Reducing Toxics at School

Wednesday, October 15, 2014

CHE Alaska

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Executive Director, Healthy Schools Network
1. Children are not just “little adults”

- EO 13045: AAP, EPA, CDC, NIEHS, APHA, WHO
- Biologically more vulnerable
- Different exposures: hand to mouth, floor time
- Cannot identify hazards or protect themselves
- Cannot articulate exposures or health effects
- Children with special health or learning needs may be even more exposed and more vulnerable (IDD 2010)
- Compelled to attend school by states; children with special needs may be placed in 12-month school programs
- Out number adults in schools by ~ 8:1 (NCES)
Framework

2. Schools are not just “little offices”

- 95% of all school occupants are women and children (NCES)
- 99% of all school age children attend schools (55m; NASN)
- Schools more densely occupied than homes or offices
- Multiple processes and chemical uses in one school facility (EPA)
- Record of poor facility management: no consistent facility measures; inconsistent funding; no oversight; decades of deferred repairs and facility neglect (GAO, EPA, 21CSF)
- CDC: 20-40% states assist schools with environment
- OSHA applies to all private employers; State OSHA Plans apply to public schools as adult workplaces in 24 states
Towards Healthy Schools 2015

Progress on America’s Environmental Health Crisis for Children
Towards Healthy Schools 2015

- Robust literature: factors in indoor environmental quality improve attendance, academic performance, behavior, and productivity (NRC 2006; US EPA)

- Poor indoor environments already damaging health and learning; indoor exposures can be 100-1,000 more intense than outdoor; prevent exposures (IOM 2011)

- Surveys: school nurses very reluctant to discuss exposures and health effects with parents, administrators (2000, 2010)

- Schools filled with asthma triggers; pediatric asthma hospitalizations can **triple on returns** in the school year (NYS DoH, 2008, 2011)

- NIOSH Health Hazard Evaluation (HHE) Program: records/responds to worker complaints; research and reports, such as finding work-related asthma prevalent among teachers and custodians
Towards Healthy Schools 2015: Key Findings

ALL school children should be considered at elevated risk of health and learning difficulties due solely to the unexamined and or unaddressed risks in their schools and the lack of public health services for children at risk or with suspected exposures. (p6)

Justice for children can be achieved, but that demands swifter, surer progress on the federal, state, and local fronts…and that (children) have timely onsite public health interventions…. (p5)
## Alaska Data and Policy Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Public Schools</td>
<td>518</td>
</tr>
<tr>
<td>Number of Public School Students</td>
<td>132,104</td>
</tr>
<tr>
<td>Number of Minority Students</td>
<td>63,137</td>
</tr>
<tr>
<td>Number of Students Free &amp; Reduced-Price Lunch Eligible</td>
<td>50,701</td>
</tr>
<tr>
<td>Number of Employees in School System</td>
<td>18,102</td>
</tr>
<tr>
<td>Children under Age 19 without Health Insurance</td>
<td>14.6%</td>
</tr>
<tr>
<td>Children with Asthma Age 17 and Younger</td>
<td>NA</td>
</tr>
<tr>
<td>Children Diagnosed with ADHD</td>
<td>9.2%</td>
</tr>
<tr>
<td>Number of Students in Special Education Program</td>
<td>18,048</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy</th>
<th>Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Education Facilities Office</td>
<td>Y</td>
</tr>
<tr>
<td>States with Adopted OSHA Plan</td>
<td>Y</td>
</tr>
<tr>
<td>State Grants for Construction</td>
<td>Y</td>
</tr>
<tr>
<td>States with Building Assessments</td>
<td>Y</td>
</tr>
<tr>
<td>State School Green Cleaning Laws</td>
<td>N</td>
</tr>
<tr>
<td>High Performance Green School Design</td>
<td>N</td>
</tr>
<tr>
<td>Require Inspection of Drinking Water</td>
<td>Y</td>
</tr>
<tr>
<td>States with IPM Plans</td>
<td>Y</td>
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</tbody>
</table>
Health Threats in Schools

Outside:
ventilation unit sealed up

Inside, same unit:
mouse droppings

Water damaged, rotted, and abandoned school trailer
Badly damaged paint and plaster on walls, ceilings and other surfaces in an elementary school.

Water stained and damaged ceiling/wall tiles in elementary school bathroom.
PCB caution sign

Chemical mis-management

Pesticides
Tennessee Parent  “It took four years of hard work to get my school to stop spraying hospital-grade disinfectants around children at lunch. Worse, children were asked to do the spraying. After documenting and reporting this, I was banned from visiting my child’s school; it took five months for a lawyer to get the ban revoked.”

Pennsylvania Parent  “One section of our elementary school was water-damaged and the bathroom had peeling paint. Children were experiencing watery eyes, headaches, and fever; they would be sick one day and better the next. One doctor asked about possible mold allergy. A teacher had the children cleaning up mold damaged materials. The state health department told me they did not handle mold problems.”

Virginia Parent  “The construction zone is right next to where my daughter’s class runs/plays at recess. Children were playing underneath clouds of dust from the construction. The school said it wasn’t a big deal, OSHA can’t help because the workers were wearing masks; the health department said they would monitor the situation.”
## Common Asthma Triggers

<table>
<thead>
<tr>
<th>Asthma Triggers</th>
<th>Homes</th>
<th>Schools</th>
<th>Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondhand Smoke</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Pests</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mold</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pets</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Chemical irritants</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Outdoor air pollution</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dust mites</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Cleaning products</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Pesticides</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Respiratory infections</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Fragrances and strong odors</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Food allergies</td>
<td>✓</td>
<td>✓</td>
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</tbody>
</table>
Reduce Toxics at School

- **Secondhand Smoke:**
  - Keep school building, grounds, and buses smoke-free.

- **Pests & Pesticides:**
  - Keep buildings in good repair.
  - Keep classrooms free of clutter.
  - Keep food out of classrooms; clean up right away.
  - Seal cracks or openings around or inside foundations and cabinets.
  - Use safer pest control methods (baits, gels). Do not spray.

- **Mold:**
  - Dry out space: clean up molds carefully; stop leaks, moisture.
    - Small areas: clean with soap and water, dry out.
    - Large areas: read federal guidance; get outside help; use extra precautions.
  - Maintain low indoor humidity, ideally between 30-50% relative humidity.
  - Humidity levels can be measured by hygrometers, which are available at local hardware stores.
Reduce Toxics at School

Chemical Hazards:
- Use certified-green cleaning products
  - Invite best vendors to demonstrate, allow cleaning staff to select
  - Pilot in one school with gradual phase-in
  - Track success (SN visits, occ health issues, savings)
- Use safer pest control methods
- Inventory and dispose of old, outdated chemicals
- Use safer disinfectants, as directed and in high touch areas

Renovation Opportunity:
- Identify and remediate hazards (lead, PCBs, site pollutants, asbestos)
- Create a healthier, greener school that is easy to clean and maintain
Find Green & Healthy Products

www.CleaningforHealthySchools.org
EPA: Reducing Asthma at School - Texas

- District implemented **EPA’s IAQ Tools for Schools Program**
- District also adopted **Environmentally Preferable Purchasing** as an important features of a healthy school environment

**Facility Components in its Asthma Reduction Program**

- **Effective Cleaning Program**: the District converted to Green Seal-certified green cleaning products
- **Smart Material Selection**: the District switched to green labeled/certified furniture, fixtures or other equipment.

- Measured, **tracked children** with asthma by classroom
- Measured, **tracked classroom environmental conditions**
  - Elements assessed: **Occupant, Custodial, Facilities, Chemical Storage, Indoor Air Quality Summaries**
- Targeted **interventions** for low-rated, high asthma classrooms
Healthy Schools Network, Inc.

... for children, health, environment, education, and communities ... since 1995 ...

www.healthyschools.org

www.cleaningforhealthyschools.org

www.nationalhealthyschoolsday.org

info@healthyschools.org

Hoarder classroom = asthma triggers
References

- President’s Task Force on Environmental Health Risks and Safety Risks to Children: Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities. [Link](http://www.epa.gov/childrenstaskforce/federal_asthma_disparities_action_plan.pdf)
- Towards Healthy Schools 2015
- Asthma and the School Environment in New York State, NY DOH, 2008
- Institute of Medicine, *Climate Change the Indoor Environment and Health*, 2011