

Reducing Environmental Triggers of Asthma School Walkthrough Project

Background

Asthma is a chronic disease of the airways that causes recurrent and distressing episodes of wheezing, breathlessness, chest tightness, and coughing especially at night. Exacerbations can be triggered by exposure to allergens, irritants, respiratory infections or exercise. The environment, both indoor and outdoor, plays an important role in the exacerbation of asthma symptoms.

One in 14 Minnesota children (an estimated 85,000) currently have asthma.¹ Among Minnesota children with asthma, more than half had an asthma attack in the past year.² Children in the U.S. miss about 14 million school days each year due to asthma.³

There is substantial evidence that indoor environmental exposure to allergens and irritants play a role in triggering asthma symptoms. These allergens and irritants are found in schools. While several substances can trigger asthma symptoms, the U.S. Environmental Protection Agency (EPA) emphasizes five:

- Animals
- Dust mites
- Mold/moisture
- Pests
- Secondhand smoke

Minnesota School Walkthroughs

The Minnesota Department of Health (MDH) Asthma Program has developed a school asthma walkthrough checklist that focuses on low to no cost solutions for addressing environmental asthma triggers. MDH staff has conducted walkthroughs in 31 schools, both rural and urban, and in a variety of K-12 classrooms.

The most common problems seen in the school environmental asthma walkthroughs were grouped into two categories shown below.



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Common Building Related Problems

- Carpet next to moisture sources such as sinks, drinking fountains and water coolers
- Ceiling stains: evidence of moisture
- Entrances without walk-off mats
- No school bus idling policy
- Common pests: ants, mice, silverfish
- Reduction in custodial staff

Common Occupant Related Problems

- Plants: too many; no water trays; over watering; dead leaves/plants/insect infestations
- Refrigerators on carpet
- Upholstered furniture brought from homes of staff
- Consumer products such as air fresheners (plug-in, spray, solid) & cleaning products
- Animals in classroom: seen more frequently in elementary grade classrooms
- Excessive clutter: seen more frequently in elementary grade classrooms

The MDH recommendations for addressing these problems are:

Building Related Problems and Recommendations

- Carpet near sinks
 - Recommendation: as carpet is replaced, put hard flooring around sink area
- Ceiling stains
 - Recommendation: replace tiles; look for source of the moisture
- Pests / bus idling
 - Recommendation: develop and implement integrated pest management & no bus idling policies

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- Walk-off mats
 - Recommendation: all entrances need walk-off mats

Occupant Related Problems and Recommendations

- Plants
 - Recommendation: limit number of plants, require watering trays and encourage regular maintenance (such as tossing dead leaves) of plants
- Small refrigerators (on carpet)
 - Recommendation: Prohibit personal refrigerators or require an impervious surface such as rubber tray
- Consumer Products
 - Recommendation: Remove consumer products that release strong odors or particles
- Animals in classrooms
 - Recommendation: Remove animals from school, if possible; if not, keep animals in cages or localized areas and away from upholstered furniture and carpets
- Clutter (dust collector)
 - Recommendation: Remind staff that papers & general clutter is difficult to clean, collects dust and can worsen existing breathing problems such as asthma
- Upholstered furniture / stuffed toys
 - Recommendation: District-purchased items only or suggest small items that are washable in hot water
 - Wash items in hot water on a regular basis

Resources for School Personnel

MDH school walkthrough forms and sample walkthrough report

<http://www.health.state.mn.us/asthma/schools.html>

MDH Managing Asthma in Minnesota Schools Resource Manual

<http://www.health.state.mn.us/asthma/schoolmanual.html>

U.S. EPA Managing Asthma in Schools

<http://www.epa.gov/iaq/schools/asthma.html>

For More Information

MDH Asthma Program

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References

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2. National Survey of Children's Health, 2003
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3. Mannino DM, Homa DM, Akinbami LJ, Moorman JE, Gwynn C, Redd S. Surveillance for Asthma-United States, 1980-1999. MMWR March 29, 2002; 51 (No.SS-1):1-13.



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