MI COVID RESPONSE DATA AND MODELING UPDATE

NOTE: All data as of August 16 unless otherwise noted

August 17, 2021
Executive Summary – All Indicators Show Increases

Michigan is now in High Transmission

Percent Positivity (7.7%) is increasing for seven weeks (up from 7.0% last week), and Case Rate (102.0 cases/million) have increased for over a month (up from 77.2 last week)

Michigan has 30th lowest number of cases (33rd last week), and 5th lowest case rate (9th last week) in the last 7 days

99% of positive tests available for sequencing in Michigan were Delta variant in the last 4 weeks

Percent of inpatient beds occupied by individuals with COVID (4.0%) has increased for four weeks (up from 2.9% last week).

Michigan has 9th lowest inpatient bed utilization (10th last week), and 10th lowest adult ICU bed utilization (10th last week)

Deaths (0.6 deaths/million) are increasing (0.5 deaths/million last week). There were 41 COVID deaths between Aug 3 and Aug 9.

Michigan has the T28th lowest number of deaths (21st last week), and T16th lowest death rate (T6th last week) in the last 7 days

7-day average state testing rate is steady at 2,068.0 tests/million/day. Daily diagnostic tests (PCR) is 20.5K per day, and the weekly average for PCR and antigen tests conducted in Michigan is 34.3K.

9.98 million COVID-19 vaccine doses reported to CDC, 4.95 million people have completed their vaccine series

Science Round Up

Models are projecting a continued increase in hospitalizations and deaths over the next four to six weeks, maybe longer

Children can be impacted by the spread of COVID-19

A larger proportion of those who become cases (98%), are hospitalized (95%), and died (95%) from COVID are unvaccinated

mRNA vaccine are 96% effective at preventing hospitalizations among elderly

Among individuals previously infected, vaccination provides additional protection to prevent reinfection

Layered mitigation, especially for those not vaccinated and those not yet eligible for vaccination can avoid unnecessary surge in cases and unintended school closures due to classroom outbreaks
What we see today (data through 8/16):

- Globally, 207,366,191 cases and 4,365,541 deaths*
- Countries with the highest case count are U.S. (36,681,559), India (1,081,284), and Brazil (987,525)*
- Nearly all US jurisdictions have high community transmission
- Within the U.S., Rhode Island (14,876/100,000), North Dakota (14,858/100,000), & South Dakota (14,327/100,000) lead the nation in cumulative cases/capita
- Michigan has had 10,300 cases per 100,000 since March 1, 2020
- Michigan currently has identified 14,922 variants of concern (VOC)*
  - Cumulatively, the vast majority are B.1.1.7 (13,652 which is 91.5%)
    - Other VOCs include B.1.351 (0.6%), P.1 (2.2%) and B.1.617.2 (5.7%)
  - 571 VOC reported with specimen date in the 4 most recent weeks
    - Delta (B.1.617.2) 99%
    - Alpha (B.1.1.7) <1%
    - Gamma (P.1) <1%

* CDC removed Epsilon (B.1.427/B.1.429) from the lists of VOCs
State Comparisons: Missouri and Arkansas

Missouri Confirmed New Cases / 1M (7 days average)

Arkansas Confirmed New Cases / 1M (7 days average)

Percent Positive (7 day average)

New Tests

Mobility retail and recreational

Hospitalizations / 1M
State Comparisons: Florida and Michigan

Florida Confirmed New Cases / 1M (7 days average)

Michigan Confirmed New Cases / 1M (7 days average)

Percent Positive (7 day average)

New Tests

Mobility retails and recreational

Hospitalizations / 1M
State Comparisons: Nevada and Louisiana

Nevada Confirmed New Cases / 1M (7 days average)

Louisiana Confirmed New Cases / 1M (7 days average)

Percent Positive (7 day average)

Mobility retail and recreational

Hospitalizations / 1M

15.1%

17.3%

394

625
Key Messages: COVID-19 is Spreading Faster with Delta

Statewide positivity has increased to 7.7% (last week: 7.0%)
  • One week percent change is up 11% (vs. up 21% last week)
  • Increasing for seven weeks (over 6 times higher the Jun 26 low)
  • Positivity is increasing in all MERC regions; five regions are >7% and one region > 10%

Case rate (102.0 cases/million) increasing for over a month (last week: 77.2 cases/million)
  • One week increase of 15% (vs. 34% increase last week)
  • Increasing for over a month (611% increase since Jun 26 low)
  • Cases per million are increasing in all MERC regions
  • Select variants in Michigan: 13,652 confirmed Alpha (B.1.1.7); 85 confirmed Beta (B.1.351); 329 confirmed Gamma (P.1); and 856 confirmed Delta (B.1.617.2)

Michigan is at High Transmission level
  • More than half of the counties in Michigan are at high transmission level
  • CDC would recommend all individuals, regardless of vaccination status, should mask indoors
  • The U.S. is at high transmission level (252 cases/100,000 in last 7 days) with 54 states/territories in substantial or high transmission

Number of active outbreaks is up 36% from last week
  • Eighty-six new outbreaks were identified in the past week
  • Manufacturing/Construction reported the most new and ongoing outbreaks this week

National Comparison

Spread
Severity
Public Health Response
Other Indicators
Science Round-up
**Confirmed and probable case indicators**

Table Date: 8/16/2021 (7 days from date table was produced: 8/9/2021)

<table>
<thead>
<tr>
<th>City</th>
<th>CDC Transmission Risk Level</th>
<th>Absolute Cases (per million)</th>
<th>CDC Case Trend</th>
<th>Average Percent Positivity</th>
<th>Positivity Trend</th>
<th>Tests (per million)</th>
<th>% Occupied IP Beds by COVID-19 Cases</th>
<th>% Occupied IP Beds Trend</th>
<th>Absolute Deaths (per million)</th>
<th>Death Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detroit</td>
<td>High</td>
<td>100.4</td>
<td>elevated incidence growth</td>
<td>6.8</td>
<td>increase - 4wk</td>
<td>2196.5</td>
<td>4.2</td>
<td>increase - 4wk</td>
<td>0.4</td>
<td>Increase - 1wk</td>
</tr>
<tr>
<td>Grand Rapids</td>
<td>Substantial</td>
<td>89.3</td>
<td>elevated incidence growth</td>
<td>8.8</td>
<td>increase - 6wk</td>
<td>2017.4</td>
<td>3.6</td>
<td>increase - 4wk</td>
<td>0.8</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Kalamazoo</td>
<td>High</td>
<td>126.7</td>
<td>elevated incidence plateau</td>
<td>10.7</td>
<td>increase - 6wk</td>
<td>1728.1</td>
<td>5.0</td>
<td>Increase - 2wk</td>
<td>0.6</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Saginaw</td>
<td>High</td>
<td>112.0</td>
<td>elevated incidence growth</td>
<td>9.7</td>
<td>increase - 6wk</td>
<td>1557.4</td>
<td>2.6</td>
<td>increase - 3wk</td>
<td>0.7</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Lansing</td>
<td>High</td>
<td>99.2</td>
<td>elevated incidence growth</td>
<td>7.3</td>
<td>Decrease - 1wk</td>
<td>1773.0</td>
<td>4.1</td>
<td>increase - 4wk</td>
<td>0.0</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Traverse City</td>
<td>Substantial</td>
<td>97.7</td>
<td>elevated incidence plateau</td>
<td>5.8</td>
<td>Decrease - 1wk</td>
<td>1805.0</td>
<td>4.0</td>
<td>Increase - 3wk</td>
<td>2.6</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Jackson</td>
<td>High</td>
<td>112.6</td>
<td>elevated incidence growth</td>
<td>9.3</td>
<td>increase - 6wk</td>
<td>2022.1</td>
<td>6.9</td>
<td>increase - 4wk</td>
<td>0.9</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Upper Peninsula</td>
<td>High</td>
<td>97.8</td>
<td>elevated incidence growth</td>
<td>6.8</td>
<td>increase - 3wk</td>
<td>1407.4</td>
<td>1.8</td>
<td>Decrease - 1wk</td>
<td>0.0</td>
<td>&lt;20 wky deaths</td>
</tr>
<tr>
<td>Michigan</td>
<td>High</td>
<td>102.0</td>
<td>elevated incidence growth</td>
<td>7.7</td>
<td>increase - 7wk</td>
<td>2069.0</td>
<td>4.0</td>
<td>Increase - 4wk</td>
<td>0.6</td>
<td>Increase - 2wk</td>
</tr>
</tbody>
</table>

**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%

**Risk levels**

- Low
- A
- B
- C
- D
- E

**Notes:**

- We have added CDC by REPORT date; the one region is over 97 cases per million with note over.
Overview of metrics for individuals <12 years

<table>
<thead>
<tr>
<th>Region</th>
<th>Population (&lt;12 yrs)</th>
<th>Population (&lt;18 yrs)</th>
<th>Cumulative Case Count (&lt;12 yrs)</th>
<th>7-day Average Daily Case Count (&lt;12 yrs)</th>
<th>7-day Average Daily Case Rate per Million (&lt;12 yrs)</th>
<th>7-day Average Daily Pediatric Hospitalization Count (&lt;18 yrs)</th>
<th>7-day Average Daily Pediatric Hospitalization Rate per Million (&lt;18 yrs)</th>
<th>7-day Average Daily Death Count (&lt;12 yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Detroit</td>
<td>735529</td>
<td>1134247</td>
<td>29870</td>
<td>47.1</td>
<td>64.0</td>
<td>16.7</td>
<td>14.7</td>
<td>0</td>
</tr>
<tr>
<td>2 Grand Rapids</td>
<td>230120</td>
<td>350662</td>
<td>10154</td>
<td>12.9</td>
<td>56.1</td>
<td>5.6</td>
<td>16.0</td>
<td>0</td>
</tr>
<tr>
<td>3 Kalamazoo</td>
<td>140422</td>
<td>214801</td>
<td>5571</td>
<td>13.0</td>
<td>92.6</td>
<td>0.9</td>
<td>4.2</td>
<td>0</td>
</tr>
<tr>
<td>4 Saginaw</td>
<td>78759</td>
<td>122834</td>
<td>3367</td>
<td>5.7</td>
<td>72.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>5 Lansing</td>
<td>78140</td>
<td>119915</td>
<td>3310</td>
<td>5.6</td>
<td>71.7</td>
<td>3.3</td>
<td>27.5</td>
<td>0</td>
</tr>
<tr>
<td>6 Traverse City</td>
<td>53099</td>
<td>83462</td>
<td>1617</td>
<td>3.4</td>
<td>64.0</td>
<td>0.6</td>
<td>7.2</td>
<td>0</td>
</tr>
<tr>
<td>7 Jackson</td>
<td>41274</td>
<td>64091</td>
<td>1546</td>
<td>2.4</td>
<td>58.1</td>
<td>0.4</td>
<td>6.2</td>
<td>0</td>
</tr>
<tr>
<td>8 Upper Peninsula</td>
<td>34645</td>
<td>53875</td>
<td>1454</td>
<td>2.1</td>
<td>60.6</td>
<td>0.3</td>
<td>5.6</td>
<td>0</td>
</tr>
<tr>
<td>99 Michigan</td>
<td>1391988</td>
<td>2143577</td>
<td>56944</td>
<td>92.7</td>
<td>66.6</td>
<td>27.7</td>
<td>12.9</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Data as of 8/16; case data 8/9, hospitalization data 8/16. Hospitalization data is for pediatric patients (<18)
Michigan at High Transmission Level

Dashboard | CDC | MI Start Map for most recent data by reporting date

The MI Start Map now has CDC transmission have more recent data people for the last few
Cases per Capita Increasing Statewide

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

- Case rates by onset date in Michigan are in substantial transmission
- Case rates in most counties are above 40 cases per million population

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

National Comparison  Spread  Severity  Public Health Response  Other Indicators  Science Round-up
Case Rate Trends are Increasing for All Age Groups

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

- Case rate trends for all age groups are increasing
- Case rates for all age groups are between 60 and 145 cases per million (through 8/9)
- Case rate trends are highest for 20-29-year-olds followed by 30-39, 40-49, and 10-19

Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS – Michigan Disease Surveillance System
Number of Cases and Case Rates are Increasing for All Age Groups

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

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Average daily cases</th>
<th>Average Daily Case Rate</th>
<th>One Week % Change (Δ #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>70.3</td>
<td>61.0</td>
<td>19% (+11)</td>
</tr>
<tr>
<td>10-19</td>
<td>125.9</td>
<td>100.3</td>
<td>11% (+12)</td>
</tr>
<tr>
<td>20-29</td>
<td><strong>201.0</strong></td>
<td><strong>145.7</strong></td>
<td>9% (+16)</td>
</tr>
<tr>
<td>30-39</td>
<td>164.6</td>
<td><strong>135.7</strong></td>
<td>13% (+19)</td>
</tr>
<tr>
<td>40-49</td>
<td>146.4</td>
<td><strong>124.2</strong></td>
<td>18% (+22)</td>
</tr>
<tr>
<td>50-59</td>
<td>125.4</td>
<td>92.9</td>
<td>16% (+17)</td>
</tr>
<tr>
<td>60-69</td>
<td>107.4</td>
<td>84.2</td>
<td>28% (+23)</td>
</tr>
<tr>
<td>70-79</td>
<td>54.7</td>
<td>71.4</td>
<td>18% (+8)</td>
</tr>
<tr>
<td>80+</td>
<td>24.7</td>
<td>59.7</td>
<td>21% (+1-5)</td>
</tr>
<tr>
<td>Total*</td>
<td>1022.7</td>
<td>102.0</td>
<td>15% (+133.6)</td>
</tr>
</tbody>
</table>

- Average daily number of cases (201) is highest for those aged 20-29
- Avg. daily case rate (145.7 cases/mil) is currently highest for 20-29
- Case rates for all age groups are between 60-145 cases per million
- Case rate trends are increasing for all age groups
- Case rates bottomed out on June 26, 2021

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

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

### National Comparison

- Spread
- Severity
- Public Health Response
- Other Indicators
- Science Round-up
Racial and Ethnic Case Rates are Increasing

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

<table>
<thead>
<tr>
<th>Race</th>
<th>Case Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>65.2</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>35.7</td>
</tr>
<tr>
<td>Black/African American</td>
<td>66.2</td>
</tr>
<tr>
<td>White</td>
<td>80.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Case Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latino</td>
<td>87.0</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>78.8</td>
</tr>
</tbody>
</table>

Updates since last week:

• Cases per million are increasing for all races and ethnicities
• **Hispanics and Whites have the highest case rates**
• In the past 30 days, 17% (↔) of race data and 20% (↔) 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 All Variants of Concern (VOC) in US and Michigan

Variants Circulating in United States, Jul 18 – Jul 31 (NOWCAST)

Variants of Concern in Michigan, Aug 16

<table>
<thead>
<tr>
<th>Variant</th>
<th>MI Reported Cases</th>
<th># of Counties</th>
<th>% Specimens in last 4 wks</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1.1.7 (alpha)</td>
<td>13,652*</td>
<td>81</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>B.1.351 (beta)</td>
<td>85</td>
<td>24</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>P.1 (gamma)</td>
<td>329</td>
<td>35</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>B.1.617.2 (delta)</td>
<td>856 (↑506)</td>
<td>58 (↑8)</td>
<td>99%</td>
</tr>
</tbody>
</table>

* 534 cases within MDOC; * 37 cases with county not yet determined

Note: The low number of specimens recently submitted for sequencing limits the ability to estimate the prevalence of variants in Michigan

Data last updated Aug 16, 2021
Source: [https://covid.cdc.gov/covid-data-tracker/#variant-proportions](https://covid.cdc.gov/covid-data-tracker/#variant-proportions) and MDSS
Number of Outbreaks Reported has Increased

Number of outbreak investigations by site type, week ending Aug 12

<table>
<thead>
<tr>
<th>Site type</th>
<th>Outbreaks by ongoing/new classification, #</th>
<th>Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ongoing</td>
<td>New</td>
</tr>
<tr>
<td>Manufacturing, Construction</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>*Social gathering</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Childcare/Youth Program</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>SNF/LTC/Other Assisted Living</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>*Restaurants and Bars</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Healthcare</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Office Setting</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>*Religious Services</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>*Community Exposure - Indoor</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>K-12 School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural/Food Processing</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>*Shelters</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>*Personal Services</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>*Retail</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Corrections</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>College/University</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>*Community Exposure - Outdoor</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>97</td>
<td>86</td>
</tr>
</tbody>
</table>

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

Hospitalizations and ICU utilization are increasing
- 2.1% of ED visits are for COVID-like illness (CLI) (up from 1.6% last week)
- Hospital admissions are increasing for all age groups under 80 years this week
- Hospitalizations up 23% since last week (vs. 52% increase week prior)
- All regions are showing increasing trends in hospitalization trends this week, except Region 7
  - Hospitalization for COVID-19 is highest in Regions 2N, 2S, 3 and 6
  - Fastest growth is in Regions 3, 6 and 8
- Volume of COVID-19 patients in intensive care has increased 15% since last week (vs. 57% increase last week)

Death rate is 0.6 daily deaths per million people
- Death rate has increased two weeks
- 41% increase since Jul 22 low
- 30-day proportion of deaths among those under 60 years of age is steady from the prior week
Michigan Trends in Emergency Department (ED) Visits for COVID-19-Like Illness (CLI) saw the largest increase in over 3 months

- Trends for ED visits have increased to 2.1% since last week (up from 1.6% week prior)
- Trends vary by age groups with all age groups seeing an increase
- Over the past week, those 40-49 years have seen the highest number of avg. daily ED CLI visits, but those between 25 and 49 are all above the state average

• Trends for daily average hospital admissions have increased 28% since last week (vs. 68% increase prior week)
• This week, all age groups under 80 have experienced increases in daily hospital admissions
• Over the past week, those 60-69 years have seen the highest number of avg. daily hospital admissions (25 admissions)
COVID+ census in hospitals has increased 23% from last week (previous week was up 52%). The rate of growth in hospitalizations has slowed from last week.
All regions except Region 7 show increasing hospitalization trends this week. The fastest growth is in Regions 3, 6 and 8.

All regions except Region 8 are above 50/M population hospitalized with Regions 2S, 2N and 3 approaching 100/M.
Statewide Hospitalization Trends: ICU COVID+ Census

Overall, the census of COVID+ patients in ICUs has increased by 15% from last week.

6 regions have increasing ICU COVID+ hospital census from last week. Region 1 and 6 have 10%+ of ICU beds occupied with COVID+ patients.

<table>
<thead>
<tr>
<th>Region</th>
<th>Adult COVID+ in ICU (% Δ from last week)</th>
<th>Adult ICU Occupancy</th>
<th>% of Adult ICU beds COVID+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>19 (19%)</td>
<td>81%</td>
<td>10%</td>
</tr>
<tr>
<td>Region 2N</td>
<td>47 (24%)</td>
<td>69%</td>
<td>8%</td>
</tr>
<tr>
<td>Region 2S</td>
<td>55 (10%)</td>
<td>78%</td>
<td>8%</td>
</tr>
<tr>
<td>Region 3</td>
<td>28 (100%)</td>
<td>82%</td>
<td>9%</td>
</tr>
<tr>
<td>Region 5</td>
<td>12 (-20%)</td>
<td>60%</td>
<td>6%</td>
</tr>
<tr>
<td>Region 6</td>
<td>25 (4%)</td>
<td>75%</td>
<td>11%</td>
</tr>
<tr>
<td>Region 7</td>
<td>6 (-50%)</td>
<td>60%</td>
<td>3%</td>
</tr>
<tr>
<td>Region 8</td>
<td>3 (50%)</td>
<td>57%</td>
<td>4%</td>
</tr>
</tbody>
</table>
**Average and total new deaths, by age group**

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

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

**Total confirmed and probable deaths by age group (past 30 days, ending 8/9/2021)**

- 0-19: 7
- 20-29: 19
- 30-39: 13
- 40-49: 19
- 50-59: 34
- 60-69: 39
- 70-79: 51
- 80+: 0

- 26% of deaths below age sixty

- Overall trends for daily average deaths are increasing since last week
- Through 8/9, the 7-day avg. death rate is below 1.0 daily deaths per million people for those under the age of 70

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

---

**National Comparison**

**Spread**

**Severity**

**Public Health Response**

**Other Indicators**

**Science Round-up**
30-day rolling average daily deaths per million people by race and ethnicity

- Additional reviews of vital records death data were performed the weeks of 7/6 and 8/9 to search for race and ethnicity
- This review has resulted in an adjustment of deaths for American Indian and Alaskan Natives from previous weeks
- **Currently, American Indian/Alaskan Natives have the highest death rate**

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.
Source: MDHHS – Michigan Disease Surveillance System
COVID-19 Vaccination

Administration (doses administered)
- 3,994 first doses administered each day (7 day rolling average*)
- Most administered frequently by pharmacies, local health departments, and hospitals

Coverage (people vaccinated)
- 65.4% (+0.6) of aged 18+ have had first dose of vaccine; 86.5% (+0.3) of aged 65+ have had first dose
- 4,955,984 people in Michigan have completed vaccination series (4,916,256 and 4,890,859 last 2 weeks)
- Initiation highest among Asian, Native Hawaiian or Pacific Islander and American Indian/Alaskan Native individuals (MI COVID Vaccine Dashboard 8/10/21)
- Less than 1% of Vaccinated Individuals Later Tested Positive for COVID-19 (Number of cases who are fully vaccinated (n= 12,121)

*https://covid.cdc.gov/covid-data-tracker/#vaccination-trends_vacctrends-onedose-daily
Doses Administered as of 8/16/2021

12,199,070 doses delivered to providers and 9,893,319 doses administered (CDC tracker)

- 44,903 doses administered week ending 8/14 week
- 3,994 first doses/day on average

Aug 8 – Aug 14 (inclusive), doses were most frequently administered by
- Pharmacies (30.6K)
- LHD (4.2K) and hospitals (3.2K)
- Family practice (2.1K), and FQHCs (1.7K), and Pediatricians (790)
Over 4.9 Million Michiganders fully vaccinated

4.96 million people in the state are fully vaccinated

82.2% of people aged 65 and older have completed the series

Race/Ethnicity for those 12 years and older:

- Initiation coverage highest among those of Non-Hispanic (NH) Asian, Native Hawaiian or Pacific Islander Race (53.1%), then NH American Indian (49.4%), NH White (46.2%), NH Black or African American Races (35.2%).
- Initiation is at 46.3% for those of Hispanic ethnicity
- Completion follows the same pattern
- 20.7% data missing or unknown

Vaccination Coverage in Michigan as of 8/17/21

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% At Least One Dose</th>
<th>% Fully Vaccinated</th>
<th>Number Fully Vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>54.3</td>
<td>49.6</td>
<td>4,955,984</td>
</tr>
<tr>
<td>≥ 12 years</td>
<td>63.1</td>
<td>57.7</td>
<td>4,955,844</td>
</tr>
<tr>
<td>≥ 18 years</td>
<td>65.4</td>
<td>60.1</td>
<td>4,714,549</td>
</tr>
<tr>
<td>≥ 65 years</td>
<td>86.5</td>
<td>82.2</td>
<td>1,450,355</td>
</tr>
</tbody>
</table>

Coverage by Race - State Level

- NH White: 44.2%, NH Black: 35.2%, NH Asian/Native Hawaiian/Pacific Islander: 53.1%, NH American Indian/Alaska Native: 49.4%, Hispanic: 44.3%
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 8/10/21):
• 12,121 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 247 deaths (217 in persons ages 65 years or older)
  • 711 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.
• More than 166 million people in the United States have been fully vaccinated as of August 9, 2021. Like with other vaccines, vaccine breakthrough cases will occur, even though the vaccines are working as expected. Asymptomatic infections among vaccinated people will also occur.
• There is some evidence that vaccination may make illness less severe for those who are vaccinated and still get sick.
• Current data suggest that COVID-19 vaccines authorized for use in the United States offer protection against most SARS-CoV-2 variants currently circulating in the United States. However, variants will cause some vaccine breakthrough cases.
What is delta and what does it mean?

- Delta variant has led to high transmission throughout the U.S. with some states experiencing highest COVID-19 cases and hospitalizations to date.
- In Michigan, delta has quickly become the predominant variant and cause for the current increase in cases and hospitalizations.
- Models are projecting a continued increase in hospitalizations and deaths over the next four to six weeks, maybe longer.
- With return to school year, lack of layered mitigation measures will likely mean increases in cases and severe outcomes among children (e.g., hospitalizations, MIS-C, and long-COVID).

Are vaccinations working?

- A larger proportion of those who become cases (98%), are hospitalized (95%), and died (95%) from COVID are unvaccinated.
- mRNA vaccine are 96% effective at preventing hospitalizations among elderly.
- Among individuals previously infected, vaccination provides additional protection to prevent reinfection.

What can we do about case increases?

- Layered mitigation, especially for those not vaccinated and those not yet eligible for vaccination can avoid unnecessary surge in cases and unintended school closures due to classroom outbreaks.
- Treatment when exposed: FDA revised EUA for REGEN-COV for post-exposure prophylaxis is a new tool for preventing severe COVID-19 outcomes.
What does Delta Variant mean for Michigan
Cumulative COVID-19 Case Rates: States with high Delta Comparison

- Average daily incidence per 100,000 cases in Michigan is currently lower than other states experiencing a surge in delta cases.

Source: CDC COVID Data Tracker – State Trend Comparison
What if Scenarios: Hospitalizations if we follow Wave 2 or 3

If this wave continues to grow and follows growth patterns of prior Michigan waves, we would face growing hospitalizations through September with a peak in late September/early October.

Magnitude of 4th wave here is assumed to parallel prior waves for illustration purposes only; There is insufficient data to estimate the magnitude of any fourth wave at this time.
Modeling scenarios for Michigan: COVID surge on the horizon

- If vaccination slowing and increased social contact rates continue, model simulations project a surge is likely, potentially similar size to spring.
- If contact rates return to low levels and/or vaccinations increase to April uptake, the surge can be reduced/stopped.

Model projections are scenarios rather than forecasts—actual contact patterns may not reflect the projected scenarios. Model calibrated to MDSS case data (through 7/16, as of 7/23), using mobility data (Unacast encounter rate), increased transmission probability in June for the Delta variant. Vaccination rates based on MCIR. Uncertainty: top 10% of 1000 parameter estimates.
How do these cases translate to hospitalizations?

- Projected hospital admissions, based on the model simulations and fraction of hospital admissions for different age groups over March-May.
- These projections assume the same age distribution of cases and hospitalizations as the spring surge.
- Projected hospital admissions ranges are based only on the best fit and median simulations (not the full uncertainty range).

<table>
<thead>
<tr>
<th>Age group</th>
<th>Projected total hospital admissions Aug-Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>204 – 428</td>
</tr>
<tr>
<td>18-19</td>
<td>110 – 229</td>
</tr>
<tr>
<td>20-29</td>
<td>959 – 2007</td>
</tr>
<tr>
<td>30-39</td>
<td>1217 – 2547</td>
</tr>
<tr>
<td>40-49</td>
<td>1463 – 3061</td>
</tr>
<tr>
<td>50-59</td>
<td>2256 – 4722</td>
</tr>
<tr>
<td>60-69</td>
<td>2550 – 5336</td>
</tr>
<tr>
<td>70-79</td>
<td>2041 – 4271</td>
</tr>
<tr>
<td>80+</td>
<td>1592 – 3331</td>
</tr>
<tr>
<td>Total</td>
<td>12,186 – 25,505</td>
</tr>
</tbody>
</table>

Model calibrated to MDSS case data (through 7/16, as of 7/23), using mobility data (Unacast encounter rate), increased transmission probability in June for the Delta variant. Vaccination rates based on MCIR. Uncertainty: top 10% of 1000 parameter estimates.
Delta will increase transmission in Children: SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- Children can get infected with SARS-CoV-2: proportion of kids getting sick with COVID-19 is increasing

- Children can transmit the virus to others and can be sources for outbreaks

![Graph showing the proportion of kids getting sick with COVID-19]

SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- Missed in person school negatively impacts children and can occur from statewide lockdowns or large uncontrolled outbreaks within schools
  - Remote learning disproportionately affects minorities and lower income children

- Children can experience severe outcomes from COVID-19 including MIS-C, Hospitalization, and Death
  - A JAMA study reported MIS-C incidence was 5.1 persons per 1,000,000 person-months and 316 persons per 1,000,000 SARS-CoV-2 infections in persons younger than 21 years
  - Incidence was higher among Black, Hispanic or Latino, and Asian or Pacific Islander persons compared with White persons and in younger persons compared with older persons

SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- Children can experience severe health outcomes from COVID-19 including MIS-C and Hospitalization
  - Hospitalizations among children nationwide is higher than it’s ever been*
  - Nearly half of children hospitalized have no reported underlying conditions†

Sources: * CDC COVID Data Tracker > New Hospital Admissions; † COVIDNET
Multiple states are experiencing a sharp increase in pediatric hospitalizations

• States across the southern US have seen extremely rapid and concerning surges in pediatric hospitalization rates
  • Highest pediatric COVID hospitalization rates seen so far in the pandemic for many areas

• Potential for a similar surge in Michigan as cases and hospitalizations rise

Source: CDC hospital admissions data tracker
Sick kids running out of room at Omaha-area hospitals as start of school, COVID loom

RSV + COVID: “At Oklahoma Children’s Hospital, available pediatric beds are scarce as RSV surges”

Baton Rouge: Kids sick with Covid are filling up children’s hospitals in areas seeing spikes

Louisiana remains COVID-19 capital of U.S. as hospitals struggle to find beds and staff

‘All of them’: Tennessee health chief says children’s hospitals will fill up as the delta variant surges: “on pace to completely fill children's hospitals across the state by the end of next week.”

After record admissions, Arkansas ICUs down to last 8 beds

Dallas County has no pediatric ICU beds left, county judge says

Quote from county judge Clay Jenkins: "That means if your child’s in a car wreck, if your child has a congenital heart defect or something and needs an ICU bed, or more likely if they have Covid and need an ICU bed, we don't have one. Your child will wait for another child to die," Jenkins said. "Your child will just not get on the ventilator, your child will be CareFlighted to Temple or Oklahoma City or wherever we can find them a bed, but they won't be getting one here unless one clears."
SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

Multisystem Inflammatory Syndrome in Children (MIS-C)

- Higher community transmissions is followed by higher incidence of MIS-C cases

Daily MIS-C Cases and COVID-19 Cases Reported to CDC (7-Day Moving Average)
SARS-CoV-2 can Negatively Impact Children Directly and Indirectly
Multisystem Inflammatory Syndrome in Children (MIS-C)

• Higher community transmissions is followed by higher incidence of MIS-C cases
  • Many of those who experience MIS-C in Michigan are admitted to intensive care, school age, and are Black/African American

| Multisystem Inflammatory Syndrome in Children (MIS-C) Michigan Data Summary 7/29/2021 |
|---------------------------------|-----------------|-----------------|
| # Cases Confirmed and Reported to CDC* | 160 |
| MIS-C associated Deaths | 5 or fewer |
| Cases admitted to ICU | 113 (70.5%) |
| Onset Date Range | 4/14/20 to 7/2/2021 |
| Age Range | 0-20 years |

*Meets CDC Case definition [https://emergency.cdc.gov/han2020/han00432.asp](https://emergency.cdc.gov/han2020/han00432.asp)

• 70.6% of MIS-C cases admitted to ICU

<table>
<thead>
<tr>
<th>#</th>
<th>0-4 yrs</th>
<th>5-10 yrs</th>
<th>&gt;10 yrs</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 yrs</td>
<td>42</td>
<td>65</td>
<td>53</td>
<td>Male</td>
<td>Not Hispanic or Latino</td>
<td>26.3%</td>
</tr>
<tr>
<td>5-10 yrs</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>Female</td>
<td>Hispanic or Latino</td>
<td>46.6%</td>
</tr>
<tr>
<td>&gt;10 yrs</td>
<td>53</td>
<td>53</td>
<td>53</td>
<td>Unknown</td>
<td>Unknown</td>
<td>33.1%</td>
</tr>
</tbody>
</table>

• 44% of MIS-C cases are black or African American Children

Source: MDHHS and MIS-C Data and Reporting
SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

• While many school-aged children fully recover from COVID-19, 1 in 20 can experience symptoms last longer than four weeks and 1 in 50 can experience symptoms for more than 8 weeks

• Children experience many **Indirect Impacts** when there is uncontrolled spread of SARS-CoV-2
  • Loss of loved ones/caregivers: more than 136,000 children in the US lost a primary or secondary care giver ([orphanhood-report.pdf](https://cdc.gov))
  • Adverse outcome to mental and physical health
  • Interferences with developmental milestones

Sources: Aerosol Dynamics Model for Estimating the Risk from Short-Range Airborne Transmission and Inhalation of Expiratory Droplets of SARS-CoV-2; Southern Nevada Health District; LA County; Retraction Notice.
Are Vaccinations Working?
## COVID-19 in Michigan: Cases by Vaccination Status, January 15 – July 28

<table>
<thead>
<tr>
<th>Fully Vaccinated People (4,631,476)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cases</strong></td>
<td><strong>Hospitalization</strong></td>
<td><strong>Deaths</strong></td>
</tr>
<tr>
<td>Percent of Cases In People Not Fully Vaccinated (388,584 / 398,302)</td>
<td>Percent of Hospitalizations In People Not Fully Vaccinated (11,048 / 11,691)</td>
<td>Percent of Deaths In People Not Fully Vaccinated (4,642 / 4,888)</td>
</tr>
<tr>
<td>97.6%</td>
<td>94.5%</td>
<td>95.0%</td>
</tr>
<tr>
<td>388,584 Total Cases Not Fully Vaccinated</td>
<td>11,048 Total Hospitalized Not Fully Vaccinated</td>
<td>4,642 Total Deaths Not Fully Vaccinated</td>
</tr>
<tr>
<td>Total Breakthrough Cases 9,718</td>
<td>Total Breakthrough Hospitalizations 643</td>
<td>Total Breakthrough Deaths 246</td>
</tr>
<tr>
<td>0.210% Percent of Fully Vaccinated People who Developed COVID-19 (9,718 / 4,631,476)</td>
<td>0.014% Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (643 / 4,631,476)</td>
<td>0.005% Percent of Fully Vaccinated People Who Died of COVID-19 (246 / 4,631,476)</td>
</tr>
<tr>
<td>2.4% Percent of Cases Who Were Fully Vaccinated (9,718 / 398,302)</td>
<td>5.5% Percent of Hospitalizations Who Were Fully Vaccinated (643 / 11,691)</td>
<td>5.0% Percent of Deaths Who Were Fully Vaccinated (246 / 4,888)</td>
</tr>
<tr>
<td>Total Cases: 398,302</td>
<td>Total Hospitalizations: 11,691</td>
<td>Total Deaths: 4,888</td>
</tr>
</tbody>
</table>

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 over time show that both the case rate and death rate among the vaccinated (aka breakthrough infections and deaths) are lower than the unvaccinated rate 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 unvaccinated.
  • This principle indicates that the absolute number or the proportion of absolute number of breakthrough alone is not sufficient to measure, especially as more people become vaccinated. Instead, proportion among appropriate denominator is preferred.
All three vaccines effective at preventing hospitalization

Effectiveness of COVID-19 Vaccines in Preventing Hospitalization Among Adults Aged ≥65 Years — COVID-NET, 13 States, February–April 2021


Among adults aged 65–74 years, effectiveness of full vaccination for preventing hospitalization was 96% for Pfizer-BioNTech, 96% for Moderna, and 84% for Janssen COVID-19 vaccines.

Among adults aged ≥75 years, effectiveness of full vaccination for preventing hospitalization was 91% for Pfizer-BioNTech, 96% for Moderna, and 85% for Janssen COVID-19 vaccines.

Understanding breakthrough cases: When more people are vaccinated, more cases will come from the vaccinated population—even if the vaccine is working.

**Scenario 1: 50% Vaccinated**
- 25 unvaccinated members
- 5 vaccinated members
- 20 infections stopped by vaccination

**Scenario 2: 90% Vaccinated**
- 5 unvaccinated members
- 9 vaccinated members
- More cases are vaccinated! But the vaccine is still working.
- 36 infections stopped by vaccination

**Both Scenarios:** Vaccine reduces disease by 80%, 2.5% infection level, 2000 total people.
Among previously infected individuals: being unvaccinated is associated with significantly higher odds of reinfection compared with being fully vaccinated.

Laboratory evidence suggests that antibody responses after COVID-19 vaccination provide better neutralization than natural infection, however few epidemiologic studies under real world conditions have been completed.

Recent report from a case control study in Kentucky: Among those infected with SARS-CoV-2 in 2020, being unvaccinated was associated with 2.34 times the odds of reinfection compared with being fully vaccinated.

Among individuals previously infected, full vaccination provides additional protection against reinfection.

How many people in Michigan have been either vaccinated or previously infected?

- 28% of Michiganders have been previously infected with COVID based on seroprevalence (nucleocapsid - measures previous infection only)

- 54% of Michiganders (all ages) have received at least one dose; 49% fully vaccinated

- If people are equally likely to get vaccinated whether they have been previously infected or not, then:
  - ~67% would either received at least one dose or previously infected (estimate)
  - ~63% would either fully vaccinated or previously infected (estimate)

- Uncertainty around protection from previous infection

Is this enough to prevent another surge? Puerto Rico provides comparison point—

<table>
<thead>
<tr>
<th>Michiganders</th>
<th>Vaccinated</th>
<th>Vaccinated and previously infected</th>
<th>Previous infection</th>
</tr>
</thead>
</table>

Sources: CDC [seroprevalence & vaccination](https://www.cdc.gov) levels as of 8/8/21.
Puerto Rico: 74.8% of the population has either been previously infected or vaccinated—but they are currently at high transmission levels

- 75% of Puerto Ricans have either been vaccinated or previously infected based on seroprevalence (spike protein – measures vaccination or previous infection)
- 70% of Puerto Ricans (all ages) have received at least one dose; 61% fully vaccinated
- However, Puerto Rico is seeing a rapid surge similar to spring peak, reaching CDC high transmission levels

Sources: CDC cases, seroprevalence, & vaccination levels as of 8/8/21.
What Can We Do About Case Increases?
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.

Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason.
Low SARS-CoV-2 Transmission in Elementary Schools — Salt Lake County, Utah, December 3, 2020–January 31, 2021

Layered strategy: high adherence to masking + classroom cohorting and other measures—but classroom seats were a median of 3 ft apart

“In a high community transmission setting, low school-associated transmission was observed with a 0.7% secondary attack rate.”

Pilot Investigation of SARS-CoV-2 Secondary Transmission in Kindergarten Through Grade 12 Schools Implementing Mitigation Strategies — St. Louis County and City of Springfield, Missouri, December 2020

Layered prevention strategies including masking

Secondary transmission in only 2 of 102 close contacts tested

Clusters of SARS-CoV-2 Infection Among Elementary School Educators and Students in One School District — Georgia, December 2020–January 2021

Five of the nine transmission clusters involved inadequate mask use by students
Modeling: Masks can substantially reduce transmission in school settings, even with delta variant

If 1 infectious child attends a class of 25 students, how long does it take for there to be a >50% chance of transmission occurring?

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Elementary</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Masks</td>
<td>3 h</td>
<td>2 h</td>
</tr>
<tr>
<td>Imperfect Masking</td>
<td>24 h</td>
<td>18 h</td>
</tr>
<tr>
<td>Complete Masking</td>
<td>120 h</td>
<td>89 h</td>
</tr>
</tbody>
</table>

Estimates from the COVID-19 Indoor Safety Guideline, based on Bazant and Bush, A guideline to limit indoor airborne transmission of COVID-19, PNAS 2021. Simulations assume: delta strain, normal talking (not singing/etc.), with child age group for elementary and average between adult and child age groups for high school. Vaccine coverage was assumed to be 0% for elementary and 33% for high school, based on age-specific coverage rates as of 8/6/21. We assumed 95% mask fit/compliance for ‘Complete Masking’ and 75% for ‘Imperfect Masking’.
Modeling study in NC: Masking and testing in K-12 schools can prevent 40-70% of new infections

- Children under 12 are not yet eligible for vaccines and so are at higher risk
- Without masks or testing up to 90% of susceptible students may become infected by the end of the semester (if only 30% have protection due to previous infection or vaccination)
- Masking reduces projected infections by 40-75% in for elementary, middle, and high schools
Mask mandates implemented after delta surge saw slower rates of increases in jurisdictions compared to those who didn’t require masking

- Delta variant contributed to surges in several U.S. states in July
- Several states prohibited local masks mandates
- To date, there have been no national universal mask mandates regardless of vaccinations, only recommendations

- Several local jurisdictions passed mask mandates for indoor settings, regardless of vaccination status, in response to spread of the delta variant
  - Three were: LA County (LAC), St. Louis (STL), and Southern Nevada Health District (NV) including Clark County (Las Vegas)
  - In contrast, Orleans Parish (Louisiana), Pulaski County (Little Rock, Arkansas), and Duval County (Jacksonville, Florida) had no such mandates

- While other factors could have also contributed to lower case rates, jurisdictions with mask mandates have experienced lower spread of COVID-19 during the delta surge

Sources: St. Louis City COVID-19 dashboard; LA County COVID-19 dashboard, CDC COVID Data Tracker; population sizes from CDC Wonder Bridged Race Estimates
MONOClonAL ANTIBody POST EXPOSURE PROPHYLAXIS: FDA revision of Emergency Use Authorization of REGen-COV

Post-exposure prophylaxis using REGen-COV in individuals 12 years and older who are

- Are at high risk for progression to severe COVID-19, and
- Are not fully vaccinated or are not expected to mount an adequate immune response, and
- Have been exposed to an individual infected with SARS-CoV-2 as close contact or because of COVID-19 infection in other individuals in same institutional setting (for example, nursing homes or prisons)

Use is in addition to prior authorization to treat non-hospitalized patients with mild to moderate COVID-19 in adult and pediatric patients, with positive SARS-CoV-2 viral testing, and who are at high risk for progression to severe COVID-19.

REGen-COV is expected to be effective against circulating variants.

Post-exposure prophylaxis is not a substitute for vaccination against COVID-19.

Additional information on monoclonal antibody therapy is available at www.michigan.gov/covidtherapy.
Public health system needs to assess use of prevention strategies to avoid stressing health care capacity to provide adequate COVID-19 and non-COVID-19 care.

CDC recommends five critical factors be considered to inform local decision making:

1) Level of SARS-CoV-2 community transmission
2) Health system capacity
3) COVID-19 vaccination coverage
4) Capacity for early detection of increases in COVID-19 cases
5) Populations at increased risk for severe outcomes from COVID-19

Proven effective strategies against transmission, beyond vaccination:

1) Using masks consistently and correctly
2) Maximizing ventilation
3) Maintaining physical distance and avoiding crowds
4) Staying home when sick
5) Handwashing
6) Regular cleaning of high-touch surfaces

Prevention strategies should be strengthened or added if transmission worsens.

Prevention strategies should only be relaxed after several weeks of continuous improvement in level of community transmission.

Sources: Guidance for Implementing COVID-19 Prevention Strategies in the Context of Varying Community Transmission Levels and Vaccination Coverage

Science Round-up
Nearly all States and Territories are at High CDC Transmission Level

- 2 jurisdictions have substantial transmission (orange states); down 12 from 7 days ago
- 52 jurisdictions have high transmission (red states); up 12 from 7 days ago
- CDC recommends masking when indoor public spaces; regardless of vaccination status
Cumulative COVID-19 Case Rates: Midwest Comparison

- Cumulative incidence per 100,000 cases in Michigan has been lower than other states in the Midwest following spring 2020 surge
- Michigan’s mitigation policies helped control the spread of SARS-CoV-2 relative to other states in the Midwest, particularly during surge in November and December
- The current trajectory in Michigan continues to be in the range of cumulative case rates of our Midwest neighbors
Most Michigan Counties at Substantial or High Transmission Levels (CDC)

This Week, 8/15

Last week, 8/8

<table>
<thead>
<tr>
<th>Transmission Levels</th>
<th># of counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1</td>
</tr>
<tr>
<td>Moderate</td>
<td>10</td>
</tr>
<tr>
<td>Substantial</td>
<td>34</td>
</tr>
<tr>
<td>High</td>
<td>38</td>
</tr>
</tbody>
</table>

Updates since last week:

- 1 of 83 counties met low transmission level this week, a 3 county decrease from last week
- 10 of 83 counties met moderate transmission classification, a 10 county decrease
- 34 of 83 counties met substantial transmission classification, a 8 county decrease
- 38 of 83 counties met high transmission classification, a 21 county increase from last week
### Comparing CDC community transmission thresholds to MI levels

#### Case Rate*†

<table>
<thead>
<tr>
<th>MI*</th>
<th>Low</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;7</td>
<td>7-19</td>
<td>20-39</td>
<td>40-69</td>
<td>70-149</td>
<td>≥150</td>
</tr>
<tr>
<td>CDC†</td>
<td>Low</td>
<td>Moderate Transmission</td>
<td>Substantial Transmission</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;10 (14.3/mi)</td>
<td>10-49 (14.3 - 71.4 cases/million)</td>
<td>50-99 (71.4 - 142.9 cases/million)</td>
<td>≥100 (≥142.9/million)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Michigan uses new cases / million / day

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

#### Percent Positivity

<table>
<thead>
<tr>
<th>MI</th>
<th>Low</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;3%</td>
<td>3-7%</td>
<td>7-10%</td>
<td>10-15%</td>
<td>15-20%</td>
<td>≥20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CDC</th>
<th>Low</th>
<th>Moderate</th>
<th>Substantial</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;5%</td>
<td>5%-7.9%</td>
<td>8%-9.9%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**sources:**
- [https://mistartmap.info/](https://mistartmap.info/)
### Cases per Capita Increasing Within All MERC Regions

- Case rate trends for all regions are increasing
- Kalamazoo, Jackson, and Saginaw currently have the highest case rates
Identified COVID-19 Delta Variants by County

This week (Aug 16, 2021)*

Last week (Aug 9, 2021)

* Delta found in wastewater surveillance samples

Note: The low number of specimens recently submitted for sequencing limits the ability to estimate the prevalence of variants in Michigan.
Comparing COVID hospitalization growth rates across states

Michigan Wave 2 (Fall/Winter) and Wave 3 (Spring) vs. Other states current summer 2021 waves

The growth rate of hospitalizations in other states in this wave appears to be similar to the Michigan growth rates in Fall (wave 2) and Spring (wave 3)

Several states show possible plateau type patterns this week with duration of ascent of approximately 7-8 weeks.
CDC model projections for Michigan: increasing hospitalizations and deaths

- *Ensemble model suggests increasing trends for hospitalizations and deaths*

- Uncertainty ranges from flat to increasing

- Case data projections also range from flat to increasing (not shown) and recent data has shown increases

- Individual models shown as grey lines, ensemble shown in red

Data Sources: CDC mathematical model forecasting, CovidComplete Data Center model forecast evaluations
Understanding breakthrough cases: as more people are infected, there will be more cases among both vaccinated and unvaccinated people.

**Scenario 2:** 2.5% of unvaccinated people infected

- Vaccine still preventing 80% of infection
- More cases in both groups as transmission increases

**Scenario 3:** 5% of unvaccinated people infected

- More infections prevented by vaccination—the vaccine is still working equally well

**Both Scenarios:** 90% Vaccinated, Vaccine reduces disease by 80%, 2000 total people
QUESTIONS?

Michigan.gov/Coronavirus