

Supplement to *EP Lab Digest*

MAXIMIZING CARDIO LAB SAVINGS

How two facilities got a handle on inventory management to save time and money.



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INVENTORY MANAGEMENT SOLUTIONS: INTERVIEW WITH OAKWOOD HOSPITAL AND MEDICAL CENTER

Interview by Jodie Elrod

This article features an interview with Steve Le Moine, director of cardiology services at Oakwood Hospital and Medical Center in Dearborn, Michigan.

What is the size of your EP lab facility, including number of EP labs and number of staff members? Is the EP lab separate from the cath lab?

Oakwood Hospital and Medical Center is comprised of 6 cardiac cath/EP labs, 1 of which is a biplane lab dedicated to EP procedures. Another lab is shared by both the EP and cath lab for procedures. Oakwood has a separate staffing model for the EP lab, which includes 3 RNs, 3 EP techs and 1 supervisor.

What types of procedures are performed in the EP lab? How many EP procedures are performed annually?

The EP lab performs procedures from cardioversions/NIPS to complex cases including atrial fibrillation and ventricular tachycardia ablations. We also perform BiV and ICD implants/replacements as well as laser lead extractions. The volume at Oakwood Hospital and Medical Center has shown progressive growth over the past few years. In 2010, we performed more than 400 high-output device and EP procedures in the EP lab. We are on track in 2011 to greatly surpass this number, as we completed more than 150 high-output and EP procedures in the first quarter alone.

How long ago did you make the switch to SpaceTRAX? When was the transition made? How long did the installation take?

The hospital was searching for a real-time inventory solution in 2007. We researched a number of vendors, but felt most comfortable with the Michigan-based company, Stanley InnerSpace. We enlisted their help in the cath/IR/EP laboratories. The transition took place over a weekend in these areas. The team arrived on site and completed the initial inventory in a matter of hours. This established a valid starting inventory for the SpaceTRAX program.

Who manages product inventory on a day-to-day basis? Tell us about the number of SpaceTRAX users involved in the inventory management process.

Product inventory is managed by EP Supervisor Melissa Miller and her team. While she is leading the group, the entire team understands the value of SpaceTRAX and knows how

to correctly track products during cases. This ensures accurate, real-time data and provides a low-par alert to ensure inventory will never be depleted.

What items are tracked within SpaceTRAX?

In the EP lab, we utilize SpaceTRAX to ensure accurate tracking of all procedural items. This is especially helpful when tracking usage rates among the various vendors and physicians.

What are some of the problems you were encountering before SpaceTRAX, using manual methods of inventory management? How was workflow affected?

Before SpaceTRAX, we could never maintain a “true” count of what product we had on hand and what products were turning over the fastest. We also struggled with the tracking of expiration dates. Now, with a couple years of experience with SpaceTRAX, we cannot even imagine a day not knowing these details. We review our boarded cases and are able to project our supply needs for the day/week to ensure that all supplies are available prior to the start of cases.

How has workflow changed since implementation of SpaceTRAX? Has it increased productivity?

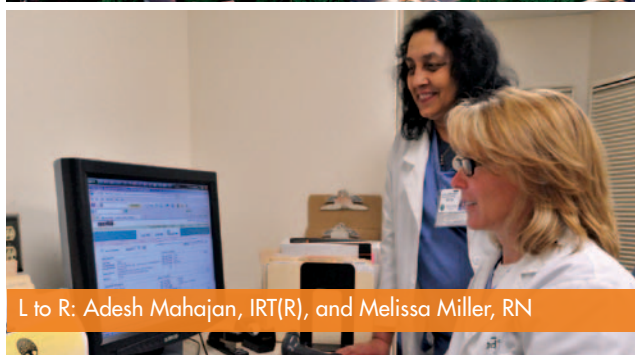
I would say the phrase “work smarter, not harder” comes to mind in regards to workflow. We find the team accessing supplies quicker because they do not have to search for items when we may not even have them on hand. Also, the reports are easily accessible and format to Excel, which enables easier communication interdepartmentally, saving tracking time.

What was your on-hand product inventory like before SpaceTRAX? What is your current on-hand inventory? Describe how product inventory was affected, and reason(s) for variation.

The EP on-hand inventory was kept at excessive par levels before the implementation of SpaceTRAX. Post implementation, the EP department was able to decrease the amount of on-hand inventory and move to a just-in-time system, which frees up storage space and lets the lab track physicians trends. We have also used the “top use” report by SpaceTRAX to see



Oakwood Hospital and Medical Center.



L to R: Adesh Mahajan, IRT(R), and Melissa Miller, RN



L to R: Nour Juratli, MD; Mohammed Afana, RN, MN; Mary MacDougall, RN; Adesh Mahajan, IRT(R); Melissa Miller, RN; Steve Le Moine, MHA; and Alket Pateqj, CVT.

trends in usage of products, which allows us the opportunity for real-time negotiations on products/bulk buys. This has reduced individual purchases from 5% to 10% on products.

What were your expired inventory levels like before SpaceTRAX implementation? How has this improved with SpaceTRAX?

Before the implementation of SpaceTRAX, the EP lab addressed expired products during inventory audits and routine product checks. There could potentially be 3% to 6% of expired product at any given time with over \$1 million in active inventory. Now, with real-time data, we know how much product is expired, expiring in 30 days or 120 days. With this data, we now have 0% expired product in inventory. To help ensure this percentage, SpaceTRAX has first and second expiration warning reports.

Discuss the level of staff awareness regarding supply chain, cost savings, etc.

The EP lab staff is fully aware of the supply chain process and actively participates in ordering in a timely manner, allowing for bulk purchases at discounted prices.

How much time was spent managing inventory before and after SpaceTRAX?

Before SpaceTRAX, we spent too much time managing inventory! This product was a very valuable asset to our facility, allowing us to achieve higher productivity by the staff with respect to inventory.

What is the value of SpaceTRAX reports? Who uses which reports? Is there a preferred system report used?

The value of the SpaceTRAX reports is dependent upon the end user. I have not yet seen a report from SpaceTRAX that we did not use at least once. The staff consistently run the first and second warning expiration reports to make sure product is cycling through. As the director, I use the custom reports that SpaceTRAX has developed for device negotiations, month-end close for accounts payable, and a variety of other unique requests. This feature has been the most beneficial, as SpaceTRAX sends these custom reports automatically. Month-end reports are complete and available for review in a timely manner, which enables the lab supervisor to email them to accounting, decreasing financial discrepancies. The report customization has also allowed for EP lab-volume tracking specific to case type, which has proven very useful in assessing growth.

What were the immediate benefits of SpaceTRAX?

The immediate benefit of SpaceTRAX was having an accurate tool to implement lean methodology.

Have you seen a reduction in procedure costs or in cost per procedure? Give an example.

Yes, we have seen a reduction due to the bulk buy opportunities we recognized by tracking BiV/ICD use by vendors. This data has allowed us to achieve substantial savings because of the real-time data we track. Since implementing SpaceTRAX, we have used the data to effectively negotiate a reduction in average device procedure costs exceeding 15%.

At what point after implementation was positive return on investment (ROI) achieved?

The ROI for EP was achieved immediately. Identifying excess, improving efficiency and eliminating waste increases profits. With such a low monthly operating cost, it only takes 2 or 3 catheters to pay for the program. ■

INVENTORY MANAGEMENT SOLUTIONS: INTERVIEW WITH ST. DAVID'S SOUTH AUSTIN MEDICAL CENTER

Interview by Stephanie Wasek

This article features an interview with Johnnie Farris, director of cardiovascular services, and Evan Varnell, RN, procurement manager, of St. David's South Austin Medical Center in Austin, Texas.

What are some of the problems you were encountering using manual methods of inventory management (visual checks, physical counting, etc.)?

Before implementing the Stanley InnerSpace inventory management system SpaceTRAX, we had a mix of processes for inventory management. The cath lab used the inventory-managing feature built into the physiological monitoring system we had at that time, and the electrophysiology (EP) lab relied on manual counting. Both methods relied heavily on staff's remembering to document the products used and abilities to be unfailingly accurate in that documentation.

The potential for human error — that is, documenting the wrong products or failing to document all products used in a given procedure — invariably led to inaccurate re-ordering, which led to over-stocking of some supplies and running out of others. To compensate for shortages, staff raised the par levels of some items, which resulted in our carrying too much inventory. Too much inventory sometimes led to supplies that expired on the shelf — a manager's nightmare.

Additionally, it was necessary to regularly reconcile our inventory counts by manually counting product. While this helped reduce the over-supply/under-supply issues, it was costly in terms of labor required.

In fact, inventory management before SpaceTRAX was such an issue for us that we used staff meetings to regularly discuss possible solutions. So, when SpaceTRAX became available, there was already a heightened awareness among staff. However, we took advantage of the change to SpaceTRAX to further engage staff, keeping awareness of supply cost and management uppermost in everyone's minds.

What were your reasons for choosing Stanley InnerSpace? How long ago did you make the switch?

Our initial review of SpaceTRAX occurred mid-cycle in our fiscal year. Because we weren't budgeted for the service at that time, we had to wait for the next budget cycle, when operational funds could be allocated. As soon as funds were available, we acquired the system.

We chose SpaceTRAX because it offers tracking of supplies via bar code, is web-based, is easy to learn, and offers quick-glance notice of expiration dates, total value of inventory (consignment versus owned), and other convenient features. Due to its being web-based, we did not have to purchase nor maintain an on-site server. Nor did we have to purchase additional computers — only barcode readers. Also, for a manager, the reporting capabilities and technical support are very appealing. It also appealed to us that there is no long-term contract; if we become unhappy with the product, we can easily stop the service.

We have had the system for about 14 months and wish it had been available to us years ago.

What costs were associated with switching to the SpaceTRAX?

There is an upfront setup cost that pays for the implementation team that comes on site and loads all inventory data into the system. After that, the cost is a monthly fee. We feel that the savings in labor and the reduction in "lost" supplies easily offset the expense of using this system.

When was the transition made? How long did the installation take?

The SpaceTRAX implementation team came in on a Friday evening and worked through the weekend to set up the entire system for us. The finishing touches were added early the following Monday morning. The installation was almost seamless, and we were up and running right away.

What were some of the major changes that occurred?

For our inventory managers, the changes were huge! Two employees share management of the SpaceTRAX inventory management system; they were able to completely get away from manually keying-in product.

Checking in received product went from a process requiring hours to literally minutes. Deliveries are now scanned with a barcode wand and the SpaceTRAX system automatically adjusts the inventory levels. And, because barcodes often have

Expense per stat: Budget vs Actual
Feb '09 - Feb '11

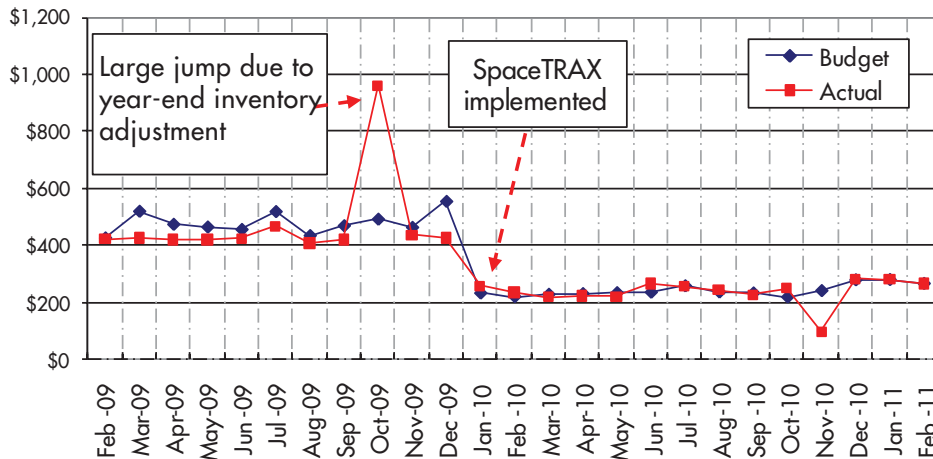


Figure 1. This graph taken from St. David’s South Austin Medical Center’s monthly report demonstrates how the facility used SpaceTRAX to reduce expenses by capturing usage, reducing inventory, and better managing supplies overall.

St. David’s South Austin Medical Center at a Glance

- **Procedure rooms:** 1 dedicated EP lab, 2 cardiac cath labs, 1 peripheral lab
- **Procedure volume:** Approximately 250 mixed cases per month
- **Types of procedures:** EP lab: diagnostic studies, ablations and device implants; cath lab: diagnostic studies, and interventions on coronary and peripheral vessel lesions
- **Staff:** 14 EP and cath lab employees, 11 cardiologists and electrophysiologists

needed to manage supplies and the ability to very accurately track inventory which, in turn, let us fine-tune par levels. We keep much less on our shelves now.

Who manages the inventory on a day-to-day basis? Can everyone in the lab use the system?

Two employees are primarily responsible for inventory on a daily basis. One is an RN in the EP lab, the other is an RN in the cath lab. Like many labs, employees necessarily wear multiple hats, and the responsibility for supply management falls to these two as “other duties as assigned.” Having SpaceTRAX helps make this possible by minimizing the amount of time required for this task.

What items are tracked within SpaceTRAX?

Every supply item that we order is tracked in SpaceTRAX. The only supplies that are tracked in other systems are those from our materials department, such as sponges, syringes, and so forth.

What happens when items are used in this system?

Before SpaceTRAX, items were either manually keyed-in to the physiological monitoring system or were hand written. That afternoon or the next morning, the materials managers collected this information, then manually adjusted the inventory count and re-ordered based on what was used. Reconciling inventory, as mentioned earlier, depended heavily on counting supplies on the shelves.

With SpaceTRAX, the staff person assigned to monitor a

embedded expiration dates, it also automatically updates the expiration notices.

From a manager’s perspective, I was able, for the first time, to regularly report the value of our on-hand inventory and usage data. Very importantly, we were able to adjust our par levels and re-order points, minimizing the roller coaster effect of our previous supply management processes and tailoring our supply levels to meet the demands of our case volume.

What were the immediate benefits of SpaceTRAX?

The most immediate benefits were the reduction in time

procedure, in either the EP or cath lab, enters a small amount of data into a PC at the monitor station, creating a case for a patient. When items are opened, each package is passed to the monitor person, who scans its barcode to add the item to the patient's case and simultaneously remove it from inventory. At the end of the procedure, the monitor person prints a report (for review, if needed) of all items used and closes the case. The following morning, an inventory manager checks par levels in SpaceTRAX and places orders for re-supply.

I'd like to add that, from a manager's perspective, there was a very noticeable improvement in the accuracy of inventory tracking using SpaceTRAX. We still occasionally perform manual audits of on-the-shelf supplies, but rarely find discrepancies between the count and the SpaceTRAX report.

How are reports managed? Tell us about how you are able to compile information.

SpaceTRAX has a number of built-in queries that are easy to learn and use. Changing a few parameters such as dates or key words, and a mouse-click or two are all that's required for many useful reports. I especially like the ability to easily export data to a standard spreadsheet program — it requires only one mouse-click.

We have one or two reports that require assistance from the technical support team at Stanley InnerSpace, and that team is very accessible and is quick to turn-around special requests.

Who uses which SpaceTRAX reports?

The inventory management staff uses SpaceTRAX on a daily basis. They use the "daily use" report to track what needs to be ordered; "cycle" reports when counting inventory (this is simplified because lot numbers are included in the system); "past due" reports to track supplies that have yet to arrive; and "expiration" reports that send inventory expiration alerts the day of, three months out and six months out.

All staff use reports at the end of a case to reconcile supply usage. The monthly report that I submit to administration is

full of data gleaned from SpaceTRAX, including individual physician usage of high-dollar supplies, value of supplies used to produce given units of service, and so forth.

Recently, our CFO called to inquire about the value of all inventory on hand on that day. We were able to very quickly and accurately provide him with the total value of our owned product, the total value of our consigned inventory, and the combined value. This would have never been possible before SpaceTRAX.

How has this system improved your cost savings? How long was it before cost savings were realized? At what point after implementation was positive ROI achieved?

As already mentioned, there was an immediate labor savings realized following the conversion to SpaceTRAX. The next most obvious cost savings was in capturing supplies that were previously missed due to human error. And reducing our on-hand inventory by reducing our par levels obviously helped with managing our budget. If a picture is worth a thousand words, then Figure 1 should indicate the value of a quality inventory management system.

How have you used the savings gained from use of this system?

For us, it is not a matter of re-allocating funds saved but, rather, improving our efficiencies and getting the most from every dollar spent. I'm sure that all labs, as in all areas of healthcare, are faced with doing more with less, and SpaceTRAX has definitely helped us achieve that.

Anything else you'd like to add?

It may seem obvious, but it's worth remembering: In this age of very expensive disposable items, the loss of even one item — such as an ablation catheter or drug-eluting stent — will negatively impact a monthly supply budget. As stewards of our resources, it is incumbent on us to manage our inventories as accurately as possible. SpaceTRAX has helped us tremendously in this effort. ■

The simple things in life now include supply management.

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