

# CASE STUDY

## How Strong Memorial Hospital Managed a Seamless Transition to Next-Generation Pharmacy Automation



**Claire Burke**

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Pharmacy Operations  
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### A PATIENT-FIRST APPROACH TO PHARMACY INNOVATION

Located in Rochester, New York, Strong Memorial Hospital is a prominent teaching hospital affiliated with the University of Rochester Medical Center. The 886-bed facility serves communities across Monroe County and nearby regions in Upstate New York and the Finger Lakes. Strong provides a wide range of specialized services, including organ transplants, trauma and burn care, cardiology, neuromedicine, neonatal intensive care, cancer treatment, and other critical care services.

According to Claire Burke, assistant director of pharmacy operations at the University of Rochester Medical Center, they embraced technology solutions early on to help manage this volume. "We've always focused on automating processes as much as possible," she says. "To increase efficiency, but also to ensure patient safety by removing the risk of human error." According to a September 2025 article published by Research in Social and Administrative Pharmacy, dispensing errors in pharmacies average 1.6% globally. In hospital settings — interruptions and distractions account for 9.4% of these errors. Automation eliminates this risk.

That's why the pharmacy uses both an ambient and refrigerated BoxPicker from Swisslog Healthcare to automate the refilling of dispensing cabinets. They've also been using a PillPick from Swisslog Healthcare for their patient-specific dispensing since 2009. "One of the unique things about the PillPick robot is that it automates the entire process," explains Burke. "It repackages medications into unit doses from bulk containers and also dispenses them." Achieving the same amount of automation the PillPick delivers with a single robot would require a number of separate systems for packaging, storage, and dispensing — each with its own maintenance and training overhead.

When their first PillPick began to reach its expected end of life, however, the pharmacy knew they would need to replace it. "The robot just required more maintenance, some of the parts weren't even available anymore, and we were experiencing more frequent downtimes."

### THE CHALLENGE: UPDATING CRITICAL AUTOMATION WITH NO PATIENT IMPACT

After doing some research on the latest technology on the market, Strong ultimately chose to stay with Swisslog Healthcare's solution. "We realized pretty quickly there was no other machine like the PillPick that integrates unit dose repackaging and dispensing," says Burke. "We felt moving away from that functionality after 15 years would be too disruptive to our workflows."

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Once Strong received budget approval for swapping out the legacy PillPick with a newer model, Swisslog Healthcare assigned a seasoned project manager who specializes in workflow optimization to help develop a transition plan that would minimize the impact on day-to-day operations as much as possible.

## THE PLANNING: A DATA-DRIVEN MANUAL WORKFLOW DESIGN

Swisslog Healthcare estimated that dismantling Strong's existing PillPick and building the new system would take approximately eight weeks from start to finish. "Our staff were pretty nervous about the process because we all know how much work the robot does for us and how much we rely on it," Burke says. They already knew what even short periods of downtime were like. "Even if the robot is unavailable for a shift or two because of maintenance, it's still stressful."

"I had to assure everyone that we would be extra prepared," says Burke. To do that, she used aggregated data from a number of systems used for medication management in the pharmacy to estimate the volume of work that would be required to meet their commitments. This included determining the number of doses dispensed, the time of day medications were dispensed, and how long it took to dispense them. The purchasing team also evaluated all line items from the robot inventory to identify which were available in commercial unit doses. The dedicated pharmacy technicians for the robot then pre-packaged a five-month supply of unit doses for medications that could only be purchased in bulk.

Estimating that the PillPick automates manual tasks about three times faster than manual processes, Burke then used what she learned to determine the additional staffing needed to replicate the robot's tasks within the same timeframe, while maintaining the robot's accuracy and safety. This included:

- An extra pharmacist for the day shift.
- An extra pharmacy technician for the night shift.
- An extra robot technician (staff who were doing the work traditionally accomplished by the robot) for both the day and evening shifts.

From there, Burke was able to make strategic, well-informed decisions on how to design manual workflows and processes. This involved creating a mini-pharmacy in a large conference room to manage manual dispensing, separate from their main pharmacy. They also mapped out what drugs they needed to stock, and in what quantities, and explored using other technology, such as barcode scanning, to make processes both efficient and secure.

The Swisslog Healthcare project manager assigned specifically to Strong Memorial helped them anticipate any additional needs they might have during downtime. "For instance, we needed to find space to store all the parts for the new machine so they would be onsite when Swisslog Healthcare was ready to build the new PillPick."

## THE OUTCOME: EXCEEDING EXPECTATIONS THROUGH PLANNING AND TEAMWORK

"The whole process went much better than we expected," Burke says. "I think the preparation we did set us up for success. Honestly, we may even have been overprepared." That's because they purposely overstaffed initially to give pharmacists and pharmacy technicians time to become accustomed to the process. "We didn't want them to feel rushed or overworked."

As anticipated, Strong's pharmacy staff rose to the challenge. In fact, Burke reports that techs were constantly coming up with new ideas to make processes even more efficient. "Picking drugs off the

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shelf, dispensing and managing inventory can be monotonous and pretty physical at times. So I’m personally proud of how everyone kept a positive attitude and worked together to help make sure everything went as smoothly as possible.”

## LESSONS LEARNED: INSIGHTS FROM A SEAMLESS TRANSITION

The process began in mid-July 2024, and the system was fully replaced and up and running by November 11th. During the downtime, the Strong team dispensed 590,690 doses manually and repackaged over 65,000 unit doses and capsules.

Burke says two things became clear to her right away. “The whole process made me appreciate the value of project management and communication. The more planning you can do and the more you can communicate with internal and external stakeholders upfront, the easier the transition will be.”

The experience also yielded an immediate ROI for Strong Memorial when PillPick replaced manual work. “The extra shifts we had to add to manage the workload done by the PillPick meant paying a lot of overtime,” says Burke. In addition, they had to buy some medications in commercial unit doses that were typically purchased in bulk, which can sometimes be significantly more expensive.

“We’ve been using the PillPick for so long, I don’t think we fully appreciated the benefits that the automation has on our bottom line,” says Burke. “Without this technology, we would be buying a lot more unit-dose drugs. I’m not sure we ever quantified the savings before.” She goes on to say that if they didn’t have the robot, they’d need more staffing to package and dispense medications. “We wouldn’t be paying overtime, but we’d probably be pulling other full-time staff away from their day-to-day activities to help,” she says. “Now those resources can spend time on other tasks valuable to the pharmacy and hospital.”

Of course, for Strong — the primary focus has always been on patient safety. “Even if you have a manual scanning process, if a human is doing it — a human can miss a scan,” Burke explains. “You can dispense something without scanning it, or put something in the wrong bag even if it’s been scanned, or dispense the wrong bag to the wrong patient. There’s a lot that can go wrong.” The automation of the PillPick removes the points at which human error can introduce risk into the process, says Burke. “In the numerous years we’ve been using the PillPick, it’s never once dispensed the wrong medication.”

## LOOKING AHEAD

Next, Strong will replace its refrigerated BoxPicker with a newer model. While that’s down the road a bit, Burke says she’ll use the knowledge she gained from the PillPick project. In the meantime, they’ll continue working with Swisslog Healthcare to improve their overall processes. “I’ve always appreciated how willing Swisslog Healthcare is to take our experience from the frontline and try to implement that into their solutions. They even sent someone to observe our transition process and document what we were doing through the rebuild to help others in the future. It’s been a great relationship over the years, and we really enjoy working with them.”

Strong’s experience highlights the value of thoughtful planning and collaboration in transforming a high-risk transition into a model for pharmacy innovation. Since this experience, Swisslog Healthcare has taken the learnings from its time with Strong Memorial to create additional documentation and resources to help customers navigate equipment replacements in order to ensure success and minimal workflow disruptions.

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