

# PHARMACY PRACTICE NEWS

## **Pharmacy Goes Mobile With Portable Technologies April 2008**

By: Al Heller

Mobile access to key care information can help health-system pharmacists improve patient outcomes and satisfy physicians with prompt support. With detailed drug information and the latest patient records and laboratory values always at their fingertips, pharmacists with wireless tablet personal computers (PCs) or personal digital assistants (PDAs) can readily answer questions and speed appropriate patient treatments.

“Pharmacists want mobile access to real-time patient information and clinical references while working in patient care areas. In particular, the ability to retrieve real-time patient data on rounds is a popular function,” said Michael E. Gregory, PharmD, BCPS, strategic projects coordinator in the Department of Pharmacy Services at the University of Michigan Health System in Ann Arbor.

### **UMich Takes Tablet PCs**

More than 30 full-time equivalent pharmacists (FTEs) dedicated to inpatient clinical activities in the Michigan system are equipped with Motion 1600 Tablet PCs, and feedback from other health care professionals about the equipment has been positive, Dr. Gregory said.

The current tablets access the hospital’s pharmacy information system, all Web-based clinical resources (including drug information) and the health system’s computerized provider order entry (CPOE) system, which is currently live in the Children’s Hospital and will be implemented this spring in the university hospital.

Dr. Gregory believes that pharmacists will continue to expand their use of portable technology. “Access to information at the point of care provides a better environment for therapeutic decision making, and the ability to document clinical interventions and perform tasks in other applications on the go can help improve efficiency,” he said.

However, he cautioned, “no one-size-fits-all solution exists. Different clinical practice patterns [such as] rounding on a primary or a consult team and [different] patient care settings [such as] acute care versus ICUs [intensive care units] will have different needs and use the devices in different ways.”

### **Ownership at Holy Spirit**

At Holy Spirit Hospital in Camp Hill, Pa., where pharmacists are just beginning to round with physicians in the medical and surgical ICUs, most of the 20 FTEs carry their own personally bought PDAs. Only a handful of pharmacists in certain roles such as operations director or liaison with the Information Technology Department carry BlackBerry devices supplied by the hospital, according to Marcia Cohen, RPh, a staff pharmacist at the 332-bed community hospital.

“Most physicians carry one of these devices. It’s almost expected in today’s world,” she said. “When our pharmacists work on the floor, we’re in the medical/surgical unit. Every pharmacist in that unit has loaded drug information software onto their PDAs because the majority of questions from physicians or nurses are about side effects, adverse effects, renal dosing and such that require quick answers to save the back-and-forth phone calls. “I loaded Epocrates Rx onto my BlackBerry and so has our clinical pharmacist,” Ms. Cohen added. “I’ve used this reference guide for many years on a Palm Treo, but the BlackBerry is so user-friendly that I switched since Epocrates Rx became available for it.”

[In addition to recently making its free drug and formulary reference guide available to BlackBerry users, Epocrates helped the U.S. Pharmacopeia incorporate warnings about more than 3,100 look-alike/sound-alike drug pairs into its drug databases. According to the USP’s MEDMARX database of medication errors, between 2003 and 2006 more than 1,400 different drugs were involved in errors because of similarities in their names.]

Holy Spirit has not standardized a wireless approach for its pharmacists because the facility has focused on converting to a new hospital-wide clinical information system that includes pharmacy management, CPOE and electronic medication administration records. This system, called Eclipsys, will give pharmacists immediate access to the Micromedex or Clinical Pharmacology databases. “I’ll keep Epocrates Rx on my BlackBerry even after the new system comes up. It gives me quick answers, it’s real time and it updates automatically once a week,” Ms. Cohen said, adding that Epocrates Rx allows her to answer renal dosing questions by accessing a patient’s profile to see their creatinine clearance, check if a drug is metabolized by the kidney and get dosing parameters.

### **Packed PDAs at Moses Cone**

Spurred by Nike’s “Just Do It” theme, the 40 FTEs at Moses Cone Memorial Hospital in Greensboro, N.C., do clinical rounds with heavily programmed PDAs and a related mantra, “Time is money, time is care,” said clinical pharmacy coordinator Jean Douglas, PharmD, FASHP. The hospital began providing the PDAs more than four years ago.

The average patient census at Moses Cone is 440, and eight of the 11 pharmacists assigned to clinical consults on the first-shift rotation do their own rounds to see 240 patients. The other three clinical pharmacists also do critical care, pediatric and neurology rounds each morning with nurses, physicians and medical residents.

Gear belts might come in handy for the pharmacists: Each carries a PDA (either a Palm Tx or Palm Tungsten 3E), a beeper and an Ascom internal mobile phone, which they use to speak to clinicians in other units or the pharmacy while in the building. “These tools help us to be more efficient and solve problems as they arise,” Dr. Douglas said. “If we can initiate therapy quickly, the patient should respond quickly.”

Providing the PDAs reduced the time it takes to obtain patient medication lists and laboratory values by 50%, Dr. Douglas said. “I can’t imagine not having them now. If one gets misplaced, it’s a big deal. We all look for it.”

The PDAs are loaded with software and systems designed to maximize access to information, including MedCalc/MedMath medical equation software; Lexi-CALC, which calculates infusions and converts pediatric and adult doses; Lexi-Comp drug information with FDA alerts; APK, a pharmacokinetic dosing program; and, most recently, Clinical Xpert CareFocus, a Web- and mobile-based patient-profiling system that is part of Thomson Healthcare’s MercuryMD and can define alert situations among high-risk patients.

As part of a quality improvement study, the Moses Cone pharmacy team found that pharmacists were rounding heparin dosage numbers differently. They were calculating by hand using the PDA’s built-in calculator, and that led to slight variations in dosing.

“We hired someone to program the heparin dosing equation onto the Palm, and now there’s standardization in rounding to tenths,” Dr. Douglas said. “Results are more consistent and targeted. We can also double-check against manual calculations to verify we’re writing the right order—a huge benefit when writing orders for high-alert drugs. In fact, we’ve seen a 5% to 10% improvement in the accuracy and timeliness of our heparin dosing by having the formulas programmed on the Palms.”