

Virtual Mentor

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POLICY FORUM

Caring for the Health of the Community Means Caring for the Health of the Environment

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In fulfilling the obligation to care for their communities, hospitals and other health care facilities can have a negative impact on the environment. Over the past decade, the health care industry has come under the environmental microscope, and the daily work of treating patients has been discovered to be highly wasteful of natural and financial resources. In 1998, the U.S. Environmental Protection Agency (EPA), in partnership with the American Hospital Association and Health Care Without Harm, formed Hospitals for a Healthy Environment (H2E), to address some of the following major environmental concerns related to the health care sector.

- Medical-waste incinerators were the fourth largest source of mercury, a well-known persistent bioaccumulative and toxic substance. The National Academy of Sciences reported that, each year, 60,000 children may be born in the United States with neurological problems due to their mothers' having eaten mercury-contaminated fish.
- The health care industry generated more than 2.4 million tons of waste per year, often incinerated or deposited in landfills.
- The health care industry was an excessive user of toxic cleaners, pesticides, and sterilants that can affect both patient health and safety.
- Medical-waste incinerators were a source of dioxins and other hazardous chemicals.

Recognizing these environmental health concerns, hospitals across the country voluntarily established green teams, joined national voluntary organizations such as H2E, developed environmental policies to guide their purchasing practices, and set waste-reduction and toxic-elimination goals. Top management supports these policies, but physicians, surgical teams, nurses, and support staff make them work, exploring new ways to practice health care while minimizing its impact on the environment and ultimately the health of the community.

What are the environmental compliance obligations? Hospitals, like any business that produces waste as a part of its everyday work, are subject to a range of environmental regulations. These regulations may include:

- The Solid Waste Disposal Act and Resource Conservation and Recovery Act, which regulate the disposal of solid waste and hazardous waste.
- The Clean Air Act, which governs operation of onsite medical waste incinerators, as well as the venting of toxic chemicals such as ethylene oxide (a sterilant) into the atmosphere.

- The Clean Water Act, which covers discharge of wastewater that may contain high concentrations of chemicals.

Some hospitals have been motivated toward environmental awareness through voluntary policies, others through environmental compliance orders that have resulted from inspections by their state or regional environmental enforcement authority, like the EPA.

An example of the health care industry's lack of awareness of its environmental regulatory obligation is documented by results of a hospital compliance-monitoring program published by the EPA's Regional Office for New York, New Jersey, and Puerto Rico in August 2006. According to the summary data, the program completed 49 inspections and took enforcement actions at 36 facilities, noting that hospitals in the program had corrected 3,223 violations [1]. In the Midwest EPA Regional Office for Iowa, Kansas, Missouri, and Kansas, hazardous waste inspector Dedriel Newsome reported in October 2008 that the EPA and the states in that region had conducted about 55 inspections of hospitals in the preceding 5 years and had completed at least 35 enforcement compliance actions during that time [2]. Those inspections resulted in at least 35 formal compliance orders.

Both EPA regions reported that the most common violations at hospitals were related to hazardous waste; in the New York, New Jersey, and Puerto Rico region, 70 percent of the violations were hazardous-waste related. Failure to identify hazardous waste and improper hazardous waste-container management accounted for 56 percent of the Resource Conservation and Recovery Act violations cited in the 2006 program. These hazardous wastes typically involve spent solvents used in clinical and research labs; unused chemicals, drugs, and alcohols; respiratory machine media in the surgery and emergency departments; and acutely hazardous chemotherapy agents and other pharmaceuticals.

To assist the health care sector to better understand its compliance obligations, the EPA funded an online resource, the Healthcare Environmental Resource Center, that provides pollution-prevention and compliance-assistance information [3].

As a result of these compliance needs and heightened awareness, most hospitals now require staff who work in the lab and surgery to be trained in environmental compliance management for their areas. The hospital environmental health and compliance officers normally lead this program and act as a resource for regulatory and waste-management policies and questions.

Beyond compliance—successful toxics and natural-resource management. Many hospitals have gone beyond compliance and set goals to reduce and manage their wastes and natural resources more efficiently. In fact, most have virtually eliminated use of mercury-containing devices in patient-care areas, and nearly 200 facilities have been recognized with a *Making Medicine Mercury-Free* award given out by the H2E program through 2006, and now by Practice Greenhealth. Practice Greenhealth

continues the work begun by the H2E program and has become the primary membership and networking organization for health care institutions committed to sustainable, eco-friendly practices. Members include hospitals, health care systems, businesses, and others engaged in the “greening” of health care to improve the health of patients, staff, and the environment [4].

Physicians as part of the solution. Hospitals do not participate in these programs solely to be good environmental stewards—they can often save money at the same time. One Minnesota surgeon’s green efforts have saved his facility \$2,000 and 80 pounds of waste annually [5]. Dr. Rafael Andrade saw that waste could be reduced and implemented a program that eliminated needless, redundant supplies from surgical picks, switched to reusable gowns, promoted prudent use of sterile saline solutions, and minimized surgical prep waste. Several hospitals in Kansas have documented 40 to 70 percent reductions in the volume of their red-bag wastes, simply by educating staff about the written policy that defines what should and should not go into the red bags [6].

Nationally, Veteran’s Administration Hospitals have adopted Green Environmental Management Systems (GEMS), a set of policies designed to prioritize, integrate, and address compliance and pollution-prevention opportunities at their facilities nationwide. It considers a balance between environment and economics and uses a 9-step approach to environmental management [7]. Many hospitals have followed with their own version of GEMS.

According to Energy Star for Healthcare, a national program that supports hospital energy conservation, health care organizations spend more than \$8.3 billion on energy each year to meet patient needs. Every dollar a nonprofit health care organization saves on energy is equivalent to \$20 in new revenues for hospitals or \$10 for medical offices. Just a 5 percent reduction in energy costs in for-profit hospitals, medical offices, and nursing homes can boost earnings a penny per share. One Wichita, Kansas, hospital has used Kansas State University engineering interns to benchmark and identify energy-conservation opportunities. In the summer of 2008, it documented more than 3 million kWh conserved with a related savings of \$350,000 [8]. The hospital recently detailed a plan to expand the program that may result in a savings of up to \$6 million—money that will be put back into patient care.

You see it every day, and if you look for it at your hospital, it’s there—excessive waste of our natural resources and raw materials. Our medical profession stands by an oath to “First do no harm.” Physicians must use available tools, ask about the hospital policies, and be part of the “green” solution for the financial and environmental health of each facility and community.

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