

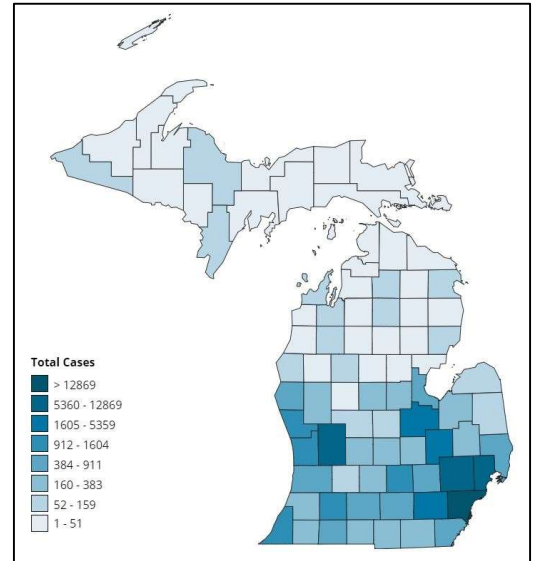
COVID-19: WHAT ABOUT MICHIGAN?

MICHIGAN FACING A CRISIS? Citing increases in daily cases in four regions of the state, Governor Whitmer (MI) issued Executive Order 2020-151, pausing and in some cases reversing the state’s re-opening. As of July 30, Michigan reported 88,327 COVID-19 cases and 6,403 COVID-related deaths. Those results yield a mortality rate of about 63.7 deaths per 100,000 population, and a case mortality rate of about 7.3%. The US national rates are about 45.8 deaths per 100,000 and a case mortality rate of about 3.4%.

During the spring, Governor Whitmer issued closure orders that prohibited social gathering, closed many stores and roped-off “non-essential” sections of other stores. Some restrictions subsequently were eased. Citing a rise in Daily Case Count in five regions of the state, the governor recently reinstated some of eased restrictions and delayed the easing of others.

This study considers case and death trends in the state and seeks to put them in context.

In a recent Anchor & Helm study of COVID-19 in the US (<https://anchor-helm.com/us-ca-mortality-rates>) we concluded that results—i.e., mortality rates—varied considerably from state to state, and that mortality rates had fallen from their spring peaks. These conclusions hold true for Michigan, as well.



Active COVID-19 Cases in Michigan (July 27, 2020)

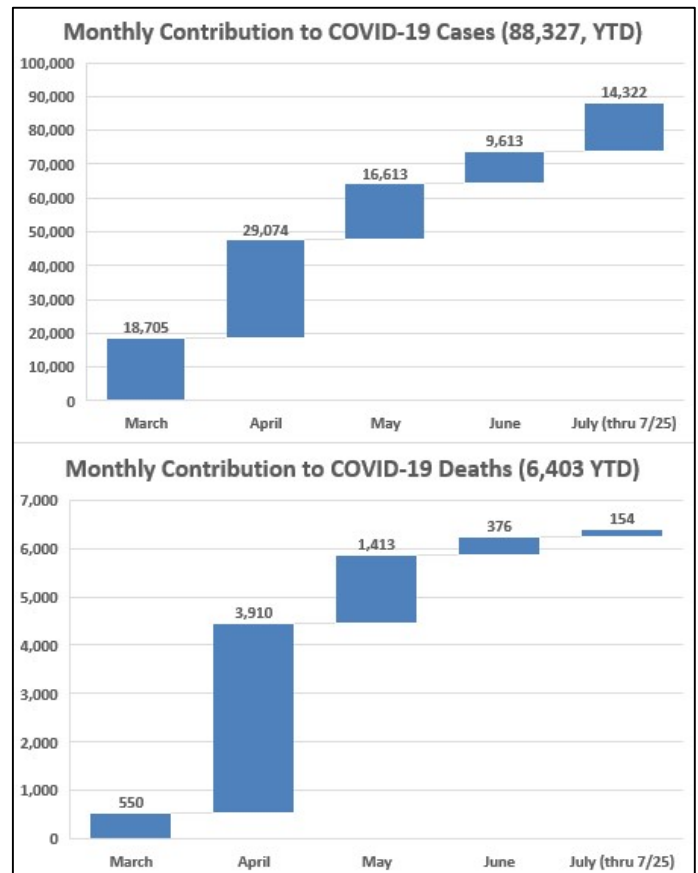
SOME COUNTIES ARE BETTER. County COVID-19 mortality rates (deaths per 100,000 population) vary from a high of 107 in Macomb County to a low of zero in 19 counties. Detroit, the seat of Wayne County, has a rate was 165. The rest of Wayne County and Oakland County (with rates of 70 and 89, respectively).

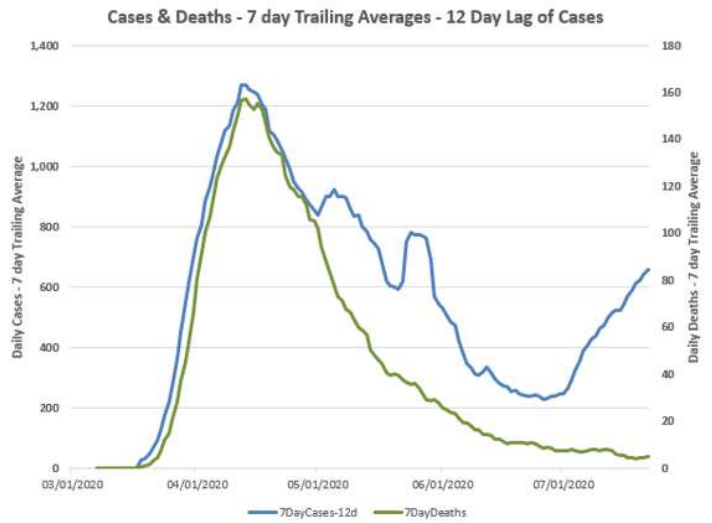
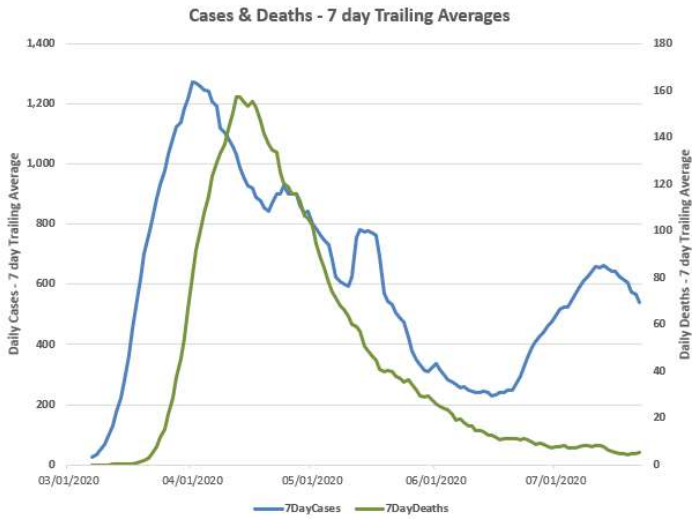
As we saw when we compared US and Canadian results, a few places can skew results: Five counties—Flint, Macomb, Oakland, Saginaw and Wayne—comprise 45% of the state’s population, but experienced 62% of COVID cases, and 82% of COVID deaths. As a group, these five counties presently report a case mortality rate of 9.5% and population mortality of 117 deaths per 100,000. The other 78 counties, as a group, report a case mortality rate of 3.5% and a population

mortality rate of 20.8, ranking the group of 78 below the median for US states (23.7) for COVID-19 mortality.

While the daily count of COVID cases is rising—the downward trend in daily cases reversed around Jun 16—the portion of those cases that end in death continued to decline.

Michigan's COVID-19 Case Mortality Rate and Deaths through July 27, 2020



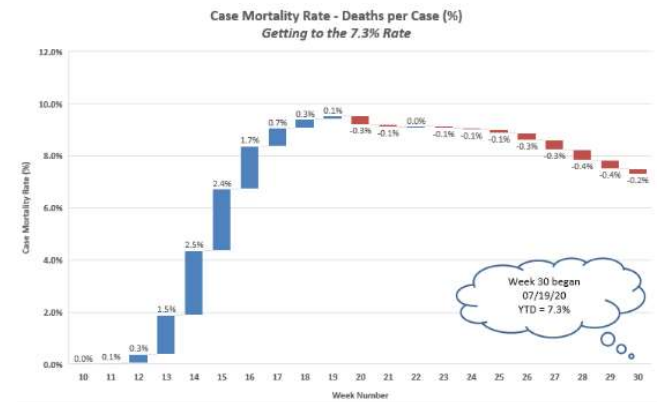
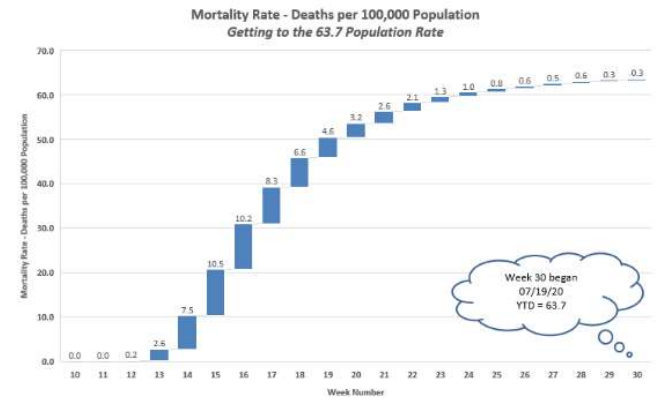


MORTALITY RATE TREND.

From a linear regression perspective, the 7-day trailing average of daily case count is a strong predictor of the 7-day trailing average of daily deaths. Adding a lag of 12 days, one can get the curves to mirror one another through April 30 ($R^2 = 0.97$ for April 1 through April 30).

In mid-June the curves began diverging, and correlation coefficients decreased— R^2 for May 1 through July 22 was 0.65 and 0.01 for June 1 through July 22. *More recent daily case counts are not associated with mortality.*

Case mortality rates decreased from high values above 12.5% during April to less than 2% for all of July. The current year-to-date Case mortality rate (7.3%) was heavily influenced by deaths during the first weeks of April. Results from mid-May have reduced the year-to-date rate.



ANCHORED BY DATA. GUIDED BY MEANING.



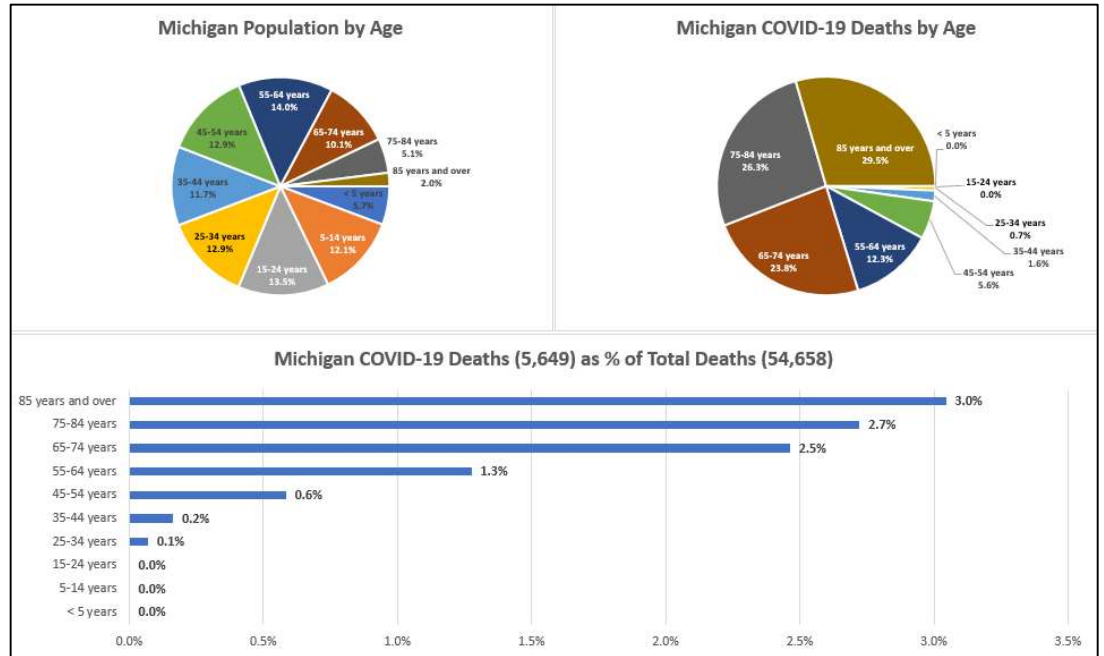
AGE-SPECIFIC

MORTALITY. According to CDC data, COVID-19 comprises 10.3% of Michigan’s 54,658 year-to-date deaths (through July 25th, as of July 29).

Consistent with world-wide and US experience, COVID-19 mortality is age-specific, with patients 65 years and older—17% of Michigan’s population—comprise nearly 80% of Michigan’s deaths. Patients with heart disease and diabetes are reported to be especially sensitive to COVID-19. Vulnerable groups are clearly delineated.

OTHER CAUSES OF DEATH.

In 2018 (the last year, for which mortality rates are available from the CDC), the leading cause of deaths in the Michigan was heart disease. It claimed more than 91,900 lives and resulted in a mortality rate of 915 per 100,000 population. It was responsible for 37% of the state’s deaths during the entire year.



Considering the current state-wide mortality rate (63.7), and its certain increase until year end, COVID-19 will likely be the third most common cause of death in Michigan for 2020, after heart diseases and cancers. Given the large share of deaths during the early spring and age specificity of mortality, it seems clear that focused interventions are appropriate to mitigate further mortality.

WHAT WE DON'T KNOW. As we note above, the daily count of

COVID cases is rising, but the portion of those cases that end in death is declining. The state is not reporting extemporaneous statistics about of other important causes of death—e.g., suicides, overdoses.

During a July 14th webinar, Dr. Robert Redfield, director of the CDC, said, “We’re seeing, sadly, far greater suicides now than we are deaths from COVID. ... We’re seeing far greater deaths from drug overdose [above typical levels] than we are seeing the deaths from COVID.”

He went on to opine that the health of the public should be considered as “overall social being of individuals.” No data are available to assess these claims, nor put them in context.

US 2nd quarter Gross Domestic Product (GDP) declined by more than 30%, compared to the same period during 2019.

Many hospitals were emptied and elective procedures—cancer screening, heart-disease diagnoses,

Cause of Death - Michigan (2018)	Deaths per 100,000
All Heart Diseases	914.9
Malignant neoplasms	209.3
Chronic lower respiratory diseases	57.6
Accidents	55.4
Cerebrovascular diseases	51.6
Non-transport accidents	44.6
Alzheimer's disease	44.5
Diabetes mellitus	28.1
Malignant neoplasms of lymphoid, hematopoietic and related tissue	21.0
Nephritis, nephrotic syndrome and nephrosis	19.3
Influenza and pneumonia	18.6
Intentional self-harm (suicide)	15.4
All Other Causes	47.7



hypertension interventions—were delayed in anticipation of a surge of hospitalizations that did not materialize in many places.

As we reported before, anecdotally clinicians report they are seeing collateral damage from isolations, lockdowns. A May 2020 letter to the White House, signed by more than 600 doctors claimed, “The millions of casualties of continued shutdown will be hiding in plain sight, but they will be called alcoholism, homelessness, suicide, heart attack, stroke, or kidney failure. In youths it will be called financial instability, unemployment, despair, drug addition, unplanned pregnancies, poverty, and abuse.”

The data tell us three things: (1) Daily Case Count, a leading indicator for mortality during March and April, is no longer useful as daily case counts and deaths have diverged; (2) mortality rates are both location specific and age specific; and (3) comorbidities (e.g., heart disease and diabetes) and government policies (e.g., returning infected patients to elder living situations) can have a dramatic impact on mortality.

Responses that focus on vulnerable people—i.e., those over 65 years of age—will be more effective in mitigating mortality. The wide variability in mortality rates of

Michigan’s counties suggests that responding to local “hotspots” seems more efficient than broad state-wide responses.

It will likely be mid-2022 before the CDC publishes its 2020 All Cause Mortality statistics. States are not publishing interim statistics. We have no current data about the effect of COVID-related shutdowns, lockdowns, nor postponement of “elective procedures” on these other causes of death. Also problematic is estimating “lives saved” by lockdowns and closures. Finally, it will be some time before the economic toll of public policies will be calculated.

Note: This work was completed without commercial sponsorship of any kind from any source. We established a GoFundMe site (<https://gofundme.com/f/just-the-numbers>) to help underwrite our effort to develop independent, politics-free analyses.

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INFO@ANCHOR-HELM.COM

