

Performance Strategies

for Healthcare Leaders



Power Your Pharmacy to Achieve Safety and Efficiencies

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Closed-Loop Medication Technology Puts Comanche County at Leading Edge of Patient Safety



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From Manual to Automated in 180 Days

Comanche County Memorial Hospital (CCMH) is a 283-bed community hospital in Lawton, Okla. Our decentralized, manual medication distribution process was impeding our mission to provide safe, innovative healthcare to the people of Southwestern Oklahoma. We determined that we needed to achieve a complete overhaul as quickly and efficiently as possible.

Using a single-vendor approach, we went from a totally manual process to implementing a totally automated closed-loop medication distribution and administration process in just six months. We reasoned that if the entire workflow was going to change, why not do it all at once?

In addition to our [pharmacy information system](#), we have a [fully integrated pharmacy automation solution](#) that includes McKesson's [robotic dispensing](#), [medication storage and retrieval carousel](#), [electronic replenishment](#), [bar-code point of care](#), [packaging service](#), [automated fax imaging order entry](#), [340B program manager](#), [dispensing cabinets](#) and [secure narcotics tracking solutions](#). Together, they create an interlocking safety loop that has enabled our hospital staff to transform patient care, medication management and pharmacy productivity at our hospital.

Safety Gains

Bar code-based, closed-loop medication technology has drastically reduced errors in distribution and administration of drugs. In doing so, the technology has helped us reduce adverse drug events and improve overall patient care. With only 25% of the nation's hospitals having achieved this milestone, CCMH is on the leading edge of patient medication safety.

Care is better and safer because:

- Our nurses consistently check for the "five rights" of medication administration: right patient, right route, right dose, right time, and right drug.
- The focus of our pharmacists has moved from distribution and order entry to clinical initiatives that make a difference in patient outcomes. By spending more time on clinical consultation, pharmacists can advise on the need for therapies such as ACE inhibitors for congestive heart failure, antibiotics for pneumonia, and anti-coagulation services.
- Our pharmacy information system provides us with alerts and reporting that helps identify patients that need a medication review.
- We initially deployed more pharmacists to the nursing units for direct patient care, improving patient and nurse satisfaction.

Process Efficiencies

Within a year of implementation, our automated bar code-based system was generating process and labor efficiencies that completely exceeded our expectations. Three years later, we are still seeing gains.

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Closed-Loop Medication Technology Puts Comanche County at Leading Edge (Cont.)

- Missing doses, medication stockouts and pharmacist order check time have significantly decreased.
- Cart-fill efficiency has increased to nearly 100%.
- Technician labor needed to pick, deliver and return medications has dropped by one-third.
- The time it takes to train new technicians has been reduced.
- Ongoing real-time tracking of medication usage and inventories has brought us supply chain efficiencies.

Our pharmacy information system gives us flexible options to match our pharmacist workflow. Clinical alerts, such as lab values or antibiotic length of therapy are communicated to the appropriate pharmacist in the work queue and through automated daily paper reports. Our pharmacists especially like the communication feature that enables nurses to send a message from our bar-code medication administration system directly to the pharmacy, where it appears linked to the patient and the medication. This decreases phone calls to pharmacists, which directly impacts our accuracy and efficiency.

Financial Benefits

We've achieved significant cost savings as well.

- Expired medications have dropped by more than 50%.
- We have reduced pharmacy and drug cabinet inventory from \$540,000 to \$440,000.
- Automated 340B program tracking maximizes drug cost savings while producing well-documented compliance with efficiency. It has simplified administration requirements without having to add personnel or implement disparate software systems. This purchasing software ensures compliant contract purchasing, with savings ranging from \$200,000 to \$400,000 annually.

Make the System Work for You

Our advice to others is this: Don't stop after the technology is implemented. Work out kinks in the process, and allow your staff to get comfortable with the solutions. Then ask, "Are we getting everything possible out of this technology?" Look at existing processes, and determine what you need to do to make them more efficient so that they create an optimal medication use process.

At CCMH, we fine-tuned the technology to optimize inventory. After setting up virtual shelves in the automated inventory system, we trained our staff to scan medications every time a drug was removed from the shelf. Inventory cycle count assignments were made to all technicians, to encourage ownership. We then implemented a monthly inventory evaluation report to track where those medications, and our dollars, were going. With this data at our fingertips, we increased our annual inventory turnover from 10.8 to 15.5, exceeding our goal of 15. Monthly inventory monitoring means we don't have to wait until the end of the fiscal year to make adjustments. Our budgeting process is accurate, efficient, and meaningful.

Dana Strawn is Director of Pharmacy at Comanche County Memorial Hospital, where she has worked for more than 20 years in a variety of roles. As Pharmacy Director, she focuses on creating a seamless partnership with Nursing, the medical staff and Technology Services to provide the safest, most efficient care to patients. Strawn is a graduate of Southwestern Oklahoma State University School of Pharmacy.

Comanche County Memorial Hospital Results from Automated Closed-Loop Medication System

- ▶ **Achieved cartfill efficiency of 99.3%**
- ▶ **Reduced pharmacist QA check time by 90%, from 100% of cabinet refill to 10% of robot refill**
- ▶ **Increased inventory turnover from 10.8 to 15.5**
- ▶ **Increased technician productivity by 33%**
- ▶ **Reduced technician training time by 33%**
- ▶ **Reduced expired medication costs by 54%**
- ▶ **Saved \$26,000 annually in bulk packaging costs**
- ▶ **Ensured compliant purchasing, protecting \$200,000 - \$400,000 in contract savings**

Less than three years after implementing an integrated pharmacy automation system, Comanche County Memorial Hospital has improved pharmacy operations, generated a positive cash flow and increased the safety of medication administration.

Learn More

[ASHP: Policies, Positions and Guidelines \(Best Practices\)](#)

[DrugTopics: Patient Counseling — How to Choose the Most Critical Cases](#)

[FierceHealthcare: Reducing Inefficiency Key to Cutting Health Costs](#)