

Research in Brief:  
**Effective Asthma Education**  
**for School Staff**

**Background**

Asthma is the most common childhood chronic condition, which has also seen an increased prevalence over the last 20 years. Although advances in treatment have been made, significant rates of associated morbidity and mortality are still reported worldwide. It is indicated that avoidable factors contribute to 90% of child asthma-related fatalities.

Asthma is also a major risk for school absenteeism, which may result in poor academic outcomes. There may be need for asthma education not only among parents, but also among educators, given their frequent and long-term interaction with children and youth.

Asthma attacks can be frightening to experience and witness, and therefore school staff receiving specific asthma training may be able to enable rapid, effective response. Despite a lack of consensus on the characteristics of an effective asthma-education program for school staff, common issues to address include poor access to medications in schools, use of outdated inhalers, and confusion regarding inhaler usage.

Currently, school policies on staff asthma education range from recognizing asthma symptoms to managing severe student asthma attacks. The overall aim of asthma education for school staff is to prevent asthma-related fatalities among students, and to promote effective



***Why does this matter?***

- ⇒ Asthma is prevalent among youth, with significant morbidity and mortality reported worldwide.
- ⇒ Student asthma is associated with increased hospital-visits and school absenteeism, potentially resulting in poorer academic outcomes.
- ⇒ Most asthma-related fatalities are avoidable, and therefore it may be important to increase asthma education for school staff given their frequent and long-term interactions with youth.
- ⇒ Evaluating the effectiveness of school staff asthma education programs is necessary for any potential implications on policy and practice.

The Knowledge Network for Student Well-Being is a project of the **Knowledge Network for Applied Educational Research** ([www.knaer-recrae.ca](http://www.knaer-recrae.ca))

Communities of practice in the KNSWB include: **Ontario Healthy Schools Coalition, PREVNet, School Mental Health ASSIST, and the Social Planning Network of Ontario**

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# Effective Asthma Education for School Staff

symptom management for improved child health and educational outcomes.

To identify key features of asthma education programs for school staff, and to assess their effectiveness, a systematic review and meta-analysis were conducted.

## What is a systematic review and meta-analysis?

A systematic review is a type of study that exhaustively summarizes the literature on a specific research question. The purpose of a systematic review is to draw a collective conclusion that provides stronger evidence than any single study.

This research method involves: 1) framing a specific research question; 2) running a comprehensive search in the literature; 3) screening the retrieved articles for relevance; 4) assessing the research quality of the relevant articles; 5) abstracting results from the relevant articles; and 6) synthesizing the results of the relevant articles to draw a conclusion.

A meta-analysis then combines the statistical results of the relevant articles to provide a pooled estimate of effects.

## What did the researchers do?

The researchers performed a systematic review and meta-analysis to evaluate the effectiveness of school staff asthma education programs on students up to age 19. Peer-reviewed studies were retrieved from electronic databases, including MEDLINE, Embase, and PsycINFO.

Eligible studies employed a randomized design, comparing schools with implemented staff asthma education programs to schools with no (or minimal) staff asthma education programs.

Primary outcomes included student visits to hospitals or emergency departments, mortality, and asthma control. Other assessed outcomes included adherence to school asthma policies, student absenteeism, and staff self-efficacy in managing student asthma.

## What did they learn?

From 378 unique studies retrieved, five studies were deemed eligible for the meta-analysis. Due to the presence of skewed and poor quality data, analysis was limited. Only one study reported the frequency of student ED visits, and no studies reported student mortality.

Results from questionnaires revealed no significant differences in the quality of life between students attending schools with and students attending schools without staff asthma education programs. Data on student asthma symptoms and student absenteeism also revealed no significant or long-lasting differences between schools with and schools without staff asthma education programs.

However, it was found that schools implementing staff asthma education programs were more adherent to asthma policies and had staff that were more knowledgeable and better prepared to administer treatments.

Overall, the quality of the evidence was poor. The interventions varied greatly in their content and scope, rendering it difficult to ascertain the effectiveness of asthma education programs. Moreover, the small number of eligible studies hindered meaningful assessment of key characteristics of these programs.

The researchers concluded that current evidence is not sufficient to determine whether improvements in staff knowledge on asthma produce substantial benefits in student wellbeing.

Further high-quality research is necessary to address this knowledge gap and to study short- and long-term outcomes of school staff asthma education programs.

This brief summary was prepared from:

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Please see the original document for full details. In the case of any disagreement between this summary and the original document, the original document should be seen as authoritative.