

Rethinking the Cost of Medical Waste: Healthcare CFOs Find Value in Sustainability

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With one operating room change, California-based Dignity Health eliminated 10 tons of plastic waste from its hospital network in two years. The health system, which runs 41 acute care hospitals in Arizona, California, and Nevada, swapped traditional plastic needle counters with a plant-based version made from sugar cane agricultural waste. After use, the biodegradable containers created by NewGen Surgical are chopped up and buried.

Operating rooms and all the plastic trash they generate are gold mines for sustainability officers seeking environmental improvement, but increasingly, CFOs are also seeing green as the new gold in the healthcare system. A [University of California San Francisco](#) study on neurosurgery supply use showed UCSF wasted \$2.9 million annually in surgical items that were thrown away unused after procedures. On average, that was \$653 per surgery, or 13 percent of the total surgical supply cost.

“Plastic is meant to be durable,” Kimberlee Luedee-Chase, co-founder of NewGen Surgical, told me recently. “It’s helped healthcare in so many ways, but we’ve overdone it.”

\$10 billion: The annual waste disposal cost for US hospitals.

Operating rooms are just part of the medical supply trash problem—and opportunity. Hospitals generate around 3.4 billion pounds of solid waste annually. Excessive trash and its financial and environmental impacts have long been considered the cost of doing business for hospitals. But the increasing urgency and human toll of climate change highlight a misalignment between healthcare organizations’ waste practices and the profession’s desire to do no harm.



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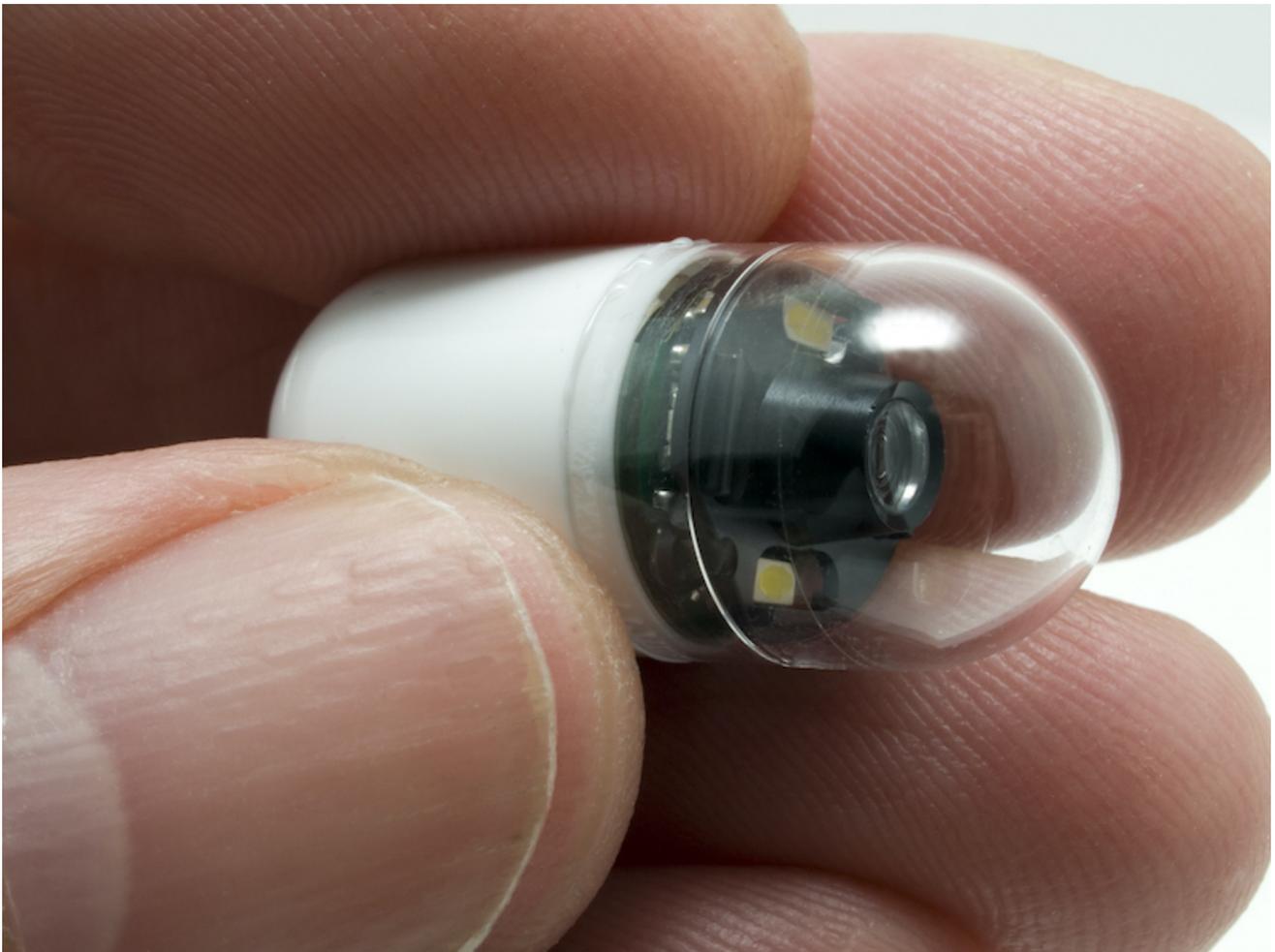
—Kimberlee Luedee-Chase, co-founder of NewGen Surgical

Innovative products and practices are emerging to help health systems reduce waste and save money, but there are often barriers to implementation. When hospital CFOs, sustainability officers, and procurement staff collaborate on solutions, from sourcing more sustainable supplies to uncovering the often surprising financial benefits of environmental initiatives, health systems can more efficiently fulfill their mission while doing no harm—or, at least, less harm—to the environment.

Circularity can help hospitals save—trash and money

Individual hospitals involved in environmental initiatives in their operating rooms saved \$100,000 per facility, and \$72.4 million in aggregate, in 2019, according to a [Practice Greenhealth](#) sustainability survey of 331 hospitals involved in these efforts. The nonprofit membership organization found that these hospitals diverted 146,750 tons of waste from landfills in the process. Spearheading these sustainability efforts in 88 percent of the hospitals surveyed by Practice Greenhealth is a sustainability leader, with almost all of them full-time roles, demonstrating the value of this dedicated position.

How CFOs, sustainability officers, and procurement officers collaborate can mean the difference between progress and stasis on green initiatives. Here are three ways finance executives can work with sustainability leads and procurement to implement or increase cost-saving sustainability initiatives.



Reprocess

Reprocessing, which disinfects, cleans, tests, sterilizes, and packages used medical devices, also saves hospitals in solid waste disposal. [Health Affairs](#) reported that device users in the US, Canada, and Europe saved \$470 million in 2018 by reprocessing rather than repurchasing, also reducing solid waste by 7,100 tons. This is typically done with more expensive devices like endoscopes, rather than lower-cost commodity products.

Hospital savings by reprocessing have more than doubled yearly in medical waste and disposal costs over the past two decades. In 2019, 7,622 hospitals and surgical centers saved nearly \$545 million using reprocessed single-use medical devices, according to the Association of Medical Device Reprocessors.

Retail industry sustainability leaders are reprocessing and reselling items to elongate the product life cycle.

Cleveland Clinic reprocessed 62 tons of single-use devices in 2019, either reselling or reusing the devices. The organization aims to divert all its non-infectious waste from the landfill by 2027, and in 2019, diverted 30 percent. They track 39 categories of waste, from ice packs to batteries.



Redesign

San Rafael, California-based NewGen Surgical is helping hospitals go beyond the standard “reduce, reuse, recycle” thinking with a fourth path: redesign. One ripe redesign opportunity is the surgical kit. Disposable materials used to package single-use surgical tools make up about 20 percent of the solid waste for each hysterectomy, according to one study, and that costs money and adds to environmental harm.

While NewGen Surgical’s more sustainable single-use products—like those needle counters—sometimes cost a little more than their traditional counterparts, reformulating operating room kits can help reduce the cost difference. These kits contain a certain number of gowns, masks, sponges, gauze, a tray, and other supplies.

\$1.1 million: Purchase costs saved since 2012 by Ronald Reagan UCLA Medical Center by switching to reusable medical gowns. It’s also avoided 297 tons of waste.

There’s a lot of waste in these kits,” Luedee-Chase said. “They may have three to four products they’re not even using.”

Eliminating or decreasing the number of items in a hospital’s kit can lead to cost savings. In addition to surveying surgical staff and monitoring usage during procedures, hospitals would likely involve their distributors too, since the distributors create and sell the kits to many customers.

Project Greenhealth 2020 Sustainability Benchmark data showed that the median cost savings to reformulate operating room kits was \$1,098 per operating room.



Redistribute

When Elizabeth McLellan was working abroad as a nurse for an oil company, she visited a small-town hospital in Pakistan. There, she saw a physician remove a patient's surgical dressings with his bare hands while wearing a dirty gown. The American-trained nurse knew the vast amounts of medical supplies discarded in US facilities could find a good home here.

In 2007, back in the US, McLellan started collecting unused or washable supplies left behind in her Maine hospital's rooms, like basins, exam gloves, wound care supplies, IV bags, and open bags of diapers. Health insurance pays for these items, but hospital rules don't allow them to reenter their supply chain. McLellan started Partners for World Health (PWH) in 2009 to redistribute these supplies to under-resourced organizations.

By removing these items from hospitals, PWH helps lower facility costs while making a dent in their disposal fees. But redistribution also offers hospitals the potential for unexpected financial benefits. Researchers at New York University's Center for Sustainable Business have developed a methodology for determining the ROI of corporate sustainability initiatives, including often-overlooked benefits like improved employee satisfaction and customer loyalty. For example, retailer REI found their employee well-being program produced \$34 million in employee retention and improved productivity benefits in 2019.

In a time when three-quarters of millennials would accept a smaller salary to work for an environmentally responsible employer, and consumers are willing to pay more for sustainable products, all well-marketed sustainability initiatives can offer a significant value proposition to healthcare organizations. Partners like PWH can help communicate their value by providing partners with year-end accounting.

"We might say we took 44,789 pounds out of your facility," McLellan said. PWH also shares information and photos of where medical equipment was sent, ready-made for annual reports and other marketing materials.

Challenges in implementing medical supply changes

Of course, there are challenges in addressing how hospitals approach reprocessing, recycling, and redistributing supplies and equipment. Common obstacles include:

Bandwidth: Hospitals may not have a system set up to reprocess items or put open packages of supplies like sterile gauze, surgical sponges, or diapers back into the central supply. In a 2015 survey, 52 percent of health care facilities reported employee time limitations as a major barrier to sustainable operations; 50 percent cited inadequate staffing. Recycling programs and diverting supplies for donation to programs like PWH require setting up systems for multiple waste streams, with staff training, allocated space, oversight, and potentially different vendors to handle it.

Upfront investment: In the same 2015 survey, the top barrier to sustainable healthcare operations was competing investment priorities, cited by 61 percent of respondents. Investing in reusable devices, gowns, or other supplies requires a cash infusion that may not pay off short-term. Procurement policies like purchasing more sustainable supplies that may be slightly more expensive may clash with financial directives to obtain the lowest price. Unless sustainability initiatives are aligned with procurement and financial priorities, upfront investments or contracts for more sustainable products may be difficult to obtain.

Risk aversion: Medical organizations are understandably concerned about liability and preventing infection. That is one reason single-use disposable devices and supplies are used. Health Affairs reports, however, that there is no evidence that using single-use devices has reduced healthcare-acquired infections.

85%: Amount of hospital waste that is non-hazardous with potential for reuse or recycling.

As with all major changes in complex organizations such as health systems, a significant amount of buy-in, cooperation, and collaboration between various stakeholders is required to move many waste reduction initiatives forward. However, as entities all over the globe, from small non-profits to multinational corporations, are reinventing themselves in the face of climate change, hospitals are far from alone in their need for system-wide change.

| “The world *needstochange*. **Healthcare** *needstochange*.”

—Kimberlee Luedee-Chase

“The world needs to change. Healthcare needs to change,” said Luedee-Chase. “All these changes across a spectrum of solutions add up.”

Fortunately, healthcare organizations no longer have to make a choice between financial priorities and environmental aspirations. When hospital sustainability leads, CFOs, and procurement teams work together, there’s money to be saved from taking a sustainable approach, and the environment—and human health with it—wins in the process.

Share

Deborah Abrams Kaplan

From her New Jersey home office, Debbie was watching the squirrels, rabbits, and birds long before it became a national pandemic hobby. She covers supply chain and the medical industry, and sometimes the supply chain of the medical industry.

