

# Queensway Carleton Hospital Meets Performance-based Funding Objectives

Queensway Carleton  
Hospital**80%**time now spent on  
improvement projects**SELF-  
SERVICE**

empowerment

Due to Canada's performance-based funding system, like many hospitals, Queensway Carleton Hospital (QCH) is under increased financial pressure. The payment model rewards physicians, hospitals, and medical groups for meeting quality and efficiency measures while penalizing poor outcomes, medical errors, and runaway costs. Complying with these requirements involves analyzing hospital processes, reviewing patient outcomes, identifying areas for improvement, and predicting patient trends. The hospital needs to be able to easily access, combine, and analyze a broad array of data to determine how much funding it will receive.

## Challenge

To meet these and other information management requirements, QCH used to have four full-time employees devoted to creating and managing reports. Yet, even with that sustained effort, it was difficult to obtain accurate clinical data about what was happening in the emergency room and other cornerstone programs, such as childbirth, geriatrics, mental health, rehabilitation, medical, and surgical services.

"Our old way of doing business, such as emailing spreadsheets and sending ad hoc requests to personnel was not an efficient or effective way to provide data in real time," explains Michael Cohen, vice president of clinical services and information management and QCH's chief information officer. "We needed to improve the way we shared insights and supported the information needs of the hospital."

**“We want to change the role of the decision support staff so they can spend 80 percent of their time on value-added improvement projects. In the past, they used to spend 100 percent of their time generating reports.”**

—Michael Cohen, Chief Information Officer and Vice President of Clinical Services and Information Management

Cohen knew that QCH needed more sophisticated data management and analytics practices. The institution didn't have extract, transform, and load (ETL) tools. In addition, its financial reports were time-consuming to produce. Cohen hired Laure Pitfield, an expert in data analysis and interpretation, to guide QCH's Decision Support department on this project. Pitfield's challenge was to correlate information from multiple systems, create self-service analytics dashboards, and build self-sufficiency within the user community—reducing the number of reports that IT had to manage.

## Solution

Pitfield's interdisciplinary team, which oversees the hospital's data analysis activities, is implementing a new analytics environment using ibi™ WebFOCUS®. Previously, QCH was struggling to access data from a number of siloed data stores. Its data warehouse contained data from a MEDITECH health information management system, which captures data on patients as they become registered, and a Winrecs Med2020 abstracting system, which collects patient details, such as diagnoses, surgical interventions, and length of stay.

Cohen's group wanted to avoid the cost and trouble of developing a middleware layer to transfer data from domains such as scheduling, payroll, and finance into this Microsoft SQL Server data warehouse. In Cohen's view, a major advantage of WebFOCUS was its robust back-end connectivity and built-in ETL tools. Cohen decided to use WebFOCUS to streamline connectivity to the new analytics system.

ibi helped QCH design a new data model for MEDITECH and Med2020 information. “ibi solutions helped us combine two sources of information to calculate a rate over time,” Pitfield explains. “It lets you point and click to create new tables without any expertise in database administration.”

Pitfield and other members of the in-house team can easily add data sources, change the formatting, or modify the original data sources on their own. The team is also using WebFOCUS to build a new front-end environment for self-service analytics that contains several self-service applications.

Self-service applications are intuitive, visually compelling, and interactive interfaces — providing business users with instant insight into targeted clinical and administrative domains. For example, one of the applications presents 10 childbirth performance metrics. Designed as a scorecard, it lets people drill into the data to view results by each healthcare provider. “Reducing the C-section rate is a corporate priority,” says Cohen. “It was important to give the childbirth department the knowledge and understanding of what the C-section rate is and the other indicators that are linked to it, such as the induction rate and complication rate.”

## Benefits

ibi WebFOCUS is quickly becoming vital for important improvement projects because it provides a snapshot of data warehouse information and empowers people to create their own Excel pivot tables. Cohen's goal is to use the platform's self-service capabilities to empower the business community to access and analyze their data. "We want to change the role of the decision support staff so they can spend 80 percent of their time on value-added improvement projects," Cohen notes. "In the past, they used to spend 100 percent of their time generating reports."

The hospital also plans to use ibi WebFOCUS to predict how patient trends are likely to influence future activity levels. Ontario's government funding model relies on formulas that are derived from a mix of historical payments and performance incentives. One formula defines a hospital's volume of activity based on services rendered. Instead of receiving money upfront, the hospital must earn that funding as it treats certain conditions or performs various services, such as hip replacements.

With ibi™, QCH will be able to predict the types of patient cases that are likely to be on the horizon. Cohen cites an example: "The trends might reveal that we will be 300 cases short of our hip-replacement target, which could mean a million dollar shortfall. The sooner we know that's happening, the better we can plan and respond, such as by opening up operating room time or scaling back expenses."

"The initial user base for the new analytic environment includes 75 members of the hospital's leadership team, including leaders, managers, directors, vice presidents, and other senior officers. Having a guided self-service analytic environment accessible through the portal will enable these decision-makers to constantly evaluate plans and make adjustments throughout the year. Our portal will soon be a one-stop shop for centralizing information that used to come from many areas," Pitfield says.

Additional projects include a patient census dashboard and a compliance dashboard for analyzing infection-control practices. For these and other analytics initiatives, the new information management environment is quickly becoming essential. According to Cohen, "We now have the flexibility and power to achieve many of the productivity gains we envisioned at the start of this project."

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