

CASE STUDY

MISSISSIPPI BAPTIST MEDICAL CENTER

JACKSON, MISSISSIPPI

HORIZON MEDS MANAGER™ • HORIZON CLINICAL DOCUMENTATION™ • HORIZON CARE ALERTS™ • HORIZON EXPERT ORDERS™
ROBOT-RX™ • MEDCAROUSEL® • PAKPLUS-RX® • MEDDIRECT™ • ACUDOSE-RX™ • NARCSTATION™

AT A GLANCE

ORGANIZATION

Mississippi Baptist Medical Center
Jackson, MS
640 beds

SOLUTION SPOTLIGHT

- Horizon Meds Manager™
- Horizon Clinical Documentation™
- Horizon Care Alerts™
- Horizon Expert Orders™
- ROBOT-Rx™
- MedCarousel®
- PakPlus-Rx®
- MedDirect™
- AcuDose-Rx™
- NarcStation™

CRITICAL ISSUES

- Reduce risk of medication errors
- Improve medication delivery to nursing units
- Do more with limited pharmacy FTEs
- Improve medication inventory management
- Simplify restock of returned medications

RESULTS

- Saved nursing 25,000+ FTE hours per year
- Recouped 2,000+ FTE hours per year in pharmacy
- Slashed the number of missing doses in half
- Cut in half the turnaround time for STAT and first doses
- Trimmed medication expirations in half
- Reduced returned medication restocking time by 80%

SHIFT TO HYBRID DISPENSING MODEL RESULTS IN SIGNIFICANT SAFETY, PRODUCTIVITY, AND COST SAVINGS

Profile

Mississippi Baptist Medical Center is the state's largest private hospital, with 640 beds and nearly 3,000 employees. The hospital's Baptist Cancer Services was the first organization in the nation to earn the Gold Seal of Approval from JCAHO (Joint Commission on Accreditation of Healthcare Organizations) for an entire cancer program. Mississippi Baptist consistently ranks among the top 1 percent of U.S. hospitals for patient satisfaction, and has earned Press, Ganey Associates, Inc.'s "Quality Institution" designation.

Challenges

In 2002, Mississippi Baptist had a fully decentralized medication-dispensing system. Unit-based Pyxis cabinets were the focal point. Pharmacy made sure the cabinets were well-stocked. Nurses could count on having up to 95 percent of their medications in the cabinets at any time. It had been that way for nearly eight years.

Decentralized dispensing can be perceived as convenient for nurses. But it is also costly and time consuming to maintain. Especially when the array of cabinet medications is customized for particular patient groups, as was the case at Mississippi Baptist. When, for example, overflow cardiac patients are placed into an orthopedic or postpartum unit, the medication cabinets are not prepared to accommodate them. This places additional burdens on both nursing and pharmacy.

"We were not dissatisfied with our decentralized system," said Pharmacy Operations Manager George Milstead. "But our Pyxis cabinet contract was nearing expiration. We took that opportunity to evaluate other systems. And after a thorough analysis, we recognized that continuing with our decentralized system would require more pharmacy FTEs."

To start, the hospital formed a task force, comprised of pharmacy, nursing, and administration finance representatives, plus industrial engineers. The task force conducted surveys, analyzed delivery systems, studied workflow, and established specific objectives, including:

- Decreasing the risk of medication errors through a complete bar-coding solution.
- Improving inventory management, which had become difficult and costly in the decentralized model.
- Simplifying restock of returned medications.
- Managing the pharmacy workload more efficiently with the same FTEs.
- Streamlining nurse workflow and medication management.
- Improving order-to-administration time.

In the pharmacy, Milstead wanted to improve the productivity of his staff and medication delivery to the units. His team, which included 17 pharmacy technicians, 15 staff pharmacists, and five clinical pharmacists, was accountable for dispensing 6,000 doses and preparing 900 IVs per day.

While studying nursing workflow and medication dispensing practices, the task force learned that nurses actually felt a general lack of control, even though most medications were on the unit. Nurses also were dissatisfied with the pneumatic tube system for delivering medications not stocked in the cabinets, and with the time waiting in lines at cabinets.

"There were 24 nursing areas with 24 different processes for dispensing medications," Milstead explained. "More than anything else, nurses wanted their carts back. The hospital didn't have a single cart in eight years, but the nurses believed a mobile cart system would help improve their medication management from the unit to the bedside."

Ultimately, the challenge became regaining control of medication dispensing workflow and inventory while still enabling nurses to have ready access to medications.

Answers

The hospital task force recommended a hybrid dispensing model, combining centralized dispensing and patient delivery carts, with limited dependence on unit-based cabinets. Another requirement: The solution had to align with the hospital's new bar-code scanning

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George Milstead, RPh.

Pharmacy Operations Manager

Mississippi Baptist Medical Center

strategy and seamlessly integrate across all pharmacy and clinical systems.

“It was a huge change for us,” admitted Milstead.

One thing that wouldn't change was the medication ordering system. Mississippi Baptist was pleased with the performance of its MedDirect™ system, which captures images of paper orders at the 24 nurse workstations, and transmits them to the six pharmacy workstations for easier entry.

In the central pharmacy, the hospital installed McKesson's ROBOT-Rx™ and two MedCarousel® systems. ROBOT-Rx automates the storage, dispensing, returning, restocking, and crediting of bar-coded medications. MedCarousel is a medication storage and retrieval system that automates medication dispensing through a combination of rotating shelves, pick-to-light technologies, and forced-compliant bar-code scanning.

Milstead uses ROBOT-Rx to dispense first doses and cart fill, and uses MedCarousel primarily to fill unit-based cabinets and any non-ROBOT-Rx first doses, and for central inventory management. Milstead reported that ROBOT-Rx is processing cart fill and first doses at up to 98 percent efficiency.

To bar code the unit-dose medications needed, Mississippi Baptist selected McKesson's PakPlus-Rx® service. PakPlus-Rx is the only professionally managed, onsite turnkey service, packaging more than 90 percent of the hospital's bar-code medication needs.

For nursing, the solution required a reduced footprint of new automated medication dispensing cabinets and mobile carts to use during med passes. They designated AcuDose-Rx™ cabinet towers on each unit as the “In Box”. All cart fill and first doses are delivered hourly to the towers by pharmacy in patient-specific envelopes. Explained Milstead, “The towers are an ideal delivery point. Nurses count on the medications being there in the same place all of the time. And in pharmacy, we dedicated ourselves to delivering on that one-hour expectation.”

For floorstock, routine, and PRN medications, nurses have nearly 60 AcuDose-Rx automated medication-dispensing cabinets. The cabinets fea-

ture high-capacity drawers that have locked, lidded compartments for the added control Milstead sought. Six NarcStation™ units comprise the closed-loop narcotic dispensing system.

All pharmacy and nursing automation solutions are bar-code driven and are aligned on McKesson's common platform. For its pharmacy information system, Mississippi Baptist uses Horizon Meds Manager™. For nursing documentation, it's Horizon Clinical Documentation™. For decision support bridging pharmacy and nursing, it's Horizon Care Alerts™. This approach delivers Mississippi Baptist with an extraordinary, singular view with which to best manage medication use and clinical functions.

Mississippi Baptist completed the conversion a floor at a time, taking a one-week break in the middle of the five-week rollout. “It was difficult, but it was manageable,” admitted Milstead. “These are big changes, but you can also get some very large benefits. We are really pleased with the way everything has turned out.”

Results

The results have exceeded the task force's expectations:

- Recouping 25,000+ hours per year for nursing, documented through before-and-after, time-and-motion studies, mostly by eliminating wait times at the cabinets.
- Saving pharmacy 2,000+ hours per year, mostly by switching from manual to automated dispensing.
- Slashing in half the volume of missing doses.
- Reducing medication order-to-delivery turnaround time to 37 minutes.
- Cutting in half the number of expired medications by making inventory management electronic.
- Slicing 80 percent from medication restocking time through ROBOT-Rx automation.

Conclusion

Summed Milstead, “We improved our processes substantially by going to this hybrid distribution model. It wasn't easy, and it wasn't cheap. But we've gotten big medication safety and productivity boosts. And we're making plans to move to Horizon Admin-Rx™ for point-of-care medication administration and documentation.”

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