

Supply chain operational transformation saves \$23.7 million

Health system supply chain transitions from siloed and transactional to a clinically integrated, strategic value driver

UMass Memorial Health Care Worcester, Mass.

UMass Memorial Health Care, the largest health care system in central Massachusetts, is the clinical partner of UMass Medical School, with access to the latest technology, research and clinical trials. The health system includes three hospitals and eight campuses, home health and hospice programs, behavioral health programs, and community-based physician practices, as well as:

- 1,125 beds
- 1,700 physicians on its active medical staff
- 3,000 registered nurses
- 13,000 employees

Challenge

When Eric Dickson, MD, assumed the role of president and CEO of UMass Memorial Health Care in early 2013, the organization was experiencing many of the symptoms common to health systems across the country. Shrinking reimbursements and increasing labor costs proved to be constant financial challenges. Daily regulatory changes and the shift toward value-based care required additional staff hours to manage. These externally imposed challenges were beginning to take a toll on the health system's employees, who responded by focusing on the transactional and tactical requirements of their roles to keep things moving.

Sergio Melgar joined UMass Memorial Health Care as executive vice president and chief financial officer less than a year later. Together, Dickson and Melgar brought a fresh perspective and a strong desire to transform the organization from one focused on addressing the daily trials of the changing health care landscape to a high-performing health system that could prosper despite the industry's many challenges.

To determine where to focus improvement efforts, leadership evaluated results from several organizationwide gap assessments that identified supply chain as an area in need of improvement. UMass Memorial uncovered both short- and long-term supply chain improvement opportunities — including quick wins to help streamline costs by identifying price discrepancies and the potential to transform supply chain into a strategic asset to the organization.

Understanding the need to improve, UMass Memorial had two options: build up supply chain capabilities internally or unleash the capabilities and experience of an expert organization that could optimize operations and accelerate speed to value.

92%

UMass Memorial increased total price accuracy from 68% to 92%

15%

Open orders greater than 30 days decreased from 58% to 15%

“We developed a supply chain that supports the organization’s strategic initiatives, delivers value and continues toward the ultimate goal of clinical-supply integration. And with the right expertise and guidance, we’ve achieved these things more quickly than we ever expected.”

Sergio Melgar

Executive Vice President and Chief Financial Officer
UMass Memorial Health Care

Solution

Transforming supply chain into a strategic value driver

The health system first wanted to assess partnering with a firm that could bring supply chain expertise, as well as capabilities for implementation and results accountability. UMass Memorial considered three vendors to help build their supply chain capability. “I believe that leadership realized their journey could be accelerated, and they had greater confidence that they could achieve the results they were targeting, by using this strategy,” said Ed Bonetti, vice president of supply chain at UMass Memorial Health Care and adviser on the Vizient® implementation team for UMass Memorial.

“Vizient has a long history with UMass Memorial and was a logical starting point for consideration in the selection process,” said Melgar. On Jan. 1, 2016, UMass Memorial began a five-year engagement with Vizient to manage its supply chain operations and help transform the department from a transactional operation into a strategic asset.

The health system's leadership team welcomed the challenge. “Our leadership had the sincere desire to see this supply chain organization not just survive but rise to the role it was meant to play within UMass Memorial as a whole — as a strategic partner, a value driver, and an efficient, best-in-class supply chain,” said Melgar. “We saw it as our responsibility to provide guidance and support to achieve that goal as quickly as possible, while also positioning the group for future success.”

Road map to supply chain operational improvement

Before the improvement plan was initiated, health system leadership evaluated all talent, capabilities and technological needs within supply chain operations. This would allow the organization to focus on its core competencies of delivering quality health care and supporting its communities. “Supply costs at UMass Memorial ranged between 35 and 40 percent of the health system’s total operating expenses when the engagement began, so this represented a large area of opportunity for us,” said Therese Day, chief financial officer at UMass Memorial Medical Center. “We knew that with the right focus we could reduce cost and improve efficiency.”

Strategy

UMass Memorial and Vizient focused on strategy, the first step of the Vizient roadmap of engagement deliverables. This included evaluating the current supply chain operational strategy and ensuring that it aligned with the health system’s overall strategy. “Many supply chain leaders overlook this critical step when building the supply chain improvement plan. If they overlook this critical step, they often mistake a set of initiatives or a tactical to-do list for a strategy. They are not the same,” said Bonetti. “The strategy provides the foundation and the compass to guide your initiatives. From there, the initiatives are broken down into tactics that the entire team can get behind to move in the direction you need to go.”

“The perioperative team worked through the steps of the newly implemented value analysis process, resulting in both a substantial savings and surgeons and clinicians who were extremely satisfied with the high-quality products we chose.”

Demetrius Litwin, MD
Chairman of Surgery
UMass Memorial Medical Center

Data integrity

With a solid strategy in place, the team at UMass Memorial turned their attention to their supply chain operational data. Supply chain operational improvement requires baselines against which to compare your improvements, so data is important. In addition, credible data is critical when engaging financial and clinical colleagues. “If you’re presenting financial information and/or engaging clinicians regarding product selection, your clinical comparisons must be clean and able to withstand scrutiny. You will have to work through initial resistance when clinicians encounter change, and credible data allows you to start a dialogue and begin to move the needle,” added Bonetti.

Data integrity begins with item master management. Approximately 95 percent of the average health system’s purchase order lines tie back to a product item that is managed in the item master file. If that item master data is unreliable, even the best efforts to manage cost and deliver savings may be insufficient. When the engagement began, the item master data file was correct 59 percent of the time. The team ensured that each item file contained the correct contract price to reduce purchase order (PO)-to-invoice errors. In addition the team established a process for adding item file data to improve overall item file data integrity. Within three years, item master data was correct 98 percent of the time, saving the health system \$12.41 per inaccurate item record. This represented a 2.5-to-1 return on investment (ROI).

UMass Memorial Health Care saved \$23.7 million in just three years — surpassing the five-year engagement goal of \$23 million.

Procurement automation

Approximately 54 percent of purchasing transactions at UMass Memorial were automated when the team turned its attention to procurement automation in January 2016. To increase that percentage, the team implemented Vizion eCommerce Exchange and Transaction Management. With greater transaction automation, staff have more time to focus on strategic activities.

The proprietary Vizion eCommerce Exchange electronically connects UMass Memorial providers with suppliers and automates purchase orders, purchase order acknowledgement and invoices using electronic data interchange (EDI). Through eCommerce Exchange, the health system saves approximately \$3 per PO, with an ROI of 4-to-1.

Transaction Management enables Vizion analysts to work as an extension of the UMass Memorial purchasing department, using eCommerce Exchange to help standardize business practices and coordinate the resolution of PO-to-invoice price discrepancies. This allows the organization to conduct EDI, even with smaller suppliers that are not EDI-capable. UMass Memorial saves \$8 per discrepant PO line, with a 3-to-1 ROI.

Increasing KPIs:

Total price accuracy (match rate between PO and invoice)

- March 2015: 68%
- June 2018: 92%

Discrepant invoices greater than 30 days as a percentage of total POs:

- October 2015: 3.5%
- May 2018: 1.04%

Open orders greater than 30 days:

- November 2015: 58%
- May 2018: 15%

By June 2018, 82 percent of purchasing transactions within the health system were automated. Instead of sending faxes and returning phone calls, supply chain employees now dedicate more time to value-added activities — making supply chain operations much more efficient.

Tracking and continuous improvement

In addition to item master data accuracy, Vizient includes other key performance indicators (KPIs) against which to measure its performance. The health system can continue to track against these KPIs throughout the engagement and beyond.

The most important statistic is total price accuracy — the match rate between PO and invoice. In March 2015, it was 68 percent. By June 2018, the number increased to an astounding 92 percent (Figure 1).

Clinical-to-supply integration

Securing physician leadership’s engagement and support to link cost to both quality and outcomes has proven pivotal for UMass Memorial’s success. Demetrius Litwin, MD, chairman of surgery, UMass Memorial Medical Center (UMMMC), led efforts that ultimately standardized products and delivered more than \$3 million in contract savings for new operating room (O.R.) surgical towers, endomechanical devices and O.R. surgical products. “The perioperative team worked through the steps of the newly implemented value-analysis process, resulting in both a substantial savings and surgeons and clinicians who were extremely satisfied with the high-quality products we chose,” said Dr. Litwin.

Figure 1. Trend in total price accuracy



“Our center has saved more than \$10 million in three years as a result of [UMass Memorial and Vizient's] excellent work and synergistic relationship. This work has proven what great clinical-supply integration can accomplish — and it paves the way for a more secure future for our health system.”

Jim Zinkus

Senior Director
Periop/Heart and Vascular
UMMMC

The UMass Memorial clinically led value analysis process proved valuable and efficient in the periop/heart and vascular area at UMMC, engaging clinicians in the product selection, evaluation and contracting processes. The health system, with guidance from Vizient experts, consolidated to two supplier contracts each for total joints and trauma products. The standardization team also supported a multiyear cardiology room upgrade project, which allowed UMMC to standardize vendors, equipment and technologies — all while reducing overall costs.

“UMass Memorial has seen such value through the cooperation and partnership of UMass and Vizient,” said Jim Zinkus, senior director of periop/heart and vascular at UMMC. “Our center has saved more than \$10 million in three years as a result of their excellent work and synergistic relationship. This work has proven what great clinical-supply integration can accomplish — and it paves the way for a more secure future for our health system.”

Results

Clinical-supply integration: the pinnacle of supply chain transformation

Within the supply chain function, the work is never done; however, the supply chain operational transformation at UMass Memorial now includes a fully embedded supply chain leader that operates at an enterprise level within the organization. The health system's supply chain, and the health system as a whole, are better positioned for whatever challenges tomorrow brings.

In just three years UMass Memorial's vision of a best-in-class supply chain organization has come to fruition. UMass Memorial Health Care saved \$23.7 million during this time period — already surpassing the five-year engagement goal of \$23 million.

“We’ve developed a supply chain that supports the organization’s strategic initiatives, delivers value and continues toward the ultimate goal of clinical-supply integration,” Melgar said. “And with the right expertise and guidance, we’ve achieved these things more quickly than we ever expected.”

“We’ve optimized operations and speed-to-value,” said Bonetti. “We’ve moved from just managing supply costs into clinical-supply integration, which is really the Holy Grail of health care supply chain management. From here, we’ll continue the complex journey of providing ever-increasing support to our clinicians, and working together as a team for the benefit of UMass Memorial.”

As the nation’s largest member-driven health care performance improvement company, Vizient provides network-powered insights in the critical areas of clinical, operational, and supply chain performance and empowers members to deliver exceptional, cost-effective care.



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