

# Environmental Health in the School Setting – The Role of the School Nurse



## Position Statement

### SUMMARY

It is the position of the National Association of School Nurses (NASN) that the registered professional school nurse (hereinafter referred to as school nurse) is an important member of the team that mitigates the effects of environmental health hazards in the school setting. The school nurse utilizes the nursing process and key principles from the NASN'S *Framework for 21<sup>st</sup> Century School Nursing™* including assessment, prevention, advocacy, collaboration, and education (NASN, 2016, 2017).

Environmental health is a segment of public health, and according to the World Health Organization (WHO) environmental health,

“addresses all the physical, chemical and biological factors external to a person and all the related factors impacting behaviors. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behavior not related to environment as well as behavior related to the social and cultural environment and genetics” (WHO, 2018, para. 1).

### BACKGROUND

Environmental risks such as air pollution, unsafe water, poor sanitation, and chemical pollutants account for a large fraction of the global burden of disease worldwide; 23% of all deaths and 26% of deaths in children under age five are due to preventable environmental factors (WHO, 2017). In the school setting, environmental health is affected by the complex interactions of factors inherent in the school's location, construction, maintenance, school activities and environmental pollutants (Filardo & Vincent, 2017). “The vast underinvestment in maintenance, repair, toxic substances removal and upgrades of our preK-12 infrastructures exacerbates these negative conditions” (Filardo & Vincent, 2017, p. 6).

The U.S. Environmental Protection Agency (EPA) estimates that 46% of schools in the US have environmental conditions that lead to poor indoor air quality. Children, with their developing bodies, have sensitivities and vulnerabilities to such conditions. Children spend 90% of their time indoors and much of that time is spent in school. Unhealthy school environments due to poor circulation, dust, or contaminants, can affect children's health, attendance, concentration, and performance, as well as lead to expensive, time-consuming cleanup and remediation activities (EPA, 2017). In addition, “Exposures to mold, poor ventilation, uncomfortable temperatures, inadequate lighting, overcrowding, and excessive noise can harm students' health and contribute to absenteeism” (Filardo & Vincent, 2017, p.6). Currently, there are no specific agencies that monitor health hazards found in school environments. Consequently, these hazards can go undetected or ignored with little or no accountability (Filardo & Vincent, 2017).

All children are affected to some degree by environmental contaminants (Children's Environmental Health Network [CEHN], n.d.). Contaminants are harmful chemicals that can be transported through air, water, soil, and food; however, children living in poverty and children in racial or ethnic communities are at disproportionate risk for exposure (CEHN, n.d.). Children with disabilities can “experience higher exposures to multiple environmental contaminants where they live, learn, and play and might be placed at a disproportionate risk for associated health effects” (EPA, 2018, para 2).

A child's developing organ system is highly susceptible to environmental stressors and is at a higher risk of exposure to toxic environmental substances. Children breathe more air and drink more water than adults, are physically closer to -- and spend more time on -- the ground and engage in more hand-to-mouth contact than adults (U.S. Department of Health and Human Services [USDHHS], Centers for Disease Control and Prevention [CDC], 2017a; EPA, 2018)." Children are especially vulnerable to the harm of the many "legacy toxics" such as lead, asbestos, PCBs, and others found in schools built before the 1970s" (Filardo & Vincent, 2017, p. 6).

## **RATIONALE**

Approximately 56 million children and teachers spend about seven hours in a school daily (Filardo & Vincent, 2017). It is imperative that school nurses recognize and address the factors that impact health in the school environment and work to mitigate the potential adverse health effects. School nurses are advised to augment their knowledge of environmental health issues as they relate to the school setting and to develop a consciousness about a healthy school environment (American Nurses Association [ANA] & NASN, 2017). Unhealthy school environments can affect children's health, attendance, concentration, and performance as well as lead to expensive, time-consuming cleanup and remediation activities. Schools in better physical condition report improved academic performance while schools with fewer janitorial personnel and higher maintenance backlogs report poorer academic performance (EPA, 2018).

Healthy People 2020 describes six themes related to environmental health. These include goals and objectives in the areas of outdoor air quality, surface and ground water quality, toxic substances and hazardous wastes, homes and communities, infrastructure and surveillance, and global environmental health (USDHHS, 2018). In the proposed Healthy People 2030 plan of action, one of the foundational principles is that "healthy physical, social, and economic environments strengthen the potential to achieve health and well-being" (USDHHS, 2018, para. 9). This plan of action demonstrates an ongoing commitment on a federal level to promote a healthy environment to optimize health in the population. School nurses can utilize the Healthy People goals to implement or improve related programs, policies and procedures to remove health hazards in the school setting.

School nurses have public health training and expertise which prepare them to collaborate with the administrative team, students and their families, public health officials, and other private or government entities to address issues that affect environmental health. School nurses assist in decreasing environmental disease burden by assessing the school environment and educating school communities about the environmental factors that contribute to disease, injuries, and death. School nurses can also use media and technology to reach communities and families in need of environmental health messages and education. In addition, utilizing tools made available from the USDHHS and the CDC, school nurses can participate in community assessments, data collection and research (EPA, 2014; USDHHS & CDC, 2017b) that contribute to our understanding of environmental health and its impact on the health of individual students. Proctor (2013) challenges school nurses to assist with some of the bigger issues such as lead exposure, and air and water pollution that impacts overall health in the community at-large.

To impact the environmental health of their school, school nurses should

- assess the learning environment for risk factors, which can be defined as the physical, chemical, and biological factors external to a person and all related factors impacting behaviors.
- educate the community on the impact of exposure to environmental risk factors.
- advocate for the need to address environmental issues that affect health and learning.
- collaborate with community, private, and public entities to problem-solve.
- assess community needs and utilize available tools to help quantify and mitigate the burden of disease caused by an unhealthy environment (ANA, 2007).

## **CONCLUSION**

By advocating for a healthy school environment, the school nurse will provide children with a greater chance to improve academic performance and student achievement. The school nurse is ideally placed to safeguard environmental health in school settings and assess the learning environment for risk factors, educate the

community on the impact of environmental exposure, advocate for the need to address environmental issues that affect health and learning, collaborate with community, private, and public entities to problem-solve, assess the community needs, and utilize available tools to help quantify and mitigate the burden of disease caused by an unhealthy environment (ANA, 2007).

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