Strategies to Reduce Your Repackaging Requirements

WITH 34% OF PREVENTABLE ADVERSE DRUG EVENTS (ADEs) OCCURRING at the point of care, a well-designed bar coded medication administration (BMCA) system can serve as a necessary safety net. In addition to addressing the five rights of medication administration (right patient, right drug, right dose, right route, and right time) literature indicates that BCMA systems have reduced medication errors by 65 to 86%. Incorporating documentation and charge capture simultaneously with BCMA provides further benefit.

With so much upside, it would be reasonable to see BCMA systems on many hospitals’ technology implementation “short-lists”. Data from Pharmacy Purchasing & Products’ 2007 State of Pharmacy Automation survey indicates that 21.1% of hospitals are currently utilizing BCMA systems, and 83.3% of those not currently scanning medications at the bedside plan to implement BCMA within the foreseeable future. Based on estimates that a single in-house adverse drug event can result in extra costs of approximately $8,750, an effectively implemented BCMA program can result in significant cost avoidance for hospitals.

Given the benefits of BCMA, it is reasonable to ask why more hospitals have not yet implemented this technology.

While there are multiple reasons, there is probably none that impacts pharmacy personnel more directly than the historic lack of medications packaged at the dose level with manufacturer-applied bar codes. And even though pharmacists report an improvement in the availability of bar coded unit dose medications, a gap remains for those seeking to achieve a completely bar coded inventory. Ultimately, reducing the number of doses your pharmacy repackages into bar coded unit dose can lead to cost and labor savings for your facility. What then are the strategies you can implement to economically and practically reduce your repackaging requirements?

**Purchasing Practices**

Historically, many unit dose medications available from manufacturers were subject to significant up-charges when compared with their bulk product counterparts. However, through the utilization of computer systems that are typically supplied by the wholesaler, pharmacy buyers have the ability to search for medications packaged at the unit dose level and compare their costs with those of bulk products. Determining a “good” unit dose buy depends, in part, on:

- the cost difference between the bulk and unit dose products
- the amount of variance the pharmacy manager is willing to accept
- the urgency of assigning pharmacists and technicians to activities other than repackaging medications

It is essential for the pharmacy manager to know his or her internal repackaging costs and compare them with the third-party vendor’s charges.

You can partner with your wholesaler and GPO to identify cost-effective, bar coded unit dose products. By actively participating and engaging with the wholesaler and GPO, you can identify value-added services, such as technology, automation, and other pharmacy management tools available from them. However, being able to identify unit dose products is only one piece of the puzzle. In addition, it is helpful to have data on whether those products come in bar code readable packages. To date, few, if any, computer systems supply that level of detail. Fortunately, most unit dose packages possess bar codes, and you can identify manufacturers (such as Sky Packaging, American Health Packaging, and UDL) that historically have been good sources of bar coded unit dose products.

However, not all medications are commercially available with manufacturer-applied bar codes at the unit dose level, and not all manufacturer-applied bar codes are readable by all BCMA systems. Such medications need to be repackaged in the pharmacy, requiring the purchase of products, such as tabletop and high-volume unit dose packaging machines and/or bar code printers.

In the event that reducing internal repackaging is your priority, consider outsourcing these activities to a third-party repackager. There are several factors that should be considered in the analysis of this option, including but not limited to — cost, turnaround-time, length of contract, the outsourcer’s quality metrics and return policy, and the beyond-use dating provided.

**The Impact of BCMA Software**

When it comes to the ability to interpret manufacturer-applied bar does, not all BCMA systems are created equal. The selection of your BCMA software product can have a profound impact on the percentage of commercially available bar codes that can be effectively scanned at the bedside. Software products differ in their ability to store data on generically equivalent products. Programs that have the ability to store bar code data on multiple generically equivalent products are preferred. Because of medication shortages, it is imperative that a system has the ability to interpret and store data with respect to the bar codes of multi-source medication products. For example, it is reasonable to expect that your pharmacy inventory and/or unit-based automated dispensing cabi-
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Scanning Technology
The type of scanner your facility utilizes will also impact the number of doses that require repackaging. Linear scanners, which read one-dimensional, Code 39 and 128 symbologies, have been the most commonly used scanners in healthcare. Recently, as two-dimensional bar codes have become more popular on medication packaging, bar code readers with the ability to scan not only Codes 39 and 128, but also the newer GS1 DataBar (formerly known as reduced space symbology or RSS) and Data Matrix bar codes, have become a smarter buy for hospitals. With increasing interest in having bar codes that contain expiration dates and lot numbers, it is expected that two-dimensional scanners will be in more demand in the near future. The use of a programmable scanner can also increase the number of products whose manufacturer-applied bar codes are readable by the BCMA software product.

Strategies to Reduce Repackaging
In developing a strategy to reduce the number of doses that require repackaging, several areas need to be examined, the first of which is your inventory. At the out-
You all have critical equipment (refrigerators, freezers, incubators and more) that need to be monitored and maintained. Each department’s staff spends a considerable portion of their day recording temperature, humidity, pressure and flow readings. Automating environmental monitoring increases accuracy, provides early warnings to address problems before they occur, maintains Joint Commission and other regulatory compliance, and allows staff to focus on other critical tasks.

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implement, and effective tool for benchmarking your success in providing timely order entry. By implementing a POMS, your pharmacy also stands to improve medication order turnaround times, as well as patient safety and overall efficiency within the medication order entry process.

Most recently the pharmacy manager for informatics at Baptist Hospital of Miami, Harvey S. Fields, RPh, now serves as a consultant with Pharmacy Informatics, LLC, based just outside of Fort Lauderdale, Florida. Fields has also served as the pharmacy supervisor for Maimonides Medical Center in Brooklyn, New York. He earned a BA in biology from New York University and a BS in pharmacy from Columbia University College of Pharmacy. Fields can be reached at harveyf.llc@att.com.

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Conclusion

The availability of bar coded inventory is the bedrock of any BCMA program. Therefore, it behooves any facility making the move to bedside scanning to carefully examine their practices for purchasing and packaging medications in bar coded unit dose. Doing so can ensure the success of your BCMA program and lead to dramatically improved patient safety within your organization.

References