



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

Robert C. Orellana, PhD MPH

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 **6th highest number of cases**, **20th highest case rate**, **3rd highest number of deaths**, and **6th highest death rate** in the last 7 days (source: CDC COVID Data Tracker)

Michigan has the **7th highest hospitalization rate as a percent of total beds**, and **7th 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

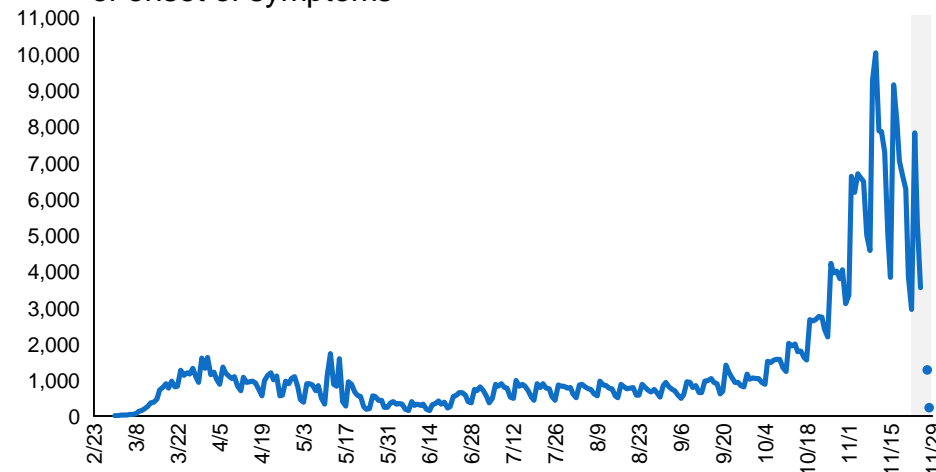
There were **579 deaths** during the week of Nov 15-Nov 21 and the state death rate is **8.0 deaths/million/day**

Daily diagnostic tests averaged 62.2K per day over the last week and the state rate is **6,363.1 tests/million/day**

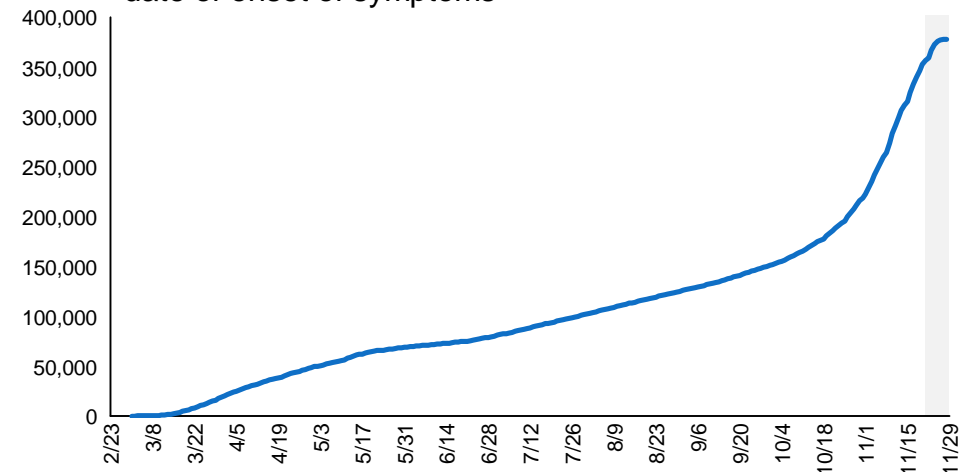
Spread of SARS-CoV-2

COVID-19 cases by onset date: State of Michigan

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

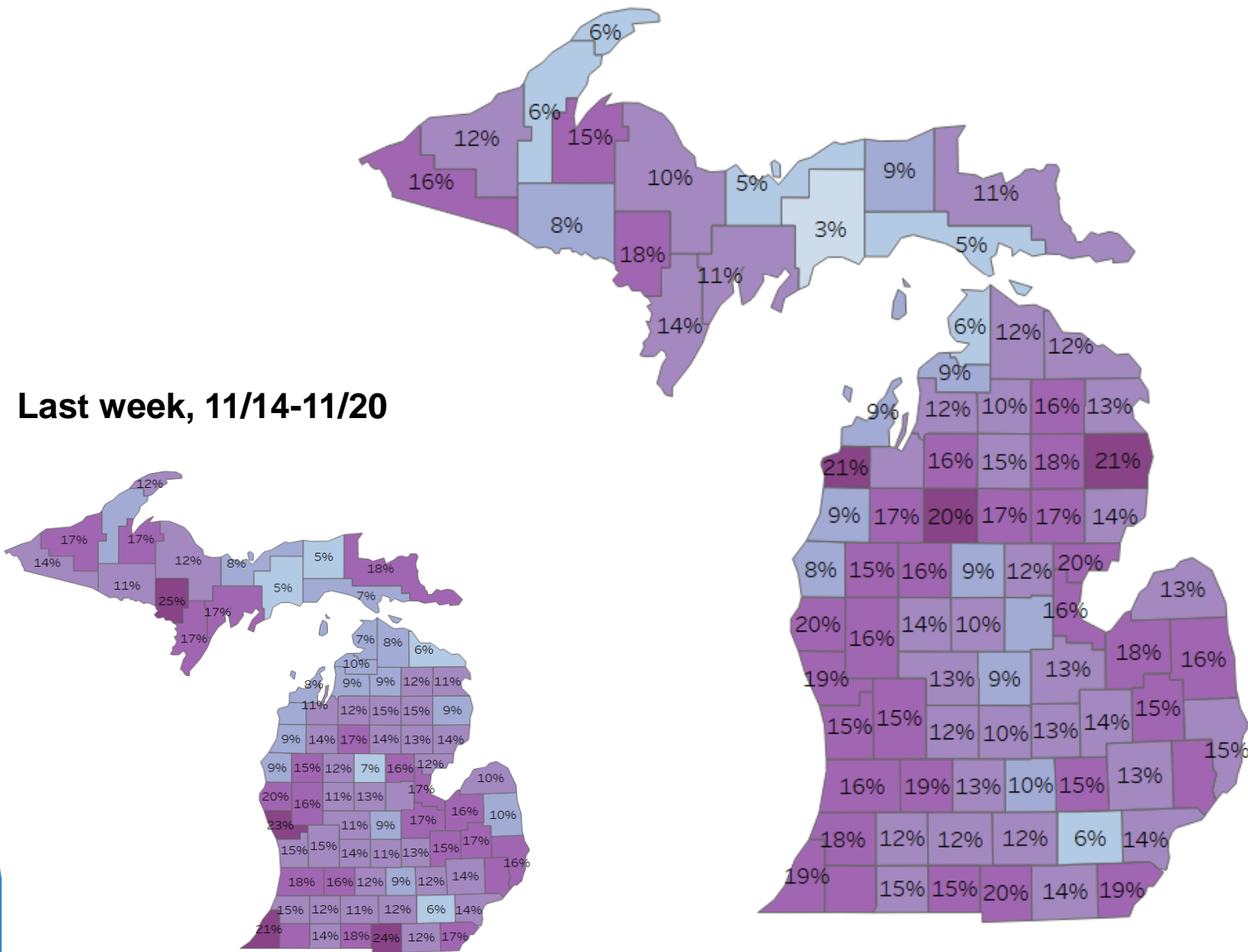


Cumulative confirmed and probable cases, by date of onset of symptoms



Positivity by county, 11/21-11/27

Last week, 11/14-11/20



Average positivity per day

<3%

3-7%

7-10%

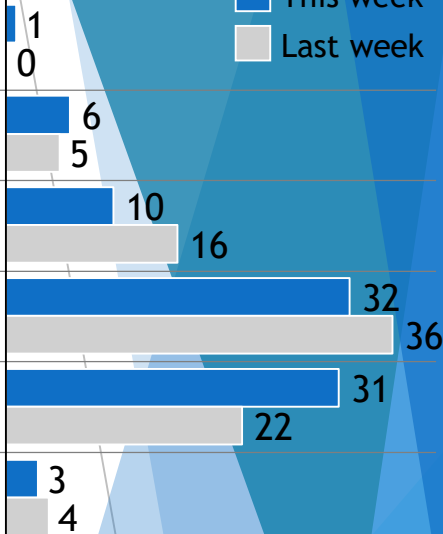
10-15%

15-20%

>=20%

of counties

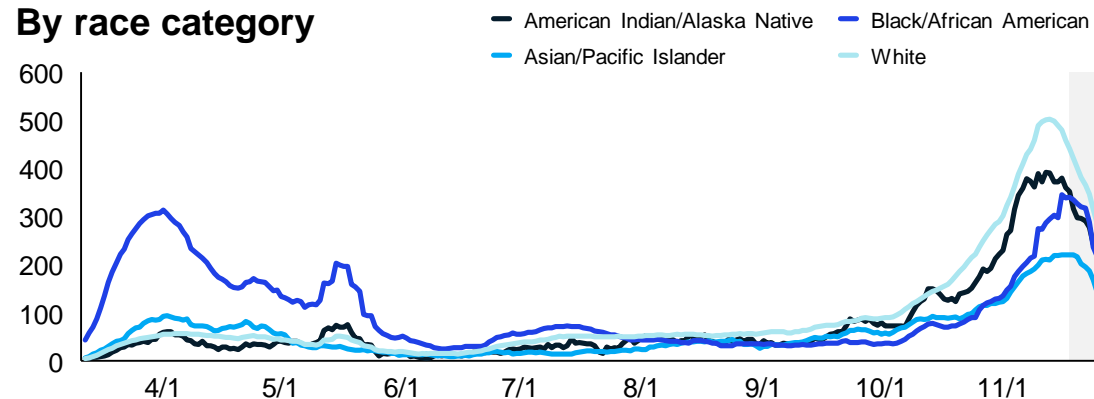
This week
Last week



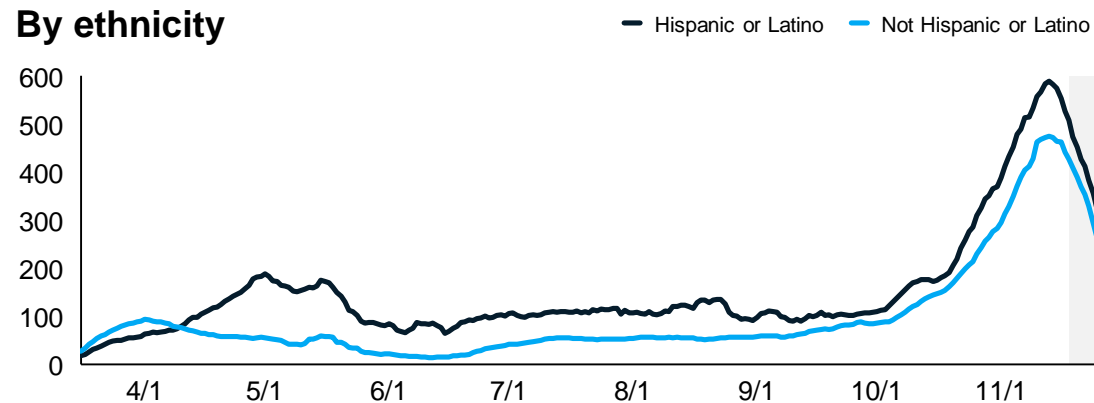
Average daily new cases per million people by race and ethnicity

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

By race category

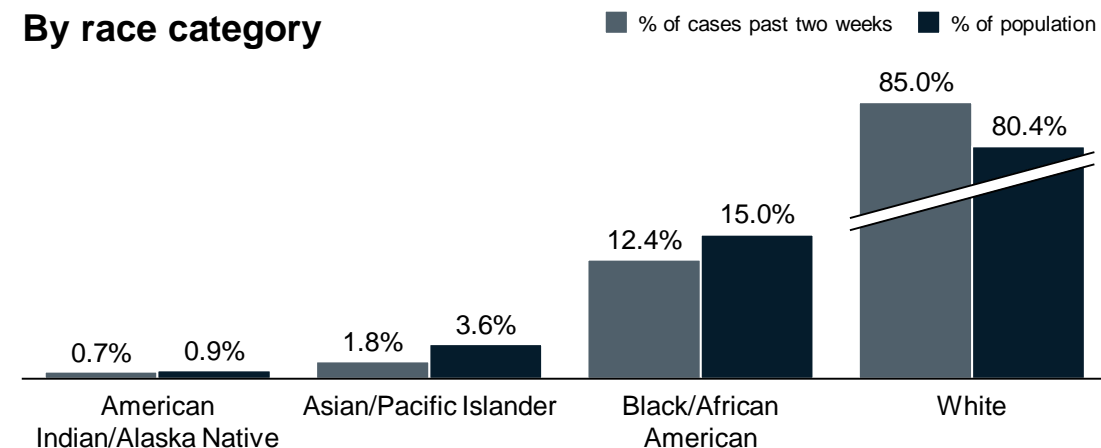


By ethnicity

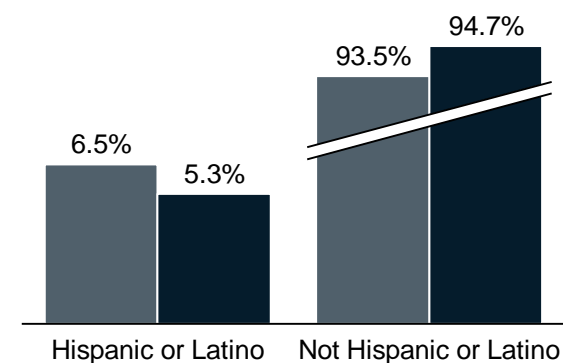


Past two weeks confirmed and probable cases vs. population, % of total

By race category



By ethnicity



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

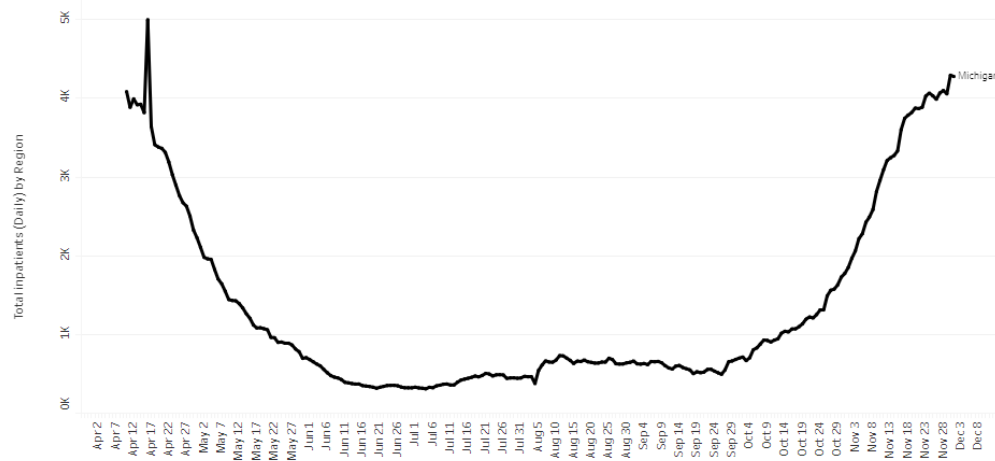
Source: MDHHS – Michigan Disease Surveillance System

COVID Severity

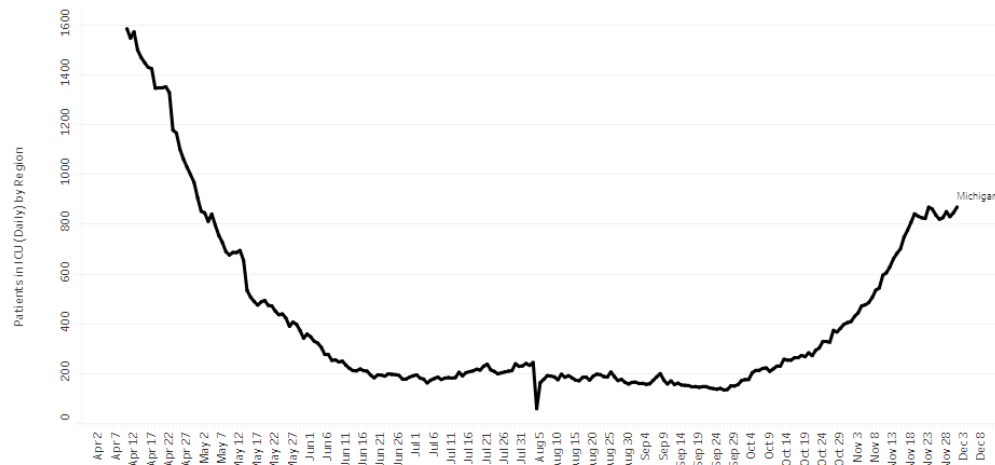
COVID-19 hospitalizations: State of Michigan



Total inpatients, by hospitalization date

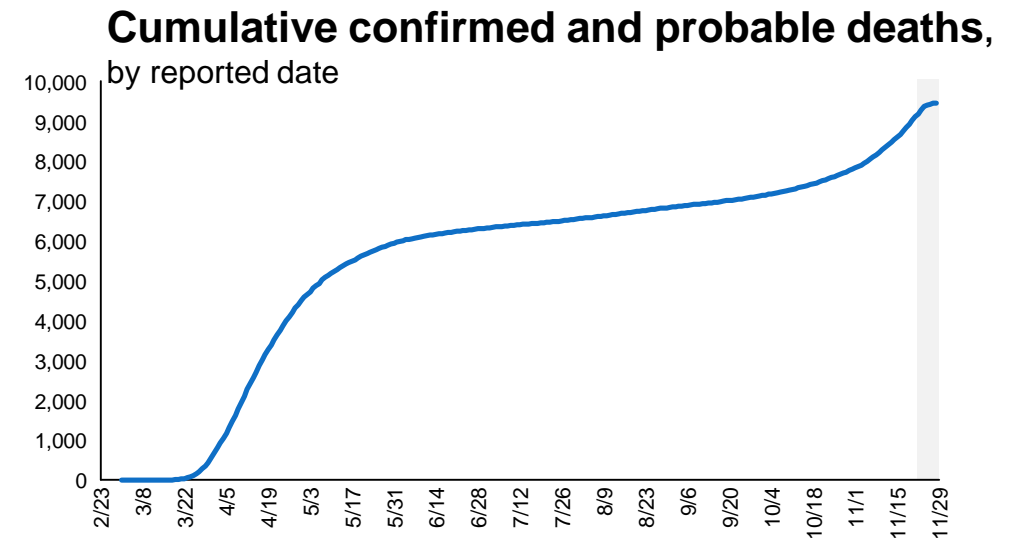
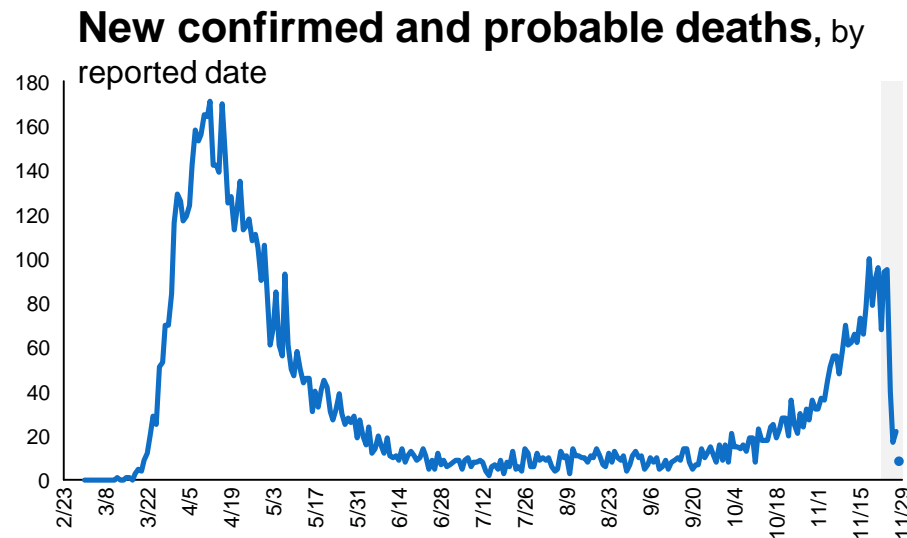


Patients in intensive care, by hospitalization date



Region	COVID+ Hospitalizations / million pop.	Adult ICU Occupancy	% of Adult ICU beds COVID+
Region 1	274/M	78%	40%
Region 2N	478/M	81%	29%
Region 2S	379/M	81%	20%
Region 3	609/M	93%	43%
Region 5	263/M	77%	29%
Region 6	378/M	80%	42%
Region 7	250/M	74%	35%
Region 8	231/M	81%	36%

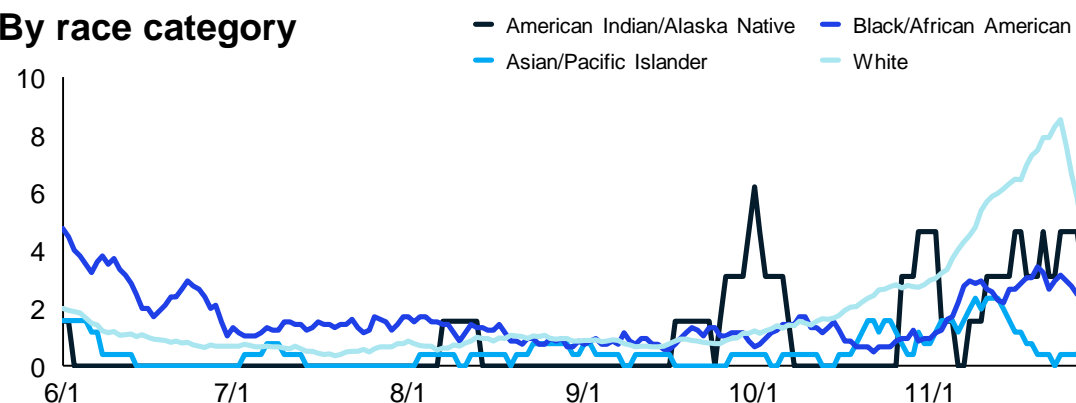
COVID-19 deaths by onset date: State of Michigan



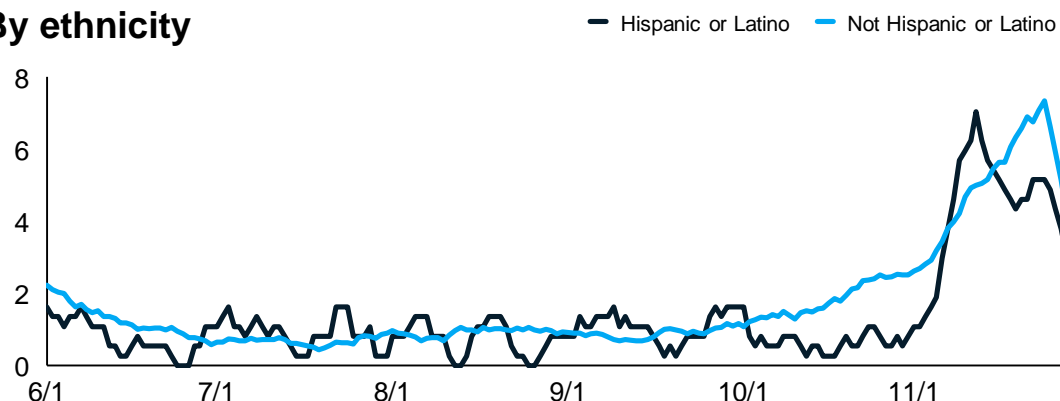
Average daily new deaths per million people by race and ethnicity

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

By race category



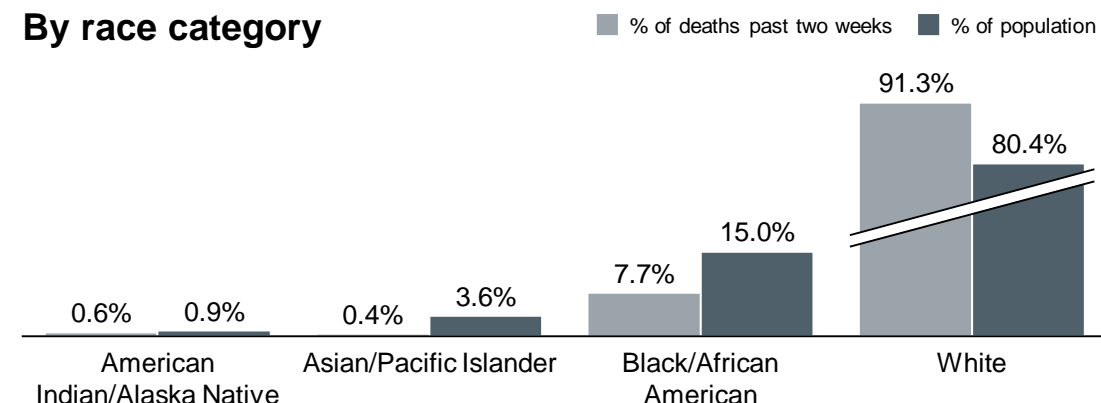
By ethnicity



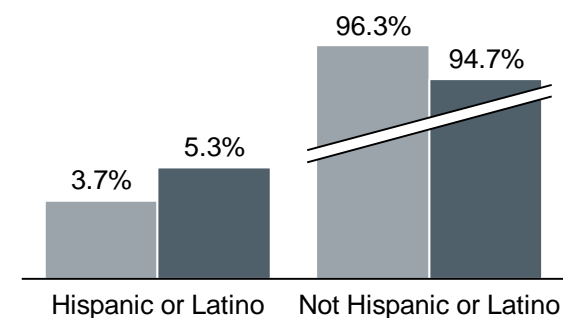
Note: Multiple Races, Other, and Unknown race/ethnicity are not included in calculations
Source: MDHHS – Michigan Disease Surveillance System

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

By race category



By ethnicity

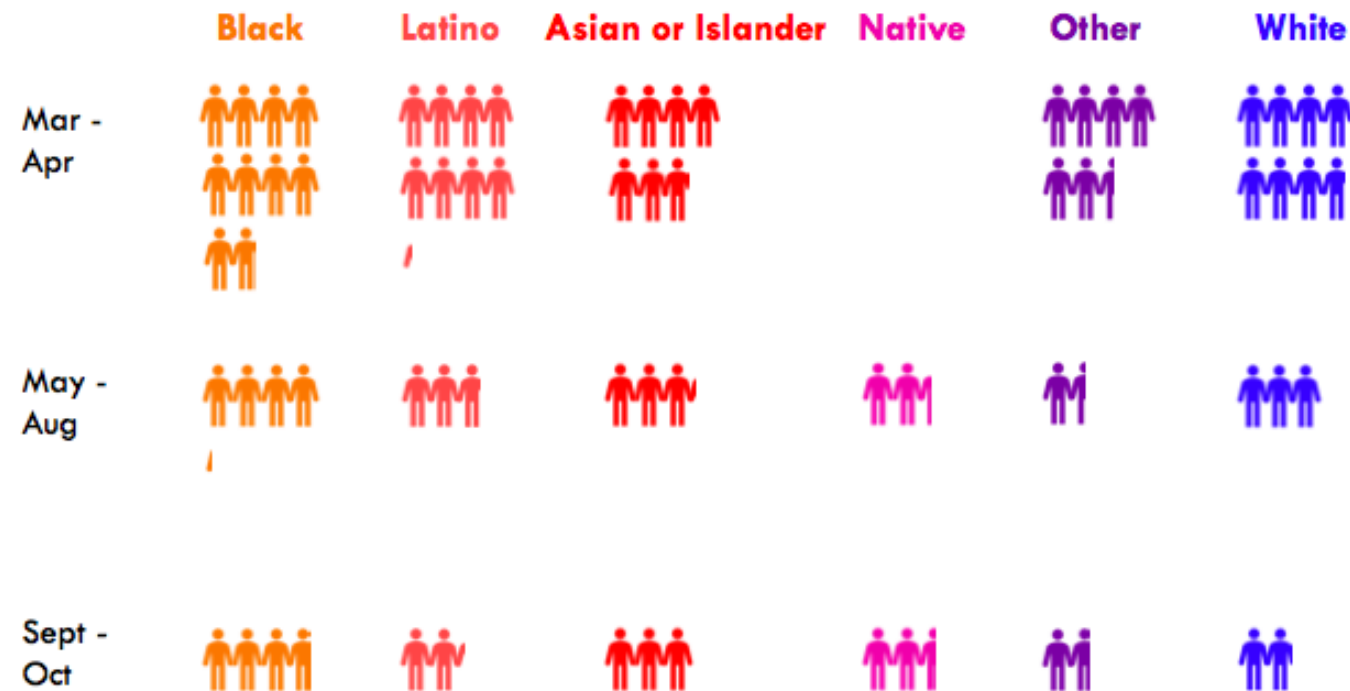


Standardized Case Fatality Ratio

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)?



Broken out by race, how many COVID-19 patients died, per 100, in each of these pandemic time periods?

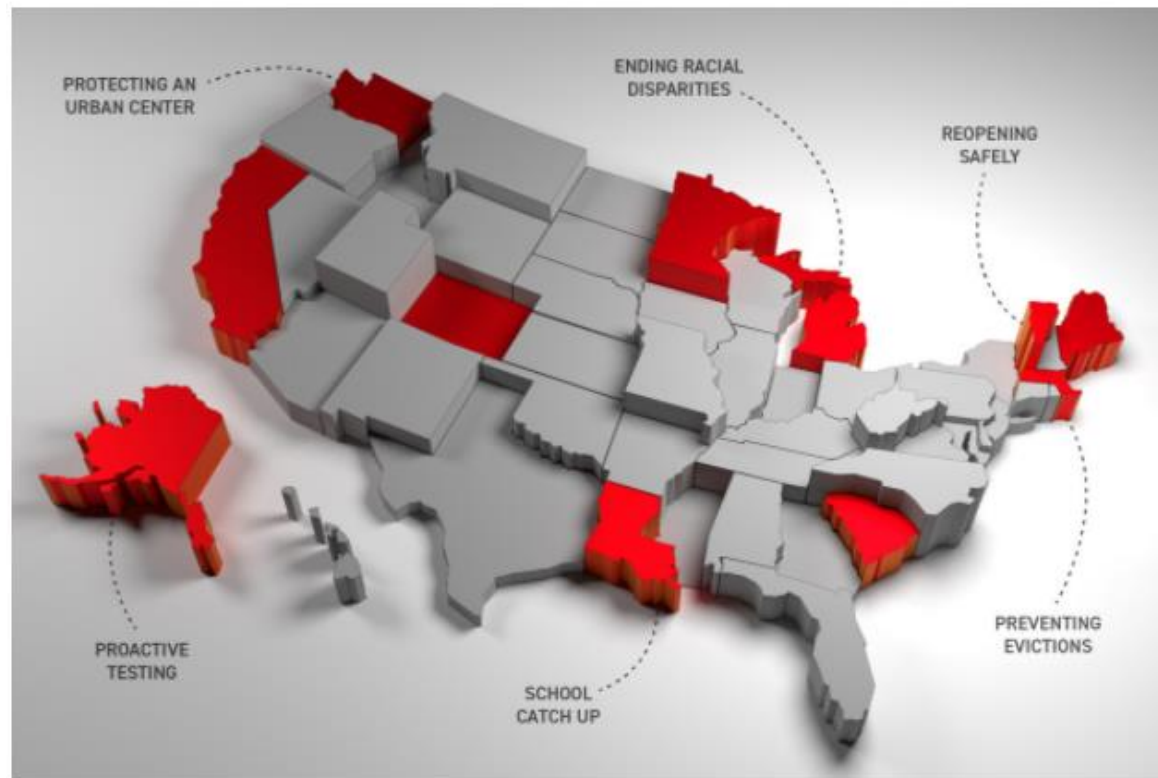
CFR is lower now for all races, but is still highest among Blacks in MI

Access to Testing and Care

Michigan Racial Disparities Task Force

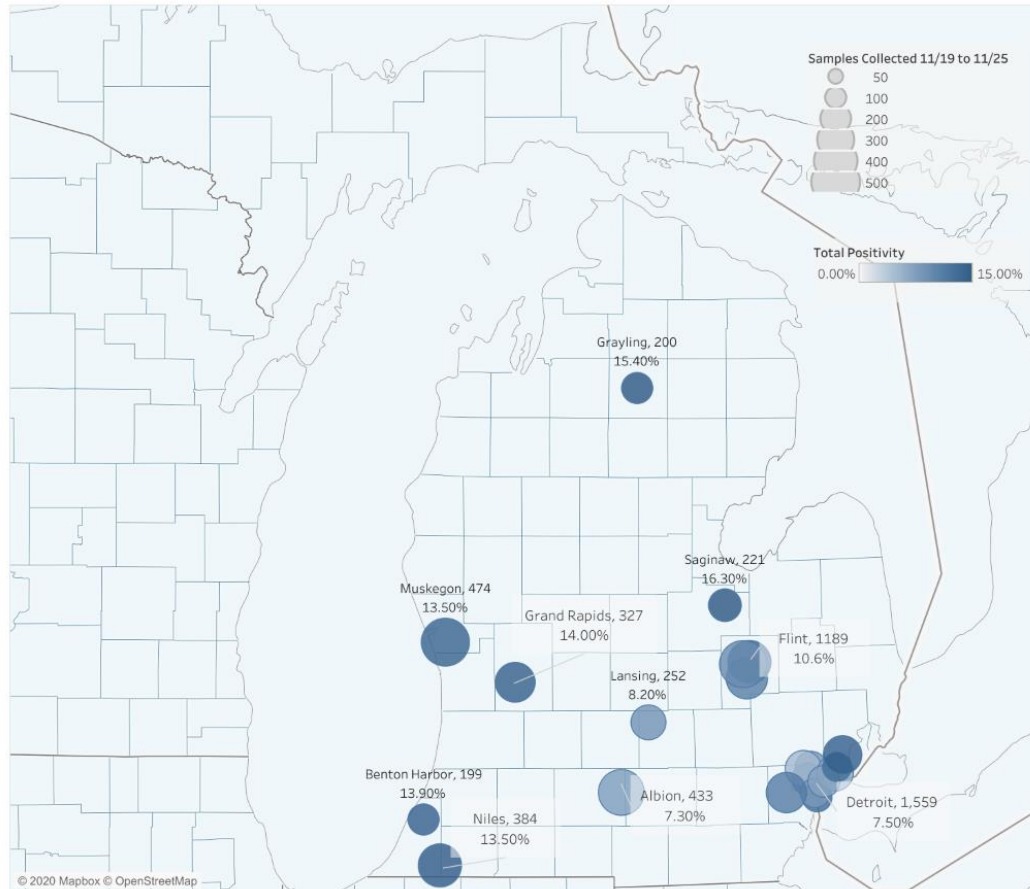
Which states had the best pandemic response?

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



<https://www.politico.com/news/2020/10/14/best-state-responses-to-pandemic-429376>

Neighborhood COVID-19 Test Sites and Volume



Map of Neighborhood COVID-19 testing sites. Size shows the volume of specimens collected during the week of 11/19 to 11/25. Color shows the positivity of all samples with results collected between 11/12 to 11/25. The World Health Organization advised May 12, 2020 that the 14 day average positivity remain at 5% or lower to continue or resume normal operations.

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

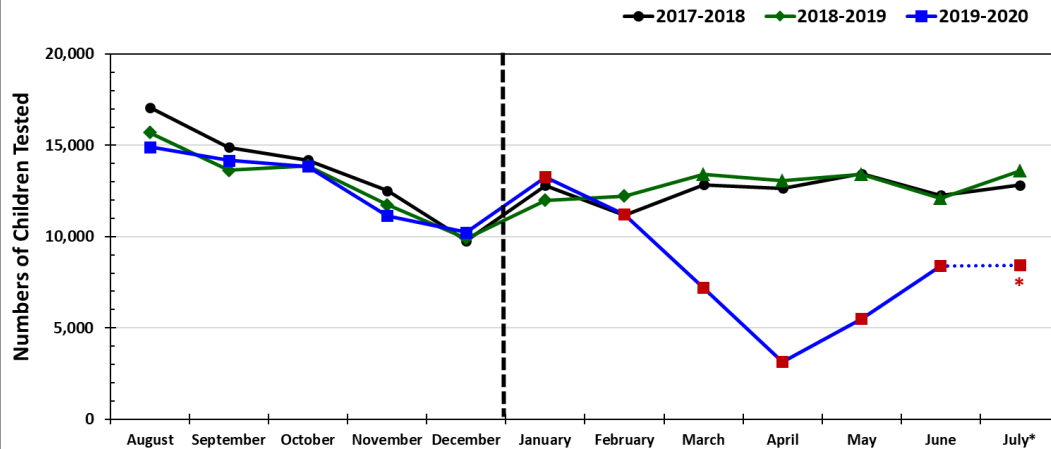
	Percent Tested	Percent Positive
32,948 total samples collected		8.4%
Female	58%	7.5%
60+ years	12%	7.7%
Black/African American	37%	5.4%
Hispanic/Latinx	4%	12.7%
Arab	<1%	13.7%

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

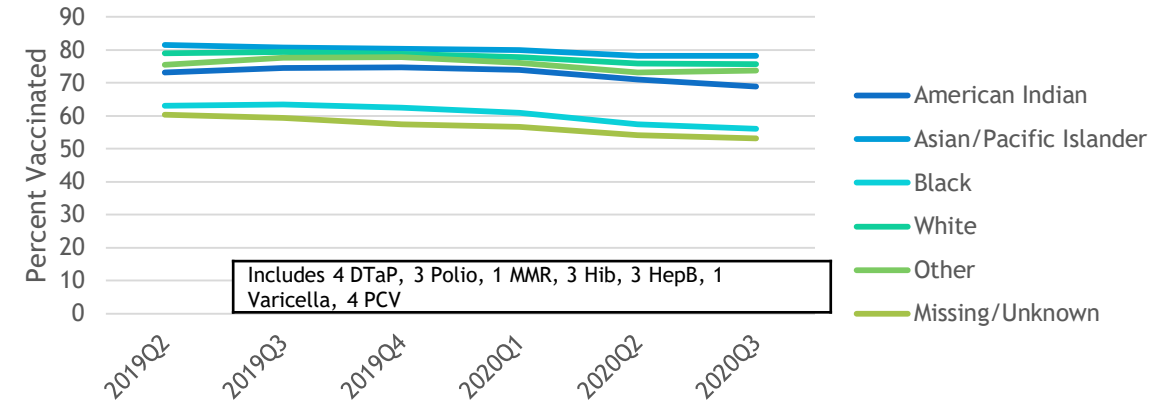


Data source: MDHHS Data Warehouse,
Data current as of 09/28/2020

* Data for July 2020 may be incomplete
and are considered provisional.

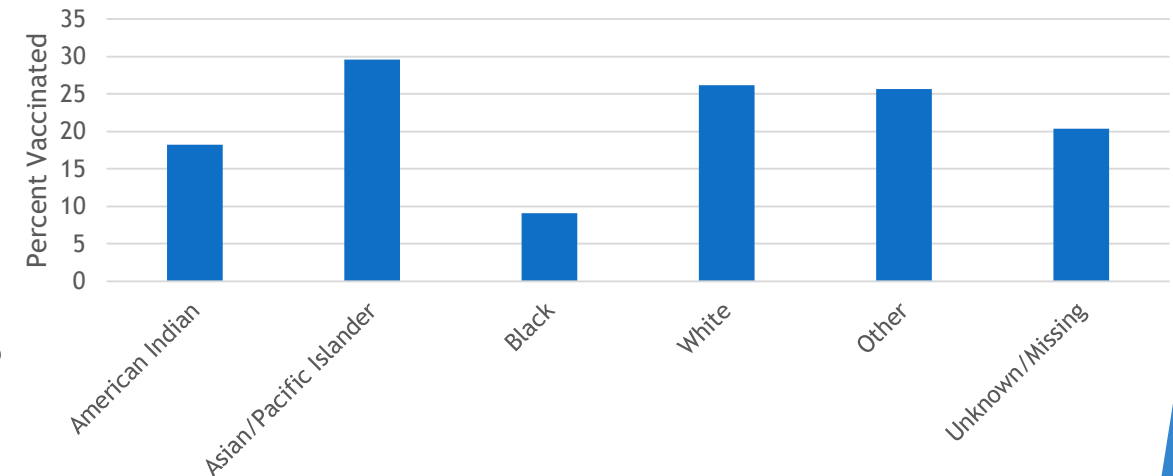
2. Childhood Series Vaccination Coverage

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



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

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



3. Childhood Influenza Vaccine Coverage

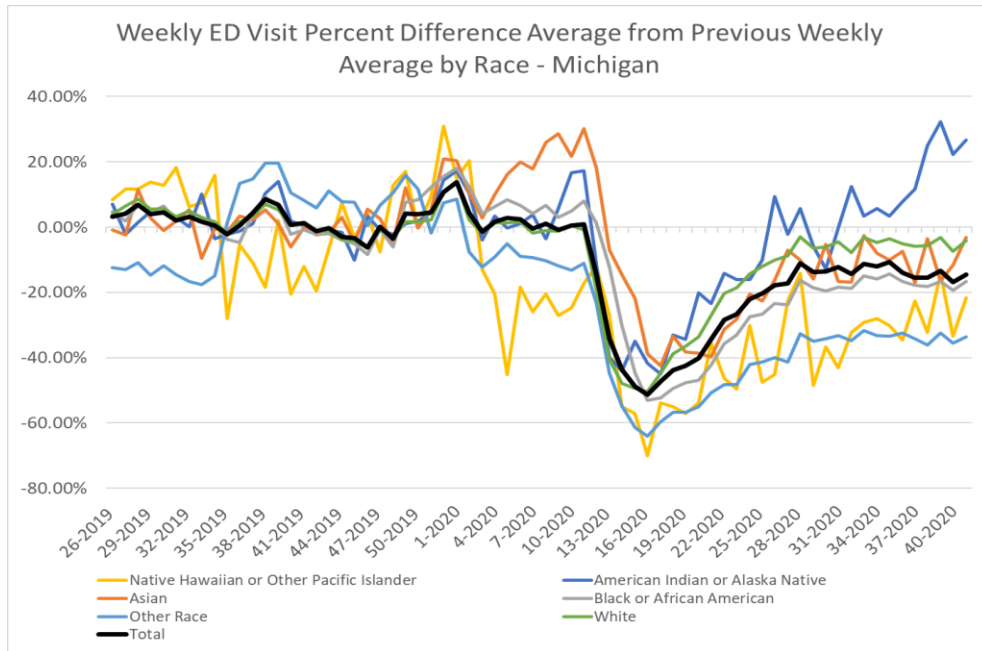
*1 or more doses of influenza vaccine reported to the Michigan Care Improvement Registry. Please note, many children in this age group are recommended 2 doses.

2 dose algorithm: https://www.michigan.gov/documents/mdhhs/2_Dose_Algorithm_631202_7.pdf

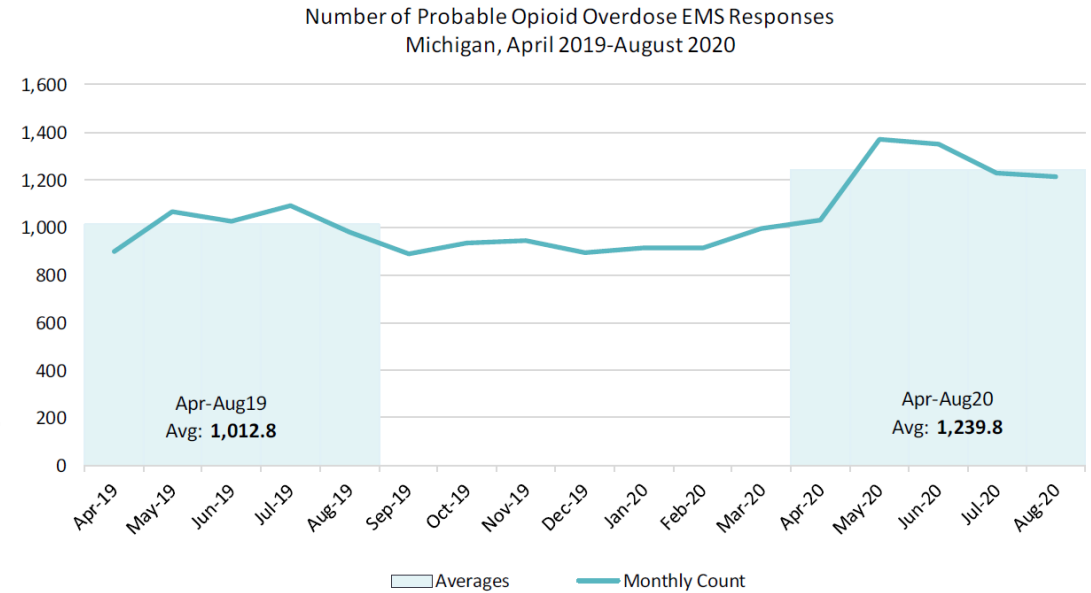
Access to Emergent Care

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

1. Average Weekly ED Visit Percent Difference

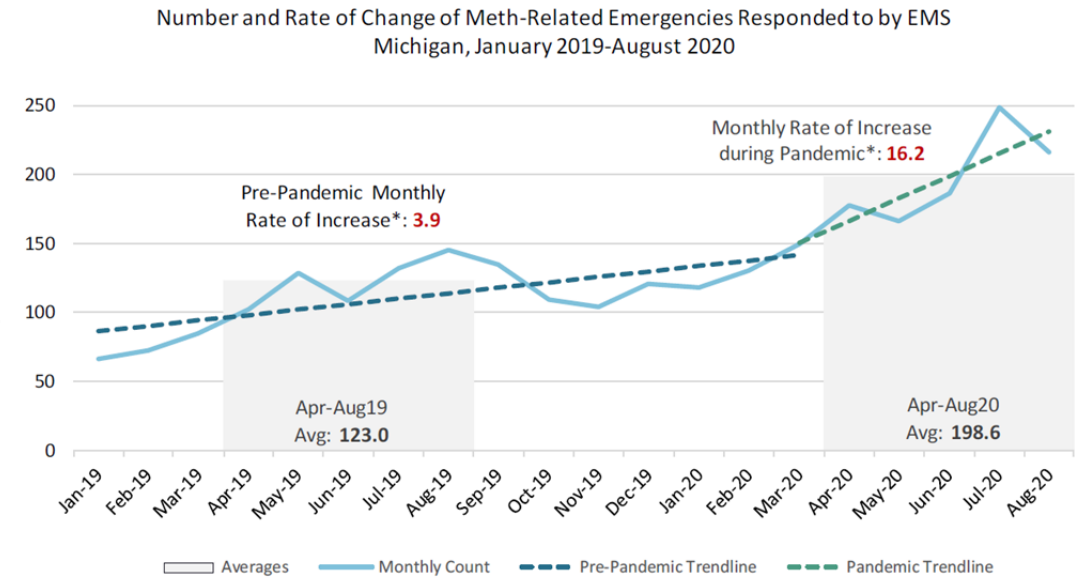


2. EMS Response Changes in Total & Opioid Overdose



Emerging Trend: Methamphetamine-Related Emergencies

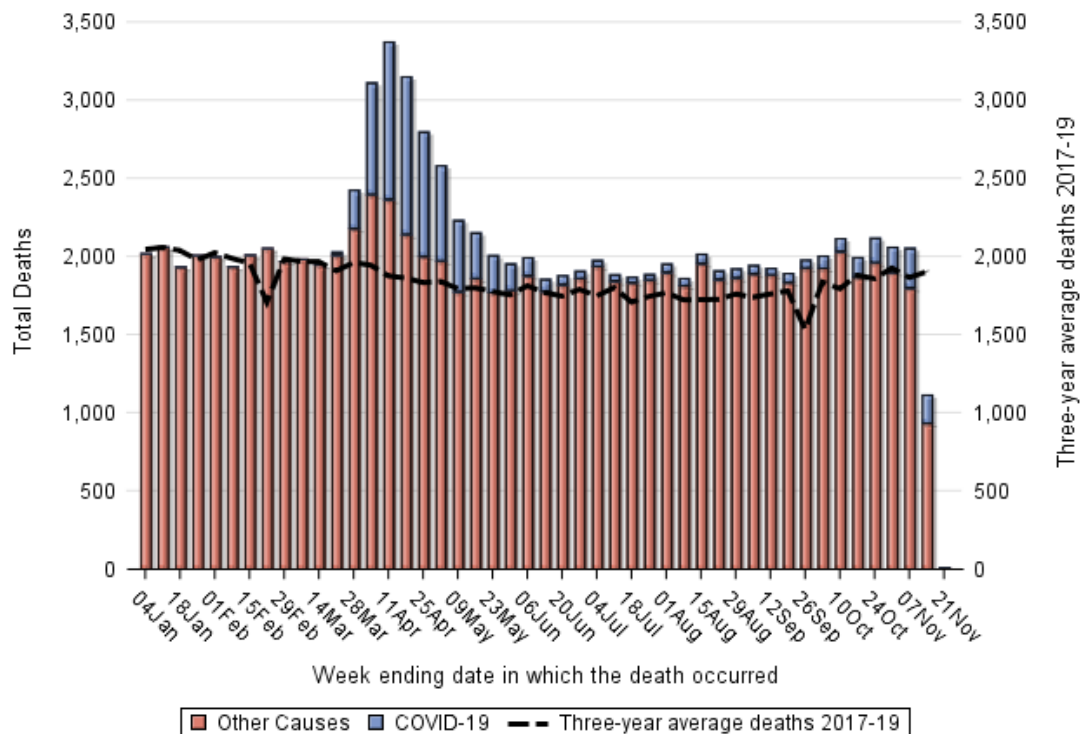
3. Number and Rate of Meth-Related Emergencies



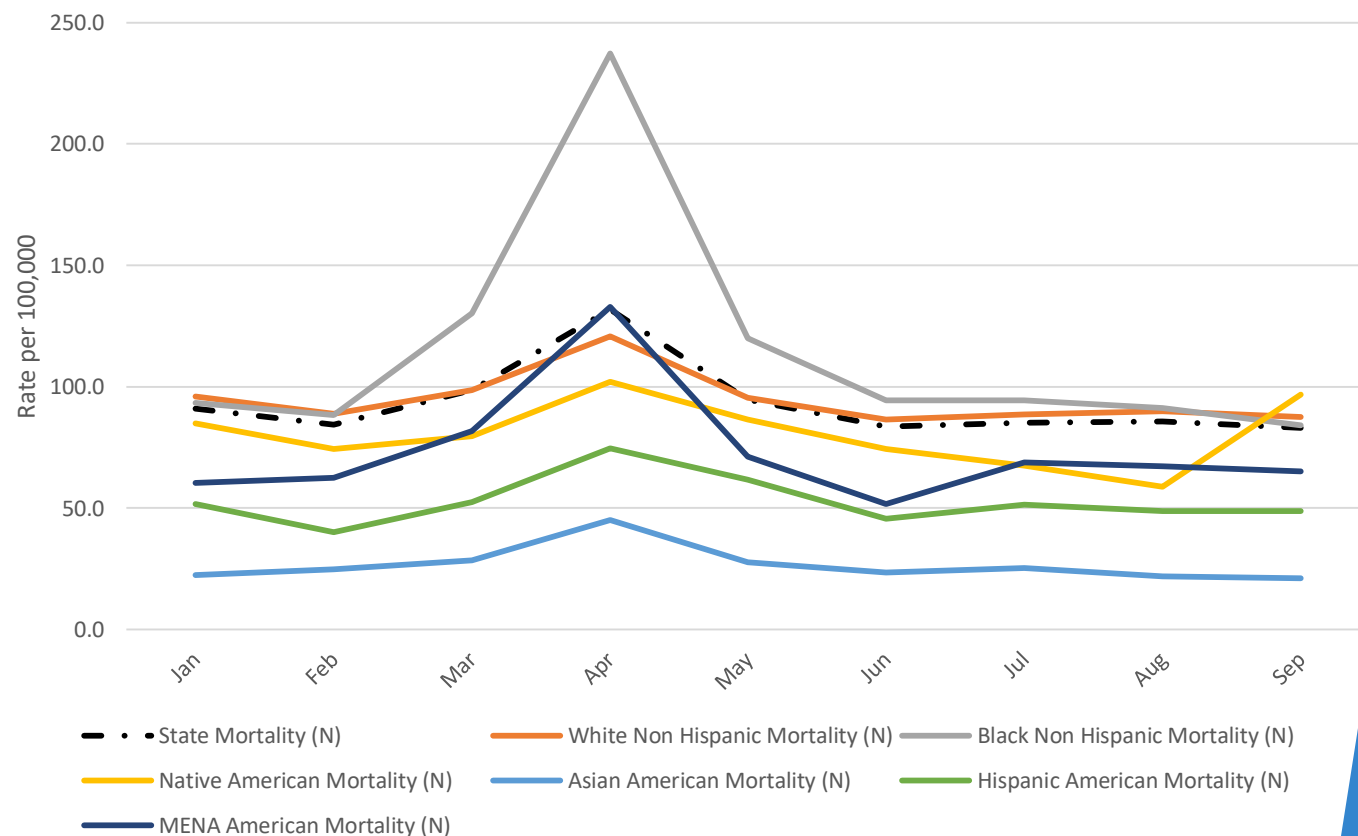
*Rate of increase is the slope estimate of a linear regression model fitted to the data for both time periods.

All-Cause Mortality

Total, COVID-19 & Historical Three-year Average Deaths By Week, Michigan Occurrences, January 1, 2020-November 21, 2020



Michigan All-Cause Mortality by Race and Ethnicity

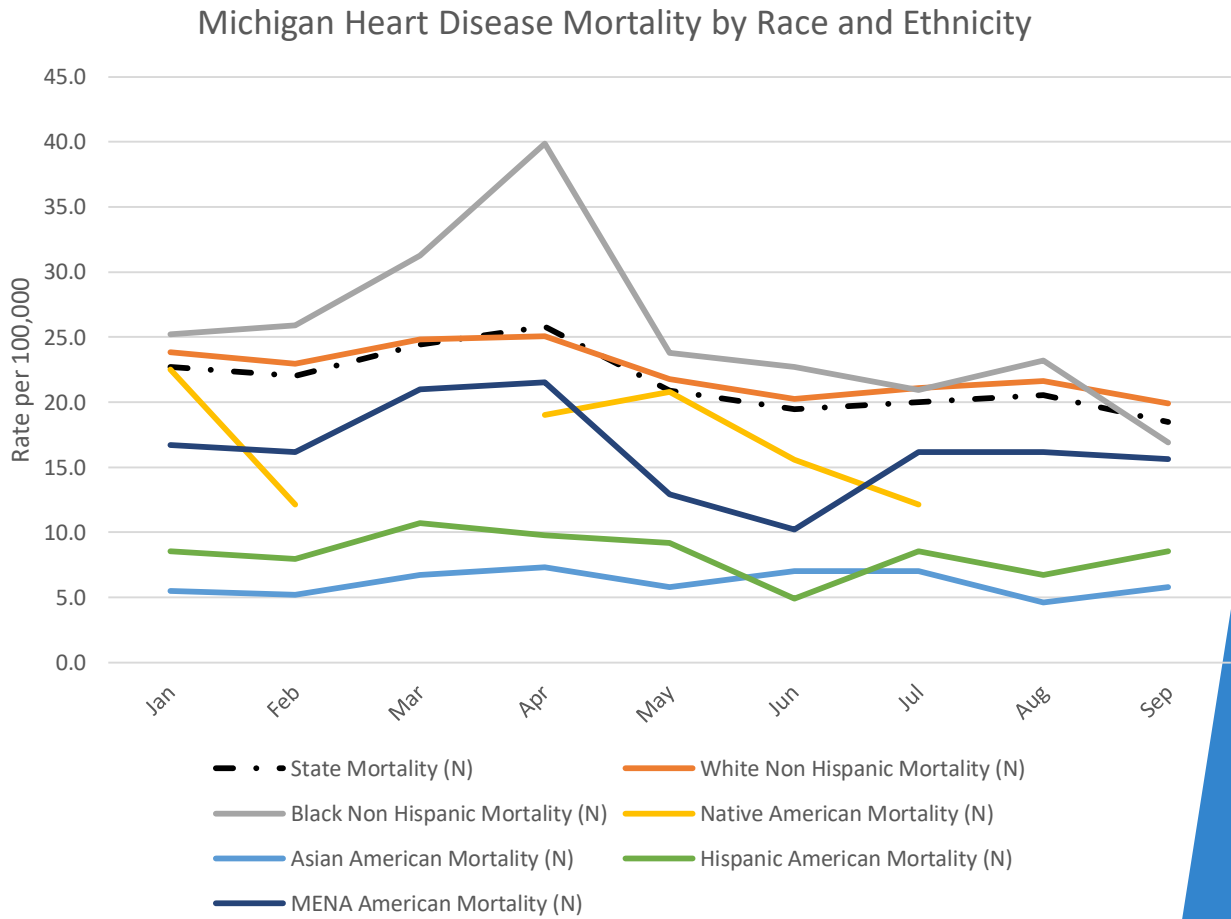
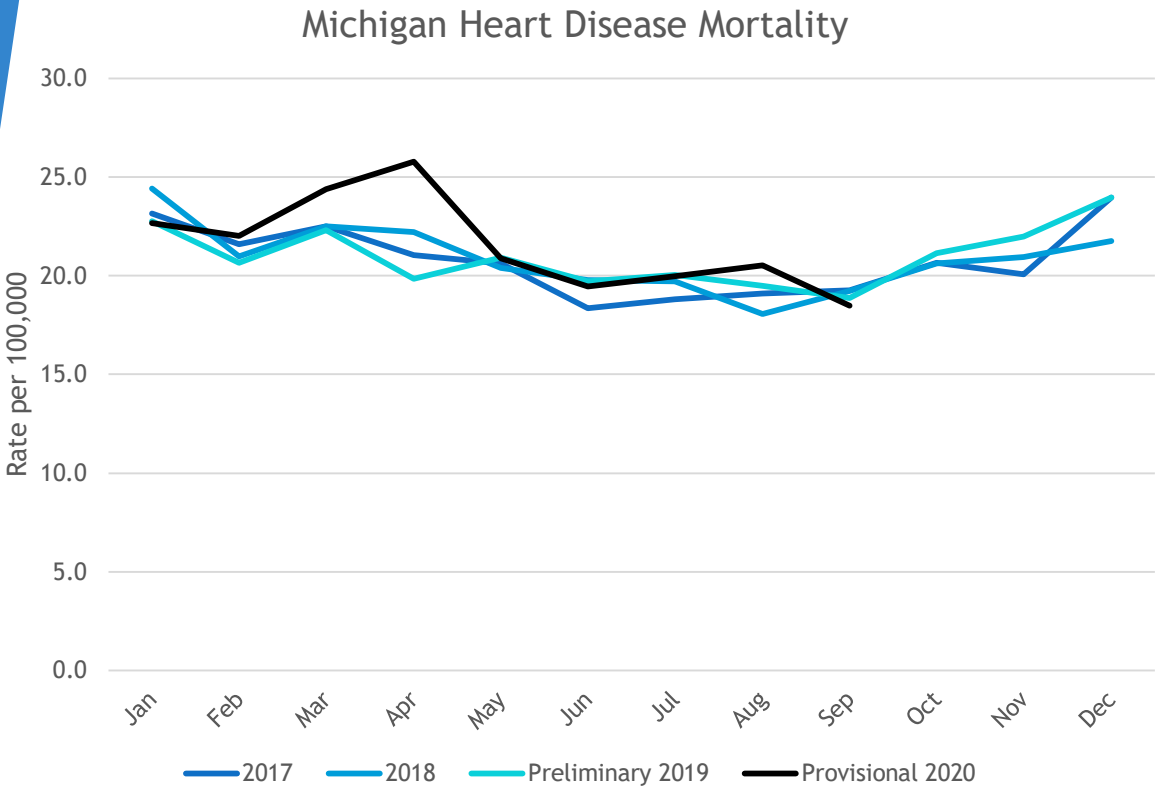


Note: **This data is provisional.** Deaths reported to the Michigan Vital Records office may be delayed by 7 days. Verifying the cause of death, and processing the records from administrative records may further delay the reports of deaths for statistical purposes. The deaths shown in the deaths columns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

Source: Michigan 2020 Death File, Extracted November 5, 2020. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.

Heart Disease Mortality



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

Questions on this presentation? checcdeptcoor@michigan.gov Attn: Robert Orellana