



Asthma Environmental Interventions for School-Based Health Centers

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Agenda

- Asthma Environmental Interventions for School-Based Health Centers
- California School-Based Health Centers Addressing Environmental Asthma Triggers
 - Making the switch to environmentally preferable cleaning products: Nova Wilson, Madison Park Academy
 - Identifying classroom triggers and educating teachers about simple ways to reduce triggers: Eric Medina, Altura Centers for Health
 - Involving high school students in efforts to increase awareness about outdoor air pollution: William Retz, Fremont Wellness Center
- Wrap-up, 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.



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 our 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.









Asthma Environmental Intervention Guide for School-Based Health Centers



Developed by Regional Asthma Management & Prevention (RAMP), a project of the Public Health Institute, in partnership with the California School-Based Health Alliance

ASTHMA AND ENVIRONMENTAL TRIGGERS

TRIGGER	DESCRIPTION	IMPACT ON ASTHMA	COMMON LOCATION AND CONTRIBUTING FACTORS
ALLERGENS			
Mold and moisture	Molds are microscopic fungi that live on plant and animal matter. Molds create tiny spores to reproduce just as plants produce seeds. Mold spores float through the indoor and outdoor air continually. When mold spores land on damp places indoors they may begin to grow.	Mold spores and bacteria found in the air, in settled dust, on surfaces, or behind walls have been significantly associated with increased prevalence of respiratory symptoms and decreased lung function among children with asthma. ^{18,19,20,21,22} There is also evidence of a relationship between exposure to mold and the development of asthma in children. ^{23,24}	Molds can be found almost anywhere when moisture is present. Excessive moisture from leaks, condensation, or other water damage often leads to mold growth in both homes and schools. Moisture-related problems can result from leaks or condensation under sinks, in roofs, under floors, or behind walls. Mold and bacteria problems are worse in certain conditions, such as when there is moisture damage, condensation, or higher indoor humidity. <i>For more information on how to address this trigger, go to sections on Homes and Schools.</i>  
Dust mites	Dust mites are tiny bugs that are too small to see. Body parts and droppings from dust mites can trigger asthma in individuals with allergies to dust mites.	Dust mites have been consistently associated with both allergic sensitization and increased asthma symptom prevalence and severity, especially when there is inadequate ventilation and higher humidity. ^{25,26,27,28} Dust in schools has been associated with increases in allergic sensitization, asthma symptoms, and asthma medication use. ^{29,30,31} Exposure to dust mites can cause asthma in children who have not previously exhibited asthma symptoms. ³²	Every home and school has dust mites. They feed on human skin flakes. Allergens and toxins can collect in dust on surfaces in classrooms and homes. In homes they are found in mattresses, pillows, carpets, upholstered furniture, stuffed toys, fabric and fabric-covered items. In schools, dust is found on surfaces like bookcases and smooth flooring, as well as in carpets, rugs, curtains, and upholstered furniture. Studies have reported that allergen levels in dust were higher in carpets and rugs than on smooth floors. ^{33,34} <i>For more information on how to address this trigger, go to sections on Homes and Schools.</i>  
Cockroaches and rodents	Droppings or body parts of cockroaches and other pests can trigger asthma. Certain proteins are found in cockroach feces and saliva and can cause allergic reactions or trigger asthma symptoms in some individuals.	Cockroach and rodent (mouse, rat) allergens have been linked to increased asthma symptom prevalence and severity. ^{35,36,37} There is also evidence suggesting a causal relationship between cockroach allergens and asthma. ³⁸	Pest infestations can be found at both homes and schools. Food and water sources may be important factors for the proliferation of cockroaches. Humidity is also an important factor for cockroach allergens. ³⁹ <i>For more information on how to address this trigger, go to sections on Homes and Schools.</i>  

Environmental asthma triggers

- Two categories: allergens and irritants
- Difference between exacerbation and causation
- Asthma triggers vary from one person to the next

Allergens



mold



dust mites



Allergens



cockroaches



rodents



Allergens



pets



pollen



Irritants/ pollutants



environmental tobacco smoke



chemical irritants from
personal products



Irritants/ pollutants



cleaning products



pesticides

Irritants/ pollutants



gas stoves and space heaters



wood smoke



Irritants/ pollutants



outdoor air pollution

Irritants/ pollutants



outdoor air pollution

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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.

Conduct one-on-one education

- During patient visits
 - Teach how environmental asthma triggers can make asthma worse as well as how to recognize immediate and delayed reaction.
 - Teach patients strategies for reducing exposure to things that make their asthma worse.
 - Use an Asthma Action Plan that includes trigger information

Conduct, organize, or support school-based group education for students

Elementary schools

- Asthma Awareness Curriculum for the Elementary Classroom
- Fight Asthma Now for Youth
- Open Airways for Schools
- Roaring Adventures of Puff
- You Can Control Asthma

Middle and high schools

- Adolescent Asthma Action
- Fight Asthma Now for Teens
- Kickin' Asthma
- Power Breathing



Provide education for school staff



Asthma Education Curriculum for School Nurses and Other Elementary-Middle School Professionals

August 2011

by the staff of the North Carolina Asthma Program
and the Asthma Alliance of North Carolina
Education and Public Awareness Subcommittee

THE COACH'S ASTHMA CLIPBOARD PROGRAM
WINNING WITH ASTHMA

WELCOME TO THE COACH'S ASTHMA CLIPBOARD PROGRAM.

We created this program so coaches could learn about asthma, how it affects an athlete's ability to compete, and how the coach can help athletes manage their symptoms while playing their very best!

ENTER WINNING WITH ASTHMA

GET EDUCATED & GET REWARDED

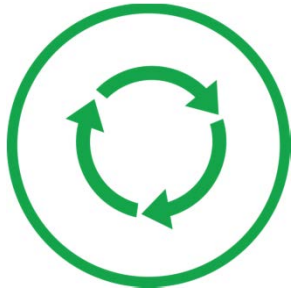
Asthma QuickTake

Asthma in Schools
Reducing Exposures to Indoor Asthma Triggers

SCHOOL ENVIRONMENTAL HEALTH AND ASTHMA COLLABORATIVE

ABOUT THIS PROGRAM | DISCLAIMERS | GLOSSARY | LINKS





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.



Incorporate strategies to reduce exposure to environmental asthma triggers into case management approach

- Communicate/ Educate
- Identify / Facilitate Services
- Advocate





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.
- > Support or lead an intervention to address specific triggers or other factors (such as mold and moisture, chemical irritants from schools and personal products, and ventilation.)

Increase awareness

EPA United States Environmental Protection Agency

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Creating Healthy Indoor Environments in Schools

New!

Retrofitting schools?

Achieve your energy savings and health objectives at the same time. [Learn More.](#)

1 2 3 4 5

Promote a healthy learning environment at your school to reduce absenteeism, improve test scores and enhance student and staff productivity. [Read more about IAQ and Student Performance.](#)

Who can help improve IAQ in schools?

School Officials, Facilities Staff Members, Teachers, Health Care Professionals and Parents or Students, find information designed specifically for you.

Develop Your Program: The Framework for Effective School IAQ Programs

Use the *IAQ Tools for Schools* Framework and sustain an effective and comprehensive indoor air quality (IAQ) management program or other overall health and safety initiatives.

[Get Started!](#)

IAQ Tools for Schools Action Kit

The Action Kit provides best practices, industry guidelines, sample policies and a sample IAQ management plan to improve school air at little or no cost.

[Get the Action Kit!](#)

News

EPA releases new, innovative mobile app to assist schools and school districts with performing IAQ facility assessments. [Read more.](#)

EPA releases new guidance to help school districts protect IAQ while increasing energy efficiency during school building renovations. Learn more about the [Energy Savings Plus Health: IAQ Guidelines for School Building Upgrades.](#)

[Stay Connected](#)

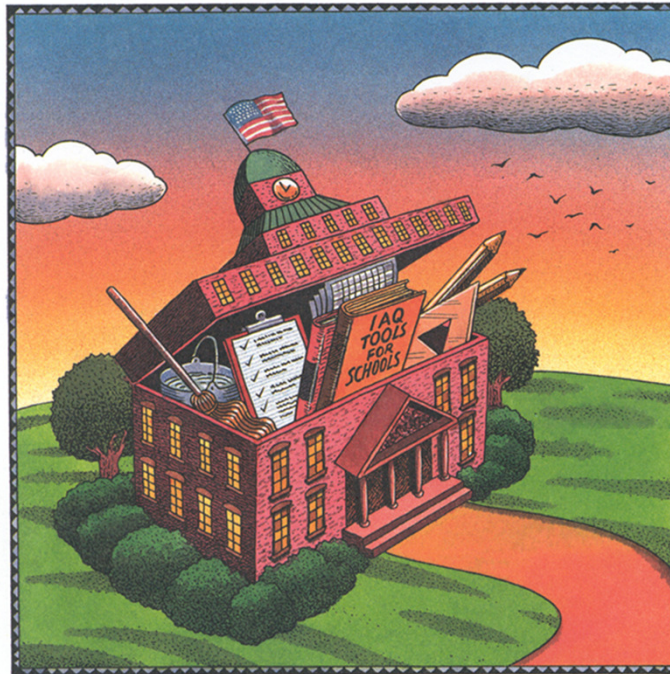
[Upcoming Events](#)

Find an IAQ Champion Near You!

Select your state [Go](#)

Support or lead a comprehensive intervention

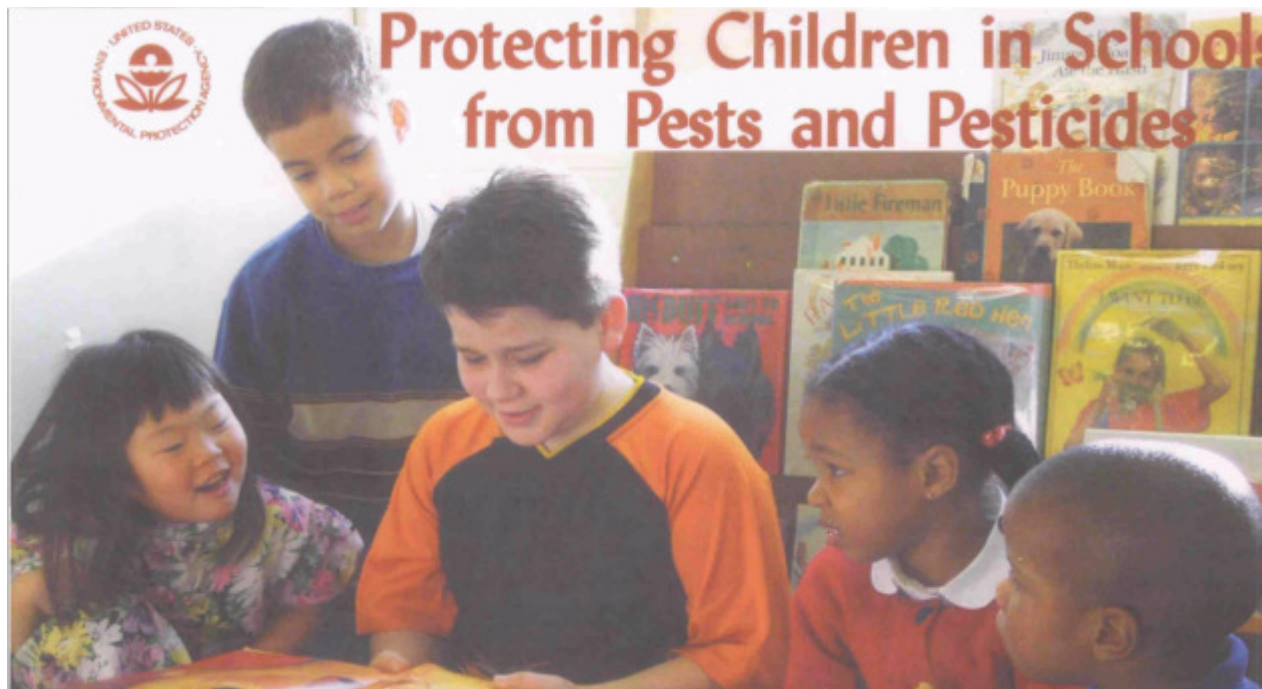
Indoor Air Quality



Tools For Schools

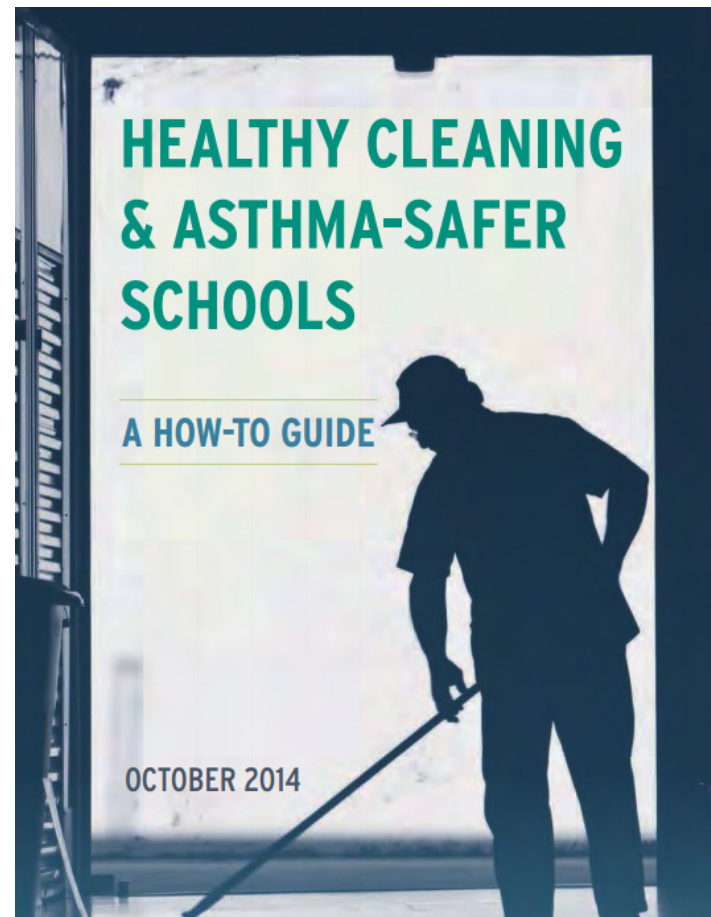
Implement interventions targeting specific environmental asthma triggers

- Cockroaches and rodents



Implement interventions targeting specific environmental asthma triggers

- Cleaning products





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.

Establish referral systems for in-home asthma education and environmental remediation programs



Educate students and families



Provide supplies to students and families





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.

Partner with the school to implement programs and policies



Partner with others in the community on clean air advocacy



At-A-Glance: How can SBHCs engage in interventions to reduce exposure to environmental asthma triggers?

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



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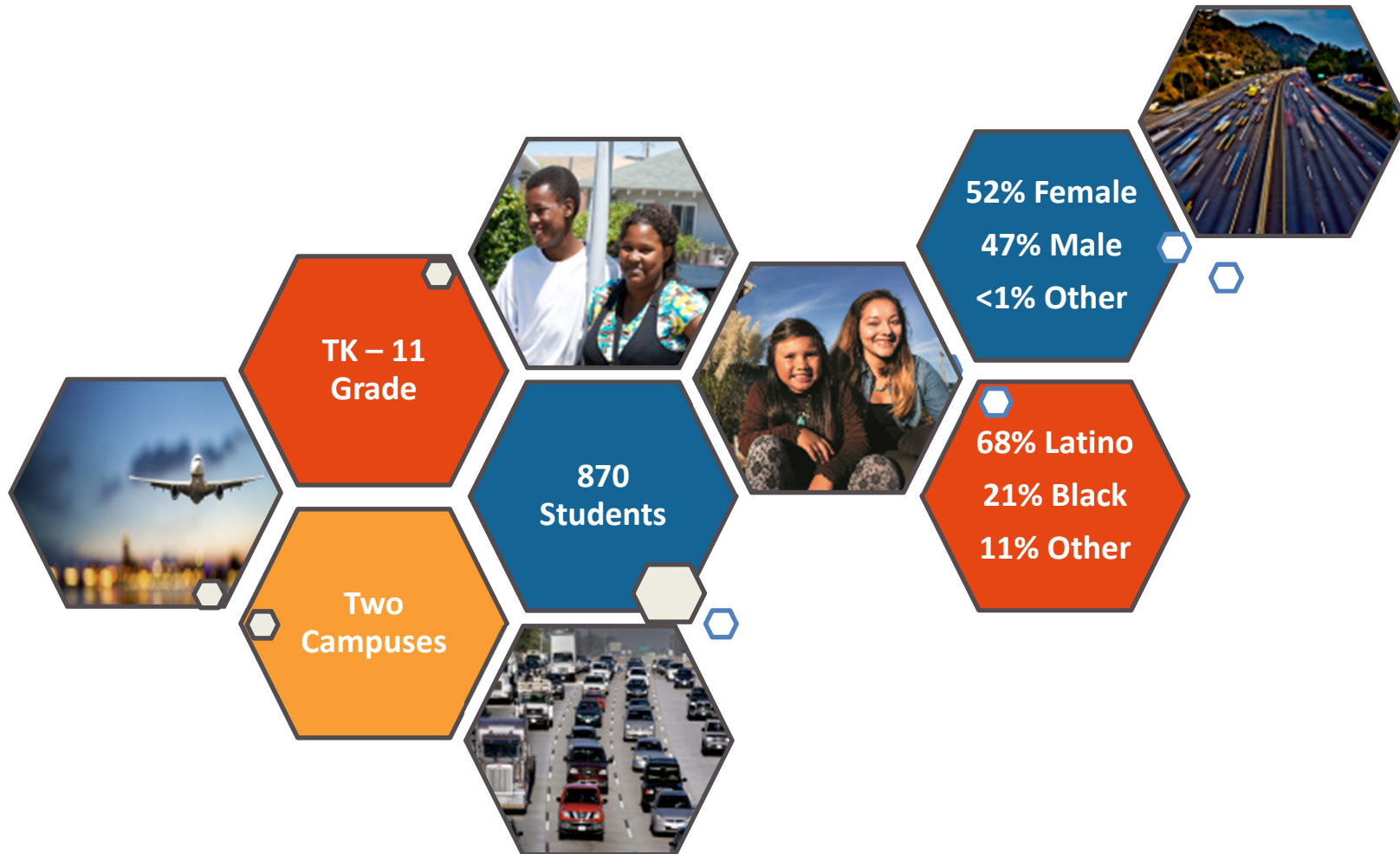


MAKING THE SWITCH
ENVIRONMENTALLY PREFERABLE CLEANING PRODUCTS

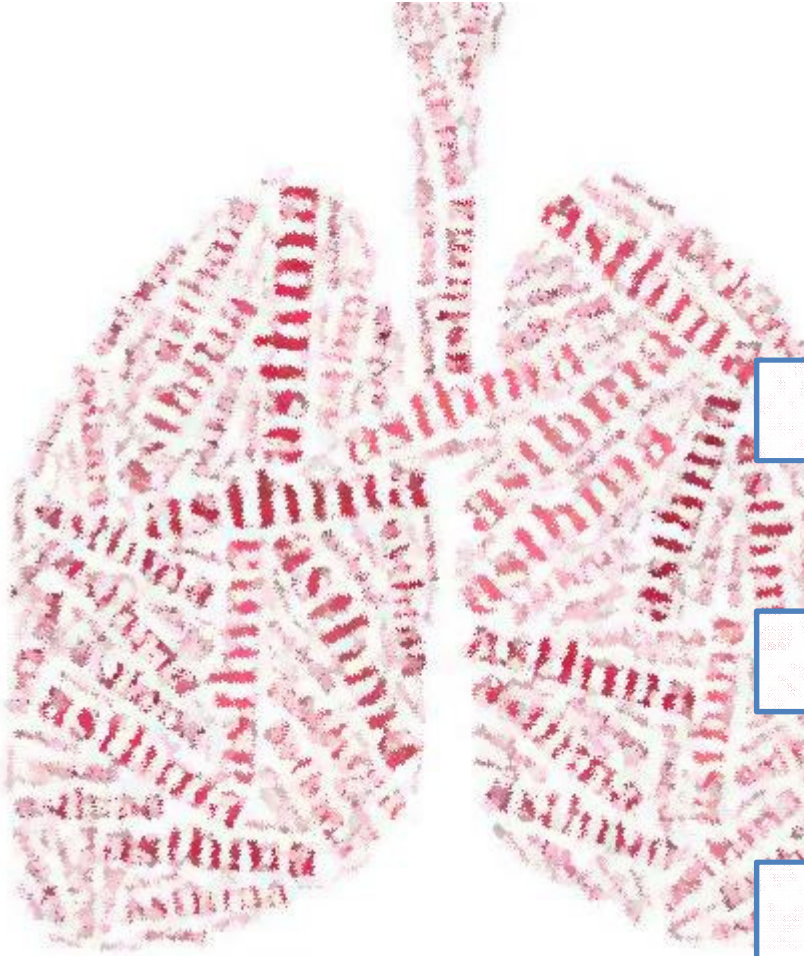
Nova Wilson, Madison Park Academy
Native American Health Center
May 4th, 2016

MADISON PARK ACADEMY

Sobrante Park, Oakland, CA



STUDENTS WITH ASTHMA AT MADISON



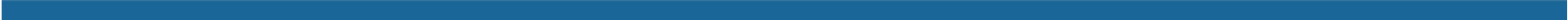
Primary Campus
22 STUDENTS



Secondary Campus
94 STUDENTS



School-Wide Asthma Screening
114 STUDENTS IDENTIFIED



ASTHMA CONTROL AT MADISON

ACT: 94 students
screened

86% well
controlled asthma

34 Asthma visits

20 Asthma Action
Plans completed



making the
SWITCH
to
GREEN
cleaning products

NATIVE AMERICAN HEALTH CENTER

ENVIRONMENTAL TRIGGER REDUCTION

Making the switch to Green Cleaning



WHY:

To reduce student exposure to volatile organic compounds (VOC) and quaternary ammonium compounds (quats).

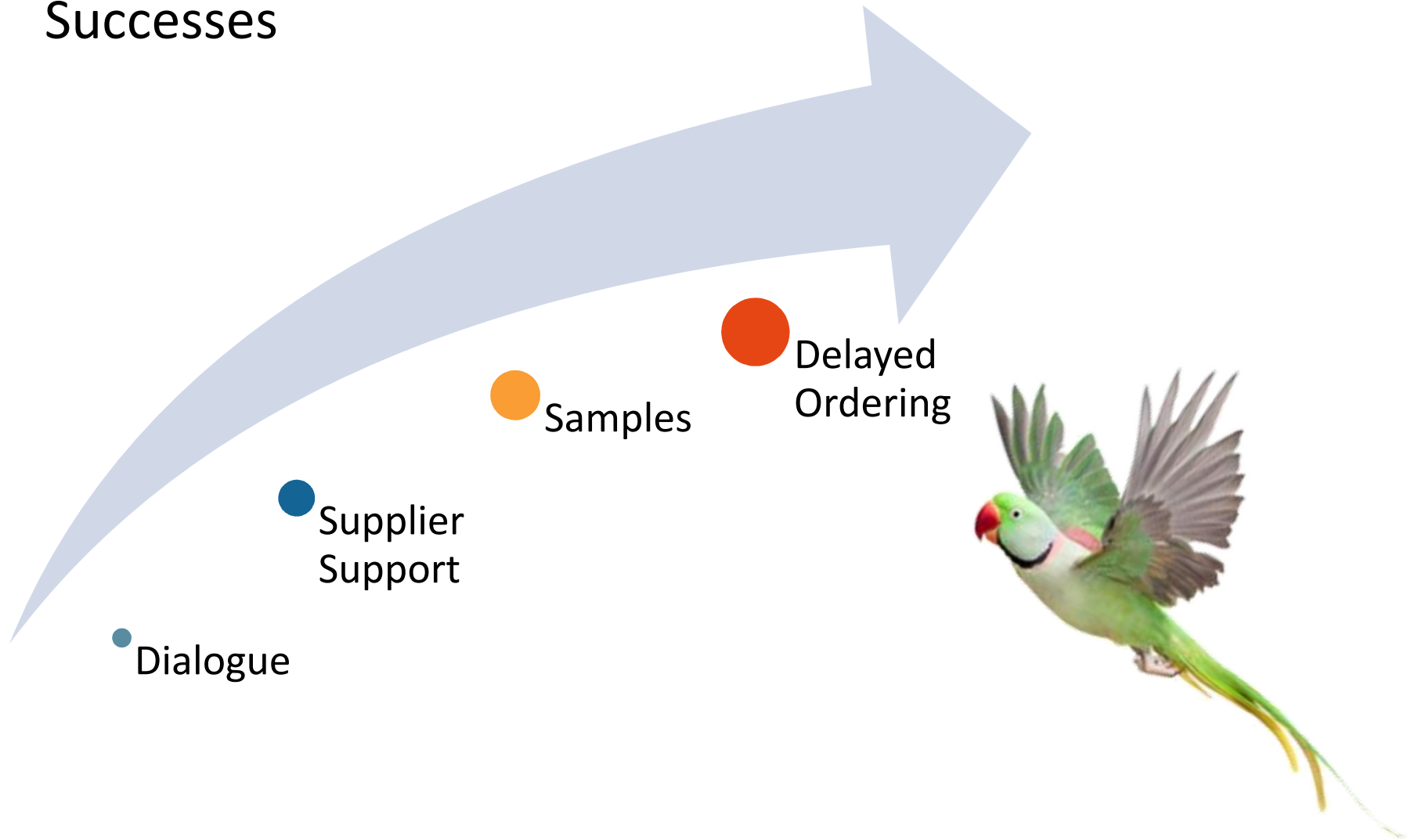
MAKING THE SWITCH TO GREEN CLEANING

Challenges



MAKING THE SWITCH TO GREEN CLEANING

Successes



MAKING THE SWITCH TO **GREEN CLEANING**

Worth Replicating?



- **YES!**
- **Start Early**
- **Do Your Homework**
- **Know Gatekeepers**
- **Keep At It!**



OUR MISSION

Native American Health Center's mission is to provide comprehensive services to improve the health and well-being of American Indians, Alaska Natives, and residents of the surrounding communities, with respect for cultural and linguistic differences.



Air Quality Flag Program Intervention

Will Retz

Why the Flag Program?

- ◎ High number of asthma-related ER visits in south LA – in part due to unidentified triggers
- ◎ High proportion of time spent at school by students
- ◎ Pre-existing youth advisory board
- ◎ Something we felt could be sustainable

What is this Intervention?



- Made a national program in 2010
- Now implemented at 700 schools in 12 states
- Alerts individuals to the local air quality
- Provides a recommendation for how to respond
- More information at airnow.gov


Indicators at Fremont

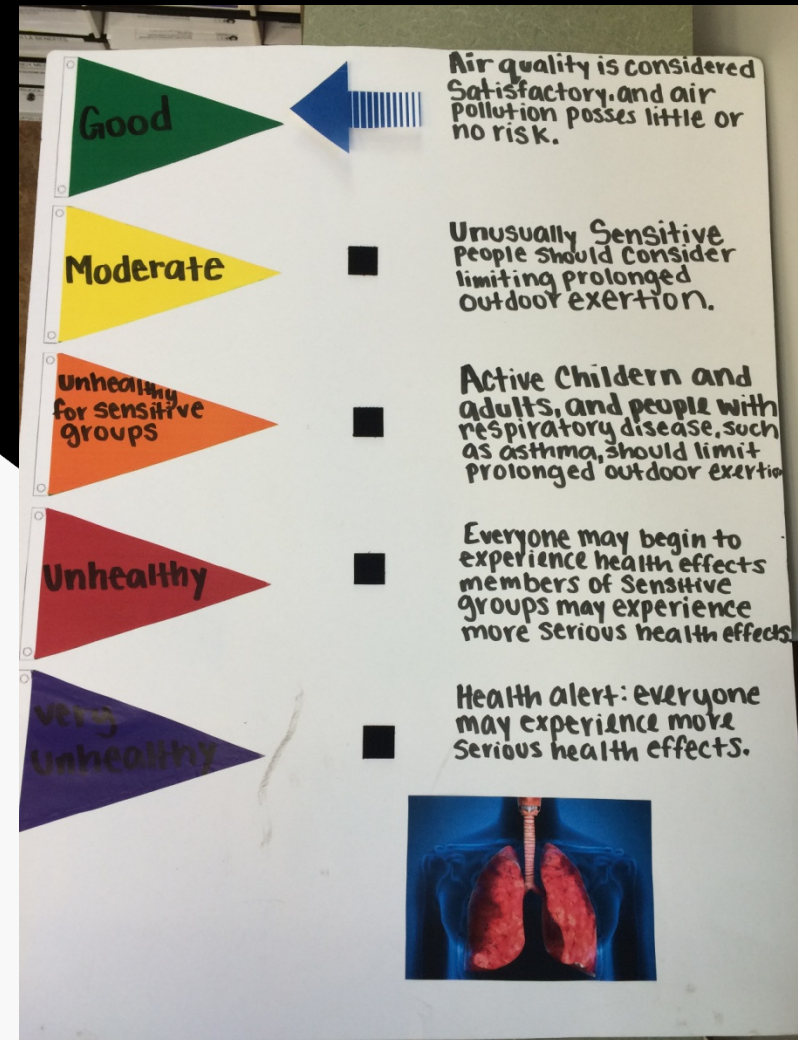


Indicators at Fremont

Raleigh-Durham-Chapel Hill, NC
AIR Quality Forecasts


Date: 3/7/2014	Good	OZON
Date: 3/7/2014	Good	PM2.

 www.airnow.gov



A vertical scale of five triangles representing air quality levels, with a blue arrow pointing to the 'Good' level. The levels and their descriptions are:

- Good** (Green triangle): Air quality is considered Satisfactory, and air pollution poses little or no risk.
- Moderate** (Yellow triangle): Unusually Sensitive people should consider limiting prolonged outdoor exertion.
- Unhealthy for sensitive groups** (Orange triangle): Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
- Unhealthy** (Red triangle): Everyone may begin to experience health effects; members of Sensitive groups may experience more serious health effects.
- Very Unhealthy** (Purple triangle): Health alert: everyone may experience more serious health effects.



Our Success

- ◎ Strong student ownership of the program
- ◎ Consistent management of the indicators
- ◎ Several mediums for dissemination of the information
- ◎ Generates more conversation about asthma on campus

Obstacles to Implementation and Results

- ⦿ School construction
- ⦿ Support from school administration
- ⦿ Few reasonable objective measures of success
- ⦿ Buy-in on behalf of the school's PE teachers
- ⦿ Vandalization

Considerations for Other Schools

- ◎ Local air quality may not necessitate this program and could lead to management issues
- ◎ Staff to manage the program or student responsibility and accountability
- ◎ Possible involvement of principal, PE teachers, and school nurse



Opportunities for Sustainable Financing of Asthma Environmental Services

- The Preventive Services Rule, if adopted by states, would allow Medi-Cal reimbursement for preventive services provided by unlicensed professionals (like CHWs) so long as the services have been recommended by a licensed professional
- The State's Health Home Program and/or the Whole Person Care Pilots could include asthma in-home environmental education and remediation
- Plans could be incentivized to pay for more asthma preventive services

Learn more and get involved

➤ California Asthma Financing Work Group– Contact Joel Ervice at joel@rampasthma.org

POLICY BRIEF

A Path Forward: Sustainable Financing for Asthma Education and Home Environmental Trigger Remediation in California

With rising asthma prevalence and numerous changes in the health care system, California faces a unique opportunity to be at the forefront of a national movement by providing much needed prevention-oriented services to its most vulnerable residents. This is a call to action for the California Department of Health Care Services, Medi-Cal managed care organizations, foundations, hospital community benefit programs, social impact investors, and others to seize these opportunities that will improve the lives of millions of people with asthma.

Our goal is to secure sustainable financing for asthma education and home environmental trigger remediation programs in California, based on the strong evidence that they improve health outcomes and reduce health care costs, particularly for those with poorly controlled asthma. We recommend the following to help achieve this goal:

The California Department of Health Care Services should support asthma education and home environmental trigger remediation through the following actions:

- Expand the role of asthma educators, community health workers and others through implementation of the Centers for Medicare and Medicaid Services' Preventive Services Rule, which allows reimbursement for preventive services when provided by professionals that may fall outside of a state's clinical licensure system, so long as the services have been recommended by a physician or other licensed practitioner.
- Incorporate asthma best practices into the Health Homes Program.
- Incorporate asthma in-home visiting in the 1115 Waiver renewal.
- Update state contracts with Medi-Cal managed care organizations to expand asthma education and home environmental remediation services for high risk enrollees with asthma.
- Maintain the inclusion of asthma as a qualifying condition within the Accountable Communities for Health Initiative.

Medi-Cal managed care organizations should support asthma education and home environmental

National Center for Healthy Housing

Milken Institute School of Public Health
THE GEORGE WASHINGTON UNIVERSITY



Case Studies in Healthcare Financing of Healthy Homes Services: Medicaid Reimbursement for Home-Based Asthma Services in California

A large body of evidence suggests that home visiting programs that address indoor environmental triggers (e.g., cockroaches, mice, tobacco smoke, mold)

Yet many states may be unsure about how to translate these evidence-based practices into policy. This case study summarizes the current healthcare financing



Q & A

