Being Environmentally Responsible

Group Purchasing Practices Can Help Hospitals Protect the Environment

BY JEAN LIVINGSTON, PhD

Dr. Livingston is director, organizational effectiveness, Consorta Catholic Resource Partners, Rolling Meadows, IL.

How large is your organization's ecological "footprint"? If it is part of the large and diverse U.S. health care enterprise that currently represents about 12 percent of the gross national product, chances are that its footprint makes a weighty contribution to the unprecedented changes occurring in the global environment.

Two of the more significant changes are mercury contamination and synthetic industrial chemical contamination of the world's ecosystems. Such contamination threatens the reproductive processes (ovarian follicles, egg yolk, amniotic fluid, and breast milk) of both human and nonhuman inhabitants of the Earth.

U.S. health care consumes, uses, and disposes of large quantities of diverse natural resources, pharmaceuticals, chemicals, and manufactured goods. By putting some basic environmental practices in place, U.S. hospitals could significantly reduce the impact of their ecological footprints. Hospitals can demonstrate environmental responsibility in three broad ways:

- Eliminating toxic products
- Reducing waste
- Choosing environmentally sound disposal technologies

Environmental impact is one area where group purchasing organizations (GPOs) are well-positioned to help health care organizations incorporate strategies for positive change.

Environmental Issues in Health Care

Advances in medical care have resulted in substantial decreases in morbidity and mortality in the United States. Ironically, however, many hospitals *add* to environmental pollution—and thus morbidity and mortality—as they dispose of highly toxic substances. These disposals actually contribute to public health problems.

Medical waste is believed to be a major source of dioxin contamination, for example. Dioxin is a byproduct of the disposal of synthetic chlorinated organic compounds. It is released into the environment through the incineration of chlorinated plastic products. The use of chlorinated plastic products—primarily polyvinyl chloride (PVC)—has grown rapidly in U.S. health care, especially for single use or short-term use applications. It accounts for most of the organically bound chlorine in medical waste. Virtually all of the chlorinated organic compounds that have been studied exhibit at least one serious toxic effect, such as endocrine dysfunction, developmental impairment, birth defects, reproductive dysfunction and infertility, immunosuppression, and cancer. According to the U.S. Environmental Protection Agency (EPA), more than 90 percent of human exposure to dioxins results from eating meat and dairy products from animals that have ingested plants on which dioxin deposits from the atmosphere have settled and from fish that ingest dioxin deposited into bodies of water.

Scientists have identified a number of specific changes in Americans' health status—including increasingly common antibiotic resistance; a sharply increasing incidence of chronic diseases such as asthma, hypertension, heart disease, and diabetes; a higher incidence of developmental disabilities in children; an increasing age-adjusted incidence of certain types of cancer; higher percentiles of birth defects and congenital heart disease; and declining sperm counts—some of which suggest a link to dioxin deposits in the nation's air and water.

The factors that determine dioxin formation during incineration are not yet fully understood. Scientists do know, however, that the best way to reduce the formation and release of dioxin is to

avoid the use of chlorine and its compounds in manufacturing in the first place. The next best way is to reduce the incineration by hospitals of chlorinated plastic products.

Relationships among health care providers, their environments, the technology they use, and other components of the health care enterprise (e.g., medical device manufacturers, pharmaceutical firms, insurance companies, government regulatory agencies, and public utilities) are complex and often difficult to navigate. For example, the medical manufacturing industry uses and disposes of an array of toxic substances, such as mercury, cadmium, solvents, dioxin precursors, cleansing agents, and pharmaceuticals. Patient care facilities produce wastewater that contains toxic industrial and pharmaceutical compounds, many of which do not break down in sewage treatment plants and get disposed of in landfills, on farmland (where it may be applied as sewage sludge), or in rivers and streams. According to the EPA, medical waste incinerators are the second leading quantified source of environmental dioxin emissions and are responsible for about 10 percent of the mercury emitted into the environment. Although not all of these environmental threats are unique to health care, scientists, public health experts, and physicians are beginning to document links between ecological changes and environmental contamination and malignancies, birth defects, reproductive problems, impaired behavior, and immune system dysfunction.

In addition to protecting the ecology, health care organizations need to protect their own patients and employees from potentially harmful substances. These substances include mercury, a toxin that can cause neurological damage; diethylhexylphthalate (DEHP), a softener for PVC plastics that is a suspected human carcinogen, reproductive toxicant and possible hormone disrupter; and other substances such as latex, which triggers serious allergies in up to 16 percent of health care professionals.

Solutions Begin with Purchasing

Purchasing is an effective area in which a hospital can begin improving its environmental impact. That's because the procurement of nearly every product and service that a hospital will need is centralized in local, corporate, or group purchasing functions. It is less costly to correct a problem if action is taken close to its source.

CONSORTA'S ENVIRONMENTAL GOALS

Consorta's shareholders have charged the organization's Environmentally Preferred Purchasing Program with several goals:

- *Proactively identifying potentially dangerous products* Consorta will sort out environmental issues as they arise; identify and find alternatives to dangerous products; and assess the quality and functionality of those products.
- *Contracting for environmentally preferred products when it is possible and sensible.* For example, Consorta's recent review of suppliers of IV administration sets included considerations of PVC content. Consorta ultimately awarded the contract to a supplier that produces administration sets that are free of PVC and DEHP. In this way, Consorta members have an assured source of these environmentally preferred products.
- *Providing disposal and waste management information when alternative products are not available.* Unfortunately, there are not always viable alternatives for essential supplies that pose a risk to the environment upon disposal. In such cases, Consorta provides information on disposal methods that have been proven to help protect the environment.
- *Integrating life cycle analysis.* Consorta is building the process of life cycle analysis, which estimates a product's environmental impact, into its contracting strategy. This process looks at raw material acquisition, manufacture, recycled content or over-packaging, energy and water efficiency ratings, distribution consideration, toxicity, use and disposal.
- *Providing in-depth information, education, and resources to Consorta members.* Consorta's members' website includes examples of successful programs, such as mercury-free hospital initiatives; executive briefings on environmental concerns; and links to comprehensive information on topics such as phasing out products that contain mercury and PVC without compromising quality. Education is essential to good environmental stewardship, and Consorta is developing a complete program for the continuing education of its members on new and emerging environmental concerns. Educational programs are presented to an audience of over 600 members during Consorta's Annual Resource Management Conference.
- *Participating in cooperatives and forging partnerships.* Consorta is a committed member of "H2E [Hospitals for a Healthy Environment] Champions for Change," a partnership of the American Hospital Association; the EPA; the American Nurses Association; and Health Care Without Harm (HCWH), a collaborative of more than 300 organizations working together to eliminate pollution from health care practices. The partnership sponsors workgroups and cooperative projects that provide members and affiliated health care facilities with ongoing promotional, technical and educational information.

—Jean Livingston, PhD

Experience shows that addressing environmental impact at *its* source, rather than paying for pollution abatement later on, results in lower overall costs.

Group Purchasing Strategies

Consorta Catholic Resource Partners, a group purchasing and resource management company sponsored by 13 Catholic health care systems, is one GPO that promotes and supports environmentally responsible purchasing practices. Consorta's shareholders realize that environmental compliance, pollution prevention, mercury reduction, and solid waste reduction make both good business and environmental sense. Environmental programs and services provided by Consorta include educational and networking forums for specific interest groups (such as pharmacy, materials management, laboratory, building services, and surgical services) and strategic initiatives to identify, evaluate, and implement best-demonstrated environmental practices.

Consorta, like its 13 shareholder organizations, is guided by the *Ethical and Religious Directives for Catholic Health Care Services,* always mindful that "the Catholic health care ministry seeks to contribute to the common good. The common good is realized when economic, political, and social conditions ensure protection for the fundamental rights of all individuals" (Part 1, Introduction, pp. 8-9). Besides contributing to the common good, environmentally responsible purchasing can help hospitals:

- Significantly improve their impact on the overall quality of the environment
- Reduce costs due to overhead, waste disposal, liability, or occupational health problems
- Provide a healthier environment for patients and employees through reduced exposure to cleaners, solvents, paints, and other hazardous materials
- Leverage positive publicity and promotion potential

GPOs are accountable to their members for acquiring the equipment and supplies they need to deliver high-quality, safe health care. This requires them to work closely with manufacturers to identify and (if necessary) develop products and services that minimize damage to the environment. GPOs can pool member hospitals' experiences with products and provide cogent feedback to manufacturers. They can hold manufacturers responsible for meeting product performance expectations, including potential effects on the environment and on patients' health and safety.

GPOs can implement an environmentally responsible purchasing strategy through several means.

Identifying Potential Dangers By working closely with suppliers, GPOs can identify both products with potentially dangerous content, on one hand, and environmentally preferable products and good waste minimization practices, on the other. For Consorta, this process begins the first time a "request-for" proposal is sent to a supplier; the GPO's standard request-for proposal asks suppliers to clearly identify any products containing potentially harmful substances.

Consorta is currently developing a comprehen-

CHI ENDORSES ENVIRONMENTAL STEWARDSHIP

Catholic Health Initiatives (CHI), Denver, one of Consorta's 12 shareholder organizations, sees partnerships with suppliers and purchasers as essential to its stewardship of the environment. "We've worked with Consorta to make sure that suppliers put provisions into their contracts that specify how they will pursue environmentally responsible practices," said Colleen Scanlon, RN, JD, CHI's senior vice president of advocacy.

Scanlon also helped Consorta develop language on environmental responsibility for its Corporate Accountability Principles and Guidelines. CHI's own standards of conduct include a commitment to environmentally responsible health care. "It is part of our mission to create healthy communities in the 68 urban and rural communities we serve," said Scanlon. "Our core value of reverence includes reverence for the environment, so working with a group purchasing organization that helps us live out that commitment is extremely important."

CHI believes that collaboration with other health care systems and industry groups is an extremely effective way to make health care a better friend to the environment. The system is affiliated with Health Care Without Harm and its campaign for environmentally responsible health care. CHI cosponsored such conferences as Setting Health Care's Environmental Agenda, in October 2000, and CleanMed, in May 2001 and October 2002.

CHI continues to investigate the best ways to advance its commitment to care of the environment. "We are presently conducting environmental impact assessments at each of our facilities to collect key benchmark data that will enable us to plan appropriate strategies for environmental responsibility," said Scanlon. "This information can assist us in the development of focused initiatives, such as making all of our facilities mercury free.

"Education also continues to be a tremendous need, not only within our organization but throughout the health care industry," Scanlon continued. "As we work with Consorta, we find that while health care organizations and suppliers are not against using or producing products that are environmentally friendly, they are at times concerned about costs, efficacy, and logistics. Education can do a lot to allay these concerns. The more we all continue to work together to better understand how to be environmentally responsible, the more likely we are to be successful in fulfilling this commitment."

—Jean Livingston, PhD

sive survey that will actively identify environmentally responsible suppliers who are involved in recycling and are compliant with ISO 14000/14001 (industry quality assurance standards). Another area of concern is "single use devices" (disposable plastic items such as catheters and trocars) and their potential reuse. It might seem rational to think that reusing disposable devices would cut waste by reducing both the consumption of nonrenewable resources and solid waste. But, in fact, the only reduction in solid waste is the delay in adding the original product to the waste stream. Repackaging and reprocessing may add an even larger ecological burden. Consorta is sorting through these complex issues by product category, both looking for some quick fixes while developing a long-range plan.

Conducting Environmental Education Consorta provides users with information on environmentally preferable products, making it easy for them to use those products. To support members' efforts to convert to environmentally preferred products, Consorta provides educational programs at member conferences, posts information on a secure website that deals specifically with products and their related environmental issues, and uses a classification and identification system in its proprietary on-line product catalog. In this catalog, a "green tree" icon identifies environmentally preferred products.

Providing Information on State-of-the-Art Disposal Practices Consorta supports its members' product evaluation/value analysis teams and encourages team missions that include preventing pollution, recycling, evaluating the need for toxic ingredients, considering products' energy efficiencies, working with vendors to develop/redesign alternative products, and providing members with educational information about how such work promotes a healthier environment for patients, workers, and the community.

Monitoring the Development of Environmentally Preferable Products Consorta has found, in its continuing dialogue with manufacturers, that some have sophisticated approaches to making their products safer for the environment. Such manufacturers are committed to developing products and packaging that are free of PVC, DEHP, latex, and mercury and have safer needle devices and safer cleaning products. Besides conducting aggressive research and development, some suppliers monitor a product's impact on the environment throughout its life cycle, beginning with production and ending with disposal.

Some manufacturers have begun research in a new field called "materials science." The scientists involved are trying to learn—and mimic—how nature manufactures its materials under life-friendly conditions: in water, at room temperature, and without harsh chemicals or high pressures. Such scientists, working on the fringes of their organizations, have become frustrated with the current "heat, beat, and treat" manufacturing process that results in dwindling oil reserves, toxic emissions, and high failure rates—because of breaking, cracking, and stretching—of many materials. Consorta aims to encourage this materials revolution by working directly with manufacturers in identifying opportunities to develop biomimetic products with superior environmental performance.

One Step in a Long Journey

Catholic health care systems share an explicit common mission: to contribute to the common good, which entails working for economic, political, and social conditions that ensure protection for the fundamental rights of all individuals. Issues that relate to human health are inherently linked to the health of the environment. Hence environmental issues are inescapably human health issues.

Consorta has launched a number of initiatives to assist its shareholders in selecting products that maximize environmental benefit and minimize adverse effects, consistent with price and performance considerations. However, the GPO recognizes that this commitment is only the first step in a long journey. Leaders throughout Catholic health care should urge purchasing decision makers, suppliers, and manufacturers to invest in the research, design, production, and use of environmentally safer products. □

BIBLIOGRAPHY

Best Environmental Management Practices, Sustainable Hospitals/Lowell Center for Sustainable Production, University of Massachusetts, Lowell, 1998, available at www.uml.edu/centers/LCSP.

Buist, S. A., and Vollmer, W. M, "Reflections on the Rise in Asthma Morbidity and Mortality," *JAMA*, October 3, 1990, pp. 1,719-1,720.

Colborn, T.; Dumanoski, D.; and Myers, J. P. (1996), *Our Stolen Future*, Dutton, New York City, 1996.

Colborn, T.; vom Saal, F. S.; and Soto, A., "Developmental Effects of Endocrine-Disrupting Chemicals in Wildlife and Humans," *Environmental Health Perspectives*, October 1993.

Department of Engineering, Professional Development, College of Engineering, University of Wisconsin-Madison, *Health Care Environmental Purchasing Tool*, Madison, WI, 1999.

Geschwind, S. A., et al., "Risk of Congenital Malformations Associated with Proximity to Hazardous Waste Sites," *American Journal of Epidemiology*, vol. 135, no. 11, pp. 1,197-1,207.

Continued on page 60

NINE AXIOMS FOR SUCCESS IN MERGERS

Continued from page 42

time, employees should be given the space they need to tell stories about their work experience, stories that indicate both the jobs' significance in their lives and the cost they will incur if they lose those jobs through a merger. Communication must be honest. If inaccurate information has hitherto been provided, the CEO and managers should now apologize for it.

Arranging Communications These should be conducted when the merger is about to be launched. Through them, leaders publicize the new organization's mission and vision (which will legitimize cultural changes), discuss the timing of the merger's stages, clarify new employment roles, and announce any retraining programs that may be required. In doing this, the leaders will need great patience; they will have such patience if they truly respect the individuals involved. Skilled communication is a continuing imperative in these processes. As before, the CEO and top managers should be present to hear employees' reactions, concerns, lamentations, and hopes and fears concerning the future. Anxiety can prevent people from hearing important announcements. So, just as Moses in the desert took time to lead a series of grieving rituals, the leaders of organizations involved in a merger must repeat their communications again and again.

Affirming Communications These are essential once the merger is under way. Employees must be told about any achievements, no matter how small, that result from the merger. All communications must be honest, with no attempt to hide unpleasant realities.

Managers Must Be Change Agents

Axiom 9: Considerable time and effort must be directed toward helping managers develop their new roles as culture change agents. This axiom applies equally to senior and middle managers and to clinicians. Managers have a vested interest in maintaining the status quo; after all, they achieved their status and power through acquiring and exercising particular skills and behaviors under the old organizational cultures. Cultural change will not occur unless managers and clinicians are persuaded that change is necessary and are equipped with the skills they will need to lead it.[12] □

NOTES

1. Ernst & Young LLP, *Mergers and Acquisitions*, John Wiley and Sons, New York City, 1994, p. 230.
2. See C. Anderson, et al., *Making Mergers Work*, The Economist, London, 2001.
3. See P. H. Mirvis and M. L. Marks, *Managing the Merger: Making It Work*, Prentice Hall, Upper Saddle River, NJ, 1991, p. vii.
4. See J. L. Sherer, "Corporate Cultures," *Hospitals and Health Networks*, May 5, 1994, p. 20.
5. See G. A. Arbuckle, *Healthcare Ministry: Refounding the Mission in Tumultuous Times*, Liturgical Press, Collegeville, MN, 2000, pp. 271-303; G. A. Arbuckle, "Mergers in Catholic Health Care," *Human Development*, vol. 20, no. 2, 1999, pp. 42-48; M. H. Habeck, F. Kroger, and M. R. Tram, *After the Merger: Seven Rules for Successful Post-Merger Integration*, Prentice Hall, Upper Saddle River, NJ, 2000.
6. C. Handy, *Understanding Voluntary Organizations*, Penguin Books, London, 1985, p. 95.
7. See Arbuckle, *Healthcare Ministry*, pp. 296-297.
8. Ovid, *Tristia*, L. R. Lind, trans., University of Georgia Press, Athens, GA, 1975, book V, eleg. 1, line 63.
9. See G. A. Arbuckle, *Change, Grief and Renewal in the Church*, Christian Classics, Westminster, MD, 1991, and D. M. Noer, *Healing the Wounds: Overcoming the Trauma of Layoffs and Revitalizing Downsized Organizations*, Jossey-Bass, San Francisco, 1993.
10. See W. Brueggemann, *The Prophetic Imagination*, Fortress Press, Philadelphia, 1978, p. 13.
11. See M. Oram and R. S. Wellins, *Re-Engineering's Missing Ingredient: The Human Factor*, Institute of Personnel and Development, London, 1995, p. 129.
12. See Arbuckle, "Mergers in Catholic Health Care," pp. 47-48.

BEING ENVIRONMENTALLY RESPONSIBLE

Continued from page 49

Mercury Free NIH Campaign, Division of Safety, Office of Research Services, National Institutes of Health, Bethesda, MD, 2001, available at www.nih.gov.

Purchasing for a Healthy Environment, Hospitals for a Healthy Environment, 2002, available at www.h2e-online.org.

Pruss, A.; Giroult, E; and Rushbrook, P., eds., *Safe Management of Wastes from Health Care Activities*. World Health Organization, Geneva, Switzerland, 1999, available at http://www.who.int/water_sanitation_health/Environmental_sanit/MHCWHandbook.htm.

Safety Assessment of Di(2-ethylhexyl)-phthalate (DEHP) Released from PVC Medical Devices, Center for Devices and Radiological Health, U.S. Food and Drug Administration, Rockville, MD, 2001, available at www.fda.gov.

Schettler, T., "Environmental Challenges and Visions of Sustainable Health Care," published in conference proceedings, CleanMed, May 4, 2001, Health Care Without Harm, Falls Church, VA.

Special Report on Environmental Endocrine Disruption: an Effects Assessment and Analysis, U.S. Environmental Protection Agency, EPA/630/R-96/012, February 1997.

The Case against Mercury: Rx for Pollution Prevention, U.S. Environmental Protection Agency, Region V, Chicago, 1995, available at www.epa.gov.

The Environmental Working Group/The Tides Center, in Health Care Without Harm, eds., *Greening Hospitals*, Falls Church, VA, available at www.ewg.org.

Turnberg, W. L., *Biohazardous Waste: Risk Assessment, Policy and Management*, John Wiley & Sons, New York City,1996.

Underwriters Laboratories, *Standard for Alternative Treatment Technologies for the Disposal of Medical Waste*, Draft ANSI/UL Standard, UL-2334; Research Triangle Park, NC, 2000, available at http://www.ul.com/eph/medwaste.htm.

Wagner, K. D.; Rounds, C. D.; and Spurgin, R. A., eds., *Environmental Management in Healthcare Facilities*. W.B. Saunders Co., Philadelphia, 1998.

White, M. C., et al., "Exacerbations of Childhood Asthma and Ozone Pollution in Atlanta," *Environmental Research*, vol. 65, pp. 56-68.

Wilburn, S., "Occupational Health and Safety," in papers and proceedings from the October 16, 2000, Setting Healthcare's Environmental Agenda Conference, Health Care Without Harm, Falls Church, VA.

JOURNAL OF THE CATHOLIC HEALTH ASSOCIATION OF THE UNITED STATES www.chausa.org

HEALTH PROGRESS®

Reprinted from *Health Progress*, January-February 2003