Health Disparities and COVID-19: An overview of the pandemic in Michigan

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COVID-19 Corp, Senior Epidemiologist, CDC Foundation
Assigned to Michigan Department of Health & Human Services
Topics Covered Today

Spread of SARS-CoV-2
  What is the epidemiology of SARS-CoV-2 in Michigan?

COVID-19 Severity
  Do severe outcomes for COVID-19 differ by populations?

Access to Testing and Care
  Is there an equitable response in communities?

Indirect Impacts of the Pandemic
  How are non-COVID outcomes impacted by COVID-19?
  Are preventive services and access to care impacted by COVID-19?
Overview of Pandemic in Michigan

Michigan has recorded the $6^{th}$ highest number of cases, $20^{th}$ highest case rate, $3^{rd}$ highest number of deaths, and $6^{th}$ highest death rate in the last 7 days (source: CDC COVID Data Tracker).

Michigan has the $7^{th}$ highest hospitalization rate as a percent of total beds, and $7^{th}$ highest number of COVID patients in the ICU (source: Becker’s Hospital Review).

**Case rates** (610.0), **percent positivity** (12.8%), and **coronavirus like illness** (CLI) are all decreasing for most recent 7 days.

**More than 18.6% of available inpatient beds are filled with COVID patients** and state trends for hospitalizations for COVID continue to increase for the previous 7 weeks.

There were **579 deaths** during the week of Nov 15-Nov 21 and the state death rate is **8.0 deaths/million/day**.

**Daily diagnostic tests averaged 62.2K per day** over the last week and the state rate is **6,363.1 tests/million/day**.
Spread of SARS-CoV-2
COVID-19 cases by onset date: State of Michigan

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

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

Note: Cases information sourced from MDHHS and reflects date of onset of symptoms (refers to lab-confirmed cases). Case spike on 5/12 is a result of batch of test results, not all of which have onset date of symptoms completed.

Source: MDHHS – Michigan Disease Surveillance System
Positivity by county, 11/21-11/27

Last week, 11/14-11/20

Average positivity per day

- <3%: 1 (This week), 0 (Last week)
- 3-7%: 6 (This week), 5 (Last week)
- 7-10%: 16 (This week), 32 (Last week)
- 10-15%: 36 (This week), 31 (Last week)
- 15-20%: 22 (This week), 4 (Last week)
- >=20%: 3 (This week), 4 (Last week)

Source: SEOC Testing Results – Excluding MDOC
Average daily new cases per million people by race and ethnicity

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

By race category

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

By ethnicity

- Hispanic or Latino
- Not Hispanic or Latino

Past two weeks confirmed and probable cases vs. population, % of total

By race category

<table>
<thead>
<tr>
<th>Race Category</th>
<th>% of cases past two weeks</th>
<th>% of population</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>0.7%</td>
<td>80.4%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1.8%</td>
<td>85.0%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>3.6%</td>
<td>12.4%</td>
</tr>
<tr>
<td>White</td>
<td>15.0%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

By ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>% of cases past two weeks</th>
<th>% of population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latino</td>
<td>6.5%</td>
<td>94.7%</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>5.3%</td>
<td>93.5%</td>
</tr>
</tbody>
</table>

Note: Cases information sourced from MDHHS and reflects date of onset of symptoms; note that Multiple Races, Other, and Unknown race/ethnicity are not included in calculations.

Source: MDHHS – Michigan Disease Surveillance System
COVID Severity
COVID-19 hospitalizations: State of Michigan

**Total inpatients**, by hospitalization date

**Patients in intensive care**, by hospitalization date

<table>
<thead>
<tr>
<th>Region</th>
<th>COVID+ Hospitalizations / million pop.</th>
<th>Adult ICU Occupancy</th>
<th>% of Adult ICU beds COVID+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>274/M</td>
<td>78%</td>
<td>40%</td>
</tr>
<tr>
<td>Region 2N</td>
<td>478/M</td>
<td>81%</td>
<td>29%</td>
</tr>
<tr>
<td>Region 2S</td>
<td>379/M</td>
<td>81%</td>
<td>20%</td>
</tr>
<tr>
<td>Region 3</td>
<td>609/M</td>
<td>93%</td>
<td>43%</td>
</tr>
<tr>
<td>Region 5</td>
<td>263/M</td>
<td>77%</td>
<td>29%</td>
</tr>
<tr>
<td>Region 6</td>
<td>378/M</td>
<td>80%</td>
<td>42%</td>
</tr>
<tr>
<td>Region 7</td>
<td>250/M</td>
<td>74%</td>
<td>35%</td>
</tr>
<tr>
<td>Region 8</td>
<td>231/M</td>
<td>81%</td>
<td>36%</td>
</tr>
</tbody>
</table>
COVID-19 deaths by onset date: State of Michigan

**New confirmed and probable deaths**, by reported date

**Cumulative confirmed and probable deaths**, by reported date

Note: Cases information sourced from MDHHS and reflects date of onset of symptoms (refers to lab-confirmed cases). Case spike on 5/12 is a result of batch of test results, not all of which have onset date of symptoms completed.

Source: MDHHS – Michigan Disease Surveillance System
Average daily new deaths per million people by race and ethnicity

Daily new confirmed and probable deaths per million (7 day rolling average)

By race category

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

By ethnicity

- Hispanic or Latino
- Not Hispanic or Latino

Past two weeks confirmed and probable deaths vs. population, % of total

By race category

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

By ethnicity

- Hispanic or Latino
- Not Hispanic or Latino

Note: Multiple Races, Other, and Unknown race/ethnicity are not included in calculations
Source: MDHHS – Michigan Disease Surveillance System
Standardized Case Fatality Ratio
Deaths per 100 cases adjusted for age and sex

- Standardized case fatality rate account for differences among racial groups
  - Better comparisons between groups and reduces potential confounding
- Lower case fatality rates were seen later in the pandemic, in part due to improve medicine and increased testing
- Disparities continue to exist, with Black Michiganders experiencing the highest burden

What was the standardized Case Fatality Ratio (CFR) by race in the first wave of the Pandemic (Mar-April), the second wave (May – Aug), and now (Sep-Oct)?

- CFR is lower now for all races, but is still highest among Blacks in MI

Broken out by race, how many COVID-19 patients died, per 100, in each of these pandemic time periods?
Access to Testing and Care
Michigan Racial Disparities Task Force

Which states had the best pandemic response?

Amid the chaos, experts say a few states stand out in their approaches to public health, mass unemployment and school reopening.

Community Testing Sites

• 22 sites selected based on access to vulnerable communities who may not otherwise have access to testing

• Special contract with labs supporting these sites to provide detailed epidemiology
# Community Testing Sites

Data through November 25

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent Tested</th>
<th>Percent Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>32,948 total samples collected</td>
<td></td>
<td>8.4%</td>
</tr>
<tr>
<td>Female</td>
<td>58%</td>
<td>7.5%</td>
</tr>
<tr>
<td>60+ years</td>
<td>12%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>37%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Hispanic/Latinx</td>
<td>4%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Arab</td>
<td>&lt;1%</td>
<td>13.7%</td>
</tr>
</tbody>
</table>
Indirect Impacts of the Pandemic
Preventative Screening

1. Childhood lead testing fell 75% in April
2. Childhood vaccinations remained relatively stable since 2019 Q2 although disparities exist for Black/African Americans
3. Influenza childhood vaccinations for 2020-2021 season are 20-30% but lower for Black/African Americans and American Indians/ Native Americans

Number of Children < 6 Tested for Blood Lead in Michigan August 2017 to July 2020

1. Number of Children < 6 Tested for Blood Lead
2. Childhood Series Vaccination Coverage
3. Childhood Influenza Vaccine Coverage

19 through 35 months quarterly child vaccine series coverage by mother's race, March 30, 2019 through September 30, 2020 as of November 1, 2020

2020-2021 influenza vaccination coverage*, children 6 months through 8 years of age, by mother's race, data as of November 8, 2020

Data source: MDHHS Data Warehouse, Data current as of 09/28/2020
* Data for July 2020 may be incomplete and are considered provisional.
2 dose algorithm: https://www.michigan.gov/documents/mdhhs/2_Dose_Algorithm_631202_7.pdf

Includes 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 HepB, 1 Varicella, 4 PCV

*1 or more doses of influenza vaccine reported to the Michigan Care Improvement Registry. Please note, many children in this age group are recommended 2 doses.
Access to Emergent Care

1. Total ED visits for all complaints are approximately 13% below normal levels for most recent week

2. Total EMS responses decreased but EMS opioid responses increased 22% since 2019

3. Methamphetamine-related emergencies increased an average of 16.2 calls per month, compared to an average monthly increase of 3.9 emergencies in the pre-pandemic period
All-Cause Mortality

### Michigan All-Cause Mortality by Race and Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Mortality (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>White Non Hispanic Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>Black Non Hispanic Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>Native American Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>Asian American Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>Hispanic American Mortality (N)</td>
<td></td>
</tr>
<tr>
<td>MENA American Mortality (N)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** This data is provisional. Deaths reported to the Michigan Vital Records office may be delayed by 7 days. Verifying the cause of death, and processing the records from administrative records may further delay the reports of deaths for statistical purposes. The deaths shown in the deaths columns will be lower than the actual year-to-date total.

COVID-19 deaths are those deaths coded as ICD-10 U07.1 or U07.2 as an underlying or related cause of death.

Michigan Heart Disease Mortality

Michigan Heart Disease Mortality by Race and Ethnicity

Missing data points are due to suppression of low counts

Source: Michigan Department of Vital Records
Putting it all together

How do we successfully fight COVID-19?

Data
Strong Mitigations Measures
  - Physical Distancing
  - Masking
  - Hand washing
  - PPE
Rapid Testing
Case Investigation, Contact Tracing, and proper isolation
Support for living in the new COVID normal
Vaccination
Equity Lens
Thank you

Michigan COVID-19 Hotline 888-535-6136
Email COVID19@michigan.gov
www.Michigan.gov/Coronavirus
https://www.michigan.gov/flu/
www.mistartmap.info

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