



## **Responding to Healthcare's Most Urgent Business Issues**

Gundersen Lutheran Health System  
Case Study



# Surgical Instrument Management Reduces Surgery Delays and Drives Staff Productivity

## PROVIDER PROFILE

Gundersen Lutheran Health System is one of the nation's largest group medical practices, operating a 325-bed teaching hospital, community clinics, eye clinics and pharmacies. It has more than 5,500 employees and serves residents of western Wisconsin, northeastern Iowa and southeastern Minnesota. The physician-led healthcare system has twice been named among the top 100 in the nation.

Challenged to keep surgeries on schedule as demand and costs increased, Gundersen Lutheran sought to improve operational efficiencies in the area of surgical instrument management. The organization lacked an efficient way to track the location and status of thousands of instruments and trays in real-time. It also relied on highly manual systems for tray assembly, count sheet management and sterilization logging. This made it difficult to manage the daily count sheet revisions and train Sterile Processing Department (SPD) staff, often resulting in inaccurate and inconsistent trays.

"There was an inability to serve the surgery department appropriately," says Jan Jarvinen, director of Materials Management at Gundersen Lutheran Health System. "In preparation for surgery, O.R. staff had been discovering a high incidence of missing instruments in trays or the wrong instruments-creating a big strain on relations with the SPD." Those inaccuracies, which resulted in urgent instrument searches, also came with a price tag: Gundersen Lutheran estimates it costs the organization an average of almost \$40 per minute for surgery delays.

## CHALLENGES AND OPPORTUNITIES

### Automated Tracking Drives Efficiency Gains

As part of an enterprise-wide quality improvement initiative, Gundersen Lutheran sought to increase efficiencies within its Central Services department by implementing an automated surgical instrument management system. The initiative's goal was to: ensure the right instruments and trays are available when and where they are needed. After evaluating several vendors, Gundersen Lutheran chose Lawson Software® Surgical Instrument Management (SIM) application, based on the deep healthcare experience Lawson brought to the table. "Lawson demonstrated it understood the issues SPD's face," explains Rod Brueggeman, central service manager, Gundersen Lutheran. "Its SIM product was geared toward dealing with those specific issues."

The four-month implementation was completed in January 2004. While department managers were convinced upfront of SIM's time and cost-saving capabilities, the main challenge was selling it to SPD staff. "Our biggest obstacle was we had technicians with no computer background, so the software was intimidating to them," says Jarvinen. To secure employee buy-in, Gundersen Lutheran first ran a pilot of the application. The pilot program's efficiency and productivity improvements led to a hospital-wide rollout in early 2004. Most recently, Gundersen Lutheran extended the Lawson SIM system to its new ambulatory center at a separate location.

### REALIZED VALUE PROOF POINTS

**Since implementing Lawson Surgical Instrument Management, Gundersen Lutheran has documented several specific benefits, including:**

- Reduced the incidence of missing or incorrect instruments by 50 percent
- Reduced training time for new SPD staff by 30 percent to 60 percent
- Reduced the time and number of staff required to locate missing instruments and trays from several people taking up to an hour, to one person locating the item in just minutes
- Maintained 31 employees (full-time equivalents) in the SPD even with a six percent caseload increase
- Replaced two sets of paper count sheets, which staff had to manually update, with an automated, electronic system accessible by twelve workstations that immediately displays count sheet changes
- Replaced manual instrument sterilization logs with real-time updates via handhelds
- Expect a 20 to 30 percent reduction in instrument repair and replacement costs in 2005

**“Industry-specific features and vendor expertise are key success factors for enterprise software solutions. However, many clients underestimate this requirement at their own peril.”**

Robert Anderson  
Research Director,  
Gartner

## REALIZED VALUE, SUPPORTED BY LAWSON

### Real-time Information Delivers Real Value

Prior to implementing Lawson's SIM application, any changes Gundersen Lutheran made to specific tray count sheets were done manually, leaving room for human error. “We have revisions daily, so something went wrong with the trays every day,” explains Jarvinen. In addition, SPD staff manually managed pictures of individual tray sets and instruments in three-ring binders. Today, Gundersen Lutheran uses SIM's advanced barcoding, wireless and Internet technologies to create a single, automated database for managing all of its instruments and trays. When staff update or edit a count sheet or image today, that change is made in real-time so other staff automatically access the most current information. This ability to update count sheets electronically has eliminated the paper trail to the O.R. and dramatically reduced administrative errors.

“It's great that Lawson enables us to add digital images for trays and specific instruments directly to the system,” says Jarvinen. “Staff can pick up a tray, scan the barcode and immediately view detailed instructions on exactly what items are needed and how to sterilize, process and wrap the tray.” He says the automated sterilization process, in turn, has increased efficiencies and made the process error-free by simplifying this once cumbersome task. “Before we implemented SIM, we manually logged every item as it went into the sterilizer. This involved at least 25 sheets of paper logs per day. Now we're able to do real-time, electronic logging with a handheld. With a scan, it gives you a listing of every instrument you have in that sterilizer load,” explains Jarvinen.

In addition to automating sterilization logs, the Lawson system also provides Infection Control staff with enhanced traceability data and helps prevent costly sterilization errors and instrument damage. For example, a warning message pops up on screen if an SPD employee scans a \$5,000 scope before starting high-temp sterilization when that instrument actually requires a different type of sterilization method.

**“Before SIM, when surgery requested a certain tray, three or four staff members stopped what they were doing to physically search for the requested tray, which could take up to an hour,” Jarvinen explains. “Now one person can go to any one of 12 workstations and find that tray in a matter of minutes and even see what sterilization load it was run in.”**

Rod Brueggeman  
Central Service Manager  
Gundersen Lutheran

### **Web-Based System Increases Productivity, Accelerates Training Time**

Since implementing SIM, SPD staff no longer need to memorize numerous instrument sets, some of which are not used for months at a time. Brueggeman says this has helped reduce the time needed to train instrument-processing staff by 30 percent; and, in some cases, by as much as 60 percent. “It used to take 16 weeks to train our technicians,” says Brueggeman. “Now we can turn some of them loose after just six weeks.”

Lawson’s SIM tracking capabilities have also helped increase staff productivity. “Before SIM, when surgery requested a certain tray, three or four staff members stopped what they were doing to physically search for the requested tray, which could take up to an hour,” Jarvinen explains. “Now one person can go to any one of 12 workstations and find that tray in a matter of minutes and even see what sterilization load it was run in.” In addition, the multiple workstations have increased the staff’s ability to work on numerous trays at the same time.

With improved operational efficiencies, Gundersen Lutheran has been able to maintain 31 FTEs in the SPD despite an approximate six percent increase in caseloads this year — a number that’s expected to grow. Lawson’s system also allows SPD managers to run productivity trend reports to identify the department’s high- and low-producing employees. “It’s a valuable tool to use for employee coaching sessions to increase individual productivity levels,” says Jarvinen.





## FUTURE EXPECTED SAVINGS

Gundersen Lutheran spends approximately \$120,000 a year for instrument repair and replacement costs. SPD managers expect to reduce that by 20 percent to 30 percent once the SPD establishes instrument usage guidelines with the O.R. According to Brueggeman, instrument repair or replacement is currently dependent upon a set schedule rather than on actual usage. "Trays are being resharpened even though they may not have been used since the last sharpening," explains Brueggeman. "Lawson's system gives us the capability of identifying the frequency of use and discussing with the O.R. how many uses we should allow between sharpening."

Gundersen Lutheran executives realize there are many other untapped opportunities with Lawson Surgical Instrument Management. "We're only using a portion of the potential of this product and it's already given us huge returns," says Brueggeman. "By improving the productivity of our staff and the efficiency of our instrument management, we've reduced labor costs and increased the quality of our services." In coming months, Gundersen Lutheran plans to mine its Lawson data to uncover opportunities to reduce instrument inventory.





Brueggeman says they've also seen a big upsurge in satisfaction levels from O.R. staff. "Our old system was prone to human error and inconsistencies, which lead to urgent searches and delays. Today, exception tags provide advance notice of missing instruments so we can ask, 'Is this critical to the case?' and troubleshoot a solution before it's too late," as stated by Linda Domke, Director of O.R.

The Lawson SIM implementation was even voted one of Gundersen Lutheran's top five internal quality award winners for 2004. Jarvinen concludes, "The sentiment from direct users today is 'wow', how did we ever get by without this?"

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