



The Global Language of Business



Case Study

Mercy Cites Collaboration as Best Medicine

Supply chain, clinical and IT departments partner to transform OR operations with GS1 Standards

Challenge

The healthcare sector is in the midst of transformative change brought about by the increasing need for careful stewardship of resources associated with emerging regulations that are defining the future of patient care and safety. Without efficiencies embedded and interwoven within their internal operations, healthcare systems will be unable to provide consistently high quality care.

Solution

GS1 Standards provide a solid foundation for automated and efficient operations throughout a healthcare system, but as Mercy demonstrates, collaboration is the mortar that allows its digital infrastructure to be built to address the challenges ranging from compliance to care to cost containment.

Benefits

The adoption of GS1 Standards has enabled Mercy to enjoy greater operational efficiency and productivity while continuing to provide high quality care to its patient population. Case in point: charge capture in its highest cost practice area—surgery—has improved by 28-30 percent, resulting in more than a \$340 additional charge capture per procedure and enabling the documentation of tens of millions of charges not previously captured.

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Vice President for
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Care, Cost Containment, and Compliance

For more than a decade, the healthcare industry has endeavored to meet the challenges of improving patient care with an expanded focus on outcomes, cost containment, and the ever-growing demand of regulatory compliance. As specialized care has, in many instances, become much more customized—treatments tailored to a single patient’s genome rather than to a widespread disease—the need for increased efficiencies has become more urgent than ever before.

While healthcare providers continue to focus on the delivery of improved patient outcomes and safety, they are also making significant changes to streamline processes while striving to comply with ever-changing and emerging regulations.

To this end, healthcare providers and suppliers alike are partnering with GS1 US as well as one another to champion industry initiatives and help government agencies to formulate regulations. The connection between voluntary initiatives and government regulations is increasingly evident as compliance moves from suppliers to healthcare providers. [See sidebar.]

For hospitals that are now on the frontlines of compliance and improving long-held processes in the interest of visibility, safety, and efficiency, new relationships within their own institutions are being forged. This is especially evident at Mercy, the fifth largest Catholic healthcare system in the United States.

Change Requires Collaboration

“For collaboration to be successful, there must be a partnership between all aspects of operations, including clinical, supply chain, finance, revenue, and other relevant functions,” says Matthew Mentel, executive director of Integrated Performance Solutions for Mercy.

Mentel leads a Mercy’s center of excellence team that focuses on driving improvements throughout Mercy’s operations. “Our team concentrates on finding new and better ways of helping our staff and clinicians work—improving processes that will deliver better outcomes to what our coworkers do on a daily basis,” continues Mentel. “Our focus is to improve patient care and the clinical experience.”

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Healthcare Providers and GS1 Standards: At the Center of Compliance

The 2013 **Drug Supply Chain Security Act (DSCSA)** mandated adopting lot-level standards among all supply chain partners, manufacturers and distributors. The DSCSA is now moving toward item-level serialization, which can be accessed by healthcare providers for patient safety in the next two years.

In 2013, the U.S. Food and Drug Administration (FDA) established the **Unique Device Identification** regulation to “adequately identify medical devices through their distribution and use.” When fully implemented by the 2020 deadline, the label on most devices will include a unique device identifier (UDI) in human- and machine-readable forms, ultimately readable by the caregiving community.

Healthcare providers have been at the forefront of the transition to Electronic Health Records (EHRs) as part of a mandate within the American Recovery and Reinvestment Act enacted in 2009. An important part of the EHR regulation provides criteria for doctors and other caregivers to be certified for “meaningful use.” The Meaningful Use Stage 3 requirements make it a requirement to capture UDI on implantable devices, beginning in 2018.

Throughout the evolution of these programs and regulations, GS1 Standards have provided the needed foundation for enabling compliance by pharmaceutical and medical device manufacturers, supply chain participants including distributors, warehouses, and shippers, and by healthcare providers—all with a focus on better patient outcomes and safety.

Mentel’s clinical colleague and collaborator agrees. “Before I came to Mercy, my vision of the supply chain organization was that they simply assisted us in what we needed in the OR, so that we could take care of patients,” says Betty Jo Rocchio, vice president for Perioperative Performance Acceleration. “I didn’t appreciate the complexity of the supply chain nor did I view it as a strategy. Processes like inventory management were somewhat foreign to me.”

System Preferences

The collaboration between Rocchio’s perioperative team and Mentel’s team began in earnest when Rocchio was trying to find efficiencies to optimize Mercy’s preference cards, the “recipe card” of the operating room that provides a set of instructions for the supplies and equipment required for every case or surgical procedure. Each surgeon may have a unique set of requirements spelled out for the procedures performed. Mercy’s 259 operating rooms within its 45 healthcare facilities in Missouri, Oklahoma, and Arkansas, are governed by preference cards for its thousands of cases.

“What I have come to learn is that preference cards really represent inventory management, not merely items on a list that we use in surgery.” Rocchio says. “I turned to Matt’s center of excellence team to examine the problem to see if there was any technology that could assist us in ‘cleaning up’ the preference cards.”

As the two teams began to tackle the preference card process, both recognized the value of taking a holistic approach. “Each of our functions had a different approach to the problem,” Mentel says. “So the challenge became, how do we do something that allows all points of view to come together for an integrated solution.”

“We expanded our scope and looked at enhancing our operational work flows, both clinical and supply chain. That was key,” Rocchio says.

The work Mentel’s and Rocchio’s teams had embarked upon dovetailed with the concurrent need to adopt processes surrounding UDI that were moving from healthcare manufacturers’ production lines into healthcare providers’ operations such as the OR.

In addition to leveraging the benefits of UDI in their systems, the inventory management aspects of the improvements are not inconsequential. Mercy’s ORs hold the dual distinction of being among the highest cost centers as well as the highest revenue-generating centers for the non-profit system.

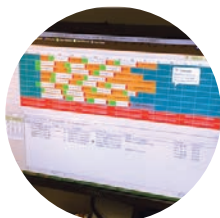
“We’re working to optimize our inventory, ensuring that the products we are bringing into the OR are managed by our supply chain colleagues and that the cost per case and the charges are accurately captured and documented,” Rocchio says. “This is huge for us because it’s how we both measure ourselves financially and, most importantly, document how we cared for the patient.”

No one remains naïve to the increases in healthcare costs. Institutions that can efficiently deliver superior care while they harness their costs will best serve their communities. And because surgical care is the most expensive, its cost-of-care makes it among the most conspicuous areas for improvement.

Surgical Precision

“Perioperative services represent from 40-50 percent of any hospital’s revenue stream. It’s essentially a business within a business,” explains Rocchio. “You have to deliver quality care to be successful in that business, but once you hit the quality care mark, you need to look at the cost of that care. And the very most successful organizations today and in the future are going to be delivering that same or higher quality for less cost.”

GS1 Standards in OR Workflow



1 A surgical case is scheduled and matched with a preference card.



2 Preference card items are picked and scanned, including products required, those that may be needed, and those that are supplementary.



3 Case cart enters the OR and products required and scanned are used during the procedure. Products that are needed and add-on products may be used, requiring a barcode scan before use.



4 Upon procedure completion, the case cart contents are verified via two-way confirmation.



5 Unused products are scanned and returned to inventory.



6 Consumed products are replenished as directed.

Being able to identify the exact products that an OR is using in every single case helps establish the cost and reduce risk to the patient. “GS1 Standards and barcodes allow us to consume a product, capture it in a highly technological system, identify any product expiry or recall and understand our true cost of care,” Rocchio says. “Mercy wants to know the cost of delivering that care so we can tie it to a quality outcome for comparative effectiveness.”

A new product may have clinical advantages, but it may be a device never seen before in the OR. A surgeon about to perform a complex procedure with an instrument or product never seen before can effect an unknown outcome. “That’s a lot of variability to work through,” Rocchio says. “There is a lot to consider—a contracting strategy, an item management approach, and a preference card process.”

“An accurate barcode that can be quickly and simply scanned by caregivers, so they can focus their complete attention on the patient and not try to interpret what was said by someone who manufactured that product three cycles ago. These are the things that are important.”

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A unique product identifier like the GS1 Global Trade Item Number® (GTIN®) helps the system track the product origin, its cost, its attributes, including expiration date, and once consumed its contribution to patient well-being 30, 60 or 90 days post-surgery. Post-market surveillance of the patient is possible when data is linked. And data can be linked with help from barcodes based on GS1 Standards.

“Product identification becomes so important in this instance. The reality is that on the clinical side, it’s not about cost. It’s about ‘how do I make sure I reduce risk and provide the best possible care to the patient?’ Using barcodes based on standards allows us to deliver healthcare consistently and into the future,” says Rocchio.

“An accurate barcode that can be quickly and simply scanned by caregivers, so they can focus their complete attention on the patient and not try to interpret what was said by someone who manufactured that product three cycles ago,” Mentel adds. “These are the things that are important.”

A Full Circle

But the true measure of its success is the widespread collaboration Mercy has been able to achieve. Hospital representatives proudly tell the story of the surgeon who asked to use a product before it was scanned. The circulating nurse stopped the surgery and said, “Doctor, please recognize we’re scanning a product to make sure it’s been properly identified, to see if it’s been recalled or expired before you put it in that patient’s body. Do you want to go around that process?” He did not: “Scan the product. I can wait that 30 seconds.”

There are still obstacles to seamless operations, in both senses of the word, some of which are occurring upstream. Manufacturers may not be applying the proper barcodes to products or are applying multiple barcodes that can be a source of confusion in the OR. Some suppliers are using a single GTIN for several similar, but not identical, products. These issues associated with the implementation of standards and barcodes are being corrected throughout the healthcare supply chain and will eventually impact providers like Mercy.

Rocchio has high praises for the changes being realized by the use of GS1 Standards in product identification. She urges the improvement of the preference cards themselves—the roadmap to any surgical procedure, some of which may not have changed in years.

“Charges are taken from the preference card. Now we have a system for keeping preference cards cleaned up. We have a system for scanning products. And the back half of the system checks us to make sure what we brought into the room is consumed and charged or it shows up to be put back in inventory. It goes full circle to make sure we’ve obtained charge capture,” Rocchio says.

Rocchio believes this ultimately leads to improved clinical user satisfaction. She also emphasizes: “I’m not making any more money by optimizing charge capture, but what I am doing is being able to provide the true cost of care in every single procedure.”

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Bottom-Line Benefits

Both Mentel and Rocchio stress how standards are helping in the important area of inventory management—not expending labor pulling unneeded product that then has to be returned to inventory.

“It may seem a low priority, but the amount of time spent on a redundant activity increases your risk of inaccuracy. And obviously optimally managed inventory is huge for everybody. You must have complete visibility to what you have if you want to optimize it,” Mentel says.

The partnership between business operations and clinical operations is clearly one of the keys to Mercy’s ongoing success in adopting GS1 Standards throughout the system, not just as a means of compliance, but leveraging standards to make vast system improvements. More than just generating data, barcodes accelerate pre-op and post-op processes because information is instantly available and inventory replenishment is vastly improved.

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The charge capture improvements equal more than \$340 in additional charge capture per surgical case. With over 250 operating rooms doing multiple procedures every day of the year, the cost capture improvement equates to tens of millions of dollars now documented by Mercy.

“You can’t have this unless you have unique product identification. It’s the barcodes that facilitate this capture and reduces the burden on operations,” Mentel concludes. Rocchio adds: “Healthcare systems cannot afford to ignore GS1 Standards for UDI and so much more. It’s going to be the foundation of our business, our future.”

To learn more about how GS1 Standards in healthcare, visit www.gs1us.org/healthcare.

Impact of GS1 Standards in OR Operations



Realizing unrecognized inventory assets

\$2.4M



Improving inventory utilization

\$4.7M



Optimizing charge capture

\$13M



Improving preference card accuracy

\$459K



Automating replenishment

\$4.8K



Reducing cycle counts

\$167K



Improving clinical user satisfaction



Optimally managing owned vs. consigned inventory

CLINICALLY LED

OPERATIONALLY DRIVEN

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About the Organizations

About Mercy

Mercy was founded by the Sisters of Mercy in 1986, but its heritage goes back more than 185 years. It began with an Irish woman named Catherine McAuley, who wanted to help the poor women and children of Dublin. Though Catherine had a modest upbringing, she received an unexpected inheritance that allowed her to fulfill her dreams. In 1827, she opened the first House of Mercy in Dublin, intending to teach skills to poor women and educate children. Many volunteers came to help. A few years later, Catherine founded the Sisters of Mercy, the first religious order not bound to the rules of the cloister, whose Sisters were free to walk among the poor and visit them in their homes. By the time Catherine died in 1841, there were convents in Ireland and England, and in 1843, the Sisters of Mercy came to the United States. In 1871, they traveled to St. Louis and from there throughout the Midwest, beginning what would, today be known as Mercy. www.mercy.net

About GS1 Healthcare US

GS1 Healthcare US® is an industry group that focuses on driving the adoption and implementation of GS1 Standards in the healthcare industry in the United States to improve patient safety and supply chain efficiency. GS1 Healthcare US brings together members from all segments of the healthcare industry to address the supply chain issues that most impact healthcare in the United States. Facilitated by GS1 US, GS1 Healthcare US is one of more than 30 local GS1 Healthcare user groups around the world that support the adoption and implementation of global standards developed by GS1®. www.gs1us.org/healthcare.

About GS1 US

GS1 US®, a member of GS1® global, is a not-for-profit information standards organization that facilitates industry collaboration to help improve supply chain visibility and efficiency through the use of GS1 Standards, the most widely-used supply chain standards system in the world. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading partner collaboration that optimizes their supply chains, drives cost performance and revenue growth while also enabling regulatory compliance. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code-based RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®). www.GS1US.org

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