Hospital IQ has been tremendously impactful for us. We’ve seen an increase in surgical volume by over 4,000 cases, mostly due to surgeon growth and our ability to create capacity using Hospital IQ’s tools. This volume resulted in $22 million in contribution margin generation for our organization from those cases.

Dan Towarnicke
Vice President, Perioperative Services
University Hospitals Cleveland

Increasing Case Volume and OR Utilization to Grow Revenue and Reduce Costs

Hospital IQ’s powerful Perioperative solution enabled University Hospitals to analyze, predict, and help manage OR demand, capacity, and staffing. Hospital IQ gave leaders the time and insights to:

- Increase primetime surgeries by 120 cases per month, which improved OR utilization by 5% and reduced the average cost per surgical case.
- Implement a surgeon-centric process to increase access to hidden and available OR time, resulting in an increase of 28 surgical cases per week at the main campus.
- Develop and implement a successful service-line management model for the OR using a distributed management reporting framework that enabled autonomous management for staffing, supplies, and OR block allocation.
- Generate $22 million annually in contribution margin for the hospital as a result of these operational changes.

University Hospitals
Cleveland, OH, USA
- Private, not-for-profit, academic health system
- 2,240 beds and 128 ORs
- 150,000 surgeries annually
- 12 community medical centers, 40 health centers, and 1 joint venture hospital
- 4,700 total providers and 25,000 nonphysician employees
- $4 billion total annual revenue
University Hospitals Cleveland had no way to take a system-wide look at how its surgeons and ORs were performing or to foresee the impact of future changes.
University Hospitals Cleveland turned to Hospital IQ to help transform its surgical operations to achieve the following objectives:

- **Implement micro ORs.** Under this management model, each service line administrator is assigned a subset of ORs, staff, and other resources, and empowered to manage all aspects including block allocation, staffing, and supplies.
- **“Decant” OR cases.** UH leadership wanted to open up more capacity for complex surgeries at the main campus by shifting lower acuity and outpatient surgeries to lower-cost ambulatory surgical centers in the system.
- **Improve access to ORs.** Perioperative leaders wanted to give surgeons and their staff easier access to hidden and available OR time to streamline the process of finding and requesting available OR time.
- **Staff to demand.** UH sought to improve its shift schedule and staffing process to more accurately align staff to the hospital’s surgical demand and mix, and to better predict changes in staffing needs as volume changes.

**Benefits Achieved and Value Created**

Hospital IQ enabled University Hospitals to implement the service-line management model by analyzing the hospital’s historical data and then applying artificial intelligence and machine learning to improve block utilization. This enabled the hospital to, for example, reallocate block time from low utilization surgeons and services to those practitioners and services that needed more OR time. This also revealed how much block time the hospital should allocate to each service line. In addition, it enabled service-line leaders to identify and proactively reallocate block time that would have otherwise gone unused. As a result, surgical volume grew by an average of 120 cases per month and room utilization increased by 5%.

Hospital IQ also guided UH’s surgical transfer (“decanting”) efforts. With the analytics it provided, UH was able to successfully change its mix of surgeries, moving lower-acuity cases to the appropriate community ORs while creating space for additional high-acuity cases in the main ORs. This innovation improved the hospital’s case mix index by 15 percent in one year, improving reimbursements and generating higher revenue per surgical hour.

Using Hospital IQ’s predictive analytics, University Hospitals uncovered hidden capacity in its operating rooms, which are almost completely allocated via the block schedule. By recommending block releases weeks in advance and offering an intuitive, mobile interface to find and request available OR time, surgeons now have improved access to OR time that may have otherwise gone unused. The increased access to OR time enabled by Hospital IQ has improved surgeon satisfaction and increased OR utilization by an additional 28 cases (on average) per week at the main campus. Based on this success, UH will be deploying these capabilities system wide.

In addition, using Hospital IQ’s staff planning tools, perioperative leadership was able to quantify the impact of proposed staffing changes and, as a result, overhaul the staffing grid and streamline the staff assignment process, which improved staff satisfaction and labor productivity. What historically had been a manual, unscientific process that had taken weeks of staff time now requires just a few hours per month.

By October of 2019, as a result of the operational changes and additional case volume, UH’s perioperative department improved its annual direct contribution margin to the hospital by $22 million.

**About Hospital IQ**

Hospital IQ is a team of industry veterans who are passionate about using their collective knowledge and experience to help hospital leaders transform operational practices and improve performance – and deliver the best patient care to the most people.