![Wisconsin Technology Council logo]

April 20, 2020

TO: Maggie Gau, chief of staff, Office of Gov. Tony Evers

FROM: Tom Still, president, Wisconsin Technology Council

RE: Scientific reviews of the "safer at home" order

The novel coronavirus pandemic has affected the lives of every person in the United States. While the long-term effects on the psyche of the people of the state of Wisconsin and our economy are unknown, the decisions our elected leaders have been and will continue to make will determine the long-term health and economic effects of this pandemic.

Gov. Tony Evers and other elected officials have been forced to make difficult life-and-death decisions based on rapidly changing and sometimes incomplete information. As Gov. Evers recently said: "Folks are scared and they need to know who they can trust. They should trust science."

The Wisconsin Technology Council agrees with Gov. Evers that any decision should be informed by scientific data. Now that you will begin to implement Executive Order 31, called the "Badger Bounce Back" plan, it will be important for the public to know what scientific data will be used as that order is assessed moving forward.

One of the most prominent forecasting models on COVID-19 was developed by the University of Washington Institute for Health Metrics and Evaluation (IHME). It is worth diving into the details of the IHME forecast to see how Gov. Evers and his advisors successfully handled this crisis at the outset.

Decisions to limit mass gatherings and implement physical distancing restrictions in mid-March, followed by the "safer at home" order by Health Secretary-designee Andrea Palm on March 25, saved hundreds of lives. According to IHME modeling, as recently as April 5, the IHME was projecting 951 deaths in Wisconsin. IHME's most recent model as of April 17 projected 302 deaths. This data demonstrates that the difficult decisions made by Evers administration to issue the safer at home order and shut down what were deemed non-essential businesses saved the lives of about 650 people. This is a major victory in the fight to control the pandemic that is undoubtedly worth the personal and economic sacrifices made by Wisconsin citizens.

On April 16, the Evers administration[1] announced an extension of the "safer at home order" until May 26. It is less certain that this extended date is fully warranted by the scientific data. According to the

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[1] We note that there is expected to be litigation over the validity of the order by Secretary-designee Palm. A discussion of the legal merits of this order is outside the scope of this opinion. Rather, we attempt to set forth valid scientific models on which the decisions of politicians can be evaluated.

IHME statistical model, "[a]fter May 18, 2020, relaxing social distancing may be possible with containment strategies that include testing, contact tracing, isolation, and limiting gathering size." The scientific basis for the IHME model is when a state is projected to achieve a threshold of one infection per 1 million population at a 95 percent confidence level.

This is the level that IHME determines is reasonable to implement testing, contact tracing and isolation measures for the limited current capacity that exists in the United States. It is worth emphasizing that this measure is conservative in that it assumes a 95 percent confidence level and does not account for the potential for increased testing ability. As a comparison, South Korea, which has robust and effective testing and contact tracing measures, has a current infection rate of 50 persons per million, far greater than the 1 per million recommendation by IHME.

It is worth noting that other researchers have expressed some reservations about the IHME model, while building on it. Those reservations deserve consideration, as well.

A day after the latest IHME report was issued, the University of Texas COVID-19 Modeling Consortium released a model that takes the IHME forecast as a starting point but tries to correct what the Texas researchers see as flaws.

One such flaw noted by the Texas experts is that the IHME model claims more certainty as it moves further into the future, with a shrinking margin of error. The IHME model predicts the United States already passed its peak of deaths this week. The Texas model takes a different approach, attaching probabilities to dates. There is only a 17 percent chance that the U.S. peak has already passed, it found, and an 80 percent chance the peak will happen by May 7.

Calculated for Wisconsin, the Texas model placed the probability that the state's mortality peak has already passed at 4 percent; the probability that the peak will pass by April 25 at 51 percent; and the probability that the peak will pass by May 2 at 81 percent. The model showed 10 plausible projections for Wisconsin deaths over the coming three weeks, with some early May predictions being as low as single digits or zero.

The combination of these models suggests there should be weekly reviews to determine how the "Badger Bounce Back" is monitored and implemented over time.

Other Midwest states have earlier expirations of respective safer at home orders: Minnesota (May 3), Illinois (April 30), Michigan (April 30) and Ohio (May 1). According to the IHME model, all of these states have either the same May 18 date for lifting restrictions (Minnesota, Illinois) or a later date of May 25 (Michigan, Ohio). Despite the similarities, the listed states, other than Wisconsin, have sunset dates in the next couple of weeks that allow them to evaluate additional data as it comes in. While they may ultimately decide to extend the expiration date for their safer at home orders, none of them have pre-emptively done so at a date further out than the IHME model suggests.

Given the available data, we endorse the following:

- Carefully follow specific testing, contact tracing and isolation measures as the restrictions are lifted, bearing in mind it could influence implementation dates either way.

- Use model-dependent data such as the IHME and Texas models as tools to reinforce other clear metrics that can be reported to the public on a recurring basis… a "scorecard," so to speak.
- For example, it appears such a scorecard will include a testing goal of 85,000 tests per week or roughly 12,000 tests per day. Others might include "a decline in new cases by X% each day for Y days; a public health workforce of X people who are ready to do digital contact tracing of identified new cases," and so forth.
- Depending on the data, consider lifting the order at different speeds in certain counties or regions.

Thank you for your attention to this vital matter, and for your continued vigilance in protecting the people of Wisconsin and their economic and social welfare.