

REOPENING DANE COUNTY SCHOOLS: Metrics for Assessing Readiness to Resume In-Person Instruction

These metrics will be reexamined and updated as additional information about COVID-19 transmission, mitigation, impact, and treatments become available. Metrics will also be assessed in combination with Forward Dane metrics, case trajectory (increasing, stable, or decreasing), current best practices, federal and state guidance, and unforeseen influencing factors.

Schools are not required to open for in-person instruction, and schools that choose to provide in-person instruction (when allowable under current orders) must also offer virtual learning options for all students. Schools also need to take into consideration that some staff and students might be at higher risk of serious illness and COVID complications, particularly those with underlying medical conditions.

Table 1. School Reopening Matrix

Population	Threshold	Next Steps
School staff	N/A	Under the current order , school staff are allowed to return to school buildings as long as schools follow Public Health Madison & Dane County School Requirements and Emergency Orders.
Grades K through 2 ^a	<p>Target: A 14-day average of 54 cases per day or less in Dane County. The target is sustained for four consecutive weeks.</p> <p>Additional Considerations: This metric will be assessed in combination with Forward Dane metrics, case trajectory, current best practices, federal and state guidance, and other unforeseen influencing factors.</p>	<p>Public Health Madison & Dane County will post a data status update on our website each week.</p> <p>Once the target is met and sustained for four consecutive weeks and additional considerations are assessed, Public Health Madison & Dane County may release a new order allowing grades K through 2 to open for in-person instruction. Schools must still follow requirements as outlined in the Order. *Target met on 8/18/2020.</p>
Grades 3 through 5 ^a	<p>Target: A 14-day average of 39 cases per day or less in Dane County. The target is sustained for four consecutive weeks.</p>	<p>Public Health Madison & Dane County will post a data status update on our website each week.</p>

	<p>Additional Considerations: This metric will be assessed in combination with Forward Dane metrics, case trajectory, current best practices, federal and state guidance, and other unforeseen influencing factors</p>	<p>Once the target is met and sustained for four consecutive weeks and additional considerations are assessed, Public Health Madison & Dane County may release a new order allowing grades 3 through 5 to open for in-person instruction. Schools must still follow requirements as outlined in the Order.</p>
	<p>Target: A 14-day average of 19 cases per day or less in Dane County. The target is sustained for four consecutive weeks.</p>	<p>Public Health Madison & Dane County will post a data status update on our website each week.</p>
<p>Middle and high school (grades 6 through 12)</p>	<p>Additional Considerations: This metric will be assessed in combination with Forward Dane metrics, case trajectory, current best practices, federal and state guidance, and other unforeseen influencing factors.</p>	<p>Once the target is met and sustained for four consecutive weeks and additional considerations are assessed, Public Health Madison & Dane County may release a new order allowing grades 6 through 12 to open for in-person instruction. Schools must still follow requirements as outlined in the Order.</p>

^aRecent studies and Dane County data show that children under 10 years old appear to contract the virus at lower rates than children and youth ages 11-17.

Table 2. School Closing Matrix

Population	Threshold	Next Steps
<p>Suspension of in-person instruction at a school or district-level</p>	<p>Target: Public Health Madison & Dane County will determine school and district closures on a case-by-case basis. Public Health Madison & Dane County will review outbreak data and make a determination based on several factors, including but not limited to number of positive cases, extent of exposure, and contact tracing capacity.</p> <p>Additional Considerations: Schools and district administrators may also choose to close their schools and districts based on impediments to school functioning, such as high absenteeism and staff shortages.</p>	<p>If a closure is deemed necessary to reduce disease transmission, Public Health Madison & Dane County would inform the school or school district. School districts should inform parents when schools are closed on account of either Public Health Madison & Dane County orders or school-issued orders due to impediments to school functioning.</p>

Suspension of in-person instruction county wide

Target: Public Health Madison & Dane County will determine county-wide closure of in-person instruction based on several factors. **Public Health Madison & Dane County will assess and determine if it is necessary to implement distance learning for all schools if the most recent 14-day average is over 54 cases.**

Based on metrics and additional considerations, if a closure is deemed necessary to reduce disease transmission, Public Health Madison & Dane County will release a new order.

Public Health Madison & Dane County staff will review outbreak data and make a determination based on several factors, including but not limited to number of positive cases, extent of exposure, and contact tracing capacity. See Additional Considerations for more information.

Additional Considerations: This metric will be assessed in combination with Forward Dane metrics, case trajectory, current best practices, federal and state guidance, and other unforeseen influencing factors.

SCHOOL METRICS MEASUREMENT RATIONALE & PROTOCOL

The current grade level targets for in-person instruction are shown in Table 3. The rationale for these targets, as well as the protocol for determining whether the targets are met, are described below.

Table 3. Dane County Targets for In-Person Instruction

Grade Level	Target for In-Person Instruction
K-2	14-day average of 54 cases or fewer per day, sustained for four weeks
3-5	14-day average of 39 cases or fewer per day, sustained for four weeks
6-12	14-day average of 19 cases or fewer per day, sustained for four weeks

Rationale

Targets

After extensive review of national, state, and local school thresholds for in-person instruction (including CDC, Harvard, COVID-Local, COVIDActNow, Minnesota, Milwaukee, San Francisco, Massachusetts, Oregon, and Michigan), a decision was made to center thresholds on average county-level case counts. Minnesota’s [Safe Learning Plan for 2020-21](#) states, “While there are many factors to take into consideration when determining an appropriate learning model for school opening, the decision-making process should first center on local data indicating the level of viral activity in the surrounding community.” Harvard’s [The Path to Zero and Schools: Achieving Pandemic Resilient Teaching and Learning Spaces](#) (hereafter called the ‘Harvard guidance’) established its risk levels and guidance based on daily new confirmed cases, while also encouraging triangulation with additional important metrics.

The Wisconsin Department of Health Services’ (DHS) [Activity Tracker](#), Harvard guidance, [COVID-local](#) and [COVIDActNow](#) served as the main sources of the targets used for determining in-person instruction by grade level. The DHS Activity Tracker provides a statewide framework for categorizing disease burden (case rate) into varying levels of severity and served as a starting point for identifying grade-level targets. Like the DHS Activity Tracker, the Dane County schools metrics use a 14-day rolling case average. A 14-day rolling case average lends itself to more stable data, rather than a 7-day or daily case average, which can fluctuate due to the day of the week and small outbreaks.

Grades K-5

As emerging research has shown more limited transmission in younger children^{i,ii}, lower susceptibility,ⁱⁱⁱ and lower disease severity^{iv,v,vi}, a target allowing for a greater daily case burden was chosen for the younger age groups. Opening in a phased manner, with grades K-2 first, is a way to carefully minimize risk of exposure to the greatest extent possible while supporting a way to get back to school. As we re-introduce in-person school, we must ensure we are still able to identify and contain the number of cases

that are likely to result from more people being exposed in more settings. Therefore, differing thresholds were chosen for K-2 and 3-5.

For grades 3-5, the 39 cases per day corresponds with the DHS Activity Tracker burden of “Moderately High,” which has an upper limit of 100 cases/100,000 population over 14 days. The conversion of the 14-day rate/100,000 to a daily case count for Dane County was as follows:

- Divide 100 by 14 days = 7.14 cases per 100,000 per day
- Multiply 7.14 by the Dane County population of 546,695
- Divide the result by 100,000 = 39.03 cases per day
- Decimals numbers are rounded down to the nearest whole number = 39 cases per day

For grades K-2, where emerging research suggests transmission is more limited, we identified a higher threshold for in-person learning. The Harvard guidance, COVID-local, and COVIDActNow were used as guides since the DHS Activity Tracker provides no additional categories over 100 cases/100,000 population as of the date of the school metrics release. These three resources define a moderate level of risk (yellow color in a spectrum of green, yellow, orange and red) as up to 10 cases/100,000 population per day. The conversion of the daily rate/100,000 to a daily case count for Dane County was as follows:

- Multiply 10 cases by the Dane County population of 546,695
- Divide the result by 100,000 = 54.67
- Decimals numbers are rounded down to the nearest whole number = 54 cases per day

Grades 6-12

With some studies^{vii} suggesting older children transmit COVID-19 as much as adults do and recent large school outbreaks across the US, a different reopening target was chosen for students in grades 6-12. The average of 19 cases per day corresponds with the DHS Activity Tracker burden of “Moderate,” which has an upper limit of 50 cases/100,000 population over 14 days. The conversion of the 14-day rate/100,000 to a daily case count for Dane County was as follows:

- Divide 50 by 14 days = 3.57 cases per 100,000 per day
- Multiply 3.57 by the [Dane County population](#) of 546,695
- Divide the results by 100,000 = 19.52 cases per day
- Decimals numbers are rounded down to the nearest whole number = 19 cases per day

Timeframe

A total of five weeks of sustained data at the target level (*measured* across four weeks, since it’s a 14-day average) was chosen to ensure data stability and monitor trends over time. A 14-day rolling case average lends itself to more stable data, rather than a 7-day or daily case average, which can fluctuate due to the day of the week and small outbreaks.

Measurement Protocol

To determine whether a grade-level target has been met, Public Health Madison & Dane County will use the daily case count published on the dashboard to measure the daily average over the previous 14 days. To identify the first 14-day period during which the target was met, this calculation will be monitored daily. The date at which the target is met is considered Measurement 1. Because the target needs to be sustained over four weeks, the average will be calculated one, two, and three weeks from Measurement 1, corresponding to Measurements 2-4 (see example below).

Average case counts from the previous 14 days will be monitored daily to identify the date that the target is met for different school grade groups (K-2, 3-5, 6-12). This will ensure that each group has the opportunity to return to school in person as soon as their target has been assessed, met, and sustained for four weeks. Once the target is confirmed as met, Measurement 1 and the subsequent weekly measurements will be published on the [Public Health Madison & Dane County website](#) each Thursday to correspond with Forward Dane weekly data snapshot reporting. The delay between each measurement and reporting will ensure that all test results for the 14-day measurement period have been entered and processed. Once the target has been successfully sustained for 4 weeks, we require three additional days to ensure all test results and cases are accounted for.

If Measurements 2, 3, or 4 exceed the target, Public Health Madison & Dane County will assess the data and reason for the increase in combination with other factors outlined in the opening paragraph of this document. If the increase is deemed to be of public health significance, the four-week measurement period ends and will restart once there is a 14-day period that meets the target. This new point in time will become the new Measurement 1. Likewise, even if the target is met and sustained for a four-week period, other factors described in the school metrics document may delay reopening.

Example

If the target of the 14-day case average of 39 or less is met on August 22, then the clock starts on sustaining this level for four weeks. If the average remains at or below 39, this is our timeline:

Week 1: Data from August 9 to 22, average is 39 cases per day, average will be posted on our website on August 27 (the weekly Data Snapshot is posted on Thursdays)

Week 2: Data from August 16 to August 29, average will be posted to our website on September 3

Week 3: Data from August 23 to September 5, average will be posted to our website on September 10

Week 4: Data from August 30 to September 12, the first possible date the target could be met is September 12. We will validate that the target is met on September 15, as we require three days to ensure all test results and cases are accounted for. If warranted, an order would not come until after September 15.

Note that the full assessment period totals five weeks. Week 1 reflects the two previous weeks of data. Therefore, the clock starts after two weeks have passed—this reflects the 14-day average, and constitutes Measurement 1. From that point, three additional weeks pass in order to capture a total of four 14-day case average measurements.

ⁱ Children are unlikely to be the main drivers of the COVID-19 pandemic-A systematic review. 19 May 2020. <https://doi.org/10.1111/apa.15371>

ⁱⁱ The role of children in transmission of SARS-CoV-2: A rapid review. June 2020. <https://dx.doi.org/10.7189%2Fjogh.10.011101>

ⁱⁱⁱ “Susceptibility to and transmission of COVID_19 amongst children and adolescents compared with adults: a systematic review and meta analysis” 24 May 2020 <https://doi.org/10.1101/2020.05.20.20108126>

^{iv} “Coronavirus disease 2019 (COVID-19) in children and/or adolescents: a meta-analysis.” 17 June 2020. <https://www.nature.com/articles/s41390-020-1015-2>

^v “COVID-19 in 7780 pediatric patients: A systematic review” 01 July 2020 <https://doi.org/10.1016/j.eclinm.2020.100433>

^{vi} “Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults” 14 April 2020. <https://onlinelibrary.wiley.com/doi/full/10.1111/apa.15270>

^{vii} “Contact tracing during coronavirus disease outbreak, South Korea, 2020.” <https://doi.org/10.3201/eid2610.201315>