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Emerging Contaminants, Forever Chemicals, and More: Challenges to Water Quality, Public Health, and Communities

Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment

Thank you for the opportunity to provide testimony here today. My name is Dr. Katie Huffling and I'm the Executive Director of the Alliance of Nurses for Healthy Environments. I am also a nurse-midwife. The Alliance is the only national nursing organization focusing solely on the intersection of health and the environment. My work in environmental health began early in my midwifery career when I recognized what an important component the environment is to having a healthy pregnancy and healthy babies. I now work with nurses and nursing organizations around the country and globally to address the health impacts caused by environmental exposures.

Thank you for holding this hearing to learn more about emerging contaminants in water and their potential for health impacts, especially in those who are most vulnerable - such as infants and children. A core part of nursing practice is working to prevent disease. We work every day to help our patients stay healthy. We would be happy to see you just once a year for your annual wellness visit, rather than a sick visit for your child. Unfortunately, we now know that exposures to environmental toxins are implicated as one of the sources of rising rates of health issues in children such as asthma, leukemia, neurodevelopmental impacts such as autism and ADHD, diabetes, and obesity.¹ Environmental exposures make it much more difficult for nurses and other health care professionals to do our jobs.

So why are environmental exposures such an issue in children's health? Children are not just little adults. They eat more, breathe in more air, and drink more per body weight than adults. They ingest more toxins pound for pound and due to their hand to mouth activities and time spent on the floor are at increased risk of exposures. And their bodies are still developing so they process environmental contaminants differently than adults and may experience more significant health impacts.

Besides the pain and suffering experienced by children and families facing health impacts from environmental exposures, there are also significant financial impacts. In the United States, we spend approximately \$76.6 billion every year on environmentally related diseases in children.² The average cost for one child with cancer, including healthcare costs and parental days lost from work, is \$833,000.³ Just the loss of one IQ point decreases that child's lifetime earning potential by \$11,000 - \$15,000.² This amount quickly adds up as IQ points are lost and could

mean the difference between poverty and middle class for these children over a lifetime. By addressing environmental causes of disease, we have an immense opportunity to improve the lives of children and families across the United States and significantly reduce healthcare and societal costs.

As we are seeing with PFAS water contamination, and have seen historically with many other chemical exposures linked to human health impacts, we have a failure of regulatory oversight. Chemicals need to be proven safe before being put on the market. When chemicals are pulled from the market only after harm has occurred, our children and families are unwittingly being used as human experiments. Also, the way safety testing is currently performed on chemicals does not mirror the way we are all exposed to chemicals in everyday life. Chemicals are tested individually, however none of us are exposed to a single chemical in our daily life. Research is greatly needed into the area of these cumulative exposures for regulatory agencies to make appropriate decisions related to the health impacts of chemical exposures.

PFAS exposure from water sources is very concerning for the health of infants and children. PFAS can pass through the placental barrier and has been found in cord blood, indicating fetal exposure during pregnancy. It is also passed through breastmilk and if an infant is formula fed, they would be getting exposed to PFAS every time they were fed if the drinking water source was contaminated. An area of great concern to the nurses I work with is the link between PFAS exposure and decreased vaccine effectiveness.⁴

I was recently part of a meeting of the National Academy of Sciences committee investigating guidance on pfas testing and health outcomes. Over the course of the meeting, it became clear that communities are frightened. Their health providers don't know how to assess for exposures and don't know what to do if an exposure is found. They are frustrated that exposures from water supplies are taking so long to be assessed and addressed. And many communities, especially small communities, lower income communities, and some communities of colors, are struggling to pay for filtration systems that will remove PFAS from their water supplies. They are wondering why they are being forced to pay for a problem they did not cause.

Clean water is essential to health. The Alliance strongly supports efforts that will decrease environmental exposures through our drinking water system and encourages this committee to move swiftly to address these growing areas of concern.

¹ NIEHS/EPA Children's Environmental Health and Disease Prevention Centers. (2017). *Protecting children's health where they live, learn, and play*. https://www.epa.gov/sites/production/files/2017-10/documents/niehs_epa_childrens_centers_impact_report_2017_0.pdf.

² Science and Environment Health Network. (2010). *The price of pollution: Cost estimates of environment-related childhood disease in Michigan*. http://www.ecocenter.org/sites/default/files/the_price_of_pollution.pdf.

³ US Environmental Protection Agency. (2015). *Benefit and cost analysis for the effluent limitations guidelines and standards for the steam electric power generating point source category*. https://www.epa.gov/sites/production/files/2015-10/documents/steam-electric_benefit-cost-analysis_09-29-2015.pdf.

⁴ Mid-Atlantic Center for Children's Health and the Environment. *Factsheet on perfluoroalkyl substances (PFAS) for health professionals*. <https://www1.villanova.edu/university/nursing/macche.html>.