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The Road to High Performance: From Cost Center to Cost Savings

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For far too long, hospital pharmacy has traditionally been viewed as a high-expense cost center. Although overall drug spending and pharmacy costs are commonly scrutinized, revenue and savings generated from pharmacy operations are often difficult to document and are rarely credited back to pharmacy's efforts. With the right resource and inventory management practices in place, however, pharmacies can begin to track their contributions to the top- and bottom-line performances of the broader health system and no longer be viewed as simply cost centers.

The High-Performance Pharmacy

To help elevate the role of pharmacy within health systems, the Health Systems Pharmacy Executive Alliance—an independent group of leaders dedicated to advancing hospital pharmacy—published the landmark High Performance Pharmacy (HPP) framework (*Am J Health Syst Pharm* 2007;64:1699-1710). The HPP concept identifies 78 specific practice elements across eight dimensions of performance that can help hospital pharmacies maximize clinical and financial returns. The eight HPP practice elements are outlined in detail on highperformancepharmacy.com.

As the dimensions within the study are already being implemented by leading health-system pharmacies such as HCA Inc., based in Nashville, Tenn.; Seton Health, a multisite system in upstate New York; Loma Linda University Medical Center, in California; Southwest Washington Medical Center, in Vancouver, and others, the HPP initiative is quickly gaining industrywide recognition and momentum.

By mapping pharmacy goals to the eight dimensions of high performance, hospital pharmacy leaders can maximize efficiency and financial return to the entire organization. Within the financial performance dimension, there are several key elements that pharmacy leaders can implement to improve their department's financial outcomes. Two key elements are asset management and staff productivity and workload.

Managing assets and staff come into play when dealing with a crucial component of pharmacy operations: medication inventory. High-performing pharmacies properly manage that inventory and improve financial return through ongoing audits and analysis as well as the use of machine-readable coding (such as bar codes). The implementation of a comprehensive program for total inventory control enables pharmacy leaders and staff to capitalize on purchasing history to guide pharmacy ordering; increase inventory returns; improve labor efficiencies by reducing the amount of time spent on inventory control and ordering; maximize contract compliance; and streamline the product receiving process. Together, these actions can translate into higher quality and safer care with strong financial outcomes.

High Performance Pharmacy in Action

The benefits detailed above are not just theoretical: Southwest Washington Medical Center (SWMC) has been able to document concrete gains in safety and financial performance after implementing several HPP strategies. Indeed, what started as an initiative to improve medication safety at SWMC has evolved into an industry-leading model of a high-performance pharmacy. To achieve that success, pharmacy leadership at SWMC believed it was critical to establish a cooperative partnership between nursing and pharmacy staff from the onset of its medication safety improvement project. As a result, they created a multidisciplinary project team, which included pharmacy, nursing, physician, quality, and information technology (IT) stakeholders. This team spearheaded the selection and implementation of new medication safety technology and processes.

The project team proceeded with its medication safety initiative by implementing bar-coded bedside medication administration. In addition, SWMC decentralized the medication delivery process, giving nurses more than 64 medication access points, which house more than 90% of the hospital's medication inventory. With all medications bar coded and decentralized in unit-based cabinets, nursing, pharmacy and medical staff can ensure that the right medications are dispensed to the right patient at the right time, significantly reducing the opportunity for medication errors.

Asset Management in Action

Early in the process of implementing bar-coded bedside medication administration, the team realized success would depend on a robust inventory management system. To achieve this goal, SWMC implemented wireless handheld computers to assist in the replenishment process. Now, when reordering product, pharmacy purchasing staff simply use a handheld device to scan a product's National Drug Code (NDC) bar code or shelf label, and the system automatically calculates suggested order quantity based on purchase history.

By implementing a comprehensive pharmacy inventory management process, the pharmacy at SWMC not only optimized inventory levels on the shelf, but improved inventory turns from seven turns per year in 1999 and 2000 to 10 to 12 turns each year, which has been maintained over the last seven-year period. Furthermore, SWMC calculated that each inventory turn delivered \$71,000 in annual savings and accumulated more than \$280,000 in annual savings over the three to five incremental inventory turns it was able to generate. Against an annual drug spend of \$14 million, this inventory reduction translated to 200 basis points in savings.

Increased Staff Productivity

Through its decentralized medication delivery process and streamlined replenishment system, SWMC has greatly reduced the time it takes for medications to reach the patient. Previous time-motion studies had documented nurses waiting 45 to 60 minutes for medications to be available for administration. With these improvements, nurses can now administer medications to patients within an average of 20 minutes. Based on SWMC patient admissions and average nursing rates, this translates to \$534,000 in labor costs that can be redeployed to better serve patients.

Effective use of bar-code and pharmacy asset management technology allows the SWMC pharmacy staff to work smarter, not harder. Traditionally, inventory audits as well as shipment receipt, review and evaluation were completed manually, requiring countless hours and nonproductive staffing. Before the bar-code technology was implemented, the annual inventory audit would require six staff members. After implementation, the manpower needed dropped to four staff members.

The technology additions also benefit the pharmacy purchasing team. Instead of manually tracking unavailable stock, SWMC uses a system that automatically checks the inventory and alerts the pharmacy buyer when an item becomes available—saving 50 hours of pharmacy buyer time every month, which translates to \$10,500 in savings per year (based on an average hourly rate of \$17.50). Maintaining better control over inventory allows buyers to focus their time and effort on those items that have the greatest financial impact. Pharmacy staff also has more time to focus on delivering the best possible clinical outcomes.

Improved Quality

As a direct result of implementing these inventory management initiatives, SWMC was able to implement a bar-code medication administration (BCMA) system. As many hospital pharmacies have discovered the hard way, creating a consistent supply chain that supports the bar coding and immediate availability of all medications in unit dose form is a key step in implementing any point-of-care bedside scanning initiative. Without the early work accomplished by pharmacy at SWMC, this important quality initiative could not have been successfully implemented.

Since it was implemented at SWMC, BCMA has prevented an average of 53 medication errors (wrong patient, under dose, and wrong medication) per 1,000 patient days. Citing a groundbreaking study by David Bates, MD and colleagues (*JAMA* 1997;277:307-311), which documents the estimated post-event costs attributed to an adverse drug event at \$2,595, SWMC has been able to avoid \$11.7 million in costs across its annual admissions.

Drilling down a bit deeper, SWMC has been able to show that it saved \$824,500 annually as a result of using HPP strategies to improve inventory turns, pharmacy productivity and nursing labor productivity (Figure).

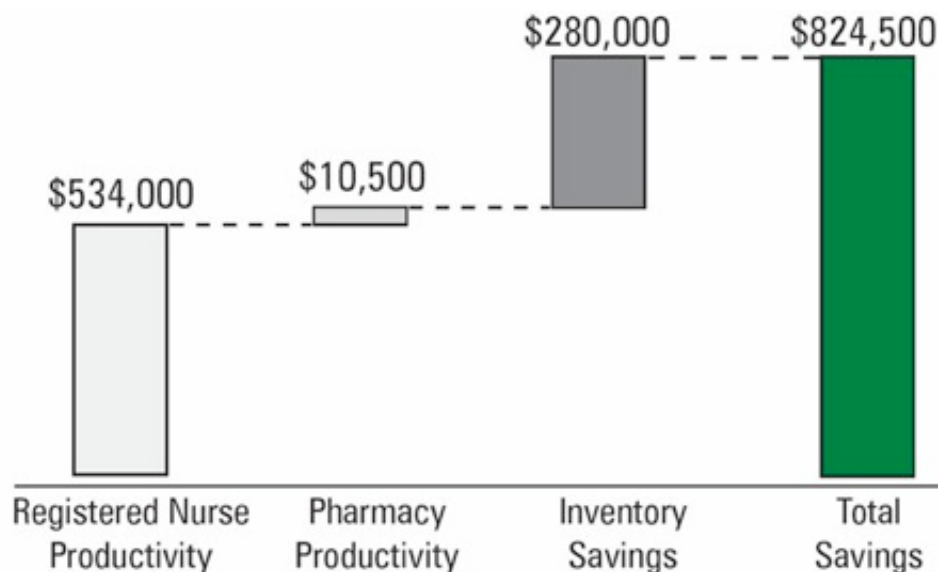


Figure. Estimated annual savings at Southwest Washington Medical Center.

Elevating the Financial And Clinical Impact of Pharmacy

With the right resources and inventory management practices in place, hospital pharmacies can more effectively track their contributions to the financial and clinical performance of the health systems they serve. Facilities that apply HPP strategies can change the perception of hospital pharmacy from that of a cost center to a key contributor to the state of the health system.

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