

# Healthy Spaces for Children: Schools

## *Fixing buildings, new EPH for children*

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**NIEHS: Partnerships for Environmental Public Health**

**Webinar**

**October 30, 2017**

*presenter*

**Claire L. Barnett, MBA, Executive Director**

**Healthy Schools Network**



# Healthy Spaces: Schools

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Claire L. Barnett has no conflicts of interest to report.

# Healthy Spaces: Schools – the New Frame

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**PreK-12 schools are not just little offices.**

**Children are not just little adults.**

**Every state requires children to attend school.**

*(There are more schools than zip codes in the U.S.).*

# Risks to Children in Schools

**Common Problems faced by personnel and children:** Indoor Air Quality (IAQ) problems, mold/moisture, pests/pesticides, radon, drinking water contaminants, excessive noise, PCBs, asthma/allergy triggers, lead, asbestos, mercury, chemical mismanagement, poor siting/vapor intrusion, hazards nearby (*EPA, IOM, others*)

- Average age of school buildings: 44+ years (*NCES*)
- Limited federal and state support for school physical environments
- Decades of deferred maintenance and neglect (*GAO, NCES*)
- Renovation/expansion of existing, occupied schools: release old and new contaminants; significant risks to all occupants, but especially children

**1- Environmental health risks in schools unexamined and unaddressed**

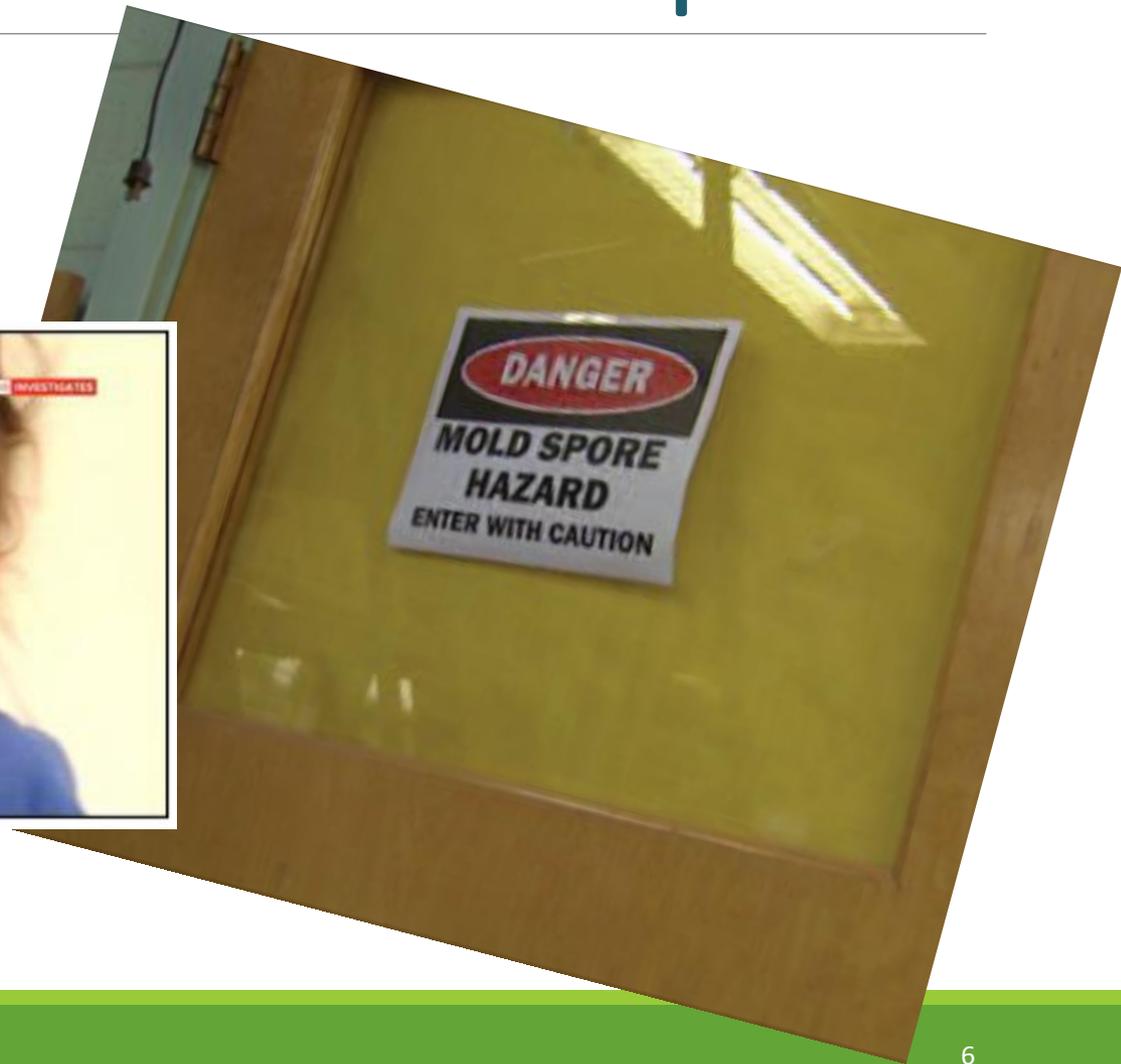
**2- No EPH systems address children at risk or with exposures in schools**

# Old Buildings & Legacy Toxics



# Indoor Air Pollution: dampness

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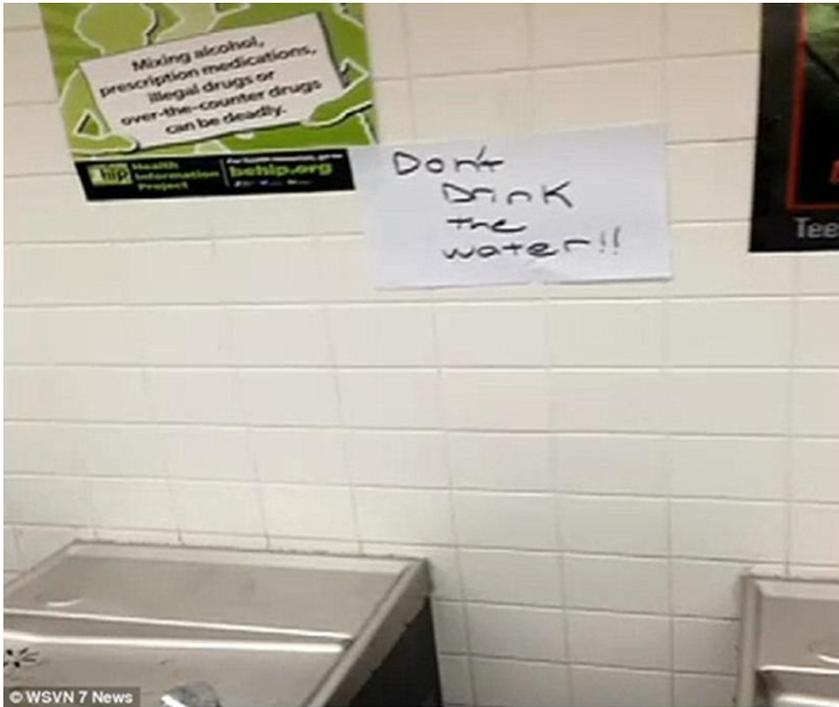


# Poor Maintenance; Poor Decisions



# Lead and Other Contaminants in Drinking Water

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# Federal: reducing risks to children, improving schools

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1995 EPA: *IAQ Tools For Schools*; grants, symposia

1997 *Executive Order* Protection of Children from Environmental Health Risks and Safety Risks (EO 13045); President's Task Force

- EPA and CDC/ATSDR co-designate, fund regional PEHSUs
- EPA and NIEHS establish **Children's Research Centers**

Federal funds for facilities (2001, 2009); FEMA, DOD, Tribal Nations

Authorizations: ED (2002/NCLB, 2015/ESSA); EPA (2007/EISA)

- EPA: new guidelines/grants to state agencies; IPM, IAQ, Asbestos, DW cut
- CDC: "Whole School" addresses nutrition and exercise; mentions occupational health; omits healthy physical environment for children
- ED: no program or staff address physical environment
- **No system for children with exposures in schools** (*v. OSHA, NIOSH*)

# What about state/local health agencies?

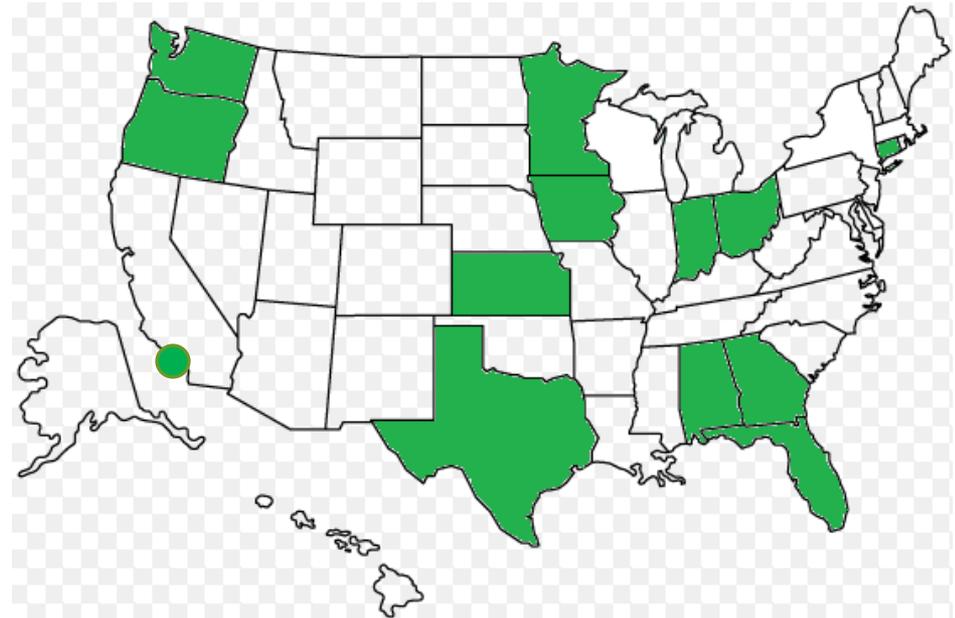
## A Preliminary Agency Survey

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HS Network Phone Interviews with ASTHO and NACCHO  
Members: senior staff in 12 states/1 county

**Findings: no PH system for children at risk or with exposures in schools.**

No complaint-intake point; no tracking, reporting, or cross-agency coordination by health agencies of child health problems reported by parents/others



# Environmental Health at School

## HS Network 2015-2016 Conferences

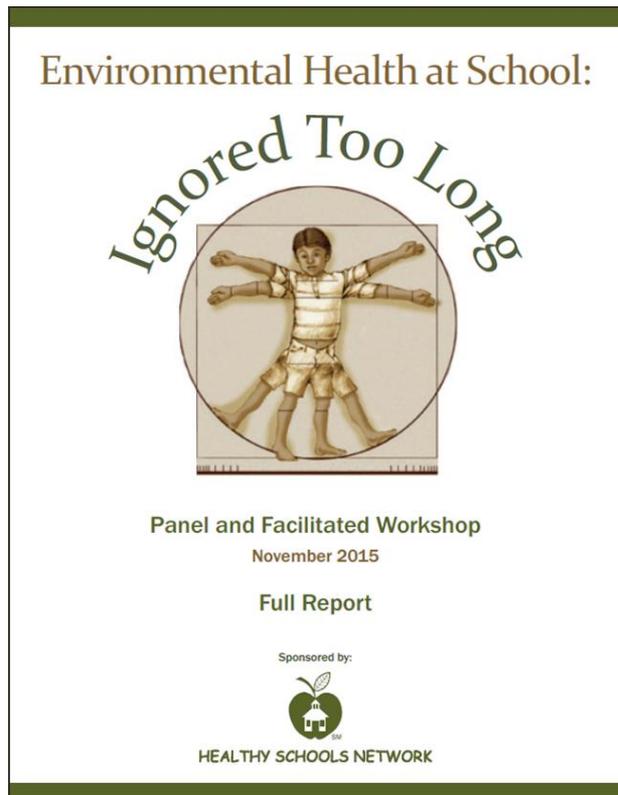
Two conferences engaged 76 attendees from 46 NGOs/agencies:

- CDC NCEH/ASTDR
- US EPA: Office of Children's Health Protection; Indoor Environments Division
- NIOSH
- NGOs and parents of affected children
- State and local agencies
- School facility experts



# November 2015 Conference

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Summary report (14 pp)

Full proceedings report (58 pp)

Bibliography (10 pp)

Presentations (12)

Available online at

[http://healthyschools.org/documents/SUMMARY\\_FINAL.pdf](http://healthyschools.org/documents/SUMMARY_FINAL.pdf)

*NIEHS Award #R13ES026508, and WK Kellogg Foundation, Educational Facilities Clearinghouse, The California Endowments, and the MidAtlantic Center for Children's Health and the Environment*

# November 2015 Conference

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## NGO Policy Recommendations:

1. Federal Agency Coordination
2. Civil Rights/Disability Access
3. Primary and Secondary Prevention of EH Risks
4. New Tracking
5. New Capacity-building
6. More Training
7. New Resources



# Environmental Health at School: New Solutions Put Children First

## June 2016 Conference

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Amplifying goals and objectives

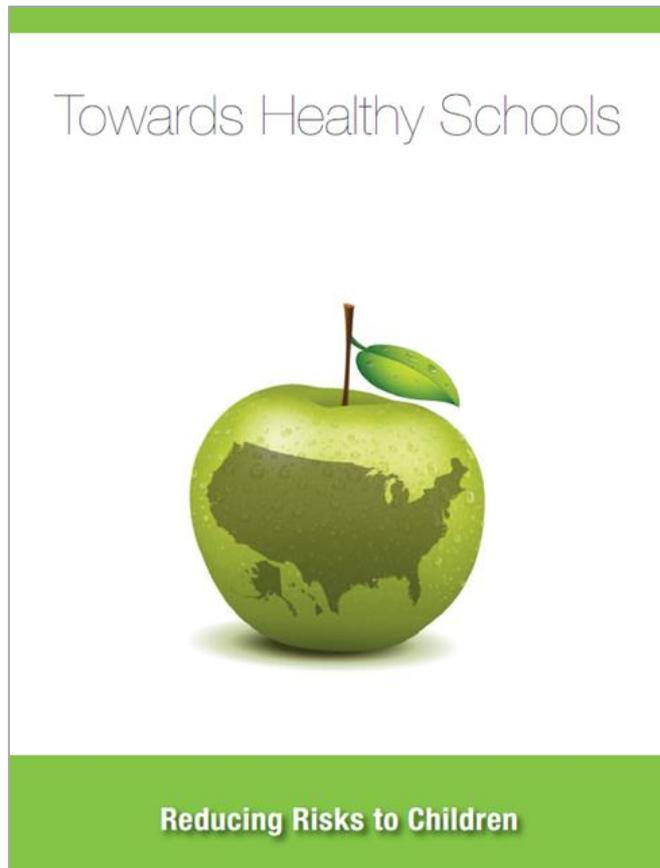
- Agenda, 12 presentations, and full report at <http://healthyschools.org/clearinghouse.html>



*Conference Supporters: The George Gund Foundation, The WK Kellogg Foundation, The Park Foundation, National Institute of Environmental Health Sciences, Office of the Director, and The Wallace Genetic Foundation*

# *Towards Healthy Schools: Reducing Risks to Children*

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State-of-the-states  
data & policy

*August 2016*

Fourth triennial report

New special topics

Honor Roll States

[www.HealthySchools.org](http://www.HealthySchools.org)

# Towards Healthy Schools: Reducing Risks to Children

## What are states doing?

### National Data Summary

- Fewer public schools
- More children in schools
- More children with special needs
- More children in poverty
- More children with asthma
- Less money for schools
- Fewer staff
- Schools *retreat* from baseline  
HP2020 goals: IAQ, IPM, Haz Mat,  
Lead in Drinking Water

Towards Healthy Schools				
National Data – Summary				
NATIONAL TOTALS	2016	2012	2009	2006
<b>CHARACTERISTICS OF SCHOOLS</b>				
Number of Public Schools	100,551	101,435	98,793	96,143
Number of Public School Students	50,044,522	49,474,181	49,292,507	48,590,635
Number of Minority Students	25,018,175	23,516,967	21,904,510	19,778,912
Free & Reduced-Price Lunch Eligible	25,601,355	23,573,963	DNR	DNR
Number of Employees in School System	6,094,868	6,195,144	6,215,635	5,447,541
<b>CHARACTERISTICS OF CHILDREN</b>				
Students in Special Education	6,555,291	6,404,588	6,247,443	6,597,197
"Fenceline" Students	4,929,357	N/A	N/A	N/A
<b>STATES</b>				
State Education School Facilities Office	46	46	39	DNR
States with Adopted OSHA Plan	24	24	24	DNR
State Grants for Construction	38	40	36	36
States with School Building Assessments	28	28	28	28
<b>POLICIES</b>				
Food Allergy	22	23	DNR	DNR
Green Cleaning	12	12	8	DNR
High Performance Green Building	24	24	2	DNR
Indoor Air Quality (IAQ)	23	31	FN	DNR
Lead in Water*	27	27	DNR	DNR
IPM Plans	26	25	15	DNR
States that Responded to Senate Inquiry of State Asbestos Policy	20	N/A	N/A	N/A
<b>NATIONAL AVERAGE</b>				
<b>CHARACTERISTICS OF CHILDREN</b>				
% Uninsured Children	6.9	8.1	12.5	DNR
% Asthma	9.2	8.9	8.9	8.7
% ADHD	N/A	9.9	7.7	N/A
<b>STATE SUPPORT</b>				
% Change in State Funding Per Student 2008 - 2014	-3.32	DNR	DNR	DNR
% Change in Median Revenue Per Student 2012 - 2013	-1.80	DNR	DNR	DNR
% Change in Median Expenditures Per Student 2012 - 2013	-0.50	DNR	DNR	DNR

NA = DATA NOT AVAILABLE  
DNR = DATA NOT INCLUDED IN REPORT  
\* See footnote 23 and Appendix for Healthy People 2020 comments

# Healthy People 2020

As of 2015, schools less active on key environment goals, increasing risks to children

- *IAQ Management*
- *Materials Management*
- *Pest Management*
- *Lead in Drinking Water*

HealthyPeople.gov



**Healthy People 2020 (HP 2020)** Environmental Health measures support the general findings of this report of worsening conditions for children in PK-12 schools. As this report has documented, there are more public schools today, more children in schools, more children in poverty, and more with special education needs, yet fewer dollars and fewer staff for our schools. Consistent with that, and possibly resulting from the deep cuts to CDC's and EPA's budgets supporting voluntary programs for children's environmental health and for healthy school physical environments, HP 2020 found a decline in the percent of schools meeting HP 2020 objectives.

The data below provide trend lines, but not necessarily hard facts on school. See note below. The apparent downward trend among schools in meeting key objectives could be due to more fiscal pressures on local schools or to the deep cuts in US EPA programs addressing healthy learning environment (lead, water, asbestos, chemical management, Indoor Air, and IPM). A sample of HP 2020 EH for Schools:

#### **School Indoor Air Quality**

Objective **EH-16.1** Increase the proportion of the Nation's elementary, middle, and high schools that have an indoor air quality management program to promote a healthy and safe physical school environment, with a goal to increase from 51% to 56% (2010 to 2020), instead fell to 46% in 2014.

#### **School Hazardous Materials Management**

Objective **EH-16.3** Increase the proportion of the Nation's elementary, middle, and high schools that have a plan for how to use, label, store, and dispose of hazardous materials to promote a healthy and safe physical school environment, with a goal to increase from 86% to 93% (2010 to 2020), instead fell to 84% in 2014.

#### **School IPM Practices**

Objective **EH-16.4** Increase the proportion of the Nation's elementary, middle, and high schools that promote a healthy and safe physical school environment by using spot treatments and baiting rather than widespread application of pesticide, with a goal to increase from 56% to 64% (2010 to 2020), instead fell to 54% in 2014.

#### **Schools Inspecting Water Outlets for Lead**

Objective **EH-16.7** Increase the proportion of the Nation's elementary, middle, and high schools that promote a healthy and safe physical school environment by inspecting drinking water outlets for lead, with a goal to increase from 56% to 61% (2010 to 2020), instead fell to 46% in 2014. *NB. In CDC's SHPPS 2006 state survey, it reported that 26 states plus the District required local schools to test at the tap for lead. This is inaccurate and an example of how self-reporting may not yield valid results.*

To see all HP 2020 Goals and Objectives for Environmental Health, and the data and the methodology for the findings, visit <https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health/objectives>.

Data sources for 2010 and 2014: CDC's School Health Policies and Practices Surveys (SHPPS) of key informants at the state and local levels. *NB: SHPPS key informants may not be well-versed in or charged with the physical environment of schools.*

# Summary

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**ALL children are at risk for additional health and learning problems due solely to the long-standing unaddressed and unexamined threats in their schools, and**

**the lack of environmental public health systems for children at risk or with suspected exposures in schools.**

Education agencies and leaders do not have the capacity (nor the demonstrated interest) to address school facility environmental issues: policies and best practices should be informed by concerns for promoting children's environmental health and coordinated across the health, environment, labor, and energy agencies.



# Big Goals, Big Research

**Establish new EPH Systems for reporting and investigating CEH at school**

- **New tracking system for children's school-based exposures**

**Establish preventive standards for school facilities**

**Examples of Research**

- **Expand research into school facility factors and children's health and academic performance; examine unique conditions and effects on children with chronic health conditions and special learning needs (*FAPE/LRE, Child Find: access and prevention*)**
- **Examine effects on children of hazards shown to affect personnel health and safety**
- **Other:**
  - **Communications: leveraging education decision-making re school buildings and grounds**
  - **Matched studies: NIOSH HHEs v health of children in same school/childcare**
  - **Intervention studies: Pre and Post evaluations of children's health and learning in remediated/retrofitted schools**
  - **Need studies on licensed child care setting conditions and impacts on children**

**CSTE – new work group established on CEH at School/Child Care**



# Suggested Reading

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*Towards Healthy Schools: Reducing Risks to Children, 2016*

US EPA Healthy Schools/Healthy Children (*IAQ, IPM, Radon, Mold, Design, Chemical Management, Water, Asbestos, LSRR, Siting*)

CDC NCEH/ATSDR *Children and the Built Environment*

*Public Health Stops at the School House Door*, J Paulson and C Barnett, Environmental Health Perspectives, October 2016, doi:10.1289/EHP530

*Significance of the School Physical Environment – A Commentary*, Journal of School Health, July 2016 (Fisk, et al)

*Schools for Health*, J Allen, et al, Harvard Chan School of Public Health, 2017

*Climate, the Indoor Environment, and Health*, IOM 2011

*Green Schools: Attributes for Health and Learning*, NRC, 2006



# Educate & Celebrate

16<sup>th</sup> annual National Healthy Schools Day  
Tuesday, April 3, 2018

*45 national partners celebrated the 15<sup>th</sup> annual in 2017 with webinars,  
Twitter Chats, school tours, Resolutions, and more.*



[www.NationalHealthySchoolsDay.org](http://www.NationalHealthySchoolsDay.org)





# HEALTHY SCHOOLS NETWORK

[www.HealthySchools.org](http://www.HealthySchools.org)

[www.NationalHealthySchoolsDay.org](http://www.NationalHealthySchoolsDay.org)

[www.CleaningforHealthySchools.org](http://www.CleaningforHealthySchools.org)

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