NACCHO
National Association of County & City Health Officials
The National Connection for Local Public Health

99-12

STATEMENT OF POLICY

Children's Environmental Public Health

Policy

The National Association of County and City Health Officials (NACCHO) supports national, state, and local environmental health policies, regulations, programs, and research that will protect children's health and prevent children from harmful exposures to toxic substances to ensure that all children live, learn, and play in safe and healthy environments.

NACCHO supports the following to promote safe and healthy environments for children:

- Dedicated federal, state, tribal, local, and private funding to promote increased collaboration among federal environment and health agencies, state, tribal and local health departments, and pre-kindergarten through twelfth grade (PK-12) school officials and programs, including childcare, preschool, and Head Start, to ensure the provision of safe and healthy early care and learning environments, including home schools. Specific priorities include the following:
  - Development of food safety programs.
  - Increasing tobacco and vape-free environments in schools, childcare, and, out of school time.[1]
  - Developing a safe chemicals management system that replaces hazardous chemicals in schools and classrooms with safer and environmentally preferable alternatives.
  - Development of programs to routinely survey childcare, preschool, and early education facilities for lead hazards and abate them when found.
  - Collaborating with school districts to develop and implement school siting policies consistent with EPA federal guidelines on where to locate schools. These sites shall facilitate safe travel to school, consider proximity to children served, and avoid building schools on, or adjacent to, lands with toxic contamination, and will aim to minimize other hazards such as air pollution and noise.
  - Using site design techniques to minimize exposure where it exists. Maximizing tree canopies increases shade for play including replanting new trees if older trees need to be removed.
  - Promoting programs and school activities designed to increase physical education for schoolchildren.
  - Educating schoolchildren, teachers, staff, and parents about potential hazardous exposures and environmental risks.
- Dedicated federal, state, local, tribal, and private funding for the development of new coordinated state, county, and city surveillance systems that can respond to, evaluate on site, and track and report on children at risk to suspected exposures in PK-12 schools and in early

learning environments. The systems should include an increased presence for pediatric environmental health experts, new healthcare provider protocols for uncovering or assessing school-based exposures, and specialized informational and related services for families of children at risk or with exposures.

- Dedicated federal, state, local, tribal, and private funding for research into environmental health risks to children and their exposures in schools, homes, and community outdoor spaces.
- Dedicated federal, state, local, tribal, and private funding to facilitate increased collaboration between local health departments and their community partners on education programs to help caregivers create healthy home environments for children. NACCHO has a particular interest in supporting education programs about reducing exposure to environmental hazards.
- Federal, state, tribal, and private funding to support local health departments and community partners in promoting healthy neighborhoods, activities, and play environments for children, including reduced exposure to pollution sources and contaminated property; increased access to safely designed parks, nature centers, and green spaces; safe routes for biking and walking; public transportation; and access to universal playgrounds designed to be accessible to all children (with and without disabilities).
- Collaboration among local health departments and community partners to use a Health in all Policies approach and tools, such as Community Health Needs Assessments and Health Impact Assessments, to evaluate the impact of the community's built and natural environment on children's health.[2]
- Continued efforts to develop a chemical prioritization process that will enhance the regulation of, and reduce children's exposure to, toxic chemicals found in many consumer products.
- Collaboration among local health departments and healthcare providers/payers to develop a supportive system and resources that provides environmental interventions to ensure lead-safe housing, reduce asthma triggers in children's environments, and reduce return visits to emergency rooms or other healthcare centers.[3]
- Reforming the Toxic Substances Control Act (TSCA) to help protect the health of children from exposure to environmental hazards.
- Developing cross-sector collaborations that address solutions to these complex problems and explore the social determinants of health — such as economic status, educational opportunities, structural racism, and neighborhood characteristics — to ensure that all children are living in environments that support health.[4]
- Developing environmental policies and emergency response plans that include climate change associated health risks in pediatric populations. [7]
- Adoption of policies and programs that inform residents, particularly families with children, about the risks of radon vapor intrusion in homes near or on contaminated sites. This should include the promotion of efforts to provide free or low-cost testing for indoor air contaminants, where available, and the installation of mitigation systems in affected homes to reduce exposure.

Justification

Children are more susceptible than adults are to environmental exposures because their

physiological functions are relatively immature, have different behaviors, and their developing organs are more vulnerable to harm.[5]

Developing and supporting policies and programs that protect the health of children from exposure to environmental hazards is of the utmost importance. For example, developing safe chemical management systems, such as integrated pest management programs,[6] in schools and classrooms will help prevent children from being exposed to hazardous chemicals (e.g., pesticides, cleaning supplies, disinfectants, and instructional supplies such as art and science and vocational education supplies). It is also important to champion education programs about reducing exposure to environmental hazards to protect children from secondhand smoke, pesticides, radon, drinking water contaminants, and products containing hazards such as lead and mercury.[1,3] Studies have shown that environmental exposures and surroundings play a role in the early onset of chronic diseases such as asthma and obesity. It is estimated that 10% to 14% of U.S. children have asthma, 17% are considered obese, and more than half a million children have blood lead levels known to affect academic performance.[7] Researchers are also beginning to understand more about the link between prenatal environmental exposures and autism spectrum disorders.[8, 9, 10]

In 2017, 62% of children lived in counties in which one or more air pollutants regulated under the National Ambient Air Quality Standards were above allowable levels.[11] Children from racial and ethnic minorities, are disproportionally likely to be exposed to such environmental conditions, creating health inequities from an early age. Sixty-three percent of black non-Hispanic and 71% of Hispanic children lived in counties where air quality standards were not met, compared to 52% of white non-Hispanic children in 2009–2010.[11]

Children are exposed to environmental risks through many pathways other than air pollution. For example, 6% of children live in areas served by community water systems that did not meet all applicable health-based drinking water standards in 2017.[11] In addition to sub-standard water quality, 13.4% of children were served by community water systems that had violations of drinking water monitoring and reporting requirements.[11] Additionally, chemical burdens pose a serious threat to the health of children. Approximately half a million U.S. children five years old or younger have blood lead levels above the Centers for Disease Control and Prevention's (CDC's) recommended concentration threshold of 3.5 ug/dL.[14] Children exposed to mercury, even in small amounts, are at risk of serious health and developmental problems.[15] In the United States, the median blood level concentration of mercury in women of child-bearing age (16–49 years old) is 0.8 µg/dL.[14]

Children's health is also shaped by their environmental surroundings beyond chemical exposures. Neighborhoods with access to healthy food, public transportation, and safe and complete streets can improve children's physical activity and health. The CDC suggests that children benefit from the opportunity to play outdoors, where they can explore and enjoy natural environments.[12] Planning parks near residential areas— and making sure that the parks include attractive landscaping, well-designed amenities such as playgrounds and sports facilities, and safe routes leading to and from them—is an invaluable strategy of community design that is healthy and nurturing for children.[13] To maximize the health benefits of parks and other recreational areas for children, it's essential to consider environmental exposures in their planning and placement. Ensuring that these spaces are situated away from major sources of pollution, such as highways and industrial facilities, is crucial. For example, in West Oakland,

California, residents, including children, face increased health risks due to the neighborhood's proximity to highways and the Port of Oakland. This area experiences high levels of diesel pollution, leading to elevated rates of asthma and reduced life expectancy among its residents. Children aged 5 and under in West Oakland visit the emergency room for asthma three times more often than children in the county as a whole.[18] Additionally, implementing measures like planting vegetation barriers can help mitigate air pollution levels, creating safer environments for children to play and thrive. [19]

Improving access to public pools and swimming lessons can improve children's health; drowning is the leading cause of death in children aged 1-4 years and the second leading cause of unintentional injury death for children aged 0-17 years. The greatest percentage of these deaths occur in swimming pools or natural bodies of water.[20] Local health departments inspect public swimming facilities to ensure safety and reduce the risk of drowning. Additionally, increasing access to public transportation (and increasing safe active-transportation paths) can also impact children's health through increased physical activity and improvement of air quality by reducing vehicle emissions, which decreases children's asthma-related hospital and medical visits.[7]

Supporting policies and programs that inform residents, especially families with children, about the risks of radon vapor intrusion is crucial for public health. Radon is a naturally occurring radioactive gas that can accumulate in homes, increasing the risk of lung cancer. Children are potentially more vulnerable to the health effects of radon exposure than adults due to their smaller lung size, faster breathing rates, and potentially more sensitive developing organs.[16] The U.S. Environmental Protection Agency (EPA) recommends testing all homes for radon and mitigating levels above 4 picocuries per liter (pCi/L).[17]

Implementing programs that offer free or low-cost testing and facilitating the installation of mitigation systems are effective strategies to reduce radon exposure in affected homes. These measures are essential to protect vulnerable populations, particularly children, from the harmful effects of radon.[16]

Because decisions made on policies about schools, chemicals, land use, community, and transportation design can have a tremendous impact on children's health, local health departments can enable all children to grow up in safe and healthful environments through the support of local leadership and partnerships with federal, state, and tribal agencies.

References

1. Department of Health and Human Services. (n.d.). *Tobacco Use - Healthy People 2030 | odphp.health.gov*. Retrieved March 8, 2025, from https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/tobacco-use
2. National Association of County and City Health Officials. (2015). Health Impact Assessment [policy statement]. Adopted by the NACCHO Board of Directors, January 2006.
3. National Association of County and City Health Officials. (2024). Childhood Lead Exposure [policy statement]. Adopted by the NACCHO Board of Directors, March 2000.
4. Rudolph, L., Caplan, J., Mitchell, C., Ben-Moshe, K., and Lianne Dillon. (2013, September). Health in All

Policies: Improving Health Through Intersectoral Collaboration. Retrieved April 30, 2018, from https://www.phi.org/uploads/application/files/q79jnmxq5krx9qiu5j6gzdnl6g9s41l65co2ir1kz0lvmx67to.pdf
5. Mott, L. Fore, D. Curtis, J., & Solomon, G. (1997). *Our Children at Risk: The 5 Worst Environmental Threats to Their Health*. New York, NY: Natural Resources Defense Council.
6. Environmental Protection Agency. (2017). Introduction to Integrated Pest Management. Retrieved April 30, 2018, from https://www.epa.gov/managing-pests-schools/introduction-integrated-pest-management
7. Children's Environmental Health Network. (2024, August 20). *Climate Change - Children's Environmental Health Network*. Children's Environmental Health Network. https://cehn.org/climate-change/
8. Kim D, Volk H, Girirajan S, Pendergrass S, Hall MA, Verma SS, Schmidt RJ, Hansen RL, Ghosh D, Ludena-Rodriguez Y, Kim K, Ritchie MD, Hertz-Picciotto I, Selleck SB. The joint effect of air pollution exposure and copy number variation on risk for autism. Autism Res. 2017 Sep;10(9):1470-1480. doi: 10.1002/aur.1799. Epub 2017 Apr 27. PMID: 28448694; PMCID: PMC6364847.
9. Brown AS, Cheslack-Postava K, Rantakokko P, Kiviranta H, Hinkka-Yli-Salomäki S, McKeague IW, Surcel HM, Sourander A. Association of Maternal Insecticide Levels With Autism in Offspring From a National Birth Cohort. Am J Psychiatry. 2018 Nov 1;175(11):1094-1101. doi: 10.1176/appi.ajp.2018.17101129. Epub 2018 Aug 16. PMID: 30111184; PMCID: PMC6377859.
10. Block CL, Eroglu O, Mague SD, Smith CJ, Ceasrine AM, Sriworarat C, Blount C, Beben KA, Malacon KE, Ndubuizu N, Talbot A, Gallagher NM, Chan Jo Y, Nyangacha T, Carlson DE, Dzirasa K, Eroglu C, Bilbo SD. Prenatal environmental stressors impair postnatal microglia function and adult behavior in males. Cell Rep. 2022 Aug 2;40(5):111161. doi: 10.1016/j.celrep.2022.111161. PMID: 35926455; PMCID: PMC9438555
11. Environmental Protection Agency. (2013). *America's Children and the Environment, Third Edition*. Washington, DC: United States Environmental Protection Agency. https://www.epa.gov/americaschildrenenvironment/multimedia-resources-and-publications
12. Centers for Disease Control and Prevention (2024) *Outdoor play and safety for children in ECE*. Early Care and Education Portal. https://www.cdc.gov/early-care/communication-resources/outdoor-play-and-safety-for-children-in-ece.html
13. Bole, A., Bernstein, A., White, M. J., Bole, A., Balk, S. J., Byron, L. G., Huerta-Montañez, G. M., Landrigan, P. J., Marcus, S. M., Nerlinger, A. L., Patel, L. H., Philipsborn, R., Woolf, A. D., Zajac, L., Gray, K. A., Briskin, J., DeNicola, N. G., Karwowski, M., Ward, M. H., . . . Onyema-Melton, N. (2023). The built environment and pediatric health. *PEDIATRICS*, *153*(1). https://doi.org/10.1542/peds.2023-064772
14. Centers for Disease Control and Prevention. (2013). Lead webpage. Retrieved March 8, 2025, from http://www.cdc.gov/nceh/lead/
15. World Health Organization. (2012). *Mercury and Health* [factsheet]. Retrieved February 21, 2019, from http://www.who.int/mediacentre/factsheets/fs361/en/
16. Center for Disease Control and Prevention (2024) *Radon and your health*. Radon.Retrieved March 8, 2025, from https://www.cdc.gov/radon/about/index.html#:~:text=There%20is%20not%20enough%20data,sizes%20and%20faster%20breathing%20rates
17. *US EPA* (2024) *What are the health effects from exposure to radon?*. Retrieved March 8, 2025 from https://www.epa.gov/radon/what-are-health-effects-exposure-radon#:~:text=There%20are%20no%20immediate%20symptoms,and%20your%20family%20from%20radon
18. Lustig, S. (2022, January 11). Asthma affects thousands of Oakland kids. These residents are working to prevent it. *The Oaklandside*. https://oaklandside.org/2022/01/10/childhood-asthma-prevention-oakland-alameda-county-la-clinica-de-la-raza/#:~:text=A%202021%20study%20of%20air,exposure%20to%20traffic%2Drelated%20air
19. Bloomberg Center for Cities Harvard University (2023) *Protecting Children's Health: Near-Roadway Pollution and Playground Planning.* Retrieved March 8, 2025 from https://datasmart.hks.harvard.edu/protecting-childrens-health-near-roadway-pollution-and-playground-planning
20. Clemens T, Moreland B, Mack KA, Thomas K, Bergen G, Lee R. *Vital Signs*: Drowning Death Rates, Self-

Reported Swimming Skill, Swimming Lesson Participation, and Recreational Water Exposure — United States, 2019–2023. MMWR Morb Mortal Wkly Rep 2024;73:467–473.
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Record of Action

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