Vestara’s EcoRex

LICENSED FOR 1,100 BEDS WITH AN AVERAGE DAILY CENSUS OF 700 patients, Riverside Methodist Hospital, in Columbus, Ohio, is the flagship facility of OhioHealth, a family of not-for-profit health care organizations serving patients throughout Ohio. The hospital administers an enormous and diverse array of pharmaceuticals, resulting in large amounts of pharmaceutical waste that requires effective management.

In a large, fast-paced hospital such as ours, educating staff in pharmaceutical waste handling policies and procedures is a daunting task. Many institutions struggle with the time-consuming and cumbersome process of identifying pharmaceutical waste and correctly disposing of it in the appropriate waste stream. Oftentimes, this results in hazardous medications being placed inadvertently in regular trash, or incorrectly poured down the drain. Our goal was to establish efficient and compliant disposal of hazardous drug waste.

Compliance with state and federal hazardous pharmaceutical waste disposal regulations is extremely important. Since the public holds hospitals in a higher regard than the factory down the block, news of mishandled drug waste might negatively affect the public’s perception of Riverside and bring potential fines of up to $32,500 per infractions of the applicable laws. We wanted to do the right thing and make sure hazardous pharmaceutical waste did not end up in rivers or landfills.

While searching for a way to manage our growing amount of pharmaceutical waste and maintain regulatory compliance, Riverside discovered Vestara’s EcoRex Pharmaceutical Waste Management System. To our knowledge, EcoRex was the only completely automated pharmaceutical waste management system available.

System Features and Functions
EcoRex identifies, classifies, and sorts bar coded pharmaceutical waste into hazardous, infectious, mixed hazardous/infectious, chemotherapeutic, and lower-risk waste streams. By simply scanning the item bar code and touching the screen to indicate whether the item is sharp or non-sharp and empty or non-empty, the correct disposal bin — classified by waste stream — automatically opens. Once the item is placed inside, the user rotates the bin’s lid to a closed and locked position. If drug waste content is safe to pour down a drain or place in the municipal trash, a display message appears. Bin sensors and time indicators relay messages to the user interface screen, which prompts users of the status of each bin. Once the bins reach capacity, “pick-up” messages can automatically be sent to environmental services.

With the capacity to interface and identify all 140,000-plus NDC codes and pharmacy-compounded admixtures, EcoRex allows hospitals to dispose of vials, ampoules, syringes, IV bags, glass bottles, and other drug dispensing items safely and accurately. Because its pharmaceutical waste disposal management solution was so comprehensive, we decided to evaluate EcoRex during Vestara’s pilot studies.

Installation and Evaluation
EcoRex was installed and tested in the IV admixtures area of the pharmacy. Riverside already had a bar coded medication system in place throughout the hospital, and had the ability to send HL7 messages from our pharmacy computer system to our bar coded medication administration (BCMA) system. The existing interface (with certain fields stripped out) provided EcoRex with institution-generated bar codes on pharmacy-compounded products, such as IV piggybacks, large volume parenterals, and extemps. We also downloaded our formulary bar code information to EcoRex, with the goal of being able to scan everything through EcoRex, 100% of the time, to determine the correct pharmaceutical waste stream for each drug.

During the pilot study, we evaluated whether EcoRex would interface effortlessly with our McKesson software and receive HL7 messages. We also wanted to confirm that the correct EcoRex waste bin would always open, and that our pharmacists could operate the device with ease.

At the conclusion of the study, we found that EcoRex worked well within the pharmacy department. It interfaced correctly with our pharmacy system, recognized pharmacy-generated bar codes, identified manufacturer’s bar coded products, and classified drug waste — including safe trash and sewer waste — so that items could be sorted and disposed of in the appropriate and most economical waste stream. Furthermore, our pharmacists were receptive to using automation and were pleased to find that it assisted with the compliance of Riverside’s drug waste policy. EcoRex was particularly helpful in identifying the proper waste stream for epinephrine, insulin, and phenytoin — drugs that had caused our staff some confusion before the pilot study. All they need to do is scan the container, and EcoRex does the rest.

Long-Term Value
We see Vestara’s EcoRex as a valuable resource for the management of pharmaceutical waste at Riverside Methodist Hospital. Using an automated pharmaceutical waste management system could help any facility gain compliance with state and federal pharmaceutical waste disposal regulations. Furthermore, given the nature of today’s health care environment and the demands on health care providers’ time, hospital leadership should embrace automation to improve and streamline processes such as pharmaceutical waste management.

By Brendan Reichert, MS, RPh and Andrew D. Gons, MS, PharmD

WHERE TO FIND IT:
Vestara Circle reader service number 20
or visit www.vestara.com

Brendan Reichert, MS, RPh, is the clinical applications manager in the information services department of OhioHealth. He received a master’s degree in health-system pharmacy from the Ohio State University College of Pharmacy in conjunction with a pharmacy practice residency at OhioHealth’s Grant Medical Center in Columbus, Ohio.

Andrew D. Gons, MS, PharmD, is a pharmacy services operations manager for Riverside Methodist Hospital.