

PUTTING THE PIECES TOGETHER: A School Leader's Guide to Healthy Indoor Environments

This publication is provided by the American Association of School Administrators through funding from the Environmental Protection Agency.



AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS

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The 2006 edition of *Putting the Pieces Together* detailed what it takes to develop and sustain a healthy learning environment in urban schools. Using feedback from district leaders, AASA has revised the *Putting the Pieces Together* publication by expanding its applicability to include rural and suburban school districts, as well as urban. In addition, the seven challenges identified in 2006 have been re-grouped into six that apply to all-size school systems. Our work over the last few years with our Urban and Rural Healthy Schools Coalitions* pointed to the similarities in the challenges they face – ancient facilities, disadvantaged children, tight timelines and even tighter budgets. We learned from them that the need for high quality indoor air quality management programs in all-size school systems is great and growing.

In addition to expanding the geography in the scope of the publication, terminology has also been shifted to reflect the multi-dimensional characteristic of indoor air quality. Therefore, indoor environmental quality (IEQ) will be used to describe the indoor environment (i.e. air, materials, lighting, built environment, etc.) and factors that impact the quality of various media (i.e. chemicals, energy usage, waste management, etc.). IEQ is a term that includes several factors: indoor air quality, odor quality, lighting quality, sound quality, vibration quality, thermal comfort quality and the ways in which pollutants affect said factors.

Putting the Pieces Together is an interactive document that introduces the school community to six common challenges that may be encountered when implementing and sustaining a healthy indoor environmental plan/program: 1) Maintaining strong leadership, 2) Dealing with overcrowding, 3) Increasing awareness and prioritizing IEQ, 4) Implementing effective communication strategies, 5) Overcoming financial barriers, and 6) Creating networking opportunities.

The document is organized by challenge, and for each stakeholder there is further explanation on how to address such challenge. Stakeholders include: superintendents, school boards, health staff, facilities staff and school building staff. AASA will further analyze each challenge into a "Superintendent's Issue Brief," detailing the challenge, presenting data on its effect on schools, and providing resources to address the challenge.

Using EPA's *Tools for Schools* (TfS) or similar program to strengthen an existing healthy school environment plan is a critical piece of creating healthy school environments where children can thrive academically. These plans allow a district to address the six challenges through preventive management and effective response to IEQ issues. This document can be used as an outline for your district to address IEQ and related health effects. Its content is based on AASA's experiences, feedback from our members, expertise from district leaders who have overcome some challenges, and recommendations found in the EPA's TfS kit.

If your district has an IEQ success story to share, please contact AASA's Healthy School Environments Program at children@aasa.org.

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*The members of AASA's Urban Healthy Schools Coalition include: Baltimore County Public Schools (MD), Bridgeport Public Schools (CT), Cedar Rapids Community Schools (IA), Charlotte-Mecklenburg Schools (NC), Detroit Public Schools (MI), East Valley School District 361 (WA), Hartford Public School District (CT), Los Angeles Unified School District (CA), Memphis City Schools (TN), Milwaukee Public Schools (WI), Montgomery County Public Schools (MD), Nashville Metropolitan Public Schools (TN), North East Independent School District (TX), Philadelphia City School District (PA), Richmond County School System (GA), and Spokane School District 81 (WA). The members of AASA's Rural Healthy Schools Coalition include: School District of Alma (WI), Arlington Heights School District 25 (IL), Auburn City Schools (AL), Cocke County School System (TN), Dulce Independent School District No. 21 (NM), Fort Sumner Municipal Schools (NM), Hastings Public Schools (NE), Muscatine Community School District (IA), Roane County Schools (TN), Rossville-Alvin CUSD 7(IL), Tahlequah Public Schools (OK), Unified School District 253 (KS), Unified School District 270 Plainville (KS), and Wooster City School District (OH).

Resources

The following list of resources is comprised of resources associated with schools and environments.

American Association of School Administrators Resources

To access more resources of AASA's Healthy School Environments or to get more information about AASA's Healthy Schools Coalitions, visit www.aasa.org/healthyschoolenvironments.aspx or contact children@aasa.org.

Indoor Air Quality (IAQ) Resource Collection (<http://www.aasa.org/iaq-resources.aspx>)

This collection provides school system leaders with a compilation of IAQ facts, policies, case studies and steps to improve IAQ.

Asthma Communications Toolkit (<http://www.aasa.org/asthma toolkit.aspx>)

This is a one-stop online resource for school leaders to obtain information, forms and templates to communicate about asthma management in schools with staff, parents, the community and the media.

Building Success, Leading Change: Stories of Healthy School Environments (<http://aasa.org/uploadedFiles/Resources/files/BuildingSuccessStoriesChange.pdf>)

This publication highlights the accomplishments of Charlotte Mecklenburg School District of North Carolina and Milwaukee Public Schools of Wisconsin, members of AASA's Urban Healthy Schools Coalition.

This publication includes a CD-Rom with forms, action plans, checklists and other useful resources school districts can tailor for their own use. Download a copy of the Charlotte Mecklenburg IAQ Management Plan & the Milwaukee Chemical Management Plan.

Building Success, Leading Change: Stories of Healthy School Environments (http://www.aasa.org/uploadedFiles/Childrens_Programs/Healthy_School_Environments/BuildingSuccess_Web.pdf)

This publication explores the parallels between urban and rural school districts that sustain healthy learning environments by addressing indoor air quality. Learn how the North East Independent School District of San Antonio, Texas and Auburn City Schools of Auburn, Alabama achieve a healthy school environment.

Schoolhouse in the Red: An Administrator's Guide to Improving America's School Facilities and Environment

This guide reviews the costs associated with deteriorating and inadequate buildings and offers promising practices on school health by addressing school facilities and environment.

EPA Indoor Air Quality Resources

EPA's Tools for Schools Program (<http://www.epa.gov/iaq/schools/>)

EPA's IAQ TfS Kit helps schools and school districts design and implement IAQ programs by including sample communication plans, management plans, policies and other worksheets.

Healthy School Environments Assessment Tool (HealthySEAT): <http://www.epa.gov/schools/healthyscat/index.html>

A unique and customizable software tool created to help school districts evaluate and manage their school facilities for key environmental, safety and health issues.

Indoor Air Quality (IAQ) DESIGN Tools for Schools

(www.epa.gov/iaq/schooldesign/) This web-based resource contains recommendations and tools to help communities and design professionals integrate good indoor air quality practices into the design, construction, renovation, and operation and maintenance of K-12 school facilities.

EPA Schools Chemical Cleanup Campaign (SC3): SC3 aims to ensure that all schools are free from hazards associated with mismanaged chemicals.

SC3 gives K-12 schools information and tools to responsibly manage chemicals. Schools and partners interested in improving chemical management will find many resources, as well as the SC3 Toolkit, to assist them on this site <http://www.epa.gov/epawaste/partnerships/sc3/>.

Acknowledgements

The American Association of School Administrators is grateful to the Healthy School Coalition members who shared their expertise and suggestions for this publication.



Maintaining Strong Leadership

At the core of successful IEQ programs is strong leadership.

High turnover in leadership can create sustainability challenges for newly implemented IEQ management plans, policies and other healthy environment initiatives.

Therefore, leaders at every level must champion IEQ efforts in order for the plan to succeed.

SUPERINTENDENT

- Use leadership position to prioritize healthy school environments by including IEQ in the district's mission, strategic plan, and capital work plan.
- Adopt a district IEQ management plan such as the EPA's *Tools for Schools* Program.
- Establish an IEQ Committee comprised of school, business, and community representatives to provide guidance and direction in addressing issues.
- Keep IEQ issues on the agenda of board members and staff, even if IEQ complaints are rare.
- Use AASA as a resource for professional development and technical assistance.

SCHOOL BOARD

- Keep IEQ on the table at board meetings to remind the school district community of its relevance.
- Clearly support the superintendent and the implementation of an IEQ management plan such as the EPA's *Tools for Schools* Program.
- Include school environment initiatives as part of capital work plan.
- Reach out to families and students to be mindful of school environment issues and to participate in activities that promote IEQ.
- Implement comprehensive tobacco-free schools, no pet and other environmental policies at the district level.

HEALTH STAFF

- Participate in cross-departmental teams and advocate for children's health.
- Share your knowledge and information on the status of student health issues with facilities and administrative staff members.
- Share materials from the EPA's Tools for Schools Program with administrators on ways they can address IEQ and related health issues.
- Utilize AASA's resources to create awareness on the health implications that IEQ has on students.

FACILITIES STAFF

- Advocate for and take the lead in implementing an IEQ management plan.
- Recruit staff to participate in cross-departmental teams, and share facilities and building information with students and staff members through in-service trainings, workshops, meetings, fairs and other events.
- Share materials from the EPA's Tools for Schools Program with administrators on ways they can address IEQ and IEQ-related health.
- Utilize AASA's resources to alert administrators of the importance of the school environment.
- Integrate indoor air quality and healthy school environment programs into facilities departments.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Prioritize IEQ in the classroom.
- Participate in cross-departmental teams.
- Participate in staff training on how to ensure a healthy school environment.
- Share your IEQ knowledge, information and enthusiasm with students and staff members.
- Share best practices with colleagues in the district to help raise awareness.

Success Story

Auburn City Schools' superintendent and board are committed to providing a safe and nurturing learning environment. The district has effectively and efficiently delegated staff to address environmental health issues. The superintendent and board have empowered the district's Indoor Air Quality (IAQ) Committee with the responsibility of carrying out its healthy schools management plan initiative.

Implementing Effective Communication Strategies

To ensure thorough and complete implementation of an IEQ program, communication strategies should include all departments that affect and are affected by IEQ.

Urban districts can be so large that opportunities for cross-communication are limited, making it difficult to involve all stakeholders in which IEQ overlaps.

In rural districts, there may be one person with many roles, making it challenging to separate and clearly understand the connection between the roles that are affected by IEQ.

SUPERINTENDENT

- Encourage and promote cross-departmental teams and partnerships.
- Join one of the AASA Healthy Schools Coalitions to collaborate across districts to increase IEQ communications and promote best practices.
- Create a comprehensive communications strategy to address school IEQ.
- Promote the district's IEQ successes through district newsletters, television, blogs and district website.

SCHOOL BOARD

- Disseminate IEQ materials at board meetings to educate and provide updates on district IEQ initiatives.
- Support a district-wide, comprehensive communications strategy as outlined by the superintendent on communicating IEQ challenges and success stories to the school community.

HEALTH STAFF

- Meet with facilities staff to share student health information with each other and with district leadership.
- Assist with the creation and implementation of a communications plan and its applicability to health staff.

FACILITIES STAFF

- Work with district leadership and other team members to create and implement the communications plan.
- Meet with health staff to create alliances, and share information with each other and district leadership.
- Use technology to report and track both IEQ progress and challenges within the district (i.e. HealthSEAT).
- Establish a protocol for IEQ complaints that includes a work order system and timely response.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Solicit student feedback on IEQ.
- Meet with facilities and health staff and district leaders to share the teacher/student IEQ point of view.
- Assist with creating and implementing an IEQ communications plan.
- Report IEQ problems, issues and related illnesses in a timely manner using protocol established for IEQ complaints.

Success Story

Auburn City Schools makes sure its communication strategies are used simultaneously with IEQ awareness initiatives. For example, the results from an IEQ walkthrough are recorded into the EPA's HealthySEAT software program.

Recommendations are shared with staff and administrators on the district's file-sharing network and information is easily communicated to the entire district.

In addition to internal communication, the district's public relations office regularly promotes the district's IEQ plan through various media outlets.

Dealing with Overcrowding

As the number of children enrolled in public schools continues to grow, schools are faced with the dilemma of finding space in buildings already filled at or beyond capacity.

Overcrowding can lead to poor learning conditions within the classroom. It also increases the wear and tear on the physical school building, both of which impact indoor environmental health and IEQ.

In an effort to ease overcrowding, portable and modular rooms accommodate students and staff. However, structural and air quality problems raise concern of their widespread use.

SUPERINTENDENT

- Understand the potential problems associated with portable classrooms and enlist the support of the school board to ensure proper maintenance of portables.
- Use an IEQ Committee as a resource to investigate the condition of portables and make recommendations.

SCHOOL BOARD

- Ensure funding streams to maintain, update or remove portable classrooms in the district.
- Communicate overcrowding concerns and/or preventative measures to state representatives.

HEALTH STAFF

- Track and report any increases in respiratory ailments, asthma or other health concerns among students who have classes in portables.
- Educate staff on children's health ailments that can be exacerbated by an unhealthy school environment and triggers that need to be minimized in the school setting.

FACILITIES STAFF

- Oversee the commissioning process to ensure proper operation and structural integrity of portable classrooms.
- Administer Portable Heating, Ventilation, and Air Conditioning (HVAC) Preventative Maintenance Training for all building staff. This training will address the unique air quality of portable classrooms.
- Create maintenance schedules to proactively maintain portable classrooms.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Maintain clean, clutter-free classrooms.
- Immediately report illness or changes in student health to school health staff.
- Educate students on the importance of healthy portable environments.
- Immediately report building leaks, odors and other indoor air quality concerns to facilities staff or the Healthy Schools Steering Committee.

Success Story

Montgomery County Public Schools addresses the IEQ challenges of portable classrooms by regularly assessing indoor air quality, building envelope conditions, HVAC operation, site drainage/location, and building history. Each unit is rated in good, fair or poor condition. Portables in poor or fair condition are either returned to the vendor and replaced or are repaired to good condition.

Overcoming Financial Barriers

School districts across the nation are facing shrinking budgets and increased mandates. Overcoming financial misconceptions associated with IEQ is fundamental in sustaining a healthy indoor environment.

Unfortunately, there is a perception that excessive costs are required to create and maintain an IEQ plan. As a result, many districts do not develop a formal plan.

What should be highlighted is the effect that the environmental quality can have on a district's budget. Tighter budgets and larger class sizes translate into more wear on the school building, such as excessive energy use from poor sealants. Declining budgets also leave little room for facility improvements, IEQ training, or other maintenance necessities.

SUPERINTENDENT

- Ensure a line item in the budget to support healthy school environment initiatives.
- Seek grants, bonds and other creative funding streams from the EPA and private sources to implement and sustain programs.

SCHOOL BOARD

- Support the superintendent and healthy schools/healthy students by prioritizing funding for the environment and facilities.
- Ensure a line item in the budget to support IEQ and healthy school environment initiatives.
- Seek grants, bonds and other creative funding streams from the EPA and private sources to implement and sustain programs.

HEALTH STAFF

- Advocate for low-cost solutions that address IEQ-related health concerns.
- Report trends in IEQ-related health and the associated human cost, such as increased absenteeism and increased asthmatic episodes.

FACILITIES STAFF

- Research and propose creative and cost-effective solutions on IEQ issues to the administration and school board regularly.
- Incorporate low cost green cleaning, safe chemical guidelines and energy efficiency measures in day-to-day facilities operations.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Use students as a resource for tracking and monitoring IEQ. Therefore, response is more immediate and unnecessary costs/damages are avoided.
- Meet with administration and staff on ways to involve students in low cost and easy to implement IEQ initiatives (i.e. class exercises and after-school clubs).
- Provide service-learning opportunities for students that also address and state standards.

Success Story

Energy efficiency helps to overcome financial barriers as energy savings translate into money that can be applied toward other district needs. Spokane's East Valley School District (EVSD) joined the EPA's ENERGY STAR® Partners program for K-12 school buildings to reduce and optimize their energy use. Within the first year, two of their schools have used 40% less energy, saving \$30,000 on heating, cooling, and lighting. All of EVSD school buildings have been evaluated for energy consumption, climate, square footage building use, occupant comfort, indoor air quality and potential concerns in efficient buildings.

Auburn City Schools (ACS) utilizes a portion of capital funds allocated from the state towards IEQ efforts. ACS also explores alternative funding sources for upgrades on lighting and HVAC equipment. To effectively manage funds, IEQ monitoring, tracking, and data analysis help prioritize the HVAC systems that need immediate attention.

Increasing Awareness and Prioritizing IEQ

School leaders must continuously make staff and students aware of the hazards of poor IEQ and its affect on health and achievement.

In conjunction with maintenance efforts, it is imperative to educate building occupants on changing behaviors that lead to poor IEQ.

Since IEQ's mission is often-times addressed in operations and maintenance budgets, having a formal plan and/or committee will not strain the district's priorities.

Therefore, the perception of IEQ on the district's budget shifts from a perceived imposition to a proven benefit. Once this shift is formally acknowledged, an IEQ plan can be maintained as a priority.

SUPERINTENDENT

- Include presentations to the school board, staff, students and parents in your plans to educate the district on the adverse health effects of poor IEQ.
- Include IEQ awareness in teacher trainings and annual principal meetings.
- Allow facilities staff to conduct an initial audit of IEQ practices using the Tools for Schools assessment or similar guide.
- Share IEQ success with local government, community-based organizations, non-governmental organizations, professional networks, and conferences.
- Explain the impact that IEQ has on health, academic success and liability. These connections allow a district to strategize and prioritize IEQ initiatives.

SCHOOL BOARD

- Use AASA resources to educate administrators and increase awareness about indoor environments.
- Proactively educate parents, students, staff and the community on school IEQ. This approach ensures that IEQ issues will be resolved in a safe and cost-effective way.
- Create and pass board policies that include an enforcement process to address IEQ issues, including no pets or carpet in schools, a comprehensive tobacco-free school policy, or a green cleaning policy.
- Prioritize IEQ by linking together health, academic success and liability concerns.

HEALTH STAFF

- Share with district leadership school health data and your experiences with health and achievement of students who are affected by poor IEQ.
- Make IEQ and health presentations at board meetings, in-service events and staff wellness events.
- Use AASA's resources along with facilities data to educate decision-makers on IEQ.
- Help to implement the EPA's Tools for Schools Program or an IEQ management plan.

FACILITIES STAFF

- Incorporate IEQ best management practices into daily routines for early detection and problem-solving.
- Monitor IEQ data, track complaints and update administrators, board and school staff on proactive steps needed to avoid future problems.
- Engage safety personnel during IEQ routines (i.e. walkthroughs, reports, investigations). Safety issues often overlap IEQ, and a combined strategy can save time and money.
- Assess staff training needs and secure subsequent professional development opportunities.
- Promote IEQ goals through communication strategies such as electronic newsletters and posters placed throughout school buildings.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Include IEQ into the curriculum and use students as IEQ advocates through projects that demonstrate the value of IEQ.
- Provide opportunities for students to make recommendations on improving IEQ.
- Incorporate posters on asthma triggers, perfume use, deodorizers and other environmental hazards into the classroom.

Success Story

Increasing awareness and prioritizing IEQ is an on-going challenge for many school districts. The primary priority is to provide opportunities for academic excellence. Therefore, IEQ has become associated with facility and maintenance divisions and, as such, school administrators and staff do not readily take ownership of it as a priority.

Each year there are new teachers and administrators that may not have a solid foundation of IEQ issues. Therefore, Auburn City Schools randomly surveys staff on the district's IEQ management plan.

Districts can also complete bi-annual walkthroughs of buildings to ensure that the IEQ plan is properly carried out.

Acknowledging these accomplishments is an important first step in prioritizing IEQ.

Creating Networking Opportunities

Although daily duties leave little time to sustain outside networks, the benefits of these networks are often the biggest variable for the success of a district's IEQ initiative.

Using IEQ resources opens up networks where none existed before. These networks provide the school district with resources and support for the implementation of an IEQ plan.

SUPERINTENDENT

- Join one of the AASA Healthy Schools Coalitions to link your district with others addressing similar IEQ issues.
- Ensure that internal relationships are established and maintained between administrative, health, teaching and facilities staff.
- Use relationships with surrounding districts and state associations as a resource to improve IEQ initiatives.

SCHOOL BOARD

- Support and foster internal and external relationships between superintendent, health staff, facilities staff, and buildings level staff to improve IEQ.
- Encourage the superintendent and other staff to connect with professional organizations related to IEQ.
- Support the participation of the superintendent and other staff in AASA's Health Schools Coalition, as appropriate.
- Connect and communicate with other school boards in your region.

HEALTH STAFF

- Connect with facilities staff and administration to grasp the multi-disciplinary scope of IEQ and convey solutions.
- Participate in AASA's Healthy Schools Coalition and network with other school districts addressing IEQ.
- Share data, research, resources and strategies from professional health organizations with other staff and administration.

FACILITIES STAFF

- Connect with other staff, especially health staff, to better understand the link between facilities, IEQ and the health of students and staff.
- Share successes and challenges with other school districts.
- Participate in AASA's Healthy Schools Coalition and network with other school districts addressing IEQ.
- Establish relationships with regional EPA offices, EPA IAQ Tools for Schools Connector, and EPA IAQ Partners Meetings.
- Join professional organizations and use available resources that are pertinent to IEQ.

BUILDING-LEVEL STAFF (TEACHERS, PRINCIPALS)

- Participate on committees related to maintaining healthy environments.
- Establish a liaison to interact and participate with the IEQ committee.
- Establish an internal network of teachers that are involved in IEQ initiatives.

Success Story

Networking opportunities can sometimes be hard to come by. By reaching out to nearby school districts, you may find they are already implementing Tools for Schools. It is beneficial to the growth of your district's IEQ initiative to share success, challenges and resources. Many districts have teamed up through mentorships in order to improve their current IEQ initiative.

Internal networking is just as important as external networking. Many districts have learned the value of internal networking, which can be achieved through professional development and administrative meetings.