

Decentralizing the pharmacy

Baystate Health transforms its pharmacy practice model to improve patient safety while enhancing labor and inventory management efficiency

CardinalASSIST® ADM Logistics

Tradition is giving way to forward thinking at Baystate Health. And at the heart of this evolution is a simple, yet powerful idea: Pharmacists should be pharmacists, not clerks. They should have the opportunity to contribute more where they can do the most good — at the patient bedside, working with clinicians to improve care. The same thinking applies to nurses: They should have more time to focus on patients, instead of resolving medication errors* and other pharmacy distribution issues.

To get there, Baystate is moving its pharmacy from a centralized to decentralized model. By automating distribution processes and using data analysis to help guide stronger decision making, Baystate has eliminated multiple steps, improving workflow while dramatically lowering medication errors* and costs. "This is how the clinical pharmacist can be more involved at the bedside, and fundamental to making it work is our confidence in CardinalASSIST®," said Aaron Michelucci, Director of Inpatient Pharmacy Services. "Cardinal Health has rock-solid business processes."

About Baystate Health

Based in Springfield, Massachusetts, Baystate Health is a multi-institutional integrated healthcare delivery organization serving 750,000 people in the western part of the state. The system includes Baystate Medical Center (BMC), Baystate Mary Lane Hospital (Ware, MA), Baystate Franklin Medical Center (Greenfield, MA) and several outpatient facilities and programs including home care and hospice services, multi-specialty academic group practices and Baystate Medical Practices, an employed primary and specialty care provider group with multiple sites. Baystate Health also holds a majority interest in Health New England, a for-profit health maintenance organization. The flagship hospital, BMC is the western campus of Tufts University School of Medicine. BMC is also Western New England's only tertiary care referral medical center, Level 1 Trauma Center and neonatal/pediatric intensive care facility. With more than 10,000 employees, Baystate Health is the largest private employer in the region.

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Aaron Michelucci

Director of Inpatient Pharmacy Services
Baystate Health

CardinalASSIST® ADM Logistics helps Baystate achieve dramatic results:

70 percent fewer medication errors* have led to a potential cost avoidance of more than \$1.7 million since the program began. And labor savings exceed 2,000 hours annually due to 360,360 fewer product touches.

What led to the adoption of CardinalASSIST® ADM Logistics? The answer begins with an aging, expensive robot that was no longer the right solution for a dramatically changing world.

\$1.7 million saved

70% fewer errors*

2,021 hours saved

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The better way

In years past, Baystate had been relying on a centralized distribution system for stocking its ADMs (automated dispensing machines). The system was built around outdated robotic equipment that was costly to lease and maintain. "The robot also had a significantly large footprint in the pharmacy," said Gary Kerr, Chief Pharmacy Officer. "It all added up to, 'There has to be a better way.' We had a solid relationship with Cardinal Health," and the two began to collaborate on the solution.

The key was determining the most effective way to decentralize. "CardinalASSIST® was a key component," said Pat Glennon, Cardinal Health Pharmacy Consultant. Automating logistics all the way to the point of care bypasses the need for centralized distribution. "The result is lower inventory, fewer products to pick and less ordering," added Guru Pinglay, Operations Consultant at Cardinal Health. "Now pharmacists can spend more time where they truly belong: on the hospital floors, as part of the clinical care team."

Streamlining distribution

Because CardinalASSIST® ADM Logistics automates the purchase and distribution of high-volume drugs, it saves the health system time that is reallocated where it can be more valuable, according to Alice Ehresman, Manager of Pharmacy Business Operations for Baystate. Now, drug buyers can spend less time with high-volume items and focus instead on greater challenges, such as managing drug shortages and high-dollar purchases. "Also, pharmacy techs spend less time filling and pharmacists less time checking," Ehresman said.

"All of healthcare is focused on doing more with less: Less inventory, less space and fewer touches," she added. CardinalASSIST® ADM Logistics helps accomplish this by providing usage data to help

Michelucci added, "It takes a lot of sweat to become a pharmacist. The last thing they want is to be working in the basement," far away from the patients they're dedicated to serve. "We have an obligation as pharmacists to help physicians prescribe the right medications and then get them physically to the patients." Plus, the more contact that patients have with pharmacists, the more they learn about their medications — which further improves outcomes and helps prevent readmissions.

To take these results to the next level, "we're completely reimagining what CardinalASSIST® can achieve for Baystate today," Pinglay said. "We're rebuilding many elements from the ground up and integrating new, game-changing processes. We will be working closely with Baystate to pilot this next generation platform that will be the foundation for a much improved user experience."

set par levels. "If CardinalASSIST® is managing it, you know the right amount will be in the ADMs," she said. So Baystate can focus attention elsewhere with confidence. "We want to be hands-off with our inventory, and that's why CardinalASSIST® is an integral part of what we do. Now, we really can do more with less."

"Now we really can do more with less."

Alice Ehresman

Manager of Pharmacy Business Operations
Baystate Health

Improving patient safety

For Mark Heelon, safety is more than a goal. It's the foundation of the pharmacy profession. As Baystate Health's Medication Safety Coordinator, he works with different disciplines throughout the health system to promote medication safety, by identifying risks and creating *sustainable* interventions.

"Our pharmacy had the opportunity to decrease the number of medication dispensing errors* that reached the nurses," he said. Nurses were scanning at the bedsides, but errors* were still occurring at the point of refilling ADMs. "Nurses were frustrated with the

dispensing errors*, because to them, these errors* result in patient delays and rushed administration of medications."

To help resolve the issue, Heelon knew that Baystate needed to improve efficiency throughout the process. The health system was already employing Lean principles elsewhere in the organization. CardinalASSIST® ADM Logistics was tapped to bring process improvement to pharmacy distribution. As a result, "CardinalASSIST® decreased the steps of medication scanning by 50 percent."

50%
fewer steps

Improving patient safety cont.

Heelon added, "Now CardinalASSIST® drives safety and efficiency across the replenishment process. Drugs arrive barcode-ready and individually wrapped in totes, which has substantially reduced errors* while improving workflow."

More than 168,000 doses per month are distributed via CardinalASSIST® ADM Logistics and 95% are scanned at the ADM. By increasing the accuracy

95%
scan rate
for
CardinalASSIST®
items

of barcode scans at the point of use, CardinalASSIST® ADM Logistics reduced Patient Adverse Drug Events (PADEs) and their potential costs.

"Cardinal Health helped us get out of the gate with barcoding and propelled our scan rates," Kerr said. "All of the results are displayed publicly" to track improvement.

Managing drug recalls

When a drug manufacturer issues a recall notice, there's no need to check Baystate's entire inventory for the affected items. "CardinalASSIST® knows exactly where they are," said Juan Santana, Pharmacy Inventory Analyst. So the drugs can be quickly removed with minimal disruption and labor.

How does CardinalASSIST® ADM Logistics work?

CardinalASSIST® ADM Logistics is an automated logistical process that replenishes drugs for ADM distribution. The system redesigns the medication distribution process to improve efficiency and patient safety, while containing costs.

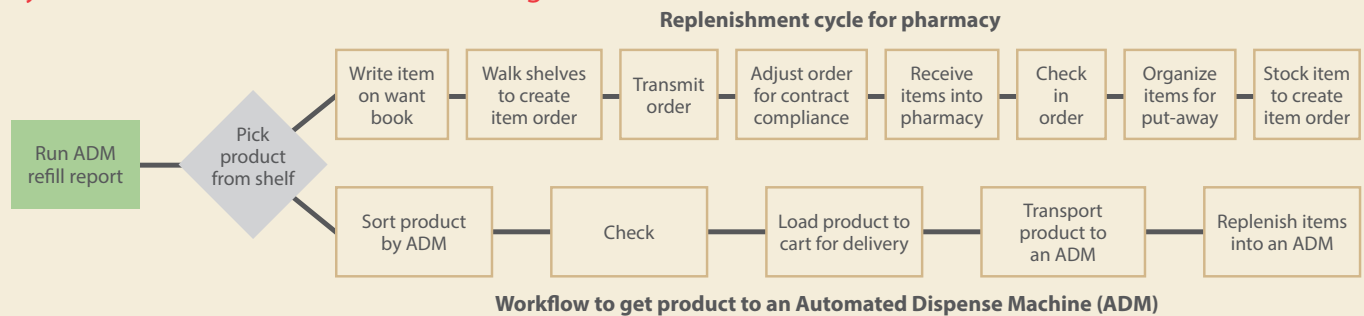
It does so by combining two critical functions: 1) automating processes and 2) providing custom reporting, which yields the

transparency and insights to continually improve Baystate's efforts to decentralize pharmacy distribution.

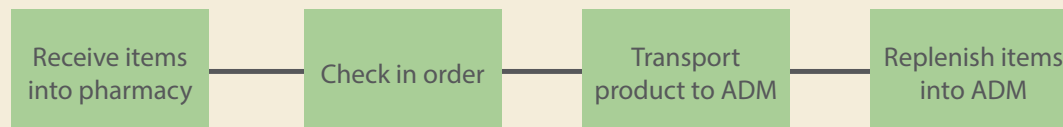
CardinalASSIST® ADM Logistics not only frees up pharmacy labor, but also leads to fewer errors*, because there are fewer steps. What once required several Baystate staff members to work many hours can now be accomplished faster and at a lower labor cost.

The CardinalASSIST® ADM Logistics system creates these new efficiencies by removing unnecessary steps in the process:

Cycle **without** CardinalASSIST® ADM Logistics



Cycle **with** CardinalASSIST® ADM Logistics



Building for the future

"It takes a lot of effort" over time to decentralize a hospital pharmacy, Kerr said.

"You can't just flip a switch. But at the end of the day, we're in a better place."

According to Michelucci, there's more innovation to come. Baystate is in the planning phase to create a new inpatient pharmacy facility. "What automation do we need? What technology? What's the optimal mix?" he said. As Baystate continues to plan for the future, one thing is certain: The patient bedside will be at the center of every decision.

Is CardinalASSIST® ADM Logistics right for you?

If you can answer 'yes' to these questions, contact your Cardinal Health representative. And learn more about how CardinalASSIST® ADM Logistics can help improve your ADM logistics.

- 1 Do you use Pyxis® or Omnicell® automated dispensing machines (ADMs)?
- 2 Do you have 20 or more ADMs in operation?
- 3 Do you dispense 80% or more of your medications via ADMs?
- 4 Is your average daily census 180 or higher?

About Cardinal Health

Headquartered in Dublin, Ohio, Cardinal Health, Inc. (NYSE: CAH) is a \$108 billion healthcare services company that improves the cost-effectiveness of health care. As the business behind healthcare, Cardinal Health helps pharmacies, hospitals, ambulatory surgery centers and physician offices focus on patient care while reducing costs, enhancing efficiency and improving quality. Cardinal Health is an essential link in the healthcare supply chain, providing pharmaceuticals and medical products to more than 60,000 locations each day. The company is also a leading manufacturer of medical and surgical products, including gloves, surgical apparel and fluid management products. In addition, the company supports the growing diagnostic industry by supplying medical products to clinical laboratories and operating the nation's largest network of radiopharmacies that dispense products to aid in the early diagnosis and treatment of disease. Ranked #19 on the Fortune 500, Cardinal Health employs more than 30,000 people worldwide. More information about the company may be found at cardinalhealth.com and @CardinalHealth on Twitter.

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Gary Kerr

Chief Pharmacy Officer

Baystate Health



cardinalhealth.com

*Errors, as defined in Baystate Health's UHC Patient Safety Network reporting system, include near misses.

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