

Perioperative Supply Costs

Bringing the power of information to the OR supply chain

Perioperative White Paper

GE Healthcare

Introduction

In most hospitals, the perioperative department drives the lion's share of revenues—typically around 50 to 60 percent—while contributing 30 to 40 percent of the costs.¹ Those costs largely reflect supply consumption. According to one study, supply costs accounted for 56 percent of the total expense budget for a perioperative department, exceeding salary costs by more than 20 percent.²

Facing major capital and operational budget pressures, most healthcare organizations are seeking more effective ways to reduce OR supply costs while preserving or even improving patient safety, operational efficiency, and staff productivity.

A multi-million dollar management issue

One area ripe for improvement is OR supply chain management. Supplies associated with surgical procedures represent a significant investment for healthcare organizations. The inventory of stock, non-stock, and special order items on hand typically runs from about \$1 million for smaller hospitals to around \$4 million for larger institutions. Averaging about nine inventory turns a year, hospitals are spending anywhere from \$6 million to \$24 million annually on supplies.³

In the majority of hospitals, at least some of this multi-million dollar inventory is managed manually, using paper-based methods and/or barcode scanning. Even if the hospital has an automated supply chain, its Materials Management System (MMS) typically does not have the functionality to manage non-stock OR items.⁴

In a completely manual system, generally a staff member conducts a spot count at periodic intervals, estimates the number of units to be ordered based on predetermined utilization rates (which may or may not be accurate), and then physically keys the order into the MMS. In a semi-manual system, generally barcodes are affixed to supply bins and the staffer walks around to the bins with a handheld device synched to the MMS, scanning the barcodes and keying in the number to be ordered.

Manual inventory management methods are generally associated with a number of problems, including:

- Inaccurate information on inventory counts and utilization
- Overstocking (artificial stocking) to avoid running out
- Understocking, often leading to expensive rush orders
- Waste, as stock is lost or becomes obsolete
- Lack of accurate data to forecast demand, take advantage of special vendor pricing, and drive better decision-making
- Ineffective charge capture
- Inefficient use of hospital space for storage
- Time-consuming work for OR staff
- Physician and staff dissatisfaction when supplies are not available when needed

From lack of visibility into utilization to excessive waste, these issues may drive up the direct and indirect costs of OR supplies, reduce the efficiency of OR staff, and may increase risk for patients. As such, manual supply chain management is a major impediment preventing hospitals from optimizing their perioperative operations to address today's cost and revenue pressures.

Putting IT to work in the OR

Harnessing the power of information technology is the pathway to improving the accuracy and efficiency of OR supply chain management. A perpetual inventory system that updates inventory according to utilization patterns is a preferred approach for many hospitals. This requires a system that is attuned to OR workflow and, unlike an MMS, is designed to manage all of the supplies (non-stock as well as stock) used in a perioperative department. An organization can attain this level of optimization by progressing through specific supply chain levels, each with measurable benefits.

Laying the foundation

In today's complex environment, there are some elements of supply chain management that set the stage for an organization to achieve a foundational level of efficiency. Implementing MD preference cards and resource catalog settings can quickly yield benefits for an organization. For example, in finding the right balance of MD-specific cards and more general cards based on Supply Related Procedure Groups (SRPG's) an organization can locate areas for inventory improvement immediately.

The Basic level of perioperative supply chain management often includes an item interface to the hospital MMS. The addition of this interface to the foundation of MD preference cards and resource catalog settings can enable the hospital to maintain line of sight to updated supply costs.

Inventory and billing in real time

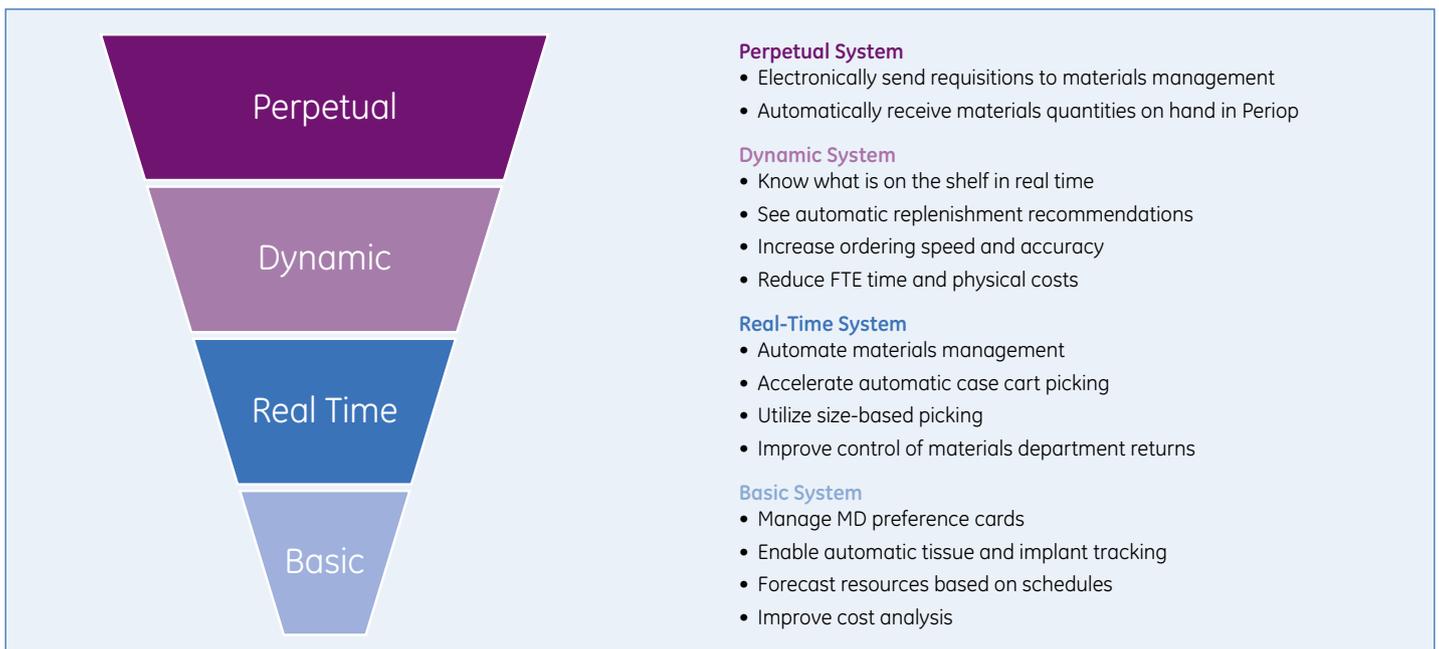
Manual and semi-manual inventory systems have a built-in flaw: the lack of hard data on actual usage. Eyeballing stock on hand and assuming a pre-determined utilization level to maintain par levels are key reasons why so many perioperative departments find themselves dealing with the workflow and financial consequences of over- and understocking.

As an organization automates additional steps within the perioperative inventory and billing process, it moves into the Real Time supply chain management level, which can help drive accuracy and efficiency. Some hospitals use this level as a building block to drive further optimization of the supply chain, while for others it is a destination in itself.

Hospitals often reach this level of supply chain management initially though the implementation of some basic MMS interfaces, which can yield significant returns. A Picklist interface enables automatic quantity on hand reductions at the point of case cart picking, thus providing real-time quantity on hand information and leading to fewer quantity on hand errors and omissions.

By implementing consumption and, if needed, inbound usage interfaces, organizations can drive further accuracy and efficiency of tracking higher cost supplies in the perioperative supply chain. A consumption interface can enhance the control on returns to the materials department and can benefit not just the perioperative supply chain but materials management as well. An inbound usage interface, especially in the case of medications, can enable automatic flow of information from controlled access systems, such as Pyxis® or Omnicell®.

This level of automation can provide significant benefits, however it is important to note that this only automates items that are managed in the MMS, which typically does not include the materials in the OR department (and can amount to \$1M to \$2M in an average OR).



Seamless ordering and accuracy

In the Dynamic level of this supply chain management model, a hospital's entire process becomes paperless. Achieving a paperless perioperative supply chain often involves implementing IT systems such that an interface sends a requisition generated from the Perioperative Management System to the hospital MMS system.

Often, if not already done in the Real Time supply management level, bar code scanning can also be easily implemented at this stage with most well-designed Perioperative Management Systems. Some supply chain systems rely on the circulating nurse to scan all the supplies used during the case. Another solution is to implement a charge-by-exception utility. This has helped some hospitals reduce documentation time and post-case review and audit, while more efficiently meeting regulatory and professional record requirements. Automating requisition to the MMS system and implementing barcode scanning allows for more seamless and accurate ordering of all materials needed in the Perioperative environment.

The increased data visibility inherent in paperless ordering can give materials managers and perioperative management much greater insight into their perioperative supply chain, which could lead to reductions of millions of dollars of inventory on hand or reduced overtime for supply audits. When compared to the typical cost of a Perioperative Management System and the cost of interfaces to the MMS, one hospital has seen over 200% return on investment alone.⁵

Perpetual inventory optimization

It is possible to achieve perpetual optimization of the supply chain with all requisitions in the perioperative area driven off consumption, no manual counting of bins, spot checks or other manual inventory management, except for commodity supplies. Although there are currently few organizations at this level of supply chain excellence, it can come with a disproportionately large reward for the effort.

Often the final step in achieving maximum supply chain management optimization through automation comes with the integration of the perioperative management system with the MMS through two additional interfaces. Implementing requisition and receiving interfaces enables the perioperative department to electronically send requisitions to materials management and to automatically receive quantities on hand in perioperative. This not only notifies the MMS system what supplies have been used but also when to re-order them. Hospitals attaining this level of supply chain automation can enable OR materials staff to focus on more proactive activities, such as tracking implant information as implants are received.

At this point it is possible for the perioperative materials management system to calculate recommended requisitions. Supplies from inventory locations not managed by the materials system can also be controlled perpetually, providing real time knowledge of what is on the shelf and the ability to proactively forecast demand.

A step toward continuing viability

Moving from manual to automated management of OR supplies enables perioperative services to function successfully in an environment of healthcare reform, economic uncertainty, and the push toward the integrated electronic health record. The benefit in terms of reduced waste, more effective charge capture, accurate and timely ordering, demand forecasting, improved workflow, and increased physician and staff satisfaction will enable the perioperative department to contribute even more effectively to the growth and profitability of the healthcare institution going forward.

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