PRESIDENT'S MESSAGE

The Role and Value of Environmental Public Health Professionals

Larry A. Ramdin, MPH, MA, REHS/RS, CP-FS, HHS, CHO

Environmental public health professionals are often asked a deceptively simple question: "What do you do?" The answer is not always straightforward. Unlike clinical practitioners who diagnose and treat illnesses, environmental public health professionals work primarily in the realm of prevention—a domain where success is measured not by the number of patients treated but by the number of illnesses that never occur. Because prevention is inherently less visible and more difficult to quantify, the value of environmental public health is frequently overlooked or misunderstood.

Defining Environmental Public Health

The National Environmental Health Association (NEHA, 2026) defines environmental health as:

> The science and practice of preventing human injury and illness and promoting well-being by identifying and evaluating environmental sources and hazardous agents, and limiting exposures to hazardous physical, chemical, and biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health.

This definition underscores the broad scope of the environmental public health practice. NEHA's recent guide on environmental public health programs (Bare et al., 2025) identifies 11 core program areas, including:

1. Food safety and protection
2. Swimming pools and recreational water safety
3. Onsite wastewater
4. School safety and inspection
5. Early childcare and daycare
6. Zoonoses and vector control
7. Emergency preparedness
8. Potable water
9. Lead prevention
10. Body art
11. Non-school institutions and licensed establishments

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These programs influence health in the places where people live, learn, work, and play. While many environmental public health professionals work in governmental agencies, others contribute through academia, private industry, consulting, and research. Across all settings, the mission remains consistent: To prevent illness by controlling environmental factors that contribute to disease.

Food Safety: A Central Component of Prevention

Food safety illustrates the complexity and importance of environmental public health work. The Centers for Disease Control and Prevention identifies seven major foodborne pathogens—*Campylobacter* spp., *Clostridium perfringens*, *Listeria monocytogenes*, norovirus, non-typhoidal *Salmonella*, and Shiga toxin–producing *E. coli*—as leading causes of foodborne illness in the U.S. (Scallan Walter et al., 2025).

Beyond these pathogens, environmental public health professionals address:

- Chemical and physical contamination
- Cross-contamination risks
- Food storage and labeling practices
- Allergen control (an increasingly critical area of food safety)

This work prevents countless illnesses each year, even though the impact is rarely visible to the public.

Drinking Water and Recreational Water Safety

Environmental public health professionals also safeguard drinking water quality by evaluating biological contaminants, treatment processes, distribution systems, and risks associated with both municipal and private water supplies.

Recreational waters present additional challenges, including pathogens such as *Cryptosporidium*, *Cyclospora*, and *Vibrio*. Emerging contaminants like per- and polyfluoroalkyl substances (PFAS) have become major concerns in drinking water systems. *Legionella* is another significant threat. For example, water conservation devices such as faucet aerators can inadvertently increase risk. When homes sit unused for extended periods—such as during family vacations—stagnant water can promote *Legionella*

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growth, and aeration devices can aerosolize the bacteria when water use resumes (U.S. Environmental Protection Agency, 2025).

The Challenge of Measuring Prevention

Despite the breadth of environmental public health responsibilities, quantifying the value of prevention remains difficult. A colleague once asked how we can demonstrate our impact when our metrics often focus on the number of outbreaks investigated. I suggested reframing the question.

Imagine a community where 1.5 million meals are served annually. Suppose 15 foodborne illness complaints are reported. Recognizing that foodborne illnesses are significantly underreported, let us assume the true number is closer to 1,500. Even with the higher estimate, we get: 1,500,000 meals served – 1,500 illnesses = 1,498,500 meals that did not result in illness.

Which number better reflects the value of environmental public health work—the 15 cases investigated or the 1,498,500 illnesses prevented? The challenge lies not in the impact itself but in obtaining the data necessary to demonstrate it.

Beyond Regulation: Educators and Community Resources

Environmental public health is often associated with regulatory enforcement, but the profession offers far more. Environmental public health professionals serve as educators, advisors, and trusted community resources. For example, many residents are unaware of the risks associated with stagnant water in home plumbing or the unintended consequences of water conservation devices. Our role is not to discourage the use of these tools but to educate communities on how to use them safely.

By guiding and informing the public, environmental public health professionals create value that extends beyond compliance. Prevention might be difficult to quantify, but its impact is profound.

lramdin@neha.org

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