



Case Study: Decreased Inventory Costs in Perioperative Services

Improving Medical Device Management within Cardiothoracic Surgery

This academic medical center has some of the largest surgical centers in the country, with comprehensive inpatient and day surgery programs performing over 25,000 surgical procedures annually. Their skilled and dedicated specialists incorporate state-of-the-art techniques and technologies for routine procedures and complex surgeries.

With the hospital's prominence in cardiothoracic surgery, the organization has experienced not only an increase in annual procedure volumes, but also a concurrent increase in the need to procure and store high cost medical devices and implants that are critical to supporting their leading edge medical care. The increased utilization of items such as heart valves and annuloplasty rings has been a catalyst in performing innovative surgical procedures that have led to marked improvements in patient outcomes. However, with this heightened role in the care delivery model, the leadership within Perioperative Services identified an opportunity to improve their operational and financial management of these items to align with their operational goals.



Facility Type

Academic Medical Center

Department

Perioperative Services

Solution

iRISupply Inventory Management System

Results

↓ \$230,000

Reduction in inventory levels



Recurring cost reductions via perpetual inventory management



Improved security and accountability

The opportunities for improvement were identified through several pursuits.



Improving Accountability. The first pursuit related to the need to improve the levels of security for device and implant storage, and in turn organizational accountability for their utilization. With their current open-shelf system, there were few mechanisms that helped maintain a secured environment for managing access to the items and prohibiting inappropriate utilization. Without controlled access to the items, there was an inability to accurately track and manage utilization patterns and inventory levels, as well as an increased exposure for loss, damage, and theft.



Enabling Perpetual Inventory. The second pursuit related to the organization's interests in moving towards a more perpetual model of inventory procurement and replenishment. As the increasing volumes of device and implant utilization were combined with the high costs of acquisition, it was important for the organization to streamline their procurement processes and optimize their inventory levels to avoid tying up organizational capital on inventory items.



Supporting Patient Care Needs. Given the critical importance the devices and implants played in their surgical procedures, it was important that the organization pursue an effort to avoid any incidents where needed items were unavailable during the time of procedures due to 'stock out' occurrences. With a goal to provide the highest levels of patient care while also maximizing the available procedure time within the operating suites, any delays in the completion of cases would be detrimental to the performance of the organization. In order to balance item availability with their joint pursuit of a perpetual inventory approach, it was imperative that inventory PAR levels were accurately set to align with expected case volumes and utilization patterns.

The benefit for our organization to move towards a system of perpetual inventory management has been huge. With the iRISupply system as a key contributor to those efforts, we've been able to more effectively manage our utilization of expensive devices and implants. As we look towards expanding its deployment to additional areas within our Perioperative Services, we will continue to see great strides in our inventory management capabilities.

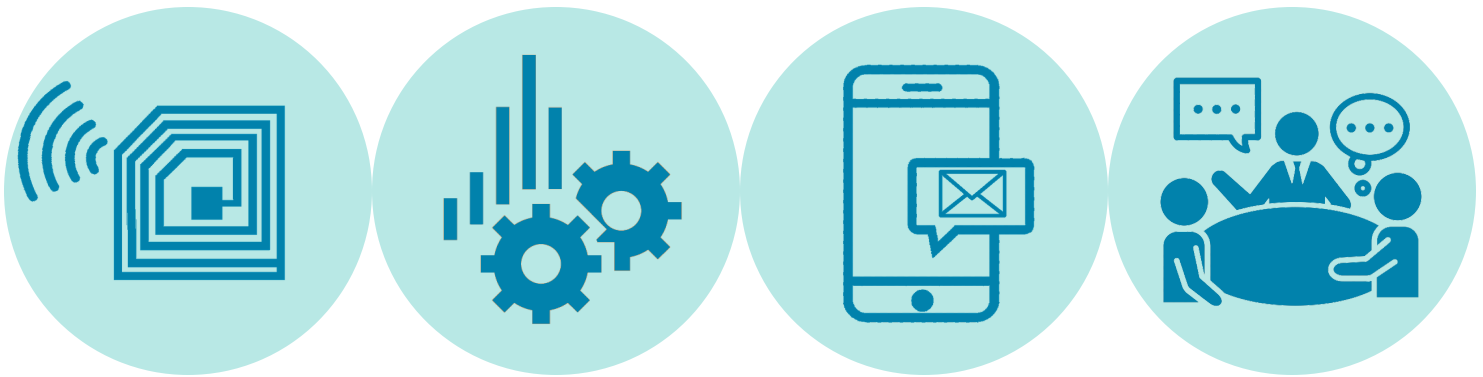
*Director of Finance and Business Operations,
Perioperative Services*

Finding a Solution - iRISupply

After evaluating traditional inventory management solutions that used manually dependent technologies such as barcoding, Perioperative Services engaged Mobile Aspects to assist with their inventory management improvement efforts. Due to its unique item level tracking and management capabilities enabled through radio frequency identification (RFID) technology, it was clear to the organization that the RFID-based iRISupply solution offered a significant advantage when compared to other vendors.

With respect to their pursuits, the system offered a secure, controlled environment for device storage due to its closed-cabinet design and user login technology. Through its RFID-enabled tracking architecture, all individual items stored within the system are continuously monitored, tracked and accounted for, making detailed sets of data available for the analysis of utilization patterns and identification of optimal PAR levels. Lastly, through a web based software application to view real-time data on inventory levels, daily usage, patient specific case data, and other items, the system makes a comprehensive view of inventory status readily available.

Intelligent Inventory Reduction Workflow



iRISupply system gathers
real-time usage data

Analytics engine calculates
savings opportunities based
on usage and on-hand data

Inventory reduction
suggestions are delivered to
your inbox

Staff work with physicians
and vendors to reduce stock
levels

Delivering Value through Technology

After implementing the iRISupply system, Perioperative Services was able to realize the achievement of their desired pursuits. Through the storage of the heart valves and annuloplasty rings used for cardiothoracic surgical procedures within the cabinet-based system, a higher level of security and accountability was created for utilization of these items. Due to audit capabilities that associate item access and utilization to the end user, they have effectively eliminated any concerns related to inappropriate utilization of inventory items. In addition, much more direct and measured benefits were realized as it related to their inventory management goals.

By analyzing utilization and inventory level reports derived from iRISupply, Perioperative Services was able to identify an immediate opportunity to reduce their existing on-hand inventory levels and adjust PAR levels. By making these adjustments and optimizing their device and implant purchasing patterns, the organization was able to reduce carried inventory by \$230,000.

iRISupply Configuration

Currently there are four iRISupply systems installed in the core central supply area of the Cardiothoracic Surgery area. Perioperative Services intends to expand utilization of the system in additional areas such as Neurological Surgery, General Surgery, and the Ambulatory Surgery Center for improved device and implant management.

Example of a Suggested Reduction in Inventory Report



MOBILE ASPECTS

Department

☐ BONE
☐ BREAST
☐ CARDIAC
☐ NEURO/PAIN

Ownership

☒ Consigned
☐ Loaner
☒ Owned

Over Stocked Items

Catalog #	Description	Manufacturer	Quantity In Cabinet	Quantity Out of Cabinet	Total Quantity On-Hand	Peak weekly use (suggested PAR)	Suggested reduction in PAR	\$ Change in PAR
37601	MEDTRONIC NEUROSTIMULATOR FOR DEEP BRAIN STIMULATION	Medtronic	0	8	8	5	3	\$52,500
20400101	Nanoknife Electrode	AngioDynamics	0	15	15	6	9	\$17,150
BMW4101	INTEGRA BILAYER MATRIX WOUND DRESSING SIZE 4X10 10CM X25CM	Integra LifeSciences	0	4	4	1	3	\$14,825
SD800.434	SYNTHES PSI PT: BLACKWILL MRN# 3543412	Synthes	0	3	3	1	2	\$10,506
SNA027-0-20055	UNIVERSAL CLAMP 5.5MM	Zimmer	0	7	7	1	6	\$6,600
131705-02	ez-derm 2x2 inches porcine xenograft	Molnlycke	0	39	39	1	38	\$6,536
Total			0	2048	2048		1206	\$764,359

Total Estimated PAR Level Adjustment Savings

Suggested reduction in PAR level

\$764,359

Suggested elimination of unused items

\$2,494,237

Potential reductions

\$3,258,596

Suggested increase in PAR level

\$661,672