TouchPoint
M E D I C A L

Performance Optimization: Leveraging Automated Dispensing System Data to Drive Efficiency and Reduce Costs

Medication management systems generate large amounts of data that can be strategically mined to improve inventory management, reduce carrying costs and enhance productivity, transforming the delivery of healthcare.

OVERVIEW

Data mining is the practice of examining large datasets in order to discover hidden patterns and trends. Predictive analytics are insights gained from evaluating the anomalies, patterns and correlations gleaned from data mining. Using a variety of techniques, the information gathered can help increase revenue, cut costs, improve efficiency, and reduce risks.

According to the ASHP, automated dispensing technology has been adopted by upwards of 97% of hospitals to enable efficiencies in such areas as inventory management, analytical reporting for optimal ordering and restocking, and tracking medication diversion.[1] It has been shown that low inventory alerts and dynamic inventory tracking can to help optimize automated dispensing inventory, saving time and money.[2,3] A recent study of the supply chain at an academic medical center found that with this approach to inventory management the number of stockouts per month was decreased and inventory was optimized, resulting in a one-time inventory cost savings of $220,500.[4] Financial modeling indicates that automated dispensing systems are associated with a high return on investment.

Automated medication dispensing cabinets are largely considered standard in most of North America and Western Europe. Today these systems' capabilities and subsequent utility in facilities are being greatly expanded. Pharmacy and IT managers no longer want to only safely store medications, they want to maximize their significant investment in the technology to better manage inventory. This allows companies like TouchPoint Medical to help clients realize added value by taking advantage of the large amounts of data automated medication dispensing systems can generate.
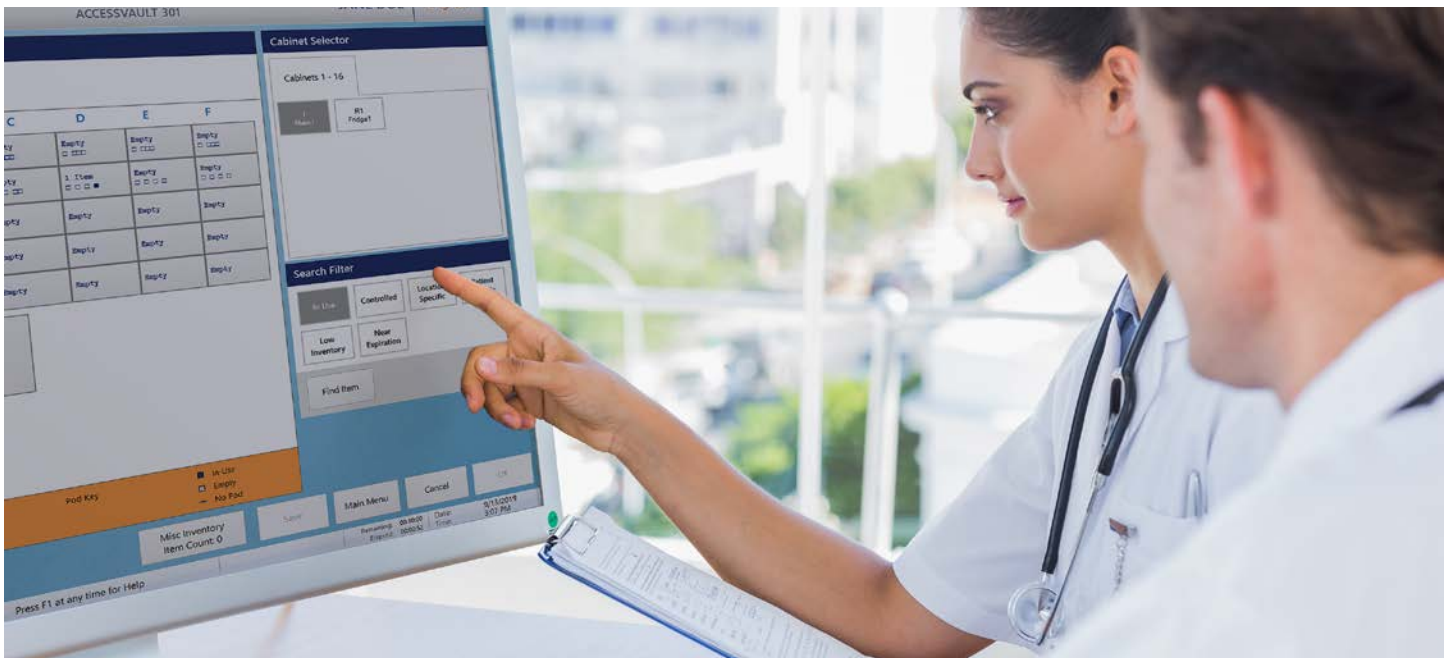
AUTOMATED MEDICATION SOLUTIONS: LEVERAGING DATA

Automated dispensing systems not only safely and securely store and dispense medications, they also contain a wealth of data that can be leveraged through a variety of data mining mechanisms to inform decision making. The automated dispensing system can help predict, prioritize, and manage inventory to arrive at cost efficiencies for the pharmacy and the facility. Because every unit dose of medication can be inventoried and tracked, facilities have the capability to mine pharmacy data for performance optimization opportunities that improve efficiency and reduce cost.

Solutions like TouchPoint Medical's medDispense® automated dispensing cabinets powered by the medLogic™ software platform, provide secure yet accessible remote storage and dispensing capability outside the physical walls of the pharmacy. With that capability pharmacists, administrators and inventory managers can easily track the speed at which medication is turned over, monitor waste, and know what medications are expiring. This in turn can allow for a lower cost of ownership with regard to carrying medication inventory.

TAILORED SOLUTIONS TO MEET CLIENTS' SPECIALIZED NEEDS

Touchpoint Medical's tightly-integrated design, production and commercial functions give them the ability to identify and respond to changing and emerging customer and market needs. "This differentiator is a core competence for the company," according to Robert Moore, Director of Software Engineering and IT for TouchPoint Medical. "TouchPoint Medical customizes solutions in order to meet

the changing needs of facilities -logging thousands of hours last year - in the development of tailored, high-value solutions," he noted.

In addition, Touchpoint Medical's open-architecture software platform enables customers to explore different options for collecting, standardizing and analyzing information about the patients, inventory and transactions that intersect with the medication management process. "This can be through third-party platforms or more typically through collaboration with Touchpoint Medical to deliver custom solutions," Mr. Moore added.

Touchpoint Medical's data analytics and reporting (both structured and ad-hoc) help stakeholders gain insights into how to optimize their medication storage and dispensing operations to maximize value for both the provider and the patient, as well as improve efficiency for caregivers.

PREDICTIVE ANALYTICS

Diversion is a critical concern related to medication dispensing. By analyzing transactional data, facilities can find abnormal trends. Certain transaction patterns can trigger alerts or conditional business rules when the possibility of uauthorized medication access is indicated. "In addition,

detailed and secure audit records provide a virtual 'paper trail' when investigating potential malfeascance," Mr. Moore said.

Transactional data anaylsis can also improve other opeations such as staffing. Facilities can discover busier times of the day, for example, and identify jam ups to more efficiently assign staff. "Take the case of a site where medications passes happen at, say, 6:00 AM, 10:00 AM, 2:00 PM and 6:00 PM," said Mr. Moore. "If, at the 10:00 AM medication pass, all of the dispensing transactions suddenly start occurring around 10:20 AM, that calls for further investigation. Outliers can indicate staffing, IT, power, or even security issues that warrant attention."

This type of data has traditionally been presented in tabluar, static reports requiring lots of manual analysis and interpretation. Through data mining and automated analysis outcomes can be qickly identified and presented in the form of notifications and recommendations through automated alerts and dynamic dashboards.

"Leveraging data gleaned from automated dispensing systems therefore can help lower operating costs, improve workflow efficiency, maximize storage space, and increase inventory accuracy," Mr. Moore said.

VARIETY OF OPTIONS MEANS TOUCHPOINT STANDS OUT

The medDispense platform is a true differentiator compared with other systems due to its broad variety. In fact, customer feedback confirms the importance of having the widest array of storage configurations possible. Touchpoint offers a wide range of storage sizes, , capacity and accessibility solutions for virtually any healthcare facility.

Medication packaging continues to evolve with compounding, kitting, multipart orders and bundling creating increasingly complex storage and secure dispensing workflows. "Touchpoint's stocking solutions range from individual-doses in metered drawers (F-series, M-series) to bulk, open storage (V-series, CS-series) and even refrigerated and open-shelf solutions," Mr. Moore added.

Also, medDispense's external locks as well as support key storage combined with medLogic workflow mean virtually any space, surface or compartment can be managed as part of a robust medication management solution."

Ways Data Mining is Transforming Health Care

- Helping physicians make strategic care decisions
- Reducing unknown drug interactions
- Improving patient safety
- Enhancing care delivery and patient outcomes
- Spotting fraud
- Identifying drug diversion and monitoring controlled substances
- Managing inventor
- Ensuring adequate staffing

Sources: Pedersen C. A., Schneider P. J., Scheckelhoff D. J. ASHP national survey of pharmacy practice in hospital settings: prescribing and transcribing – 2016. Am. J. Health Syst. Pharm. 2017;74:1336–1352. 10.2146/ajhp170228. Pratt N, Roughead E. Assessment of medication safety using only dispensing data. Curr Epidemiol Rep. 2018; 5(4): 357–369. doi: 10.1007/s40471-018-0176-6

TOUCHPOINT MEDICAL'S MEDICATION MANAGEMENT SOLUTIONS

medDispense, powered by medLogic
Our customer-driven medication management solutions deliver security, visibility, and efficiency to support your medication management workflows. Our solutions span stationary as well as mobile automated dispensing systems

- **medDispense® L series Automated Dispensing Cabinets** Single item compartment control accommodates a wide range of medication sizes that require higher security than open compartments.

- **medDispense® M series Automated Dispensing Cabinets** The medDispense M series automated dispensing cabinets deliver high capacity and high security in a small footprint.

- **medDispense® F series Automated Dispensing Cabinets** The highest level of security with single dose dispensing to ensure access to only the quantity requested.

- **medDispense® C series Automated Dispensing Cabinets** The C series provides customizable capacity - from single item control to high capacity bulk storage

- **medDispense® CT series Automated Dispensing Cabinets** Expand your capacity while combining the security of single item control and bulk supply storage with the medDispense CT series automated dispensing cabinets.

- **medDispense® CS series Automated Dispensing Cabinets** The medDispense® CS series Automated Dispensing Cabinets add additional capacity to secure bulk supply and other large items.

- **medDispense® V series Automated Dispensing Cabinets** Storage and traceability of bulk medications and supplies

About TouchPoint Medical

At TouchPoint Medical, we are committed to developing customer-driven solutions that advance healthcare professionals' delivery of care. TouchPoint Medical is a global provider of innovative and intelligent Point-of-Care and Medication Management Solutions to thousands of hospitals and health care facilities around the world.

CONCLUSION

Healthcare providers recognize the value of data analytics, enhanced reporting and expansive, adaptable storage options in today's medication management environment. Insights gained through analytics can lower inventory carrying costs and improve workflows. Right-sized storage options ensure maximized use of space and optimal security. Touchpoint Medical's medDispense dispensing cabinets powered by the medLogic platform gives providers the tools they need to optimize their medication management and ensure the best delivery solution for consumers and providers alike.

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