



# Why Didn't I Think of That...?

By Kathy Moorman, BS, PharmD, CPh

## Using Automated Dispensing Machines to Reduce Lost Charges in the ER and Anesthesia

AT UNIVERSITY COMMUNITY HOSPITAL (UCH), WE ARE CONSTANTLY looking for ways to improve systems. When equipment or systems are not being used to their full advantage, we usually find it is because the equipment is not set up in a user-friendly way. This was the case in the emergency and anesthesia departments, where we were experiencing problems with lost medication charges. The pharmacy department had done many in-services on the correct use of our Pyxis machines, as well as audits and staff counseling. And yet, the problem continued.

### The Emergency Room

Using Pyxis discrepancy reports, pharmacy identified the top items that were not being charged. In the ER, the number one lost charge item by both volume and expense was the adult diphtheria tetanus vaccine. The count was turned on, but the

This new procedure has reduced our lost supply costs significantly – from a high of \$6,000 to less than \$500 per month – and in a sustainable manner.

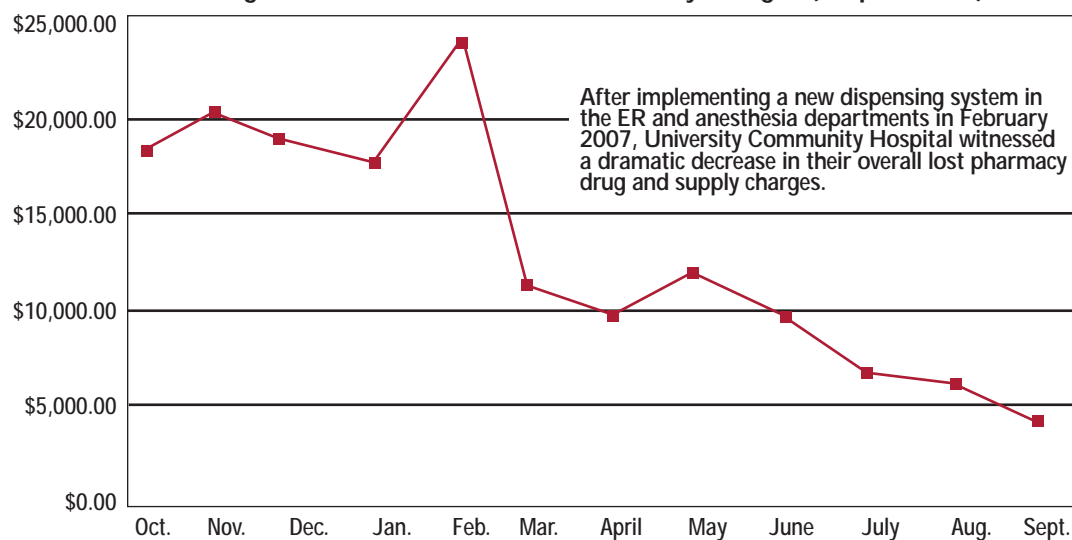
We realized many other benefits from this new dispensing system. Nursing is able to go to one location for all of their minor wound-care needs, and physicians are able to treat their patients in a more efficient manner because supplies can be quickly obtained. Administration has been pleased with the reduction in lost medication charges, pharmacy billing corrections have decreased by over 90%, and our patients receive minor wound treatment in a timelier manner.

### Anesthesia

Again, despite many in-services and much education, lost medication charges were high in the anesthesia department. The director of the OR, the Pyxis coordinator, and the director of pharmacy reviewed Pyxis usage in our anesthesia areas, and after much discussion with the anesthesia group, in February 2007, propofol (Diprivan) and rocuronium (Zemuron) were moved to Pyxis CUBIE drawers set for single item removal, making only one vial available for dispensing at a time. We focused on propofol and rocuronium because these drugs were routinely noted as discrepancies in our Pyxis stock reports. Furthermore, they are routinely used in surgery, are expensive, and if they are not readily available, surgery starts are delayed. We made the switch to the CUBIE drawers on a weekend evening so that the surgery process would be minimally disrupted.

Lost supply costs have since decreased significantly, and that decrease has been sustained. This project was well received by the anesthesia group, surgery staff, and pharmacy. Medications are now readily available, par-level discrepancies have decreased, and pharmacy drug supply costs and billing records are much more accurate.

Figure 1. Fiscal Year 2007 Lost Pharmacy Charges (hospital-wide)



drug product loss continued to be high, as did the number of billing discrepancies. This resulted in many bill corrections by pharmacy and increasing frustration for both pharmacy and nursing staff, as drugs were not available when physicians needed them.

After a considerable spike in lost charges for expensive adult diphtheria tetanus vaccines in February 2007, our Pyxis coordinator met with the ER nurse manager and director of pharmacy, and ultimately decided to add a small refrigerator with remote access to one of the Pyxis units in a centralized location. This unit was designated as the wound care Pyxis. We wanted to make this a more user-friendly system for nursing, so we placed wound care supplies, such as sutures, needles, and syringes, in a supply Pyxis located near the wound care Pyxis. We stocked anesthetic agents, adult diphtheria tetanus vaccines, and other medication supplies needed for minor wound care in this one location.

We educated the staff to document each dose of diphtheria tetanus vaccine removed from the Pyxis dispensing cabinet. The count was turned on, so if the next nurse identified a discrepancy, they informed the nurse who removed the previous dose, educated that nurse as to the correct process, and corrected the discrepancy.

### Conclusion

While we still have a long way to go in tackling lost pharmacy charges, the changes in the anesthesia Pyxis system setup and our new ER wound care Pyxis have allowed us to capture almost \$10,000 more in charges per month. The surgery department is currently focusing on the cardiovascular operating room to improve compliance from that group, thus enhancing service to our patients, physicians, nurses, and administration. Throughout the course of implementing these changes, we have discovered that the best ideas come from frontline staff members – those who work with the patients and automated equipment every day. Their ideas have helped us change the way we do our jobs and improve the care we provide to our patients. ■



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