United States

Fulfilling a vision of digital transformation with GS1 standards

**Challenge**
The Franciscan Missionaries of Our Lady Health System (FMOLHS) is a non-profit healthcare system serving more than half of Louisiana’s population. As a Catholic ministry, FMOLHS provides $39 million yearly in non-reimbursed care and community support for the underprivileged. Challenged by the rising costs and growing complexity of delivering quality healthcare, FMOLHS needed to improve its operational efficiencies, control costs and remain focused on what mattered most—the safety and care of its patients.

**Approach**
To help drive the digital transformation of its critical processes, FMOLHS took the strategic step to implement GS1 standards. Working closely with its suppliers and GS1 Healthcare US® Initiative solution providers, the health system laid a firm standards-based foundation that integrated with its software-based systems, to manage and control product inventory and location information.

The Franciscan Missionaries of Our Lady Health System is a healthcare innovator, with hospitals, clinics and physicians located throughout Louisiana—making it the state’s largest health system. In 2012, the Vice President of Supply Chain led the strategic decision to implement GS1 standards to support the automation of the health system’s supply chain and clinical processes. Since then, implementing GS1 standards has proven to be a multi-year undertaking, involving all five hospitals, their subsidiaries and affiliate organisations and several community hospitals.

“With unique identification in place, we explained [to suppliers] how we could all benefit, especially our patients. By using the GTIN, we confidently pull the right product, for use in the right procedure, for the right patient, and at the right time.”

Sandi Michel
System Director, Supply Chain Strategy, Data Standards & Interoperability
FMOLHS

**A strategic decision for patient safety**
As a health system focused on patient safety and outcomes—from blood banks to physicians’ practices to imaging centres—and with a state-wide footprint from Baton Rouge to Bogalusa and from Lafayette to Lake Charles—FMOLHS has made GS1 standards an important pillar of the institution.

“By implementing global standards, our primary goal has been to improve patient care and safety,” says Sandi Michel, System Director of Supply Chain Strategy at FMOLHS. “To do this, we are focused on significantly increasing the efficiency of our operations and the control we have over the products we use.”

Since this initial meeting, FMOLHS continues to work with its suppliers to implement GTINs encoded in GS1 two-dimensional (2D) GS1 DataMatrix barcodes. The health system has also conducted pilots with seven manufacturers to share product data (based on GTINs) for purchasing transactions.

“We soon moved to a GS1-certified data pool and started sharing product data (i.e., GTINs and other valuable information) with our suppliers via the Global Data Synchronisation Network™ (GDSN®),” says Ms. Michel. “Our plan has been to standardise on the use of the GTIN for all items purchased and used inside our system. While we are always looking for the best products to use for our patients, standardising on one, two, or even three products gives us the advantage of having accurate and complete data for comparison purposes and, ultimately, for making the best buying decisions.”

As FMOLHS has become increasingly committed to standardisation, it has also become committed to working only with manufacturers that use the GS1 system of standards.
Office of data standards and interoperability

FMOLHS took an unprecedented step to establish a separate group to drive the implementation of GS1 standards—the Office of Data Standards and Interoperability. The group includes Sandi Michel and five managers who were charged with taking GS1 standards “as deep into the FMOLHS system as possible.”

“Rather than ‘adding on’ the standards implementation responsibility to a person’s existing job, we decided that a dedicated team was needed to drive the desired change,” says Ms. Michel. “We worked across the health system with operations professionals, supply chain specialists, clinicians and nurses to transform processes with standards.”

Executive support is also critical for the team’s success. “Our Vice President updates the CFO, CEO and all of the hospitals’ CEOS about our progress,” explains Ms. Michel. “We could not have achieved all that we have without this high-level support.”

After six years of accomplishments—progressing through each phase of implementing GTINs, GLNs, the GDSN and clinical integration—the five managers moved into positions in other supply chain organisations, such as Supply Chain Strategy, MMS and Resource Utilisation and Value Analysis, where today they continue to influence the use of GS1 standards throughout the health system.

“Today, approximately 85% of implants that come into our warehouse are uniquely identified with GTINs,” says Ms. Michel. “We have evolved to the point where the use of GS1 standards is now a requirement for manufacturers that supply products to our health system. It’s that important to us.”

Another building block of the GS1 standards foundation is the GS1 Global Location Number (GLN) that uniquely identifies each location within the FMOLHS health system. Today, all FMOLHS locations have each been assigned their own GLN.

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“We created a hierarchy of locations—from the five large hospitals to the smaller hospitals and the physician clinics, all the procedure areas and other facilities, such as imaging or tissue banks,” says Ms. Michel. “We assigned GLNs to places where products are stored, like a cart in the ‘med-surge’ area, a closet in a given department, or even a shelf in a closet on a certain floor. This precise level of identification is needed to better manage inventory and ultimately, deliver outstanding patient care.”

Supporting the best unit of measure

The use of GTINs, GLNs and GDSN has enabled FMOLHS to better manage its inventory—such as MRIs, MRIs, MRIs, and MRIs. The GS1 healthcare record eliminates mistakes when capturing and recording the correct GTIN, expiration date, batch/lot number, and serial number since there is no human intervention, i.e., mistyped, transposed or omitted numbers.

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“In fact, FMOLHS is using GS1 standards to provide the ‘best unit of measure’ to any location in its system identified by a GLN. Whether a case, box or single unit, the best unit of measure—and in the requested quantity—is ready for just-in-time delivery. For instance, if an FMOLHS clinic needs just three items out of a case of 24, the warehouse is able to divide the order, scan the items’ barcodes to capture the product data, and then put the three items in a tote headed for the clinic, with the rest divided among other facilities.

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Taking standards to the OR and EHR

As products are used in the FMOLHS operating rooms (ORs), nurses scan their barcodes to capture data about the products used in patient procedures and for the Epic EHR system. “By scanning barcodes, we are using virtually a foolproof method to capture crucial medical information and populate each of our patient’s healthcare record,” says Ms. Michel.

Scanning barcodes directly into patients’ healthcare records eliminates mistakes when capturing and recording the correct GTIN, expiration date, batch/lot number, and serial number since there is no human intervention, i.e., mistyped, transposed or omitted numbers.
Before scanning, a product’s digits or alphanumerics could be transposed when typed into a patient’s records. The error would go undetected unless the record was accessed for an explant, a recall or other reason. “This is very risky to the patient receiving implantable life sustaining and life supporting devices,” advises Ms. Michel. “Now, scanning in the operating room eliminates or mitigates that risk.”

Scanning barcodes also updates inventory records in the Tecsys warehouse management system and in FMOLHS’ medical device management system called UDITracker®, provided by Champion Healthcare Technologies, a GS1 Healthcare US Initiative member.

“Our UDITracker system can download and report on implantable product information—stored in the Epic EHR system—by patient record,” explains Ms. Michel. “That includes the implant’s size, serial number, batch/lot number, and expiration date, to name a few. If a product is recalled, we can easily run a report to identify each patient who received that implant.”

“Because nurses scan tissue product barcodes, we can monitor the tissue on hand by expiration date, removing those that are about to expire to prevent using them in error,” continues Ms. Michel.

In the event of a recall, each location can be alerted to pull the products from inventory within minutes—a patient safety measure that would have taken days or even weeks before GS1 standards were implemented.

“If the item is sitting on the shelf, we access the automated inventory management system and go right to the shelf to pull the product,” says Ms. Michel. “If the product is an implantable device, we can search in the system and locate the serial number, patient’s account, and notify the surgeon. The surgeon would then notify the patient.”

If Joint Commission International (JCI)—the hospital accreditation organisation—conducts an audit, FMOLHS has a complete and accurate picture of inventory labeled with GS1 standards, throughout the system. By using GTINs linked to case numbers—rather than individual patient names—FMOLHS can stay within the confines of Health Insurance Portability and Accountable Act (HIPAA) rules.

Sending nurses back to patient care

Educating nurses about scanning barcodes

“Our nurses were very receptive to scanning barcodes versus manually entering the product data into our systems,” says Ms. Michel. “It saves them a significant amount of time and is much more accurate since inputting a string of digits can be prone to errors.”

Ms. Michel and her team have worked with nurses to educate them about “which barcode to scan on packages when multiple barcodes are present. They [nurses] have become so familiar with us that they still call to ask questions and save packages with barcodes that produce errors,” Ms. Michel explains. “We investigate why the barcode didn’t properly scan and fix the problem with the supplier, so that it doesn’t happen again. It takes time, but it’s worth the effort since our nurses will save time in the future and the information captured will be accurate in our patients’ records.”

As FMOLHS has gained more and more experience with scanning barcodes, they have been able to provide valuable feedback to manufacturers. With small tubes where conventional scanning proved difficult, for example, manufacturers found that the GS1 DataMatrix barcode was needed. “The 2D GS1 DataMatrix is a robust barcoding solution for products with limited space since it holds a significant amount of information within a small footprint.”

FMOLHS also found barcodes printed on reflective material could be difficult to scan, so they developed workarounds, while sharing this finding with manufacturers.

The analysis included the cost per case, by procedure, by physician and by products used. Today, patient outcomes are also considered as well as other types of information like labour costs, time in the OR, facility overhead and reimbursements.

“Without standards and the traceability they enable, this level of evaluation would be difficult, if not impossible,” says Ms. Michel. “By using GS1 standards, our surgeons can now see what it costs for a procedure, the anticipated patient outcome, the length of recovery time—all the pieces of information invaluable to informed healthcare.”

“We initially thought that physicians would not want to share this kind of information, but we were wrong,” continues Ms. Michel. “They are not only proud of their work and successes, they also want to share and learn from each other.”

Detailed reporting is going to continue at FMOLHS, with the information going back to the CMO who collects data on the right products, the right physicians, the right facilities and the cost associated with every piece of patient care. The system is even considering analyses of reimbursements from insurance companies based on its detailed data.

“We’re not really worried about the cost itself, but we want to be responsible to FMOLHS to say we are buying the right product by getting a 100% accurate picture,” Ms. Michel says. “We’re not interested in the cheapest. We’re looking for the best.”

Ms. Michel offers the recent introduction of a new product. Based on visibility about the cost and corresponding effectiveness of the product used in procedures, the CMO can now take this insightful information back to the physicians for further analysis or decision about whether to continue to use it.

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1 For more information about JCI, see www.jointcommissioninternational.org
2 For more information about HIPAA, see www.hhs.gov/hipaa

Collaborating for multiple wins

Ms. Michel recommends to “just get started” and work with GS1 US to learn about implementation best practices.

The FMOLHS system-wide use of GS1 standards is truly one of the most comprehensive examples in a healthcare environment.

“Using GS1 standards and standardisation is a win-win in automating our business and clinical processes. It’s a win for the patient in increased safety, it’s a win for the nurses and clinicians in time-savings, accuracy and tracking. It’s a win for the physicians that information is captured in a patient’s record and they can match outcomes to products and procedures. It’s a win for hospital management because data helps shape policies and protocols.”

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They have chosen to fully leverage global standards to realize widespread efficiencies, cost- and time-savings, as well as delivering patient safety practices to a greater degree than was once possible.