

FOSTERING ECOLOGICAL SUSTAINABILITY

| Sita Ananth, MHA, and Joel Kreisberg, DC, MA |

When you enter the hospital as a patient, the last thing on your mind is the potential environmental hazards you might be facing caused by the healthcare you are about to receive. After all, you want the best care and treatments possible. But although much attention is paid to the care you receive in the hospital, less attention is generally paid to the contaminants, chemicals, and other toxic substances you might be exposed to in the healthcare setting. One also rarely thinks about the pollution and environmental damage caused by the healthcare industry. U.S. hospitals generate about 4 billion pounds of waste a year¹—much of it in the form of unused medical supplies and equipment. Healthcare buildings are the second most energy-intensive commercial sector buildings; as hospitals use about twice as much total energy per square foot as traditional office space. For example, healthcare organizations spend nearly \$8.8 billion on energy each year to meet patient needs. Every dollar a nonprofit health care organization saves on energy has the equivalent impact on the operating margin by increasing revenues by \$20 for hospitals or \$10 for medical offices.²

We, at the Samuelli Institute, believe that healing has to occur within the larger landscape of the local environment and planetary health. Caring for our sick in high-tech hospital environments that add to our environmental burden is not logical. Ecological sustainability asks that we live today in a way that others can live as well tomorrow. Fostering ecological sustainability requires clinicians, staff, and administrators to consider the impact of their choices on local and global environments. An Optimal Healing Environment (OHE) supports practices that reduce energy use and chemical impact, while conserving resources and preventing pollution. Sustainable choices promote public and environmental health.

Research shows that a multitude of illnesses such as cancer, obesity, asthma, in-

fertility, and infectious diseases are closely linked to toxic chemicals, pollution, and climate change. Because Americans spend close to 90% of their time indoors, the impact of indoor air quality alone has caused hospitals to re-think building design. We are all suffering from increased exposures that are known to have negative impacts on our health. The research is considerable.

“First do no harm” has become the mantra of many in the healthcare industry, particularly hospitals that are stewarding excellent healthcare while trying not to harm their employees or the environment. These hospitals see the critical connection between bringing their patients back to health while supporting the health of the community and environment in which patients, clinicians, and hospital employees work and live. Being a good neighbor and steward of the community has health benefits!

A pioneer and leader in this field is Health Care Without Harm (HCWH), an international coalition of more than 800 hospitals and healthcare systems, medical professionals, community groups, health-affected constituencies, labor unions, environmental and environmental health organizations, and religious groups. HCWH has numerous programs; one important program is the recent collaboration with the World Health Organization in which they developed a working paper³ that describes the seven elements of a climate friendly hospital. These elements are not only good for the climate, but for the environment at large.

They recommend:

Energy efficiency Reduce hospital energy consumption and costs through efficiency and conservation measures such as turning down thermostats or using natural light as much as possible.

Green building design Build hospitals that are responsive to local climate conditions and optimized for reduced energy and resource demands such as using regional materials or recycled or toxic-free materials.

Alternative energy generation Produce and/or consume clean, renewable energy onsite to ensure reliable and resilient operation such as installing solar panels.

Transportation Use alternative fuels for hospital vehicle fleets; encourage walking and cycling to the facility; promote staff, patient, and community use of public transport.

Food Provide sustainably grown local food for staff and patients including using less meat in hospital menus.

Waste Reduce, reuse, recycle, compost; employ alternatives to waste incineration.

Water Conserve water; avoid bottled water when safe alternatives exist, and harvest rain water if practical.

Close to 1000 hospitals around the country have begun this journey and are seeing environmental stewardship and sustainable operation as a compelling imperative; feeling the obligation to be part of the solution. In fact, the American Hospital Association (AHA) president Rich Umbdenstock says one of the ways in which hospitals can help achieve their vision of a society of healthy communities where all individuals reach their highest potential for health is through actions that make hospital operations more sustainable—environmentally, financially, and operationally. The AHA offers an *Executive Primer on Hospital Environmental Sustainability*, a free online guide that describes opportunities for action in the areas of building and construction, chemicals, energy, materials management, water, and waste. It describes why each of these topic areas is important, and provides examples of steps hospitals can take toward more cost-effective, safe, efficient, and sustainable hospital operations.⁴

At Advocate Health Care, a 10-hospital system based in Illinois, environmental stewardship rose from the core values of the organization and their initiatives were driven by their mission to be good corpo-

rate citizens. Their program began in 2004, says Mary Larsen, environmental stewardship manager for Advocate Health Care, with the building of their gold leadership in energy and environmental design (LEED) certified building, the first in Illinois. Since then, they have established a green team with leaders representing every hospital and medical office building in the system. Advocate's initiatives cover a wide array of programs that cover almost all the seven elements listed previously. Larsen highlights a few that they are most proud of:

- Energy management for the entire system with a goal to reduce energy use by 20% by 2015. They are doing this through maintenance and operation efficiencies, heating, ventilation, and air conditioning (HVAC). In fact, one of their hospitals has achieved the EPA's coveted Energy Star rating for health-care buildings.
- All purchasing follows sustainability standards that take into account the entire lifecycle of the product from production to disposal.

A sign that the culture of stewardship is truly embedded in their organization, says Larsen, is the fact that over 9000 employees have participated in voluntary workshops on ecological sustainability run by the health system.

Washington Hospital Healthcare System in Fremont, California, has recognized the critical link between the health of the individual and the health of the environment. A Green Team was established in 2008, and is comprised of more than 20 employees that work in different parts of the hospital. "Washington Hospital's Green Team is really diverse and everyone comes from a different cross-section of departments," says Paul Kelley, Green Team Committee Chairperson and manager of the Hospital's Biomedical Engineering Department. "That's one of the keys to making our green initiative work because every single department and every member has a different perspective on a variety of issues." Washington Hospital's Green Team has implemented several

projects including a house-wide recycling program that includes recycling wood, cardboard, batteries, and electronic equipment, and composting food waste. By increasing environmental awareness and accountability, the hospital is setting a good example for the community to become more energized and excited about their recycling programs at home, says Kelly.

A key initiative is an effort to reduce the environmental impact of improper disposal of medication. Providing leadership in the community, Washington Hospital partnered with Union Sanitary Water District to offer a pharmaceutical take-back program for the public. The program is unique because it allows anyone—patients, staff, or just walk-in citizens of the community to drop off unused medications, not just the medications they use while in the hospital. In 2009, the hospital collected one ton of medications that otherwise would have gone into the sewer system or a landfill.⁵ The program provides a community service as well as vital educational information for the hospital and the surrounding community.

Kaiser Permanente's food program and farmer's market initiatives have created a national buzz. With its massive purchasing power and millions of members, Kaiser's commitment to providing healthful food and community service is upheld by providing locally farm fresh food as part of hospital service. Initiated in 2003 by a Kaiser physician, Preston Manning, Kaiser Permanente facilities throughout the United States began partnering with local farmers to bring fresh food directly to patients and staff. There are markets at over 30 hospitals in six states. Farmers markets offer the opportunity for Kaiser Permanente staff, patients, and the local community to learn about the benefits of fresh local food, good nutrition, as well as support local community businesses. Providing fresh food fits supports the preventative medicine emphasis at Kaiser.

Fostering ecological sustainability is the next step for our healthcare system to bring in alignment the successful health benefits of modern medicine with the growing needs of our communities and environments to support global health. By procuring healthier produce, becoming carbon neutral, and

demonstrating a commitment to local and regional environmental health, hospitals become leaders for advocating for a healthy and sustainable future.

Acknowledgments

This work is supported by the U.S. Army Medical Research and Materiel Command under Award No. W81XWH-10-1-0938. The views, opinions, and/or findings contained in this work are those of the author and should not be construed as an official Department of the Army position, policy, or decision unless so designated by other documentation.

REFERENCES

1. Kerwig, Kathy, Waste Management and Healthcare http://www.noharm.org/lib/downloads/waste/Waste_Mgmt_and_Healthcare.pdf. Accessed July 21, 2011.
2. http://www.energystar.gov/index.cfm?c=healthcare.bus_healthcare. Accessed June 7, 2011.
3. Healthy Hospitals—Healthy Planet—Healthy People Addressing climate change in health care settings. *A discussion draft paper published by the World Health Organization and Health Care Without Harm.*
4. <http://www.hospitalsustainability.org/>. Accessed June 9, 2011.
5. Washington Hospital "Green Team" Leads the Way to a Sustainable Future. Available at: <http://www.whhs.com/news?id=7280>. Accessed June 6, 2011.

Sita Ananth, MHA, is director of Knowledge Services for the Samuelli Institute. Before joining the Institute, she was program director of complementary and alternative medicine for Health Forum, where she was responsible for designing and developing the CAM initiatives for members of the American Hospital Association.

Joel Kreisberg, DC, MA, is the Founder and Executive Director of the Teleosis Institute, which educates health professionals about sustainability and environmental integrity. In addition to his work with Teleosis, Dr. Kreisberg is an adjunct professor in the Integral Theory Master's Program at John F. Kennedy University's Graduate School of Holistic Studies.