

BATTERY **BYE-BYE**

CREATING MORE SUSTAINABLE FACILITIES THROUGH E-WASTE MANAGEMENT

By Carl Smith

Because of their size and sophistication, hospitals inherently consume a significant amount of energy and generate an abundance of waste — approximately 6,600 tons per day. Concern over a hospital's environmental impact has stimulated a growing movement to decrease the ecological footprint of these facilities. Facility managers and environmental decision makers have pursued several strategies including green building design, energy efficiency improvements, water conservation and recycling. An emerging environmental strategy for hospitals is the proper handling of electronic waste, or e-waste.

The amount of e-waste in the United States is on the rise, placing heightened attention on how it can be disposed of in a way that is best for the environment. According to the Environmental Protection Agency, e-waste accounts for nearly 2 percent of the municipal solid waste stream. E-waste may contain heavy metals such as cadmium, zinc and mercury that can harm human health.

Hospitals rely on a myriad of electronic products to administer patient care, accommodate visitors and enable staff



productivity; a quick survey of a typical hospital will uncover monitors, diagnostic equipment, TVs, communication devices, desktop and laptop computers, among the electronics that patients and employees employ. Hospitals regularly upgrade to newer technology and devices before their end of life, discarding existing products in order to make room for their replacements.

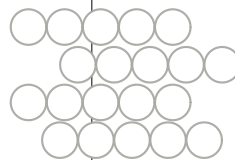
Given the volume of e-waste hospitals produce, it is critical to adopt a sound waste-management strategy that encompasses all types of e-waste. In recent years, product stewardship and the concept of producer responsibility have emerged as a promising and compelling

strategy for the collection and proper disposal of e-waste. Under these initiatives, ultimate responsibility for a product's proper disposal is placed on the shoulders of companies that make or sell products — from paints to prescription medication to electronics and rechargeable batteries — to create successful collection and recycling programs that ensure these products bypass the waste stream.

Rechargeable batteries are a particularly pervasive source of hospital e-waste, as many mission-critical devices are powered by rechargeable batteries or used for emergency backup — from life-saving medical equipment like portable defibrillators, heart monitors, vital sign analyzers and life support machinery to X-ray machines, wheelchairs, medical beds and medical crash carts.

Program infrastructure and implementation

Every effort should be made to divert e-waste from landfills, and by taking advantage of recycling programs hospitals can ensure that this aspect of their facility operations is completely sustainable. A successful recycling program requires an



infrastructure for on-site collection that is both robust and accessible. Taking products to the local municipal waste center, while a viable option, doesn't provide the accessibility necessary to maximize collections or foster widespread organizational support.

As state and local governments have mandated the recycling of certain products and materials, participation in an established recycling program also helps hospitals achieve compliance with legislation. For example, federal legislation known as the Mercury-Containing and Rechargeable Battery Management Act requires rechargeable battery manufacturers to establish a free and convenient recycling program for nickel cadmium rechargeable batteries. State governments also have joined the effort, with industry implemented, state-approved rechargeable battery recycling programs required in California, Connecticut, Florida, Iowa, Maine, Maryland, Minnesota, Oregon, New Jersey and Vermont. More recently, New York City created legislation requiring retailers to assume this responsibility.

Call2Recycle exemplifies a turnkey solution for rechargeable batteries, a free 'take-back' program where used products are accepted for recycling at no cost. Founded in 1994 as a non-profit organization by the rechargeable battery industry, the program is the industry's first and only product stewardship program for rechargeable batteries, providing a free, comprehensive and environmentally sound recycling solution in the United States and Canada. To date, the program successfully has recycled more than 50 million pounds of rechargeable batteries.



Used rechargeable batteries are considered hazardous waste and therefore require special handling to ensure safety during storage and transport, which is accounted for in Call2Recycle's collection and transportation procedures. Rechargeable batteries must have their terminals covered with non-conductive tape or be placed in individual plastic bags. Call2Recycle enforces safety with all program participants to protect both personnel and property, from ongoing safety training seminars and initiatives and safety instructions imprinted on the box, all the way down to the double-walled collection box and supply of plastic bags to minimize the potential risk of fire during storage or transport. Used rechargeable batteries are shipped by ground courier only per the U.S. Department of Transportation requirements for transporting hazardous materials in accordance with the Universal Waste Rule.

Recycling toward sustainability

The Hospital Corporation of America has improved its sustainability by turning to a rechargeable battery recycling program. Based in Nashville, Tenn., HCA is the nation's largest privately-held operator of healthcare facilities, owning and operating 166 hospitals and 107 surgical centers in 20 states. After careful examination of the various sources of e-waste its facilities produced and evaluating the optimal way to man-

age each, HCA opted to implement a companywide recycling program for rechargeable batteries, leveraging Call2Recycle's collection infrastructure. The entire HCA network has been enrolled in the Call2Recycle program for a little more than one year, during which time its facilities have recycled more than three tons of rechargeable batteries, the majority of which are

gathered through the organization's medical devices and equipment.

"Due to the nature of the equipment they rely on, each of our hospitals and surgical centers generates various battery chemistries from medical equipment and communi-

cation devices," said Tim Portale, assistant vice president for environment and safety at HCA. "Taking advantage of an existing recycling program that makes it cost-effective and convenient to recycle has been helpful in getting all of our facilities on board with a recycling initiative. These efforts have had an effect in reducing overall e-waste at each facility without incurring any additional costs or establishing elaborate infrastructures to do so."

With the pace of e-waste growth only poised to accelerate in coming years, addressing its effective management in the short term will drastically help hospitals as they strive to meet sustainability goals in the future.



Carl Smith is CEO of the Rechargeable Battery Recycling Corporation, a non-profit, public service organization founded by the rechargeable battery industry in 1994 that is dedicated to rechargeable battery recycling.

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