



CASE STUDY

A new approach to eliminating waste in the hospital pharmacy

By implementing Pyxis Pharmogistics™ inventory management software, PIH Health reduced expired drug waste—while using fewer resources to manage inventory.

PIH Health regional healthcare network, serving more than two million residents in the San Gabriel Valley, the rest of Los Angeles County and Orange County, dedicates itself to putting patients first.

“PIH Health’s primary concern at all times is our patients’ safety, well-being and medical condition,” said Jacquelyn Cituk, PharmD, Executive Director of Enterprise Pharmacy Services for PIH Health. “The pharmacy plays a significant role in PIH Health’s vision of *Patients First* by delivering medications for our patients in the most safe and efficient manner possible.”

In 2012, to ensure that it could support the organization’s patient-centered goals into the future, PIH Health’s pharmacy underwent an intense reevaluation of its processes. At that time, the pharmacy managed medications manually, opening itself to potential risks, from incorrect medication picks to inaccurate inventory counts.

To increase transparency and accountability, PIH Health implemented Pyxis Pharmogistics™ software from BD in 2013. Since then, the comprehensive inventory management system

has improved PIH Health’s ability to track medications, simplify processes, improve productivity and reduce medication cost and waste.

Medication restocking and purchasing

Before PIH Health installed Pyxis Pharmogistics software, pharmacy technicians *walked the shelves* to determine which medications needed to be restocked and in what quantity. Even when wholesalers provided recommendations, pharmacy staff manually ensured the accuracy of those estimates.

By using barcode verification at all steps, Pyxis Pharmogistics software helps the staff more accurately and efficiently fill and restock orders. Medications are scanned, identified by location and verified upon receipt. The system enables just-in-time reordering and also receiving from multiple suppliers, reducing on-hand inventory and waste. The automated system interfaces with PIH Health’s wholesaler, which, according to Cituk, has saved time and increased accuracy for the pharmacy buyer.

“Pyxis Pharmogistics software heightens our awareness as to which medications are being used the most often and gives us better control over inventory levels,” said Cituk. “The system provides data analysis that shows us in real time what type of inventory we have so that restocking orders are generated based upon usage and identified PAR levels.”



All of these efficiencies, driven by the Pyxis Pharmogistics system, have enabled the PIH Health pharmacy team to streamline their daily inventory management processes, giving them more time to focus on their patients.

In 2012, pharmacy staff spent an estimated three hours per day managing inventory; in 2015, estimated time for inventory managed via Pyxis Pharmogistics software was 20 minutes per day, including time for back orders and substitutions—an 89 percent reduction.

Key stats			
	2013	2015	Reduction
Items restocked daily	249	63	-85%
Daily restocking time	125 min.	68 min.	-46%
Daily inventory management time	180 min.	20 min.	-89%

Medication expiration checking

Prior to implementing Pyxis Pharmogistics software, technicians manually reviewed each of the 24 areas in the pharmacy once per quarter to identify expiring medications. This task was labor-intensive and resulted in wasted or overstocked inventory. By enabling increased visibility into key areas, Pyxis Pharmogistics software improved PIH Health's ability to manage expired and recalled medications. "Once we had an automated system, we had the ability to identify medications we weren't using on a regular basis," said Cituk. "We can now keep an eye on the purchasing patterns and reduce PAR levels to minimize waste due to expiration."

Cycle counts are performed on each medication in the carousel every 60 days. Each month, medications set to expire within 60 days are moved to areas where they can be used before expiring.

"When a medication is nearing expiration, we can shift it to an area of the hospital where it might move faster," said Cituk. "For example, a non-standard strength pain medication that's not often used but typically stocked in a particular area and nearing expiration can be moved to another area where it may be used more often (*i.e.*, *ER*) in order to use the medication prior to the expiration date."

So far, with Pyxis Pharmogistics software, PIH Health has reduced its adjusted expiration waste by 58 percent.

Automatic dispensing cabinet fill

Under the pharmacy's former manual system, the refill process for its automatic dispensing cabinets (ADC) was multifaceted and time consuming. It involved several steps, such as the medication pick, which required a second technician for verification. Technicians would also pull unit dose medications and *fast movers*, to travel to the appropriate location, and gather medications.

Now, with Pyxis Pharmogistics software's prioritized barcode-driven workflow, PIH Health's ADC replenishment process is safer and more efficient. Risk points for human error have been eliminated thanks to automated processes. Furthermore, **the time spent by pharmacy staff per step decreased from 60 to 37 seconds—a 38 percent reduction.** Overall, the team has decreased its ADC replenishment cycle time **by 163 minutes per day.**

"Technicians and pharmacists used to pull and stock medications from freestanding bins, which put the element of human error into play," said Cituk. "But with the scanning capability in the new system, the correct medication is stocked and picked from the right place, which decreases the potential risk of a mispick."

Ultimately, Cituk said she believes that PIH Health's pharmacy can better support the organization with a heightened awareness of the medications that are being prescribed as well as an enhanced understanding of the patient population they are serving: "With Pyxis Pharmogistics software, we can make necessary adjustments to our PAR levels and then utilize systems that support data collection in order to optimize inventory and dispensing while reducing waste."

About PIH Health

PIH Health is a nonprofit, regional healthcare network with two hospitals, numerous outpatient medical offices, a multispecialty medical (*physician*) group, home healthcare services and hospice care, as well as heart, cancer and emergency services.