

Saint Luke's

Saint Luke's Health System is an integrated health system with 14 hospitals and campuses serving the greater Kansas City metro region. With industry-wide staffing challenges and manual OR processes, the organization saw an opportunity to maximize resources. Using AI-powered software from Qventus to automate OR scheduling processes, the health system's flagship hospital accommodated 7% more surgical cases despite having 20% fewer ORs due to staffing challenges.

Background:

- 14 hospitals and campuses in the Kansas city region
- \$1.6B net patient revenue
- 12,000 employees
- 2 surgical robots
- 15 ORs at flagship hospital

Challenges:

- Increase access
- Strengthen margins
- Improve surgeon and staff satisfaction
- Optimize surgical cases with fewer ORs and staff

EHR:

- Epic

Qventus Solutions in Use:

- Perioperative (since 2021)
- Inpatient (since 2020)

Challenges to driving efficiency and growth

Similar to many health systems, Saint Luke's relies on surgical cases to drive overall volume and generate cash flow that supports their mission to deliver high quality care in their community. But with increasing competition in the region – on top of COVID-related capacity constraints and industry-wide staffing challenges – Saint Luke's leadership needed a new strategy to drive perioperative growth and efficiency. To address these challenges, they prioritized three key areas:

- 1. Improve Access as Regional Destination for Tertiary & Quaternary Care** – Increase utilization and efficiency to accommodate system growth and demand for care.
- 2. Optimize Staffing & Resources** – Maximize value with fewer available staff and ORs, impacted by COVID and related staffing challenges.
- 3. Strengthen Margins** – Drive overall perioperative margin improvement and grow its contribution to the health system's bottom line in order to help support the organization's mission of delivering high quality care

Saint Luke's recognized inefficiencies with manual OR scheduling processes, which locked up usable OR time. These inefficiencies were caused by many common challenges that perioperative teams face on a daily basis: block time is often released at the last-minute and goes unused, surgeons request more OR access or take cases to competing health systems, and OR teams are constantly under pressure to fill last minute block releases and find access for the ideal surgeons and cases.

Before turning to Qventus, Saint Luke's took several steps to address these challenges but quickly realized they were not enough. They revised key OR policies, improved their ability to leverage functionality within their EHR, and tasked their internal Project Management Office with identifying new ways to optimize OR performance. These efforts highlighted the need for a new solution to both improve case scheduling accuracy and optimize OR scheduling. Ultimately, leadership decided to explore a new approach to unlock growth and efficiency.

“Before, one of our biggest complaints from surgeons and schedulers was about inefficiencies in trying to get cases on the schedule — as a result, so many blocks were going unused.”

Jane Peck - VP Clinical Service Lines, Saint Luke’s Health System

The Qventus Perioperative Solution

Saint Luke's was already using Qventus AI-powered software to automate operations in an inpatient setting. To further extend the value of the real-time platform, Saint Luke's then deployed the Perioperative Solution for OR scheduling teams and surgeons. **The Perioperative Solution uses innovations in AI, machine learning, and behavioral science to automate key OR scheduling processes.**

The software is comprised of four modules:

Access: Increase available time by proactively unlocking supply

Growth: Strategically grow volume by engaging with high-value surgeons

OR Insights: Surface actionable insights for surgeons and OR teams

Market Insights: Identify growth opportunities with Insights powered by longitudinal claims data



- **The Access Module** leverages machine learning algorithms to predict up to a month in advance which blocks are unlikely to be utilized. When the algorithm identifies a block, the surgeon receives an email nudge explaining both the reason for the outreach, and, importantly, the positive impact that releasing this time would have on their block utilization. The automated outreach and efficient block release mechanisms create valuable lead time for OR teams to attract cases, increase utilization, and serve more patients sooner.

- **The Growth Module** aligns health system strategic objectives and OR utilization. This not only enables health systems to grow case volume, but to do so strategically - prioritizing cases that are in line with the health system’s goals. This is achieved through two mechanisms:

1. Available Time Outreach: Once an OR slot becomes available, an algorithm automatically offers the time directly to surgeons who are predicted to be the best fit based on practice patterns and past performance. The algorithm can be modified to weigh institutional priorities, such as growing targeted service lines, improving robotic utilization, or decanting low acuity volume to specific facilities. Paired with the increased lead time created through the Surgical Access module, this automated approach enables leaders to proactively recruit high priority cases, rather than accepting whichever cases fill the slots organically.

2. TimeFinder: Employed and independent surgeons - and their schedulers - use the intuitive reservation interface to view and request OR time in real time - without logging into the EHR. Machine learning filters and prioritizes time slots predicted to be the best fit based on the surgeon's past case time performance and other factors, which makes it simple and efficient for users to find time and schedule cases.

- **The OR Insights suite** has personalized, persona based products designed to enable key stakeholders in the OR to better understand performance and drive proactive improvement.
 - **Surgeon Insights:** Empower surgeons with insights and feedback they need to improve operative efficiency and grow case volume of their practice through never before available referral and market data.
 - **Executive Insights:** Understand system performance at from the highest level down to specific service lines with added context from recent market data to explain monthly volatility and performance shifts.
 - **OR Leader Insights:** Highlight opportunities for coaching and kudos for surgical stakeholders and measure performance improvement and impact in real-time.
- **Market Insights** enables surgeons to identify growth opportunities in near-real-time with insights powered by longitudinal claims data, available exclusively from Qventus. Some common use cases include:
 - Automatically identify high-potential referral sources
 - Gain insight current market position by procedure
 - Understand volume volatility in the context of overall market shifts

Results

Immediate Impact

After implementing the Qventus Perioperative Solution in February 2021, Saint Luke's achieved significant OR growth and efficiency improvements. In 2021 alone, Saint Luke's touched 103 additional patient lives thanks to Qventus-enabled early block releases and Available Time Outreach nudges. They also increased their average lead time on released blocks by an additional 14 days.

"I've never seen blocks released that far in advance throughout my entire career."

Anesthesia Medical Director, Saint Luke's Health System

And most notably, during a time when many health systems elected to postpone cases due to COVID and staffing challenges, Saint Luke's accommodated 7% more surgical cases – despite having 20% fewer staffed ORs – thanks to efficiency gains and scheduling optimization they achieved with Qventus.

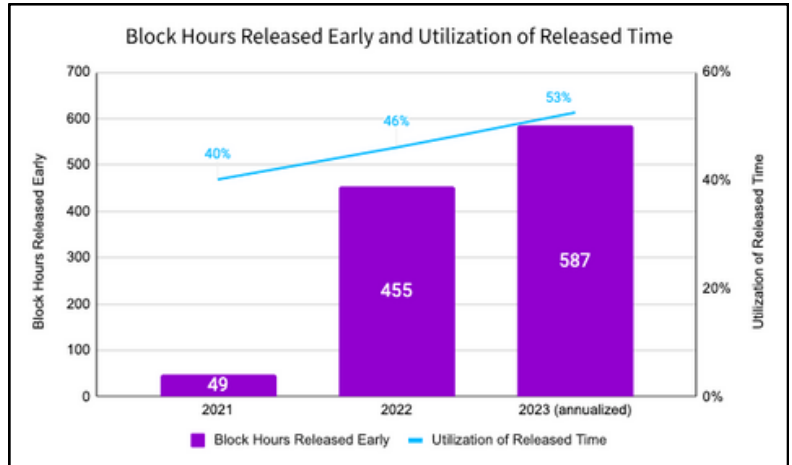
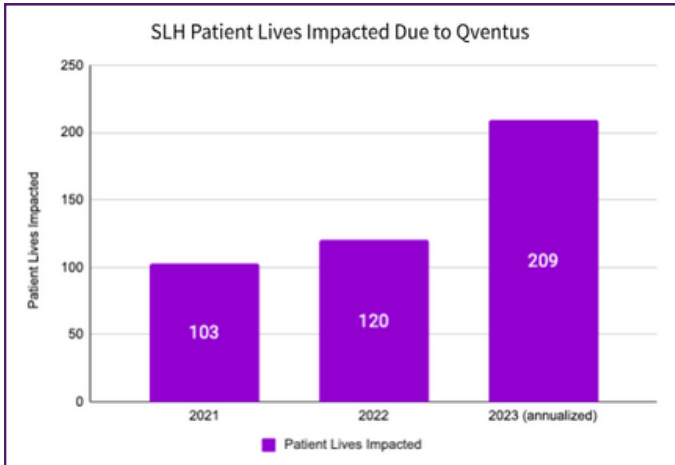


"We've had fewer ORs open because of staffing challenges. How is it that we've been able to do more cases in fewer rooms? It's because Qventus allows us to become more efficient and optimize the space we have."

Jane Peck - VP of Service Lines, Saint Luke's Health System

Sustained Growth

As the solution became more ingrained in Saint Luke’s operating procedures, the positive outcomes continued to compound. In both 2022 and 2023, Saint Luke’s continued to release more block time earlier, and impacted significantly more patient lives thanks to Qventus.



“The impact we’ve been able to make and the lives touched is significant. It’s great to see the overall engagement grow and surgeons being more proactive with their block management over time.”

Marshaun Butler - Chief Operating Officer, Saint Luke’s Health System

Qventus has also had a positive impact on staff and patient satisfaction. The solution has reduced friction between the hospital and surgeons’ offices throughout the scheduling process, providing meaningful benefits including:

- Schedulers have less manual work and can schedule cases in a more timely, easier, and accurate manner.
- Surgeons can more easily access OR time, increasing their overall satisfaction.
- OR staff have smoother workflows on the day of surgery, as a result of greater scheduling accuracy.
- Patients experience shorter wait times for surgeries, enhancing patient experience and outcomes.

98%

OR Requests through
Qventus Accepted

18min

Median Turnaround Time
for OR Time Requests

79%

of Requests Responded
to Within 1 Hour

Conclusion

Saint Luke’s turned to the Qventus Perioperative Solution to improve OR access, maximize utilization, and care for more patients with limited resources. By leveraging AI, automation, and behavioral science, Qventus helps health systems achieve sustainable OR growth. By identifying and proactively encouraging release of blocks that are likely to go unused, and strategically filling those blocks with best-fit cases that align to the health system’s priorities, Qventus is able to create meaningful impact.

With Qventus, Saint Luke’s Health System has been able to achieve impressive results, while improving patient care and making life easier for surgeons and OR staff. Saint Luke's also has a distinct new advantage in their market. Not only has the health system accelerated surgical case volume – despite staffing shortages – but it also has created a more integrated “marketplace” for OR time that will continue to drive growth. According to Jane Peck, “AI and automation is really the way we are all going to be able to optimize in the future. It is here to stay, and it will only grow in the future.”