

Asthma Environmental Intervention Guide for School-Based Health Centers

Controlling Asthma in the Port Chester Community: How one School-Based Health Center network transformed a community

Imagine children with asthma sitting out for PE, not taking part in athletics, waiting outside the nurse's office, or simply absent from school. That was the reality at many Port Chester, NY schools back in 2007 before the Open Door Family Medical Center's School-Based Health Centers launched a comprehensive asthma management and prevention program. Now the picture is quite different. Every child with asthma seen at the school-based health centers (SBHCs) has well-controlled asthma. The number of acute care visits decreased by 83% and the number of missed school days decreased by 93%.



“If you can identify children with asthma early, you can get the asthma under control by the time they reach elementary school.”

— Ellette Hirschorn, Director of Clinical Services and Programs for Open Door Family Medical Centers

How did the School-Based Health Centers achieve such dramatic improvements in asthma management? According to Ellette Hirschorn, Director of Clinical Services and Programs for Open Door Family Medical Centers, “Our mantra is ‘We build strong healthy communities.’ Once everyone is on the same page, it’s easy to achieve. Everyone wants a healthy community.”

Asthma is a significant public health concern for the Port Chester community. 18% of children seen by the School-Based Health Centers have asthma. 70% of residents are 100% below poverty level and 30% are between 150-200% below poverty level. 72% of the population is Hispanic and many of the adults do not exhibit literacy in either Spanish or English. The Open Door Family Medical Centers responded by ensuring that all of their providers were trained in and practicing the clinical practices recommended in the national asthma management guidelines. But they didn’t stop there. Ms. Hirschorn explains, “It started in our school-based health centers to improve the clinical care for children with asthma. It evolved into an effort to improve systems across the community. We take a whole system approach.”

Indeed a whole systems approach is required to effectively address asthma, because even children with the best medical care will continue to suffer from asthma exacerbations if they encounter environmental asthma triggers at home, school, or in their outdoor environments. The SBHCs partnered with others in the community to implement a truly impressive array of interventions aimed at creating healthier communities where all children can breathe easily. Just a sampling of activities conducted by School-Based Health Center staff and partners include:

- Educate children with asthma one-on-one, through Asthma Club, and through Open Airways and Kickin’ Asthma, which are evidence-based programs developed by the American Lung Association.
- Partner with Not-on-Tobacco Adolescent Smoking Cessation Program to help their teen patients stop smoking and improve their ability to breathe.



- Initiated smoke-free parks, ensuring that all children are protected from exposure to second-hand-smoke, which has been shown to not only worsen asthma, but also to contribute to the development of asthma.
- Developed a partnership with a home visiting nurse program where nurses work with families to identify environmental asthma triggers in the home and make recommendations to reduce exposure.
- Educated school bus drivers about the health impacts of idling, which include unnecessary exposure to particulate matter that can worsen asthma.
- Port Chester School District developed a policy of no-idling on school grounds.
- Developed a Safe Routes to Schools program to encourage kids to walk to school, decreasing the amount of polluting traffic at school drop-off while encouraging physical activity.
- Established a policy on asthma-friendly cleaning products, as many cleaning products used by schools exacerbate asthma.
- Created a school policy on the use of Integrated Pest Management, which is a way to prevent pest infestations that can trigger asthma without using harmful chemicals.

The SBHC staff and partners also conducted activities in day care centers because, as Ms. Hirschorn explains, “If you can identify children with asthma early, you can get the asthma under control by the time they reach elementary school.” The SBHC staff made sure that everyone in the community received the same messages about asthma management and prevention—from the day care center providers to the high school principals; from the school lunch ladies to the parks and recreation department staff; and perhaps most importantly, from the children to the parents and caregivers. Ms. Hirschorn describes, “We include the parents in everything—whatever information the kids get, the parents get too. Our parents really want the best for their kids.”

This approach is what makes School-Based Health Centers well-positioned to address asthma. They can forge the connections among parents, clinicians, schools, and communities. It takes an asthma champion like Ellette Hirschorn and strong partnerships. Ms. Hirschorn’s comment truly captures the reason for this program’s success, “We have a great team and everyone is really invested in doing the best for the children and community.”

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For more information on how school-based health centers can address environmental asthma triggers, view the [Asthma Environmental Intervention Guide for School-Based Health Centers](#).

Managing and Preventing Asthma among Uninsured Children: How one School-Based Health Center in Nevada is solving the problem

Seven years ago in Henderson, children with asthma who lacked health insurance were forced to either forego treatment or utilize local emergency departments as their primary care source. Without a medical home, where families are educated on health promotion as well as illness care, the families of these children lacked information on the avoidance of environmental asthma triggers. The combination of inadequate medical care and ongoing exposure to asthma triggers led to many unnecessary and costly emergency department visits and hospitalizations. That was before the Dr. Joel & Carol Bower School-Based Health Center launched its asthma program in 2008.



The mission of the Center is to provide high quality, accessible health care to all children in Henderson schools, especially the uninsured, underinsured, and vulnerable populations. The Health Center is dedicated to treating the whole child; to promote physical, emotional, and social health; to effectively manage chronic illness; and to minimize health-related school absences. Approximately 900 children are served by the school-based health center (SBHC) every year and they proudly share that none of the children with asthma under the care of the Center were hospitalized during their time receiving care.

Providing health care at school makes a lot of sense. As Erika Webber, the School-Based Health Center Coordinator explains, "In order to get kids to graduate and stay in school, we need to keep them healthy." The first visit with each student with asthma includes an hour-long comprehensive appointment. They conduct a screening, get a Spirometer reading, and conduct education. They also provide the children with inhalers, nasal spray and other medications depending on the severity with the goal of achieving adequate asthma control.

Once they have had the initial visit, they then refer them to the Healthy Homes program for a home visit and assessment of environmental asthma triggers. Deborah Noll, Pediatric Nurse Practitioner, explains "Anything you can prevent, you don't have to treat. If we identify and eliminate triggers, hopefully we can keep the kids on less medicine and keep them in school."

The home visit is conducted by the University of Nevada, Las Vegas & the Dignity Health program, which is designed to identify the child's environmental asthma triggers. There is seamless coordination between the home visiting program and the school-based health center (SBHC). The visit includes a home assessment, evaluation, tools to help control triggers, and solutions to reduce trigger exposure.

"In order to get kids to graduate and stay in school, we need to keep them healthy."

— Erika Webber, School-Based Health Center Coordinator



Such solutions can include giving the family needed mattress pads (to reduce exposure to dust mites, a common asthma trigger) or non-chemical pest control products (to reduce exposure to cockroaches, which can trigger asthma attacks). The home visitors also talk to apartment managers around systemic concerns like mold, which can make asthma worse. The Healthy Homes providers communicate directly with the School-Based Health Center staff about the triggers they identify and the recommendations they made. When the children are seen back in the clinic, the nurse practitioners are able to reinforce the messages that the home visitors provided, which includes strategies for avoiding triggers.

The School-Based Health Center is uniquely positioned to enhance collaboration among school staff, students, parents, and clinicians. They see the patients with asthma every 2-3 months and often see the parents and caregivers of the younger kids providing an opportunity to educate them directly about asthma triggers. For parents who smoke, they talk about cessation and refer them to cessation classes at the health department. They also talk about ways to reduce exposure to secondhand smoke until parents can successfully quit, such as smoking outside, wearing a smoking jacket, and keeping smoke out of the cars. The SBHC staff also meet with the school staff four times per year and have an opportunity to educate them. Additionally, the SBHC staff communicates with the school to let them know what the asthma triggers are for each student with asthma. Sherrilyn Coffman, Director of the Center explains, "The school staff is very supportive of the asthma program."

The staff at the Dr. Joel & Carol Bower School-Based Health Center is committed to building on the success of their asthma program to continue meeting the needs of the most vulnerable children in their community. Though the program has benefited from support from the Dignity Health Foundation for several years, both the Center and the home visiting program face ongoing funding challenges. They are working on agreements to bill insurers for the care and education provided, which could be a sustainable source of some funds, but about half of the children they see do not have any insurance at all. As they focus on sustainability, they remain committed to both asthma management and prevention. Ms. Webber explains, "The comprehensive approach is essential for our program's success!"

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For more information on how school-based health centers can address environmental asthma triggers, view the [Asthma Environmental Intervention Guide for School-Based Health Centers](#).

Addressing Asthma and Air Pollution: How the West Oakland Middle School Health Center launched a comprehensive asthma program

West Oakland is a small neighborhood in Alameda County, California, on the shores of the San Francisco Bay, where residents live near thousands of moving and stationary sources of diesel pollution. Container trucks carry goods to and from the Port of Oakland, U.S. Postal Service trucks carry mail to a major distribution center, and trucks and automobiles move overhead on freeways that surround the community.¹ In 2008, the California Air Resources Board (CARB) conducted a health risk assessment and reported that West Oakland residents are exposed to high concentrations of diesel particulate matter—almost three times higher than the average background levels in the Bay Area.² The population is predominantly African-American and 35% of residents live below the federal poverty line.³



Asthma is a significant public health concern for this community. Rates for Emergency Department visits due to asthma are higher in Alameda County than for the state and West Oakland children go to the Emergency Department with asthma almost twice as often as the county average. The West Oakland Middle School has 220 students enrolled and over 50 have been diagnosed with asthma and many more report undiagnosed respiratory concerns. The West Oakland Middle School (WOMS) Health Center recognized the disproportionate burden of asthma in their community and chose to prioritize asthma as one of the key health issues they address at their clinic.

Run by Lifelong Medical, the WOMS Health Center developed an asthma management program based on national clinical guidelines. Components of their asthma management program include: an assessment and health history with the nurse practitioner, assessment of asthma control, medication management, provision of an asthma action plan, and spirometry—a tool recommended in the national clinical guidelines but greatly underutilized in clinical practice. “Although spirometry is only used by 52% of providers, we know that it is an essential tool in the diagnosis and management of asthma and are committed to providing the highest standard of care,” says Kristine Carter, Nurse Practitioner.

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They also conduct asthma education in a group setting at their clinic. They work with an AmeriCorps: Community Health Corp volunteer to conduct the four-session training which covers: what asthma is; recognizing symptoms; understanding medications; and identifying and reducing exposure to environmental triggers at home, school, and in the community. “Students are hesitant about coming to class, but are always excited to share what they have learned and used,” shares Aaron Steinfeld, the Community Health Corp Volunteer. Forty students were able to complete the educational program in the 2014–2015 school year.



The staff at the WOMS Health Center are eager to strengthen their asthma program in the fall by adding a component that directly addresses the air pollution in West Oakland through implementing the EPA's Flag Program. The Flag Program uses different colored flags to inform students, school staff, and the community of daily air quality conditions. The flag colors correspond to the colors used in EPA's Air Quality Index (AQI), which tells how clean or polluted the air is for that day. Sharing the daily air quality through these highly visible flags increases awareness about air pollution. In addition to raising awareness, the flag program also serves as important guidance for modifying physical activity in order to protect the health and well-being of students.

In addition to expanding the breadth of their asthma program, the staff have plans to expand their reach. They will be expanding their own clinic services to include students from a nearby Charter Middle School. Additionally, they plan to replicate their comprehensive asthma program in another school-based health center run by Lifelong Medical in East Oakland, CA. Hana Shirriell-Dia, Health Center Supervisor, shares: “We know that our program is working and we’re excited to expand it to other locations to help children all across Oakland breathe easier.”

- 1 “Clearing the Air: Reducing Diesel Pollution in West Oakland” A West Oakland Environmental Indicators Project Report by the Pacific Institute in conjunction with the Coalition for West Oakland Revitalization November 2003. http://www.pacinst.org/wp-content/uploads/sites/21/2013/02/clearing_the_air_final3.pdf
- 2 Bay Area Air Quality Management District. “West Oakland Truck Survey Final Report” 2009. http://woeip.org/wp-content/uploads/2010/12/West-Oakland-Truck-Survey-Final-Report-Dec-2009.ashx_.pdf
- 3 Douglas, R. “A Brief History of West Oakland” adapted from Olmsted and Olmsted (1994)

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For more information on how school-based health centers can address environmental asthma triggers, view the [Asthma Environmental Intervention Guide for School-Based Health Centers](#).

Leveraging Medicaid Delivery System Reform to Improve Asthma Management: The story of a network of 20 School-Based Health Centers in Texas

The 20 school-based health centers (SBHCs) run by the John Peter Smith Health Network serve over 40,000 children each year. There is great diversity in race, ethnicity, and English language ability and the majority of children seen are uninsured or underinsured. Tarrant County has asthma prevalence and emergency department visit rates that are higher than state or national averages. To address this, the School-Based Health Center Network leveraged their unique relationship with schools, students, and families along with the funding opportunity provided through DSRIP to launch a comprehensive asthma program.



DSRIP, the Delivery System Reform Incentive Payment, provides states with significant funding that can be used to support hospitals and other providers in changing how they provide care to Medicaid beneficiaries. Texas was one of the first three states in the country to implement DSRIP initiatives, under which funds to providers are tied to meeting performance metrics. The John Peter Smith Health Network has a DSRIP agreement with the state to improve asthma management for children, which led to the creation of a comprehensive asthma program that reaches 2,000 children with asthma each year.

As a first step in the program, each SBHC identifies either existing or new patients between the ages of 2 and 26 with a diagnosis of persistent asthma. During the first visit, the providers focus on assessing asthma control, understanding history and symptoms, conducting allergy tests, and providing medications. They conduct one-on-one education and schedule a group asthma educational follow-up visit.

The providers know, however, that asthma management and prevention cannot be achieved solely through clinical care. Beverly Ewing, School-Based Clinic DSRIP Nurse Practitioner, explains, "We all know that prevention starts in the home and in the environment." The program was able to utilize four bilingual Community Health Workers from the Community Health Department to conduct a home visit during which they educate the family about environmental asthma triggers and conduct a home assessment to identify

"We all know that prevention starts in the home and in the environment."

—Beverly Ewing, School-Based Clinic DSRIP Nurse Practitioner



any indoor or outdoor triggers. They made recommendations based on their findings. For example, parents can reduce indoor asthma triggers by keeping pets out of the children's bedrooms, using asthma-friendly cleaning products, and prohibiting smoking in their house or apartment. They also identified systemic problems that could worsen asthma. For example, plumbing leaks can expose children to mold, a common asthma trigger, and tobacco smoke from one apartment unit can enter another unit. In those cases, the Community Health Workers notified the health care providers who would then suggest environmental improvements to the property managers. The Community Health Workers entered any triggers they found into the electronic medical record so that clinicians could follow-up and reinforce messages.

The Nurse Practitioner also teaches group education classes for students and families. They discuss the causes of asthma along with allergens, medications, action plans, and nutrition. They encourage active participation with games and activities. One creative and fun activity is "Trigger Tag" in which every participant is assigned a trigger and wears a sign around their neck with a picture of that trigger. Then, they go outside and the students get to use super soakers to shoot the triggers that make their asthma worse. It's a fun activity in a hot climate that also reinforces the important role of environmental asthma triggers.

The program lasts for eight months and includes a number of follow-up clinical and educational appointments. The goals are to decrease exacerbations and emergency department use and to increase knowledge and the use of controller medications. Though the program is still new, students and families are already reporting improvements in their asthma control.

Factors contributing to the success of the program include having an asthma champion, like Beverly Ewing, and "having fantastic nurse practitioners and physician assistants." Yet, despite the innovative funding source, financial sustainability has been a challenge. In December, the program faced budget cuts and is currently not able to conduct home visits. Ms. Ewing and partners are committed to bringing back the home visits and continuing this comprehensive approach. She is hopeful as she explains, "We're all working for a common cause—to make sure children can breathe."

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For more information on how school-based health centers can address environmental asthma triggers, view the [Asthma Environmental Intervention Guide for School-Based Health Centers](#).

Santa Rosa Consolidated School Bus Drivers Don't Sit Idle: A unique partnership to reduce air pollution in New Mexico

The Lion Care Health Center serves four different school sites in Santa Rosa, New Mexico, with students ranging from Pre-K through 12th grade. Asthma prevalence is extremely high in this community—approximately 20% of students across the four schools have been diagnosed with asthma.



The Health Center Coordinator, Cara Pacheco, understands the problem of asthma personally. Her son suffered from asthma and it was often triggered by outdoor pollutants. Cara knows exactly where some of this pollution comes from because, in addition to being a health center coordinator and a mother of an asthmatic, she is also a bus driver for the school district. As a bus driver, she knows that exhaust fumes are harmful and that idling creates a lot of excess pollution. She explained, “I felt like focusing on reducing bus idling would allow me to accomplish great things!”

Cara began her project by researching whether their local district had any existing policies on idling. They didn't, so her next step was to look at the state policy on idling. She found that there is a state regulation on bus idling, but it's focused solely on safety and included nothing about reducing pollution. This meant that Cara and her colleagues had to come up with their own policy. Luckily, many models exist and they were able to draft an Idle Free School Policy for Santa Rosa Consolidated Schools.

Cara knew that a key to successful policy change is to get people on board by addressing their concerns. She spoke with her fellow bus drivers who shared their concerns and she had an answer for each!

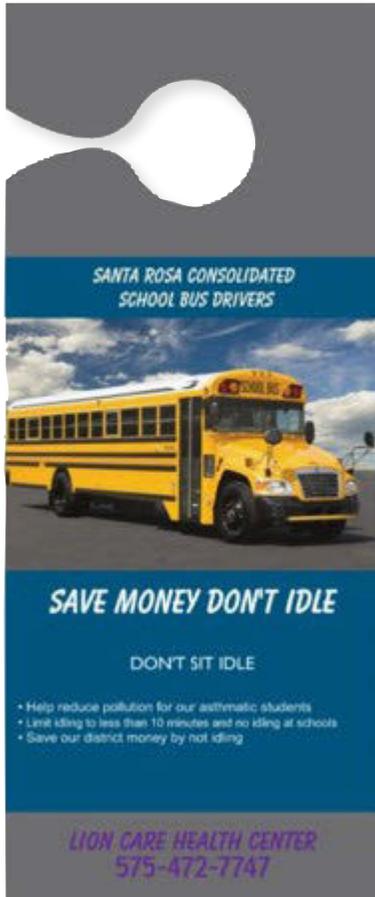
CONCERN: “We have to keep the bus warm for students.”

RESPONSE: “Most, if not all, of the students will have a jacket and they're so focused on talking with other students that they won't even notice the temperature.”

“I felt like focusing on reducing bus idling would allow me to accomplish great things!”

— Cara Pacheco, School-Based Health Center Coordinator





CONCERN: "I don't want to be cold while I'm waiting for my kids to load."

RESPONSE: "Instead of sitting in our buses, let's gather in the school where it's warm and we can visit with each other."

CONCERN: "How is this going to affect the performance of the bus if the engine is cold?"

RESPONSE: "All diesel buses are equipped with an engine block heater plug which keeps our engines warm, so as long as we are using those, our engines will perform properly."

With the other bus drivers on board, they successfully passed the Idle Free Policy, effective May 1, 2018! The bus drivers were awarded with a brand-new t-shirt for helping to make this project happen. Recognizing that everyone can have a role in implementing the policy, the bus drivers, parents, and school staff all received "Don't Sit Idle" bumper stickers and car mirror hangers.

Just four days after the local policy was passed, Cara saw a morning news story about bus idling. It focused on how, across the nation, pollution from diesel buses is causing kids to get sick. Cara knows that her small community in New Mexico will have cleaner air, as a result of this policy change, and hopes districts across the nation can join in creating cleaner air for kids.

Tools on Anti-Idling Programs

- Airwatch Northwest Anti-Idling Programs <http://www.airwatchnw.org/anti-idling-programs>
- Clean Air at Schools (CASEO) Anti-Idling Program http://enginesoff.com/2_4_schools.htm
- EPA Region 8's Idle Free Schools Toolkit <http://www2.epa.gov/region8/idle-free-schools>
- San Francisco Bay Area's Ditching Dirty Diesel Collaborative (DDDC)'s The Anti-Idling Toolkit for Schools <http://ditchingdirtydiesel.org/publications-press>
- U.S. EPA's Clean School Bus Idling Reduction Campaign <http://www.epa.gov/cleanschoolbus/antiidling.htm>

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Don't Let Asthma Take Your Breath Away:

Working with middle school students to address asthma triggers — A case study from Roswell, New Mexico

The La Casa Family Health Center has a long-standing commitment to addressing the problem of asthma in Roswell, New Mexico. Through a collaboration with the New Mexico Department of Health, they ran the Healthy Homes Asthma Project, conducting over 200 home visits through which they educated families about asthma, ensured they were connected to primary care services, and helped families identify and reduce environmental asthma triggers. Based on this experience, when they had a chance to implement asthma activities at their school-based health center at Mesa Middle School, they jumped at the chance!



The School-Based Health Center (SBHC) at Mesa Middle School is run by La Casa and serves over 400 students. Through an assessment they conducted, school-based health center staff found that many children had been diagnosed with asthma at a young age yet had a low level of knowledge about asthma. Most students were unable to identify or name their medications and unable to identify their asthma triggers. As coordinator, Tillie Crawford, explained, "Our SBHC staff recognizes that New Mexico, especially Southeast New Mexico, has a high asthma rate and it is important to not only treat patients with asthma but also educate them on triggers and identify ones they may not know they have."

Luckily, the clinic has built a great relationship with the principal and school staff, so they had the school's support to conduct student education activities. The clinic staff follow some key principles when conducting student education:

- Take time to talk with students using pictures and understandable language
- Let the students talk and ask questions
- Let the students answer each other's questions and guide them to the correct information
- Keep parents in the loop, making all materials available to them

"Our SBHC staff recognizes that New Mexico...has a high asthma rate and it is important to not only treat patients with asthma but also educate them on triggers and identify ones they may not know they have."

— Tillie Crawford, School-Based Health Center Coordinator

It's not easy
being wheezy!
Make sure to
keep your **inhaler**
near by at all
times.

RELAX
don't spray too much
AXE 
#AsthmaTrigger

Take care of your
lungs, and have your
inhaler with you
every day.
See the **School-
Based Health Center**
for more information.
#AsthmaAwareness

Think before
you spray
your **PINK!**
Acknowledge your
peers who have
ASTHMA. Body
spray can make it
harder to breathe.
#AsthmaTrigger

Don't Let
Asthma
Take Your
Breath
Away
See the school-based
Health Center
Thursdays & Friday's

SBHC staff led 6 education sessions with a group of students, all of whom had been diagnosed with asthma. They covered asthma basics, medications, and triggers. They established asthma management goals and developed Asthma Action Plans. They conducted pre and post-tests to determine whether the education sessions led to any improvements. While some factors are harder to change (there was no reduction in family members smoking, for example), a number of improvements were noted. The percentage of students able to recognize asthma symptoms before an attack increased from 66% to 100%. The percentage of students who have pets sleeping on their bed decreased from 25% to 0%. And, most impressively, the percentage of students who had to go to the emergency department for asthma within the last three months decreased from 12.5% to 0%.

SBHC staff also collected information about asthma triggers to shape additional activities. 50% of students said they have trouble breathing around body sprays or colognes. Yet, lots of middle school students use those products. So, the staff worked with a group of students to develop posters to hang in locker rooms, educating students about the impact of scented personal products on peers with asthma.

Engaging the students in asthma activities—by letting them lead the discussions during education sessions and having them develop posters to educate their peers—proved to be a successful approach. Tillie explains, “The students want to learn about asthma, and what they can do about it, because it affects their day-to-day lives.”

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Pojoaque Valley Public Schools:

Working together to reduce asthma triggers

The vision of the Pojoaque Valley Public Schools is to advance student success including academic achievement, growth, educational excellence, and well-being. Las Clinicas del Norte Pojoaque School Based Health Center serves the 3,000 students in the school district and sees its role as advancing well-being along with the school system.



While the school-based health center staff didn't have data on the number of students with asthma, they knew that Latinos are less likely to receive appropriate asthma medications for preventive care, acute exacerbations, or post-emergency department care, leading to poorer health outcomes. In this community, just north of Santa Fe, where 80% of students are Latino, the school-based health center staff knew asthma was a significant concern.

While they were already providing quality clinical care to students with asthma, they also wanted to focus on ways to reduce exposure to environmental asthma triggers. Recognizing that everyone in the school community has a role to play in reducing the presence of environmental asthma triggers, the clinic staff decided to educate everyone, not just students with asthma.

Luckily, due to their strong partnership with the school administrators, the clinic staff had the support they needed to go into the classroom to conduct education sessions. They met with all of the 6th grade science teachers to discuss their plan, which included education sessions, hands-on activities with lung models and pre/post-tests.

The students loved working with the lung models and were very engaged with the learning process. In fact, center staff said that one of their greatest challenges was "containing the excitement of the students." Most importantly, they learned a lot. In the pre-test, none of the students scored higher than 80% and half of them scored lower than that. But, by the post-test, there was a 100% pass rate.

"It was a good experience to see how interested the students were in learning about asthma triggers and how to prevent them."

— Roxanne Rodriguez, Las Clinicas del Norte staff



In addition to educating the students, clinic staff provided the teachers with checklists to help them identify environmental triggers in the classroom and gave them simple tips for reducing triggers. They also sent information home with the parents about identifying and reducing home environmental asthma triggers. The clinic staff are enthusiastic about building on this success and plan to expand upon the medical services for middle school students, including offering telehealth visits focused on asthma.

“I had a lot of fun interacting with the students with the lung models and explaining the effects that asthma has on the lungs.”

— Rachel Valencia, clinic staff

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Asthma management and environmental concerns in northwest New Mexico: The role of a school-based health center in promoting well-being

The Cuba School-Based Health Center, run by Presbyterian Medical Services, serves students in elementary, middle, and high school, as well as Head Start. In this predominantly low-income community, 65% of the student population is Native American. A large majority of students live on the Navajo reservation, with transportation to and from school taking up to four hours round trip each day. Environmental factors, such as fracking and substandard housing conditions, have negative health impacts and the clinic has seen a recent increase in asthma diagnoses among children. While the school-based health center staff knew they couldn't address all the environmental factors contributing to the problem of asthma, they knew they could ensure that students with asthma received the care and support they need while at school.



They began with an effort to identify all of the students at school with asthma. Their outreach led to the identification of several students who had asthma but had not yet been identified as having asthma by the school or school-based health center. Combined with their existing patients, they had a total of 34 students with an asthma diagnosis. Six of those students were already consistently seeing their primary care physicians for asthma management.

The school-based health center staff consistently saw the other 28 students throughout the school year, supporting them with both clinical and environmental management of asthma. They gave the students appropriate asthma medications, along with spacers, and ensured that the students knew how to properly take their medications. They also gave the students Asthma Action Plans and shared them with family members and school staff, so that there was a team approach to asthma management.

The next step in their project directed their efforts at educating the students and school staff about environmental asthma triggers and included tips for reducing triggers in the Asthma Action Plans. The school-based health center staff wanted to ensure that school staff could support the students with asthma.

“I totally believe that the teachers and coaches have a better understanding of asthma and its triggers.... The coaches now know to ask a student for their Asthma Action Plan when issues arise.”

— Christine Montoya, SBHC Coordinator



The high school principal assembled the school faculty, coaches, and staff for a presentation conducted by Dr. Frances Chavez, the school-based health center physician. The presentation included information on:

- The impact of asthma
- Asthma signs and symptoms
- Environmental triggers that exacerbate asthma
- Asthma Action Plans—what they are and how to use them
- How to assist a student who is having an asthma attack

The staff greatly appreciated the additional information about asthma and the environmental triggers that exacerbate symptoms. Christine Montoya, the SBHC Coordinator, explained, “I totally believe that the teachers and coaches have a better understanding of asthma and its triggers. Previously, I feel like they were, at times, thinking that the students were exaggerating how they were feeling. The coaches now know to ask a student for their Asthma Action Plan when issues arise.” The SBHC could not have been as successful with their pilot program had it not been for a supportive school administration. They have a very proactive school staff and the principal and school nurses were key in the success of their project. Having buy-in from the school made the implementation of the project successful.

The students were more engaged in managing their asthma after their ongoing patient education—taking all their medications regularly and sticking with follow-up visits. Christine Montoya explained that in the past, students didn’t know what resources were available to them. She shared, “Now that they know what to do, they’re more proactive with their care.”

School-based health center staff also attended meetings of the Navajo Nation Chapter Officials, who have been working diligently to address the broader environmental concerns of fracking and substandard housing conditions, including lack of running water and electricity in many dwellings. Students who reside in these areas now have a better understanding of what is going on with their bodies and how the environment can trigger their asthma. This has led to students seeking care more regularly when they need it. The SBHC has shared data with the Navajo Nation Chapters about the asthma burden that their students experience and with their shared interest in supporting the health and well-being of children, there may be opportunities for strong collaboration in the future, addressing the burden of asthma

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<http://www.pmsnm.org/locations/cuba-school-based-health-center>

Help us share your story! If you are part of a school-based health center conducting asthma environmental interventions, we'd like to work with you to share your story. Contact us at info@rampasthma.org.

This publication was developed under Cooperative Agreement XA-83575801 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed in this document are solely those of Public Health Institute and EPA does not endorse any products or commercial services mentioned in this publication.