

Challenges and solutions: integrated medication management systems

Medication management is a complex system. TouchPoint Medical's medication management solutions help address healthcare facilities' needs while providing consultative and reliable customer service.

OVERVIEW

Medication Management: State of the Industry

Medication management practices present a significant challenge to providers, with as many as 30 steps between order and administration of medications, according to the Healthcare Information and Management Systems Society (HIMSS). New findings from the group's Medical Technology Index note that most medication management solutions only capture up to 80% of errors. The index, measuring the state of medication management in the industry, was reported at HIMSS 2019 annual conference.

Chief among the overall medication management challenges cited by health care systems in the report are:

- Reducing risk of errors in the medication management workflow
- Removing or reducing manual workarounds in medication ordering
- Standardization of medication management workflow across the enterprise
- Removing steps in the process

When the top challenges are examined, prescribers, pharmacists and nurses have different priorities and varied pain points. All three cite reducing errors in the medication workflow as the top challenge they face. For pharmacists, the second most important challenge is optimizing the supply chain to manage cost; for nurses, removing/reducing workarounds ranks second; and prescribers cite reducing the number of steps in the workflow as their second most pressing challenge.

These challenges highlight the need for systems to be integrated seamlessly to ensure a safe and efficient environment. When the technologies implemented are

disconnected, it causes more work and frustration for providers who in turn, use manual workarounds. This results in error and inefficiency, with overall adverse consequences on the quality of care and the financial health of the institution.

Opportunities for Vendors

Overall, the HIMSS index finds that providers are in general still developing their approach to medication management. As such, they are in the midst of identifying gaps in technology needs and processes and taking steps to fill those gaps. According to the index, providers are taking a consistent approach to cybersecurity, ensuring it is a high priority for medication management, but providers only have a moderate level of confidence in their approaches.



One obstacle cited in the index is the need to rely on a variety of vendors to tap into the best available functionality, but providers are concerned about the complexities that managing and integrating multiple platforms can introduce.



The report found that about half of the respondents use between three and four vendors.

To unify around fewer vendors, however, requires trust and confidence that the vendors can in turn deliver technological solutions that meet the emerging needs. About two-thirds of nurses, prescribers and pharmacists believe vendors are making a “fair to excellent” effort to develop the right solutions. The medical device industry has a golden opportunity to offer point-of-care solutions to providers and hospitals that support their efforts toward optimal, efficient and effective medication management. Vendors can continue to build trust by developing streamlined, simplified solutions.



Currently, providers see medication management technology as being strong in terms of its ability to reduce the risk of errors, standardize workflow, and integrate

workflow from order to administration with EHR. The industry has room to grow in terms of confidence in technology’s benefit with regard to removing manual workarounds, reducing steps, integrating with other devices, improving inventory management and controlling costs.

HIMSS found that on average, providers have more than eight technologies they use to support the medication management process. The top five are computerized order, bar code, pharmacy operations systems, automated dispensing cabinets (ADCs) and smart infusion pumps.

POINT-OF-CARE MEDICATION ADMINISTRATION

Automated Dispensing Cabinets

ADCs are the solution of choice for point-of-care medication administration in hospitals and other health care facilities. Their use has increased from 22% in 2002 to 70% in 2017 according to Institute for Safe Medication Practices (ISMP)₁, in part due to significant safety enhancements such as individually secured compartments and patient profiling systems. Advantages and safety benefits include improved efficiency in nursing and pharmacy, a reduction in medication errors during dispensing, and accurate medication tracking and record-keeping to monitor inventory and deter drug diversion.

A profiled ADC interfaces with the pharmacy information system and medication removal is only permitted after the order is verified by a pharmacist. This functionality alerts the nurse to potential duplicate therapy, contraindications, unsafe dosing, allergic reactions and other significant drug information prior to administration.

Potential Trouble Spots

Unnecessary drug overrides are a concern and could lead to selection and removal of the wrong medication, strength or dose. Another challenge is the misplacement of medications into a wrong ADC compartment. Integrating barcode technology with the ADC can aid in detecting this type of error during the stocking and removal process. Information technology systems are intended to support clinical decisions, not replace human activity and problems may still arise when providers are over-reliant on the technology, the ISMP has warned.

The group has recently published the following nine items for Core Safety Recommendations when providers implement ADC:

- Provide ideal environmental conditions for the safe use of ADCs
- Establish ADC system security
- Provide profiled ADCs and monitor system overrides
- Select and maintain appropriate ADC configuration and functionality
- Select and maintain optimal ADC inventory
- Implement safe ADC stocking and return processes
- Display important patient and drug information
- Develop procedures for accurate ADC withdrawal and transfer to the bedside for administration
- Provide staff education and competency validation

The full 2019 guidelines include structural elements for ADC safety, environmental conditions, security and cabinet configuration. ISMP makes recommendations for designing safer systems, such as optimal inventory management, as well as frontline procedures for stocking and return as well as withdrawal of medication. The guidelines specifically address ADC system overrides, and ADC vendors can also

provide extensive guidance on how to set up, evaluate, manage and monitor overrides.

Various products on the market meet providers' needs as illustrated by the HIMSS survey information summarized earlier and the new ISMP safety criteria. TouchPoint Medical's solutions help advance the delivery of care by providing security, tracking and convenient 24/7 access to medications.



CHOOSING THE RIGHT ADC BENEFITS NURSES AND PHARMACISTS

Solution for Streamlined Workflow

The right ADC for an individual health-care facility should address the challenges in the HIMSS report. Solutions should result in improved efficiency between the nursing and pharmacy disciplines, a reduction in medication errors

during the dispensing phase, and accurate medication tracking and record-keeping.

PRODUCT DETAILS

TouchPoint Medical's medDispense® Automated Dispensing Cabinets

The medDispense® dispensing system powered by medLogic™ provides flexibility, security and efficiency in the widest range of interchangeable dispensing hardware available with one software platform. The countless hardware configurations work together for safe and efficient automation across the clinical workflow. Facilities can choose the best way to safely store and dispense medications for their needs.

Key Benefits

- Single dose progressive drawer dispensing
- Scalable to expand and flex with needs
- Antimicrobial protection
- NurSync™ remote medication queuing
- One software platform across all hardware, working in combination
- Numerous secure storage configurations to eliminate space challenges
- HL7 interfacing



PharmacyCenter™ main menu.

Safe and Secure Dispensing

Designed to reduce the risk of medication errors and provide secure storage, medDispense® ensures proper safeguards are in place for each item dispensed.

- **Credentialed Access and Reporting** All medications and supplies are in a controlled, locked, and credential managed environment. The PharmacyCenter™ software module provides visibility so professionals can view and control inventory levels in any unit from any PC.
- **High-Security Controlled Substance Storage** Single dose dispensing with progressive steel drawers is available in various storage options (complies with UK ECD regulations) and there is a configurable double signature for removal, waste, return or override. The system has the required end of shift count and discrepancy tracking and notification. Additionally, the system's medGuard™ controlled drug inventory management module helps provide a closed-loop medication workflow.
- **Planning and Support** TouchPoint Medical's Professional Services teams work closely with the facility to ensure medication locations and security levels are optimized for that facility's processes. On-site interface is completely set up with a dedicated installation services team and ongoing technical support is always responsive throughout the life of the equipment.
- **Software Safeguards** TouchPoint Medical's medLogic™ powers all medDispense® units with built-in safeguards like configurable four characters on medication search. The medLogic™ safety checks include allergy alerts, duplicate dose alert, bar code scanning, look-a-like sound alike alerts and tall man lettering. The medGuard™ controlled drug inventory management software provides a closed loop-controlled drug restocking process with advanced clinical decision support and alerts.

medLogic™ allows health care providers to work smarter using modules like PharmacyCenter™, NurSync™ and medGuard™ that work to drive efficiency into the daily workflow. Caregivers can maximize the time spent with patients and minimize time spent at the ADC.



TouchPoint Medical's medDispense® series gives you the control and flexibility to choose the most efficient way to safely store and dispense medications.

Other products include:

- [AccessRx MD™ Medication Workstation](#)
Real-time bedside medication administration, barcode patient identification and direct eMAR API access.
- [AccessRx Exchange™ Medication Workstation](#)
- Designed to support your centralized pharmacy workflow with easy-to-exchange medication cassettes mounted to the cart or the wall.

THE COMPLETE SOLUTION

TouchPoint Medical is among the market leaders ensuring providers have access to medication management solutions that they can trust and that integrate with their existing workflows to deliver increased medication dispensing security, tracking, and efficiency. Solutions span from mobile medication dispensing workstations that can work alongside ADCs to support a central fill workflow to a system where nurses fill direct from the ADCs. Today's vendors like **TouchPoint Medical** have flexible solutions to meet the facility's specific needs.

Providers rely on a vendor to advise them, offering recommendations following a full understanding of the facility's onsite workflow and medication volume to assess their particular storage configuration needs. For example, a facility may need many smaller items or secured bulk storage too. A consultative vendor will work with a

facility's pharmacy and nursing to understand their specific challenges and capacity needs and address any questions.

Once a purchase is made, TouchPoint Medical's Professional Services team works on-site to implement the system, including the necessary work to integrate the system with the HIS vendor via an HL7 interface. TouchPoint Medical works with the pharmacy to determine formulary items that will be stored in the system for retrieval. The Professional Services team works to train nursing, pharmacy and IT staff on the functionality of the equipment.

With its dedicated support organization, TouchPoint Medical's "customer first" approach ensures support, even



AccessRx MD™



AccessRx Exchange™

in urgent situations with their 24/7 technical support team.

CONCLUSION

According to Pharmacy Purchasing & Products' 2016 State of Pharmacy Automation Survey, ADCs are now used by 91% of hospitals across the country, with 68% utilizing ADCs as the primary means of drug dispensing.² Hospitals now look to further optimize the benefits of this technology to continually increase providers' productivity and improve patient care.

The three main benefits of ADCs are to ensure medication availability, improve workflow and increase medication safety. When nurses have quick access to needed medications, their satisfaction increases, and patients receive their needed medications in a timely manner. When ADC nurses can queue up their medication orders remotely, it streamlines the workflow and reduces time spent waiting

and eliminating steps in the process.

With profiled ADCs, pharmacists review medication orders before they are administered to patients, further increasing medication safety. To fully capitalize on all that this crucial technology has to offer, health care systems must partner with an experienced vendor like TouchPoint Medical, that offers ADC solutions that maximize today's technology. With the best hardware and software in place, organizations have a more efficient and safer process that benefits patients, providers and the bottom line. TouchPoint Medical has the right solution for any facility and with its outstanding and dedicated support organization, you have a partner every step of the way.

WORKS CITED:

1. <https://www.ismp.org/news/ismp-issues-updated-guide-lines-safe-use-automated-dispensing-cabinets>
2. Pharmacy Purchasing & Products' 2016 State of Pharmacy Automation Survey. <https://www.pppmag.com/article/pppv13n8s0>



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