



Mobilizing Materials Management to Improve Operations

BryanLGH Medical Center
Case Study

Reducing Costs and Improving Operational Efficiency Through Mobile Supply Chain Management



PROVIDER PROFILE

BryanLGH Medical Center is a not-for-profit healthcare provider based in Lincoln, NE. The locally owned organization is a two-campus facility that operates two acute-care hospitals, several outpatient clinics and provides mobile diagnostic treatment and services to residents throughout the region. BryanLGH has 649 licensed beds and 3,800 employees, making it the largest private employer in Lincoln. Its national award-winning care includes cardiology, orthopedics, trauma, neurology/neurosurgery, mental health, women's health and oncology.

CHALLENGES AND OPPORTUNITIES

Materials Management IT budgets often lag behind other departments in healthcare organizations. This budget allocation pattern intensifies the challenges materials managers face with new technology implementations and underserves a key area from which to drive business process improvements. For example, materials management departments using mobile technologies can yield time and cost savings that directly improve operating performance. Many healthcare organizations are turning to wireless applications to drive the process improvements needed to support increased service demand while controlling costs.

Expansion Plans Require Greater Efficiency

BryanLGH decided to apply wireless technologies within materials management in late 2003 as it began several building projects and needed to support more service departments and patients while minimizing inventory costs. With Lawson™ business applications in place since June 1999, BryanLGH had already automated many of its core financial, HR and supply chain functions. It also had established par areas to manage inventory on patient floors at its East site during the mid-1970s. Supplies were originally distributed from a central supply storeroom. A merger occurred in 1998, and similar supply practices were then needed on the new West site. Because of space issues and greater demand for product support, a centralized warehouse was established along with two smaller onsite storerooms — one per hospital — that served as staging areas and provided specialized supply items to each site.

Before April 2004, BryanLGH used older technology to count par areas, including an application called Handheld Device Integrator and Symbol® handhelds. The eight-year old devices had started to require repairs and lacked barcode-scanning capabilities. “Staff had to cradle the devices to upload par data into our supply chain management system, which sent replenishment information to the central warehouse,” explains Jan Matzen, BryanLGH materials management information system liaison. “This created delays of up to five minutes per data ‘send’ as staff waited to confirm transmission.”

BryanLGH also lacked automated cycle-counting functionality to support its inventory counts that occurred several times per year. This made its annual physical inventory a time-consuming manual process. “We closed our central warehouse and onsite storerooms for one day each year and had up to 25 staff members in the large storeroom, conducting physical inventory using paper count sheets,” explains Matzen. “Lost count sheets and errors associated with manual data entry meant less than optimal inventory and service levels.”

BryanLGH wanted to replace its aging handhelds and boost employee productivity through more efficient business processes. It also wanted to gain more accurate and timely inventory tracking capabilities to ensure correct supplies are available when and where they are needed. When BryanLGH started to implement an enterprise-wide wireless network in March 2004 to support clinical laptops and a VOIP network, it saw an opportunity to capitalize on this wireless platform to achieve its materials management goals.

REALIZED VALUE PROOF POINTS

Since implementing Lawson Par and Cycle Counting, BryanLGH has documented several specific benefits, including:

- **Reduced the time needed to count par locations by up to 50 percent — 20 versus 40 minutes — in par locations with more than 100 items. This equals a reduction of 1.5 FTE positions and an annual cost savings of \$45,600.**
- **Saved 260 personnel hours per year using barcode scanning and wireless data transmission, enabling BryanLGH to count more par locations without adding staff.**
- **Increased accuracy contributed to efforts that improved inventory turns from 11 to 13.7 per year in facility storerooms and from seven to 18 per year in the central warehouse.**
- **Reduced the time and resources needed to complete its physical inventory from 24 hours with 25 employees to 10 hours with 12 employees.**

“The willingness of Lawson to listen to our needs and remain invested in our project goals after implementation has made our partnership successful.”

James Healey
Senior Programmer/Analyst
BryanLGH

Phased Implementation Eases Transition

In early 2004, Matzen, along with the BryanLGH distribution manager and senior programmer/analyst, began considering technology options. Because they wanted the new mobile technologies to easily work with the BryanLGH ERP system, they approached Lawson. After conducting two product demonstrations with day-shift supervisors and supply technicians, they chose to implement Lawson Par and Cycle Counting and replace their existing handhelds with smaller, more ergonomic Symbol devices and a small number of Dolphin devices. This strategy enabled BryanLGH to link the software and handhelds with its existing supply chain management applications and provide new functionality, including cycle counting, scanning and barcoding. It also supported the BryanLGH strategy of proactively seeking a true partnership with its business applications vendor: “We wanted to extend our supply chain management in a way that maximized our existing Lawson investment,” says Senior Programmer/Analyst James Healey. “The Lawson team was very receptive to our ideas and made a huge effort to ensure that our business needs were met.”

BryanLGH took a phased implementation approach based on the status of its wireless network rollout, initial project budget, and employee training needs. The wireless network was first installed in one floor of the East campus, which dictated the number and location of the par locations initially counted via the mobile application. BryanLGH began as a beta site on April 6, 2004, and completed the initial East campus installation in less than two days. BryanLGH rolled out the application to the remaining 105 East par areas in January 2005 and completed phase one in March 2005. Phase two, which involved 59 par areas on the West campus, was completed in April 2005 and the organization conducted its first physical inventory utilizing Lawson Par and Cycle Counting.



Training employees on the new streamlined, wireless processes was an important step in the system rollout, which BryanLGH was careful not to underestimate. “While employees’ initial reaction to the new software and hardware was very positive, it meant they had to change the way they worked,” says Healey. For example, employees now had to download count sheets to their handhelds versus printing them. BryanLGH trained the strongest users first, who then became “super users” that led by example to secure end user buy-in. “Once materials staff realized how easy the software was to use and that they no longer had to wait in line to cradle handhelds, they were advocates,” explains Healey.

Throughout its phased rollout, BryanLGH used its legacy application and handhelds alongside the new software and hardware. This simplified the transition by allowing BryanLGH to continue to track and manage all par areas within its ERP system no matter how staff counted them. “This strategy also helped us verify procedures and ensure success by conducting trials and testing of the new software and wireless network before transitioning off our legacy application,” adds Matzen.

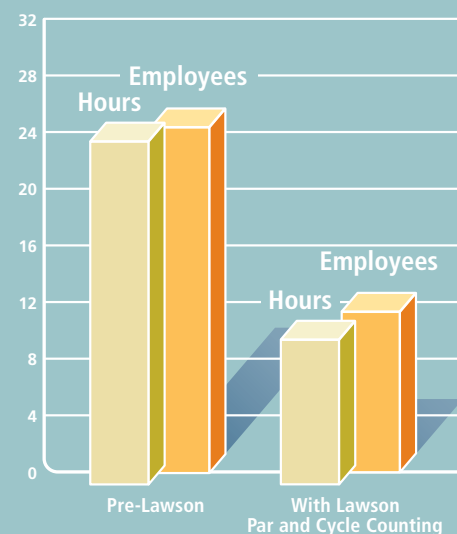
REALIZED VALUE, SUPPORTED BY LAWSON

BryanLGH now counts 254 of its 412 par locations via Lawson Par and Cycle Counting, adding new areas as construction continues. (158 are not counted using the mobile application since they are small areas primarily used for forms.) The 254 counted areas include 20,142 lines of individual supplies. Because staff count these areas a varying number of times per week — some twice a week and others daily — BryanLGH now counts 1,310 par locations and 109,479 lines per week using the mobile application. These counts generate 100 to 165 requisitions a day. By providing barcode scanning capabilities, enhanced workflows and wireless data transfer, Lawson Par and Cycle Counting has helped BryanLGH maintain stock more accurately and efficiently than ever before. The result: optimized inventory levels, reduced supply costs and improved service to clinicians and patients.

Specific time and cost savings include:

- **Increased staff productivity.** Employees spend up to 50 percent less time counting each par location — 20 versus 40 minutes — in locations with more than 100 items. This enabled BryanLGH to reduce 1.5 FTE positions for an annual cost savings of \$45,600. “This is a sustainable time savings that has also freed up supervisors’ time to do more auditing tasks,” notes Matzen. And, employees no longer cradle handhelds, but instead send par data using the application’s wireless functionality. This “update-as-you-go” capability saves 260 staff hours per year, which allows BryanLGH to manage par locations in newly built service areas and private rooms without adding staff.
- **Faster physical inventory.** BryanLGH cut the time needed to complete its physical inventory from 24 hours to 10 hours. Previously, it took up to 25 staff members three eight-hour days to perform physical inventory. Twenty-five employees completed paper count sheets while three supervisors manually entered the data into the supply chain management system. This year, physical inventory at the central warehouse and facility storerooms was completed in 10 hours with only 12 employees. Employee teams started in all three locations simultaneously then helped other teams after completing their initial location. “The automated scanning, counting, and wireless uploads allowed us to enter counts on the handhelds versus entering them manually,” says Matzen. “This eliminated the data entry step and most errors.”

Physical Inventory Time and Labor



“Lawson Par and Cycle Counting greatly contributes to our improved supply chain management.”

Jan Matzen
Materials Management Information
System Liaison
BryanLGH

“We view Lawson as a key partner in our efforts to improve our overall operations.”

Rich Marreel
Chief Information Officer
BryanLGH

- **Accelerated picking.** The mobile application drives faster picking by automatically transmitting replenishment orders to the appropriate site. While BryanLGH schedules picking every hour, staff can now pick on demand. Employees still pick the same number of items, but pick information reaches the central warehouse or campus storerooms faster. As patient volume grows, BryanLGH anticipates this automatic transmission will enable staff to pick more items faster by grouping multiple “pick orders” into one trip through the warehouse.
- **Reduced hardware costs.** BryanLGH now has 24 wireless handheld devices — four Dolphin and 20 Symbol — of which 16 are allocated for par and cycle counting and eight for future warehouse uses. “We no longer need dedicated handhelds for specific areas or users because staff can share them facility-wide,” explains Healey.
- **Increased accuracy.** More accurate par data was one contributing factor in helping BryanLGH improve inventory turns from 11 to 13.7 times a year in its campus storerooms and from seven to 18 times a year in the central warehouse.
- **Faster data access and error resolution.** Users verify par uploads by accessing the application online, making errors easier to address because staff no longer need to sort through mountains of paper: “If there is a problem with an item on a par cart and a user can’t create a requisition, we can quickly find that count sheet online, identify the error and make corrections,” explains Matzen.
- **Improved staff management.** The mobile application helps supervisors better track individual productivity: “We can now see what time staff count carts and how long it’s taking!” Supervisors use this information for scheduling purposes and employee evaluations.

“Lawson Par and Cycle Counting greatly contributes to our improved supply chain management,” says Matzen. “We can now more accurately maintain inventory information and analyze that data to identify purchasing trends.” This enables managers to increase attention to purchasing on contract and consolidating purchases for volume discounts.



Wireless Application, Handhelds Support Cost-Effective Growth

“Proactive maintenance of par levels is critical to assure external auditors we have accurate inventory data.”

Jan Matzen
Materials Management Information
System Liaison
BryanLGH

Mobile Strategy Going Forward

BryanLGH continually seeks ways to use wireless technology as the foundation for business process improvements that ultimately impact patient care. For example, BryanLGH is reconfiguring workflows to reallocate employees’ “found” time and has begun using par data reports to analyze item usage trends and prevent wasted or expired items.

In 2006, the provider plans to extend its mobile strategy by upgrading its Lawson applications and replacing its physical inventory with true cycle counts three times a year: “Proactive maintenance of par levels is critical to assure external auditors we have accurate inventory data,” explains Matzen. BryanLGH also plans to roll out the “pick for par” feature — allowing staff to pick supplies from smaller distribution areas versus waiting for warehouse shipments. Finally, BryanLGH will implement Lawson Receiving and Delivery to drive additional process improvements within its central warehouse.

“We view Lawson as a key partner in our efforts to improve our overall operations,” says BryanLGH Chief Information Officer, Rich Marreel. “We want to take advantage of our Lawson products as much as possible while working with Lawson to provide guidance that will improve future product development.”

“We’re invested in Lawson so we want to deepen our relationship to improve long-term ROI from both the ERP and mobile applications,” adds Healey. “The willingness of Lawson to listen to our needs and remain invested in our project goals after implementation has made our partnership successful.”



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