

Report 76: Healthy Environments for Children: IEQ

Convener: Claire Barnett

Brief History: Children are 100% of our future, and 98% of all children attend schools and/or child care facilities every day. Public schools disproportionately enroll children with health and learning problems, disabilities, and children in poverty; about 40% of all 50 million public school children are children of color. Poor env conditions deeply impact health and learning. Two NAS reports have documented major concerns and opportunities for improving indoor environments in these settings. IOM (2011) reported that poor indoor env quality was already impacting health and learning. While children outnumber adults in these settings and they are more vulnerable than adults to exposures, there is no system of research, surveillance, tracking, or interventions to improve their environmental health, attendance, learning, and behavior. US EPA is launching a Healthy Schools Initiative

Discussion Highlights:

~ NCS is not set up to assess exposures in child care or school settings; PEHSUs are not adequately supported or authorized to address hazards

~ there is no surveillance system or baseline on children's env health in schools

~ Risks to children's health include: lead, radon, CO, CO2, pests and pesticides, hazardous cleaning products, chem spills, chem mismanagement, poor ventilation, poor drinking water, growing molds, outdoor air pollution sources and vapor intrusions, lack of adequate plumbing and sanitation, and other numerous problems (NAS, EPA, GAO, NCES)

~ children are not covered by OSHA or NIOSH nor by bargaining contracts

~ parents/communities often may not know about hazards until a child is sick or may have trouble associating the illness with exposures

Recommendations:

Schools – and child care facilities - should be a platform for health and healthy children. The topic includes school buses/vehicles and school grounds.

- Note the recommendations below link with similar recommendations from other break out groups- including IAQ, Built Environment, Healthy Buildings, Children's Env Health Research-Bang for the Buck, Public Private Partnerships, Disasters and Vulnerable Populations, Exposure Assessments, EJ-CBPR, and Communications

NIEHS should identify priority needs for research into risks and exposures where children spend their time

NIEHS should invest in developing scientific evidence base for measuring effectiveness of environmental interventions, i.e., cost-benefit of mitigating hazards

NIEHS can invest in biomonitoring and other exposure studies of children enrolled in these facilities and in documenting health outcomes of interventions in improving indoor environments – possible partnerships with EPA and ED and/or CDC/ATSDR and CDC/NIOSH

NIEHS should invest in a survey of child care and school hazards, partnered with HHS and EPA/ED, similar to but expanding on topics in the housing survey of lead and allergens conducted with HUD (IOM: NIEHS 2011)

NIEHS should research gaps in children's env health research in indoor environments and actively participate in the Federal Council on IAQ coordinated by EPA. NIEHS goal should be to build a base of evidence sufficient for NGOs to advance IAQ-IEQ regulatory standards for these settings.

NIEHS should seed the development of environmental health histories on children enrolled in child care and in k-12 schools and the resulting work shared with AAP-COEH, PEHSUs, ATSDR and other agencies, as well as the Children's Research Centers. NIEHS should also research the cost-effectiveness of EH histories and their recommendations for actions

NIEHS should research what constitutes a healthy indoor environment

NIEHS should research the impact of health and learning outcomes of increasing 'greenery' – trees, shrubs, grass (natural turf) - outside schools as buffers to outdoor sources of pollutants

NIEHS should advance with other agencies and with states an expanded definition of 'sentinel event' in public health, including CO poisoning (eg, among school bus drivers or school custodians which suggests that children are having undiagnosed exposures), food anaphylaxis, fatal asthma attacks in schools

NIEHS should advance with other agencies and with states a surveillance system for pediatric environmental health in schools

NIEHS should develop an animal model of children in child care or schools to facilitate research into exposures, exposures to complex chemical mixtures, and effective mitigations/ interventions

NIEHS and EPA shared child care on RTP campus should be a model of environmentally healthy learning place

Discussion Participants:

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