Staying Great in the 21st Century

We should welcome opportunities to demonstrate the ongoing value of environmental health in the 21st century.

I frequently teach health and public administration courses as an adjunct professor at a couple local universities. As a conversation starter during one of my lectures, I ask my students, “What do you think was the greatest achievement of the 20th century?” As you can imagine, they have suggested countless accomplishments ranging from the obvious (space exploration, flight, skyscrapers, television, and the Internet) to the less obvious (cartoons, microwave ovens, rock music, and video games). I had a student once tell the class that 30-minute pizza delivery was the greatest accomplishment. To my great surprise, the student supported this claim by arguing that it is the crowning glory of so many other innovations such as modern agriculture, telecommunications, transportation systems, GPS navigation, utility systems, and more. While there is, of course, no right or wrong answer to this question, I usually conclude the conversation with my students by sharing my opinion—separating people from their sewage was one of the greatest accomplishments of the last century.

The evolution of the environmental health profession has been greatly influenced by our nation’s recognition that drinking water and food contaminated by microorganisms are bad things. This recognition would not have been possible without one of the greatest accomplishments of the 19th century: the germ theory of disease transmission. The average life expectancy at birth in 1900 was a mere 48 years. Of course, very few 48-year old Americans were dying at that time relative to other age segments of the population. Infant and maternal mortality rates were many times greater than they are now and gastrointestinal illnesses ranked high among the top 10 causes of mortality at that time. Other acute causes of death related to environmental health, such as occupational accidents, also ranked high. The epidemiology of those times motivated legislation and funding that would significantly boost the development of our profession.

By the end of the 20th century, the average American lifespan had gained approximately 30 years. Most articles on this topic attribute the majority of those years of gained life to public health interventions. Separating people from their sewage saved and lengthened many more lives than moon landings, pizza deliveries, and most everything else combined.

This history is something we should consider as we plot a path forward. The development of legislation and funding required at least two things. First, it needed epidemiological data to demonstrate that a problem existed. Second, it required the science of germ theory, as described by Koch and others, to demonstrate causation. The recognition of causation eventually empowered the development of appropriate interventions. Once the problems and solutions were understood, nothing stood in the way of progress, right? Wrong. There was at least one other critical ingredient essential for separating people from their sewage: public will. Our health educator colleagues might suggest that this situation is all very similar to the health belief model of behavior. In sum, humans need to see that a problem is serious, that they are susceptible to it, and that they have the means to reduce its risk before they act differently.

The National Environmental Health Association respects and celebrates all the tremendous work that has been accomplished over the decades to keep people separated from their sewage. Millions of Americans have experienced longer, healthier lives thanks to you and your predecessors, and most will never know what was done on their behalf. This association also recognizes that maintaining a healthy separation between people and their sewage is always going to be a priority for our profession. To that end, I assure you that our training materials and products related to this issue will continue to improve. I also think it’s important that we watch the epidemiology and developing theories regarding illness causation to identify new opportunities to serve our communities. As I am sure you know, cancer is one of the leading causes of death in the 21st century.
As I write this column, I am serving as the public health incident commander in response to developing knowledge of per- and polyfluoroalkyl substances contamination of groundwater in a rural/suburban township. Cancer is one of the health conditions associated with exposure to this family of chemicals. This contamination appears to have been caused in the 1950s, 1960s, and 1970s by the practice of dumping waste, including industrial waste, in unlined and largely unregulated landfills. Our local health department’s response to this situation came shortly after unrelated emergency public health responses to problems with chemical vapors intruding into residential and commercial buildings. Those chemical vapors are part of the environmental legacy resulting from a long gone dry cleaning operation.

What is evident during these responses is that environmental health professionals are being expected to have answers and solutions to an expanding array of issues. It is also clear to me that many communities are recognizing the severity of these problems, they are feeling susceptible, and they are looking for solutions.

While we do not welcome these problems, we should welcome these opportunities to demonstrate the ongoing value of environmental health in the 21st century. By doing so, we can create the public will necessary to support future interventions. I encourage all of you to become familiar with these issues.

Let’s begin a larger dialogue about the role of environmental health as it relates to cancer (and other illnesses and injuries) and exposure to persistent chemical waste products in the environment. Wouldn’t it be great if reducing the incidence of illness by separating people from harmful industrial waste could be listed as one of the greatest accomplishments of this century? If that is going to happen, I am confident that you are going to be part of that success story.

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