

Case Study



Mary Lanning Memorial Hospital has served the city of Hastings, Neb., and surrounding communities for more than 90 years. The hospital is a nonprofit, 183-bed acute-care facility offering 29 medical specialties in areas such as medical, surgical, obstetric, rehabilitation and ambulatory services. Mary Lanning's compassionate approach to patient care, augmented by state-of-the-art technology, diversified services, and outreach clinics in six communities, has placed the hospital system at the forefront of healthcare in central Nebraska.



Mary Lanning Memorial Hospital Creates a Culture of Safety with Integrated Technologies

After a tragic medication mistake, Mary Lanning Memorial Hospital moved quickly to maximize the power of bar-code scanning and automation technologies to help prevent that type of error from occurring again. Now, with an integrated pharmacy system and "five rights" bar-code checking, the provider has achieved an impressive 91% reduction in medication errors. The hospital has also reduced costs related to medication errors by 70%, improved medication charge accuracy by 86%, and won the 2006 VIP Award for medication management.

Challenges

Mary Lanning Memorial Hospital (Mary Lanning) in Hastings, Neb. has served the healthcare needs of the surrounding community for 91 years through a 183-bed acute-care hospital, 29 medical specialties, five primary care and four behavioral health clinics. The provider is focused on quality outcomes and patient safety and has enjoyed a statistically low medication error rate: 10 errors per 10,000 doses. In 2001, however, a large dose of insulin was mistakenly administered to an elderly patient instead of the prescribed heparin.

The patient fell into a coma and died a year later. An analysis highlighted significant variances in medication delivery and inconsistent application of the "five rights" of medication administration — right patient, right drug, right dose, right route and right time. The study also indicated that bar-code technology would have prevented the error.

Hospital management took immediate steps to improve patient safety. "The sentinel event was the stimulus that said: 'Let's fix this and fix it now,'" says Leota Rolls, vice president and chief operating officer.

Answers

Backed by executive support and the Board of Trustees, a multi-disciplinary team composed of administration, pharmacy, nursing, quality improvement, respiratory therapy and information technology (IT) staff proposed significant changes to medication delivery specifying the addition of bar-code technology. It also recommended that the hospital allocate appropriate capital for pharmacy technology, wireless networking, unit-dose bar-code packaging services, and bar-coded patient wristbands and staff badges.

At a Glance

Organization

Mary Lanning Memorial Hospital,
Hastings, NE

- 183-bed hospital
- 29 medical specialities
- Five primary care and four behavioral health clinics
- Inpatient visits per year: 6,500
- Outpatient visits per year: 88,630

Solution Spotlight

- Horizon Admin-Rx
- Horizon Meds Manager
- PakPlus-Rx

Critical Issues

- Medication safety
- Clinician efficiency
- Medication charge accuracy and availability
- Wasted healthcare resources

Results

- Reduced medication errors by 91%
- Improved drug monitoring and pharmacy efficiency
- Gained adoption and saved 4,927 nursing hours annually
- Improved medication charge accuracy by 86%
- Reduced medication administration steps by 50%
- Increased availability of bar-coded medications to 98%
- Saved \$96,000 in healthcare costs associated with errors

In addition to McKesson's Horizon Admin-Rx™ point-of-care scanning system, the team selected Horizon Meds Manager™ pharmacy information system, as well as PakPlus-Rx® bar-code packaging service and infrastructure upgrades.

The PakPlus-Rx service freed the pharmacy from the burdensome task of labeling all medications with scannable bar codes. After receiving a medication order, pharmacists use Horizon Meds Manager to screen for allergies, interactions and therapeutic duplications. Nurses and respiratory therapists use Horizon Admin-Rx to help prevent medication errors by scanning bar-coded medications. The solution also automatically documents and charges at the point of medication administration — improving consistency, legibility and billing accuracy.

Anticipating some resistance from nursing staff, Mary Lanning dedicated Julie Chilcott, RN, MS, as an around-the-clock special projects coordinator serving as a trainer, cheerleader, facilitator and support person. Chilcott recruited nursing and

respiratory staff to become “super trainers” and to deliver one-on-one support 24x7 as each unit went live on the system. “We knew that if we gave the nurses the support they needed and helped them become comfortable with the system, we would be able to keep our patients safer,” Chilcott says.

Nurses realized the benefits of bar-code verification within a few weeks and wondered how they ever worked safely and efficiently without it, Rolls recalls. “Although many nurses didn't want to use the handheld computer, they now clearly understand how it makes their lives easier and contributes to patient safety,” she says.

Results

The new medication administration process has changed how pharmacists and nurses interact. “Communication between the groups has improved because with Horizon Admin-Rx, pharmacists have to think like nurses, and nurses like pharmacists,” explains Roger Glen, Pharm.D., R.P. pharmacy director. He adds, “Medication complexity has changed so much over the past

10 years that having the bar-code double check gives us all a greater sense of comfort that we're administering the right medicine every time."

Medication Safety – In addition to reducing variability of care and improving clinical efficiency, Mary Lanning has reduced medication errors by 91%.

Clinician Efficiency – The pharmacy system has enabled more effective monitoring of drug therapies and interactions, helped standardize pharmacy practice, and improved staff efficiency. The Mary Lanning team also carefully scrutinized and reduced the number of steps in the medication administration process by 50%. Automation has eliminated the nurses' daily task of verifying the paper medication administration record, freeing up 4,927 nursing hours each year that are now dedicated to direct patient care.

Medication Charge Accuracy and Availability – With the integrated technologies, the hospital has improved the accuracy of medication charging by 86%. The packaging service facilitated better pharmacy

inventory management and increased the availability of bar-coded medications from 30% to 98%.

Reduced Costs – Mary Lanning has saved \$96,000 since 2002, a 70% decrease, by reducing the healthcare costs (laboratory tests, increased length of stay, etc.) associated with medication errors.

Equally important, the hospital built a blame-free environment and a culture focused on safety. "We created a climate where we think about safety — people consciously consider what *could* have happened or *almost* happened," Rolls explains. "If you can stop the 'almosts,' you can stop the errors."

Despite its rural location, size and limited resources, Mary Lanning Hospital has the recognition and statistics to be ranked among the top hospitals in the nation when it comes to patient safety. "Size shouldn't be a deterrent," notes Michael Kearney, president of Mary Lanning Memorial Hospital. "People need to look at how they improve safety in their organizations, and technology is one of the keys."

**"If you can stop the 'almosts,'
you can stop the errors."**

Leota Rolls

Vice President and

Chief Operating Officer

Mary Lanning

Memorial Hospital

McKesson Provider Technologies

5995 Windward Parkway
Alpharetta, GA 30005

<http://www.mckesson.com>
1.800.981.8601

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