A Career as an Environmental Health Specialist/Sanitarian

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My road to becoming an Environmental Health Specialist/Sanitarian began with a backed-up sewer line. I called the local sanitarian to complain about on-going sewer problems and in the course of the conversation discovered a career path I hadn't considered previously. Environmental Health is a natural choice of career for someone with a baccalaureate degree in microbiology. Educational requirements include a baccalaureate degree in environmental health or the equivalent, with course work in chemistry, microbiology, and biology. Professional licensing is then required, which entails filling out an application, review of the application by a board of sanitarians, and taking a state or nationally sanctioned examination. Since the 1850s, when Dr. John Snow first determined that a cholera outbreak was associated with a contaminated water well in London, the importance of environmental factors in maintaining human health has been understood. "The environmental health practitioner is an applied scientist and educator who uses the knowledge and skills of the natural, behavioral, and environmental sciences to prevent disease and to promote human well-being." (1)

As I began investigating the requirements to become a sanitarian and studying to take the examination, the diverse range of topics covered fascinated me. An environmental health specialist deals with a wide range of environmental concerns including: food protection; on-site wastewater disposal systems; hazardous materials; emerging diseases; potable water; solid wastes; vectors and pests control; air quality; noise; day care centers, nursing homes, and other institutions and licensed establishments; occupational safety and health; housing sanitation and safety; swimming pools; and disaster preparedness. Sanitarians typically work for governmental agencies. Even if employed in private industry, their work requires regular interaction with governmental agencies and regulations.

Typically a sanitarian conducts legally mandated inspections of licensed establishments to ensure compliance with health codes. The purpose of these inspections is to identify potential sources of disease before the public's health is compromised. In licensed kitchens, the focus is on safe food-handling practices. In public accommodations, the focus is on the safety and cleanliness of the facility. The issuance of permits and inspections of on-site wastewater disposal systems serves to protect ground water resources and check the spread of water-borne disease. Sanitarians also serve the public through the dissemination of information relating to health issues, such as radon in homes or emerging diseases. People will call the health department with concerns and complaints about situations they feel threaten their health or safety. For example, a call may come in about how to get rid of bed bugs, or a concerned citizen may call about debris in a stream.

Students should prepare carefully for such wide-ranging responsibilities. Some of the most helpful courses I took were Soils, Principles of Environmental Engineering, Chemistry, Entomology, Bacteriology, Human Anatomy, and Senior Seminar. Knowing how to evaluate and classify soils is vital in understanding on-site wastewater systems. One of the most important ways sanitarians protect public health is by evaluating sites for septic systems. The soil conditions of a site determine the type of on-site treatment system required, the size and configuration of the drain field, and the siting of any wells on the property in relation to the wastewater system. The Principles of Environmental Engineering class served as an introduction to common environmental health problems and some of the technical solutions devised to meet these challenges. The chemistry classes I took helped me to understand the chemistry of an

ecosystem and how an ecosystem might be impacted by changes in that chemistry. Entomology was useful because insects are significant disease vectors and learning about their physiology and habitats helped me understand the conditions that contribute to public health problems caused by insects. Bacteriology was an introduction to human diseases, the conditions that contribute to the spread of those diseases, the identification of disease-causing agents, and antibiotics. This class also introduced me to many medical terms that I run across in my reading of professional literature. Human Anatomy and Physiology gave me a deeper understanding of how the human body works and how chemicals and disease can interfere with our health and well being. Senior seminar helped me improve my ability to research a topic and present findings to a group. These are important skills because interacting with other people, either professionals or the public, is a very important aspect of our work. Sanitarians are called on to communicate with people individually or in groups on a daily basis.

The National Environmental Health Association (NEHA) (http://www.neha.org) administers the national exam that sanitarians must take. The examination consists of 300 questions that cover all of the general topics of environmental health. NEHA has published a study guide that gives good examples of the types of questions on the exam. NEHA also publishes the *Journal of Environmental Health* and serves as a clearinghouse for professional information and education. An important book to study for the examination is *Environmental Engineering and Sanitation* (2). This book is the "bible" of sanitarians and is a valuable professional reference book.

One of the greatest accomplishments of our society is the availability of clean water and sanitary sewage disposal. This is not the case in much of the world today where water-borne diseases and parasites claim millions of lives and cause untold suffering. Through enforcement and education, a sanitarian works on the "frontline" to defend public health, by preventing public health problems before they develop. The health inspector is not always a welcomed sight, but it is this proactive stance that protects our high standard of living today and for future generations.

References

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2. **Salvato, J.** 1992. Environmental engineering and sanitation, 4th ed. Wiley, New York, N.Y.