



Clean, Green, and Healthy?

A Survey of School Environmental Health from the Federal Perspective

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The idea of creating school environments that are conducive to learning is not revolutionary. In the late 1890s, New York City architect Charles B. J. Snyder undertook a massive reform of the city's public school buildings, designing spaces with high ceilings, tall windows that opened top and bottom, and interior courtyards, which together provided ample natural light and natural cross-ventilation. His attention to school building design to improve the health of its youngest occupants mirrors many modern day efforts being carried out by the likes of the Center for Green Schools at the U.S. Green Building Council and the Collaborative for High Performance Schools. But school environmental health encompasses much more than just the physical structure of a school building. It is about providing each of the approximately 60 million people who attend or work at public schools with spaces that are clean, green, and healthy.

What is School Environmental Health?

Defining what constitutes "school environmental health" is difficult given the great diversity of issues involved, as well as differing opinions as to what school environmental health should encompass. One of the more recent attempts to define school environmental health can be found in the Environmental Protection Agency's (EPA) Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program (2012). Here, the EPA proposed that school environmental health is defined by five key components: Practice Effective Cleaning and

Maintenance; Prevent Mold and Moisture; Reduce Chemical and Environmental Contaminant Hazards; Ensure Good Ventilation; and Prevent Pests and Reduce Pesticide Exposure. Regardless, addressing school environmental health requires a holistic, comprehensive strategy that includes preventative measures, education, and taking steps to foster well-maintained school buildings and grounds. The payoff is school environments that are conducive to learning and protect the health of building occupants, adults and children alike.

A Brief History of Regulating School Environmental Health

Research and action around school environmental health has increased steadily over the last several decades through efforts at the state and federal levels. One early effort to address school environmental health occurred in 1994 when the New York State Board of Regents [adopted a report](#) authored by its Committee on School Environmental Quality. The report was commissioned in response to widely reported complaints about "sick school buildings" with pesticide spraying indoors, poor sanitation, and schools heated with dirty coal-boilers. Its authors acknowledged that children are uniquely vulnerable to environmental hazards, more so than adults since their bodies are still developing, and laid out a set of five [Guiding Principles](#) to improve environmental quality in schools. These guiding principles, beginning with "every child has the right to an environmentally safe and

healthy school which is clean and in good repair,” were followed up with a comprehensive list of recommendations addressing a range of issues from indoor air and pest management to asbestos and lead (New York State Education Dept., 1994).

The EPA has taken a lead role in passing and/or enforcing laws, regulations, and policies at the federal level that have an impact on school environmental health. Significant environmental legislation, such as the Clean Air Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, and Toxic Substances Control Act, contain regulatory requirements that mandate actions schools must take, at a minimum, to protect students and staff. However, regulation at the federal level is not always welcomed by schools as was evidenced following passage of the Asbestos Hazard Emergency Response Act, or AHERA, in 1986. The Act itself was well-intentioned: to protect students and staff from exposure to asbestos in school buildings. Despite AHERA’s good intentions, the potential costs of compliance with its key provisions, including inspections to identify asbestos-containing building material and subsequent removal of any materials found, was a source of frustration for schools with tight budgets. As a result, offers of assistance from federally run programs are often met with wariness or resistance, such as in the case of EPA’s Schools Chemical Cleanout Campaign (see below).

In addition to federal regulations, many states have taken steps to pass laws, regulations, and policies pertaining to environmental health issues such as indoor air, green cleaning, pest management, mold, lead, and carbon monoxide. The range of issues covered varies from state-to-state, as do the number of environmental health laws, regulations, and policies in place. In fact, some states have gone a step or two further and implemented even stricter requirements than those posed at the federal level. To stay abreast of current developments, the [Environmental Law Institute](#), the [Healthy Schools Network](#), and the [National Conference of State Legislators](#) serve as excellent starting points for learning more about

the status of state environmental health laws, regulations, and policies.

Voluntary Programs Bring Tools and Resources

Addressing school environmental health issues to meet federal and state requirements while protecting students’ health is no small task for schools and districts already overburdened with shrinking budgets, growing enrollment, state testing, and meeting performance standards. When it comes to setting priorities, environmental health issues rarely make the top of a school or district’s list, especially those located in underserved urban and rural communities. Federal agencies like the EPA and Centers for Disease Control and Prevention (CDC) recognized that schools and districts needed help addressing common environmental health concerns and started launching voluntary programs to assist with tools, resources, and expertise.

Coordinated School Health

One of the first such voluntary programs, the Coordinated School Health (CSH) approach, was established by the CDC in 1987. The CSH approach integrated health promotion efforts across eight interrelated components that already existed in most schools, from health and physical education to nutrition services and healthy and safe school environments. Through CSH, schools, districts, and states have established policies and practices that advance healthy indoor environments and healthy students, including adoption of tobacco-free policies and policies to address environmental asthma triggers. The approach’s success led to its expansion and re-branding as [the Whole School, Whole Community, Whole Child \(WSCC\) model](#). The WSCC model increases the number of components addressed by CSH from eight to ten and is combined with ASCD’s [whole child framework](#). This expansion meets the need for a greater emphasis on the physical environment, as well as the social and emotional climate, in schools. (For a complete review of WSCC see the article by Sean Slade in this issue of the Catalyst Quarterly.)



IAQ Tools for Schools

In 1995, EPA launched its signature school environmental health resource, the Indoor Air Quality (IAQ) Tools for Schools program. IAQ Tools for Schools provided schools with a set of strategies and tools to help identify, correct, and prevent a wide range of environmental health and safety risks, and to put in place a sustainable system to institutionalize a successful program at the school or district level. The program’s highly flexible and adaptable structure allowed any school or district, regardless of location, size, budget, or condition, to use its framework to launch, reinvigorate, and sustain an effective indoor air quality management program. Along with its web-based resources, IAQ Tools for Schools offered grant awards to schools and districts, and hosted an annual training symposium that brought together award-winning schools and districts to share best practices and learn from each other. According to the latest data from CDC’s [2014 School Health Policies and Practices Study](#), the IAQ Tools for Schools

program is being implemented in about 35% of schools across the country.

Although the IAQ Tools for Schools program was defunded in 2012, EPA remained committed to supporting schools that are looking to adopt comprehensive indoor air quality management plans. The agency maintains a website where schools can access a variety of resources and publications, including the IAQ Tools for Schools Action Kit, the IAQ Master Class Professional Training Webinar Series and Knowledge to Action Professional Training Webinar Series, and the IAQ Tools for Schools Mobile App.

Schools Chemical Cleanout Campaign

EPA’s Schools Chemical Cleanout Campaign, or SC3, was established in 2006 to raise awareness around mismanaged chemicals in schools and promote responsible chemical management. In the beginning, the program’s focus was on identifying and removing outdated, unknown, and unnecessary chemicals from schools while providing education on proper chemical storage,

handling, and use. As the program's success grew, it expanded its focus to include green cleaning and green chemistry. SC3 did face some initial hurdles around school engagement given schools' past experiences with AHERA and fears of public perception should hazardous materials be discovered during chemical inventories. However, program outreach and education, along with efforts to recruit community and program partners to conduct the chemical inventories and removal, helped to earn school trust. Inspired by the federal program's success, several states, including Tennessee and Florida, started their own state-level SC3 programs. SC3 was defunded by EPA in 2011; however, a number of important K-12 chemical management resources continue to live on [EPA's Healthy Schools, Healthy Kids website](#).

State School Environmental Health Program Guidelines

In 2007, Congress passed the Energy Independence and Security Act (EISA) which amended the Toxic Substances Control Act by adding a requirement for EPA, in consultation with relevant federal agencies, to develop voluntary guidelines to assist states in establishing and implementing environmental health programs for K-12 schools. [Voluntary Guidelines](#) for States: Development and Implementation of a School Environmental Health Program, which was finalized and published in October 2012, provides states with a six-step plan to start or enhance an existing school environmental health program, from assessing resources and building capacity to

implementation and evaluation.

Embedded in the guidelines is a [model K-12 school environmental health program](#) that states can adapt to meet their specific requirements and share with schools and districts. The model



program builds off the IAQ Tools for Schools program framework and identifies five school environmental health components: Practice Effective Cleaning and Maintenance; Prevent Mold and Moisture; Reduce Chemical and Environmental Contaminant Hazards; Ensure Good Ventilation; and Prevent Pests and Reduce

Pesticide Exposure. The components are organized in a tiered approach so that all schools, regardless if they had an existing program or not, can take some action to address environmental health issues.

EPA Grant Programs Advance Healthy School Environment Research, Implementation

Along with issuing guidelines on how to start a state school environmental health program, EPA wanted to better understand how these programs were being implemented and if there were any

best practices worth sharing more broadly. Not long after the guidelines were published, EPA awarded grants to five states (Connecticut, Minnesota, New York, Ohio, and Wisconsin) to use the guidelines to develop and implement (or further refine) the basic elements of a state school environmental health program, including standards and guidance, a steering committee, measures to assess progress, communication and outreach, and resources. At the end of the project period, the five grantees gathered to share their challenges, best practices, and lessons learned which were compiled into an [addendum to the guidelines](#). Organized around the six steps for establishing a school environmental health program, the addendum offers tips, strategies, and real-world examples to guide states and decision-makers in adopting and maintaining their own programs.

EPA's school environmental health program grants were not the only grants recently awarded by the agency to advance healthy school environments. As part of its Science to Achieve Results program, EPA issued a request for applications in 2013 for [Healthy Schools: Environmental Factors, Children's Health and Performance, and Sustainable Building Practices](#). Seven

universities were awarded funding for research that will inform K-12 school building design, construction, and operation practices. The goal of this research is to better understand the relationship between environmental factors and the health, safety, and performance of students, teachers, and staff. Projects include studying how

indoor air quality impacts student performance; evaluating the use and effectiveness of indoor environmental quality measures; working with community partners to identify sustainable school building practices; and determining whether sustainably built and retrofitted schools have a positive impact on student health and achievement. The majority of these projects are set to finish between October 2018 and March 2019, and the results will help the school community and its partners create greener, healthier, and safer learning environments.

Connecticut Program Exemplifies State School Environmental Health Efforts

Action around school environmental health varies state-by-state. One of the strongest state programs can be found in Connecticut, which established its Connecticut School Indoor Environment Resource Team (CSIERT) in 1999. Along with the state Department of Public Health, this multi-agency consortium built its state school environmental health program based on EPA's IAQ Tools for Schools framework. Connecticut's nationally recognized program has expanded over the years to include a multitude of school environmental health efforts, including laboratory cleanout and green cleaning programs; energy conservation, integrated pest management, and environmental health literacy. One thing that has not changed since the start is the program's key driver: to reduce children's exposure to asthma triggers in schools.

Since 2000, CSIERT has helped over [950 schools across Connecticut](#) adopt EPA's IAQ Tools for Schools program. According to Kenny Foscue of Connecticut's Department of Public Health, one of the keys to the state program's success has been its focus on building school-based building teams and providing the training they need to implement the IAQ Tools for Schools program at their school. In fact, schools that have sustained their IAQ school building teams year after year have been able to make great strides in indoor environmental quality because those teams are able to provide ongoing assessment and

response (Foscue and Harvey, 2011). "The fact that schools continue to reach out for training and refresher courses, even after 17 years, speaks to the value of the Tools for Schools program and its success in addressing school environmental health issues," said Foscue (Foscue, 2017).

Like many programs, Connecticut has seen a reduction in resources dedicated to school environmental health; however, that has not stopped the state from finding ways to sustain its hard work. In addition to maintaining its IAQ Tools for Schools training and refresher workshops, recent efforts include (Foscue, 2017):

- [Producing a video](#) to help school staff and parents comply with the 2009 School Green Cleaning and Products law, providing education on green cleaners and the law's prohibition on bringing non-green cleaning supplies into school facilities.
- Supporting a statewide recognition program, [Connecticut Green Leaf Schools](#), which encourages schools to "grow greener" and qualify for recognition through the U.S. Department of Education Green Ribbon Schools Award program.
- Instituting a [Connecticut Tools for Schools Hero Award](#).
- Providing technical assistance to assist the Hartford School District in resurrecting its IAQ Tools for Schools program.

Acknowledging Barriers...and What We Need to do to Overcome Them

Implementing school environmental health programs and policies at the federal and state levels is a challenge and there are no easy answers. Some of the biggest barriers include a lack of consistent funding and resources and what some consider federal overreach into state and local control of education. Funding is one of the primary reasons why EPA's state school environmental health program guidelines were never fully implemented. Combined with their voluntary nature, there was little incentive for EPA to promote the guidance's recommendations to states and schools beyond fulfilling EISA's mandate to produce the guidelines. Further,

shifting priorities and federal budget cuts have eliminated many of EPA's efforts to provide schools with training and resources to help them address environmental health issues, and there are no federal funds for fixing or remediating schools. As of April 2017, EPA's remaining school programs, not to mention other school-related programs run by other federal agencies, are in jeopardy of being eliminated due to further budget and programming cuts.

Despite these barriers to implementing school environmental health policies and programs, there

are still opportunities to keep moving forward, especially at the state-level. Many states already have policies in place to address school environmental health. What they need now are champions within state agencies to advocate for these policies and the benefits to students and school staff. Partnerships with public and private organizations are also crucial for building the capacity and resource base to sustain efforts into the future. This reinforces how pivotal the green schools movement can be in providing states with the resources and networks to help them make the case for clean, green, and healthy schools.

Resources

- Charles B. J. Snyder Biography Retrieved from https://en.wikipedia.org/wiki/C._B._J._Snyder
- Centers for Disease Control and Prevention. (2015). Results from the School Health Policies and Practices Study 2014. https://www.cdc.gov/healthyouth/data/shpps/pdf/shpps-508-final_101315.pdf
- Centers for Disease Control and Prevention's Whole School, Whole Community, Whole Child website: <https://www.cdc.gov/healthyschools/wsc/index.htm>
- Connecticut School Indoor Environment Resource Team website: <http://www.csiert.org/>
- Foscue, Kenneth. (2017). Personal communication, March 3, 2017
- Foscue, K. and Harvey, M. (2011). "A statewide multiagency intervention model for empowering schools to improve indoor environmental quality." *Journal of Environmental Health*. 74(2): 8-15.
- Healthy Schools Network. (2016). *Toward Healthy Schools: Reducing Risks to Children*. Albany, NY. <http://www.healthyschools.org/documents/TowardsHealthySchools-Risks.pdf>
- New York State Education Dept.(1994). *Environmental Quality of Schools*. Report to the New York State Board of Regents. Albany, p. 75. Retrieved from <http://files.eric.ed.gov/fulltext/ED383059.pdf>
- U.S. Environmental Protection Agency's Asbestos and Schools Buildings website: <https://www.epa.gov/asbestos/asbestos-and-school-buildings>
- U.S. Environmental Protection Agency. (2012). *Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program*. <https://www.epa.gov/schools/read-state-school-environmental-health-guidelines>
- U.S. Environmental Protection Agency. (2015). *Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program – Addendum*. <https://www.epa.gov/schools/eh-guidelines-addendum>



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