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Establishing and Managing an
ADM Override Compliance System

The Case for Overrides

Automated dispensing machines (ADMs) have been around for about 20 years, and many hospitals use some form of nursing unit-based automation to supplement or replace a cart-fill environment. Most ADMs interface with the pharmacy's information system to provide nurses with easier, timelier, and more efficient access to pharmacy-reviewed medication orders. The ability to provide a pharmacy-reviewed – or "profiled" – order at the time of dispensing can improve patient safety, inventory control, charge capturing, drug availability, and narcotic security. However, even in a "profiled order" environment, ADM end-users can override the system for immediate medication access. Ordinarily, nurses override when the standard turnaround time for pharmacy has been surpassed. However, a change in a patient's clinical condition may also necessitate an override. Because it bypasses pharmacist verification for dosing and potential adverse interactions, an override creates the potential for medication errors. By overriding an ADM's medication control functions, the end-user is essentially overriding the pharmacist's review of a medication.

According to JCAHO, there are only two circumstances in which overrides are acceptable. The first allows overrides if the ordering, dispensing, and administration of a medication are controlled by a physician. This situation is most common in ancillary units, such as the operating room, interventional radiology, the endoscopy suite, or the emergency department. The second acceptable circumstance is a time-sensitive emergency that does not allow for pharmacist review. In other words, if a delay resulting from pharmacy verification would significantly compromise a patient's clinical status, an override would be acceptable.

Although these standards exist to provide optimal patient safety measures, there are certainly other factors that may require an end-user to override a medication. After all, ADMs are not responsible for the fabrication of overrides, and the risks associated with overrides are no different from those that exist in a non-automated floor stock setting. Even with the potential for overrides, ADMs offer hospitals the ability to improve medication safety through accurate dispensing and pharmacy-reviewed orders. It is only by embracing ADM functionality and its inherent patient safety benefits that hospitals have discovered the potentially negative impacts to patient safety that overrides can create. In any patient care area, overrides are going to occur. Therefore, it is important to develop a comprehensive override policy.

Creating a Comprehensive Override Policy

To maximize patient safety, a hospital must have an effective override policy in place. With the implementation of dispensing machines in the Methodist system, the P&T committee developed a policy to outline the circumstances in which overrides are compliant. Given the changing nature of health care, policy modifications may be necessary over time. However, all changes must be reviewed before they are implemented in a real-time patient environment. A comprehensive override policy functions as the compliance judge for override transactions, and should ultimately help

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an end-user determine whether or not to override.

Compliant reasons for override at our facility include anaphylaxis, chest pain, hemorrhage requiring hemostatic drug, hypertensive crisis, nausea/vomiting, physician present for procedure, seizure, and severe pain.

Once the override policy—including the list of compliant reasons for overrides—is finalized, it is time to customize your ADMs. Within the Methodist Health System, our Omnicell ADMs' locations determine their specific functionalities. For instance, our ADMs in interventional radiology, endoscopy, and our operating rooms are not set for "profiling", because a physician is always present in those areas. On the other hand, the ADMs in our med/surg, telemetry, and nursery/NICU patient care areas are set for profiling. Orders must receive pharmacy review – or an end-user override – before our nurses can access medications from those ADMs. Once an order has been profiled by pharmacy, it is considered "active." On the nursing units, nurses can view a list of active orders on an ADM's screen and select the medications they need to access. Nurses can also access medications outside of the active order list by overriding the system. In that situation, our Omnicell cabinets prompt our nurses to confirm the override and select from a list of compliant reasons displayed on the ADM's screen.

Not surprisingly, interfaces do not always perform as intended, leaving an end-user unable to access an order, even if it has already been verified by the pharmacy. Therefore, we have added "interface failure" as an additional compliant reason for overrides, so as not to penalize nursing units in this situation. Because our facility utilizes an electronic MAR, a nurse is able to confirm that an order has been verified by pharmacy by viewing it in the online profile. Should the particular verified order not appear on an ADM profile, a nurse can call pharmacy to confirm an interface failure. In addition, Omnicenter, the server that manages our cabinets' operations, is able to display an error message on the server should an interface stop communicating. This type of software notification allows pharmacy to be proactive in reducing potential overrides by optimizing interface performance.

Nurses can also use a free-text feature to enter their own reason for the override. Although free-text overrides are initially considered non-compliant, manual review sometimes reveals that a free-text reason may, in fact, be a just cause for an override. Non-compliant reasons are usually easy to detect. For instance, one Methodist user entered "Sent to pharmacy. I'm about to go home." – obviously a non-compliant reason. On the other hand, if a free-text reason is found to be valid, it is counted as compliant in our reports, and general compliance for the respective patient-care area is recalculated.

While establishing the override policy, our P&T committee also approved a list of emergency medications that do not require a medication order prior to dispensing, including dextrose 50% syringes, diltiazem injections, nitroglycerin tablets, diphenhydramine injections, and norepinephrine injections. The potential for a sudden change in a patient's clinical condition justifies these medications being readily

available. Allergic reaction, chest pain, and hypotensive crisis are situations in which the administration of a drug is time-sensitive enough to necessitate an override. An end-user could dispense any one of these medications at anytime without being flagged for an override, regardless of the profiling setting per individual cabinet. Because of the potential for abuse of this functionality, pharmacy monitors these medications in all patient care areas on a daily basis. Transactional usage reports are run on each emergency medication to reveal any potential misuse, and should there appear to be an issue, pharmacy and/or nursing management may intervene.

Although the process of developing a comprehensive policy to address override compliance can be time-consuming and even exasperating, such a policy is necessary to bridge the medication-use gap between pharmacy and nursing, to improve inventory control, and to increase patient safety.

Monitoring Override Compliance

After writing and implementing your override policy, monitoring your nurses' compliance consistently is the next step. Because all dispensing machine transactions record to a database, the monitoring process can be quite efficient.

In order to monitor our nurses' override activities, Methodist built a custom Microsoft Access database with two standard data tables. The first table lists each compliant reason designated by our override policy. The second table contains a line item for the manager of each patient-care area, along with that manager's e-mail address and the internal mnemonic for the area. Line items were also added for the VP of nursing and director of pharmacy. OmniCenter has the ability to export standard transaction reports to the Microsoft Access spreadsheet format. We export a "transaction report" for all medication dispenses, as well as a "medication order override report," from the cabinets to the Access database. After importing them, pre-defined queries compare each override with the compliant reason defined in the standard table to calculate a compliance percentage for each floor. The database produces a final set of reports, which are then sent to the users defined in the standard users table – the patient care area manager, the VP

of nursing, and the director of pharmacy. Our override reports list all medications dispensed via override, all overrides by user, all overrides by floor, top 10 override comments, top 10 override medications, and total override compliance percentage for the entire hospital.

At Methodist Health System, the pharmacy systems analyst is responsibile for creating the override compliance reports. It takes less than three minutes to export data from the Omnicell ADMs, transfer the data to our Access database, and e-mail compliance reports to over 25 managers. This efficient way of gathering and distributing our override compliance data certainly helps pharmacy and nursing stay on top of potential patient-safety pitfalls. Should a particular unit's compliance percentage be unusually low, concentrated reporting can be done on a unit-by-unit basis for potential override compliance. Managing this data electronically simplifies the monitoring of override activity within a hospital.

Ensuring the Accuracy and Relevancy of Your Override Data

Once you have gathered your override data, it is necessary to evaluate the data to ensure its accuracy and relevance. Nurses may not always indicate the appropriate reason for their overrides. For instance, Methodist's initial compliance reporting showed anaphylaxis to be the primary reason for ADM overrides. Upon further investigation of the patients' diagnoses, we were unable to connect true anaphylactic conditions with the respective reported transactions. Because our pre-defined override reasons are listed in alphabetical order, nurses were apparently selecting "anaphylaxis" — the first to appear on the ADM screen — as their override option. The addition of "0_No Valid Reason" as the first choice proved to be an easy solution to this override misuse. This simple modification makes it more obvious when an end-user does not select a valid reason.

Pharmacy-driven education was also employed to increase override compliance. The reality is that nursing workarounds will always exist in a technological environment. However, the degree to which pharmacy is directly involved with end-user education is directly related to overall override compli-

ance. Simply put, pharmacy can never over-educate end-users.

In addition, peer review can be a powerful resource for maintaining override compliance and reducing workarounds. In each patient care area, identify "super users" who are familiar with the override policy and who can direct end-users towards appropriate methods for dispensing medications and recording overrides. In the absence of a pharmacist-reviewed order, these "super users" may also function as a medication order verifier should an override be necessary.

Given the busy nature of many hospital pharmacies, circumstances may prolong the turnaround time for pharmacist-reviewed medication orders, and it is inevitable that nurses will use their ability to override the process at some point. But ultimately, patient safety should always be your primary consideration when establishing your ADM policy and monitoring overrides. There is no policy comprehensive enough and no technology great enough to take the place of a competent, clinically based decision. As such, encourage your nurses to carefully evaluate the circumstance at hand before simply overriding your ADMs' profiling functions and circumventing the technology's patient safety and inventory control benefits. ∎

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