Operational Excellence: Now More Important Than Ever

For years, healthcare operations have failed to keep pace with the rapid advancements in other areas of healthcare and with operational best practices in other industries. Despite significant investments in EHRs, dashboards, and performance improvement initiatives, operational processes still rely on manual efforts of frontline teams. This results in burnout, poor patient experience, suboptimal care quality, and significant excess costs.

Covid-19 exposed the significant downside risks of poor operations and created a challenging operating environment for health systems going forward. Hospital margins, already strained for years, have seen additional hits due to the pandemic and are unlikely to recover in the near term. Clinical teams, already overtaxed before the pandemic, are now nearing a breaking point.

But fortunately there are bright spots. The pandemic also shocked organizational cultures, spurring leaders to take action at a pace never before seen in healthcare. One of the biggest areas of opportunity is technologies for automating real-time operations. In fact, improving operational efficiencies is one of the few "no regret" moves that can simultaneously increase revenues, decrease costs, improve the lives of frontline teams, and enhance the patient experience.

Introducing Qventus:

Qventus builds on existing investments in EHRs by applying new innovations in artificial intelligence (AI) and machine learning (ML), behavioral science, and operations management to transform healthcare operations. Processing millions of data points in real-time, the platform identifies operational issues before they occur, coordinates actions among frontline teams to address or avoid the issues, and manages accountability to drive continuous improvement.

With Qventus, leading health systems have achieved incredible results, including significant decreases in inpatient length of stay, accelerated ED throughput, fewer PACU exit delays, and improved "systemness." Additionally, frontline teams have benefitted from reduced manual work, enhanced team collaboration, smoother discharges, and a better patient experience. Outcomes at leading health systems include:

0.3-0.8	5,600	15-20%
day decrease in LOS	excess days eliminated in 12 months	reduction in ED LOS
Enhance lives of frontline teams	**Increase** value of EHR	**Improve** quality of care

Across an entire health system, these benefits translate to tens of millions of dollars in annual financial benefit.

Qventus provides the healthcare industry's first comprehensive solution for automating operations. It's a complete system—everything needed to deliver and sustain exceptional operational outcomes.

Automation Platform

Going beyond point solutions and ad hoc process initiatives, the Qventus Platform provides a comprehensive set of technologies for driving continuous operational improvement. It integrates with and complements your existing infrastructure and provides all the technologies required to create a closed-loop system for managing operations. This automation platform allows you to:

1. Identify operational issues in the past, present, and future, predicting them before they occur. Technology includes real-time integration with EHRs and other systems, sophisticated data analytics, AI and ML for real-time identification and prediction, Covid-19 epidemiological models to predict case volume, and real-time situational awareness.

2. Orchestrate actions among frontline teams and ancillaries so they can address or avoid the issues, which reduces cognitive burden and decreases variability. Technology includes real-time communication and collaboration with other departments, prioritized task lists, and full process automation. Additionally, behavioral science-based habit formation techniques like nudges and rewards help ensure new processes stick.

3. Manage accountability to drive continuous improvement, with escalation pathways that surface critical issues to managers, as well as a review structure for thoroughly analyzing performance. Technology includes sophisticated data science analytics, such as statistical outcomes analyses, as well as automated escalations.

1 | IDENTIFY ISSUES
retrospectively, in real-time, and in the future

Requires: real-time integration, analytics, AI & machine learning, situational awareness

Qventus
AUTOMATION PLATFORM
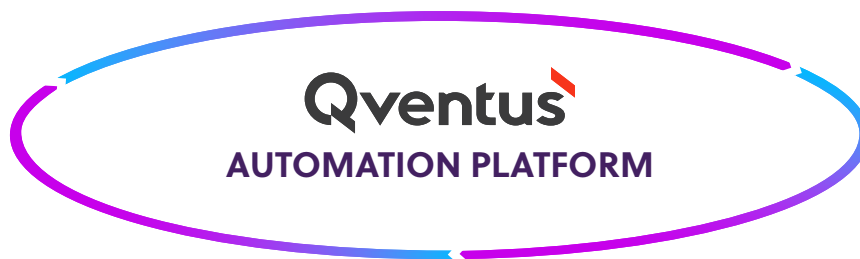
3 | MANAGE ACCOUNTABILITY
to ensure continuous improvement

Requires: escalation pathways, statistical outcomes analyses, top-down adjustments

2 | ORCHESTRATE ACTIONS
to help frontline teams know what to do

Requires: habit formation/nudges, prioritized tasks, collaboration, automation

Integrates into existing infrastructure

Epic **Cerner** **Allscripts** **MEDITECH**

Healthcare Operations Solutions

Qventus Solutions are predefined bundles of software, best practice processes, and change management practices that address the most important operational issues within hospitals and health systems. Incorporating the deep experiences of our customers, clinical operations team, and industry experts, as well as evidence-based research, they provide everything necessary for organizations to create and sustain significant operational improvements.

The Qventus Inpatient Solution streamlines and standardizes the discharge planning process. It processes millions of data points in real-time and uses AI to predict the expected date of discharge, disposition, and barriers to discharge days in advance of the actual discharge date. It applies ML to prioritize orders for ancillaries and enables care teams to collaborate in real time. And finally, it uses statistical engines to monitor processes and automatically escalate issues for real time intervention as necessary.

The Qventus Emergency Department Solution uses ML to deliver real-time bottleneck predictions allowing teams to get in front of variations in ED demand. Ancillary orders are automatically orchestrated to optimize flow and reduce delays. Admissions and discharges are then predicted, enabling more efficient outflow management, reducing the burden on staff, and improving patient satisfaction. With enhanced predictions on demand, ED staffing can be more accurately determined further in advance, leading to fewer resources challenges.

The Qventus Perioperative Solution goes beyond block optimization to drive sustainable operational efficiency and elevate the surgical experience. The platform applies AI and behavioral science to engage stakeholders across the hospital to anticipate and resolve bottlenecks before delays disrupt schedules, stall patient flow, and frustrate staff. The result: optimized utilization of ORs, fewer costly holds, and a better provider and patient experience.

The Qventus System Operations Solution provides real-time situational awareness across the system and facilities. Using AI and ML, the solution automatically surfaces patient flow and resource utilization issues. It then engages frontline teams and helps them proactively resolve bottlenecks through the identification of available capacity, balancing of patient loads, and management of centralized resources. It hardwires escalation pathways and standardizes processes to optimize resource usage across the system.

Expert Services

Implementing software alone is not enough to ensure operational transformation. You need a partner with proven experience in managing complex projects and delivering outcomes, as well as a team that will work closely with you on change management — both for the initial implementation and ongoing management.

Leading health systems partner with Qventus

M HEALTH FAIRVIEW   Mercy   NewYork-Presbyterian   HONORHEALTH

Dignity Health   UAMS University of Arkansas for Medical Sciences   Sutter Health   EMORY UNIVERSITY HOSPITAL

Saint Luke's   WELLSPAN HEALTH   BOSTON MEDICAL CENTER   Marshfield Clinic Health System

Transformative impact across partners

>0.5 day LOS decrease
35 bed effective capacity created
Urban AMC Health System in Northeast on Epic

0.7 day LOS decrease
23% reduction in PACU delays
Large AMC Hospital in Southeast on Cerner

0.4-0.7 day LOS decrease
$4M annual savings
Rural Health System in Midwest

0.2-0.6 day LOS decrease
22 bed effective capacity created
Large Hospital in Major Health System in West

"We needed a partner who has the credibility of understanding operational challenges and a track record of driving impact. That's why we partnered with Qventus."

Sameer Badlani, MD, FACP   **Chief Information Officer**   M Health Fairview

"We feel like we are so far ahead now. Every ED leader and every hospital leader now has a standardized way that we approach our metrics and patient flow."

Jeff Reames, MD, MBA, FACEP   **VP of Emergency Services**   Mercy Health System

"Our leader engagement has never been higher. It helps us hold our teams accountable in real-time instead of waiting for a report with old data."

Courtney Vose, DNP, MBA, RN, APRN, NEA-BC   **VP and CNO**   NewYork-Presbyterian Columbia University Medical Center