

# Going Green — RNs Tackle Hospital Waste

By Melissa Gaskill  
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*Tom Badrick, recycling and waste management specialist, and Jane Krause, RN, OR staff nurse, of Legacy Good Samaritan Hospital & Medical Center in Portland, Ore. Photo by Bruce Beaton.*

Every time a baby was delivered in the maternal and child health unit at Dominican Hospital in Santa Cruz, Calif., nurses used three packages of supplies. Then Connie Gabriel-Wilson, RN, and other nurses in the unit convinced the supplier to consolidate those three packages into one, significantly reducing the volume of trash generated.

Steps like this are important, given that health care facilities generate 6,600 tons of waste per day, according to Hospitals for a Healthy Environment, an increase of at least 15% since 1992, thanks to greater use of disposable products. As much as 80% of a health care facility's waste is solid waste — primarily paper, metal, glass, and plastics. Packaging alone accounts for 43% of all municipal trash.

In many cases, such as Dominican's, nurses are taking the lead in doing something about it.

## **In the front door**

The easiest and most effective way to reduce the amount of waste is to cut down on how much comes in the front door. Combining packages, as Dominican did, is one way. Another is to seek out and purchase supplies with minimal packaging. Nurses can play a big role here, too.

"Nurses are involved in using a lot of products and in the decision about where things will go: into the trash, red bag, recycling, or whatever," says Gina Pugliese, RN, MS, vice president of Premier Safety

Institute in Chicago. “Nurses sit on product selection committees and can influence the kind of products that are purchased and move a hospital toward reusable or sustainable products.”

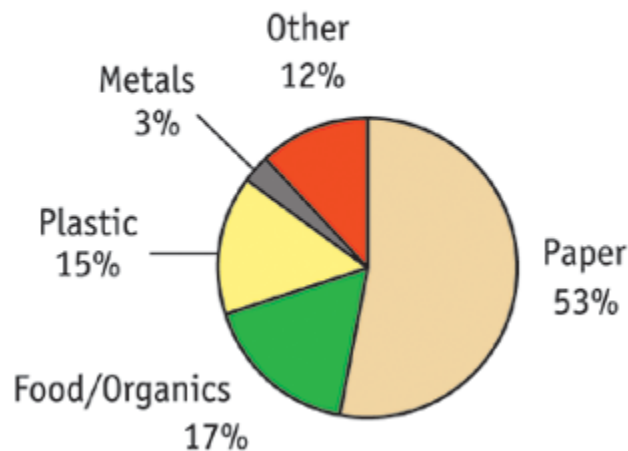
Nurses at Legacy Good Samaritan Hospital & Medical Center, a member of the Legacy Health System in Portland, Ore., saved 60 pounds of the plastic wrap that goes around gloves, says OR staff nurse Jane Krause, RN, BSN. “The gloves used to come in a paper waxed envelope, then the company switched to plastic and it wasn’t recyclable. We sent that 60 pounds to the supplier and said, ‘You need to change your packaging.’ They folded the gloves in half and reduced the amount of plastic.”

Because purchasing is where money changes hands, it can offer the greatest leverage with vendors, according to The Sustainable Hospitals Project, a program of the Lowell Center for Sustainable Production at the University of Massachusetts Lowell. It is also less costly to correct problems close to the source. Staff, including nurses, can practice what is called environmentally preferable purchasing, asking vendors and group purchasing organizations for products that are less damaging to the environment and human health than competing products. This includes demanding products with less packaging and packaging that can be recycled.

“When [nurses] demand different packaging, suppliers respond to this,” Pugliese says. “Everyone is moving in that direction.” One of the biggest challenges, she acknowledges, is cost. Hospitals are unlikely to buy a sustainable product that costs a lot more. But as more hospitals participate, costs will drop. Nurses can look at what is in packages, too. For example, five Legacy hospitals convinced a supplier of custom surgery packs to eliminate items not used often enough to justify being included, which saved the system roughly \$30,000 per year and eliminated 11,000 pounds of waste.

Buying products designed to be used more than once, rather than single-use devices, also reduces waste. According to Pugliese, some single-use devices can even be reused, under FDA guidelines. Certain items, such as surgical gowns, pose little risk when reused and can lower costs. (See sidebar)

## Hospital Solid Waste Composition



*Courtesy of Health Care Without Harm.*

### Out the back door

The second half of the effort to decrease waste is reducing what goes back out, which can be accomplished in a wide variety of ways.

“We talk about throwing things away. There is no ‘away.’ You are just putting it somewhere else,” Pugliese says. “One of the largest manmade structures in the world is the landfill in New York.” One hospital set up an eBay-like system, she says, so that extra equipment and supplies in one area of the

hospital could be made available to other areas, rather than thrown away. Catholic Healthcare West, a system with 40 hospitals in three states, Arizona, Nevada, and California, including Dominican, switched to reusable sharps containers that can be filled as many as 500 times. "That is a win-win situation, easier for our people and better for the planet," says Sister Mary Ellen Leciejewski, OP, ecology program coordinator for the system. With the reusable containers, CHW diverted at least 392,000 sharps containers from the landfill in one year.

Recycling as many different kinds of things and as much of them as possible can significantly reduce the volume of waste a hospital sends to the landfill. This in turn reduces a hospital's waste disposal costs, which, according to the Joint Commission on Accreditation of Healthcare Organizations, ranged from \$44 to \$68 per ton in 2000. Hospitals for a Healthy Environment reports that institutions engaging in full-fledged waste reduction efforts have achieved as much as 70% savings on disposal costs. This also makes communities healthier; landfills are the second-highest source of greenhouse gas emissions in the U.S. after fossil fuel combustion, reports Hospitals for a Healthy Environment.

Recycling can actually create income for hospitals. Recycled blue wrap at Good Samaritan Hospital generates thousands of dollars in income. Krause started with plastic drink bottles, driving them around in the back of her car to find a buyer. Then the hospital began recycling the plastic containers for sterile 4x4s, then added the blue plastic wrap around surgical supplies, which The Nightingale Institute estimates is roughly 19% of the waste stream generated by surgical services. Made of polypropylene (plastic #5), the wrap protects patient gowns and toiletries, medical devices, and surgical instruments from contamination prior to use. The wrap is bulky, but offers the benefits of resisting tearing and providing a protective moisture barrier around supplies. Because it is used most often in just a few areas of the hospital, it can be more easily recycled than some materials.

"Blue wrap recycling was an initiative of the Good Sam surgical staff," says Tom Badrick, recycling and waste management specialist for Legacy. "We have been recycling it for 18 or 19 years now. We have a container that is wheeled into and out of the surgery suite before and after a case. The wrap goes from surgery to large carts that housekeeping moves, then to a recycling depot at each site, then to our 6,000-square-ft. recycling center. We process it into bales and ship to our current vendor. We're shipping 2 or 3 tons a week, and did 65 tons last year. We get paid \$120 a ton right now, which was \$7,800 in income. In 2005, we saved about \$233,000 on the 65 tons that didn't go into the trash. It's a good thing to do and it saves money." A low-cost collection and transport system like Legacy's is key to successful recycling of blue wrap, as is a local market for it, since the blue wrap's bulk and relatively low market value make it inefficient to ship long distances. Legacy pools blue wrap from its five facilities and other hospitals in the area, Badrick says. Vendors like Owens and Minor and Kimberly-Clark pick up the wrap when delivering supplies to those hospitals and transport it to the recycling center in what would otherwise be empty trucks. Workers from the Susan Christiance Vocational Program are employed at the center.

"Recycling isn't more work, it is just different," Krause says. "Usually you are just changing a step, putting the blue wrap in this bin instead of that trash can. You find ways that work. Most big businesses are trying to recycle, and hospitals are very behind in getting on board. Save something that looks like it could be recycled, for a day or a week, and see what kind of volume you come up with. That speaks to companies. See how much you are paying to dispose of that. That gets the administration on board, and you need that." Education is key, nurses say. Everyone needs to understand why the hospital is recycling and the benefits of it. Those who have started programs stress the importance of making it easy for people, and making it clear exactly which items go where.

For the facility, the key components are transportation, a place to manage recycling, and a sorting facility, Badrick says. "Our main business is taking care of patients, not sorting waste, so we try to do it in the least amount of space. I have to stay out of the nurses' way and not compete with patient care. You have to have people in the hospital who care enough to do it or everything else won't matter. Nurses are passionate about it. I would guess at least half the people doing it are nurses."

## Reusing & Reprocessing

Reusing medical devices that are labeled “single use” has been standard practice for years, according to the Association of Medical Device Reprocessors (AMDR), which reports that its members have reprocessed 25 million devices in the past decade with no evidence of increased risk to the patient.

“Reprocessing is a safe, FDA-regulated practice that allows hospitals to achieve significant cost savings while maintaining the highest standard of care,” an AMDR statement reads.

More than 20 years ago, manufacturers began to change the labels on certain devices from “reusable” to “single use,” without, the AMDR says, significant structural changes in those devices. Thus, reprocessing was born. Historically, most was done in-house by hospitals, but stricter FDA regulations imposed in 2000 resulted in many switching to third-party companies.

Reprocessed devices can cost up to 50% less than new devices. Reuse also decreases waste disposal costs.

Of course, not every device labeled “single use” should be reprocessed. The FDA provides a list of those that can be. The list is part of a U. S. General Accounting Office Report “Single Use Medical Devices: Little Available Evidence of Harm from Reuse, but Oversight Warranted” available at [www.gao.gov/new.items](http://www.gao.gov/new.items).

To label a device as reusable, manufacturers must demonstrate that a device can be cleaned and sterilized without impairing its function. Labeling it “single use” does not, conversely, require showing that reuse would be inappropriate or hazardous. So, when a manufacturer markets a device as single use, it may be because the manufacturer believes the device can be safely and reliably used only once, or it may simply mean that the manufacturer chose not to conduct studies needed for a “reusable” label.

The decision to reuse is up to individual institutions. The Premier Safety Institute recommends that items not present any added infection risk, or contain any germicidal residue. If a device cannot be cleaned or its functionality and safety cannot be validated, it should not be reused. Hospitals that use third-party processors should make sure those companies are registered with the FDA, use routine testing and recalibration, and have tracking capability and appropriate insurance.

For more information: [www.premierinc.com](http://www.premierinc.com).

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**Resources:**

*Environmentally Preferable Purchasing How-To Guide from Hospitals for a Healthy Environment*, a partnership between the American Hospital Association and the Environmental Protection Agency:

[www.geocities.com/EPP\\_How\\_To\\_Guide](http://www.geocities.com/EPP_How_To_Guide)

Sustainable Hospitals list of alternative health care products and practices:

[www.sustainablehospitals.org](http://www.sustainablehospitals.org)

Green Purchasing tools and resources: [www.H2E-online.org](http://www.H2E-online.org)

The Nightingale Institute, "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities,": [www.nihe.org/publicat.html](http://www.nihe.org/publicat.html).

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In a forthcoming article, *NurseWeek* will look at what nurses are doing to reduce the presence of toxic materials such as mercury in their work environments.

<http://www2.nurseweek.com/Articles/article.cfm?AID=20677>