McLeod Health's Three-System Cloud Solution for Supply Chain Success

Oracle | Epic | Tecsys

CUSTOMER STORY

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About **McLeod Health**

Based in Florence, South Carolina, McLeod Health is a not-for-profit healthcare system with seven hospitals, approximately 100 physician practices and multiple outpatient facilities throughout its 18-county service area. The healthcare system is supported by 850 members on its medical staff, more than 2,700 licensed nurses and roughly 8,900 employees.

Executive summary

In 2022, McLeod Health embarked on a transformative journey to implement and integrate three industry leading cloud-based technology solutions: The Oracle Fusion Cloud enterprise resource planning (ERP) system, Epic's electronic health record (EHR) system and Tecsys' Elite™ Healthcare Supply Chain Management (SCM) system.

McLeod Health's pioneering work to deploy and leverage all three systems collectively and enterprise-wide — from its consolidated service center (CSC) through to point of use (POU) — has propelled the health system's supply chain modernization forward, driving organizational speed and agility. Automated supply chain and clinical workflows, comprehensive inventory visibility and control, and the ability to match supply levels to real-world utilization, have driven efficiency and improved supply availability while reducing costs and waste.

As U.S. healthcare organizations are increasingly held accountable for the value of care provided (cost/quality), McLeod's supply chain optimization journey offers significant benefits. Perhaps the greatest benefit is the seamless data sharing across its ERP, EHR and SCM systems, and the resulting access to robust, accurate and timely insights from all three simultaneously.

By establishing a definitive source of truth for procurement, costs and utilization, the McLeod Health supply chain team is now leveraging analytics to uncover crucial insights into how product decisions impact both clinical and financial outcomes. This level of insight fills a critical gap in many healthcare organizations' efforts to achieve a clinically integrated supply chain that supports value-based care initiatives.

This is the McLeod Health supply chain team's journey, including system implementation, integration and optimization, challenges and opportunities in change management, outcomes and results to date, and a look ahead at strategic initiatives moving forward.

Leading the effort

Carmen Winfield
Vice President of Supply Chain

Chris Taylor
Director of Supply Chain

Anwar Williams
Director of Supply Chain Information Systems

Bud Holley
Director of Distribution

Technology solutions

Oracle Fusion Cloud enterprise resource planning (ERP) system

Epic's electronic health record (EHR) system

Tecsys' Elite™ Healthcare Supply Chain Management (SCM)

- *Elite™ Warehouse Management System (WMS)*
- *Elite™ Point of Use (POU)*

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Background

McLeod Health has consistently been leading the industry when it comes to supply chain optimization. The health system opened its CSC in 2018, leveraging Tecsys' Elite™ Healthcare Warehouse Management System (WMS) to automate processes, including item-level product tracking from receipt through to distribution. The results: Streamlined processes, increased staff productivity, immediate inventory visibility, greater order accuracy and data-driven insights.

Today, McLeod Health's CSC supports the medical/surgical supply needs of its seven hospitals and 100 physician practices, including order processing, receiving of supplier shipments, inventory management and distribution of items throughout its network.

7	**100**	**3k**	**2.5k-3k**
Hospitals	*Physician practices*	*Lines processed daily*	*Stock and non-stock items distributed daily*

Opportunity

In 2021, McLeod Health's Vice President of Supply Chain Carmen Winfield and her team began exploring how they could extend solution integration, process automation and digital data capture beyond the CSC and into McLeod Health's hospitals through to product consumption at the point of use. The goal was to not only streamline supply management processes and enhance visibility to inventory, but also establish a single source of cost, quality and outcomes data to inform value analysis and strategic sourcing efforts.

"Early on, we realized the need for cloud-ready systems that could integrate processes and data throughout the health system," McLeod Health's Director of Supply Chain Information Systems Anwar Williams explained. "The three pillars of this approach from a technology perspective are the ERP, EHR and SCM systems."

"We knew that if we could integrate those systems and establish a single source of data for analytics, we could help clinicians understand the impact of their product choices. We could also identify opportunities for cost and quality improvements to enhance patient care and impact our health system's bottom line," Williams added.

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> *"There are two things as a leader I don't like: Manual work and workarounds. We've deployed, integrated and automated technology in our supply chain wherever we can to minimize unnecessary human intervention and drive process efficiency and accuracy."*

Carmen Winfield
Vice President of Supply Chain
McLeod Health

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Three-platform solution

> "With Epic, Oracle and Tecsys, we have three top-tier technology solution providers and applications to unite data allowing us to report accurately and make sound business decisions around product selection."
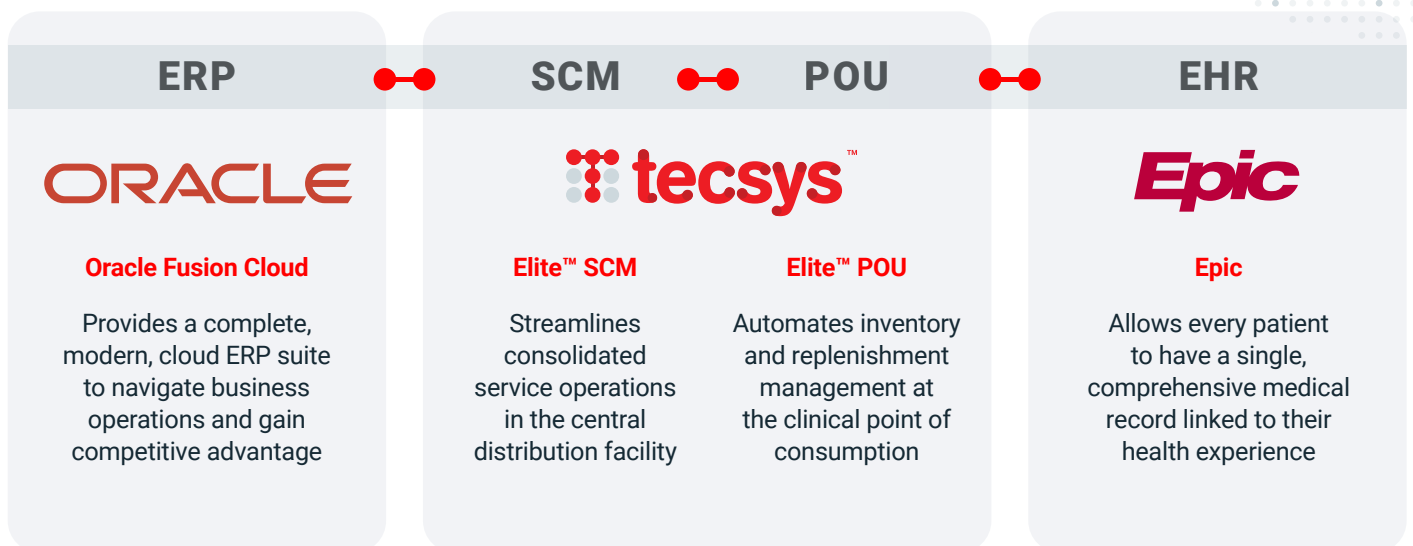>
> **Anwar Williams,** *Director of Supply Chain Information Systems,* McLeod Health

In 2022, the McLeod Health team began its ambitious and transformative journey to implement the cloud-based Epic EHR system, transition to the Oracle Cloud ERP system, upgrade to Tecsys' cloud-based Elite™ SCM system and deploy Tecsys' Elite™ POU solution.

"Many of our peers are using these same systems — Epic, Oracle and Tecsys — individually or integrated with one another. We are taking a strategic approach whereby we are deploying all three systems together to optimize their capabilities and utilization," said Williams.

Winfield commented on how the three-system approach supports McLeod Health's priority of data integrity and consistency:

"By taking on this technology implementation challenge, we had the opportunity to sync our EHR, SCM, ERP and POU systems so there is clean data feeding from one system to the next, and onto the next. That way, when we are performing analytics on the backend, the data doesn't have to be scrubbed and cleaned because it looks the same throughout."

ERP	**SCM**	**POU**	**EHR**
ORACLE	tecsys™		Epic
Oracle Fusion Cloud	**Elite™ SCM**	**Elite™ POU**	**Epic**
Provides a complete, modern, cloud ERP suite to navigate business operations and gain competitive advantage	Streamlines consolidated service operations in the central distribution facility	Automates inventory and replenishment management at the clinical point of consumption	Allows every patient to have a single, comprehensive medical record linked to their health experience

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McLeod Health is deploying the Tecsys platform across all hospital sites to automate supply consumption capture, optimize intra-network logistics and streamline case management. Nursing and procedural areas (operating rooms, catheterization labs and interventional radiology rooms) are being outfitted with POU technology designed for clinically integrated workflows in each area. These technologies include a combination of enabling software, RFID and barcode technology, mobile devices and embedded clinical user interfaces.

Tecsys' platform is built on the Amazon Web Services (AWS) cloud to enhance its ability to respond in real time. AWS provides secure, flexible, efficient and cost-effective commercial cloud services that enable automation and scaling of infrastructure, application resources, and IT capabilities to meet evolving application and user demand. With AWS, McLeod Health is able to scale quickly, drive operational simplicity, and focus on its core business of putting patients first, while reducing the risks of resource imbalances from load volatility.

"People will tell you that you can interface anything, and you can, but interfaces can fail, and disparate systems can't always talk to one another," said Winfield. "Having solutions for the warehouse and POU from two different sources could present challenges in keeping data in sync. The decision to use Tecsys at the point of use as well as in our distribution center was driven by the desire to have a single platform for supply chain management (SCM) from a company where SCM is their expertise."

Expert tip:
Select the solution with the greatest strengths

Speaking to the three-system approach, Winfield commented on how there is no "one-size-fits-all" solution for finance, supply chain and clinical documentation, stating:

"You might find a platform that can handle some of the basics of each function but can't expertly manage all three. When you're looking for a system and vendor, look for one whose greatest strength is in the problem you are trying to solve or the opportunity you are trying to pursue. Because when you try to make a company take on scope that is not within their area of expertise, you're not going to gain the needed functionality or achieve the intended outcome."

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Managing change

"I'm not a hugger, but I understand effective change management sometimes calls for a more personal touch. Assuring someone that they will adapt to the new system just as they did with the old one and that their work will improve once they overcome this challenge."

Carmen Winfield, *Vice President of Supply Chain,* *McLeod Health*

According to Winfield, the greatest challenge of the three-system transition was its impact on McLeod Health's employees. "We changed three major systems in one year; that type of project and the pressure of it really took a toll on our teams," she explained. "They worked long hours and encountered issues, including some that had to be addressed immediately."

Winfield acknowledged how McLeod Health needed the help of Epic, Oracle and Tecsys, leaning on the solution providers' teams to provide guidance and support throughout the transition, including pre-and-post go-live.

"If you've ever led a major project, you know nothing compares to when you go live and all that work you did with change management paid off in preparing people for the new environment," Winfield added.

Clinical stakeholders

Chris Taylor, McLeod Health's Director of Supply Chain, discussed the change management involved in adopting Tecsys' POU solution. Clinical teams transitioned from manual to automated item-level tracking and documentation in the Epic EHR system, which Taylor described as a "huge learning curve."

The McLeod Health supply chain team held training sessions for the new system users, including lunch and learns, but soon realized clinical stakeholders needed a more personal approach.

An "Aha!" moment

Despite the challenges, most McLeod Health staff members impacted by the EHR, ERP and SCM changes rallied to support the transition. During the process, Winfield experienced an "aha" moment regarding the strength and resilience of her team.

"While our inventory managers and other supply chain staff members were able to get the job done with the previous systems we had in place, implementing three new solutions all at once required a completely different skill set," she commented. "I discovered there were a lot of people who work for me who are more talented than I realized before the transition took place."

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"We had to get out of our offices and get in front of our clinical customers, explain why we needed the change, and help them understand how it would make their lives better."

Carmen Winfield
Vice President of Supply Chain
McLeod Health

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"The journey has brought out the best in many of our people. Knowing their strengths, I can now position them to where they can most benefit our supply chain."

Carmen Winfield
Vice President of Supply Chain
McLeod Health

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Outcome

> "It's been a busy time for us with a lot of moving parts and opportunities for error. We're at the point where we're now working to optimize all three top-of-the-line systems. We're serving as that organization in the middle of the three to bring cohesiveness for the long term."
>
> **Anwar Williams,** *Director of Supply Chain Information Systems,* *McLeod Health*

McLeod Health's supply chain optimization journey, utilizing Epic's EHR, Oracle's ERP and Tecsys' Elite™ SCM and POU solutions, has reached the point where supply chain and clinical stakeholders are reaping the benefits of process efficiency, inventory visibility, supply availability and actionable insights.

Meeting clinical and patient supply demands

The combination of procurement, inventory and usage data from the three systems provides the McLeod Health supply chain with the insights they need to match supply and demand, as Williams explained:

"Case planning and supply utilization data from our ERP system flows into our SCM system, which contains real-time inventory data from our CSC. This enables us to forecast supply needs for cases days or even weeks in advance and address issues proactively, including shortages, backorders and item discontinuations."

In the CSC

The McLeod Health warehouse team generates daily stock status reports for inventory throughout the health system and backorder reports to inform purchasing decisions.

"We have three buyers who monitor inventory levels to ensure they are ordering based on usage and what we have stocked," said McLeod Health's Director of Distribution, Bud Holley. "Tecsys makes recommendations on what should be ordered, the buyers review the information and determine whether to submit an order to the vendor for restocking."

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> *"At the end of the day, our work is all about patient care. Our number one priority is being able to provide clinical teams with the supplies they need to take care of patients and to get those products at a cost that is valuable to our health system."*
>
> **Anwar Williams**
> *Director of Supply Chain Information Systems*
> *McLeod Health*

In the hospitals

With McLeod Health's CSC closed on Saturdays and Sundays, Taylor's team relies on data from the Epic EHR, Oracle ERP and Tecsys' Elite™ SCM and POU systems to meet predicted supply demand over the weekends. He noted how this is particularly important for smaller hospitals in the network that do not have a supply chain team member onsite 24/7.

"We use the optimization report from Elite™ POU to set min and max parameters to appropriate levels at PAR locations, so clinicians always have what they need," said Taylor.

Increasing supply chain team efficiency and productivity

"We were working seven days a week prior to Tecsys coming on with point of use, and now we have just a weekend crew that comes in on Saturdays and Sundays. This has been a huge benefit for our team – no one wants to work on the weekends if they don't have to."

Chris Taylor, *Director of Supply Chain,* McLeod Health

McLeod Health's supply chain optimization work with automated processes and actionable insights helps Taylor's team work more efficiently.

"One of the things we're trying to push is being more proactive instead of reactive; using the data from the systems helps us take fewer steps," said Taylor. "There's no need to walk to 10 PAR locations to find out what's missing because the system will tell you what's missing and where to find it."

Streamlining clinical workflows

"The integration between Tecsys in our distribution center and point of use, clinicians do not have to worry about supplies. When they walk into a room, the supplies they need are there for the patient. They also know the items are in the right quantities and were purchased at the right price." - Carmen Winfield, Vice President of Supply Chain, McLeod Health

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"When a clinician taking care of a patient has the supplies they need, that's a good day."

Carmen Winfield
Vice President of Supply Chain
McLeod Health

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Effortless supply documentation

In Perioperative supply storage areas, Tecsys' Elite™ POU features automated item-level supply tracking via RFID, which is integrated with McLeod Health's Oracle ERP and Epic EHR systems. Winfield explained how this technology has minimized supply management administrative tasks for clinicians, stating:

"Before our solution implementation and integration work, our clinicians would need to take their cart and computer with them to the supply room, select the items they needed, pull up the patient in the system and scan barcodes on each of the items to record them in the patient's record."

Real-time inventory status

Tecsys' Elite™ SCM and POU technology automates item-level tracking from the CSC to the clinical bedside and integrates with the Oracle ERP and Epic EHR systems. This integration gives hospital clinicians immediate access to inventory levels and supply order status from the CSC. Rather than spending time reaching out to the supply chain team for this information, it is now readily accessible at their fingertips.

"Clinicians can check the supply status to see if items are being picked at the moment, or if they are en route to be delivered," said Williams. "When item levels are getting low in their departments, this visibility assures them that replenishment is on its way, and that they will not run out."

Automated data management

Winfield commented on how EHR, ERP and SCM system integration has alleviated clinicians of manual data management burden. She stated:

"Our supply chain specialists have seen a huge benefit because they no longer have to spend time keeping different systems in sync with one another, whether it be an item part number, pricing, or unit of measure. The data now feeds from one system to the other, which also helps with accuracy in pricing for our clinicians who are responsible for financial budgets."

Accessible and complete supply information

Additionally, Winfield noted how their new Oracle ERP system contains much greater detail on medical/surgical items, making it easier for clinicians to find the information they need. And with integration to the Elite™ platform, they can quickly see which items are stocked in the CSC.

"Rather than having to do a search in Google, clinicians can now use our ERP to find information on products in our inventory, including detailed descriptions, photos, primary distributor, and even instructions on proper usage."

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"Today our Med/Surg nurses can just walk into a supply room, grab the items they need, and go take care of their patients. They don't have to scan a barcode or manually document the item in any systems. Their only responsibility from a supply management perspective is to take the RFID tag from any bin that is empty and put it on the wall to trigger replenishment."

Carmen Winfield
Vice President of Supply Chain
McLeod Health

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Minimizing waste

> **"We always look for opportunities to rid McLeod Health of waste of any sort, whether it's through improved utilization, contracting or overall ways to help our organization be more efficient and cost effective."**
>
> **Chris Taylor,** *Director of Supply Chain,* McLeod Health

Holley, Williams and Taylor's teams are utilizing the three-system integration to minimize supply waste throughout the health system. Accessing reports from Tecsys, they identify obsolete inventory. In the case of items stored in the CSC, an obsolete item is one that has not moved for 90 days. They use this intelligence in conversations with clinicians around supply choices and purchasing decisions.

"Physicians change, preferences change and products change, but not everyone is thinking about letting the distribution center know," said Holley. "The three-system integration allows us to see supply usage each month and take action, instead of letting items sit unused on shelves, taking up space and expiring."

In the hospital at the point of use, Taylor's team also monitors inventory for obsolescence, which is defined as an item that has not been consumed within six months. They draw on system insights to show clinicians which products they regularly use versus those that go unused.

"We have a lot of money in supplies that are sitting around collecting dust, and people need to make decisions about them," said Taylor. "I don't ever tell a clinician they can't have something, but I do tell them that obsolete items are tying up my team's efforts because we still have to cycle count them, keep them clean and keep them stocked, even if they aren't being used."

"At the end of the day, it's the clinical leaders' budgets that are impacted by supply obsolescence, so we owe it to them to explain how they are wasting money on items expiring on shelves only to be reordered again," he added.

Under Williams' lead, the supply chain information systems team recently completed a project with the Tecsys team to develop two inventory management dashboards: One for the warehouse and the other for point of use.

Through their analysis and vigilance, Holley, Williams and Taylor's teams have driven McLeod Health's obsolete inventory rate to below 2%, down from 10% before their optimization work.

Results at a glance:

10%

Less than 2% obsolete inventory rate, down from 10%

2%

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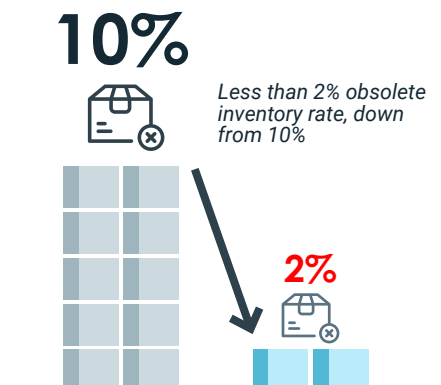
"We are trying to utilize every aspect of the system and its modules to bring that data and information to the forefront, to help everyone make better decisions overall."

Anwar Williams
Director of Supply Chain Information Systems
McLeod Health

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Next phase: Enabling a clinically integrated supply chain

While supply availability, process efficiency and inventory accuracy have all been significant benefits derived from McLeod Health's three-system supply chain optimization journey, the biggest win comes from access to robust, accurate and timely data derived from the system integration.

Having established a source of truth for procurement, costs and utilization, the McLeod Health team is now applying analytics to uncover the holy grail of healthcare – how product decisions impact overall clinical and financial outcomes. This level of insight has been the missing piece in many healthcare organizations that are striving to achieve a clinically integrated supply chain that supports value-based care.

Breaking down silos

"The tight integration and synchronization between the Tecsys and Epic systems forces supply chain and clinical teams to understand each side of the fence because what we each do in our individual system impacts the other. Therefore, we have to be on the same footing to understand the different processes within each system." - Anwar Williams, Director of Supply Chain Information Systems, McLeod Health

According to Williams, the integration of the Epic EHR, Oracle ERP and Tecsys' Elite™ SCM and POU systems has also served to unite the individuals working within those systems, breaking down historic communication silos. Together, McLeod Heath's supply chain and clinical teams are leveraging insights from all three systems to make collaborative decisions on product selection, procurement and inventory management.

"The number of multifaceted touchpoint meetings, calls and conversations we've had among supply chain, OR directors and clinical staff members has increased exponentially since the three-system integration," said Williams. "It's not like in the past where a decision was made in one system by one party and there was little consideration for impacts down the line."

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> *"The most transformative aspect of our three-system implementation, integration and optimization is the integrity of the data. We've always had data, more data than you can imagine, but it was always difficult to trust what you were seeing because we weren't quite sure it was accurate. Today, we have the data to develop and deliver intelligence to everyone who touches our supply chain and now they can take action."*
>
> **Carmen Winfield**
> *Vice President of Supply Chain*
> *McLeod Health*

Informing strategic supply decisions

Williams and his team are using the Oracle Analytics Cloud application to bring together procedural data from the Epic EHR (e.g., implants, case logs) and utilization and replenishment data from Tecsys' Elite™ SCM and POU systems.

They are working very closely with McLeod Health's value analysis team, providing analytics from these dashboards that, in Williams' words, "present a clear picture of everything from a supply chain standpoint, how it impacts budgets, patient outcomes and the bottom line of our operations." This includes data-driven strategic supply decisions that have the potential to reduce costs or improve patient outcomes.

Williams and his team are also combining utilization data from Oracle and Tecsys, along with case procedure information from Epic, to build internal dashboards to generate physician-level analytics. This includes case cost and quality comparisons.

"Our category managers, strategic sourcing managers and value analysis team plan to use the data we're putting together from all three systems to answer questions such as, 'Are the outcomes matching the price we are paying for an item?' A physician may be using an item they perceive as providing quality outcomes while the analytics reveal a clinically equivalent item used by a different physician provides much better results."

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"Transparency around the data that is flowing between systems allows us to make better decisions about price, items we are using and the patient population on which they are being used."

Anwar Williams
Director of Supply Chain Information Systems
McLeod Health

Empowering clinicians

"Clinicians don't want to hear about something that happened 30 days ago when there's nothing they can do about it. Instead, they want to know what they can change immediately so it doesn't happen again, or so they can better prepare themselves for what tomorrow holds."

Carmen Winfield, *Vice President of Supply Chain,* *McLeod Health*

While today it is mainly the McLeod Health supply chain team that is utilizing the dashboards and analytics to make supply and inventory management decisions, Williams is also encouraging clinicians to use these tools to inform their own decisions.

"We want to empower clinical staff to use the data, applications and features that are available to them to understand their service lines and business from a supply chain standpoint, including item cost and utilization," he explained. "We are well past the days when we were manipulating data in spreadsheets and generating reports where the insights were outdated by the time we surfaced them. With the self-service type of reporting we have today, clinicians can access real-time information based on data and immediately act on it."

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Efficiency and collaboration as a journey

McLeod Health's integration of Epic, Oracle and Tecsys represents a significant milestone in its supply chain optimization journey. By leveraging these systems, the organization has achieved tangible benefits in terms of process efficiency, inventory visibility and data-driven decision-making.

The success of this integration is evident in the improved supply availability, streamlined clinical workflows and increased productivity of the supply chain team. Through proactive supply management and automation, McLeod Health has optimized resource utilization and minimized waste, resulting in cost savings and enhanced patient care.

Additionally, the integration has facilitated collaboration between supply chain and clinical teams, enabling them to make informed strategic decisions that positively impact both financial outcomes and patient care quality.

Moving forward in its journey, McLeod Health is well-positioned to continue its pursuit of supply chain excellence, empowered by real-time data insights and a clinically integrated approach to supply management.

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About **Tecsys**

Since our founding in 1983, so much has changed in supply chain technology. But one thing has remained consistent across industries, geographies and decades — by transforming their supply chains, good organizations can become great.

Our solutions and services create clarity from operational complexity with end-to-end supply chain visibility. Our customers reduce operating costs, improve customer service and uncover optimization opportunities.

We believe that visionary organizations should have the opportunity to thrive. And they should not have to sacrifice their core values and principles as they grow. Our approach to supply chain transformation enables growing organizations to realize their aspirations.

Speak to a healthcare supply chain expert →

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