



How-To Guide for Tracking School Attendance for Students with Asthma

Background

The Minnesota Department of Health (MDH) Asthma Program has developed a measure that school health offices can use to monitor asthma control among their students with asthma. According to the National Asthma Education and Prevention Program Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma, Summary Report 2007, one of the goals of asthma management is to “maintain normal activity levels (including ... attendance at school or work).”¹ According to the CDC, it is reasonable to expect that students with asthma can achieve similar attendance rates as students who do not have asthma.

It is important for school health office staff to be able to track school attendance for students with asthma so they can demonstrate the importance of asthma management in keeping students with asthma healthy and in school. The CDC recommends that: “Schools should keep track of school-associated morbidity measures (percent absenteeism, health room visits, 911 calls, times sent home sick from school) for students with asthma. They should use these data for program evaluation and to ensure their program first targets students with poorly controlled asthma.”²

Attendance Measure

This school attendance measure is based on an attendance indicator used in the evaluation of the Healthy Learners Asthma Initiative in Minneapolis Public Schools.³

The measure compares the overall attendance rate for students with asthma with the overall attendance rate for students who do not have asthma. Previous studies have shown that it is not feasible to directly measure absences due to asthma (e.g., using reason for absence reported by parents). Instead, this measure compares attendance rates for students with and without asthma, assuming that any differences will be due to asthma according to the following equation:

$$\text{Attendance} = \frac{\% \text{ of school days attended for students with asthma}}{\% \text{ of school days attended for students without asthma}}$$

Where:

$$\% \text{ of school days attended} = \frac{\# \text{ of days in attendance}}{\# \text{ of days enrolled}} = \frac{(\# \text{ of days enrolled} - \# \text{ of days absent})}{\# \text{ days enrolled}}$$

Interpretation of the attendance measure:

An attendance measure close to 1 indicates that students with asthma have an attendance rate similar to that for students who do not have asthma. A measure much smaller than 1 indicates that students with asthma have a lower attendance rate than students without asthma. A measure much larger than 1 indicates that students with asthma have a higher attendance rate than students without asthma.

Notes:

- This measure is intended to be calculated once for an entire school year (to account for seasonal effects of asthma).
- The measure can be calculated by grade or by grade within a building. We recommend limiting the measure to a particular building due to factors related to the building that can affect attendance, like flu outbreaks. This will show more clearly attendance associated with asthma management. It is also important to limit the measure to grades that have similar attendance policies (e.g., middle versus high school).
- We suggest that students with comorbidities (e.g., severe chronic respiratory disease) not be excluded from the measure because there may be severe conditions in the non-asthma group that are also associated with missed school days. Alternatively, you could look at the range of school days missed in the asthma and non-asthma groups and exclude the extremes (e.g., a student who has missed 3 months while recuperating from a major illness).

Instructions for calculating the attendance measure

Note: If you are already logging students with asthma in your student health office database, skip step #1 and go to step #2.

Step 1. Identify students with asthma.

- a. Determine the source(s) of information you will use to identify students with already diagnosed asthma; for example: health intake forms, asthma medication use, parent-report, office visits, etc. The MDH Asthma Program's [Asthma Friendly School Resources page](#) contains several forms that may be useful for identifying students with asthma:
- b. Enter asthma as a health condition in the student health office database.

Step 2. Obtain attendance data for students with asthma and for students who do not have asthma.

Note: Steps 2 and 3 will typically require assistance from your IT staff since they involve merging health office data with attendance data based on student IDs.

The following pieces of information will be needed for each student: student ID, grade, building (optional), number of days absent (either by term or for the entire school year), and the number of days enrolled for that school year.

Step 3. Enter data into spreadsheet.

A spreadsheet (“Attendance_spreadsheet.xls”) has been provided for use in this step and is available from the MDH Asthma Program by emailing health.asthma@state.mn.us. Within the spreadsheet, there are 3 worksheets: “Students With Asthma”, “Students Without Asthma” and “Attendance Measure”.

If possible, have your IT staff enter the data directly into the attendance spreadsheet: enter data for students with asthma into “Students With Asthma” worksheet and data for students who do not have asthma into the “Students Without Asthma” worksheet. Otherwise, cut and paste the data into the worksheets from another source, or enter the data into the worksheets manually. The worksheets will automatically calculate the total number of days absent, if not already entered. They will also automatically calculate percent of days absent and percent of days present. See Tables 1 and 2 below for sample worksheets.

Table 1. Sample worksheet for students with asthma

Student ID	Grade	Building	# days absent term 1	# days absent term 2	# days absent term 3	# days absent term 4	Total # days absent	Total # days enrolled	% of days absent	% of days attended
100	6	A	0.5	1	0	0	1.5	170	0.9%	99.1%
110	6	A	1	1	1	1	4	170	2.4%	97.6%
125	6	A	0	0	0	0	0	170	0.0%	100.0%
133	6	A	2	3	2	2	9	170	5.3%	94.7%
140	6	A	6	7	8	9	30	170	17.6%	82.4%
Total	6	A	10.5	12	11	12	45.5	850	5.4%	94.6%

Enter either the number of days absent by term or the total number of days absent for the entire school year. The spreadsheet will calculate the “percent of days absent” and “percent of days attended” columns automatically.

Table 2. Sample worksheet for students who do not have asthma

Student ID	Grade	Building	# days absent term 1	# days absent term 2	# days absent term 3	# days absent term 4	Total # days absent	Total # days enrolled	% of days absent	% of days attended
105	6	A	1	1	1	1	4	170	2.4%	97.6%
115	6	A	0	1	0	1	2	170	1.2%	98.8%
130	6	A	1	1	1	2	5	95	5.3%	94.7%
135	6	A	0	1	0	0	1	170	0.6%	99.4%
145	6	A	0	0	2	1	3	170	1.8%	98.2%
150	6	A	2	1	4	0	7	170	4.1%	95.9%
155	6	A	0	0	2	0	2	30	6.7%	93.3%
Total	6	A	4	5	10	5	24	975	2.4%	97.5%

Step 4. Compare % of days present for all students with asthma versus % of days present for all students who do not have asthma.

The spreadsheet will calculate this measure automatically on the third worksheet.

Example:

% of school days attended for students with asthma = 87.6%

% of school days attended for students without asthma = 97.5%

Thus, the attendance measure = 0.90

A ratio of 0.9 indicates that the students with asthma in this example have a lower attendance rate than the students who do not have asthma.

References

¹ National Heart, Lung, and Blood Institute. Expert Panel Report 3 (EPR-3) Full Report 2007: Guidelines for the Diagnosis and Management of Asthma. Washington, DC, US Department of Health and Human Services, 2007.

² Wheeler LS, Merkle SL, Gerald LB, Taggart VS. Introduction: Learning from each other about managing asthma in schools. *Journal of School Health*. 2006 Aug;76(6):202-204.

³ Splett PL, Erickson CD, Belseth SB, Jensen C. Evaluation and sustainability of the Healthy Learners Asthma Initiative. *Journal of School Health*. 2006 Aug; 76(6):276-282.

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