

Environmentally Preferred Sourcing Program

EPS Toolkit: Recycling

Hospitals have different waste requirements than other types of organizations due to the daily work that involves a variety of hazardous wastes. However, hospitals also generate significant amounts of nonhazardous waste that is recyclable. Such materials common in hospitals, includes: aluminum, plastic bottles, newspaper, corrugated cardboard, mixed paper including office paper and magazines, steel cans, glass containers, pallets, metals, rechargeable batteries, printer cartridges, fluorescent lamps and computers.

Benefits of recycling:

- Reduces disposal costs
- Complies with federal and state environmental regulations
- Saves energy
- Supplies valuable raw materials to industry, including reusable plastics and metals
- Provides recycling as a safe removal process of hazardous materials
- Stimulates the development of greener technologies
- Reduces the need for new landfills and incinerators

What you can do

Several suggestions are throughout this section.

You can get further information on recycling in other sections of this toolkit: go to setting up a basic recycling program in the quick wins section, the composting suggestions in the food services section, and the electronics portion of IT opportunities section. Note that the information here does not include "red bag" waste – review that in the medical waste content in the managing hazardous materials section.

With recycling, the possibilities are endless. Other areas to consider when establishing a recycling program include electronic equipment (such as batteries, lamps and computers), and mixed metals ranging from construction debris to mattresses.

Understand your waste stream

Waste streams such as paper, cardboard, plastic, food, yard waste and metals generally present the largest volumes. Carry out a waste assessment that identifies the types and amounts of waste your facility generates.

By conducting a waste assessment, you will gather baseline information, including potential cost savings that can be used to set goals and monitor progress. Walk through the facility noting what type of waste is discarded in each area, how much waste could be recycled and what types of bins will be needed.

Research the market for recyclables

Consider the marketability of the materials to be collected. Carefully weigh the cost-effectiveness and potential operations effects of your recycling options. Recycling programs, especially more ambitious efforts, often require purchases of equipment such as containers, balers and compactors. Additional labor might also be required, and staff education is necessary. In many cases, however, the savings and revenues from reduced disposal costs and selling collected material will offset these costs.

In addition, consider whether the new recycling program will affect current purchasing practices. For instance, you may want to begin buying only white writing pads instead of yellow ones to take advantage of the strong markets for white office paper. See the next section: sell your recyclables.

Seek senior management endorsement

As with all environmental projects, approach management and ask them to endorse your recycling program. Use the information gathered in your waste audit, including the financial savings, to support your request. Ask them to appoint a recycling coordinator to work with facilities management, housekeeping, environmental services, purchasing, suppliers, employees and the public.

Set achievable goals

Set achievable goals based on the amount and types of waste generated at your facility and the recycling options that are feasible and cost-effective. Remember to first consider activities that will prevent generating waste.

Appoint department coordinators

The recycling coordinator may want to appoint department coordinators, particularly in food service areas, patient wings and administrative offices, to serve as the communication liaison in those areas.

A department or area may consider more than one coordinator if: a large department needs the support of more than one, there are evening, night and weekend staff that need support of a coordinator dedicated to their area, or if there are different staff meetings or groups that the coordinator can not readily communicate with.

A department coordinator can help communicate to all staff in their area via staff meetings, posting fliers or copies of emails and by encouraging word-of-mouth information sharing. They can monitor the waste containers and request additional bins, labels, posters, etc. Coordinators can also be the primary liaison with housekeeping staff in their area.

Begin in areas with the highest recyclable potential

Unless a large amount of recyclable material is present, it is generally not practical to collect recyclables from patient rooms, especially if recycling containers are placed in the common areas on each ward.

At least initially, some clinical areas may not be conducive to recycling, especially if the chance of contaminating the recyclables with hazardous wastes is high – such as in the emergency or operating rooms. Additionally, by collecting the highest quality recyclables, you will get the highest return on your investment.

You can start the program in the following four areas:

- Administrative and office areas — recycling mixed paper, newspapers, cardboard cans and bottles
- Food service — recycling newspapers, glass, metal, cans, plastic containers, cardboard and food waste for composting

- Public areas, including common rooms and waiting areas — recycling newspapers, mixed paper, bottles and cans
- Purchasing and receiving — recycling cardboard, packaging paper and other mixed paper

Set up a good collection program

Convenience is the key. A convenient collection system encourages employees to properly sort recyclables by material type and eliminate contaminants. Ideas for a collection program include the following:

- Ensure bins are well marked, particularly in public areas and use standardized bins throughout your facility
- Choose bins with specialized openings, such as a hole for cans or a slot for newspapers, and consider color-coded containers
- Place bins as close to the source of materials as possible
- Make convenience a priority in the acute care areas, where employees might have little time to properly separate materials
- Ensure that red bag waste is not put into recycling bins – educate staff members about what does not belong in the recycling bins and make sure that both red bag waste bins and regular trash bins are available in medical areas
- Use desktop containers for an office paper collection program
- After the material is collected in small containers, transfer it to a larger central collection point – consider fire codes when choosing a storage area
- Place large storage containers on the dock or other defined locations
- Establish containers for collecting rechargeable batteries and laser and ink-jet printer cartridges for shipping back to recyclers
- Store fluorescent lamps in the boxes in which the new lamps came and have a fluorescent lamp recycler collect them for disposal or recycling

Educate employees

Education is the key to a successful recycling program in any hospital. The more you can educate employees, the higher the participation you'll have, and the fewer contaminants you'll find in the collected materials, and likely you'll receive fewer complaints. Educating employees is key to a more efficient program in the long run and ensures you lower the hospital's monthly garbage bill. Here are some employee education tips:

- Involve individuals from across the facility in planning and implementation

- Give employees a sense of participation, ownership and pride — have a celebration using the money saved in the first month or first quarter
- Target key employees who will be integrally involved, such as housekeeping, environmental services and facilities management
- Encourage employees to offer feedback and suggestions
- When you distribute collection bins, communicate proper recycling procedures using posters, newsletter articles, fliers, emails, a kick-off party and one-on-one education
- Include recycling information in new employee orientation
- Use materials available on the internet, such as recycling education fliers, educational resources, trained recycling education speakers and presentation materials (some resources include Practice Greenhealth, the state affiliates of the National Recycling Council and Earth 911)
- Explain the overall recycling program to your housekeeping staff, use them as your eyes and ears by having them inform you of any areas with major contamination problems
- Follow up with the identified areas to provide more recycling education, as well as show them what to do with new bins, how to collect waste separately and where to bring separated materials
- Plan pickups on appropriate shifts so that you do not have a problem with overflowing bins. Be sure to provide ongoing publicity about program successes.

Work with your waste hauler

Ask your waste hauler for advice about keeping recyclables separate. Depending on the company's trucks and equipment, your hauler may want to get involved, including

providing separate containers for trash and recyclables. They may also know where you can get recycling collection containers, curbside bins, carts and storage bins.

Sell your recyclables

Find out who pays the most for your recyclables. Contact your state environmental office, other facilities in your area, the National Recycling Center or Earth 911 for a list of recyclers. Remember that prices change often, so try to keep as updated as possible on the market.

Monitor and evaluate

Maintain accurate and up-to-date statistics, such as the types and amounts of materials collected and contaminant levels. Use this information and feedback from employees to evaluate the program and make changes as needed.

The National Recycling Coalition (NRC) is an organization of recycling professionals and advocates from every region of the country, in every sector of the waste reduction field. Local recycling coordinators, state and federal regulators, corporate environmental managers, environmental educators and advocates, and waste management professionals are members of the NRC. Their objective is to eliminate waste and promote sustainable economies through advancing sound management practices for raw materials in North America.

Earth 911 provides community-specific resources through its website or toll-free number, 800-CLEANUP. You can access several sections of community-specific environmental information at no cost by entering your ZIP code on the hotline or website and you will receive information about recycling centers and other resources.

Recycling cardboard and paper

Cardboard and paper often represent 40 to 50 percent of the waste stream of a hospital and can play a critical role in the reduction of solid waste disposal costs. These should be materials to first recycle.

What you can do

Understand the different paper materials

In order to get the best price for your cardboard and paper, it must often be separated, at least into corrugated cardboard, paperboard and other paper categories.

- **Corrugated cardboard** is strong, versatile packaging material that is universally accepted for recovery and recycling. Generally referred to as cardboard by consumers and corrugated cardboard by the industry, it is made from two strips of flat cardboard on the top and bottom, with a wavy corrugated or fluted strip running through the center.
- **Paperboard** is flat, pressed, stiff paper used for cereal and other food boxes. While sometimes called cardboard by the general public, it does not have flutes, is made of lower-quality paper, and often has a coating. Do not contaminate your cardboard with paperboard.

- **Other paper** includes white office paper, newspapers, mixed paper and magazines.

Measure your volume of cardboard to determine how to handle it best

If you are generating small volumes, work with a hauler offering recycling services. A service can collect, flatten and place loose in a collection container (for example, a 4- or 8-yard metal box or a toter—a barrel on wheels), or tie in stacks or on pallets, depending upon the hauler’s needs and your available storage space and accessibility.

If you generate large volumes, you may find it cost effective to bale or compact the material. Compactors are large metal collection containers with a hydraulic device to compress materials. Balers are machines that compress materials to be tied with wire or strapping into one-hundred or more pound cubes.

Consider baling corrugated cardboard on-site

The only equipment needed is a vertical baler and a pallet jack to move the bales of corrugated boxes after they are baled. In large hospitals, a vertical baler can often show a payback in less than two years.

Work with your hauler

The method of collecting, processing and storing paper and cardboard should be determined with the help of your waste hauler so that it is prepared in a way that the hauler can retrieve it efficiently. For example, it may be more cost-effective and easier if you store numerous bales for large-quantity collections, than for the hauler to pick up individual bales frequently. Newspaper should be separate from other paper, and in some areas, you will receive more money if you separate white office paper from other paper.

Get the most for your cardboard by ensuring proper recycling

Here are tips for effectively preparing to recycle cardboard:

1. Empty boxes, flatten and remove potential contaminants (see No. 3). Set up collection areas that ensure easy access to the designated storage container or appropriate machine for processing.

2. Separate any contaminants from the corrugated cardboard, including strapping, plastic bags, polystyrene foam (Styrofoam®), food waste or floor sweepings. Dealers pay the highest price for clean cardboard. Other contaminants that can cause rejecting a load of cardboard include staples, other types of paper including paperboard, too much tape, yellow cardboard and waxed cardboard.
3. Remove boxes that should not be recycled, especially any that are contaminated by toxic or hazardous materials.

Sell your corrugated cardboard and paper

If your waste handler does not handle or buy paper products, contact:

- The Corrugated Packaging Council toll-free at (800) 879-9777
- The American Forest and Paper Association, which publishes a directory of waste paper dealers and recycling centers, at (202) 463-2700
- A local handler or recycle service – do an internet search for ‘waste paper’ to find local service

What is yellow corrugated cardboard?

Yellow corrugated cardboard refers to cardboard from Asia where the manufacturing uses a high percentage of recycled fiber content. Because of the high recycled fiber content, it is yellow in color, weaker, and less valuable to recyclers than other corrugated cardboard.

The corrugated packaging council is a nonpartisan, nonprofit coalition that develops and coordinates industrywide programs to address corrugated packaging issues. Its mission is to inform consumers, manufacturers, retailers and government about corrugated packaging performance and environmental attributes.

The American Forest and Paper Association is the national trade association of the forest, paper and wood products industry. It represents member companies engaged in growing, harvesting and processing wood and wood fiber, manufacturing pulp, paper and paperboard products from both virgin and recycled fiber, and producing engineered and traditional wood products.

Recycling batteries and fluorescent lights

Battery recycling reclaims the metals (nickel, iron, cadmium, lead and cobalt) from the batteries and prepares them for use in new products such as new batteries and stainless steel. Fluorescent light recycling handles and

processes the mercury found in these lights safely. More importantly, it keeps these items out of the landfill and avoids soil and water contamination.

What you can do

Reduce battery waste through prevention

The first step is always prevention. You can reduce waste by:

- Buying only what you need
- When suited to the task, buying hand-operated items that function without batteries
- Looking for batteries that have less mercury and heavy metals
- Considering rechargeable batteries

Know your batteries and handle them properly

Each battery has a different chemical makeup, and therefore, there are different ways of properly disposing of them. Use the Earth911 recycle center locator to help you locate recyclers in your area.

To minimize any safety risks, before dropping batteries into the collection box, place each into a separate plastic bag or cover the battery terminals with tape (electrical, duct or masking). Be extremely careful with rechargeable lithium batteries. Do not:

- Expose them to excessive physical shock or vibration
- Jumble batteries in bulk containers with coins, metal jewelry or metal covered tables
- Disassemble or deform the batteries, as this can cause the internal cells to rupture, which can lead to a release of highly combustible hydrogen gas

Choose rechargeable batteries

Rechargeable batteries operate cordless tools, cellular phones, cameras, laptop computers and numerous other products. Work with your purchasing department to buy more rechargeable batteries. For best outcomes:

- Staff must be trained on the use of rechargers
- Make electrical outlets convenient for staff
- Follow the charging guidelines provided by the manufacturer
- Follow specific initial battery charging times that are required for each product before first use
- Never return a fully charged battery to the charger for an extra boost, as this will shorten the life of the battery
- Let a discharged battery cool to room temperature before recharging
- Recharge batteries only when they are near to fully discharged

- Rechargeable items with "low battery" indicators are recommended

Establish a battery recycling program on-site

For information on how to recycle rechargeable batteries, call (800) 8-BATTERY or set up a rechargeable battery recycling corporate Call2Recycle program. There is no cost to participate. Materials provided include collection boxes and plastic bags as well as educational materials.

Alkaline (nonrechargeable) batteries can be recycled in many areas. Talk to your waste hauler or call your state office to find out more.

You could also establish a battery recycling program run by an outside company. Outside vendors manage these types of programs so they are easy and hassle-free as possible. You simply collect all dry-cell battery types (both chargeable and rechargeable) and ensure that whomever you choose provides a Certificate of Recycling containing a chemistry breakdown of each container of materials recycled so you can document your environmental compliance.

Recycle your fluorescent light bulbs

Fluorescent lights help hospitals significantly reduce their energy consumption because they use one-fourth the energy of incandescent lamps and last as much as 10 times longer. These lamps contain mercury and other materials including glass and aluminum and therefore should be recycled.

Contact your lamp distributor to see if it offers a recycling service. If not, select a recycling contractor that will best serve your needs while giving you the assurance that they will properly manage your waste lights, which will minimize your liabilities. In order to remove the mercury from the waste, recyclers must comply with numerous federal and state regulations.

Important factors for evaluating recyclers include:

- Whether they meet insurance requirements for general and pollution liability
- The financial health of the company
- What indemnities or other assurances they offer clients
- Their environmental record and compliance history
- The existence of government permits and approvals for facility operation or transportation
- Operations and safety procedures and records
- Facility audit reports
- The availability of key regulatory contacts

It is perfectly acceptable to ask for references or to check with the state agency that regulates recycling facilities for compliance histories.

You can also contract waste-light management to a hazardous waste transporter, cleaning company or electrical contractor — but you must be sure that the company is in compliance with federal and state regulations. You will be liable if the subcontractor improperly disposes of your waste lights. See the Lamp Recycling Initiative on the Environmental Protection Agency's website for more information.

What types of rechargeable batteries can be recycled?

If it's rechargeable, it's recyclable! The following rechargeable battery chemistries can be recycled:

- Nickel cadmium (Ni-Cd)
- Nickel metal hydride (Ni-MH)
- Lithium ion (Li-ion)
- Nickel zinc (Ni-Zn)
- Small sealed lead (Pb)

The Rechargeable Battery Recycling Corporation (RBRC) is a nonprofit, public service organization created by the rechargeable power industry and dedicated to the recycling of rechargeable batteries. The RBRC also collects old cell

phones. Members of the rechargeable battery and portable electronic product industry fund the rechargeable battery recycling program through the licensing of RBRC's Battery Recycling Seals and cell phone recycling is partially funded by the resale of refurbished cell phones.

Fluorescent light bulbs

Fluorescent light bulbs contain some elemental mercury, similar to the mercury found in an older fever thermometer. The mercury can be in vapor, liquid or solid forms.

Mercury is a necessary component to the operation of most energy-efficient lighting. Light bulbs that contain mercury use 75 percent less energy than regular light bulbs and last up to 10 times as long. Fluorescent light bulbs (including compact fluorescent light bulbs) and high-intensity discharge (HID) light bulbs are the two most common types of light bulbs that contain mercury. Fluorescent light bulbs are commonly used in the lighting at schools, office buildings and businesses.

The Vizient Environmentally Preferred Sourcing (EPS) Program offers members supply and service cost savings through more than 36,000 supplier agreements. EPS suppliers have verified EPS attributes and provide products that can support members' sustainability objectives. This toolkit is a resource to help members create or enhance their sustainability programs.

As the nation's largest member-driven health care performance improvement company, Vizient provides network-powered insights in the critical areas of clinical, operational, and supply chain performance and empowers members to deliver exceptional, cost-effective care.



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