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# Successful Supply Chain Strategies to Address Challenging Economic Times



A GHX Business Solutions

White Paper for Hospital Executives

## Successful Supply Chain Strategies to Address Challenging Economic Times

### The Essential Elements of Successful Supply Chain Improvement Initiatives

Hospital executives face a wide range of challenges in today's economic environment, and their responses are equally wide ranging, from business as usual to implementation of management strategies that have proven successful in other industries, such as Six Sigma, Lean and Total Quality Improvement. Working with hospitals that represent more than 80 percent of the licensed beds in the U.S., GHX has seen most of these initiatives in action and can say, with some certainty, that any of these methodologies, if executed properly, can and will yield positive results. On the other hand, doing nothing at all will only raise financial risks.

Healthcare futurist Jeffrey Bauer, Ph.D., a partner with ACS Healthcare Solutions, predicts that in the next few years, one in four hospitals will either close or undergo substantial changes as the result of mergers, acquisitions or restructuring due to economic challenges. In other words, this is no time to be taking chances. Although there is no "one size fits all" remedy, GHX has identified those elements that are essential to any successful supply chain improvement initiative:

- Visibility
- Stakeholder engagement
- Process improvement
- Automation

The focus of this white paper is to explore these elements in action, as highlighted by the real life experiences of three leading healthcare institutions: Denver Health, McLeod Health and UPMC.

### Facing the Facts

A variety of factors have converged to limit a hospital's ability to generate revenue:

- Patient census is down in a measurable way while hospitals are seeing an increase in patients who cannot pay
- Access to capital has been blocked
- Supply costs have increased
- Hospitals face increased competition for lucrative procedures from other healthcare providers, both in the U.S. and abroad.

According to a recent study by Novation, 60 percent of hospitals have seen an impact from the current economic crisis and are making significant changes to adapt. Eighty-four percent plan to reduce spending on supplies, while approximately half say they will cut capital spending, construction projects and staffing, including clinical personnel.<sup>1</sup>

**The healthcare organizations profiled in this white paper have all worked with GHX Business Solutions to successfully implement strategies that have achieved dramatic and measureable supply chain improvements.**

**For more information on these hospitals, see the case studies in this white paper and/or contact GHX Business Solutions at 303.880.1055 or [tgriffin@ghx.com](mailto:tgriffin@ghx.com).**

<sup>1</sup> Novation National Economic Impact Survey, February 2009.

In recent years, hospitals have increasingly looked to the supply chain as an area that can be improved to positively impact financial performance. This focus comes as welcome news to Dale Locklair, vice president of Procurement and Construction, McLeod Health, a non-profit health system serving northeastern South Carolina: "In other industries, the supply chain is seen as a crucial element of the business, but in hospitals it is often seen as secondary.

The current economic crisis has helped underscore the importance of supply chain improvement strategies beyond just negotiating lower prices for products. Hospitals are recognizing the value of operational expense reduction; according to *The Comparative Performance of U.S. Hospitals: The Sourcebook* (Thomson Reuters), a hospital must generate \$1,000 in revenue to offset \$1 of operating expense.<sup>2</sup>

### Visibility

To leverage your supply chain as a strategic asset, you must first understand the impact it has across your entire organization. This means gaining visibility to the data that drives your supply chain so you are able to identify the areas where your hospital can improve efficiencies, reduce costs and capitalize on new savings opportunities.

"Until you understand how well you maintain supplier contracted pricing, how many match exceptions you have and who your problem suppliers are, you really have no idea where to attack," said Michael DeLuca, director of Supply Chain Systems & Consulting Services, UPMC, an integrated global health enterprise headquartered in Pittsburgh, Pennsylvania, and one of the leading nonprofit health systems in the United States.

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### Access to Accurate and Credible Data

The key to understanding where your hospital is losing money and where there are opportunities for savings is having access to accurate, credible data. But for most hospitals, this can seem like an insurmountable task.

Consider this:

- On average, changes are made each year to one-third of the 30 million+ medical/surgical products on the market in the United States
- In addition, each group purchasing organization (GPO) is estimated to make as many as 30,000 changes to contract data each month
- GHX alone makes an average 16,000 updates every day to the data it manages for hospitals and suppliers

With products, vendors, prices and contracts changing on a regular basis, it's no wonder hospitals struggle to maintain an accurate set of data within their systems.

"When I first got to McLeod, I would walk into a meeting with a report, as would five other people, and none of us would have the same information so we couldn't come to a consensus," said Locklair. "To drive everything else, the first thing you need is a credible system with credible data."

### Understanding Your Cost Drivers

With access to accurate, credible data, you can begin to identify where your organization is losing money and determine how to best address the root causes, whether they are process inefficiencies, flawed transactions,

<sup>2</sup> <http://home.thomsonhealthcare.com/Site/Search/view/?id=1518>

under-utilization of resources or excess inventory. According to Locklair, “Until you know that something is a problem, you don’t have a way to fix it.”

At first, problems you uncover may seem insignificant, that is, until you do the math. For example, consider a clinician who fails to scan a bag of IV fluid that costs \$1. On the surface, it might not seem like a big deal. But if you take into consideration that the revenue associated with that IV bag is \$100, and the clinician is failing to scan 15 to 20 bags a day, you begin to understand how these everyday occurrences result in significant revenue leakage.

That was the epiphany for McLeod. After determining that McLeod was losing \$3.2 million a year as a result of not capturing product usage, the Procurement Services Team created a lost revenue report to demonstrate to the healthcare system’s administrative and clinical staff the full financial impact of supply chain failures. Each week, departmental directors, vice presidents, and administrators receive a copy of the report, which contains lost revenue figures for all departments across the system so they can not only evaluate their own departments, but also see how each department compares to others.

### Calculating the Total Cost of Ownership

To get a handle on supply chain improvement opportunities, you must also understand the total cost of ownership for the products that your hospital employs – not just the cost to purchase the product, but also the costs associated with clinical performance and reimbursement.

For example, a hospital is currently using reusable bed underpads that cost \$12 each, and a supplier presents an alternative that costs \$20 each. At first glance, the right choice appears to be the less expensive option. But when a hospital takes into consideration the total cost of ownership for this product, the answer is not so clear-cut. What if the more expensive underpads feature better moisture protection that can reduce pressure ulcers, for which hospitals are no longer reimbursed by the Centers for Medicare & Medicaid Services (CMS)? If that proves to be the case, the higher priced item could have the potential to reduce overall costs for the hospital.

To make better-educated purchasing decisions that take into consideration the total cost of ownership, McLeod Health is working to develop what Locklair calls a “true” value analysis team comprised of clinicians, clinical effectiveness staff, infection control practitioners and other hospital personnel. This team evaluates products not just on cost, but on whether or not they will generate clinical improvements that have the potential to improve patient outcomes while reducing overall costs for the healthcare system.

### Collaboration

A successful supply chain improvement program requires the cooperation of your entire organization since the supply chain touches so many departments and individuals. Make a list of your supply chain consumers and you’ll soon realize the impact. In order to get everyone on board you must help them grasp the importance of the program and take an active role — raising the profile of the supply chain and providing credibility to you, your team and the initiative.

**A successful supply chain improvement program requires the cooperation of your entire organization.**

“Business consultant and author Jim Collins stated it clearly,” notes Locklair. According to Collins, “it’s all about getting the right people on the right seat on the bus.” Locklair adds: “Furthermore, if you don’t have the “right” people engaged, you can’t act on the information.”

### Stakeholder Engagement

Buy-in from key stakeholders across the organization is key to understanding the gaps in your supply chain and implementing ways to bridge those gaps. This means getting those stakeholders actively involved in the

supply chain improvement process so they can fully understand why these changes are being implemented and the impact of their daily decisions.

UPMC assembled a value analysis team led by two nurses who had transitioned from clinical areas to the supply chain organization. In DeLuca's words, "they are able to 'walk the walk, and talk the talk,' from a clinical perspective." He explains that they also understand the supply chain team's objectives and can help other clinicians understand how their day-to-day decisions have a financial impact on the institution.

"In other industries, it's easier to say we are using supplier A because its product meets specific criteria from a cost and quality perspective. However, in healthcare, if Dr. A wants to use a specific product and Dr. B wants to use something else, it becomes much more complicated," says DeLuca. "So you have to have a great value analysis team that works with your physicians and clinicians to help them understand the decisions that are being made by supply chain and how they relate to the operational objectives of the organization."

### Improving the Process

Hospitals that have implemented successful supply chain improvement programs view the supply chain as a series of activities that take place across their organizations, rather than a standalone department that functions independently. Once you make this leap, you can identify the breaks in your supply chain — from the clinician who fails to scan a product at the bedside to the accounts payable clerk who spends hours trying to reconcile an invoice — and take steps to address them.

**According to a recent survey by HIMSS Analytics, 95 percent of hospitals over 150 beds in the U.S. handle at least some of their purchases electronically.**

### Automation

Hospitals are increasingly transitioning from manual to electronic purchasing processes. According to a recent survey by HIMSS Analytics, 95 percent of hospitals over 150 beds in the U.S. handle at least some of their purchases electronically. Hospitals with the most successful supply chain programs are taking it one step further and implementing technologies that enable them to automate their supply chains from start to finish. UPMC, for example, has automated processes from the point of requisition through to invoice receipt.

The real value in process automation can be found in its relationship to data accuracy. The more accurate the data, the more processes that can be automated, and vice versa: the more automated the process, the more accurate the data. By investing the time and resources to improve the accuracy of its item master and leveraging technology, UPMC has been able to fully automate 40 percent of its orders. As a result, UPMC has cut order processing costs by \$30 per transaction, cut order processing time by one third, and reduced the amount of time spent on item master maintenance by 40 percent. In addition, UPMC processes more than 70,000 invoices per month at a cost of just \$1.55 per invoice, compared to the average cost of \$14.78 to process an invoice manually<sup>3</sup>.

For Denver Health, which operates a 477-bed medical center in downtown Denver, Colorado, as well as a broad range of programs and clinics, process automation has increased its visibility into utilization data, which has translated into better inventory management. Phil Pettigrew, director of Materials Management for Denver Health, says automating processes has enabled the healthcare system to improve the accuracy of purchasing, inventory management and accounts payable processes while reducing full time equivalence. Process automation not only improves data accuracy and streamlines workflows, but also provides access to real-time information that can be used to make better business decisions. A recent survey from the Healthcare Financial Management Association (HFMA) found that there has been a 60 percent increase in the number of respondents who consider automation a good opportunity for supply chain improvement.

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<sup>3</sup> Industry average calculated based on GHX studies with more than 120 hospitals.

If you consider the savings that can be gained from automation, it is clear why this is a growing trend in healthcare. To automate purchasing and accounts payable processes, improve the accuracy of transactions, and enhance contract compliance, McLeod Health uses GHX in part to manage and track orders and validate contract pricing in real-time. With GHX, the Procurement Services department is alerted to order discrepancies during the transactional process and can immediately resolve the issues. As a result, McLeod Health has reduced its order touch rate by 60 percent, reduced its invoice match error rate by 20 percent, identified \$897,459 in savings opportunities, and achieved \$10 million in cost containment.

### Standardization

For many healthcare organizations, supply chain standardization has focused primarily on limiting the variety of similar products purchased. Successful supply chain initiatives also look to standardizing supply chain processes. When various departments run their own supply chain operations – requisitioning products, managing inventory and replenishing supplies – it is difficult for an organization to understand its overall purchasing activities. What's more, materials management teams find it next to impossible to maintain data accuracy, decrease rogue purchases, manage inventory, reduce waste, and standardize on vendors/products to optimize contracting opportunities.

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Automation can enable your organization to standardize processes throughout the supply chain to maximize efficiency and value. Denver Health's materials management department achieved this goal through their Supply Chain Extender Program. By implementing new technologies to automate processes and improve efficiency, the materials management department was able to assume all purchasing and inventory management functions for the organization's outside clinics and specialty clinical areas, including the emergency department, labor and delivery, laboratory, gastroenterology lab, paramedics and catheterization lab.

As a result of their efforts, Denver Health cut inventory up to 70 percent in these departments and clinics. The new standardized process has also improved the healthcare system's contract compliance since it enables purchasing, accounts payable and legal to access all of Denver Health's contracts and make educated purchasing decisions to maximize contracts and decrease costs.

### Measurement and Results

On a final note, we want to point out that both accountability and reporting are key to any successful supply chain initiative. An organization needs real, live and objective measurement tools to ensure that issues are addressed and to achieve concrete results.

Visibility to accurate data and process automation can help provide the data needed to make improvements and implement changes that will resonate throughout the system. This should include the goals to:

- Capture data at the beginning of any new initiatives in order to have a baseline against which to measure progress
- Set clear goals and track your progress along the way to make sure your initiatives are being implemented as planned and achieving the kinds of results you anticipated
- Make adjustments along the way

Based on GHX's experience, working with hospitals across the U.S., as well as in Canada and Europe, the key is not so much which supply chain improvement program you pursue, but rather that you develop and implement a program that includes the essential elements outlined above and is both actionable and measurable.

As a result of the LEAN program, Denver Health has increased revenue/reduced costs system-wide by nearly \$20 million in three years.

## Denver Health: Getting LEAN

Denver Health is comprised of a 477-bed acute care hospital in downtown Denver, Colorado, a network of clinics throughout the city, a correctional care unit, a community detoxification program, and a variety of other programs for the residents of Denver. With a \$700 million annual operating budget, it serves as Denver's primary "safety net hospital," providing \$318 million in uncompensated care in 2008.

Denver Health has operated "in the black" every year since 1991, but in 2002, when the health system's financial situation was not as stable, executive management decided to identify and implement a system-wide program to keep costs down. They evaluated a number of options and decided on the LEAN program, a systematic approach to identifying and eliminating waste that results from non-value added activities.

The LEAN program touches every aspect of the health system's business, with the supply chain playing a significant role in its operational improvements. As a result of the LEAN program, Denver Health has increased revenue/reduced costs system-wide by nearly \$20 million in three years.

### Inventory Management

Denver Health increased its visibility to utilization data, collaborated with clinical staff, partnered with suppliers and distributors and maximized existing resources to significantly improve its inventory management processes. Elements of this program include:

- **Just-in-Time Inventory Model:** A major initiative was to transition from a "just in case" to a "just in time" inventory model. As a result, Denver Health eliminated its off-site warehouse, reducing inventory by \$600,000 and annual operating expenses by \$400,000 per year.
- **Automated Processes:** Denver Health's Materials Management team transitioned from a manual to an automated system that utilizes barcodes and handheld computers to manage inventory, improving accuracy and efficiency.
- **Supply Replenishment:** Denver Health also partnered with its distributor, Owens & Minor, to maximize the use of automated supply replenishment cabinets in its in-patient and outpatient clinics since nursing compliance for these cabinets was at only 63 percent. By gaining visibility to and leveraging utilization data, the materials management staff was able to adjust par levels, thereby reducing stock-outs by 80 percent while increasing nursing compliance by 50 percent. Furthermore, they reduced the number of replenishment trips to the floors by 67 percent.

Denver Health implemented new technology to automate processes and improve efficiency, thereby improving the accuracy of their purchasing, inventory management and accounts payable processes without adding a single full-time employee.

## OR Inventory Control

Denver Health also took steps to improve inventory management in the operating room (OR). According to Phil Pettigrew, director of Materials Management for Denver Health, the OR had been running three inventory turns per year and they knew this wasn't an efficient way to manage supplies. They launched a focused effort that included:

- **Product Storage:** By storing products in C-Lockers that can be used for multiple cases, Denver Health was able to reduce OR inventory levels by 20 to 30 percent and double the number of annual inventory turns.
- **Inventory Buy-Back:** Denver Health partnered with its suppliers on a program where the suppliers take back obsolete/unused inventory in the OR in exchange for dollar for dollar credit. This has not only reduced inventory levels, but also reduced costs related to expired/unused items.

## Automation and Standardization

Denver Health implemented new technology to automate processes and improve efficiency, thereby improving the accuracy of their purchasing, inventory management and accounts payable processes without adding a single full-time employee.

- **Order Management:** Denver Health utilizes GHX My Exchange Order Center and AP Center to monitor exceptions and improve its use of touchless orders. Furthermore, they implemented a standard work process for purchasing where every buyer conducts transactions in a standardized fashion.
- **Contract Management:** Combining its experience with My Exchange Order Center and the new standard work processes, Denver Health is looking to utilize the new GHX Contract Center platform starting in July 2009 to manage its contracts and pricing exceptions.

Process automation enabled Denver Health's Materials Management team to assume responsibility for all purchasing and inventory management functions for the healthcare system's outside clinics and specialty clinical areas, including the emergency department, labor and delivery, gastroenterology lab and catheterization lab.

As a result of this "Supply Chain Extender Program," Denver Health cut inventory levels for these departments and cut the clinics' inventory by 70 percent. The program has also improved the healthcare system's contract compliance since it enables purchasing and legal to view all of Denver Health's contracts and make educated purchasing decisions to maximize contracts and decrease costs.



“In other industries, it’s easier to say we are using supplier A because it meets this specific criteria from a cost and quality perspective, but in healthcare, if Dr. A wants to use a specific product and Dr. B wants to use something else, it becomes much more complicated,”

- Mike DeLuca, director of Supply Chain Systems & Consulting Services

## UPMC

### A Culture of Automation

UPMC is the leading integrated healthcare system in Pennsylvania with 20 tertiary, community and specialty hospitals, more than 3,350 beds, \$7 billion in revenue and 48,000 employees. As an organization, UPMC was growing by “leaps and bounds” through increased annual revenue and hospital mergers. The system was growing not only from a hospital perspective; it had also added a for-profit health plan, cancer centers, a physician services division with hundreds of physician offices, and other off-site facilities.

As a centralized supply chain organization, UPMC was charged with servicing its various facilities without increasing the head count of its supply chain operations. But they faced a number of significant challenges - paper-based processes that were plagued with errors and inefficiencies, poor contract compliance, rampant maverick spending, and a growing user and supplier base.

Unlike many healthcare institutions, UPMC’s supply chain management department had a relatively easy time making the case to its executive leadership for a supply chain improvement initiative; the health system’s CFO had previously worked for General Electric and understood how vital the supply chain was to the organization.

“We get a lot of C-suite time and lots of praise for the initiatives that we undertake,” said Mike DeLuca, director of Supply Chain Systems & Consulting Services.

In addition, UPMC’s chief supply chain officer (CSCO) came from Alcoa and brought with him extensive supply chain knowledge from the manufacturing industry. When he came on board in 2006, he evaluated UPMC’s challenges and developed a strategic plan to implement a “culture of automation” to improve data quality, streamline processes and control costs across the entire health care system. As a result, UPMC has saved \$30 per transaction in procurement related costs.

### People

Recognizing that a program is only as good as the people who are driving it, UPMC’s Supply Chain Improvement team first focused on addressing issues related to supply chain personnel and clinician buy-in.

- **Staffing:** UPMC’s supply chain improvement team took steps to increase the supply chain acumen of its employees. They increased the percentage of staff members holding bachelor’s degrees from 31 to 61 percent and actively recruited “seasoned individuals” with deep supply chain experience – from both inside and outside of the industry.

- **Clinician Buy-In:** UPMC developed a value analysis team led by two nurses who had transitioned from clinical areas to the supply chain department. In DeLuca's words, they are able to "walk the walk and talk the talk from a clinical perspective." He explains that they understand the supply chain team's agenda and can help other clinicians understand how their day-to-day decisions have a financial impact on the institution.

"In other industries, it's easier to say we are using supplier A because it meets this specific criteria from a cost and quality perspective, but in healthcare, if Dr. A wants to use a specific product and Dr. B wants to use something else, it becomes much more complicated," said DeLuca. "So you have to have a great value analysis team that works with your physicians to help them understand the decisions that are being made by supply chain."

## Technologies

The second key element of the program was the implementation of new technologies to facilitate automation, increase data accuracy and visibility, and improve workflow efficiency.

- **Electronic Data Interchange (EDI):** According to DeLuca, EDI became a requirement for automation "because you can't have a touchless order if a buyer has to pick up a phone or send a fax." UPMC significantly increased its number of electronic trading partners – from 35 to 171 vendors.
- **Data Accuracy:** Improved the accuracy of their item master, including pricing for contracted items, which has resulted in a 40 percent time reduction on item master management.
- **Requisitioning Solution:** Implemented a requisitioning solution that provides requisitioners with a "one stop shop" experience and drove an internal marketing campaign designed to get users to this newly created "UPMC eMarketplace."
- **Lights Out Orders:** Orders are automated orders from start to finish for on-contract products where the pricing has been verified. Leveraging GHX, requestors' requisitions are converted to purchase orders and sent electronically to their vendors, who in turn respond with electronic acknowledgements and invoices. Forty percent of UPMC orders are "Lights Out" orders, reducing order placement time by 33 percent.
- **System Integration:** By fully integrating its operating room (OR) system and financial system to eliminate double data entry, UPMC has reduced requisition time from 15 to 20 minutes to under five minutes per requisition.



Locklair knew that before leadership could address the issues with McLeod's supply chain, it would be important to raise the profile of the supply chain's role within the organization, positioning the supply chain as a strategic imperative for the financial health of the entire healthcare system.

## McLeod Health

The Choice for Medical Excellence

# Making a Case for Supply Chain Improvements

McLeod Health is a not-for-profit health system serving northeastern South Carolina. It is comprised of two hospitals, one swing bed and a psychiatric care unit. When Dale Locklair, vice president of Procurement and Construction for McLeod, joined the health system five years ago, the procurement department was, in his words, "archaic." Procurement did not have a strategic role within the organization; it was facilitating transactions and little more. Furthermore, the patient charge process was manual, with staff relying on stickers and handwritten documents.

"I came from outside of the healthcare industry so it was a bit of a culture shock," said Locklair. "Healthcare is literally 20 to 25 years behind other businesses when it comes to supply chain management and processes."

## Strategic Marketing Plan

Locklair knew that before leadership could address the issues with McLeod's supply chain, it would be important to raise the profile of the supply chain's role within the organization, positioning the supply chain as a strategic imperative for the financial health of the entire healthcare system. To do this, the Procurement Services team created and implemented a strategic marketing plan that included staff development, ways to bring visibility to the issues, and stakeholder engagement.

- **Staff Development:** The first step was to reinvent the procurement department. Current staffing and process flows were evaluated, waste was eliminated from processes as were extraneous positions. Poor performers were eliminated and new personnel, better suited to the department's new strategies and goals, were hired. Overall, staff was reduced by approximately 38 percent.
- **Visibility:** According to Locklair, "Until you know that something is a problem, you don't have a way to fix it." So the Procurement Services team developed a lost revenue report to demonstrate to the healthcare system's administrative and clinical staff the financial impact of supply chain failures. They determined that McLeod was losing \$3.2 million a year as a result of not capturing product usage. Each week, departmental directors, vice presidents, and administrators receive a copy of the report, which contains lost revenue figures for all departments across the system so they can not only evaluate their own departments, but also see how each department compares to others.

- **Stakeholder Engagement:** Multidisciplinary teams comprised of information systems, nursing, procurement and warehouse staff became engaged with the task of working together to improve supply chain processes across the healthcare system. The goal was for these individuals to work together, develop relationships and understand how they impact each other's work.

## Process Improvements and Cost Containment

Having engaged key stakeholders, they embarked on a number of key process improvements that focused on improving data accuracy, increasing automation and making educated purchasing decisions. Key elements of this program include:

- **Electronic Data Interchange (EDI):** McLeod transitioned from manual purchase orders to EDI so that it could transact electronically with its suppliers. To date, the healthcare system has 129 electronic trading partners.
- **Process Automation:** To automate purchasing and accounts payable processes, improve the accuracy of transactions and enhance contract compliance, McLeod uses GHX's My Exchange Order Center, AP Center and Contract Center to manage and track orders in real-time. The Procurement Services department is alerted to order discrepancies during the transactional process and can immediately resolve the issues. As a result, McLeod Health reduced its order touch rate by 60 percent, reduced its invoice match error rate by 20 percent, identified \$897,459 in savings opportunities and achieved \$10 million in cost containment.
- **Non-Catalog Purchases:** Procurement Services generates a weekly report detailing non-catalog spending – products that fall outside of the healthcare system's item master. If a product is not in McLeod's warehouse and not in its item master, the purchase is flagged. At the end of each month, a summary of these purchases is included in Procurement Services Monthly Operational Report, which is given to the chief financial officer and hospital administrators for evaluation.
- **Product Analysis:** To make better-educated purchasing decisions, McLeod is working to develop what Locklair calls a "true" value analysis team comprised of clinicians, clinical effectiveness staff, infection control practitioners and other hospital personnel. This team evaluates products not just on cost, but also on whether or not they will generate clinical improvements that have the potential to improve patient outcomes while reducing overall costs for the healthcare system.