

VMC Scans the Right Medicine

by Mary Duan

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SAN JOSE — Medication errors lead to soaring costs and in some cases patient deaths in hospitals nationwide. Now one valley hospital has rolled out a new system to avoid costly errors, using the same kind of bar code and scanning technology found at the grocery store.

Santa Clara Valley Medical Center launched the Medication Administration Checking program on July 21. Widely considered to be the ultimate drug safety application, the system is currently in use in the hospital's burn unit and in one general medical unit. Valley Medical Center plans to implement the program throughout the hospital by early next year.

An average of 100,000 hospital patients nationwide receive incorrect medication each year. Those mistakes cost \$3.5 billion in extra patient care and result in nearly 7,000 deaths.

The Medication Administration Checking program uses a system of bar codes and scanning machines to prevent such errors. Nurses scan patient wrist bands before placing them on a patient, and then scan them each time before administering medication. In the burn unit, computers and scanning wands have been placed in the rooms, while in the general unit, nurses wheel the computer and scanning system with them to a patient's bedside.

The system integrates Siemens Medical Solutions software and a bar code reader from Utah-based Code Corp. on the cart. The system is run off of a computer from Burlingame-based Tangent Inc., which specializes in computers for health and military use.

The program is being funded entirely by a \$2.2 million grant from the Betty Irene Moore Nursing Initiative, part of the Gordon and Betty Moore Foundation. The hospital will continue rolling out the program to all of its 35 units, and when the rollout is finished, each nurse will have a scanning system and computer at his or her disposal.

Last line of defense

The system has been implemented at the nursing level because nurses are the last line of defense against a medication error.

"This is one of those desires we had, but without the grant, we couldn't have afforded this system," said Chris Wilder, executive director of the Valley Medical Foundation.

Trudy Johnson, Valley Medical's chief nursing officer, said a national study found that nearly 25 percent of the time, nurses were interrupted while in the middle of giving medication to a patient.

"Giving medication to a patient is a complicated process, and the bar coding doesn't necessarily make it simple, but it's an efficient process and it links all the important pieces together to make sure you have the right information on an order, the right patient and the right medication," Johnson said. "Medication bar coding is all about patient safety."

Narinder Singh, the hospital's pharmacy director, said there can be between 60 and 80 steps between the time a doctor sees a patient and writes a prescription to the time a pharmacy fills a prescription to the time a nurse administers the medication.

"When you have 80 steps, you have lots and lots of chances of error because everything is human dependent. When you take into account fatigue and patient load, the chance of an error increases," Singh said.

VMC began automating its process several years ago when it began printing out medication administration records — the legal document used to track a patient's medications — so nurses didn't have to interpret a doctor's handwriting.

"We are completely eliminating paper and going to electronic medication administration with a bedside point of checking," Singh said. "The physician, the pharmacist and the nurse are seeing the exact same information."

When the pharmacy dispenses a drug, there is a bar code associated with the medication and the patient. A nurse logs into the computer, scans the medication and the patient, and receives either a green light or a notice that the medication can't be administered at that time and a reason why; for example, it may have been too early to give a particular medication.

More from Moore Foundation

The MAC grant is one of two substantial grants the Moore Foundation has given to Valley Medical since 2006. A second grant, for \$2.1 million, will enable the hospital to seek "magnet" status, the highest level of nursing accreditation possible, from the American Nursing Credentialing Center.

The foundation saw the potential impact of using health information technology to improve patient care "at this safety net hospital," and the project aligned with the foundation's goal of supporting nurses, said Amy Mushlin, senior program director of the Betty Irene Moore Nursing Initiative. Moore launched the initiative in part after she received an incorrect medication during a hospital stay, according to a report published on an online nursing magazine.

"While she is not an RN, Betty's experiences led her to recognize the need to further support nurses in providing excellent patient care," Mushlin said. "Betty's vision for health care is that all patients will receive perfect care, not only in medication but in all aspects of their hospital stay."

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