School-Based Health Centers and Asthma: Enhancing Care by Reducing Environmental Triggers

August 24, 2017
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Today’s Presenters

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School-Based Health Centers and Asthma:

Enhancing Care by Reducing Environmental Triggers
Webinar objectives

At the conclusion, attendees will...

• Be able to **describe the importance** of SBHCs addressing environmental asthma triggers and some tools to support interventions

• Be able to **list model interventions** conducted by SBHCs across the country

• **Describe 3 best practices** for SBHCs in addressing environmental asthma triggers
Webinar agenda

• **Overview** of the importance of addressing environmental asthma triggers and tools to support SBHCs in doing so

• **Stories from the field**: 3 SBHCs share stories about environmental interventions they conducted and the impact they saw

• **Lessons learned and best practices**

• Q&A
Asthma in children

• 7 million children under the age of 18 in the U.S. have asthma
• Most common cause of disability among children in the U.S.
• Leading cause of school absences due to chronic disease.
Asthma disparities

Current Asthma Prevalence by Age Group, Race and Ethnicity, and Poverty Status (2013)
How do we reduce the burden of asthma?

Utilize a broad and comprehensive approach that aligns with National Guidelines

— Assessment of disease severity and control
— Comprehensive pharmacologic therapy
— Patient education
— Environmental control measures to avoid or eliminate factors that contribute to asthma onset and severity
The important role of SBHCs

SBHC users are:

• Less likely to go to the ED or be hospitalized for asthma
• Less likely to have asthma-related restricted activity days
• Less likely to miss school as a result of their asthma
Underlying premise of the project:

SBHCs provide an ideal setting in which to incorporate environmental components into chronic disease management programs, leveraging their role as a strong link between the student, school, and home.
At-A-Glance: How can SBHCs engage in interventions to reduce exposure to environmental asthma triggers?

As School-Based Health Center staff, you can...

Strategy 1: Education
- Conduct one-on-one education about environmental asthma triggers during patient visits.
- Conduct, organize, or support school-based group education for students.
- Provide education for school staff.
- Print/order and distribute materials, tools and curricula for educating students, families and school staff.

Strategy 2: Case Management
- Incorporate strategies to reduce exposure to environmental asthma triggers into your case management approach to students with asthma.
- Facilitate connections to resources that exist, communicate with and educate other partners critical to effective asthma management (parents, school staff, etc.), and identify when direct advocacy is needed.

Strategy 3: Improving Indoor Air Quality in Schools
- Increase awareness.
- Conduct or facilitate an assessment.
- Support or lead a comprehensive approach to improving indoor air quality.

Strategy 4: Improving the Students’ Home Environments
- Establish referral systems for in-home asthma education and environmental remediation programs in the community.
- Educate students and families.
- Provide supplies to students and families.
- Utilize case management strategies to connect families with resources.

Strategy 5: Improving Outdoor Air Quality around the School and Community
- Conduct an assessment of local air quality.
- Partner with the school to implement programs and policies to reduce exposure to outdoor triggers near the school.
  - Increase awareness and protect students on high pollution days.
  - Develop anti-idling education and policies.
  - Develop approaches to reduce pollen exposure.
- Partner with others in the community on clean air advocacy.
Strategy 1: Education

Overview of the strategy

Patient and family education is an essential strategy for the management of asthma. The National Asthma Education and Prevention Program Expert Panel, which developed the national best practice guidelines, found abundant scientific evidence that asthma education programs reduce urgent care visits and hospitalizations and improve overall health status.74 The Expert Panel states: “Asthma self-management education should be integrated into all aspects of asthma care, and it requires repetition and reinforcement.” The Panel further states: “With the support of clinicians, effective educational interventions should be provided at points of care outside the traditional health care setting, including schools.”

While many clinical providers may already educate patients about the basic facts of asthma, proper use of medication, and self-management skills, the Expert Panel also recommends education about actions to reduce exposure to environmental asthma triggers. This recommendation provides an opportunity for SBHC staff to incorporate education about controlling environmental exposures into their existing one-on-one asthma education protocols and/or to support group education programs that include a component on environmental exposures. There can also be an important role for SBHC staff in educating school staff.

What are some of the most important environmental asthma triggers to address?

As you read this chapter use the trigger table as a reference. Often times, the presence of asthma triggers results from the behaviors of individuals with the best of intentions. Teachers may not realize that the cozy reading nook is a significant source of dust mites. Parents may not realize that their scented laundry detergent may be triggering their child’s asthma. Students may not realize that cuddling with the classroom pet could make their asthma worse. Providing education through an array of activities described in this chapter can go a long way in changing the behaviors that increase exposure to environmental asthma triggers.

There are some environmental asthma triggers, such as outdoor air pollution, that cannot be reduced through education and behavior change alone. Even so, educating students and staff about all of the asthma triggers in the trigger table is important for increasing awareness and may ultimately lead to some of the advocacy strategies discussed later in this guide.
Overview of the strategy

Asthma is a complex chronic disease that requires a comprehensive approach to management and prevention. As described throughout this guide, managing asthma is not just about prescribing the right medications but also about supporting self-management and finding ways to reduce exposure to environmental asthma triggers. As such, students with asthma greatly benefit from proactive case management. As part of the SBHC team, you can play an important role in fulfilling that approach.

Broadly defined, case management is a collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual's and/or family's comprehensive health needs through communication and available resources to promote quality, cost-effective outcomes. Case management serves as a means for achieving patient wellness through advocacy, communication, education, identification of service resources, and service facilitation. For the purposes of this guide, we talk about case management for asthma in the more narrow context of environmental triggers.

Please note: Because case management can either directly or indirectly involve education, some of the resources listed below may overlap with those listed in the Education and other sections of this guide.

What are some of the most important environmental asthma triggers to address?

As you read this chapter use the trigger table as a reference. Like education, the strategy of case management can be used to find solutions to the broad array of environmental asthma triggers.

One of the most important initial steps related to case management is to help identify a patient's asthma triggers and the components of the environment that are causing a problem. There are many existing trigger lists to help SBHC staff work with the patient to identify triggers. One example is the trigger list included in RAMP’s Asthma Action Plan available in four different languages at http://rampasthma.org/info-resources/asthma-action-plans/. Another example is the asthma action plan developed by the National Heart Lung and Blood Institute: http://www.nhlbi.nih.gov/files/docs/public/lung/asthma_actplan.pdf.
Strategy 3: Improving Indoor Air Quality in Schools

Overview of the strategy

Children spend much of their time at school and the school environment often contains environmental asthma triggers that make asthma worse. During their time in school, students and staff can be exposed to a wide range of indoor environmental asthma triggers that can lead to missed school days and decreased academic performance.

Because environmental asthma triggers are airborne or inhaled, they are closely linked to air quality. If an indoor environment (such as a school) has numerous environmental asthma triggers (such as chemical irritants or mold) it has poor indoor air quality (IAQ). According to the U.S. Environmental Protection Agency (EPA), indoor air is 2 to 5 times more polluted, and in some cases 100 times more polluted, than outdoor air.76

A recent assessment of the condition of public schools conducted by the National Center for Education Statistics found that many public schools reported poor indoor air quality. In their assessment environmental factors in permanent buildings were rated as unsatisfactory in 17% of schools. For portables, 28% were reported as unsatisfactory.77 Overall, the American Society of Civil Engineers gives school facilities in the U.S. a “D” in their 2013 infrastructure report card.78

Importantly, studies have demonstrated that improved IAQ and a reduction in asthma triggers in school facilities often can be addressed at little or no cost and will have a positive impact on student health and achievement as well as staff well-being. In this light, focusing on the quality of indoor environments in schools is an essential part of creating asthma-friendly schools.

According to the U.S. Environmental Protection Agency (EPA), indoor air is 2 to 5 times more polluted, and in some cases 100 times more polluted, than outdoor air.
Strategy 4: Improving the Students’ Home Environments

Overview of the strategy

A student’s home environment may contain environmental asthma triggers that make asthma worse. Homes may contain allergens like mold, dust mites, cockroaches and other pests, as well as pets. They may also contain indoor air pollutants like tobacco smoke or chemical irritants found in many cleaning products or personal care products. When indoor pollutants are emitted they are partially trapped inside homes and other buildings and people’s activities put them very near indoor sources. Consequently, some scientists estimate that pollutants emitted indoors are about 1,000 times more likely to be inhaled than comparable outdoor emissions.5

SBHC staff have an important role in improving the students’ home environments. It may initially appear that there is no role for SBHC staff in addressing the students’ home environments because SBHC staff rarely go to the students’ homes and many do not even have the opportunity to talk with parents or other family members. However, as health care providers, educators and case managers, there are many ways that SBHC staff can support healthy home environments.

What are some of the most important environmental asthma triggers to address?

There is a wide range of preventable asthma triggers found in homes. As you read this section use the trigger table as a reference and to find more information on the triggers below which are listed in the same order here as they are in the table.

1. Mold and moisture may occur wherever there are leaks, condensation, or other water damage.
2. Dust mites are found in every home and are common in mattresses, pillows, carpets, upholstered furniture, clothes, stuffed toys, and fabric.

3. Cockroaches and rodents are found in many homes, particularly if there are cracks or openings that allow pests inside, food and water sources, and high humidity.
4. Pets can trigger asthma through proteins in their urine, feces, saliva, skin flakes, and fur.
5. Environmental tobacco smoke, or secondhand smoke, is found in any home where smoking is allowed. It may also be found in multi-unit housing where smoke from one unit reaches other units.
Strategy 5: Improving Outdoor Air Quality Around the School and Community

Overview of the strategy

Every year, millions of pounds of dangerous chemicals, gases, and particles are released into the air by vehicles, power plants, and industrial and agricultural activities. Scientific studies conducted throughout the U.S., as well as in other countries, have found strong relationships between four outdoor air pollutants (NO₂, PM, O₃, and SO₂) and asthma exacerbation in young children and adolescents.⁹⁷,⁹⁸,⁹⁹

Additionally, outdoor air pollution has been implicated in the development of new asthma cases.¹⁰⁰,¹⁰¹,¹⁰² Outdoor air pollution is a serious problem in most urban areas as well as in many rural areas of the United States. According to the American Lung Association’s State of the Air 2014, more than 147.6 million people—47 percent of the nation—live where pollution levels are too often dangerous to breathe.¹⁰³

While it may seem at first glance that SBHCs don’t have a significant role to play in improving outdoor air quality and reducing exposure to pollution, there is in fact a lot you can do for both schools and the surrounding community. Whether conducting an assessment, increasing awareness, or advocating for policy changes, SBHC staff can serve an important role in improving outdoor environments.

What are some of the most important environmental asthma triggers to address?

As you read this chapter use the trigger table to use as a reference and to find more information on the following asthma triggers.

1. Outdoor air pollution has been implicated in both asthma exacerbation and causation. The four main components of outdoor air pollution associated with asthma are:
   - Nitrogen dioxide (NO₂), a brownish acidic gas that reacts with other gases to form ground-level ozone (smog).
   - Sulfur dioxide (SO₂). Pollution “point sources” such as power plants produce SO₂ or acid sulfate particles.
   - Pollen is a trigger for many people with asthma. Plants that may trigger asthma include some trees, grasses, weeds, and ragweed.
   - Ozone (O₃), a colorless and odorless gas and the chief component of smog.
   - Particulate matter (PM), a heterogeneous mixture of small solid or liquid particles that can be inhaled.
Stories from the field

• Betty Franco: South Bay Family Health Center
• Reginal Figgs: Greenwood Academy Health & Wellness Center
• Dale Ayton: Education & Health’s Belmont School-Based Health Center
Greenwood Academy Health & Wellness Center
Education & Health’s Belmont School-Based Health Center
Lessons Learned

• SBHCs are uniquely positioned to do this work!
  – Passionate, knowledgeable staff.
  – Focus on low-income communities/communities of color.
  – Link between child, school, family, clinical systems.
  – Have more flexibility in working with schools.
  – Adept at doing more with less.
Lessons Learned

• Start with an environmental assessment.
• Relationship-build.
  – Ask questions to identify perceived barriers.
  – Get buy-in upfront.
• Identify a champion.
  – Students
  – School staff
Lessons Learned, cont.

• Create sustainability strategies:
  – Buying supplies in bulk, at discounted prices
  – Utilizing volunteers/interns
  – Identify partners
  – Financing mechanisms/health payers...stay tuned!

• Frame policy changes around health impacts
Case studies highlighting 10 SBHCs now available!

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Questions?

Please enter your questions into the “Q&A” inbox of the Zoom control toolbar.
BECOME A MEMBER!

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BACK to SCHOOL REMINDERS

1. Complete Your National School-Based Health Care CENSUS
   www.sbh4all.org/2016-17Census

2. While Entering CENSUS Data, Report the National SBHC PERFORMANCE MEASURES
   (Report all your data at once through the Census portal)

Beginning Monday, September 18
Submit Your ABSTRACT for 2018 National SBHC Convention
www.sbh4all.org/training/convention/cfa
Questions?

Please enter your questions into the “Q&A” inbox on the Zoom control toolbar.
Thank You!

Additional Questions? Contact us at: info@sbh4all.org