**“Asthma Community Network—Conversations for Advancing Action” Podcast Series**

**Episode 14—A+ IAQ: Cost-Effective First Steps for Schools to Implement an IAQ Management Program and Improve Asthma Outcomes**

**Approximate Run Time:** 7–9 minutes

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| **Speaker** | **Content** |
| ***(Music plays at full volume and then fades into the background)***  **Narrator**  *(This paragraph is repeated on all podcasts to deliver the message that the AsthmaCommunityNetwork.org has a library of material available to enhance knowledge about asthma management programs.)* | Welcome to “Asthma Community Network—Conversations for Advancing Action.” This podcast series is offered by AsthmaCommunityNetwork.org, an online network designed for people committed to improving asthma outcomes in their community. The series shares best practices for reducing the impact of asthma through delivery of comprehensive, community-based care, especially in underserved communities. In these podcasts, you’ll learn about strategies for managing effective program delivery, addressing environmental triggers and leveraging community assets.  Today’s podcast is a collaboration with EPA’s Healthy Indoor Environments in Schools initiative, featuring speakers from their Master Class Webinar Series. The series showcases strategies that experts in school environmental health use to manage and improve indoor air quality and health and performance in schools.  Today, you will hear from Shirley Schantz, the Director of Nursing Education at the National Association of School Nurses, and Diane Rhodes, Asthma Awareness Program and Assistant Director of Health Services at North East Independent School District in San Antonio, Texas.  Shirley and Diane will discuss why asthma management in schools is critical not only for student and staff attendance and performance in school but also for community-wide asthma improvement. You will hear how school nurses can be powerful asthma care champions by helping their colleagues to use and understand health data to manage asthma triggers in schools.  **Shirley and Diane, why when we talk about children’s asthma do we need to talk about school environments?** |
| **Shirley Schantz** | Students with asthma represent the highest number of students that come to school with chronic conditions.  If you look at an average classroom of about 30, we will find that three students probably have asthma. And we know that school staff may need to know this information so they can identify and help students when they need help.  There is a staggering 10.5 million school days missed every year for asthma. Most of these students that have asthma and that miss school are students of color, so we have to make sure that we address this—making sure that students are in their seats and ready to learn. |
| **Narrator** | **Diane, can you talk to us about the importance of asthma management from the school administration’s perspective?** |
| **Diane Rhodes** | We are in a business of educating students, and we are evaluated on student performance. It is common sense that interruption or loss of effective instruction time negatively impacts student performance.  A clinic visit for asthma symptoms equals loss of instruction time. The time lost from classroom instruction can be anywhere from 20 minutes to hours depending on the severity of disease, duration of current symptoms, medication response time, level of trigger exposure, controller medication use, history, et cetera. |
| **Narrator** | The data are clear that asthma affects student health and performance at schools: asthma is *a leading cause* of school absences *and* one of the most common reasons students visit the school nurse.  **Shirley, can you tell us more about managing asthma at school to keep students healthy and ready to learn?** |
| **Shirley Schantz** | Managing asthma in schools is all about managing air quality and indoor environmental issues, so we want to keep students in school in their seats ready to learn at their optimal health level. And we know that there’s a relationship between how students feel and their health and academic success. |
| **Narrator** | When children and adolescents are exposed to triggers in the environment—such as mold spores, pest droppings and dander, or chemical irritants in the air—they can have asthma attacks.  Many serious environmental asthma triggers that can cause asthma and exacerbate attacks are commonly found in school environments. Asthma-friendly schools are those that make the effort to create safe and supportive learning environments for students with asthma. They have policies and procedures in place to help students and staff manage asthma everywhere children spend time.  **Diane, can you share with us your experience with asthma triggers in schools?** |
| **Diane Rhodes** | When facilities are not properly maintained, these inducers will be found in school facilities and classrooms, and exposures to these inducers may lead to the development of asthma in those genetically predisposed. This can occur at any age. Once asthma develops, symptoms are variable and can recur frequently when exposed to the longer list of common triggers.  School district personnel should realize the role that the school environment may play in the development of disease, as well as the prevalence of current symptoms. Simply providing reliever medication once symptoms develop is only a reaction. |
| **Narrator** | In fact, schools that put effort into asthma management can be a powerful part of the solution at the community level for the burden of childhood asthma. Research and real school experience has shown that school asthma programs can be very effective when they do a few important things, including:  •Establish strong links with community clinicians to ensure appropriate medical care for children with asthma.  •Target students who are the most affected by asthma at school to identify and intervene with those in greatest need.  •Get administrative buy-in and build a team that includes a school nurse to support the program.  •Focus on school nursing services, education for students and professional development for school staff around asthma management.  •Evaluate their efforts.  **Shirley, how can school nurses help school administrators and facility staff to manage environmental factors in asthma? And how can school nurses support children in their own asthma management?** |
| **Shirley Schantz** | We want to make sure that people connect with the school nurse so that the school nurse can assist with Indoor Air Quality (IAQ) issues, can assist with IAQ teams, can help identify what’s going on in the school in terms of the environment. So the school nurse is a key component as a team member in any kind of IAQ issue.  The school nurse can identify, “What’s going on? When was the last time you saw your primary care provider? How often do you have asthma episodes? When was the last time you were in the emergency room? How often do you use your inhaler?” and look at the attendance. And the school nurse can assess if specific triggers are present in the school with students with a known current diagnosis.  For example, a student can arrive to school well. Maybe their home environment is very asthma-friendly and they come into school and they start having symptoms. The school nurse can assess what’s going on when the student arrives in school. What is the student exposed to? What are the potential triggers that happened in school?  The school nurse is a liaison between the student, the school administrators, the teachers, facilities managers and other school staff. School nurses are positioned uniquely to translate what is happening to students in school and what triggers may be affecting the student’s ability to stay. |
| **Narrator** | **Thanks, Shirley. Diane, NEISD’s environmental program utilized data—such as use of PRN, or “prescribed as needed,” rescue medications for asthma—to help pinpoint environmental remediation needs that the school district didn’t even know existed. How did you collaborate with the school nursing staff to identify and use health data to improve school facility IAQ and, in turn, student asthma outcomes?** |
| **Diane Rhodes** | Now, to effectively assess and evaluate your environmental component, you have to look at student health and the occurrence of symptoms. Health Check is our electronic medical record system. As students enter the clinic, their symptoms are recorded. We can monitor trends in asthma symptoms, as well as IAQ-related symptoms of non-asthmatics.  A student requiring their PRN use of their inhaler indicates they have reached their symptom threshold. We can aggregately evaluate asthma control and the campus environment by looking at how frequently a clinic has students using the reliever medications for symptoms. It allows us to look closer and compare and explore why some campuses have higher PRN utilization than others.  Health Check also allows us to drill down by classroom to determine if we have any trends at a particular campus. Using campus maps, we can identify if health issues are originating from specific classrooms, certain grade levels or the entire building.  With Health Check, we are able to compare campuses. This can be very helpful in identifying an IAQ problem. We identified a campus that had substantially higher use of symptom-driver inhaler medication when compared to other campuses in the same area of our district.  This campus had no idea they are not within the norm of PRN inhaler use; therefore, they didn’t know they had a problem. This prompted a campus walk-through and revealed that some of the district’s best practices of the technical solutions were not being followed, such as source control, cleaning and maintenance, and integrated pest management. We re-educated the staff and removed the asthma triggers by following our healthy classroom tips or technical solutions.  You can see the impact this environmental action provided to this campus not only initially but also continued into the next month. This effort now puts this campus back in line with the PRN inhaler use with its surrounding campuses. |
| **Narrator** | So using health data helped school facilities staff to identify asthma trigger issues and mitigate those triggers at the school campus level. And by mitigating those asthma trigger hot spots, the school team was able to reduce students’ need for asthma rescue medication, meaning they stayed in class and kept learning. That’s pretty incredible.  **What about helping individual students manage their asthma? Have school nursing and environmental management teams helped improve asthma for individual students who are struggling?** |
| **Diane Rhodes** | Another example of the benefits that can be seen with the adoption of technical solutions: the student was reporting as having severe asthma symptoms during her third period class, prompting urgent care visits. An environmental assessment was performed and revealed two issues. Her first period class was PE, and we found that fragrances were being overly used in the girls’ dressing room. Her second period class was located in an area of the building where we found the outside air ventilator was not in service. Her third period class required her to walk up the stairs, and that’s when symptoms became apparent.  If you’re not familiar with the environment and the asthma symptom relationship, you may conclude that her walking up the stairs resulted in exercise-induced asthma. That is incorrect. First of all, asthmatics can and should lead a normal active lifestyle. The real problem was the exposure to the asthma triggers—fragrances and improper ventilation. Those exposures inflamed her airways and put her in a vulnerable, medically fragile state, reaching her symptoms. That minimal amount of exercise revealed her underlying inflammation, resulting in symptoms. This was not exercise-induced asthma. This was environmentally induced asthma. After targeted education on fragrances by the coaching staff and the restoration of outdoor air into the space, the PRN inhaler use dropped and so did her urgent care visits.  So what did we really do in these case studies? Due to the exposure to environmental triggers, asthma student airways were inflamed, causing them to pass the symptom threshold that required the use of their symptom-driven medication in the clinic. When we utilized the technical solutions, we directly reduced the exposure to asthma triggers. This decreased exposure reduced the level of inflammation in their airway. This lowered their proximity to their symptom threshold. This reduced the number of symptom-based trips to the clinic for inhaler use, which increased instruction time.  When you assess the health of your student and the health of your building, you can gather the relevant information that can lead to creating healthy learning environments for all students. |
| **Narrator** | That’s great, Diane.  **Shirley, if you could offer one last piece of advice to those looking to improve IAQ and student health in their school, what would it be?** |
| **Shirley Schantz** | Sometimes it’s not enough just to have the policies. We have to look at who’s enforcing these policies.  So one of the things that we want to do that school nurses like to do a lot is we want to empower the students. What do the students know about their asthma? What do the students know about their triggers? Do they know to stay away from their triggers? Do they know enough to say, “I can’t be near that,” “Please don’t use that freshener,” “Please don’t light that candle,” “Please don’t use that cleaner in the classroom.” Or to the coach, “I need to use my asthma inhaler before I have exercise.”  We have to empower the students so that they can speak for themselves. |
| **Diane Rhodes** | When providing the education to future generations, we have to understand that healthy children learn better. The short- and long-term health of a child and their capacity to learn is directly related to their indoor environment where that learning takes place. It is our responsibility to create an environment where every child can reach their full academic potential. |
| **Narrator**  *(This clip concludes the Episode and directs listeners back to AsthmaCommunityNetwork.org to access more resources.)* | **Thank you, Shirley and Diane, for sharing these valuable insights.**  As you heard during this podcast, a critical component of managing asthma in the school environment is an effective IAQ management program. To learn more, including how to control mold and moisture; provide effective cleaning and maintenance; maintain heating, ventilation and air conditioning systems; increase energy efficiency; select safe materials; use integrated pest management; and control pollutant sources, visit [www.epa.gov/iaq/schools](http://www.epa.gov/iaq/schools).  For additional resources on asthma management in schools and improving asthma outcomes in communities, as well as to hear other podcasts in this series, visit <AsthmaCommunityNetwork.org/podcasts>. |