COVID-19 Public Health Risk Measures: Data Notes

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Minnesota successfully bought time to build needed treatment capacity and is now taking steps toward a new normal. As we take these steps, we will continue to follow the guidance of public health experts and make data-driven decisions.

Indicator and threshold summary

The indicator is a piece of data that may help tell us how the outbreak is changing. We watch these pieces of data over time to see if they are going up or down. The threshold is a point that has been selected to serve as a warning signal. If the indicator moves to the other side of the threshold, it may mean the outbreak is changing in a way that would require us to take some action to move the indicator back to the other side of the threshold.

How the measures and thresholds were determined

The Minnesota Department of Health (MDH) primarily looked at ongoing surveillance of testing and case trends in Minnesota to develop these measures and thresholds. We also referred to federal guidelines and gating indicators from other states. The thresholds are not taken from or tested against the Minnesota COVID-19 model.

As the pandemic has changed over time, some of the thresholds may also need to be adjusted to better reflect risk. For example, in spring 2020 testing and laboratory supplies were limited, and therefore tests were reserved for certain high-risk groups, like health care workers and long-term care residents. The thresholds for testing (100 weekly tests per 10,000 residents) and test positivity (15%) rates at that time reflected that scarcity. In November 2020, thresholds were updated to include “caution” and “high risk” levels. Updated thresholds are summarized in the table on page 3.

Similarly, the availability of data or relevancy of certain metrics changes over time. As of April 4, 2022, negative antigen tests and some negative PCR tests are no longer required to be reported to MDH. This means any positivity or testing rate calculated will not be comparable to previous testing rates; this is in addition to a large increase in at-home testing in the second half of 2021, which were already limiting the utility of testing and positivity metrics.

Data considerations and updates

- As of June 5, 2020, all testing data are reported per test instead of per person, to account for changes in testing capacity and for people who are tested more than once over the course of the pandemic.
▪ As of July 3, 2020, the rate of new daily cases over a 7-day rolling average replaced case doubling time as an indicator of case growth.

▪ As of September 1, 2020, all case and testing data include PCR and antigen tests combined. For more information on antigen tests, please see the Situation Update for COVID-19 on the MDH website.

▪ As of November 1, 2021, all case data includes reinfections. Reinfections are defined as a positive test more than 90 days after an earlier positive test. This change only impacts the daily new cases per 100,000 metric. The impact on the case rate between June 2020 and October 2021 is adding an average of 0.27 daily new cases per 100,000 each day.

▪ Data about cases come from many sources, including case interviews, chart abstractions, and hospital discharge information. Data may be added or updated as more information is gathered and the condition of cases changes (such as someone being admitted to the hospital), resulting in small changes in historical information. Data shown here are the most accurate for what is available at the time data are updated.

▪ Data are presented as “rolling averages” over the most recent 7 or 14 days. A rolling average, or a moving average, is a measure that is updated each day to reflect the average of that day and the 6 or 13 days that came before. We use this type of average to smooth out expected day-to-day variation that may be due to things not related to the virus spread, like fewer test specimens collected over weekends.

Data lag period

▪ Indicators on this dashboard exclude the data lag period. The data lag period is time where information continues to be received or collected; during this time that data are incomplete. Not including this time period allows us to provide the most complete information possible.

▪ Case data have a 7-day lag period. This is because it can take up to 7 days between when a specimen is collected for testing and when MDH determines it is a case.
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<tr>
<th>Indicators</th>
<th>Thresholds</th>
<th>Why are we measuring this?</th>
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| Rate of new cases (confirmed or probable) per population | Caution: Number of new cases per 100,000 population above 5 over 7 days prior to lag period.  
High risk: Number of new cases per 100,000 population above 10 over 7 days prior to lag period.  
*Spring 2020 threshold:* Number of new cases per 100,000 population above 5 over 7 days prior to lag period.  | Case growth rate per population can show increased disease spread. Tracking the case growth rate per population allows for meaningful comparisons between areas with different population densities. Sufficient testing is important for identifying new cases. Cases include confirmed cases (PCR positive) and probable cases (antigen positive). |
| Hospitalization rate*                           | Caution: More than 4 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period.  
High Risk: More than 8 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period.  
*Spring 2020 threshold:* More than 4 new COVID-confirmed hospitalizations, including ICU, per 100,000 on average over 7 days prior to lag period.  | Tracking the rate of hospitalizations per population allows for meaningful comparisons between areas with different population densities. The rate of 4 per 100,000 equates to 220 admissions per week. If that rate continued, it could overwhelm hospital capacity. |

* Note that hospitalizations include all COVID-confirmed or COVID-probable Minnesota residents, even if they are hospitalized outside of Minnesota.

Note: In July 2021, the "Community spread without known contacts" metric was retired. This metric no longer contributes to understanding of the pandemic. The original metric was intended to examine how much spread was happening in the community where we could not identify a source after we accounted for common likely sources of transmission. With limited cases in health care workers, congregate settings, and community outbreaks along with vaccination, most transmission is now happening in the community. At the same time, fewer cases were completing or providing complete information in case interviews. In April 2022, the two testing measures, weekly new tests per 10,000 and test positivity, were retired. This was because of a federally-mandated change in reporting that reduced required reporting of negative tests, making the calculation of these metrics not comparable to previous metrics, and not reflective of the testing or positivity in the community.

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