

Cardinal Health's R_xe-sourceSM service enables eMAR technology and improves patient care

Pharmacy Services

The challenge

With the nationwide shortage of registered pharmacists, many hospitals are challenged with attracting and retaining pharmacy talent – particularly in rural areas and for late-night shifts. In fact, according to a 2005 survey by the American Society of Health-System Pharmacists, 70% of all hospitals today do not provide 24/7 pharmacy coverage.

Lack of continuous pharmacy coverage creates productivity as well as patient safety concerns. In addition, continuous pharmacy coverage is a requirement for some of today's electronic medication administration record (eMAR) systems. This was the case for Lewistown Hospital, who turned to Cardinal Health for help with providing continuous pharmacy coverage to implement an eMAR system, increase efficiencies, improve patient care and realize savings.

Background

Lewistown Hospital, a 139-bed acute care facility, is located in a small community in central Pennsylvania.

Solutions

To address the requirements for the eMAR system, as well as enhance after-hours medication safety, Cardinal Health implemented its R_xe-sourceSM service, a remote medication order entry and review service that provides the hospital cost-efficient access to qualified pharmacists around the clock. Cardinal Health's R_xe-sourceSM service provides remote medication order review and entry directly into clients' hospital pharmacy information systems through one of several regional service centers.

According to Director of Pharmacy Rich Stomackin: "Although round-the-clock pharmacy service is the biggest benefit we receive, it's not the primary reason that we initially elected to use the R_xe-sourceSM service. Our nursing team was determined to implement an electronic medication administration record (eMAR) system. When we discovered that it required 24-hour pharmacy coverage, we began shopping for an overnight order review service."

(continued on reverse)

Results at a glance:

Cardinal Health's R_xe-sourceSM service has helped Lewistown Hospital achieve \$83,315 in savings during one recent quarter:

- \$58,870 in avoided costs through 478 pharmacist interventions and consultations*
- \$24,445 in labor costs compared with staffing night shifts internally**
- Reviewed 11,195 medication orders with an average order processing time of less than 20 minutes
- Improved communication, more precise control of drug information and implementation of an eMAR system

* Estimated savings include:

- \$7,170 from quicker therapeutic substitutions as a result of 478 consultations (assumes savings of \$7.50 per day for two days per consultation)
- \$51,700 from avoided adverse drug events (ADE); assumes 10% of the 105 consultations involving potential safety concerns prevented ADE, which have an average cost of \$4,700 per event (Bates DW et al. The costs of adverse drug events in hospitalized patients. Adverse Drug Events Prevention Study Group. *JAMA* 1997;277:307-11.)

** Differential between cost of R_xe-source service and estimated costs for recruiting, hiring, salary, training and benefits for two full-time registered pharmacists



Today, when the hospital pharmacy is closed, Lewistown's nursing staff have access to a R_xe-sourceSM pharmacist who can immediately review medication orders and patient records, verify the accuracy of the orders and enter them into the system to be remotely dispensed at the hospital.

Results

During a recent quarter at Lewistown Hospital, the R_xe-sourceSM service reviewed 11,195 medication orders with an average order processing time of less than 20 minutes during the overnight period. Most importantly, the R_xe-sourceSM pharmacists provided 478 consultations – medication orders in which additional patient-specific information was needed, including issues like allergies, therapeutic substitutions or dosing service – resulting in an estimated \$58,870 in avoided costs for Lewistown. Furthermore, providing continuous pharmacy coverage through the R_xe-sourceSM service generates additional savings when compared with the costs of staffing night shifts internally – an estimated \$24,445 in savings each quarter.

"I know our nursing staff is pleased with the service. They are getting their medication questions answered promptly, and I believe they will extract even more value going forward."

– Rich Stomackin
Director of Pharmacy
Lewistown Hospital

"... In combination with our electronic record system, the R_xe-sourceSM service has eliminated handwritten records, which decreases the chance for errors."

– Jan Ferguson
Patient Care Director
Lewistown Hospital

"I know our nursing staff is pleased with the service," said Stomackin. "They are getting their medication questions answered promptly, and I believe they will extract even more value going forward."

Using the R_xe-sourceSM service has made improvements for the nursing staff in several ways, according to Patient Care Director Jan Ferguson. "First, we have the confidence of knowing that an order has been reviewed by a pharmacist before administration. Second, since information gets into the system more quickly, we can get needed medications to our patients faster. Next, while we obviously had overnight access to our pharmacists before we used the service, no one wanted to make a middle-of-the-night call unless it was really necessary. Now, with pharmacists on duty all night, we're much more likely to call for a clarification or consult. And finally, in combination with our electronic record system, the R_xe-sourceSM service has eliminated handwritten records, which decreases the chance for errors."

Today, Lewistown's staff and patients are benefiting from the improved communication, more precise control of drug administration and enhanced coordination of care afforded by its eMAR system.

Cardinal Health's R_xe-sourceSM service processes 3.3 million medication orders annually for hospital pharmacies, increasing productivity and improving satisfaction with nurses and caregivers. The service also is producing measurable improvements in patient safety – last year the R_xe-sourceSM service identified 18,000 potential patient safety events.

The Pharmacy Services business of Cardinal Health has more than 35 years of expertise in helping hospitals and health care systems improve both the financial predictability of pharmacies and the quality of patient care. Based on each hospital's needs, we drive efficiencies and measurable improvements in the pharmacy, resulting in safer patient care.



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3PM0969 (1006/500)

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