



# School-Based Self-Management Interventions for Children and Adolescents with Asthma

## Summary of Community Preventive Services Task Force Recommendation

The Community Preventive Services Task Force (CPSTF) recommends school-based asthma self-management interventions to reduce hospitalizations and emergency room visits among children and adolescents with asthma. When these interventions are implemented in schools in low-income or minority communities, they are likely to advance health equity.

### Major Findings

The CPSTF recommendation is based on evidence from 30 studies identified in a systematic review published in 2019.<sup>1</sup> A meta-analysis of 19 of the studies reported the following intervention effects:

- Reductions in asthma-related emergency department visits, asthma-related hospitalizations, and unplanned visits to a medical provider;
- Increases in self-reported asthma-related quality of life; and
- Mixed outcomes for all causes of school absences.

There was not enough economic evidence to determine cost-effectiveness or cost-benefit for school-based asthma self-management interventions.



### What are School-Based Self-Management Interventions for Asthma Control?

School-based self-management interventions for asthma control provide education or counseling to help students with asthma learn to do one or more of the following: recognize and manage asthma symptoms, use medications and inhalers properly, or avoid asthma triggers.

Interventions may provide instruction on monitoring asthma signs and symptoms, stress management, and implementing an asthma action plan. These interventions may be facilitated by trained nurses, teachers, health educators, or peers. They may be delivered to students in group or individual sessions at school, during or outside of regular school hours.

### Facts about Asthma

- Asthma is the most common chronic lung disease among children in the United States, affecting one out of every twelve children.<sup>2</sup>
- Students with asthma may experience limitations in daily activities, missed school days, hospitalizations, or urgent primary care and emergency department visits.<sup>1</sup>
- The burden of childhood asthma in the United States is higher in urban settings and low-income and minority communities.<sup>3,4</sup>

### Learn More

Read a complete summary of the systematic review and CPSTF finding and access a list of suggested guidelines and toolkits

[www.thecommunityguide.org/findings/asthma-school-based-self-management-interventions-children-and-adolescents-asthma](http://www.thecommunityguide.org/findings/asthma-school-based-self-management-interventions-children-and-adolescents-asthma)

<p><b>CDC, Asthma</b> <a href="http://www.cdc.gov/asthma/">www.cdc.gov/asthma/</a></p>	<p><b>CDC, National Asthma Control Program (NACP)</b> <a href="http://www.cdc.gov/asthma/nacp.htm">www.cdc.gov/asthma/nacp.htm</a></p>	<p><b>National Heart, Lung, and Blood Institute</b> <a href="http://www.nhlbi.nih.gov/health-topics/asthma">www.nhlbi.nih.gov/health-topics/asthma</a></p>	<p><b>American Lung Association</b> <a href="http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/">www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/</a></p>
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<sup>1</sup>Harris KM, Kneale D, Lasserson TJ, McDonald VM, Grigg J, Thomas J. School-based self-management interventions for asthma in children and adolescents: a mixed methods systematic review. *Cochrane Database of Systematic Reviews* 2019, Issue 1. Art. No.: CD011651. DOI:10.1002/14651858.CD011651.pub2

<sup>2</sup>Zahran HS, Bailey CM, Damon SA, Garbe PL, Breyse PN. *Vital Signs: Asthma in Children — United States, 2001–2016*. *MMWR* 2018;67:149–55.

<sup>3</sup>Woods ER, Bhaumik U, Sommer SJ, et al. Community asthma initiative to improve health outcomes and reduce disparities among children with asthma. *MMWR Suppl* 2016;65place\_holder\_for\_early\_release:11–20.

<sup>4</sup>Sullivan PA, Ghushchyan V, Kayati A, Navaratnam P, Friedman HS, Ortiz B. Health disparities among children with asthma in the United States by place of residence. *J Allergy Clin Immunol Pract* 2019; 7(1):148–55.

Established in 1996 by the U.S. Department of Health and Human Services, the Community Preventive Services Task Force (CPSTF) is an independent, nonfederal panel of public health and prevention experts whose members are appointed by the director of CDC. The CPSTF provides information for a wide range of decision makers on programs, services, and other interventions aimed at improving population health. Although CDC provides administrative, scientific, and technical support for the CPSTF, the recommendations developed are those of the CPSTF and do not undergo review or approval by CDC.

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