A Billion Dollar Industry Opportunity: TrackCore Integrated with RFID Enclosures

Hospitals realize increased workflow efficiencies and reduced product waste with TrackCore and RFID Implementation

Doctors and administrative staff at West Virginia Healthcare (WVU) take a lot of pride in WVU's designation as a certified trauma center. The WVU facility in Morgantown has 19 operating rooms on the fifth floor and an additional 10 on the second floor ambulatory unit.

With such a large operation, tracking tissue and the medical implants required for surgeries in the OR can be an arduous task accompanied by extremely high labor costs.

With this in mind – as well as a goal to stay ahead of The Joint Commission's growing UDI requirements being enforced by the Food & Drug Administration WVU, in 2013, turned to TrackCore integrated with RFID enclosures.

TrackCore Operating Room is a cost-efficient, easy-to-use software product from TrackCore, Inc. designed to manage the full chain of custody of tissues and implants from the loading dock to final disposition.

TrackCore's intuitive functionality provides for quick and accurate data retrieval, enhancing patient safety while minimizing administrative costs.

After deployment of the TrackCore software, an end-to-end Epic integration and RFID enclosures, the WVU medical staff saw immediate results. WVU started its mission by consolidating all of its OR supplies into one centralized location, streamlining processes and removing more than a dozen nurses from the inventory management process for tissue and related OR products.

With the previous process, WVU typically experienced a 3 percent error rate when it came to tracking products that were implanted in patients during procedures. When TrackCore was deployed, the rate quickly dropped to less than 1 percent. In time, the hospital stopped tracking this metric when it fell so low that it became statistically irrelevant to do so.

WVU is just one of nearly 375 hospital systems in the U.S.-- including many of the top 15 providers -- that have deployed TrackCore to streamline inventory operations in the operating room.

TrackCore has the unique ability to track three categories of hospital inventory. The most commonly used module is Tissue Tracker, for biologic and tissue tracking -- such as tendons, bone, skin, organs and ligaments.

The second category is Implant Tracker, tracking non-biologic implants such as synthetics, valves, breast implants, medical devices and orthopedics like hips and knees. Finally, Hardware Tracker tracks all of the plates, screws and rods to the tray level that is needed to complete a surgery.

Aside from virtually eliminating its error rate, WVU has experienced gains in employee satisfaction, better management of expiration dates, accelerated response to recalls, and improved patient care, the ultimate goal in healthcare.

**A Billion Dollar Opportunity**

WVU and the other healthcare systems already utilizing TrackCore are responding to an increased need to work more efficiently, increase profits, and satisfy government regulations which call for a strict process in place for the tracking of implants.

According to *Surgical Products Magazine*, every year there is a lack of visibility and control for implantable devices that costs the healthcare industry about $5 billion dollars. This is mostly due to ineffective manual processes and lost, expired and wasted products[1].

It is estimated that 40-60% of total supply costs in a hospital reside in the operating room[2]. It is known that implants can account for a considerable sum of that spend and hospitals are very eager to gain better control over these costs.

TrackCore has discovered that about 8 out of every 10 healthcare facilities continue to use excel spread sheets and manual log books to keep track of implants, which can take hours of a nurse's schedule and lead to human errors from inputting data manually.

Hospital Ratio - Manual Tracking
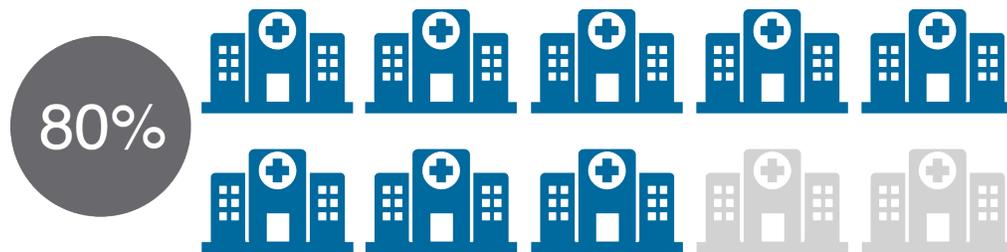
80% of healthcare facilities still use excel spreadsheets and manual log books to keep track of implants.

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However, innovative healthcare systems are beginning to realize that improving inventory visibility for OR products like implants and tissues can deliver huge savings. TrackCore's elite software system -- combined with RFID-enabled storage enclosures -- saves hospitals time and can improve efficiency by approximately 35 percent compared to traditional manual methods of tracking.

According to *The AORN Journal*, implant tracking has a 63% perceived improvement in quality patient care and a 52% improvement in workflow efficiency[3]. *The AORN Journal* also states that the highest correlation between technology and perceived improvements in workflow efficiency and quality of patient care resides in RFID and implant tracking[4].

Generally, hospitals deploying TrackCore for OR inventory management save about 10 percent of their annual spend. For a large hospital with an annual procurement budget of $1 million or more for implants, the $100,000 dollars in potential savings from TrackCore significantly exceeds the cost of the system, which is based on an annual fee structure.

RFID simplifies tissue inventory management

TrackCore works in conjunction with RFID-enabled storage enclosures from Terso Solutions, Inc. that closely monitor inventory in near real time, sending alerts when a product is about to expire, or is being stored at temperatures outside of a pre-determined window.

Upon arriving at the hospital facility, items equipped with UHF RFID tags are stored in the enclosures until use. The enclosure's built-in RFID readers record a tag as it enters and leaves the unit, and access to the enclosure can be restricted to authorized personnel who must use an RFID-based badge. The system is efficient and intuitive, greatly simplifying the process for nurses and other staff. Personnel accessing the enclosures, as well as the event involving the tag, are documented in TrackCore, which provides nurse accountability.

The RFID enclosures are available for various temperature types such as ambient, refrigerator and freezer (-80℃ to -20℃) as well as a variety of enclosure sizes. TrackCore will indicate when it is time to re-order items stored in the enclosure, so out-of-stock situations are all but removed.

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RFID Enclosure – Temperature Types
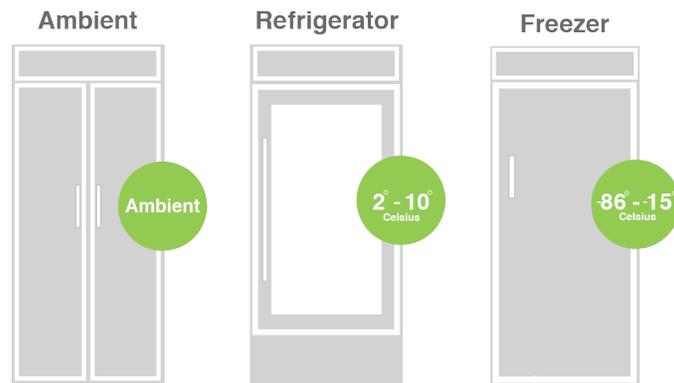
The RFID units are plug and play. All electronics are housed in the individual units, so hospitals do not need to retrofit their OR with dozens of RFID readers or portals to make the system work. Simply plug in the units and you are ready to dramatically improve inventory management and accuracy.

Take the case of Medical City Dallas, a 12-story, 367-bed facility that deployed three ambient cabinets and an ultra low freezer in February 2015.

Within months, MedCity Dallas was able to reduce wastage from lost inventory by $85,000.

In addition, the technician in charge of tracking OR products under the old system was able to eliminate 15-20 hours per week of overtime, allowing her to pick up tasks that were of greater importance to the hospital.

Then there is the additional use case at WVU, where two freezers and a refrigerator were installed. WVU saw a significant reduction in tissue and high-value product wastage as a result of the combined TrackCore and RFID enclosure solution.

Due to the hospital's trauma center status, product wastage and product expiration is a complicated issue. In order to retain its licensing as a trauma center, WVU is required to stock certain products for the OR that it may never use. The facility will never see product wastage entirely disappear, no matter how robust the tracking system. However, once WVU deployed the TrackCore enclosures, wastage fell from 10 percent to 8.9 percent over 24 months, a significant number when you consider the cost of implants and the variety of product that WVU is required to stock.

Wastage Decrease After Implementation

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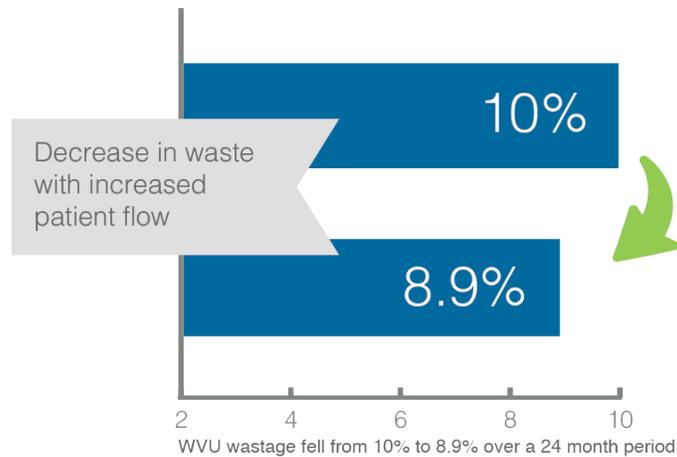
The real value of the reduction in waste can be measured by patient flow. In 2012, WVU treated 20,744 OR cases, a number that grew to 22,966 in 2014. WVU was able to achieve the double-win of a significant increase in volume along with a significant decrease in expired, lost or misplaced product.

Hospital systems currently using TrackCore and RFID-enabled storage enclosures are seeing ROI in a number of areas:

Recall Management: TrackCore represents a complete solution for inventory management and seamless recall management by removing the pain of recalling products and quickly locating the patients who may have received them during a procedure. Prior to deploying TrackCore, it wasn't unusual for staff and members of the nursing team to spend anywhere from eight hours to as many as four days to complete a product recall.

Shortly after installing TrackCore, WVU received a recall notice for implanted pumps. Within 10 minutes, the hospital had compiled all of the information needed to track down the units in inventory, as well as the impacted patients.

TrackCore is able to alert customers in a timely manner through its unique partnership with the National Recall Alert Center (NRAC). When manufacturers issue a recall, it is automatically delivered to NRAC. TrackCore receives the recall information in near real-time from NRAC, which triggers a product match for all customer sites. When there is a match, TrackCore's software notifies each customer with the product information (serial numbers, lot numbers, etc) and current location of the

product, either in inventory, disposed or implanted. If a nurse scans a recalled item before a case, an alert will advise the user not to implant the item.

Recall notifications are displayed on the TrackCore dashboard and are emailed directly to pre-determined staff. Since product recalls are the center of attention of the Joint Commission Resource, this is a very noteworthy benefit.

The UDI Rule: Another main driver behind TrackCore is the capability to fully utilize the FDA's Unique Device Identifier (UDI) standards that require all Class III implants to carry one of three major barcode standards approved by the FDA. As of 2015, all implants must carry a barcode on the external implant package. By 2018, everything used in a hospital must carry a barcode or RFID technology, further enhancing the compliance value proposition behind TrackCore.

TrackCore enables the usage of UDI barcodes and fully interprets all major barcode standards. TrackCore auto-populates the implant information including manufacturer, product description, serial number, lot number, etc. TrackCore works to remain one step ahead of all changes to the UDI requirement. In fact, TrackCore developers are already updating software to be compliant with new regulations being released by the Joint Commission Resource in January. In addition, software upgrades to accommodate TJC changes are passed along to customers without any up-charge, as long as the healthcare facility is a current customer.

Labor Savings and Employee Satisfaction:

Numerous TrackCore users are benefitting from labor savings from various use cases. For example, WVU has taken advantage of improvements and efficiencies gained by integrating TrackCore with its EHR (Epic), which eliminates manual data entry.

When nurses at WVU scan the TrackCore barcode into the Epic search implant field, all of the product information automatically populates into the required fields, such as serial number and expiration dates. In the past, all of those fields were entered manually, resulting in a high probability of errors from the manual process. The TrackCore and Epic integration eliminates dual documentation and documenting in Epic is further improved through the use of a barcode.

At WVU, employee satisfaction surveys among nurses who work in the OR have soared since TrackCore was deployed. Previously, 10-12 nurses per shift were assigned tissue tracking, a very tedious task. After centralizing

inventory in one location and turning the task over to inventory specialists, nurses at WVU now spend more time on the floor with patients, resulting in higher productivity and a happier nursing staff.

TrackCore, Inc.

TrackCore, Inc. is a privately held company located in Grand Rapids, MI. The company was founded in 2002 by a group of healthcare and technology professionals that came together to meet the specific patient safety issue of tracking tissue and implants. TrackCore Operating Room was launched in 2006 and is now the industry leading, flagship product of TrackCore, Inc.

Due to the success of TrackCore, now known as TrackCore Operating Room, the brand is growing and expanding into the Cath Lab, IR and Special Procedure areas through the launch of TrackCore Interventional. In addition to TrackCore Interventional, the company has recently launched TrackCore SameDay, a product to automate the bill-only process for consigned, special-order implants.

Email sales@trackcoreinc.com to schedule a TrackCore Operating Room demonstration or visit www.trackcoreinc.com for more information.

Terso Solutions, Inc.

Terso Solutions, Inc. is the leading provider of automated inventory management solutions for tracking high-value medical and scientific products in healthcare and life science. Terso Solutions, Inc. is backed by 13 years of RFID product development and implementation experience. Our product line includes RFID Cabinets, Refrigerators, Freezers (-20C to -80C), RFID-enabled smart rooms, and RFID software. Headquartered in Madison, WI Terso Solutions is a wholly owned subsidiary of the Promega Corporation. Additional information is available at www.tersosolutions.com

Sources

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2. "Effective Operating Room Inventory Management." *Effective Operating Room Inventory* Management. Page. 7. Web

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