**FAIRVIEW**

**Qventus**

# Fairview Health Services: Transforming System-Wide Operations through Intelligent Automation

## Challenge

**Driving efficiency to meet changing consumer needs**

Fairview Health Services, which operates 12 hospitals and medical centers and 9 emergency departments in Minnesota, has ambitious goals to provide care for a growing number of patients and deliver a more consumer-centric experience—and has a transformational strategy to provide them with excellent, predictable care that includes the Qventus real-time operations management system.

**Fairview Health Services At A Glance**
Award-winning, nonprofit, integrated health system in Minnesota

- 33,000+ employees
- 5,000+ system providers
- 12 hospitals & medical centers
- 2,140 staffed beds
- In 2017, welcomed HealthEast care system into the Fairview family

**Volumes (2017 data)**
- 90,934 inpatient admissions
- 282,323 emergency department registrations

> "Across health systems, hospitals are often built on heroic efforts of caregivers and other staff in the system. We need to truly systematize health systems. With an enterprise-wide platform that integrates into processes and removes burden from care providers, we're able to increase efficiency and throughput in patient and staff flow, reduce cost and ultimately better meet the needs and wants of patients."
>
> JAMES HEREFORD, PRESIDENT AND CEO FAIRVIEW HEALTH SERVICES

The demand for patient care is rising in Minnesota, and consumers have increasing choice in their care. Fairview's challenge is to meet the need with quality and efficiency. Most health systems in the country need to transform to provide the best care at the lowest cost to their community. Fairview recognized that it will require evolving from managing its hospitals and sub-acute infrastructure as independent entities to a more operationally-integrated delivery system.

"We knew that what we needed to do next would have to be nothing short of transformational in order to truly meet the needs of our health care consumers and improve the care giving experience for our teams," said Marlena Kane, vice president, Fairview Consumer Solutions and System Operations Center.

**Qventus**

## Vision

### Optimizing operations at the department, facility, and system levels

As Fairview grows, the organization must be reliable and rapidly adaptive, which, according to CEO Hereford, requires autonomation—a concept from lean production that means intelligent automation, or automation with a human touch.

To make autonomation real, Fairview needs a platform and operating model to harness data to drive real-time action, what Qventus calls a system of action. The "brain" of this system is the Qventus platform, an intelligent chassis that sits on top of Fairview's EHR and other systems of record, automating real-time coordination and escalation both within and between their facilities. Qventus uses artificial intelligence and machine learning to help healthcare organizations and their people to see the larger picture, anticipate events from real-time data, and recommend actions to the frontline in the moment.

> **When it's fully implemented, the system of action will enable Fairview to:**
>
> - Gain visibility into the real-time and predicted operational readiness—including occupancy, staffing, and other key resources—across the entire Fairview system's ED, inpatient, OR and ambulatory settings.
>
> - Initiate one-call transfers anywhere within the system. For example, the ED at Fairview Ridges Hospital will know at a glance if there is a bed available at Fairview Southdale Hospital. It won't take the ED charge nurse three or four calls to other hospitals to find an available bed.
>
> - Create demand-based, prioritized worklists for ancillary departments that optimize patient throughput and deliver a consumer-centric experience. The pharmacy will know which prescriptions to fill first to speed discharge, and housekeeping will know which beds to clean first to speed in-patient transfer from the ED.

## Getting started at the facility-level

### Launching at Fairview Ridges Hospital

Qventus scales easily from a single hospital to a health-system-wide operations center. The first phase of Fairview's system-wide deployment is Fairview Ridges Hospital.

Fairview Ridges uses Qventus' recipes, intelligent interventions that identify operational barriers in real time and coordinate the cross-functional collaboration required to streamline patient placement, discharge planning and address surges.

"In the ED, the biggest barrier is if the hospital is full. The Fairview Ridges ED has outgrown the hospital inpatient units, and we have no clue what capacity is available in the system at sister locations. More transparency will be very helpful," says Peggy Desseyn, nurse manager for emergency services at Fairview Ridges.

### Anticipating and preparing for surges

Like most hospitals, the Fairview Ridges ED uses historical data to plan. Doctors are scheduled months in advance. ED pods are opened according to schedules that are informed by past experience. But, when variables can quickly change at any given moment, it's often hard to rapidly adapt and manage the complexity.
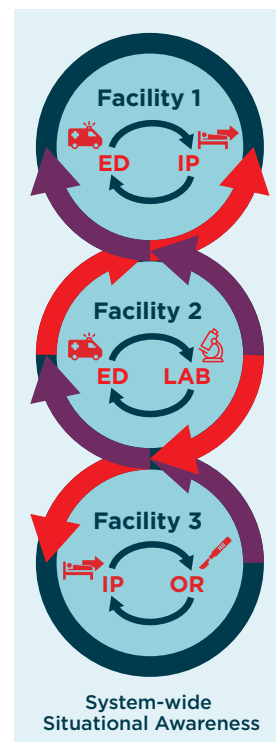
> "Qventus brings real-time data, so instead of reacting we can be proactive. The real-time data shows in advance when surges in demand are developing, so we can prepare before the situation becomes urgent."
>
> PEGGY DESSEYN, NURSE MANAGER FOR EMERGENCY SERVICES AT FAIRVIEW RIDGES

**Independently Managed Operations**

**System of Action: Enterprise-wide Integrated Operations**

Facility 1 — ED / IP

Facility 2 — ED / LAB

Facility 3 — IP / OR

Facility 1 — ED / IP

Facility 2 — ED / LAB

Facility 3 — IP / OR

**System-wide Situational Awareness**

For Desseyn and team, this may mean re-allocating staff or calling in extra help, opening the Fast Track line, discharging some patients early, or taking other proactive steps. "Before, there may have been other in-house resources that we could utilize, but they had no idea we needed help," adds Desseyn. Now, every department is alerted, and tasks are prioritized to improve throughput.

### Solving delayed discharges

Qventus keeps an eye on patient discharge planning and status at Fairview Ridges. It anticipates the actions required to discharge patients and nudges charge nurses, so action can be taken to prevent delays. This may mean nurses stepping in to assist busy team members or requesting a float nurse. "Everyone can adjust workflow based on the real-time data," says Desseyn.

> "From a system level, this solution reduces cognitive burden on staff and helps them perform at their best. This is a win for everyone on the value chain—patients, staff, and the Fairview organization."
>
> JAMES HEREFORD, PRESIDENT AND CEO FAIRVIEW HEALTH SERVICES

### Empowering the frontline

By optimizing the processes of patient placement from the ED, in-patient discharge planning, and surge coordination, Qventus will help staff focus on care delivery and practice at the top of their licensure.
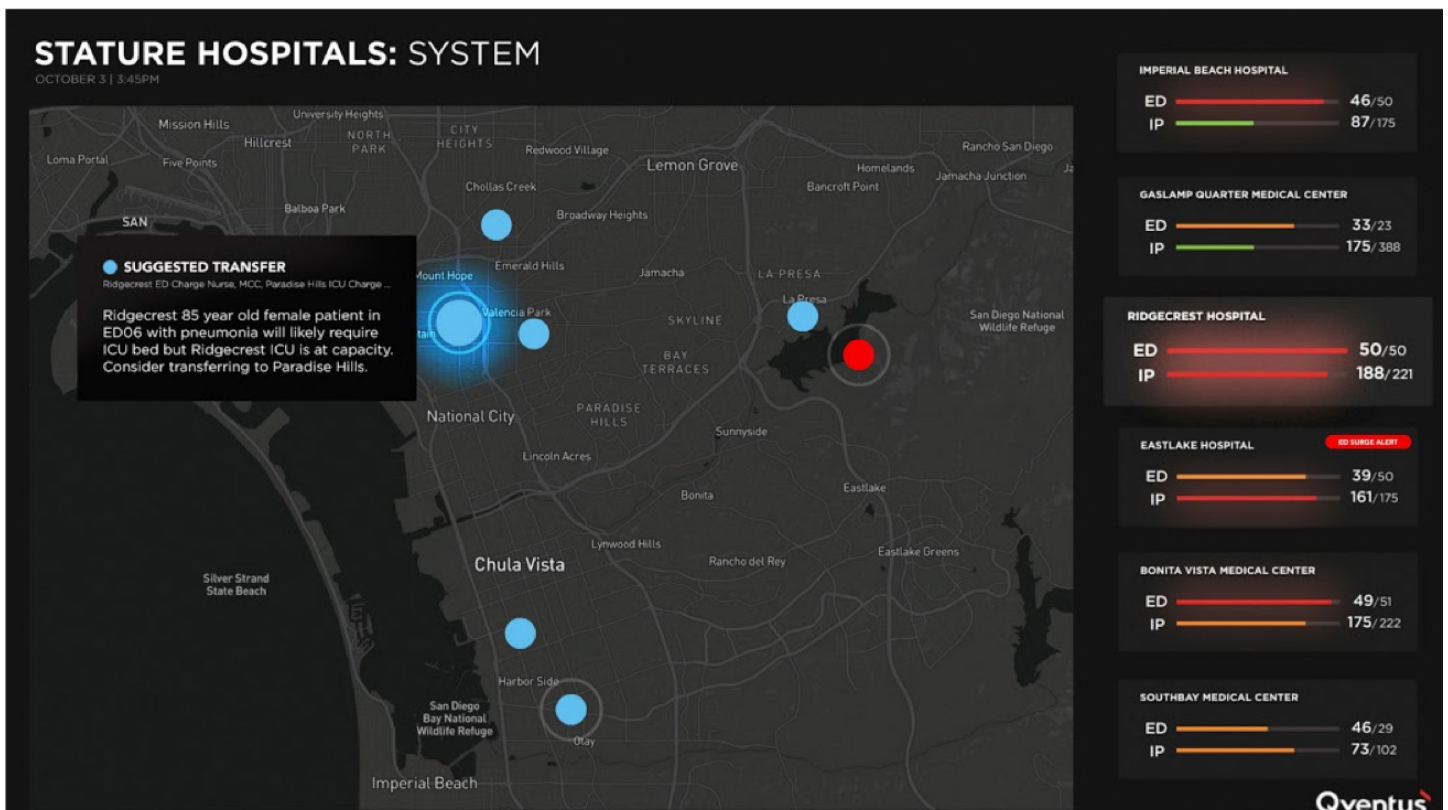
## Unlocking system-wide efficiency

### Optimizing inter-facility operations

Managing system capacity to optimize patient throughput will enable Fairview to better serve more patients in Minnesota's consumer-driven environment.

To do so, Fairview is standing up a Systems Operations Center (SOC) function that will help with operational escalation tracking and management at the system level as well as with operational performance and goal tracking.

With the SOC, Fairview will have situational awareness across the entire system and the ability to proactively plan care for customers, while easing the burden on teams at the same time.



## STATURE HOSPITALS: SYSTEM
OCTOBER 3 | 3:45PM

**SUGGESTED TRANSFER**
Ridgecrest ED Charge Nurse, MCC, Paradise Hills ICU Charge ...

Ridgecrest 85 year old female patient in ED06 with pneumonia will likely require ICU bed but Ridgecrest ICU is at capacity. Consider transferring to Paradise Hills.

IMPERIAL BEACH HOSPITAL
ED 46/50
IP 87/175

GASLAMP QUARTER MEDICAL CENTER
ED 33/23
IP 175/388

RIDGECREST HOSPITAL
ED 50/50
IP 188/221

EASTLAKE HOSPITAL — ED SURGE ALERT
ED 39/50
IP 161/175

BONITA VISTA MEDICAL CENTER
ED 49/51
IP 175/222

SOUTHBAY MEDICAL CENTER
ED 46/29
IP 73/102

Qventus Mission Control Center's system-level view (illustrative health system example)

### Powering up the system-level capability

The Fairview SOC will be powered by the Qventus Mission Control Center platform to enable situational awareness at the health system level. It will provide predictive identification of problems before they occur (hotspot detection), providing the user with full context of information needed to resolve issues. It will also enable cross-system escalation and collaboration for teams among all system facilities. Additionally, the platform will provide Fairview with visibility into its system-wide operations allowing smart resource allocation and balancing.

**To start, in addition to providing system-level situational awareness, Fairview will use the Qventus Mission Control Center for three key use cases:**

1. Facilitating inbound patient transfers from out-of-system into Fairview facilities

2. Optimizing intra-hospital and inter-hospital patient movements

3. Providing tools and relief for discharge planning and on-time departures

Ultimately, the fully-deployed Qventus Mission Control Center will reduce cognitive load for frontline teams and help minimize operational waste through automation and standardization.

## Scaling the system of action

### Rollout across Fairview Health Services

Fairview's system-wide deployment of the Qventus platform is underway, starting with the highest need facilities.

A Qventus delivery team that includes members with frontline clinical experience is working with Fairview to implement the "recipes" for utilizing real-time data to meet the goals, define the metrics for assessing progress, and support the Fairview team in the change management that is essential to success.

> "With this system, we can empower teams at the local level to take action. And, at the system level, we can use data to identify and anticipate issues and proactively resolve them."
>
> MARLENA KANE, VICE PRESIDENT, FAIRVIEW CONSUMER SOLUTIONS AND SYSTEM OPERATIONS CENTER

In a time of shifting consumer expectations in healthcare, increasing caregiver burdens and burnout, shrinking margins and growing competition, it's no longer enough to manage each hospital independently. Fairview has embarked on an ambitious strategy to improve how it manages capacity on a system level while empowering frontline team members. And Qventus provides a scalable foundation for the transformation.

### About Qventus

Our mission is to simplify how healthcare operates, so that hospitals and caregivers can focus on delivering the best possible care to patients. We do this by building products that help healthcare organizations and their people adapt to the variability of the healthcare system and make the right decisions from the most complex data. We bring together a unique combination of academic backgrounds and professional experience. We've built companies, led hospital transformations and worked at some of the biggest tech firms in the world. We move quickly and listen. We always start with our users' needs and ask ourselves how we can help them better serve their patients. We build quickly and let the data speak for our results. The platform was awarded "Best in Show" by the 2016 Fierce Healthcare awards.