

**THE STRATEGIC POSITIONING OF INTEGRATED
SUPPLY CHAIN MANAGEMENT TO HELP FMOLHS
DURING COVID PANDEMIC****AUTHORS**

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FMOLHS OVERVIEW

The Franciscan Missionaries of Our Lady Health System (FMOLHS) is a leading health care innovator in Louisiana and Mississippi, bringing together outstanding clinicians, the most advanced technology, and leading research to ensure patients receive the highest quality of healthcare service and safest care possible¹. This commitment is grounded in a history that goes back to 100 years, and reflected today by the strategic vision of transforming healthcare through superior performance and excellent patient care. Headquartered in Baton Rouge, Louisiana, FMOLHS serves patients across Louisiana and Mississippi. It has a network of hospitals, clinics, physicians, elderly housing, and integrated information systems. The system manages seven hospitals in that region, including a new Children's Hospital with a 30-bed intensive care unit, 40 medical/surgical inpatient beds, and a hematology/oncology floor with 30 inpatient specialized beds. It is a non-profit organization and also helped the state of Louisiana when the state decided to privatize its hospitals. FMOLHS took on hospitals that were about to close and kept them open so that the communities received the necessary health services. As of July 2020, when the interview with the FMOLHS Director of Supply Chain Strategy, Sandi Michel occurred, there were 1,747 licensed beds and 14,000 employees. FMOLHS provides healthcare to almost half of Louisiana's citizens and serves in Mississippi's largest metropolitan area. In July 2019, FMOLHS acquired St Dominic Health System in Jackson, Mississippi, which is the only catholic health system in Mississippi—increasing the already existing coverage further, geographically.

FMOLHS started the process of standardizing and centralizing all the hospitals under one umbrella for supply chain management purposes in 2013. It started the negotiations across the board for the enterprise-wide, interoperable systems. FMOLHS does not have a contract specific to one hospital for Supply Chain, but a contract for the health system for master data management, the only exception is St Dominic's, and FMOLHS is in the process of moving it under the FMOLHS Supply Chain umbrella. The vision of the health system Supply Chain is to have a fully standardized and centralized, interoperable health system.

In 2015, FMOLHS opened its central distribution center and a wholly-owned warehouse --- FMOLHS Central

Distribution Center L.L.C., located in Baton Rouge, LA. LOGISTICS ONE provides warehouse management, supply replenishment, supply delivery, transportation, and shipping/receiving services for all entities within the health system. It is a state-of-the-art Central Service Center, is 133,000 square feet of a secure, climate-controlled environment that is used to maintain and deliver medical supplies to all acute care facilities. We have a picking accuracy and fill rate higher than 99%. LOGISTICS ONE was built to take advantage of being FMOLHS's distributor to gain control of product flow, leverage supply chain principles for value creation opportunities, create/build better supplier relationships, create a platform for logistically aligned services, allow facilities to order as needed, and eliminate much of the excessive inventory at facilities. LOGISTICS ONE also offers courier and delivery services to all FMOLHS facilities.

LOGISTICS ONE is co-located with the Supply Chain Headquarters in Baton Rouge, Louisiana. FMOLHS serves all the facilities itself, and they have a fleet of trucks for delivery every day or every alternate day. So FMOLHS facilities get service as needed. With the onset of the COVID 19 pandemic, there was an agreement made to have same-day delivery if any item was required for the frontline and the patients.

THE ONSET OF COVID 19 IN LOUISIANA

With the onset of the COVID-19 impact in Mar 2020, Louisiana was one of the hot spots initially². Furthermore, with the Mardi Gras events happening in Feb 2020, the number of cases rose in the state. All of the hospitals in Baton Rouge, New Orleans, Shreveport, Lafayette, Monroe, and Bogalusa in Louisiana were affected. Fortunately, FMOLHS had finished their Disaster Recovery Plan for Hurricane season. The Plan is developed earlier in the year, because they are close to the Gulf of Mexico and the community experiences hurricanes almost every year, with hurricane season beginning in June through November. FMOLHS had many products on hand for the necessary COVID program and were able to draw from the Disaster Recovery Hurricane program as well.

In the early days of COVID 19, FMOLHS started a task force for the entire health system. The Vice President of the Supply Chain was a member of the task force and was able to communicate the needs to get the funding for COVID products for the frontline clinicians and facilities staff. The FMOLHS Supply Chain team was considered essential when the decision was made to determine the level of involvement of the Supply Chain Teams at each facility. The Supply Chain team is essential in getting the Personal Protective

¹ <https://fmolhs.org/about-us/>

² <http://ldh.la.gov/Coronavirus/>

Equipment to the frontline and the patients when it was needed. FMOLHS Supply Chain created a Supply Chain Command Center and established a Pipeline Team within the sourcing group, who would handle all negotiations of all the products over and beyond what FMOLHS typically bought. The organization also brought over 600 new vendors into a funnel, and within the list, found the vendors that provided the necessary items they would need. *“FMOLHS was never without a product that was required for the frontline. Disaster preparedness was a high priority,”* Sandi Michel said during her candid interview with the authors.

PERSONAL PROTECTIVE EQUIPMENT CHALLENGES

While most of the health systems in the country were struggling with the supply of Personal Protective Equipment (PPEs), FMOLHS did not face such issues as they were strategizing early to get the best benefit. They had a clear outline to determine the level of mask requirements for each procedure and area and were able to identify the areas and facilities that needed the N95 masks the most. To assess the level of mask requirements, the supply chain team worked with the infection control group to evaluate the level of exposure to patients at all facilities. The focus was to ensure that the staff and the patients were minimally exposed, primarily the frontline staff dealing with COVID 19 patients. Staff involved in procedural activities typically required a lesser level of mask protection. FMOLHS partnered with Healthtrust as their Group Purchasing Organization (GPO). Healthtrust was instrumental in sourcing much needed PPE for FMOLHS. The community came together to help hospitals across the state. LSU at Baton Rouge made surgical gowns, and people all over the state made masks and face shields. Many gowns and masks came as donations, and the whole activity of philanthropy was well-coordinated within The Franciscan Foundation, FEMA, and the state health system. A local business approached one hospital in Louisiana to providing face shields. Other businesses offered hand sanitizer, masks, and shields. These actions of philanthropy exemplified the multiple levels of support from various institutions and community people in the state.

IV PUMPS IN HALLWAYS

In an effort to optimize and reduce Personal Protective Equipment (PPE), the FMOLHS team pulled the Infusion Pumps (IV pumps) into the hallways using extension tubing, so the clinical team did not have to disturb the patient by entering the room (See Figures 1 and 2). Each time they entered a patient’s room, it required a complete change of PPE. By doing away the need to go into the patients’ rooms unnecessarily, and changing masks, gowns, head covers, and shoe covers, every time, FMOLHS conserved precious PPE.

The patient could be viewed through a glass window, and they could monitor the patients from the hallways. This action resulted in some savings and minimal disposal of gowns and masks and other personal protective equipment. The decision to extend the sets to outside of patients’ rooms reduced the frequency of exposure that nurses otherwise experience by going into the patient rooms. However, this arrangement also involved the organization of several other issues, such as setting up and availability of electrical outlets, shortage of cords, appropriate diligence in monitoring and responding to multiple alarms, and avoiding confusion and hazards in the hallways due to multiple instruments. However, the decision to implement the IV pumps in the hallway strategy was taken while weighing the pros and cons that the risk is worth the benefits. A few other hospitals have also followed similar strategies during COVID-19, as reported by some other articles in the press^{3 4}.

FIGURE 1: IV PUMPS IN HALLWAYS IN FMOLHS (JULY 2020)



³ <https://www.medtechdive.com/news/the-latest-coronavirus-shortage-hospital-infusion-pumps/575891/>

⁴ <https://ismp.org/resources/clinical-experiences-keeping-infusion-pumps-outside-room-covid-19-patients>

VENTILATORS ISSUES

FMOLHS did not face many issues with the shortage of ventilators. They used the ones that they had on hand and ordered additional units. They were also provided with help from FEMA for the allocation of ventilators. In total, they had around 300 ventilators. The ventilators were dispersed throughout the health system, and FMOLHS could move around the units to locations as needed within the network system. The health system also got help from the Federal government and donations from different businesses in the community. FMOLHS also purchased additional ventilators for the fall of 2020, anticipating a surge in the number of COVID cases. The pipeline was always monitored until the supply chain team felt comfortable. VP of the Supply Chain regularly sat in meetings with the rest of the CEOs of the hospitals and the task force to ensure that the supply chain could get products to the frontline on time and as per demand.

COMMUNICATION AND TEAM WORK

The communication and the integration between the supply chain and the clinical area were extensive and very helpful. There were calls three times a day, or as needed as well as daily calls within all sections of the supply chain itself. There was excellent communication and coordination between clinicians and the supply chain team. Directors of the supply chain for hospitals frequently meet the clinicians. Anticipating an increase in COVID cases, a new ICU in a different unit could be opened in a day. Teamwork between the supply chain staff and clinicians helped ensure the right products were available from LOGISTICS ONE to the hospitals, or from hospital to hospital. *“What else can I do to help?”* was the level of motivation of the team. *“The health system staff knew that they were dependent on each other. Furthermore, it was critical for the supply chain to know what was needed immediately and for the future. Communication and teamwork were key.”* stated Sandi Michel in the interview.

CRITICAL ITEMS REPORT

The supply chain team created a critical items report that reported average daily use of identified critical items, the forecast of items for the coming days, the run rate, what was on order, and where were the vulnerability areas in supply. Initially, most of the trends were based on the previous seven days run. With celebrations and mass gatherings on occasions such as Father’s Day, Mother’s Day, and Independence Day, the number of days was reduced to the past three to five days to get the most current run rate.

INTEGRATED SUPPLY CHAIN

FMOLHS had a robust integrated supply chain that was based on a collaborative Information Technology (IT) Platform. In 2012, FMOLHS decided to have a fully integrated supply chain. They started with GS1 Data Standards⁵, with 7 large suppliers in a pilot program. FMOLHS built Global Trade Item Numbers (GTINs)⁶ in their Enterprise Resource Planning (ERP) software; Global Location Numbers (GLNs)⁷ were assigned to each facility and went all the way down to each Periodic Automatic Replenishment (PAR) location, on a shelf, in the room, on a floor, in a hospital.

FMOLHS has established a robust GLN hierarchy. FMOLHS also started a program known as the “best unit of measure” in 2016. The warehouse built a special area that has items broken down to each level of allocation and then picked and delivered items to the facilities every day based on the unit of measurement ordered, such as a single item or a box of items. “Best unit of measure” uses GLN of the par location to deliver. The process was in place since 2016 and expedited the delivery of items for Covid-19. When a facility needed an item, the supply chain had what they needed. Scanning is performed at all facilities, including the operating rooms.

In 2015, FMOLHS established The Office of Data Standards and Interoperability to assist in meeting ONC HIT and FDA requirements and regulations. This effort included Automatic Information Data Capture (AIDC), including all GTINs and GLNs made available by manufacturers and Suppliers. Inspired by the touchless order, FMOLHS implemented perpetual inventory replenishment and Kanban PAR replenishment. FMOLHS uses Champion UDI Tracker, a hosted solution that provides storage, alerts, notifications, and 90/60/30 days’ notice for expiration dates for Unique Device Identification (UDI) and Production Identification (PI), and Tissue Tracking. They also use ManageRecalls for tracking product recalls and documenting the process electronically from notification to final product disposition. FMOLHS engaged FSEnet to notify all the suppliers that FMOLHS intended to use GS1 Data Standards, and one of the requirements for suppliers is to load their GTINs and GLNs into the Global Data Synchronization Network (GDSN)⁸. FMOLHS asked suppliers to provide FSEnet with their GLNs and GTINs in alignment with FMOLHS’s vision.

COST CUTTING

FMOLHS identified areas to reduce costs and optimize expenses. These included: (1) cutting down on non-essential travel, (2) allowing approximately 2000 employees to work from home (WFH), (3) temporarily closing some facilities

⁵ <https://www.gs1us.org/industries/healthcare>

⁶ <https://www.gs1.org/standards/id-keys/gtin>

⁷ <https://www.gs1.org/standards/id-keys/gln>

⁸ <https://www.gs1.org/services/gdsn>

due to directions to stop elective and non-essential surgeries and procedures, utilizing existing suppliers with a proven record of on-time delivery for sourcing and maintaining reasonable prices. FMOLHS provided more than \$39 million in unreimbursed care as well as community support to the underprivileged during the most recent fiscal year. As a Catholic ministry, FMOLHS continues to help the people most in need.

HEALTH TRANSFORMATION GROUP

FMOLHS is part of the Health Transformation Group (HTG)⁹. Five healthcare systems, including Geisinger Health System, Intermountain Healthcare, Kaiser Permanente, Mayo Clinic, and Mercy, came together in 2010 to form a collaboration network called the Healthcare Transformation Group (HTG). The objective is to share best practices, collaborate, and induce positive change across the healthcare supply chain. FMOLHS became part of this group in 2019. FMOLHS, being a strong supporter of GS1 and AHRMM, provided additional value to the collaboration.

A significant focus of HTG is the implementation of GS1 Standards. GS1 standards include Global Location Numbers (GLNs) that identifies 13-digit numbers with the legal entity/trading partner, and Global Trade Item Numbers (GTINs), the GS1 System Identification Number that uniquely identifies trade items at all levels of packaging. HTG group provides a significant collaboration platform.

CONCLUSION

“Within FMOLHS, the Supply Chain appears to have the sourcing of PPE under control, but in the state of Louisiana, the number of COVID cases is rising. As a result of the July 4th holiday and other celebrations, there is a community effect. The cases are rising, but we are prepared, constantly reestablishing thresholds, and replenishing PPE inventory as quickly as we can. Decisions made over the last ten years helped us to handle the pandemic”, were the concluding remarks by Sandi Michel.

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ABOUT SANDI MICHEL, EXECUTIVE OF FMOLHS

Sandi Michel is the Director of Supply Chain Strategy for Franciscan Missionaries of Our Lady (FMOLHS) Health System for the last ten years. She led the Supply Chain Command Center supporting the whole health system. Before that, she was the Director of Network Services at AT&T for 30 years.

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⁹ <https://www.healthcaretransformationgroup.com/about-htg>