow-up is more difficult for individuals who get vaccinated (e.g., they are too ill to speak to investigators, don't answer their phone, or otherwise).
- These hospitalizations include individuals who are hospitalized for issues other than COVID19 (the same as breakthrough COVID-19).
- Individuals who get hospitalization will lag after infection and may occur after case investigation.

Trends in Breakthrough Cases, Hospitalizations, and Deaths

- 53.5% of the population is fully vaccinated yet only account for ~25-30% of cases, hospitalizations, and deaths

- As the fully vaccinated population has increased, so have the percent of breakthrough incidents; but breakthrough burden remains lower

In the last 30 days (Sep 27 – Oct 26), 27,816 (27%) of 102,056 cases, 454 (31%) of 1,454 hospitalizations, and 139 (26%) of 529 deaths were among fully vaccinated individuals

Michigan Disease Surveillance System may underestimate the frequency of COVID-19 hospitalizations:
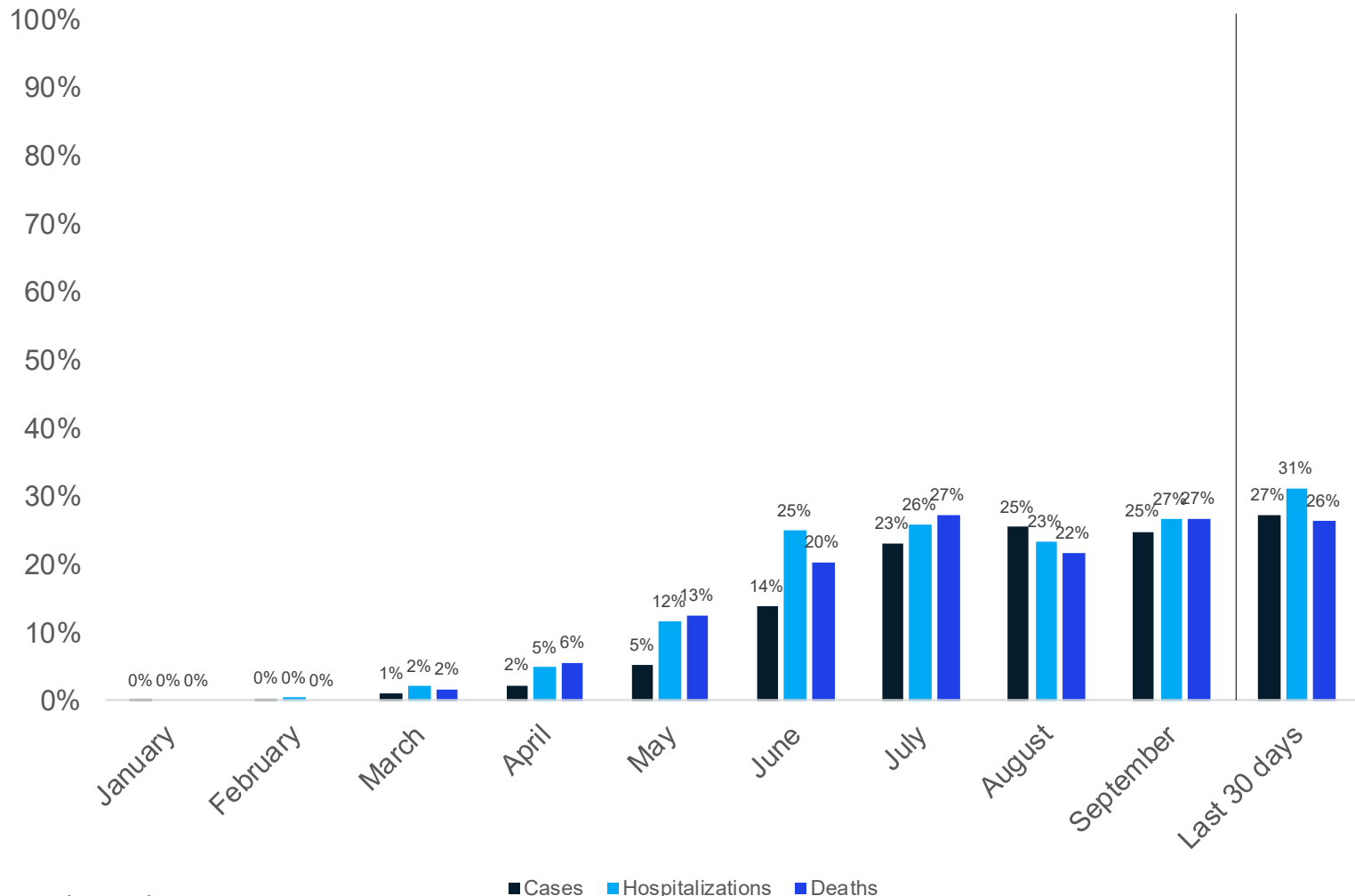- Case investigation and follow-up is more difficult for individuals who get vaccinated (e.g., they are too ill to speak to investigators, don't answer their phone, or otherwise).
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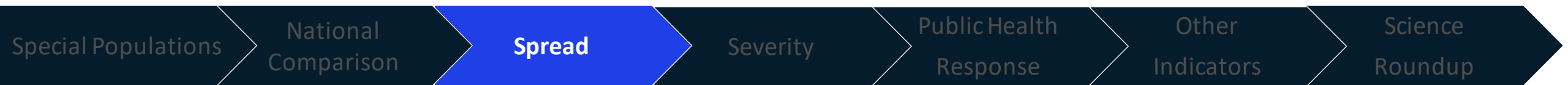
COVID-19 Vaccination Breakthrough Cases and Deaths

Breakthrough Case Rate vs. Not Fully Vaccinated Case Rate

- Case Rate among Fully Vaccinated
- Case Rate among Not Fully Vaccinated

Breakthrough Death Rate vs. Not Fully Vaccinated Death Rate

- Death Rate among Fully Vaccinated
- Death Rate among Not Fully Vaccinated
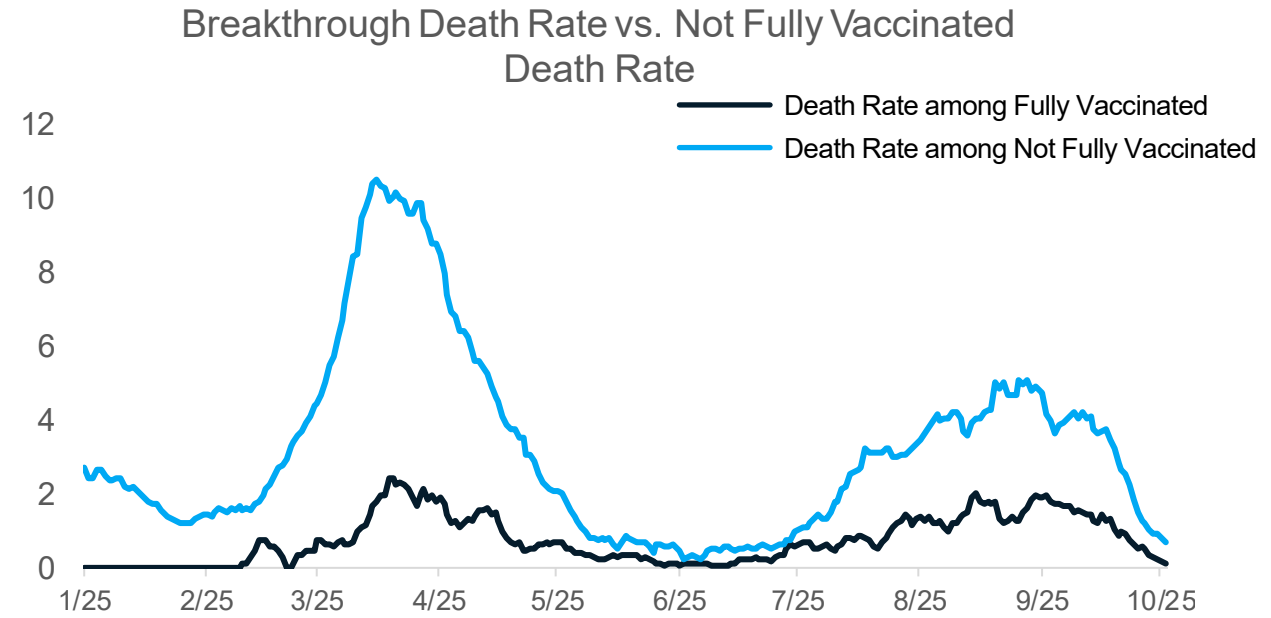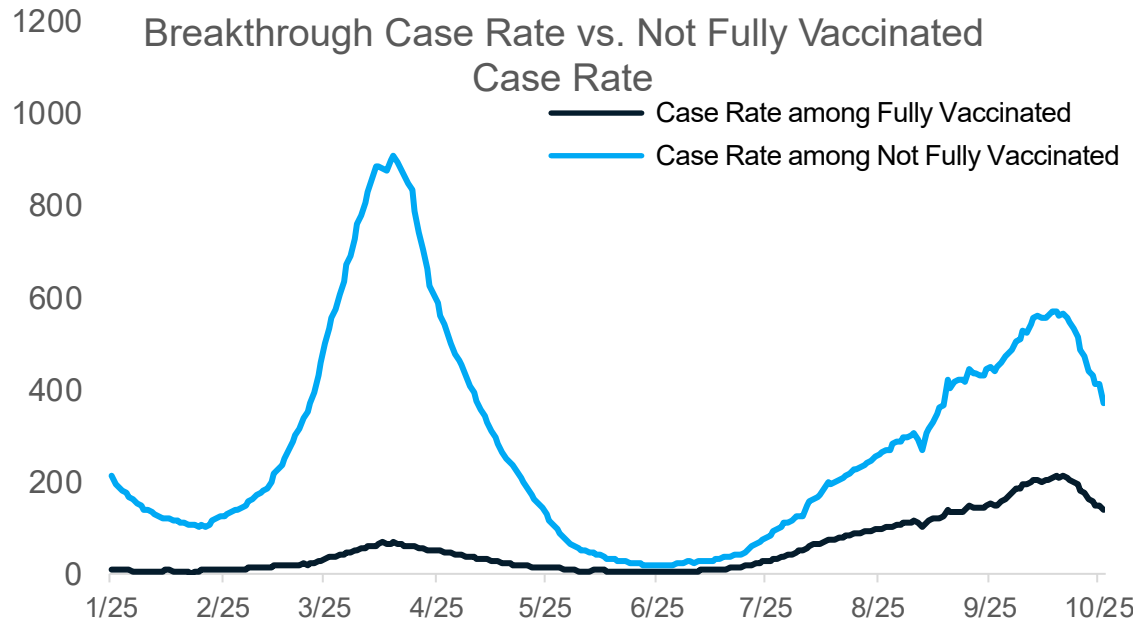
- Trends over time show that both case and death rates among the Fully Vaccinated are lower than the Not Fully vaccinated rates in Michigan
- The *proportion* of breakthrough cases and deaths among all cases and deaths has shown some increases as more people become fully vaccinated
  - However, the risk of infection and death remains significantly lower among the fully vaccinated

Number of Weekly Reported Outbreaks

Number of outbreak investigations by site type, week ending Oct 28

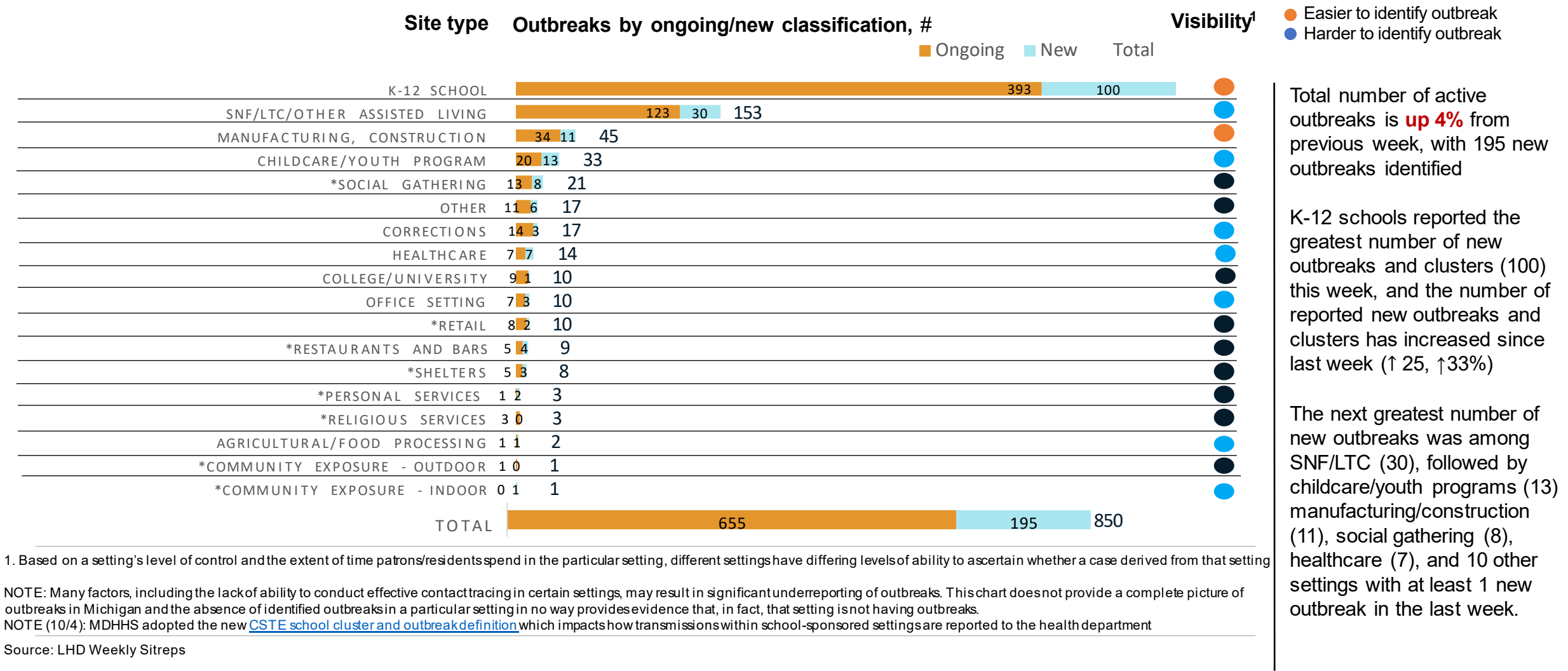| Site type	Outbreaks by ongoing/new classification, #			Visibility[1]
	Ongoing	New	Total	
K-12 SCHOOL	393	100		🟠
SNF/LTC/OTHER ASSISTED LIVING	123	30	153	🔵
MANUFACTURING, CONSTRUCTION	34	11	45	🟠
CHILDCARE/YOUTH PROGRAM	20	13	33	🔵
*SOCIAL GATHERING	13	8	21	⚫
OTHER	11	6	17	⚫
CORRECTIONS	14	3	17	🔵
HEALTHCARE	7	7	14	🔵
COLLEGE/UNIVERSITY	9	1	10	⚫
OFFICE SETTING	7	3	10	🔵
*RETAIL	8	2	10	⚫
*RESTAURANTS AND BARS	5	4	9	⚫
*SHELTERS	5	3	8	⚫
*PERSONAL SERVICES	1	2	3	⚫
*RELIGIOUS SERVICES	3	0	3	⚫
AGRICULTURAL/FOOD PROCESSING	1	1	2	🔵
*COMMUNITY EXPOSURE - OUTDOOR	1	0	1	⚫
*COMMUNITY EXPOSURE - INDOOR	0	1	1	🔵
TOTAL	655	195	850	

🟠 Easier to identify outbreak
🔵 Harder to identify outbreak

Total number of active outbreaks is **up 4%** from previous week, with 195 new outbreaks identified

K-12 schools reported the greatest number of new outbreaks and clusters (100) this week, and the number of reported new outbreaks and clusters has increased since last week (↑ 25, ↑33%)

The next greatest number of new outbreaks was among SNF/LTC (30), followed by childcare/youth programs (13) manufacturing/construction (11), social gathering (8), healthcare (7), and 10 other settings with at least 1 new outbreak in the last week.

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.
NOTE (10/4): MDHHS adopted the new CSTE school cluster and outbreak definition which impacts how transmissions within school-sponsored settings are reported to the health department

Source: LHD Weekly Sitreps

Special Populations | National Comparison | **Spread** | Severity | Public Health Response | Other Indicators | Science Roundup

K-12 school clusters and outbreaks, recent and ongoing, week ending Oct 28

Number of reported outbreaks/clusters increased since last week (487 to 493), with increases in Pre K-Elementary (220 to 225). However, decreases seen within High Schools (167 to 166), Middle/Jr High (100 to 98), and Administration (3 to 2).

Region	Number of reported cases, # (# Ongoing - Excluding New / # New)	Number of outbreaks	Range of cases per outbreak
Region 1	710 / 123	87	2-64
Region 2n	819 / 72	76	3-62
Region 2s	169 / 120	38	3-34
Region 3	1,654 / 143	128	2-67
Region 5	134 / 43	24	2-52
Region 6	573 / 18	72	2-67
Region 7	100 / 39	26	2-14
Region 8	511 / 18	42	3-48
Total	4,670 / 576	**493**	**2-67**

Grade level	Number of reported cases, # (# Ongoing - Excluding New / # New)	Number of outbreaks	Range of cases per outbreak
Pre-school - elem.	1,333 / 262	225	2-42
Jr. high/middle school	1,019 / 92	98	3-64
High school	2,315 / 218	166	2-67
Administrative	3 / 4	2	3-4
Total	4,670 / 576	**493**	**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.
NOTE (10/4): MDHHS adopted the new CSTE school cluster and outbreak definition which impacts how transmissions within school-sponsored settings are reported to the health department

Source: LHD Weekly Sitreps

Key Messages: Healthcare Capacity and COVID Severity

Emergency Department visits, Hospital Admissions, and Hospital Census have mixed trends

- 5.1% of ED visits are for COVID diagnosis (up from 4.8% last week)
- Hospital admissions have increased slightly from last week
- Hospital census is plateaued for two weeks
- Four regions experienced increasing trends in hospital census this week (Regions 2S, 3, and 5)
  - Regions 2S, 3, 6 and 7 now have above 200/million population hospitalized
- Overall, volume of COVID-19 patients in intensive care is plateaued since last week (vs. 6% increase last week)

Death rate has increased to 4.7 daily deaths/million residents (up from 4.0 deaths/million last week)

- Overall trends for daily average deaths are increasing for American Indian/Alaskan Natives, Whites, and Non-Hispanics
- Currently, American Indian/Alaskan Natives have the highest death rate (4.7 deaths/million)
- In the past 30 days, there have been between 1 and 5 deaths among confirmed and probable COVID-19 cases under the age of 20

Michigan Trends in Emergency Department (ED) Visits for Diagnosed COVID-19
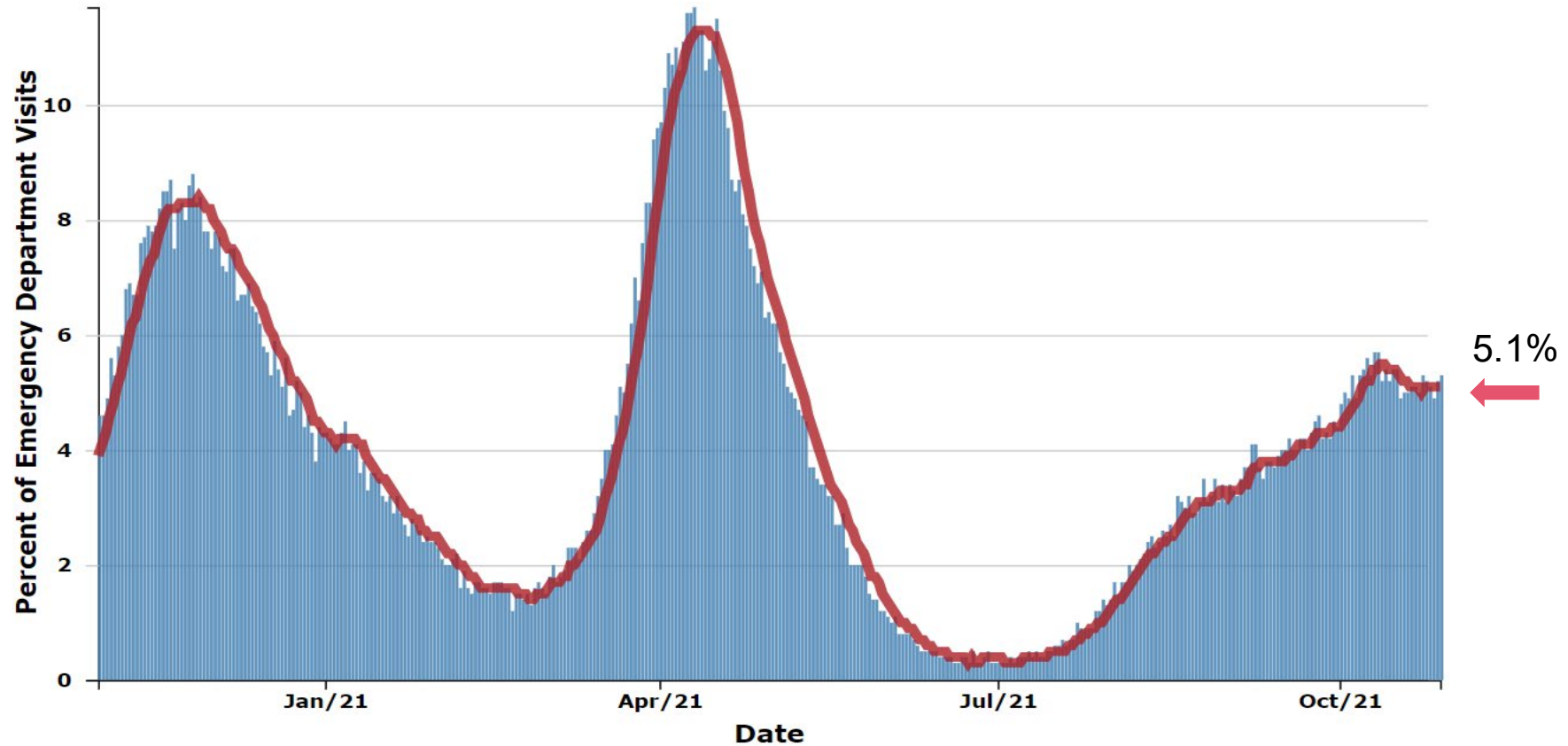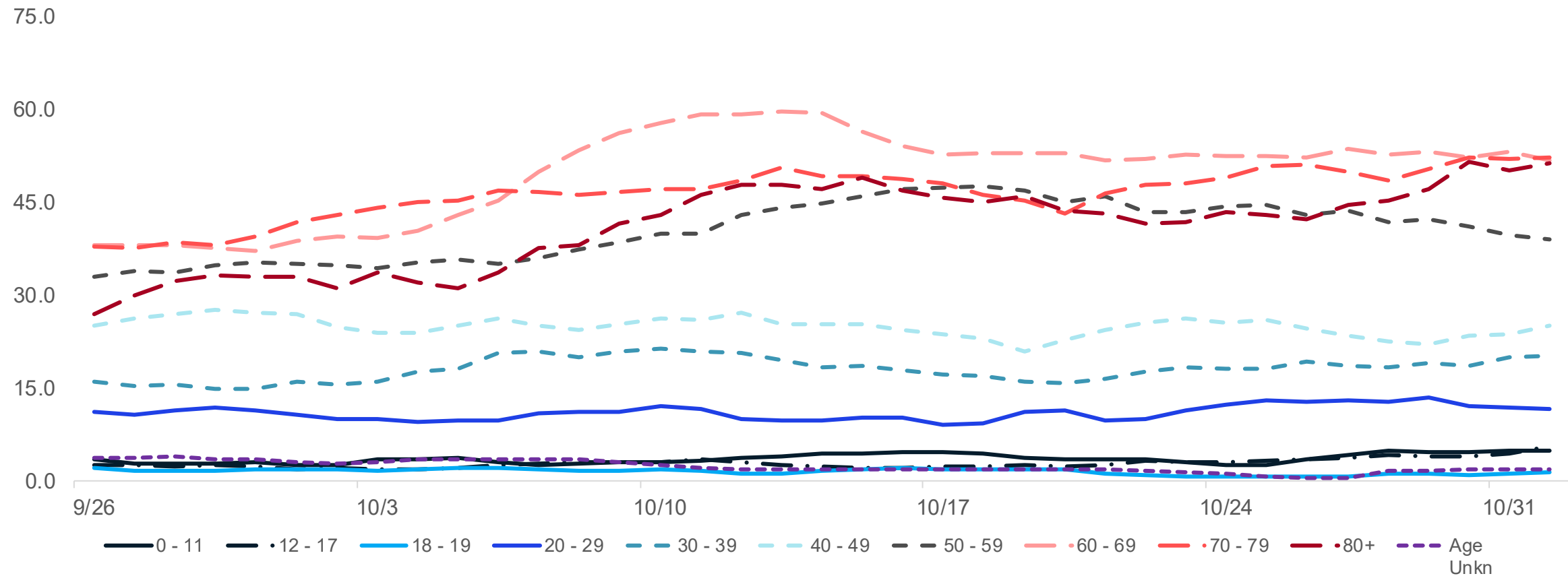

- Trends for ED visits are plateaued around 5.1% since last week (4.8% week prior)
- Trends vary by age groups
- Over past week, those 40-49 years saw highest number of avg. daily ED CLI visits (7.0%), but those between 40+ all above state average

Source: https://covid.cdc.gov/covid-data-tracker/#ed-visits; data extracted on 10/18/2021

Average Hospital Admissions by Age Groups

- Trends for daily average hospital admissions have increased 4% since last week (vs. 1% increase prior week)
- A majority of age groups saw minimal to moderate increases this week
- Over the past week, those 60-69, 70-79, and 80+ years have all seen more than an avg. of 50 daily hospital admissions

Source: CHECC & EM Resource

Average Hospital Admissions Are Increase for all Age Groups
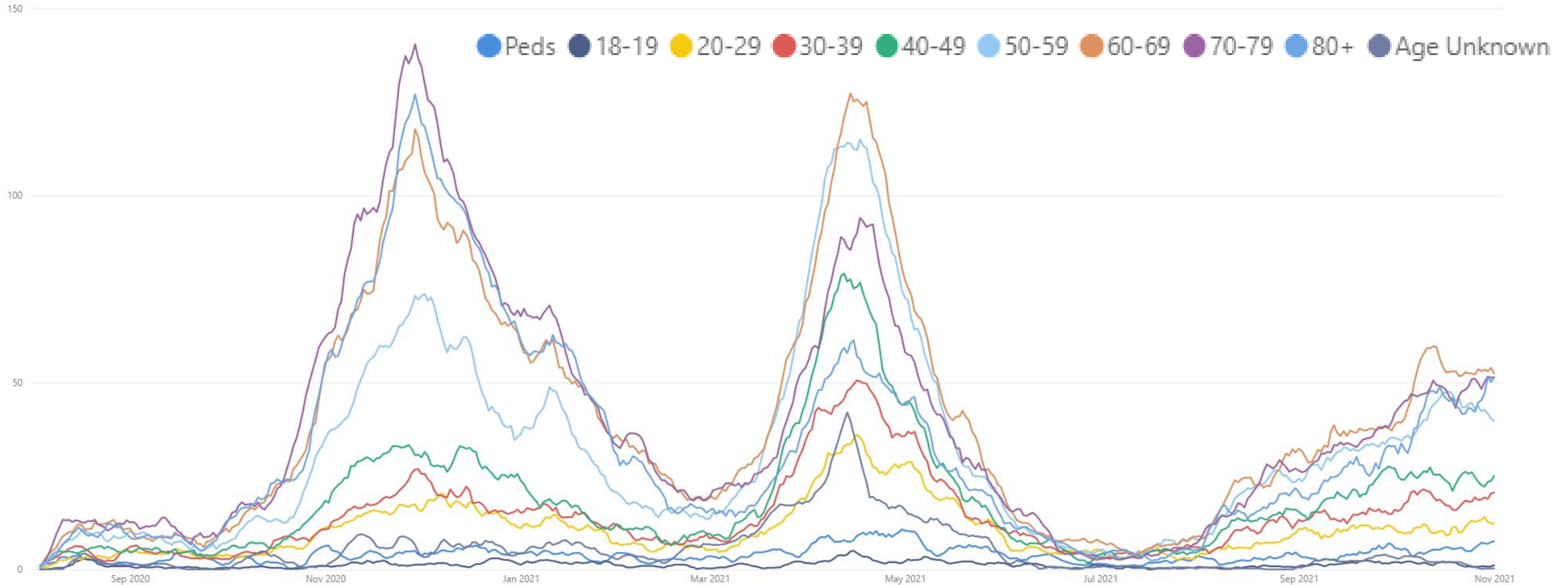
- Trends for daily average hospital admissions have increased 4% since last week (vs. 1% increase prior week)
- A majority of age groups saw minimal to moderate increases this week
- Over the past week, those 60-69, 70-79, and 80+ years have all seen more than an avg. of 50 daily hospital admissions

Source: CHECC & EM Resource

Special Populations | National Comparison | Spread | **Severity** | Public Health Response | Other Indicators | Science Roundup

Hospital Admissions and Admission Rates by Age Group

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

Age Group	Average† daily number of hospital admissions	Average† Daily Hospital Admission Rate*	One Week % Change (Δ #)
0-11	5.0	3.6	84% (+2)
12-17	5.7	7.6	74% (+2)
18-19	1.4	5.4	100% (+1)
20-29	11.6	8.4	-11% (-1)
30-39	20.3	16.7	12% (+2)
40-49	25.0	21.2	-4% (-1)
50-59	39.0	**28.9**	**-13% (-6)**
60-69	**51.7**	**40.5**	-1% (-1)
70-79	**52.1**	**68.0**	3% (+1)
80+	**51.3**	**123.8**	20% (+8)
Total¶	**265.0**	**26.5**	**4% (+10)**

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

- Through November 1, there were an average of 265 hospital admissions per day due to COVID-19, which is an increase from last week (↑4%, +10)

- A majority of age groups saw minimal to moderate increases this week with most fluctuations less than 5 admissions per age group

- The largest one-week increase in number of admissions were among those 80+ (+8, +20%)

- Average number of daily hospital admissions for those aged 60-69, 70-79, and 80+ were all above 50

- Average daily hospital admission rate (123.8 hospital admissions/million) are highest for those aged 80+
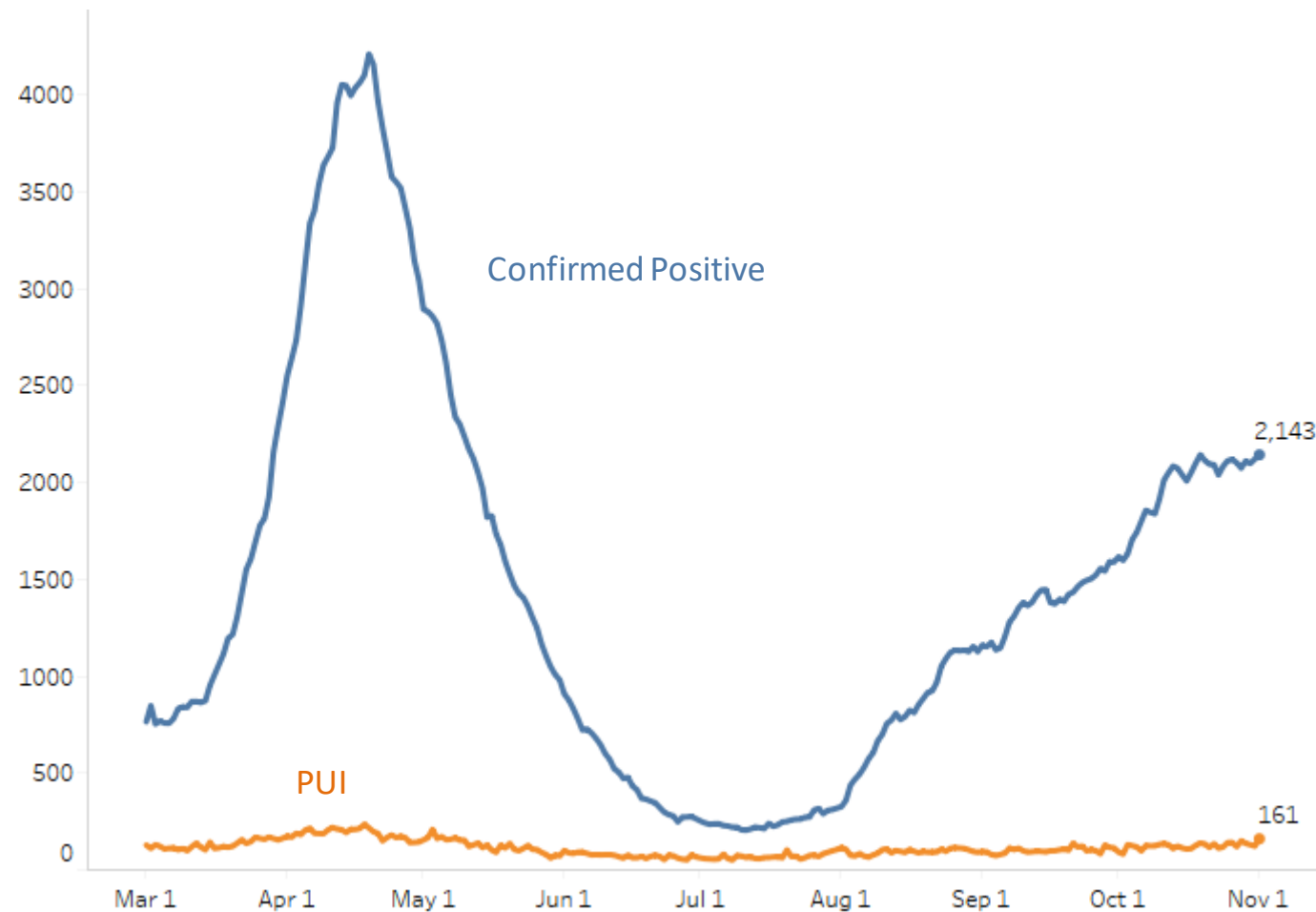
Note: for some age groups, small changes in number of hospitalization admissions can cause large change in One Week Percent Change
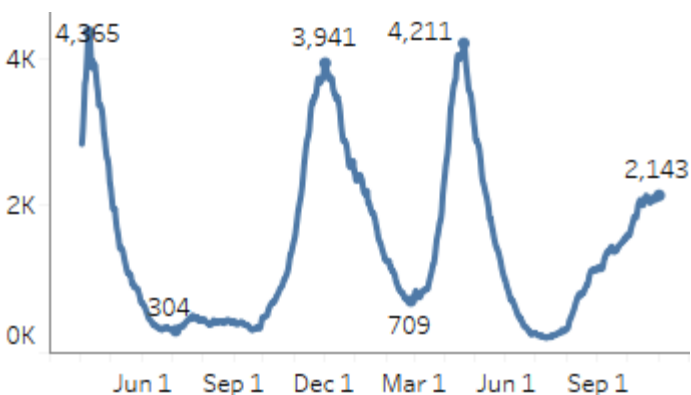
Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 11/1/2021
Confirmed Positive & Persons Under Investigation (PUI)

COVID+ census in hospitals this week is essentially flat and has been flat for the past 2+ weeks.

Confirmed Positive

PUI

2,143

161

Hospitalized COVID Positive Long Term Trend (beginning March 2020)

4,365   3,941   4,211

304   709   2,143

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 3/1/2021 – 11/1/2021 Confirmed Positive by Region

Region 1
Region 2N
Region 2S
Region 3
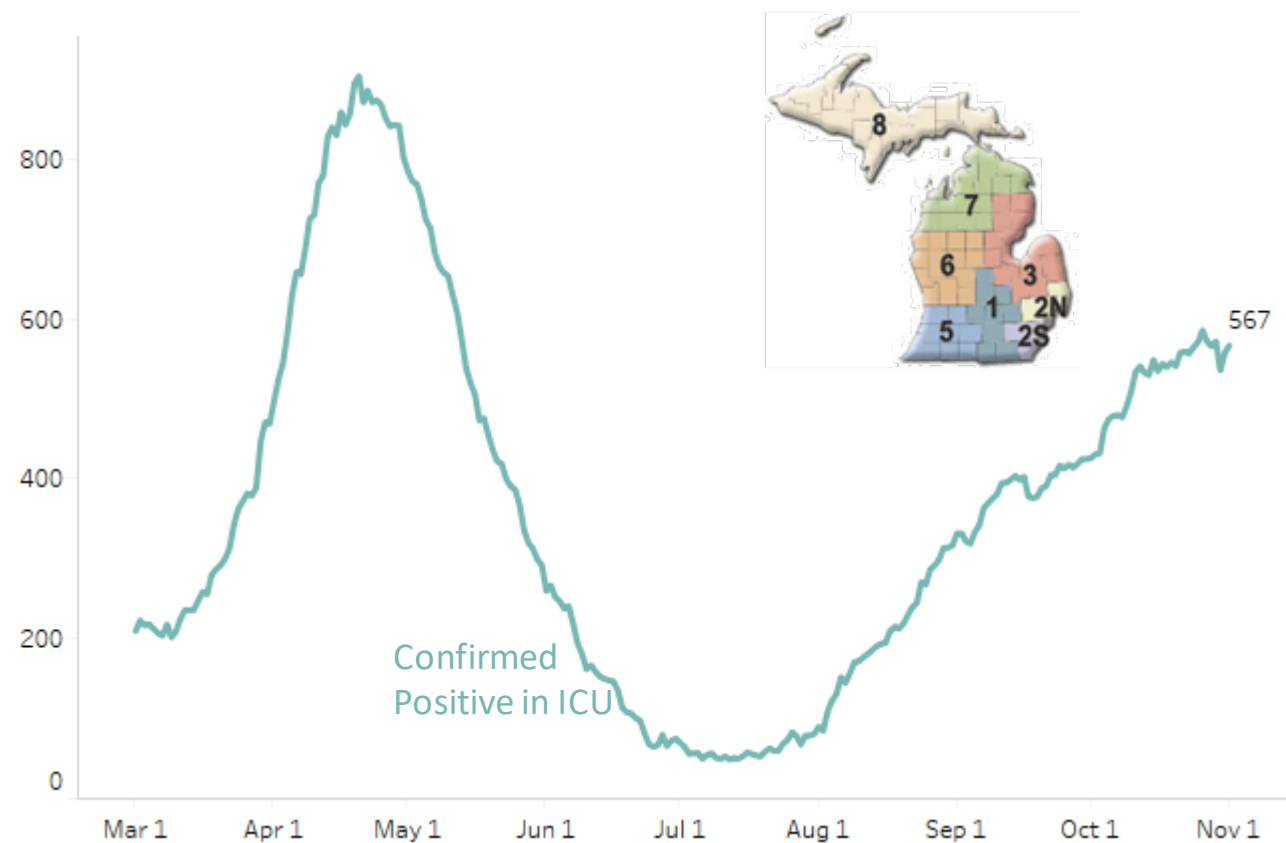Region 5
Region 6
Region 7
Region 8
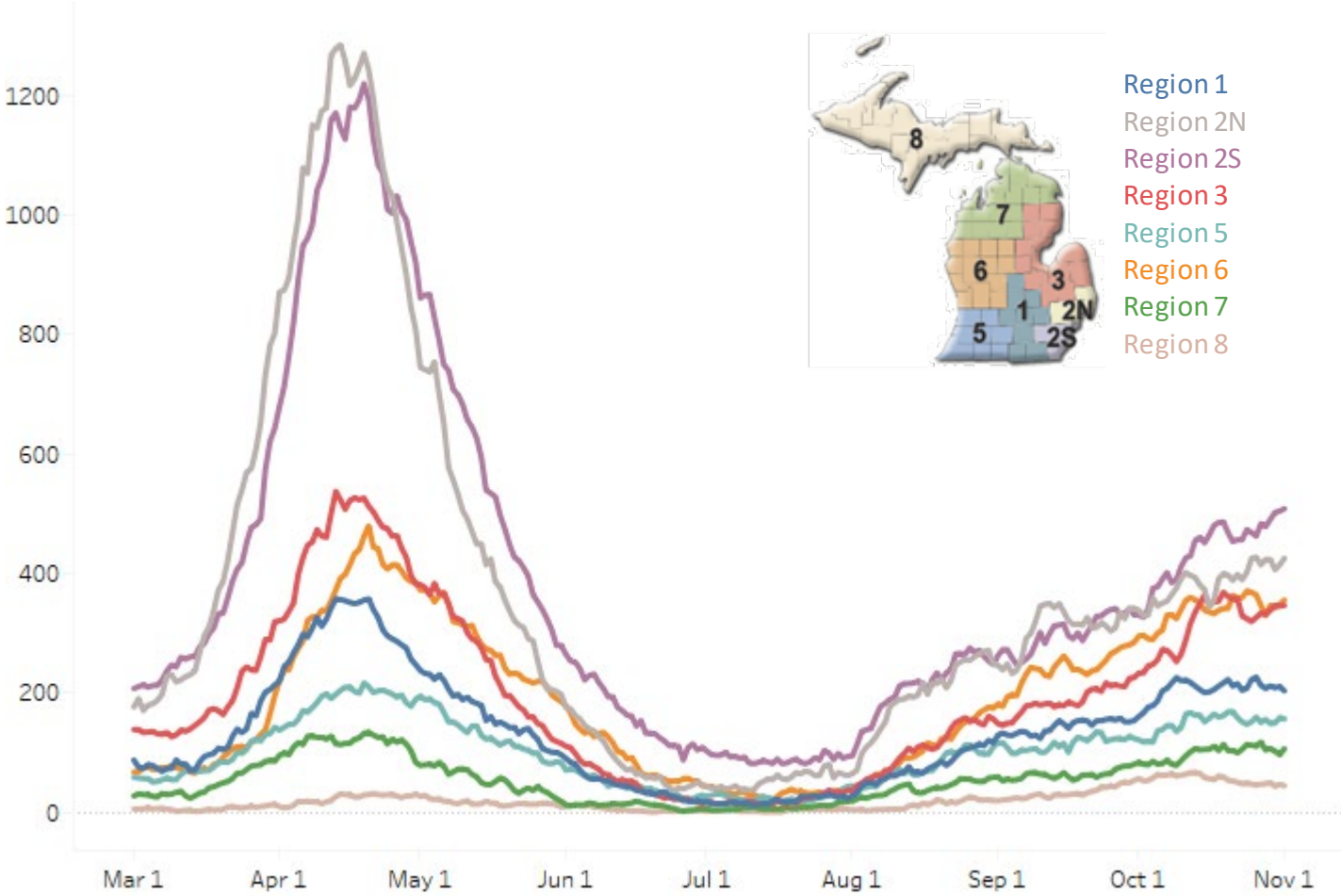
The hospital census of COVID+ patients has increased in some regions while decreasing in other regions.

Regions 2S, 3 and 5 showed growth while other regions were flat or showed small declines.

Region	COVID+ Hospitalizations (% Δ from last week)	COVID+ Hospitalizations / MM
Region 1	203 (-9%)	188/M
Region 2N	425 (0%)	192/M
Region 2S	508 (9%)	228/M
Region 3	346 (8%)	305/M
Region 5	156 (3%)	164/M
Region 6	355 (-4%)	242/M
Region 7	106 (-5%)	212/M
Region 8	44 (-6%)	141/M

Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 3/1/2021 – 11/1/2021
### Confirmed Positive in ICUs

Confirmed Positive in ICU

567

The census of COVID+ patients in the ICU is flat compared to last week. Regions 2N, 6 and 7 showed growth while the rest of the state declined.

Regions 1 and 3 have overall adult ICU occupancy greater than or equal to 90%. Regions 6 and 7 have more than 30% of Adult ICU beds filled with COVID+ patients.

Region	Adult COVID+ in ICU (% Δ from last week)	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	55 (-14%)	90%	28%
Region 2N	99 (4%)	75%	18%
Region 2S	134 (-2%)	84%	19%
Region 3	89 (-2%)	91%	26%
Region 5	37 (0%)	71%	20%
Region 6	96 (10%)	79%	37%
Region 7	46 (5%)	79%	33%
Region 8	11 (-31%)	71%	17%

Statewide Hospitalization Trends: Pediatric COVID+ Census
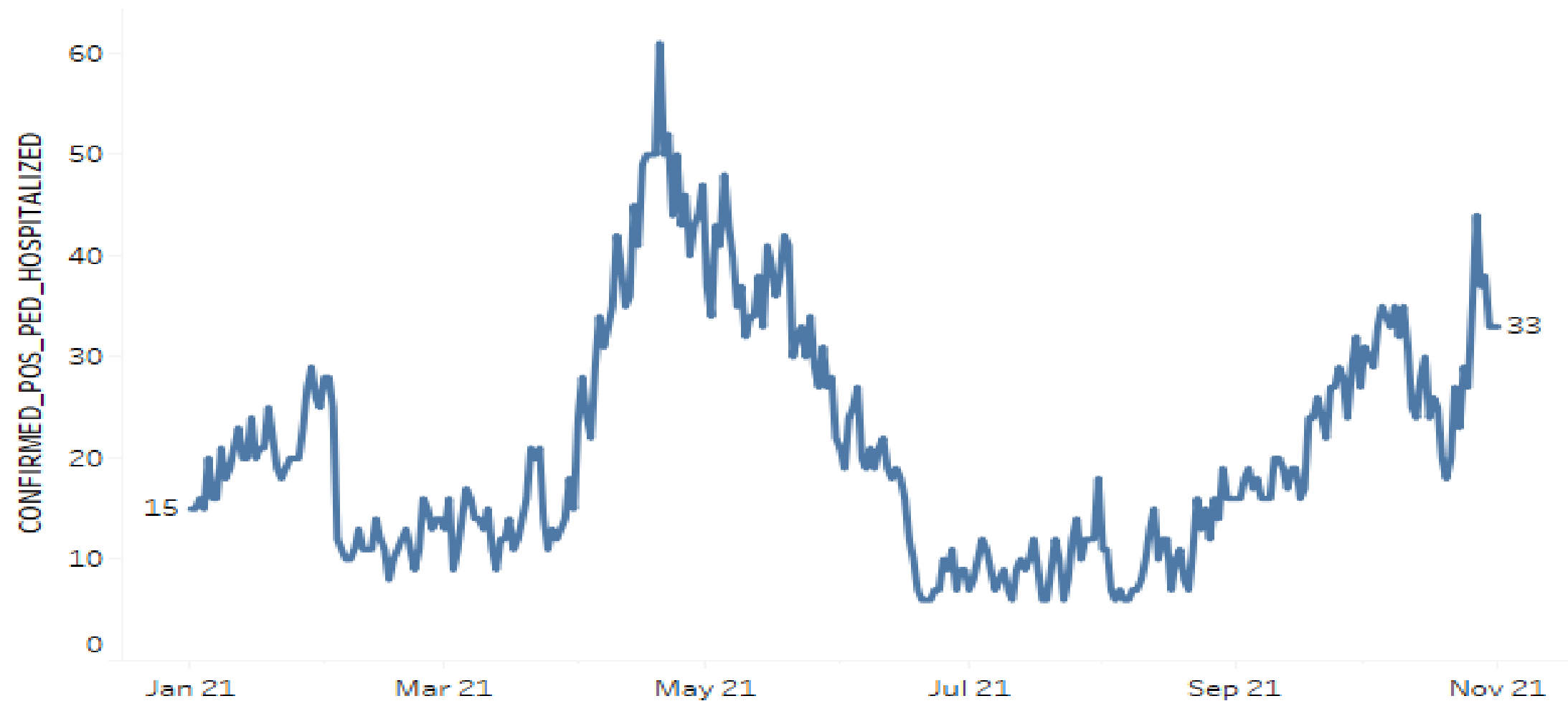
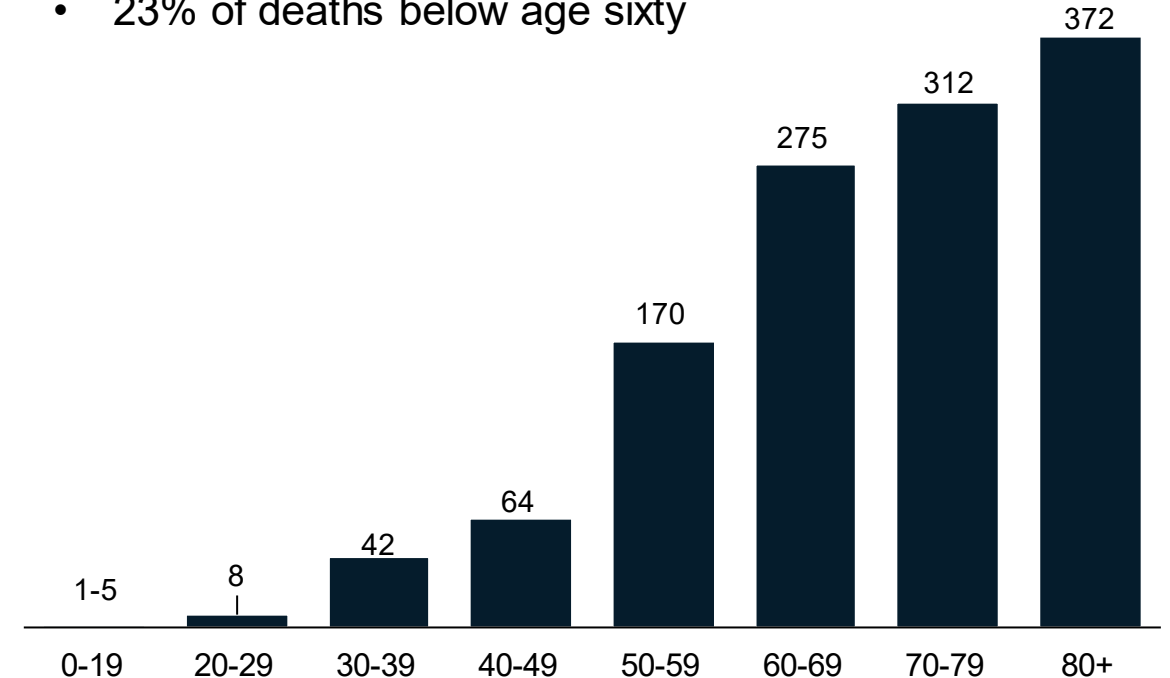# Average and total new deaths, by age group

Daily COVID-19 deaths in confirmed and probable cases per million by age group (7 day rolling average)
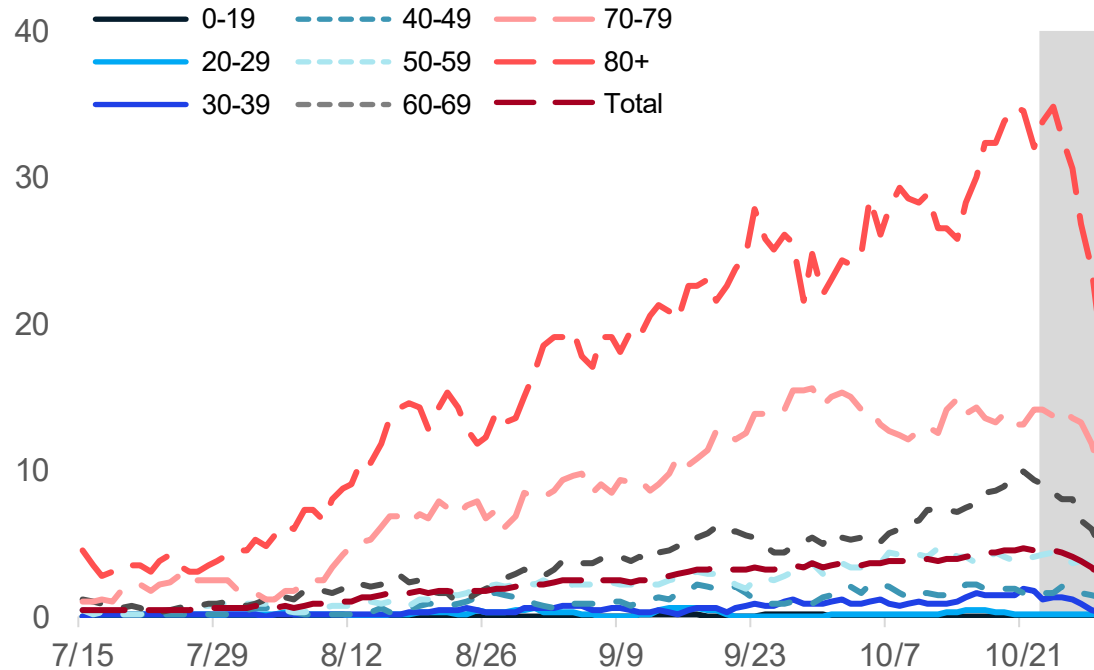
Total COVID-19 deaths in confirmed and probable cases by age group (past 30 days, ending 10/25/2021)

Legend:
- 0-19
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80+
- Total

- 23% of deaths below age sixty

Bar chart values:
- 0-19: 1-5
- 20-29: 8
- 30-39: 42
- 40-49: 64
- 50-59: 170
- 60-69: 275
- 70-79: 312
- 80+: 372

- Through 10/25, the 7-day avg. death rate is more than 10 daily deaths per million people for those over the age of 70

- In the past 30 days, there were between 1-5 deaths among confirmed and probable COVID-19 cases under the age of 20

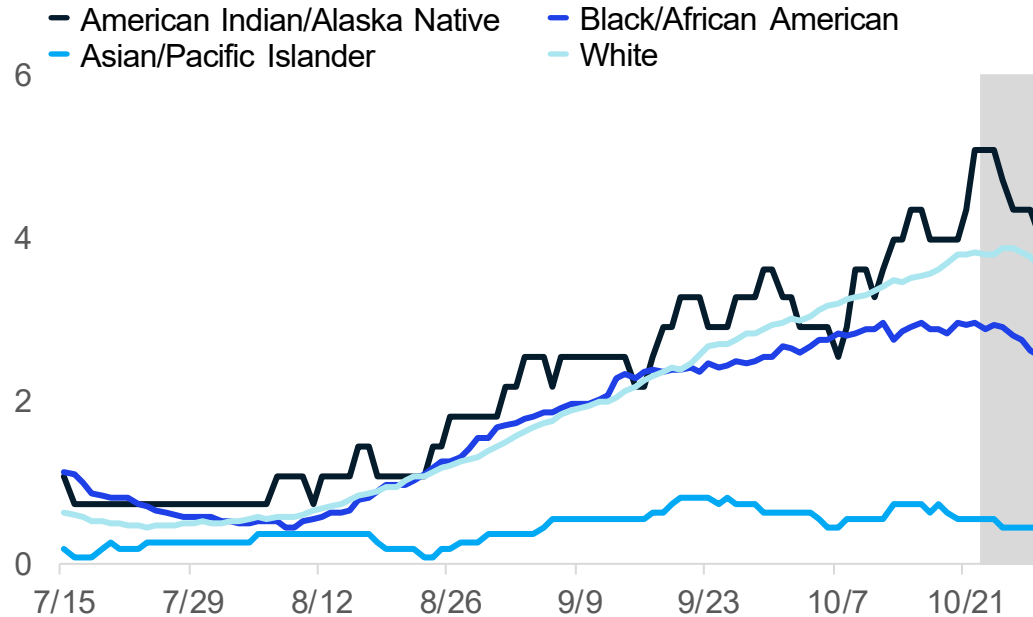- 30-day proportion of deaths among those under 60 years of age is steady from the prior week

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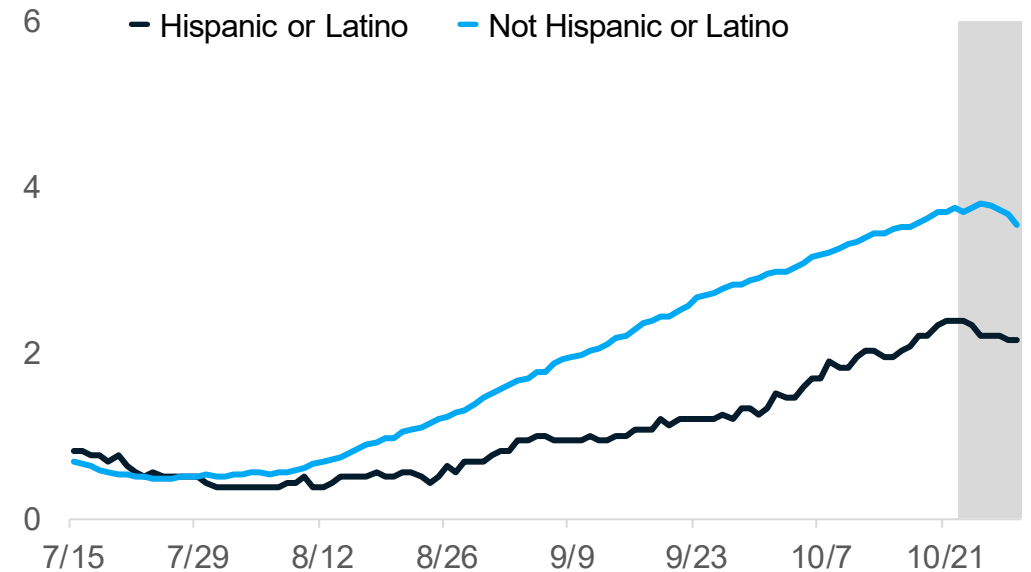Source: MDHHS – Michigan Disease Surveillance System (MDSS)

Special Populations | National Comparison | Spread | **Severity** | Public Health Response | Other Indicators | Science Roundup

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

Average daily deaths per million people by race

- American Indian/Alaska Native
- Black/African American
- Asian/Pacific Islander
- White

Average daily deaths per million people by ethnicity

- Hispanic or Latino
- Not Hispanic or Latino

- Deaths are lagging indicator of other metrics
- Overall trends for daily average deaths are increasing for American Indian/Alaskan Natives, Whites, and Non-Hispanics since last week
- Currently, American Indian/Alaskan Natives have the highest death rate (4.7 deaths/million)

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

Key Messages: Public Health Response

COVID-19 Vaccination

- 4,861 first doses administered each day (7-day rolling average); total administrations increasing

- More than 629,201 third doses administered as of 10/29, may include additional dose or booster dose

- More than 5.3 million people (53.5% of the population) in the state are fully vaccinated

- MDHHS is preparing for Pfizer-BioNTech COVID-19 Vaccines Rollout for 5- to 11-year-olds this week

Masking

- 42% (222/533) of school districts in Michigan have a school mask policy

- School districts without mask requirements are experiencing higher case rates

- The start of the school year saw case rates for school-aged children deviate from general population, but increases were highest among children in counties with no school mask policies

Testing

- Based on evolving evidence, CDC recommends fully vaccinated people get tested 5-7 days after close contact with a person with suspected or confirmed COVID-19

Safer Holiday Celebrations

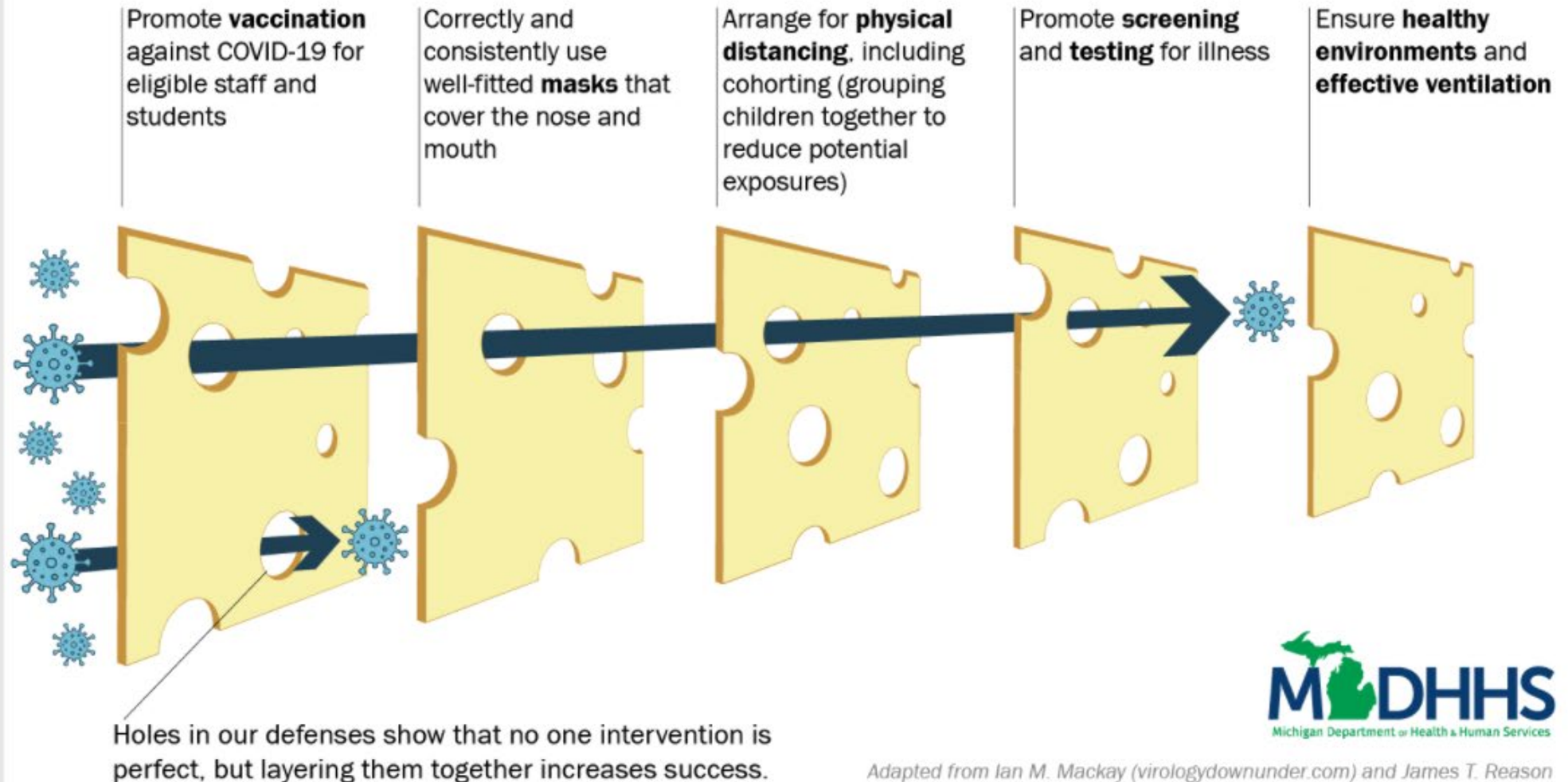- CDC has updated the holiday recommendations to enjoy holiday traditions and protect your health
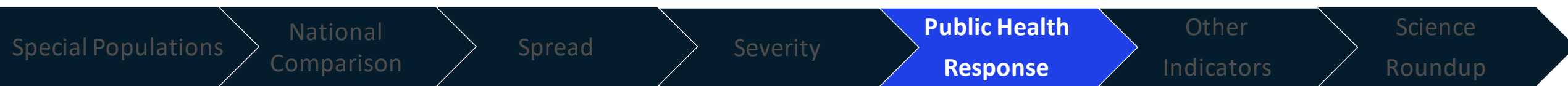
Layers of Defense Against COVID-19 in Schools

CDC recommended prevention strategies can be layered in different ways – the number and intensity of the layers can increase if community transmission increases

As community transmission increases, more holes appear in the defenses, meaning more layers of protection may be needed.
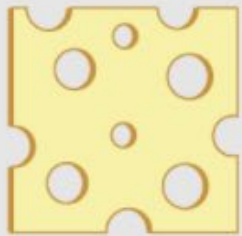
As the vaccination rate within a building or facility increases, fewer holes will appear in the defenses.

Promote **vaccination** against COVID-19 for eligible staff and students

Correctly and consistently use well-fitted **masks** that cover the nose and mouth

Arrange for **physical distancing**, including cohorting (grouping children together to reduce potential exposures)

Promote **screening** and **testing** for illness

Ensure **healthy environments** and **effective ventilation**

Holes in our defenses show that no one intervention is perfect, but layering them together increases success.

MDHHS
Michigan Department of Health & Human Services

Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason

Average daily doses administered increase (data through 10/31/2021)

14,782,960 doses delivered to providers and 11,517,164 doses administered*

MI 7-day rolling average ending October 27th
- 33,450 total doses/day on average† (18,754 on 10/20)
- 4,861 first doses/day on average † (3,496 on 10/20)

Total primary series doses in month of October were most frequently administered¶ by:
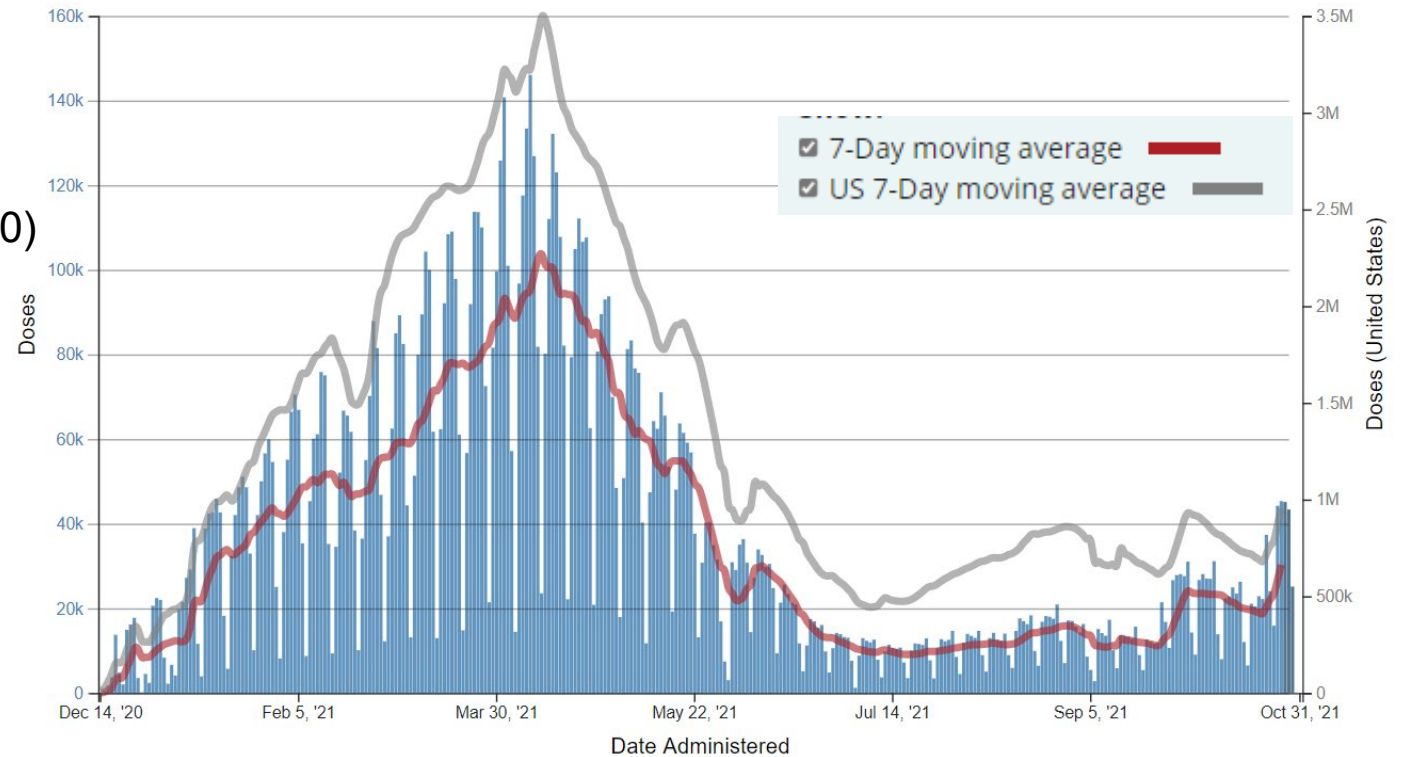Pharmacies (149,664)
LHD (11,146) and hospitals (10,321)
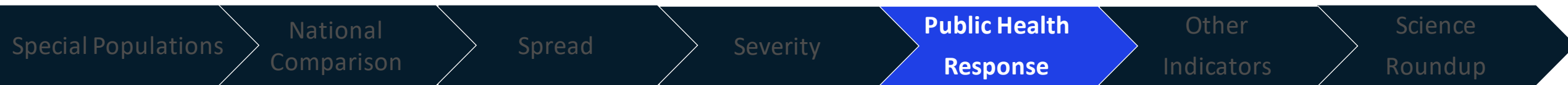Family practice (8,230) and FQHCs (6,183)

Third Doses
- 629,201 third doses administered as of 10/28

Daily Count of Total Doses Administered and Reported to CDC by Date Administered, Michigan

- 7-Day moving average
- US 7-Day moving average

Special Populations | National Comparison | Spread | Severity | **Public Health Response** | Other Indicators | Science Roundup

5.35 Million Michiganders fully vaccinated and 53.5% of total population fully vaccinated

5.35 million people in the state are fully vaccinated*

84.7% of people aged 65 and older have completed the series (↑0.2%)*
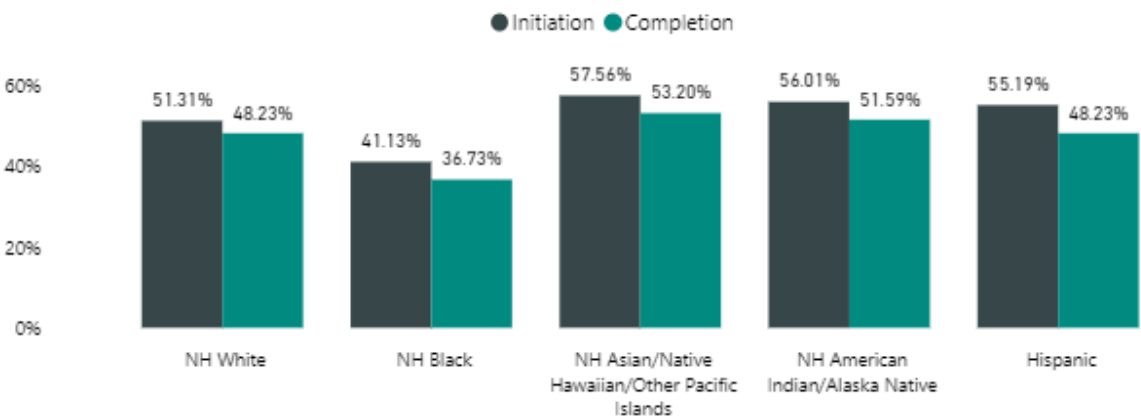
58.3% of total population initiated (↑0.4%)*

Race/Ethnicity¶ for those 12 years and older:

- Initiation coverage highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (57.56%), then NH American Indian (56.01%), NH White (51.31%), NH Black or African American Races (41.13%).

- Initiation is at 55.19% for those of Hispanic ethnicity

- Completion follows the same pattern

- 14.8% data missing or unknown

Vaccination Coverage in Michigan as of 10/31/21

Age Group	% At Least One Dose	% Fully Vaccinated	Number Fully Vaccinated
Total Population	58.3%	**53.5%**	5,346,511
≥ 12 years	67.7%	62.2%	5,346,379
≥ 18 years	69.8%	64.3%	5,041,547
≥ 65 years	90.7%	84.7%	1,495,667

Coverage by Race*

● Initiation ● Completion

NH White: 51.31% / 48.23%
NH Black: 41.13% / 36.73%
NH Asian/Native Hawaiian/Other Pacific Islands: 57.56% / 53.20%
NH American Indian/Alaska Native: 56.01% / 51.59%
Hispanic: 55.19% / 48.23%
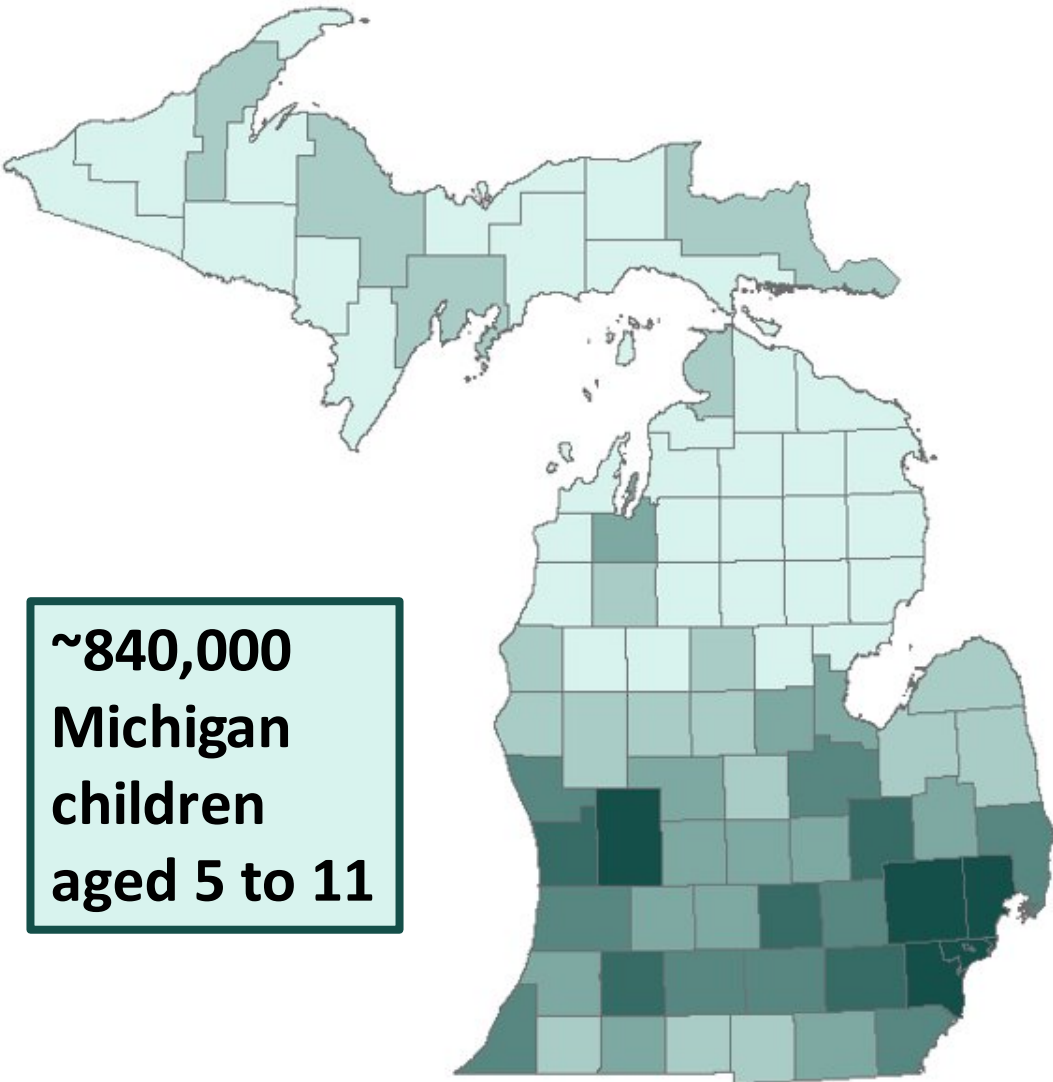
*Data suppressed for Race/Ethnicity-by-Age populations smaller than 50 and/or where the number of vaccinated persons is 10 or less.

Preparing for Pfizer-BioNTech COVID-19 Vaccines Rollout for 5- to 11-year-olds

~840,000 **Michigan children aged 5 to 11**

- Final approvals and recommendations for ACIP/CDC are imminent

- Shipments of pediatric vaccine have already been received by some providers

- Administrations can start as soon as ACIP/CDC approves (Tuesday or Wednesday)

- Michigan has maxed out our initial order for pediatric doses (**417,000** pediatric doses)

  - This is enough doses to cover ~50% of the 5 to 11 population with an initial dose or ~25% of the 5 to 11 population with 2 doses

  - Michigan will be able to order additional vaccine

  - Find pediatric vaccine at **www.Vaccines.gov**

COVID Vaccine Coverage

Dashboard Updated: October 29, 2021. "Completion" is the percentage of Michigan residents receiving 2 doses of Pfizer or Moderna or 1 dose of J&J. "Initiation" is the percentage who have received either 1 or more doses of ANY vaccine. See the "Learn More" page to learn how percentages
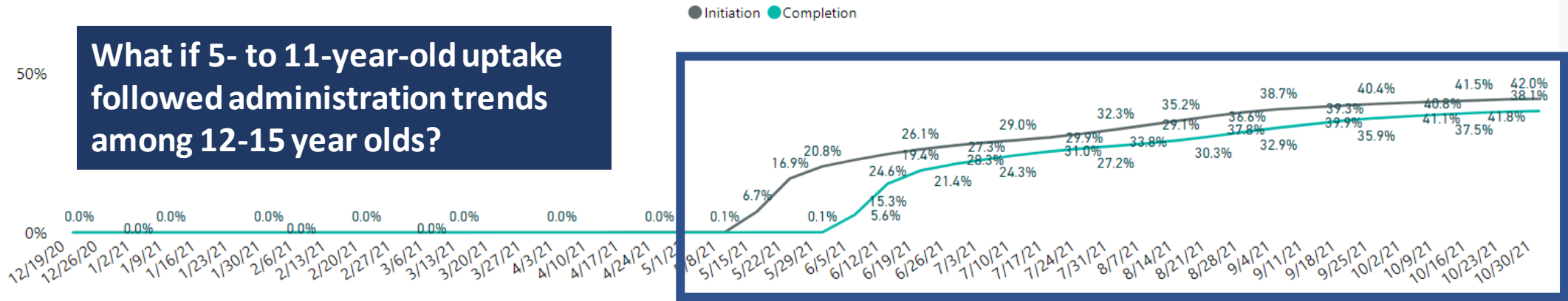
Data as of: 10/28/21

Preparedness Region All

County All

Local Health Dept. Jurisdiction All

Cumulative Coverage by Week Ending Date

● Initiation ● Completion

What if 5- to 11-year-old uptake followed administration trends among 12-15 year olds?

Initiation: 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1% 6.7% 16.9% 20.8% 26.1% 29.0% 32.3% 35.2% 36.6% 38.7% 39.3% 40.4% 41.5% 42.0%

Completion: 0.0% 0.0% 0.0% 0.1% 0.1% 5.6% 15.3% 21.4% 24.3% 27.2% 31.0% 33.8% 30.3% 37.8% 32.9% 39.9% 35.9% 41.1% 37.5% 40.8% 41.8% 38.1%

Week ending dates: 12/19/20, 12/26/20, 1/2/21, 1/9/21, 1/16/21, 1/23/21, 1/30/21, 2/6/21, 2/13/21, 2/20/21, 2/27/21, 3/6/21, 3/13/21, 3/20/21, 3/27/21, 4/3/21, 4/10/21, 4/17/21, 4/24/21, 5/1/21, 5/8/21, 5/15/21, 5/22/21, 5/29/21, 6/5/21, 6/12/21, 6/19/21, 6/26/21, 7/3/21, 7/10/21, 7/17/21, 7/24/21, 7/31/21, 8/7/21, 8/14/21, 8/21/21, 8/28/21, 9/4/21, 9/11/21, 9/18/21, 9/25/21, 10/2/21, 10/9/21, 10/16/21, 10/23/21, 10/30/21
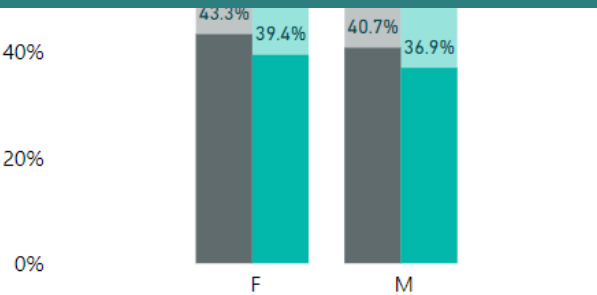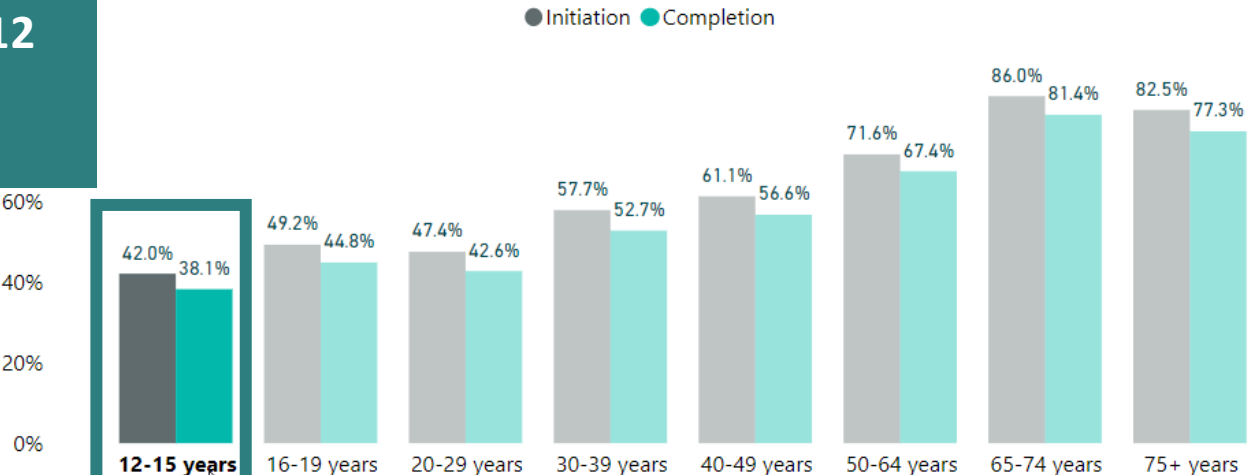
Week Ending Date: 12/19/2020 — 10/30/2021

COVID Vaccine Coverage by Sex

Vaccine initiation in 41% of the 12 to 15 population since vaccine availability in May of 2021

F: 43.3% / 39.4%
M: 40.7% / 36.9%

COVID Vaccine Coverage by Age Group

● Initiation ● Completion

- 12-15 years: 42.0% / 38.1%
- 16-19 years: 49.2% / 44.8%
- 20-29 years: 47.4% / 42.6%
- 30-39 years: 57.7% / 52.7%
- 40-49 years: 61.1% / 56.6%
- 50-64 years: 71.6% / 67.4%
- 65-74 years: 86.0% / 81.4%
- 75+ years: 82.5% / 77.3%

Michigan COVID Vaccine Dashboard will be updated with 5- to 11-year-old age cohort, with regularly scheduled refreshes on Tuesdays and Fridays, starting on Friday November 5th

https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214_103272-547150--,00.html

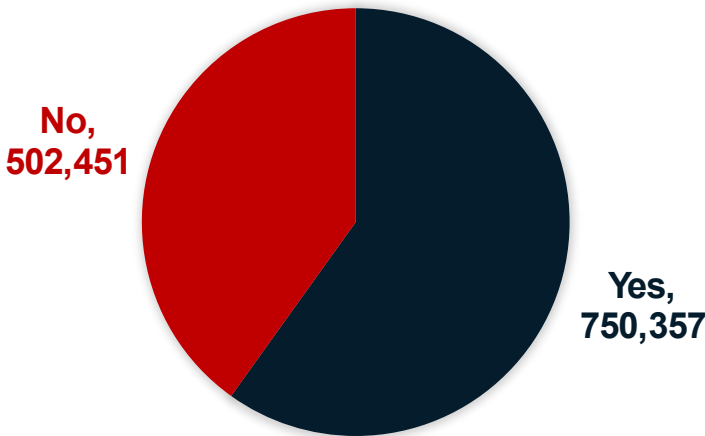# MI School Districts and Mask Policy as of Nov 1, 2021

Yes – Any masking policy in some subset of school grades
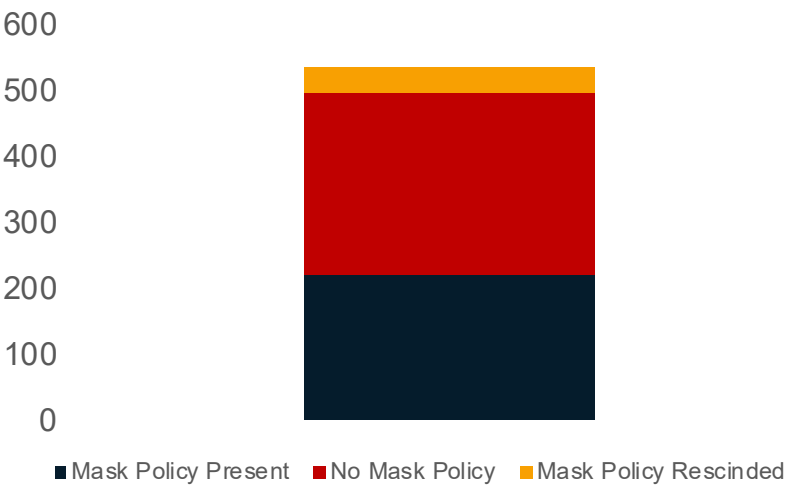
No – No mask policies (includes unknown)

NUMBER OF SCHOOL DISTRICTS WITH MASK POLICIES IN K-12 SETTINGS

Yes, 222

No, 311
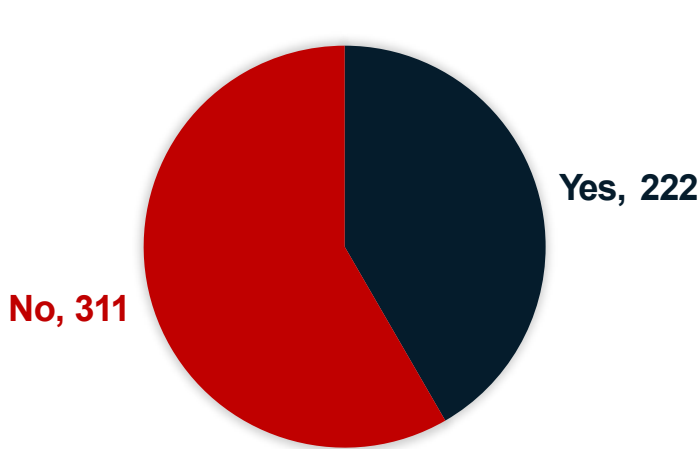
NUMBER OF STUDENTS* IN SCHOOL DISTRICTS WITH MASK POLICIES

No, 502,451

Yes, 750,357

NUMBER OF SCHOOL DISTRICTS WITH MASK POLICY REVERSAL

600
500
400
300
200
100
0

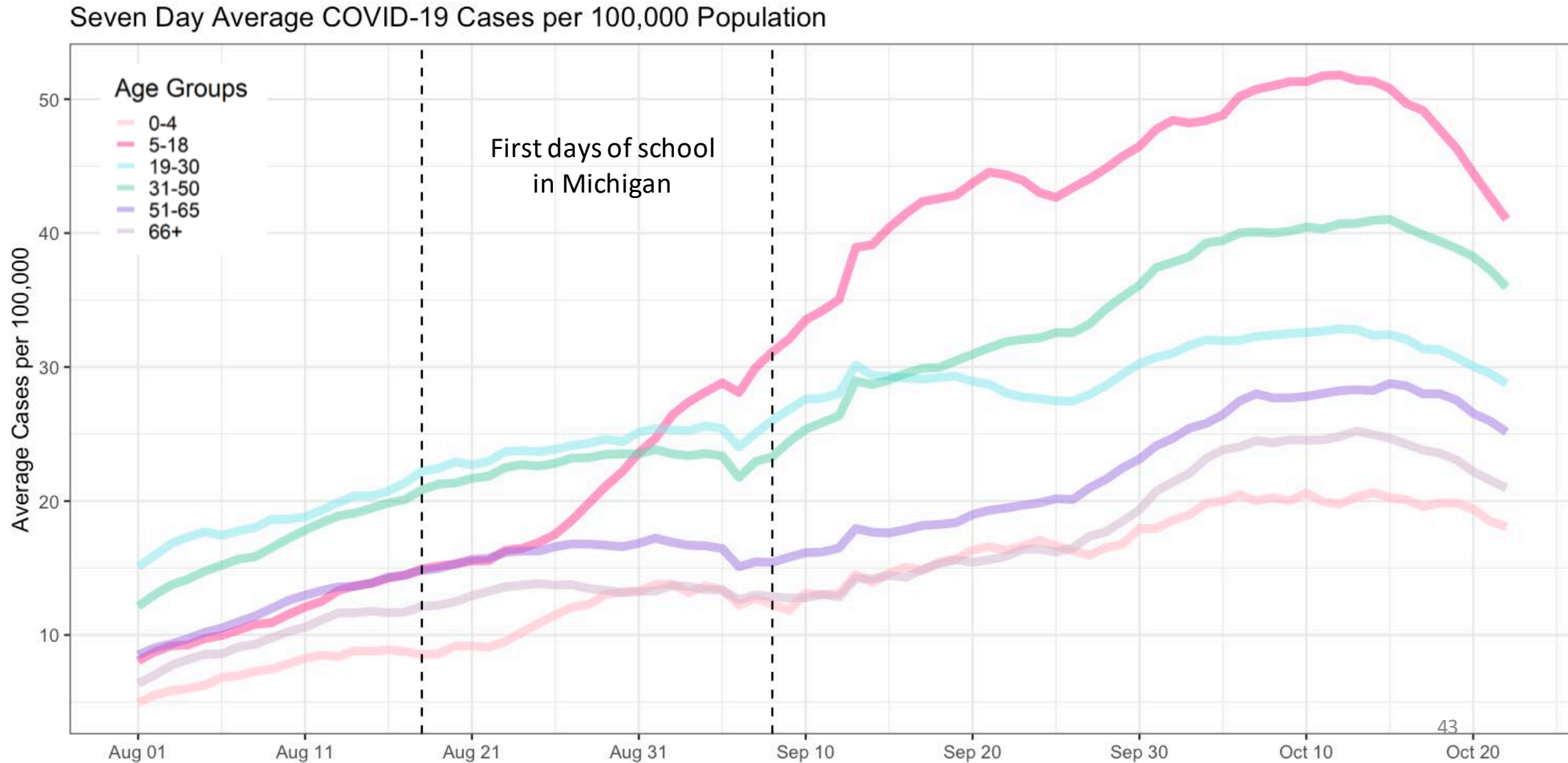■ Mask Policy Present ■ No Mask Policy ■ Mask Policy Rescinded

- 42% (222/533) of K-12 school districts have mandatory mask policies
- School districts with mandatory mask policies cover 60% (750,357/1,252,808) of K-12 students*
- Not all K-12 grades or students may be covered by masks polices; examples include policies for those through K-6, or only during higher levels of community transmission
- 7% of K-12 school districts have rescinded their mask policies

 * Student size based on school enrollment numbers; Buses and public transportation are federally required to enforce mask mandates

Source: Executive Office of Governor School District Mask Policy Database

Case increases are largest in school aged children (5-18 year-olds), followed by 31-50 year-olds

Seven Day Average COVID-19 Cases per 100,000 Population

First days of school in Michigan

Age Groups
- 0-4
- 5-18
- 19-30
- 31-50
- 51-65
- 66+

Average Cases per 100,000

Data source: MDSS case data through 10/22/21, data as of 10/29/2021

43

Districts without mask requirements are experiencing higher case rates

- 5–18-year-old school population case rates are higher and rose faster in districts without mask requirements

- Districts with complete or partial mask requirements have seen lower case rates with slower increases

- Note districts may change categories as mask rules change

- Note that districts with mask rules may also have other prevention measures (vaccination, testing, etc.) that reduce transmission levels
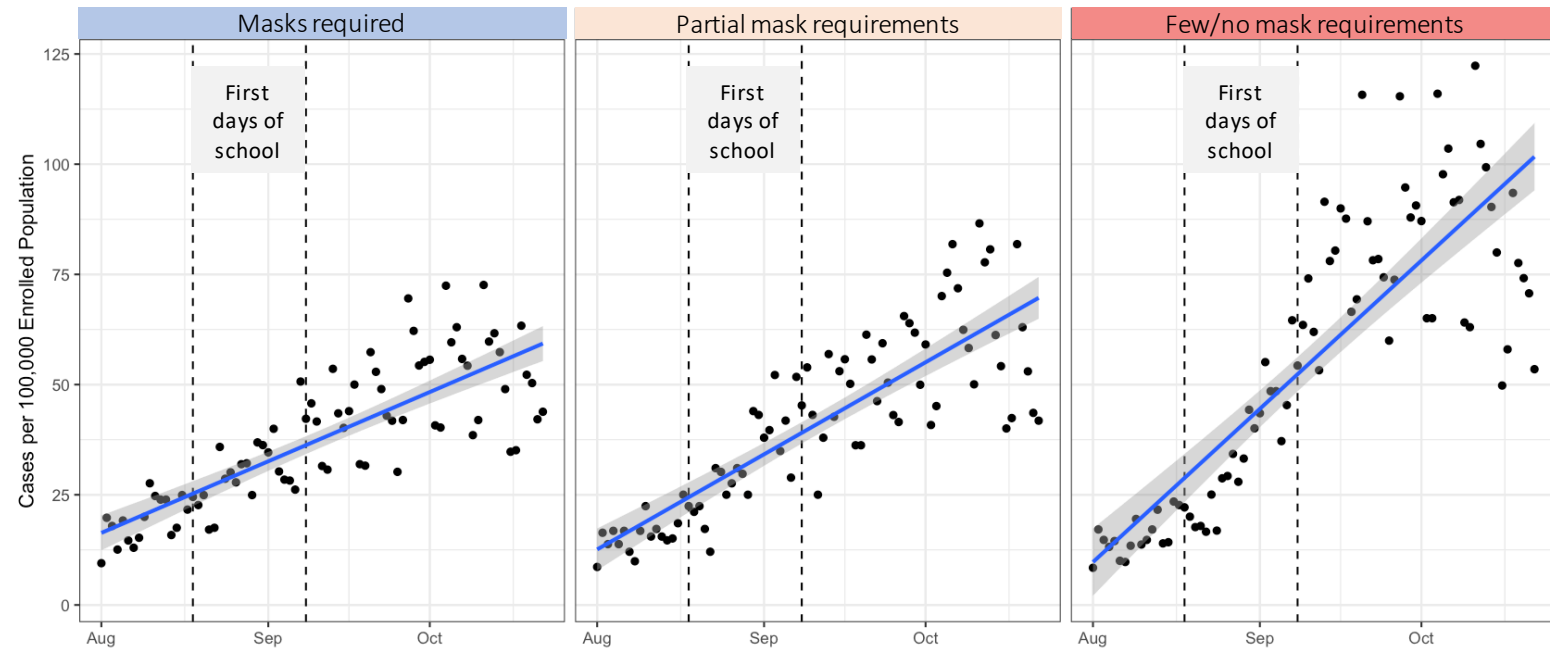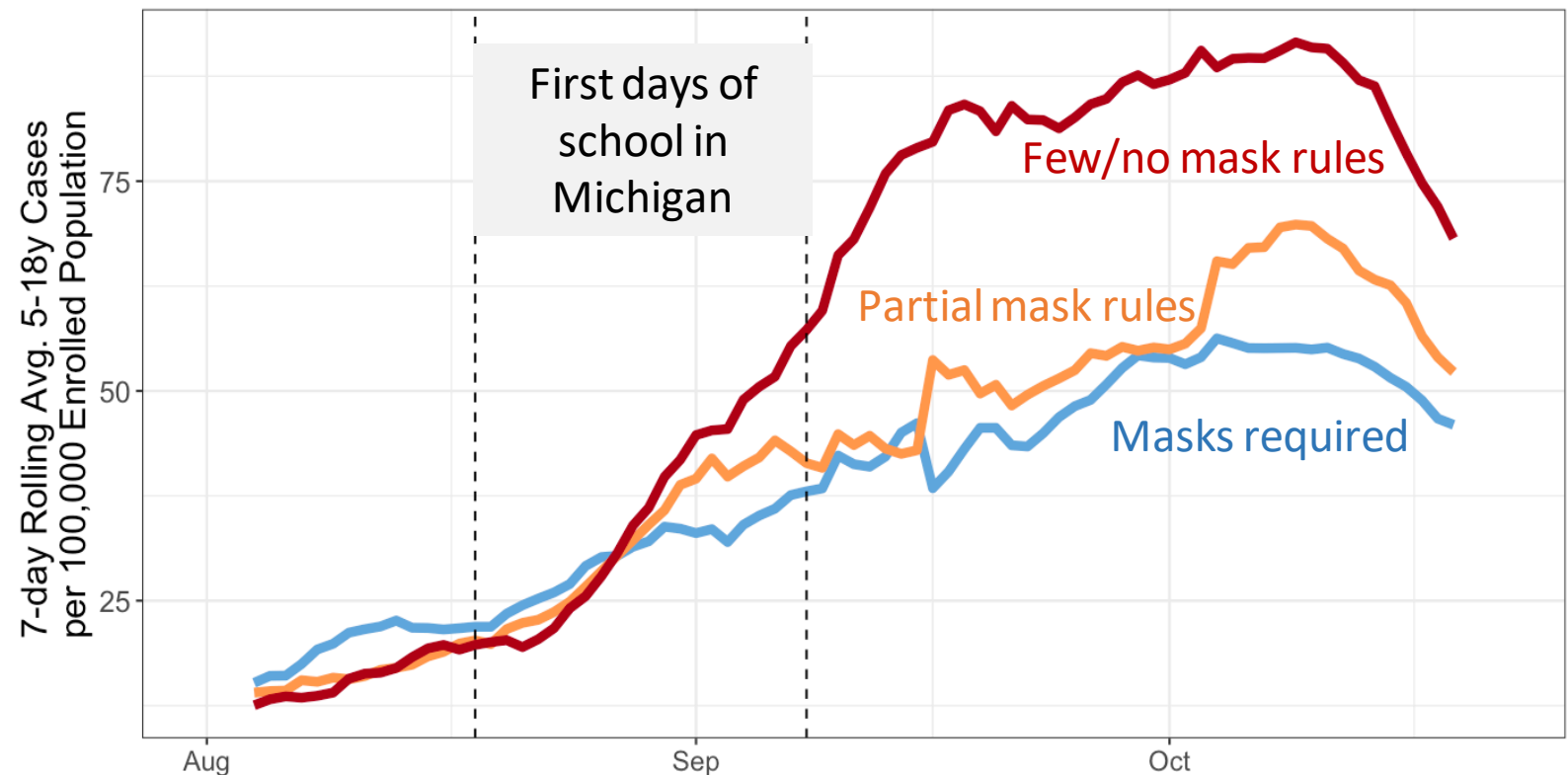
Masks required = mask required for all grades; Partial mask req. = tiered, some grades, based on vax status, staff only; Few/no req. = no req. or buses only. Blue line & shaded region is a linear trend fit. Data Sources: MDSS/MDHHS case data as of 10/29/21 geocoded to school district, EOG School District Mask Policy Tracker data. Note: Cases are among all 5-18 year olds, population is the school-enrolled population.

Back-to-school saw case rate increases for all ages. Increases were highest for counties without school masking.

- All mask levels and age groups had similar case rates prior to the back-to-school period

- During back to school, all counties saw some increase in case rates, with higher increases for school aged populations

- However, increases were larger for counties with fewer mask requirements

- In counties without school mask requirements, case rates more than tripled after back-to-school for school-aged individuals, and ~doubled for non-school-aged individuals

Cases from MDSS were examined at the county level (so that non-school age population counts were available) using a district mask risk level from the back to school period, averaged to the county level. Mask levels from EOG School District Mask Policy Tracker.

COVID-19 Cases per 100,000 (Rolling 7-Day Daily Average) In Counties by Average Mask Status
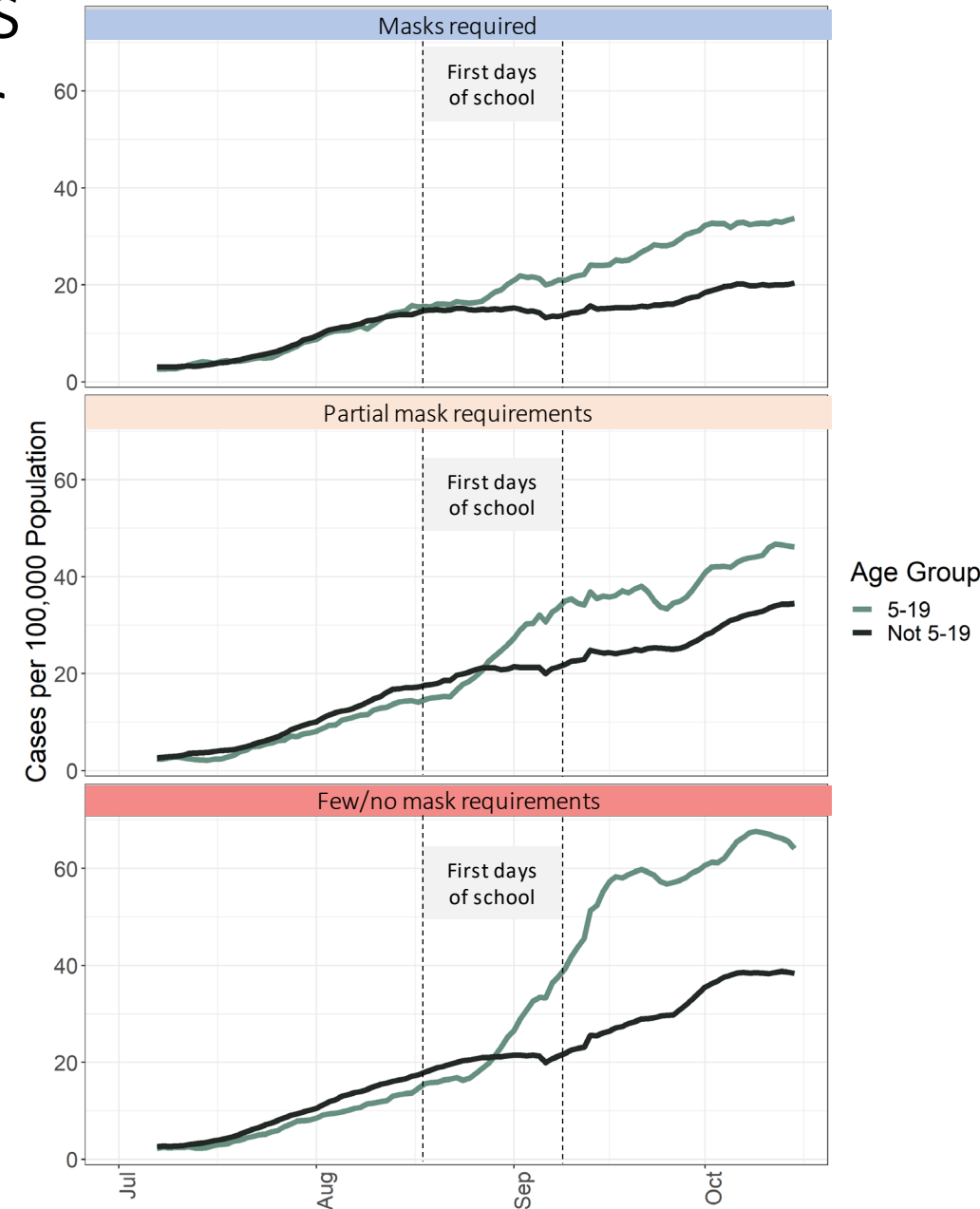
Known Masking Status and Unknown Age Groups were removed from consideration. Risk Level as of 8/30/2021. Case Data as of 10/28/2021.

# Update to Testing Guidance for Fully Vaccinated

- Fully vaccinated people with no COVID-like symptoms following an exposure to someone with suspected or confirmed COVID-19 should seek testing to ensure they are not infected

- Fully vaccinated people who have come into close contact with someone with COVID-19 should be tested 5-7 days following the date of their exposure and wear a mask in public indoor settings for 14 days or until they receive a negative test result
    - If test is positive, individuals should isolate
    - Regardless of result, fully vaccinated people who live in a household with someone who is immunosuppressed, at increased risk of severe disease, or unvaccinated (including children <12 years of age) could also consider masking at home for 14 days following a known exposure or until they receive a negative test result

- Most fully vaccinated people with no COVID-like symptoms do not need to quarantine or be restricted from work following an exposure to someone with suspected or confirmed COVID-19, if they follow the testing and masking recommendation above

- Fully vaccinated people should monitor for symptoms of COVID-19 for 14 days following an exposure

Source: CDC Interim Public Health Recommendations for Fully Vaccinated People
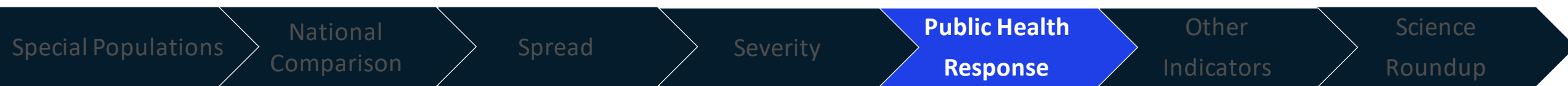
Safer Ways to Celebrate Holidays

Holiday traditions are important for families and children. There are several ways to enjoy holiday traditions and protect your health. Many generations tend to gather to celebrate holidays. Here are some ways to celebrate the holidays more safely:
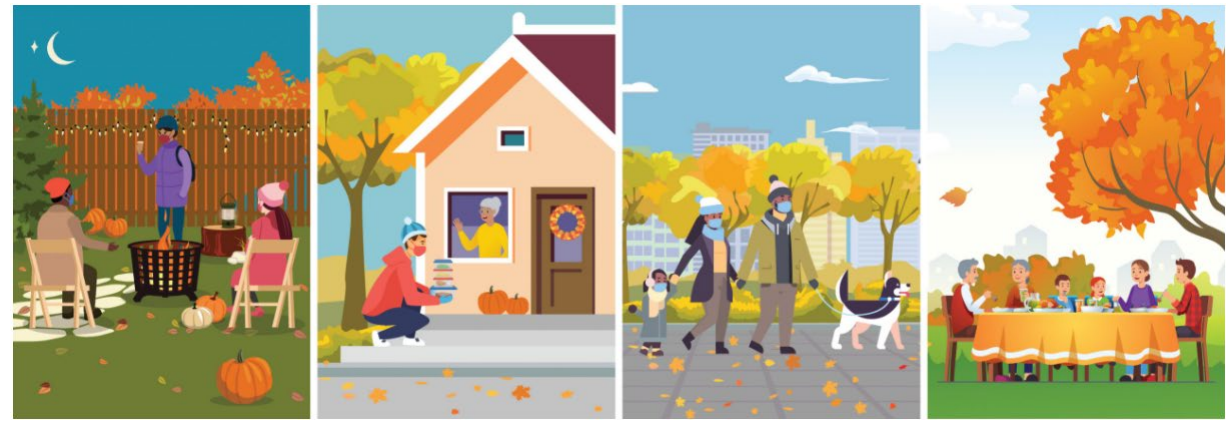
- The best way to minimize COVID-19 risk and keep your family and friends safer is to get vaccinated if you're eligible.

- If you are sick or have symptoms, don't host or attend a gathering.

- Regardless of vaccination status, all those aged 2 or older, you should wear a mask in indoor public places in areas of substantial or high SARS-CoV-2 transmission and in crowded, poorly ventilated outdoor areas.

- Before a multihousehold gathering, consider taking a rapid antigen test, regardless of whether you've been in contact with someone with COVID-19; if you test positive, stay home until you consult your provider and rule out any possibility of infecting others.

- Consider a setting where people can spread out and where there can be good ventilation.

- If you are traveling for a holiday event, follow domestic and international travel guidelines and public health recommendations.

- Practice healthy hygiene – e.g., proper respiratory etiquette, wash your hands frequently, and avoid touching your face.

- People who have a condition or are taking medications that weaken their immune system may not be fully protected even if they are fully vaccinated. They should continue to take all precautions recommended for unvaccinated people, including wearing a well-fitted mask, until advised otherwise by their healthcare provider.

- Visit the CDC COVID-19 Safer Ways to Celebrate Holidays and Travel Guidelines for more information on how to keep yourself and your loved ones safe this holiday season.

Source: CDC Holiday Celebrations

Special Populations | National Comparison | Spread | Severity | **Public Health Response** | Other Indicators | Science Roundup