

Thinking outside the box

Managing the Supply Chain from Dock to Doctor

Presource™ PBDS Products and Services

A World Class Hospital

Kathy Sydow closed her office door and headed down the corridor, reflecting on another busy day. As the Surgery Administrator at Memorial Health University Medical Center in Savannah, Georgia, Kathy oversees coordination of the hospital's 21 OR theaters in the completion of nearly 18,000 surgical procedures per year.

In support of the OR, Kathy relies upon the efforts of a substantial, yet constantly shrinking, group of 112 clinicians and service personnel to schedule, staff and supply surgical teams in the delivery of superior health care to patients. The Memorial Health University Medical Center's team efforts over the past five years had met with increasing levels of external recognition, both within and outside the health-care industry. JD Powers and Associates named Memorial Health University Medical Center a "Distinguished Hospital" in June 2003, in recognition of its strong commitment to providing an outstanding patient experience. The hospital added to its reputation in January 2004, when *Fortune Magazine* named it as one of the "100 Best Companies to Work For."

Facing the challenges of running an effective OR

Kathy reflected on the challenges her team faced and how the processes and infrastructure they established prepared them to succeed. During the day, Kathy's team faced challenges including:

Presource™ PBDS modules deliver broad-spectrum benefits. The proven value discussed in this document includes:

At Memorial Health University Medical Center

- 75% reduction in orthopedic procedure setup time
- \$280,000 one-time inventory reduction
- 6 FTE reduction in OR supply personnel
- \$161,000 in annual surgical component savings through waste elimination

At New York - Presbyterian, The University Hospital of Columbia and Cornell

- 80% reduction in OR setup time
- \$230,000 one-time inventory reduction
- 3 FTE reduction in OR supply personnel
- Simplified surgical supply processes
- Responsive supply chain support
- Reduction in surgical case pick errors
- 66% increase in case pick speed
- \$109,295 in annual component standardization benefits



CardinalHealth

- Kathy Buckhaults, Operating Room Manager, received a mid-morning call from Dr. Angstadt. Within his regular elective surgery schedule, Dr. Angstadt wanted to “add on” two emergency procedures: a laparoscopic appendectomy and an abdominal washout. Buckhaults had to balance a full elective schedule, a pending cesarean section and Dr. Angstadt’s additional procedures without delaying his afternoon office visits.
- In Vidalia, a farmer’s tractor overturned, leaving him with a severed leg and a lacerated abdomen. The LifeStarOne air ambulance had radioed in the need for emergency surgery, with an ETA of 15 minutes. The patient’s life depended on having an OR ready and waiting for him to arrive.
- Linda Clifton, the Supply Manager, continued to manage a critical space shortage. The hospital is growing, space is at a premium and she needs to reduce inventory. With 8,745 sterile supply items alone, she insures that she has what clinicians need, when they need it. Running out is not an option.
- Janet Chadwick, Manager, Financial Affairs and Strategic Planning Perioperative Services, continued her work compiling and analyzing data for the hospital’s executive team. As always, Kathy’s team felt the continuous pressure all hospitals face to manage costs. One challenge that Kathy faced is to provide the systems with the required data that Janet needs to perform critical cost analyses.

Passing by Central Supply, Kathy glanced over at the rows of neatly stacked white cardboard boxes prepared for the next 48 hours’ work in the OR. These boxes – *Presource*™ PBDS modules from Cardinal Health – represented the physical manifestation of a key supply chain management system that kept Memorial Health University Medical Center’s operating rooms running effectively and efficiently. Kathy realized that these boxes, and the operational strategy they represented, contributed to meeting the challenges confronted by her team.

Introducing *Presource*™ PBDS

The traditional approach to managing procedural supply

Traditional procedural supply approaches have long used custom packs to achieve a degree of improved efficiency in the procedural supply chain process. These packs include core sterile supplies (e.g., gowns, basins and towels) commonly utilized during surgical procedures. The components found within these packs generally account for anywhere from 30 to 50 percent of the total disposable items used in a surgical procedure. Procedure- or surgeon-specific items from a central supply area supplement the custom pack and round out the materials needed for a surgical procedure. These items generally include such things as gloves and sutures and are added during the final case pick at the hospital.

A system for improving OR effectiveness

Presource™ PBDS extends the benefits of component pre-selection and customization to the entire OR procedure. The addition of a greater number of both sterile and nonsterile components further enhances benefits. *Presource*™ PBDS delivers these benefits

using “kitting” techniques long used in other highly competitive, cost-conscious industries, including heavy and high-technology manufacturing. In these industries, as in health care, customers rely on their suppliers to provide them with the right product, at the right place, at the right time. The use of *Presource*™ PBDS-like kitting approaches in other, nonmedical industries is growing at a rate of 40 to 50 percent per year¹.

Presource™ PBDS is more than just kitting. It is a procedural supply chain process incorporating a team-based approach aimed at delivering value. Cardinal Health, a Fortune 17 company that has spent more than 30 years serving hospitals in the delivery of superior patient care, offers this process. Cardinal Health has assisted hospitals with *Presource*™ PBDS for more than 10 years, implementing the system in more than 600 hospitals across the country.

Employing a team approach

Presource™ PBDS leverages expertise, not just within the hospitals it serves, but also with the team it delivers to support the system. This team includes:

- **Clinical project managers** – Cardinal Health’s team of clinical project managers has an average of 20 years in OR management and procedural supply chain consolidation experience. They assess the facility’s requirements utilizing a current practice analysis consisting of clinical interviews, procedural observation and preference card reviews. They design and support implementation of a program not only on the information they gather, but also drawing on their own experience in the OR and the experience of other Cardinal Health customers.
- **Logisticians** – Cardinal Health logisticians work with customers to assess, design, deliver and adapt hospital procedural supply chain solutions. They assess the facility’s current situation utilizing their experience in supply chain flow, space planning, inventory reduction and financial analysis. They design and support implementation of improved case pick programs in conjunction with the customer’s materials and clinical teams.
- **Procedural supply chain managers** – The project managers who coordinate the efforts of the Cardinal Health team in order to understand and meet the hospital’s specific needs. These professionals also manage the financial side of the *Presource*™ PBDS program, effectively communicating the changes initiated by *Presource*™ PBDS as well as the benefits realized by the hospital.

Utilizing proprietary information technology

Cardinal Health also delivers key information technology to procedural supply chain management in the form of PackManager™, an online application for procedure

kit inventory management and tracking. Use of the PackManager™ application allows hospitals to monitor procedural kit inventory status and make changes when necessary. Managers can also obtain details on packs including configuration and componentry as well as track spending and learn about savings

Defining *Presource*™ and *Presource*™ PBDS

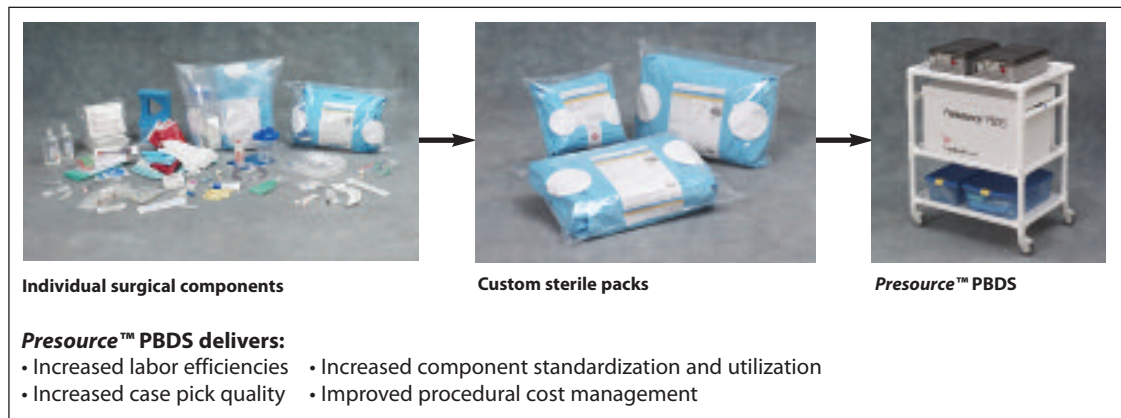
The term *Presource*™ – for “Proactive Resources” – refers to the team of Cardinal Health professionals who are constantly working to anticipate both procedural supply chain needs and problems before they arise.

Key to their success is a unique process in which they assess, design, deliver and adapt the most appropriate procedural supply chain solution for each health-care provider.

PBDS – Procedure Based Delivery System – is a procedural supply chain approach that contributes directly to OR business success. *Presource*™ PBDS amplifies the benefits that hospitals have traditionally sought in their use of customized sterile procedure packs (see Figure 1).

Presource™ PBDS utilizes a clinical and logistical approach to identify, reduce and manage procedural and operational costs across all major areas of the hospital. *Presource*™ PBDS delivers improved data management, increased component standardization and utilization, improved procedural supply chain management, and revenue enhancement through the combination of both sterile and nonsterile surgical components, along with the delivery of personnel and information technology.

Figure 1: Operational benefits of expanded kitting solutions.



opportunities. Finally, the PackManager™ application enables the adaptation of packs to meet changing facility/procedure requirements.

Delivering concrete benefits

Procedural supply chain approaches like *Presource*™ PBDS deliver broad-spectrum benefits including²:

- **Reduced material handling** – Instead of handling individual components at a variety of locations from shipping dock to store room to central supply and the OR, a single *Presource*™ PBDS module is delivered directly to the case pick area. One module can include up to 70 to 80 percent of the disposable components needed for an individual procedure.
- **Staff efficiency – elimination of “search time”** – Clinicians and technicians spend less time picking for procedures, relying instead on the contents of the *Presource*™ PBDS module. In addition, the circulating nurse spends less time outside the OR, searching for missing materials.

- **Better procedural control** – Business management of the OR is considerably eased. Costs are allocated, tracked and captured at the module-level rather than for 30 to 80 or more individual items. Charge capture is facilitated for low-dollar items.

- **Better inventory control** – Inventory management and level is significantly reduced. Forecasting is enabled based on individual procedure volumes rather than through aggregation and forecast across different procedures. Component standardization across surgical teams consolidates and reduces SKUs, resulting in lower inventory levels.

Presource™ PBDS-like approaches to supply chain management have delivered substantial value across multiple industries.³ The specific benefits of a *Presource*™ PBDS implementation are understood best in the context of the hospitals that use the system.

The Real World...New York City

New York - Presbyterian, The University Hospital of Columbia and Cornell, is a major, urban hospital system. The combined system accounts for 2,395 beds and more than 50,000 surgical procedures per year. Together, they are one hospital affiliated with two Ivy League medical schools. In July 2004, the hospital was ranked 9th among the “Best Hospitals” in the US by *US News & World Report*.

The case of Columbia University Medical Center

Columbia University Medical Center – the sister hospital to New York Weill Cornell Medical Center (see sidebar, pg. 5) located on Manhattan’s Upper West Side – was an early adopter of the *Presource*™ PBDS system, one of the first to do so. Supported by a Cardinal Health team of clinicians and logisticians, the 637-bed teaching facility implemented 52 *Presource*™ PBDS modules, and their attendant systems and procedures, in April 1998. Since then, the hospital has documented significant operational benefits in several areas.

On an average day, Columbia University Medical Center handles more than 80 scheduled procedures, totaling over 30,000 per year, in its 30 operating theaters. A special challenge faced by the hospital is space. It is not easy to find in Manhattan. As a result, Lorraine Gatti,

the Director of Support Services for the OR, must utilize a process that has Central Supply for the OR located more than two city blocks (and three floors) away.

Columbia University Medical Center opted to implement *Presource*™ PBDS all at once, rather than phasing in across services over time. “We didn’t want to be running two picking systems at the same time” said Lorraine. This implementation approach created some special challenges. The Columbia/Cardinal Health team needed to facilitate the overnight adoption of an entirely new supply chain approach, without disrupting the main mission of the OR – the delivery of outstanding patient care. “I was apprehensive”, said Lorraine. She continued:

We literally flipped the switch with (Presource™) PBDS. There were a lot of areas where we could have had supply issues. At every possible touchpoint, at every critical moment that there could have been a problem, the team was there – they anticipated. We implemented in a way that was absolutely seamless to the staff and physicians at the hospital. To this day I am proud of how well this large group, Cardinal Health and the hospital, came together as one.

Responding to customer needs: The case of New York Weill Cornell Medical Center

New York Weill Cornell Medical Center, a sister institution to Columbia University Medical Center, implemented *Presource*™ PBDS in the Burn OR on the morning of September 12, 2001. As a designated Burn Center for New York City, the hospital played a critical role in serving the needs of victims of the World Trade Center disaster.

Originally planning a mid-October implementation, the Cornell Burn Center team had already worked with clinicians from Cardinal Health to define the contents of the burn modules they would use.

When tragedy struck, Cardinal Health was prepared with several hundred modules already assembled. By the end of the day these modules were in route to New York Weill Cornell Medical Center, by truck and helicopter, to facilitate the delivery of aid. The Burn OR teams never went back to the old way of managing inventory. Over the next several months a combined Cornell/Cardinal Health team implemented an additional 67 modules across the hospital to cover the

nearly 23,000 procedures that are performed every year at New York Weill Cornell Medical Center.

Beyond the concrete operational improvements, OR managers at New York Weill Cornell Medical Center recognize the cultural benefits of *Presource*™ PBDS as well. "PBDS has contributed significantly to the alignment of management and clinicians" says Matt Grabowsky, OR Business Manager at New York Weill Cornell Medical Center. "The nurses really own the modules and have a tremendous amount of pride in what they contain."

"Involvement in (*Presource*™) PBDS is the first chance many clinicians have had to contribute to improving supply chain systems and processes at the hospital." Grabowsky continues, "It plays on their natural desire to do a great job. In addition to providing excellent patient care, the perspective they get makes them better managers and opens up new career directions for them."

Realizing the Benefits of *Presource*™ PBDS

*Since implementing the (*Presource*™) PBDS program, our hospital staff can concentrate on areas that require attention but are sometimes overlooked in the chaotic atmosphere of an OR. The bottom line – (*Presource*™) PBDS has helped us reduce costs and manage our business more effectively and efficiently, which benefits our main priority, the patient. Kathy Sydow, Memorial Health University Medical Center*

The benefits of *Presource*™ PBDS implementation come in multiple dimensions. When thinking about them it is most important to consider that, from the hospital's perspective, it is more important to optimize across an entire process (i.e., OR management) than to focus on one specific aspect of that process (e.g., material costs).⁴

For example, even if the cost of surgical components grouped into a *Presource*™ PBDS module were to exceed the cost of those same materials ordered,

stocked, picked and delivered separately, it could still be in the hospital's best interest to use the *Presource*™ PBDS module.

The reason is straightforward. The cost of surgical supplies, though important, represents only a single component of the overall cost of delivering a quality surgical procedure. Tradeoffs involving the use of clinical and support personnel to assist in supply movement and handling, along with quality measures, must be considered as well.

Improving OR turnover

An example of the power of *Presource*™ PBDS process thinking can be found in the ORs at New York Weill Cornell Medical Center. Operating Room time at Cornell is estimated to cost \$42 per minute (\$2,520 per hour). In the late 1990s, it took the hospital nearly 90 minutes to "turnaround" a room following a procedure.

Following intensive process improvement efforts, the New York Weill Cornell Medical Center team had, by mid-2001, reduced turnaround times to 55 minutes. Since *Presource*™ PBDS was rolled out at Weill Cornell Medical Center, OR turnaround times have been further reduced to 30 minutes. “That improvement is 70 percent due to *Presource*™ PBDS,” reports Yelena Bortnovskaya, General Surgery/Minimally Invasive Surgery Team OR RN Team Leader for New York Weill Cornell Medical Center. Yelena reflects:

For example, we cut the time to set up a room 80 percent, from 25 minutes to five minutes. We do not have to open every single item anymore. Instead, it is all there waiting for us in one module. We spend less time searching for products or leaving the room to find them. Everything is there ready to be used in the order that we need it.

Hayla Olsen, Orthopedic Coordinator at Memorial Health University Medical Center, reported similar results. “I can’t stress enough how much time has been cut,” reports Hayla. The average setup for an orthopedic procedure at Memorial Health University Medical Center has been cut from 20 to five minutes (75 percent).

How busy hospitals like New York Weill Cornell Medical Center and Memorial Health University Medical Center value an acceleration in OR turnover depends on how they view the free time. From one perspective, the reduction in room time attributable to *Presource*™ PBDS could be estimated at \$490 per procedure at New York Weill Cornell Medical Center.¹ More likely, the hospital will view the benefit in terms of its capability to add procedures, improve patient and clinician satisfaction and reduce the overtime associated with managing a busy OR. If reduced turnover time were to facilitate the addition of as few as three procedures per week, with a \$3,000 contribution

margin, *the impact on annual profitability would be \$468,000 per year.* In any case, the benefit of a move to *Presource*™ PBDS is overwhelmingly derived from a more efficient use of resources beyond the cost of the surgical supplies. The key, according to Lorraine Gatti at Columbia University Medical Center, “is to keep the focus on procedure cost, not just on materials cost.”

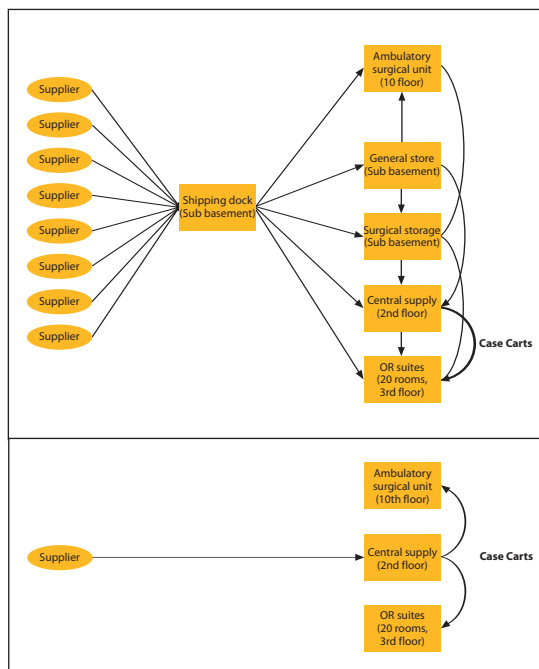
Reducing inventory and streamlining the case pick process

The OR theater is not the only part of the hospital procedural supply chain that benefits from the use of *Presource*™ PBDS. Significant value is also found at the shipping dock and in Central Supply. For example, the surgical supply team at New York Weill Cornell Medical Center must provide for the needs of more than 23,000 surgical procedures annually. Prior to *Presource*™ PBDS, the approach to supplying these needs required the maintenance of multiple storage locations, to-and-from which bulk inventories of surgical materials were stored and moved (see top of Figure 2). Materials managers before *Presource*™ PBDS were forced to track and move all inventory across no fewer than five separate inventory locations scattered across several city blocks.

In the post-PBDS era, New York Weill Cornell Medical Center has been able to streamline this procedure. The vast majority of OR supplies now bypass the shipping dock and are delivered directly to a central supply area near the OR theaters (see bottom of Figure 2). The result? Substantial reductions in the amount of inventory held and the release of the hundreds of square feet of storage space needed to house it. “*Presource*™ PBDS delivers New York City real estate” offers Matt Grabowsky, OR Business Manager at New York Weill Cornell Medical Center. “Additional capacity for us only comes by building out over six lanes of traffic on the FDR Expressway.”

¹That figure is calculated by taking 70 percent of the 25-minute reduction in room turnover and multiplying by the \$42 per minute cost of the OR (25x.7x\$42 = \$735). New York Weill Cornell Medical Center ORs support an average of three surgeries per day. OR turnover time improvements following the first two of these procedures directly contribute to OR contribution margins, resulting in a net increase of \$490 ((\$735 x 2) ÷ 3).

Figure 2: Internal Delivery Process for Surgical Materials, Pre-(top) and Post-(bottom) PBDS.



Columbia University Medical Center and Memorial Health University Medical Center also realized significant inventory-related benefits from *Presource*™ PBDS. Columbia University Medical Center credits the system with a release of \$230,000 in OR inventory and a three FTE reduction in OR support personnel. At Memorial Health University Medical Center, the shift to *Presource*™ PBDS enabled the release of more than 1,250 square feet of OR bulk storage space back to the hospital. As important, the hospital’s investment in that inventory also fell. “*Presource*™ PBDS has really helped us cut our inventory costs,” reports Kathy Sydow. “Before *Presource*™ PBDS we carried more than \$1 million in OR related products. *Presource*™ PBDS helped us cut more than \$280,000 from that number. At the same time we reduced staffing five percent (six FTEs) and increased our procedure volume by more than 60 percent” (see Figure 3).

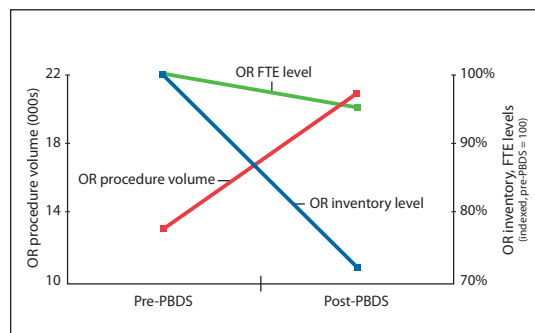
Improving case pick quality

Presource™ PBDS modules are assembled in a manufacturing environment specifically designed to deliver high-quality, accurately assembled modules. Rather than picking for a single procedure, the Cardinal Health distribution site assembles up to a 30-day supply, holding the excess until it is needed at the hospital. This packaging approach allows Cardinal Health to

implement stringent quality control procedures to ensure correct assembly, while simultaneously reducing the level of resource committed by the hospital to prepare for cases.

Vivian Helmuth, an OR Team Leader at Columbia University Medical Center (and an initial *Presource*™ PBDS skeptic), reports that for individually selected (i.e., non-PBDS) surgical components, case pick accuracy can sometimes be frustratingly low. The result of an incorrectly picked case is cost and delay as the OR team seeks out and obtains missing components. In some cases a circulating nurse must leave the OR in order to acquire items. At a hospital with a strong tradition of patient care no one likes it when the nurse has to step out. Luciel Ostensen, OR RN Team Leader for Neurological & Otolaryngological Surgery at New York Weill Cornell Medical Center, reinforces this notion, “The nurse is the patient’s advocate. We hate it when she has to leave the room for any reason.”

Figure 3: Illustration of Memorial Health University Medical Center Procedure Volume vs. OR Inventory and FTE Levels (Pre- and Post-PBDS).



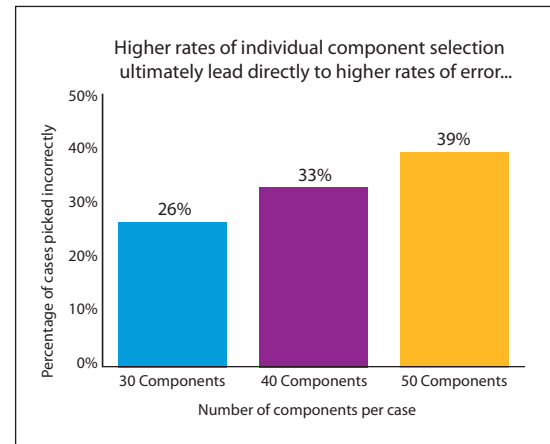
Even at relatively high levels of accuracy, case pick errors can creep into the system. This is because a typical procedure uses so many components. Consider Figure 4, which illustrates the relationship between the accuracy with which individual components are picked for a surgical case, and the probability that there will ultimately be an error in the contents of the full case when picking is completed. Even if, for example, supply personnel pick the correct item 99 percent of the time, there is still a 26 percent chance of error in a 30-component procedure. That error rate increases to 33 percent for a 40-component case such as a total hip replacement and 39 percent for a 50-component case. OR managers have long realized that the higher rates of individual component selection ultimately

lead directly to higher rates of error when the full case is finally assembled.

In a *Presource*™ PBDS setting, those 40 or 50 components are consolidated into a single module and selected based on a single line item on a surgical preference card – the document created to communicate the surgeon’s preferred supply list. The incidence of error drops to nearly zero.

The quality of case picking is not lost on the clinicians. “We have what we need”, reports Gloria Fortson, a senior nurse at Memorial Health University Medical Center. “We have confidence in the room setup. It means lower stress and a better work environment. We are able to focus on the patient instead of tracking inventory.”

Figure 4: The impact of human error on case pick accuracy.



A Proven Process for Realizing Procedural Supply Chain Improvement

Presource™ PBDS programs, like those utilized at Memorial Health University Medical Center and New York - Presbyterian Hospital, followed a proven process that includes four unique steps: Assess, Design, Deliver, Measure and Adapt.

Assess

During an initial one- to three-day assessment, the *Presource*™ team works with hospital staff to assess the current state of OR operations and to propose a vision of future enhancements. The team includes clinical project managers to assess case pick practices and cost structures, as well as logisticians who review the internal supply chain, frequently developing CAD drawings of supply room layouts in order to present a vision of possible future supply practices (see Figure 5). The end-result of the assessment is a report summarizing the potential financial impact of *Presource*™ PBDS implementation along with a roadmap for procedural supply chain improvement including facility-specific metrics, organizational goals and timelines for success.

Design

Based on the assessment findings, the *Presource*™ team works with the hospital in a one- to four-week effort aimed at implementing a redesign of the process for delivering procedural supplies. Clinical project

managers from Cardinal Health lead in the evaluation of surgical supply practices in order to standardize and consolidate surgical components into *Presource*™ PBDS modules or other appropriately designed kits. “Modules do not get designed to a template”, reflects Matt Grabowsky from New York Weill Cornell Medical Center. “Customization of the (*Presource*™) PBDS module is based on the unique surgical needs and setting of the particular hospital. Our modules even differ from those used up at Columbia University Medical Center, our sister hospital.”

The clinical review of surgical supplies often forms the basis for immediate savings. These savings arise in multiple ways. First, the review can reveal instances where surgical preference cards call for materials that are no longer needed or that can be substituted, resulting in cost savings. At Memorial Health University Medical Center, for example, a review of Phaco procedures uncovered an opportunity to save more than \$161,000 annually by eliminating clinically unnecessary components from the case picking process. “(*Presource*™) PBDS has opened our eyes to how much opportunity we have,” claims Kathy Sydow. In addition, clinical review of the procedural supply chain process often yields opportunities to standardize surgical components and to realize greater volume discounts in the process.

Logistical approaches to OR supply also receive attention during program design. Here, Cardinal Health deploys its team of logisticians to evaluate the flow of surgical materials “from [shipping] dock to doctor.” In the process, recommendations are made regarding the layout of the case pick and supply areas and the manner in which surgical materials are staged for use in the OR. “We were careful to walk through and prototype every step from dock to doctor,” reports Kojo Oduro, Central Supply Lead Technician at New York Weill Cornell Medical Center, “We worked with a Cardinal Health logistician to redesign the Central Supply case pick in order to promote faster case picking”. The result for New York Weill Cornell Medical Center, a 66 percent increase in the speed with which a major case can be picked.

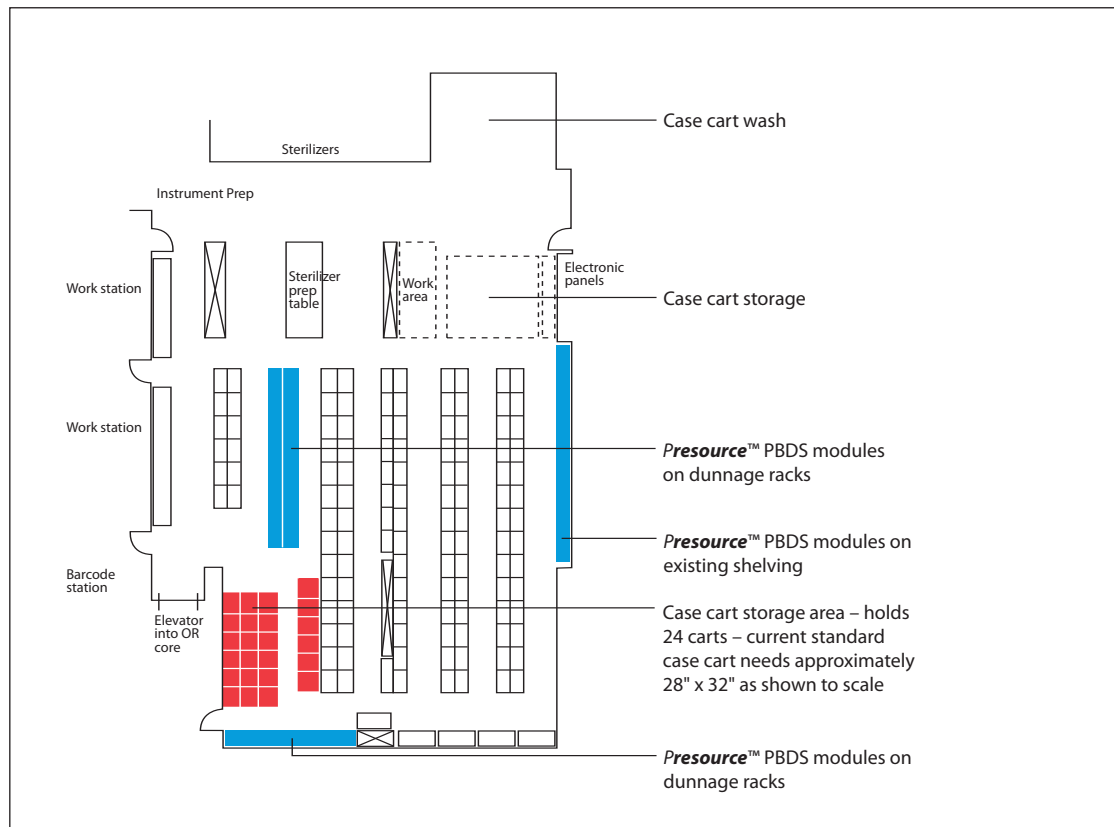
The final Design deliverable is a supply consolidation program that includes a plan for an improved supply chain design, a baseline of current practices, improved preference card process and implementation.

Deliver

Deliver represents both the one- to seven-day program implementation period, as well as the ongoing support provided by the *Presource*™ PBDS team. Delivery begins when the *Presource*™ team and the hospital mutually develop an implementation plan. During this time, planned procedural supply chain changes are incorporated into the hospital’s daily routine. The next step is for Cardinal Health to provide the actual *Presource*™ PBDS modules that the hospital will use. Process changes are implemented and the appropriate staff is trained to pick, transport and utilize the *Presource*™ PBDS modules. The entire *Presource*™ team is present during this stage of implementation to address any last minute issues that may arise.

Presource™ PBDS continues to deliver by providing onsite support and direction of the program. Together we create success metrics and develop a process to measure and maintain performance.

Figure 5: Proposed *Presource*™ PBDS Central Supply Layout.



Measure and Adapt

Measure and Adapt provides ongoing benefit for the life of the *Presource*™ PBDS program. “You must frequently evaluate your modules in order to make sure you are doing the best that you can” advises Phil Church, Corporate Director of Materials Management at Memorial Health University Medical Center. “Modules should be revised over time to drive out cost and reduce the potential for waste.”

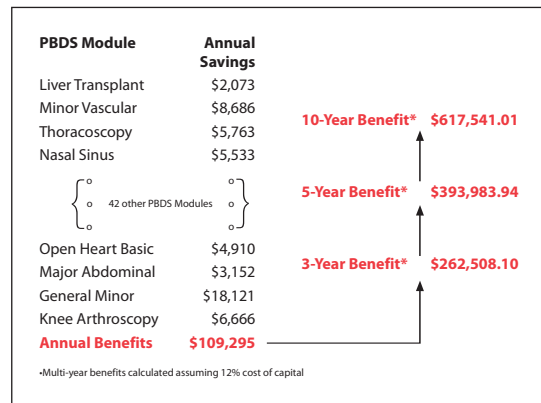
During Measure and Adapt engagements, local representatives along with clinical project managers – the same professionals that assisted during assessment, design and delivery – continue working with the hospital to promote a process of continuous module improvement.

Results of Measure and Adapt reviews can be substantial (see Figure 6). For example, during a March 2003 *Presource*™ PBDS module review, Clinical Project Manager Mary Mc Loughlin worked with clinicians at Columbia University Medical Center to review the hospital’s 53 *Presource*™ PBDS modules. In one instance for a general minor procedure, the review team identified seven components to add to the *Presource*™ PBDS module, increasing module cost by \$11.87. However, when the team considered the cost of those individual items supplied separately to the procedure, their addition to the module actually

saved the hospital \$5.68 per procedure. This cost savings adds directly to the hospital’s procedural margin and, ultimately, to hospital profitability. The module review team forecast an annual benefit of \$18,121 resulting from the 3,192 general minor procedures the hospital annually performs. Similar analyses of other modules documented an additional \$91,174 in immediate financial impact, totaling \$109,295 in annual savings.

Measure and Adapt culminates in periodic (e.g., monthly or quarterly) steering committee meetings that typically bring together the OR management team to review performance and to map out future changes in order to deliver constant and increasing *Presource*™ PBDS benefits.

Figure 6: Summary of 2003 *Presource*™ PBDS Measure and Adapt Module Review Benefits at Columbia University Medical Center.



Summarizing the Impact of *Presource*[™] PBDS

Why would you not want to have all your products bundled up and delivered to you in one module, ready to go? Doesn't your staff have something better to do with their time than picking supplies? –**Lorraine Gatti from Columbia University Medical Center.**

Business managers like Lorraine Gatti, Matt Grabowsky, and Kathy Sydow share a unique perspective on efficient and effective OR management. Their roles force them to accommodate the economic realities of running the OR business with the overarching mandate to provide superior patient care at two of the nation's premier hospitals. *Presource*[™] PBDS helps them accomplish this task by:

- Providing hospitals with a system for managing surgical materials. Reducing material handling and decreasing the number of hospital personnel needed to support OR supply.
- Improving case pick and OR turnover speed. Reductions in excess of 50 percent of case pick times are common following the implementation of *Presource*[™] PBDS. Search time also falls, particularly for circulating nurses who are thus able to spend more time with patients.
- Improving control, thus enhancing oversight of the materials used in a surgical procedure.
- Conducting regular module reviews and leading steering committee meetings to find ways to reduce waste and improve surgical contribution margins.
- Improving inventory control, facilitating standardization and improved visibility. These benefits yield value in the form of reduced inventory cost and management overhead.

Back to Memorial Health University Medical Center...

Heading out to the parking lot, Kathy Sydow reflected on all that her team at Memorial Health University Medical Center had achieved, and the role *Presource*[™] PBDS played in their accomplishments. Janet Chadwick, Manager, Financial Affairs and Strategic Planning Perioperative Services, believes *Presource*[™] PBDS has provided the foundation for many of the hospitals' gains over the past five years. Kathy agrees.

Tammy Mims, Senior Vice President, credits the success of the Perioperative Division to its leadership team's ability to reason in both the abstract and the concrete. Their ability to visualize the long-term benefits of *Presource*[™] PBDS through cost savings and efficiency is one reason why Memorial Health University Medical Center remains a world class hospital, always on the cutting edge of technology.

Presource[™] PBDS offers a sophisticated approach to procedural supply chain management. Whether a hospital's goal is inventory reduction, OR turnover, case pick accuracy, surgical component standardization and/or the improvement of the overall flow of materials through the hospital, *Presource*[™] PBDS plays a significant role in the success of a hospital's operations.

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Presource™ PBDS Products and Services

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