

Baptist Health's Journey to Centralized Pharmacy Supply Chain Operations

Building a 100,000 Sq Ft
Foundation for Efficiency,
Compliance and Care

CUSTOMER STORY



About Baptist Health

Founded in 1924 in Louisville, Kentucky, Baptist Health is a full-spectrum health system dedicated to improving the health of the communities it serves. The Baptist Health family consists of eight hospitals in Kentucky and southern Indiana, employed and independent physicians, and more than 450 points of care. These include outpatient facilities, physician practices and services, urgent care clinics, outpatient diagnostic and surgery centers, home care, fitness centers, and occupational medicine and physical therapy clinics.



8

Hospitals

450

Points of Care

2,700

Licensed Beds

Executive Summary

The pharmacy supply chain is costly, complex and constantly challenged by technology gaps and disparate manual processes. Baptist Health Chief Pharmacy Officer Nilesh Desai is, in his words, “taking the bull by the horns” and transforming his health system’s pharmacy operations on an unprecedented scale.

Under Desai’s leadership, Baptist Health is centralizing, automating and optimizing pharmacy operational, clinical and regulatory processes across its eight hospitals and more than 450 ambulatory care sites within a 102,000-square-foot Central Pharmacy Service Headquarters.

The Baptist Health consolidated pharmacy service center team, led by Desai, is assuming responsibility for system-wide drug procurement, preparation, management, storage, replenishment and documentation. The automation of these processes aims to increase efficiency and accuracy, alleviating pharmacists and technicians of manual tasks that take time away from patient care.

Real-time drug product tracking and digital data capture, including lot numbers, expiration dates and full product pedigree, supports Baptist Health’s compliance with regulations and standards such as DSCSA, DEA, USP, JCAHO, ACHC, DNV, CMS, NABP and state boards of pharmacy.

With a seamless integration of end-to-end cloud-based supply chain management (SCM) software with Baptist Health’s IT systems (ERP, EHR, financial, pharmacy point of use solutions) in place, the pharmacy team gains exceptional enterprise-wide drug inventory visibility and control, while establishing an accurate and complete data repository for advanced analytics and actionable insights.

By empowering its core pharmacy team to make strategic decisions related to procurement and medication management, Baptist Health can ensure a consistent supply of high-quality medications at the lowest possible cost to patients served across its many care settings.

This truly transformative work supports the health system’s continued growth while addressing the top challenges facing pharmacies today – rising costs, drug shortages, labor shortages, pricing/reimbursement complexities and increasingly stringent regulations.

This case study documents the Baptist Health team’s journey to date as they pursue enterprise-wide pharmacy optimization.



The Opportunity

Baptist Health has been on a growth trajectory through mergers and acquisitions, and the building of new hospitals and ambulatory care facilities. Its pharmacy operations, while historically focused on meeting the needs of clinicians and patients in acute care settings, now has the opportunity to expand into non-acute areas.

The health system's pharmacy space constraints and process inefficiencies have been barriers to scaling services. This has been compounded by the broader industry challenges of rising drug costs, shortages and regulatory demands.

"There is a significant growth opportunity within the specialty and community retail pharmacy sides of the business, but we have not been able to capitalize on it," Desai explained. "While we made efforts to extend pharmacy services into ambulatory settings, we reached peak capacity in a short period of time because we were maxed out from a space perspective. Then there were inventory management challenges, drug shortages and 340B pricing complexities adding to the issue."

Desai continued, "I saw some health systems doing pockets of things to gain efficiencies but not to the level that it needs to be. As our health system continues to grow, our thought process has been – how do we do it better?"



"Pharmacy logistics are notoriously complex. There are many opportunities for efficiency, but you must be brave enough to pursue them."

Nilesh Desai
Chief Pharmacy Officer
Baptist Health



The Initiative

In his previous role as Administrator of Pharmacy and Clinical Operations for Hackensack University Medical Center/Hackensack Meridian Health, Desai led an effort to centralize and integrate all decision-making for technology, training, educational materials, formulary standardization, medication management policies, workflows, electronic health record (EHR) build and standardization across the network.

Desai intends to build on the success of this work and bring pharmacy service centralization and optimization at Baptist Health to an unprecedented level. Under his direction, the health system is currently constructing a 102,000 square foot Central Pharmacy Service Headquarters that will enable it to streamline its growing pharmacy services across care locations in Kentucky and southern Indiana.

The consolidated pharmacy service center (CPSC) sets the foundation for the pharmacy team to centralize and standardize pharmacy services for not only Baptist Health's eight hospitals, but also its more than 450 points of non-acute care, including outpatient facilities, physician practices and services, urgent care clinics, outpatient diagnostic and surgery centers, home care, and occupational medicine and physical therapy clinics.

**102,000 square foot
Central Pharmacy
Service Headquarters**

Pharmacy Service Centralization Drivers

- **Hospital community pharmacies at maximum capacity**
- **Inability to expand growth to new clinics and care areas**
- **Inventory turns not optimized**
- **Opportunity to leverage purchasing power**
- **Expired medications leading to excess waste**
- **Multiple different workflows**
- **Staffing constraints and market challenges**
- **Opportunities for centralizing other services**



A CPSC ensures a consistent supply of high-quality medications at the lowest possible cost to patients while minimizing the impact of drug shortages. This approach to pharmacy distribution provides a centralized hub for mail orders, kits and trays management, compounding and specialty pharmaceuticals. It can also maintain an appropriate inventory of antidotes, disaster medications and other high-cost medications needed for patient care so that the health system is operationally agile, while also reducing the inventory burden of each facility.

“We have 250+ clinics procuring medications from the wholesaler directly,” said Desai. “By having them procure from the CPSC centrally, the health system can gain several efficiencies both operationally and financially. Centralized procurement also helps us better manage inventory levels and product expiry. For example, a clinic placing an order with a wholesaler may have to purchase a box of 10 or 25 units even though they need fewer items, and those extra drug products that go unused will sit on the shelf to expire. Conversely, the CPSC can procure the higher volume and distribute the product across multiple clinics in the required quantities to avoid waste.”

The CPSC building is slated for completion in April 2024, with a go-live and progressive roll out of services beginning in June 2024.

What Desai envisions is a “completely autonomous pharmacy” that frees pharmacists and technicians from manual inventory management tasks so they can dedicate more time to patient care. To achieve this, Baptist Health needed the right technology partner to join them in fulfilling their vision.

Enabling Technology

“In the world of pharmacy, no matter how much people say we have automated technology, we lag behind what other industries have in terms of integrated automation solutions. We didn’t want our CPSC to end up having a mix of automated and manual processes, as we often do in hospitals. Instead, we wanted a technology partner that could help us achieve our vision to automate processes from end-to-end,” explained Desai.

With plans for the physical CPSC space in progress, Desai began speaking with technology vendors with pharmacy expertise to determine whether they could support his vision to achieve what some may believe to be impossible: an end-to-end, automated, digital pharmacy supply chain. Because this was a new concept in healthcare, most vendors were reluctant to meet this challenge.

As Desai explained, he was looking for a “committed partnership” as opposed to a “business transaction.”



“If it’s a partnership, then everyone has a stake in the vision we’re trying to achieve,” he commented. “Our search for a true technology partner that could automate processes to the level we needed brought us outside of traditional vendors in the pharmacy space.”

Nilesh Desai
Chief Pharmacy Officer
Baptist Health



The Solution

Selecting a suitable technology partner was a pivotal step in Baptist Health's journey towards a centralized pharmacy model. Tecsys emerged as the partner of choice, recognized for harnessing technological innovation to streamline complex logistics. Its commitment to adapting its healthcare portfolio to meet the needs of an evolving pharmacy supply chain was a key factor in Baptist Health's decision.

To orchestrate the sophisticated distribution operations for its centralized pharmacy practice, Baptist Health is using Tecsys' advanced cloud-based Elite™ platform built on Amazon Web Services (AWS) to consolidate and optimize logistics, ultimately helping patients and their caregivers access medications quickly and efficiently.

Because health systems demand greater process efficiency, cost savings and resiliency in their supply chains, Tecsys has evolved its industry-leading healthcare supply chain management solutions to meet the needs of healthcare pharmacy. Tecsys' Elite™ platform is designed to address the unique complexities of the pharmaceutical supply chain, including compliance burdens (USP, DEA, state boards of pharmacy), tracking and tracing requirements (DSCSA), as well as pricing and reimbursement (CMS 340B Program).



"We needed a very strong supply chain management system that works well in pharmacy. Prioritizing patient care requires innovation. We selected Tecsys as our software solution partner because the team is committed to evolving their solution to meet our specific needs."

Nilesh Desai

Chief Pharmacy Officer
Baptist Health

Baptist Health continues to look for innovative ways to bring the best technology, quality and intellectual capital to its operations. As a result, Baptist Health is using Tecsys' platform, built on the 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, Baptist Health will be 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.

Objectives for Success

Baptist Health's advanced pharmacy supply chain ecosystem equips the organization to achieve several key objectives:

Empower pharmacists and enhance patient care

Baptist Health's CPSC frees pharmacists and technicians from manual inventory management tasks so they can dedicate more time to patient care.



Mitigate supply shortages

As drug shortages are predicted to persist, Baptist Health's CPSC centralizes drug inventory management, allowing for efficient allocation of products across various care sites to minimize waste and expiry.

Expand storage space and bolster security

Centralizing operations enables strategic space utilization that includes climate-controlled environments for specific drug types and secure storage areas for high-risk medications, thereby enhancing the overall security of pharmacy supply chain operations.



Enhance strategic procurement

By consolidating demand planning and purchasing, Baptist Health will have the data insights needed to undertake strategic and volume-based initiatives, resulting in cost-effective pharmacy procurement.

Ensure regulatory compliance

The CPSC centralizes oversight of regulatory requirements, which enables them to ensure patient safety and maintain compliance with industry standards.



Initial Areas for Optimization

The Baptist Health CPSC goal is to centralize and automate the health system's pharmacy operational, clinical and regulatory processes – drug procurement, preparation, management, storage, replenishment, documentation and reporting – with Tecsys' advanced cloud-based Elite™ platform.

The CPSC establishes the foundation for the pharmacy team to meet their goals of efficiently, effectively, and safely extending pharmacy services outside of the hospital setting and into non-acute facilities. In doing so, the team supports Baptist Health's growth trajectory, expansion of patient care into the communities, and generation of revenue to reinvest in care delivery.

Purchasing and Reimbursement Accuracy

Baptist Health's CPSC is being designed as a central hub for nearly all drug purchases with systemized policies and procedures. This is operationalized through the Tecsys solution, which captures all applicable information required for the 340B pricing program.

Real-time pricing updates improve accuracy across general purchasing and 340B, assisting in the three-way matching of the PO to the price paid to the expected price, as well as ensuring accurate accumulations in the third-party administrator (TPA) software.

Inventory Management Automation and Optimization

The CPSC will house central distribution and specialty pharmacy. It is designed as a hub for all drug preparation, storage and distribution, including bulk to dose repackaging and kit and tray production and distribution.

Centralization allows for efficient distribution of drugs and supplies from the CPSC to Baptist Health inpatient pharmacies, community pharmacies, ambulatory surgery centers (ASC), home health and provider clinics. Leveraging the Tecsys solution, Baptist Health is extending automated inventory tracking from the CPSC out to Baptist Health facilities all the way through to the point of use to unburden pharmacy staff and clinicians of manual inventory management tasks.

"We will prepare everything in the CPSC so when totes are received at the patient care site level, pharmacists or other clinical staff only have to pick up the items and stock them," said Desai. "All the inventory data is captured within the Tecsys solution and communicated back to the CPSC team. Frontline pharmacists and technicians can reallocate time they spent managing inventory to patient care tasks, such as speaking with patients about their medications or supporting Meds to Beds programs that ensure medication compliance all the way through to the home."



"The pharmacy business isn't easy. Purchasing is very complex because we have different classes of trade. The Tecsys solution supports a proactive approach where we ensure we're checking all the boxes as we go instead of correcting problems later."

Nilesh Desai
Chief Pharmacy Officer
Baptist Health



"As we face growing complexities in pharmacy, resources are getting tighter by the day. We envision the CPSC to be technology heavy and FTE light. The Tecsys solution will help drive that."

Nilesh Desai
Chief Pharmacy Officer
Baptist Health

Enabled by the Tecsys solution, real-time visibility into and control over drug products inside and outside of the CPSC – including medications that are in transit or are stored in automated dispensing technologies, storage rooms, and clinical departments – allows the Baptist Health pharmacy team to optimize inventory, helping to reduce waste and costs while enhancing patient safety.

The pharmacy team can now transfer and rebalance inventory to increase stock turns, distributing drug products to where they are needed, and identify drugs nearing expiry so they can be used before they are wasted. With regards to patient care and safety, they can mitigate the risk of dispensing expired medications to patients and quickly identify, locate and remove recalled drugs from the Baptist Health supply chain.

“We are an eight-hospital system, and if everyone needs a drug at the same time, they each need to procure it separately within our legacy pharmacy model,” Desai explained. “Through centralization in the CPSC, we can leverage our purchasing power by making one purchase and sharing it across the system, which will save us money and better manage drug shortages.”

Regulatory Compliance

Automated capture and tracking of lot numbers, expiration dates and full product pedigree within the Tecsys solution supports Baptist Health’s compliance with regulations and standards, including:

DEA

U.S. Drug Enforcement Administration drug diversion regulations

DSCSA

The Drug Supply Chain Security Act

USP

U.S. Pharmacopeial Convention requirements for sterile and non-sterile compounding

NABP

National Association of Boards of Pharmacy and state boards of pharmacy medication handling requirements

Full product pedigree



“Pharmacy is driven by regulations, and it is our responsibility to ensure that we are compliant at all times.”

Nilesh Desai
Chief Pharmacy Officer
Baptist Health

Analytics and Demand Planning

The integration of the Tecsys solution with Baptist Health's EHR, enterprise resource planning (ERP), financial systems and pharmacy point of use solutions establishes a single repository for drug purchasing, tracking and usage data. With all the data in one place, and the application of advanced analytics, the pharmacy team has actionable insights for informed decision-making and proactive planning.

"Tecsys bridges the gap between disparate systems so data can flow in real time," said Desai. "The solution supports our goal of building a pharmacy data lakehouse that we can leverage to make appropriate data-driven decisions and interventions."

With pharmacy services centralized, standardized, and automated from the CPSC out to patient care settings, Baptist Health pharmacists and technicians can spend less time on tactical tasks and more time on strategic activities as the scope of their profession shifts in this direction. With real-time analytics in hand, they can address the most pressing challenges facing pharmacies today – drug shortages, rising costs and supply chain security.



"The whole approach must change in the healthcare industry. We are a very reactive crowd. I believe it's very important to move to a proactive world and it's the job of every technology company to help get us there."

Nilesh Desai

Chief Pharmacy Officer
Baptist Health



Three Foundational Factors for a CPSC

The Baptist Health CPSC is an expansive initiative with an aggressive timeline. Fulfilling this vision requires Desai and his team to plan ahead, strategize on key elements in parallel, and in many cases, take action while the storyline is still being scripted.

Beyond the physical building and enabling technology, there are three additional priorities key to Baptist Health's CPSC success:

1. Engage Stakeholders and Secure Commitment

Achieving the CPSC vision requires collaboration and commitment across the health system's executive leadership, including stakeholders from Information Technology (IT), Finance, Human Resources (HR), Nursing and Compliance teams.

"Then there is my pharmacy team across all our various care sites," said Desai. "They are true go-getters. I have to say, 'kudos,' to them for their commitment and dedication even when the going gets tough."

Because the Tecsys solution integrates with existing inventory management systems, centralization success also requires vendor collaboration.

"Much of this work is net new, so it requires a commitment from all the parties we do business with today. I have good relationships with these companies so, in many cases, securing their buy-in was a matter of picking up the phone, calling their leadership and explaining what we needed from them. In the end, the success of our CPSC will be a win for everyone involved because they can apply their learnings to other health systems looking to centralize pharmacy."

Pharmacy leaders have also engaged political stakeholders in their CPSC planning given the positive impact these services will have on the health system's communities.

"When we announced our plans to build the CPSC, the Governor of Kentucky and the mayor of La Grange, the town where we are building the facility, expressed their support. We're making the message loud and clear that we're trying to do something different that will deliver widespread benefits to our communities."

2. Keep Regulatory Requirements Front of Mind

As with any pharmacy operation, the Baptist Health CPSC must operate in compliance with a wide range of entities and standards, including the state boards of pharmacy, USP, Centers for Medicare & Medicaid Services (CMS), and the DEA. And because the CPSC's services cross state lines, the pharmacy team has found itself navigating differing requirements.

The team began preparing for the regulatory requirements in the very early planning stages of the CPSC nearly two years ago by engaging with experts well versed in the regulations of the states where Baptist Health operates – Kentucky and Indiana.



"I always say, 'don't let perfect be the enemy of good.' You can always be perfect later, but let's do good first. If someone comes to me with an issue impacting 5% of our progress, it's my job as a leader to redirect them to the 95% we have successfully achieved. Everyone needs to be committed to overcoming the individual hurdles that keep us from experiencing the broader benefits."

Nilesh Desai

Chief Pharmacy Officer
Baptist Health

"We can't lose focus on the regulatory side because regulations are evolving and at the end of the day, we must remain compliant," said Desai.

The initiative being introduced at Baptist Health is pioneering in many ways, and it includes elements that are new and unfamiliar to many stakeholders. As the project rolls out, the pharmacy team is navigating regulations and orchestrating various accreditation requirements. By establishing groundwork with regulatory entities, Baptist Health is creating a blueprint for other healthcare organizations interested in centralizing their pharmacy supply chains.

3. Acquire the Right Talent

Although pharmacy service centralization will streamline processes and consolidate workflows, and the Tecsys Elite™ platform will automate many of the manual tasks performed by pharmacists and technicians today, Baptist Health will still need full-time employees (FTEs) to operate the CPSC.

The difference is that the pharmacy team's responsibilities will shift from non-value-added administrative work (e.g., inventory counts, duplicative documentation in disparate IT systems) to opportunities for pharmacists and technicians to work at the top of their licenses.

In the face of growing pharmacy staff shortages, Baptist Health's ability to offer candidates more engaging and impactful roles in which they can positively influence patient care, quality and costs should serve as a true differentiator. The pharmacy team is currently writing job descriptions, posting positions and interviewing candidates for the CPSC ahead of its planned opening.

Desai described how the talent recruitment strategy is aligned with the current market and what pharmacists want today from their employers:



"The scope of the pharmacist has changed dramatically. We are seeing more pharmacists with IT experience working across different specialties in both inpatient and ambulatory settings. By having a system like Tecsys, where pharmacists can leverage data and analytics for meaningful activities like drug shortage management and controlled substance monitoring, we support the transition of the pharmacist from a tactical to a strategic contributor."

Nilesh Desai
Chief Pharmacy Officer
Baptist Health





Future Vision

While the CPSC is in the building stage, and the Baptist Health and Tecsys teams are preparing to deploy the cloud-based Elite™ platform for process automation and digital data capture, Desai and team are already envisioning future use cases for pharmacy centralization.

The vision is for a future where Baptist Health pharmacists assume responsibility for medication management, alleviating doctors and nurses of a burden that skilled pharmacists are better equipped to handle. With the right information at their fingertips, pharmacists can perform drug reconciliation to improve patient care quality and reduce risks.

“Today, a patient will have multiple different medication profiles depending on where they are treated, which can lead to an incorrect medication history and list,” said Desai. “The vision is for pharmacists to own the end-to-end medication management process because medications are complex, and realistically, providers and nurses don’t have the time to manage it.”

End-to-end medication management process

Next Steps

For now, Desai and his team are progressing on the various elements to prepare for their CPSC go-live. The groundbreaking nature of their work has attracted attention throughout the health system, its communities and beyond.



“We already have folks queued up for site visits as soon as the CPSC opens. We are excited to share our work with other health systems who want to take a similar approach or want to partner with us because they don’t have the bandwidth to do this on their own.”

Nilesh Desai
Chief Pharmacy Officer
Baptist Health

Meet the **Baptist Health Team**

Nilesh Desai, Chief Pharmacy Officer

Nilesh Desai joined Baptist Health as Chief Pharmacy Officer in March 2020, where he is responsible for pharmacy operations across the eight-hospital system, as well as oversight of the system's retail pharmacies. Prior to Baptist Health, Desai was with Hackensack University Medical Center/Hackensack Meridian Health for 21 years, most recently as Administrator of Pharmacy and Clinical Operations. In this role, he oversaw inpatient, outpatient and retail pharmacies and had responsibility for OB/GYN and maternal-fetal medicine physician faculty practices. He also served as a Program Preceptor for the PGY1 pharmacy residency program and a Clinical Adjunct Professor with the Ernest Mario School of Pharmacy and Massachusetts School of Pharmacy. Desai holds a Bachelor of Science in Pharmacy and an MBA in healthcare.

M. Brandon McClain, System Director of Pharmacy Operations

M. Brandon McClain joined Baptist Health in January of 2017. He is the System Director of Pharmacy Operations and assists in the growth and strategic planning of the inpatient and outpatient pharmacy services as well as systemization and strategic planning initiatives. During Brandon's time at Baptist Health, he has led several major projects both at the local and system levels. Most notable are a conversion of central automation (carousels, CPM, and CSM) and automated dispensing cabinets to Omnicell, conversion to a new electronic health record (EHR), build out and opening of a retail pharmacy, and build out and moving to a new inpatient pharmacy. This has led to a complete renovation of the pharmacy's automation and operations and has allowed efficiency gains and revenue generation not previously possible.

Leslie Hurst, System Director, Ambulatory & Specialty Pharmacy

Leslie Hurst received her Doctor of Pharmacy degree from the University of Kentucky College of Pharmacy in 2006 and achieved Board Certification in the Ambulatory Care Pharmacy Specialty in 2013. She has held a wide range of pharmacy leadership roles to expand patient services in Kentucky and surrounding states. Hurst joined Baptist Health as System Director of Ambulatory & Specialty Pharmacy in December 2020. She leads strategic planning, coordination, and direction of ambulatory and specialty pharmacy services across the enterprise. Baptist Health owns 10 community pharmacies providing medication fulfillment and delivery services. Hurst oversees specialty pharmacy teams in oncology, neurology, gastroenterology, and endocrinology clinics across the system. She spearheaded specialty pharmacy accreditation efforts and achievement through development of new leaders, systemization of clinical and dispensing workflows, building and implementing new patient management software, and development of new policies, procedures, and committees.

Chris Diem, 340B Pharmacy Program Director

Chris Diem joined Baptist at Hardin Memorial Health as their 340B Program Director in July 2018 before their merger with Baptist in September of 2020. He oversees Baptist Health System's 340B program of seven covered entities, including their child sites and retail pharmacies. Earlier in his career, Chris was in retail pharmacy, most recently with Shopko, where he oversaw more than 50 pharmacy locations across several states in the Midwest. He began his career as a CVS pharmacist in Kentucky after graduating from the University of Kentucky College of Pharmacy.

Thomas Matanich, System Director, Pharmacy Contract Management

Thomas Matanich joined Baptist Health in October 2017 as a Contract Manager within the Supply Chain department. He is currently the System Director of Pharmacy Contract Management and is responsible for negotiating the purchase price of pharmaceuticals, pharmacy equipment, and pharmacy software at Baptist's hospitals, retail pharmacies, surgery centers, stand-alone infusion centers, home health, and non-acute clinics, with an annual drug budget of over \$500 million. Thomas spent 12 years at Humana Inc. within their Operations department, primarily as a project manager. He holds a Master's Degree in Business Administration (MBA), Six-Sigma Black Belt, and a Project Management Professional (PMP) certification from the Project Management Institute.

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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