Waste Management & Healthcare

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Problem Statement

As healthcare providers, we are responsible for promoting health. Yet, in the process of delivering healthcare, American hospitals **generate 4 billion pounds** of waste each year. The environmental consequences of this waste include the following:

- **Cancer and reproductive effects** caused by the release of toxins, notably dioxins and mercury, from medical and solid waste incinerators,
- **Global warming and other climate change** caused in part by the emission of greenhouse gases from the combustion of waste, and
- **Human health hazards and explosions** caused by the generation of methane gas from the decomposition of organic materials in landfills.

Other environmental issues garner more excitement or fear. But no environmental initiative is more fundamental to building and sustaining environmentally responsible healthcare at the facility level than effective waste management. The polluting work practices of the healthcare industry can be changed with the support of senior leadership, starting with those responsible for the management of our waste.

There is a direct link between the health of the environment and the health of the people to whom we provide healthcare. We can promote health by taking actions to protect the environment. Reducing the amount and toxicity of our waste is the critical foundation for this effort.

The Issues

Waste costs money, can result in regulatory violations and fines, and can impact employee and patient safety. Yet it is commonly treated as an operational issue not requiring the attention of senior management. In the healthcare industry, waste management has been primarily focused on regulatory compliance and recycling programs. We can take steps to better manage materials, not just at the point of purchase, but also during use and disposal following their useful life.

Key waste management issues that are prompting decision-makers to become involved include:

1. Some municipal landfills have banned waste from hospitals due to fears of bloodborne pathogens and infectious disease exposures. Some haulers are charging higher rates to transfer hospital waste due to additional processing activities.
2. Community activism to eliminate medical waste incinerators and their accompanying pollution and more stringent emission requirements for incinerators have resulted in numerous incinerators being closed. Managers need to identify other options for treatment and disposal.
3. Public fear of medical waste (e.g., syringes found on beaches, low-level radioactivity and exposure to potentially infectious material) impacts public policy.
4. Labor union concerns related to handling, transporting, and treating/processing waste can surface in contract negotiations and through grievance processes.
5. Consolidation of medical waste haulers has resulted in only one national medical waste disposal firm, Stericycle. Fewer treatment options and fewer haulers are already leading to higher costs.

6. News reports documenting unauthorized access to confidential documents and prescriptions found in waste containers around hospitals and pharmacies have resulted in the promulgation of regulations in California and other states.

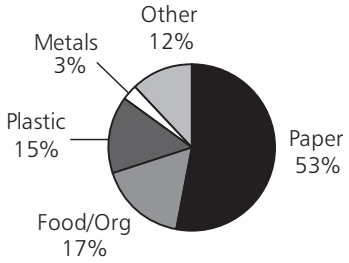
The Benefits of Waste Management

There are many compelling reasons to manage waste more responsibly in healthcare:

- Reduce **environmental impacts**. By reducing the toxicity and volume of waste, we reduce the toxicity and volume of air, soil and water pollutants.
- Improve **employee safety**. By reducing the amount of waste that has to be collected and treated as hazardous or infectious waste, you reduce the risk of exposure to employees handling these materials.
- Improve **patient safety**. Through improved segregation and management of waste streams, and reduction in the number of potentially harmful materials present in the care environment, the risks to patients are reduced. Additionally, educating patients about proper disposal of waste generated from patient-administered treatment in the home (e.g., syringes used for insulin injections) can improve patient safety and the safety of municipal trash collectors.
- Protect **confidentiality**. Secured waste management and recycling systems and processes can prevent sensitive documents from being mishandled or misused.
- Decrease **operating costs**. It is conservatively estimated that operating costs can be reduced by up to 20% by minimizing the volume of solid waste sent to landfills. This savings can be redirected to providing healthcare services.
- Additional benefits include: contributions to licensure and accreditation requirements including Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Environment of Care standards; enhanced public image for healthcare; and improved employee morale.

About Waste

In 1998, the Environmental Protection Agency (EPA) and the American Hospital Association (AHA) signed a Memorandum of Understanding to reduce total waste volumes in the health care industry by 33% by 2005 and 50% by 2010. This voluntary initiative is intended to drive change toward more responsible waste management.



More than half of the solid waste at healthcare facilities is paper and cardboard

A Note on California's Confidentiality Law ('SB19')

A law took effect on January 1, 2000 in California that has impacted healthcare waste management and recycling programs statewide and has also raised consumer awareness about waste management issues in healthcare. The federal Health Care Financing Administration (HCFA) and some states are reviewing the issue for possible regulatory action. The law contains the following directive:

> *"Every provider of health care . . . who creates, maintains, preserves, stores, abandons, or destroys medical records shall do so in a manner that preserves the confidentiality of the information contained therein. Any provider . . . who negligently disposes, abandons, or destroys medical records shall be subject to the provisions of this part."*
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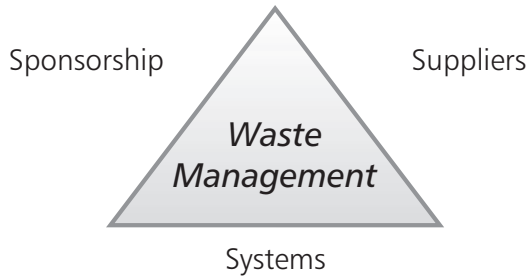
> Civil Code Section 56.101.

Ideal Scenario for Waste Management to be Successful

For waste management and minimization to be successful and sustainable, program sponsorship, appropriate systems, and a connection to suppliers are required.



"Sponsorship" includes top management leadership, supportive policy statements, assigned resources including designated staff to lead waste management initiatives, labor union support, meaningful performance measures that are tracked, and a clear message to staff that waste management and minimization is an expectation for everyone at the healthcare facility. Sponsors also ensure that clear and effective procedures are implemented. Ultimately, sponsorship also means that each employee and physician takes responsibility and ownership in the success of the program.

"Systems" means managing waste as a resource, evaluating technology for maximum operational benefit and minimum environmental impact, having the necessary facility space and equipment, creating reuse and donation programs, establishing tracking and reporting mechanisms, and exploring opportunities in recycling markets.

"Suppliers" refers to educating targeted suppliers about waste minimization, and asking them to contribute to the effort through offering reusable options, redesigning for product material reduction, packaging reduction and providing recycled materials. Suppliers also refers to working with waste haulers and recyclers in alignment with the institution's environmental policies.

Implementation

Steps senior managers can take to drive change

1. **Understand your organization's waste streams.** Ask for a report that establishes a baseline of the volume and disposal costs of these categories, by facility:
   - regulated medical waste (biohazardous waste)
   - hazardous waste (e.g., chemicals, mercury)
   - solid waste (trash)
   - recyclables (especially paper and cardboard)
   - construction and demolition debris
   - industrial waste water (for water conservation purposes)

2. **Know where your waste is going.** Are you sending medical waste to an incinerator or an autoclave? If the waste is sent to an autoclave, is it then retired in a landfill or burned in a municipal waste incinerator? Are there community issues related to incineration? Where is the landfill and are there health/community issues related to that operation?

3. **Establish performance metrics** for waste management that drive reduction in toxicity and volume. Make the metrics specific, achievable, meaningful and measurable.

4. **Do not tolerate wasteful practices.** Change expectations about material use. For example, senior managers can reduce paper use by letting staff know that they expect to receive double-sided materials, and that they support practices that reduce paper use overall. Said another way, it should not be an acceptable business practice to waste materials. Wasteful practices, including single-sided copies and over-production of reports, should be viewed as an irresponsible use of the organization's resources with corresponding outcomes.

5. **Establish policies for handling construction and demolition debris.** In California, 28% of the volume of landfill waste is from construction/demolition debris. Much of this waste can be diverted from landfills by reusing salvageable items and by recycling materials. Also in California, 800 hospital-buildings will be replaced, retrofitted, demolished or discontinued as hospitals by 2008 to com-

ply with seismic regulations. The potential volume of waste from this activity is staggering.

6. **Build waste minimization infrastructure into new buildings.** Ensure that architects allow room for waste segregation and recycling within units and at the loading dock.

7. **Analyze the issues surrounding disposables versus reusables** at your facilities. Most of these decisions are made by a variety of departments and it is rare that management looks at the impact of these decisions on the overall waste volumes and toxicity. By establishing policies to evaluate how disposables are used, the facility-wide impact of departmental decisions can be assessed.

8. As a management supporter or sponsor of the waste management effort, **ask questions, stay involved,** and establish attainable goals. Recognize and award accomplishments for achieving these goals.

Steps stakeholders can take to drive change

1. **Establish Standards for Waste Management:** Comprehensive standards for appropriate waste management in the healthcare industry do not exist today. There are numerous laws, regulations, and accreditation guidelines, but the industry lacks comprehensive performance standards that focus on toxicity and volume reduction. The ISO 14001 series of international standards requires the implementation of Environmental Management Systems (EMS). EMS includes establishing and publicizing an environmental policy, determining impacts, setting targets, and taking action to meet targets. In addition to ISO, another organization that promotes environmental standards is CERES (Coalition for Environmentally Responsible Economies). CERES, through the Global Reporting Initiative, aims to measure and report environmental, social, and economic performance. Stakeholders (including waste generators, regulators, waste haulers, public health advocates) should evaluate the appropriateness of encouraging haulers and generators to join CERES, apply for ISO 14000/14001 certification, or at least establish EMS-like systems.

   In addition to certification programs, standards can be encouraged through the use of resolutions by professional and state associations (e.g., medical associations). Facilitated through Health Care Without Harm, stakeholders could prepare a template resolution for use nationally.

   An entity that establishes standards for healthcare is the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). In the Environment of Care standards, there may be an opportunity to enhance the waste management protocols to promote minimization and reduce environmental impact.

   Finally, individual healthcare organizations (waste generators) should adopt standards within their organizations to reduce the volume and toxicity of their waste streams.

2. **Enhance Performance:** Many healthcare institutions have not embraced waste minimization and toxicity reduction. This is evidenced by the small number of organizations that have assigned responsibility for environmental stewardship, including waste management, to specific personnel. Assigning responsibility for waste minimization is a critical step in enhancing performance. This assignment can be accomplished without adding staff if savings from waste minimization are returned to the program. Assigning performance-based accountability at all levels is also critical to sustaining gains.

   Another way to enhance performance is for stakeholders to share information and resources among hospitals or systems. Encouraging "green teams" to communicate with each other, sharing return-on-investment and volume/cost reduction data, and reporting on transferable local initiatives will raise the national level of performance.

3. **Develop Continuing Education Modules:** Physician and nursing continuing education programs offer opportunities to educate the medical community on waste minimization. Other healthcare professionals that require ongoing training are industrial hygienists, certified safety professionals, and facility engineers. Stakeholders can develop certified training modules, including web-based training, to reach these audiences. Certification

will be feasible if the training modules clearly demonstrate the connection waste minimization has to patient care and patient safety.

4. **End Incineration:** Only a very small portion of medical waste is required by law to be incinerated. Public health advocates and environmental experts hope to eliminate those requirements and end incineration of medical wastes. This outcome can succeed if state laws which require incineration are changed and through education of medical waste generators and the portion of the public who now prefers the aesthetics of incineration for medical waste.

5. **Build Partnerships:** Waste minimization involves many stakeholders, including state and metropolitan hospital associations, HMOs, regulators, labor unions, group purchasing organizations, professional societies, and manufacturers of medical supplies. Utilizing the information and tools available now, these stakeholders can be engaged to support the opportunities listed above.

Resources

The actual implementation of waste minimization and management programs can be delegated to operational staff, and is best supported by "green teams" or other groups that represent a cross section of staff. There are numerous resources for waste management:

Web Sites

http://www.epa.gov/epaoswer/non-hw/reduce/wstewise/main.htm
EPA's WasteWise site offers links and information to help organizations reduce solid waste. They have an online fact sheet specific to hospital waste reduction.

http://www.noharm.org
Health Care Without Harm is a campaign working to reduce pollution in health care without compromising safety or quality.

http://www.papercoalition.org
The Recycled Paper Coalition strives to conserve natural resources and reduce waste by purchasing environmentally-preferred paper products and by using paper more efficiently.

http://www.ciwmb.ca.gov/
California's Integrated Waste Management Board web page offers hyperlinks to the State's waste reduction programs that aim to divert 50% of waste from landfills.

http://www.stopwaste.org
Alameda County Waste Management Authority & Source Reduction and Recycling Board is an agency that promotes source reduction and recycling. They have tools applicable nationally.

Publications/Guidebooks

American Hospital Association, *An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities.* Cost: $29.95 (member), $50 (nonmember); order number 057-007. To order call (800) AHA-2626. For more information contact: American Society for Healthcare Environmental Services, (312) 280-4458.

Kaiser Permanente, *Waste Minimization Starter Kit.* Cost: $150. Tool kit including instructions, poster, fact sheet, training slides, and tent cards. To order, call 510-987- 4737.

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