

Centre for Operations Excellence

CT Scanner Waiting Time Reduction Study for a Healthcare Organization

Client Profile

The client is the largest health authority in BC and serves 25% of BC's population. It operates over 9,000 acute, rehabilitation and residential beds in 14 acute care facilities and two diagnostic treatment centres on an annual budget of 1.9 billion dollars. It served 445,598 clinical visits and 309,269 emergency department cases in 2003.



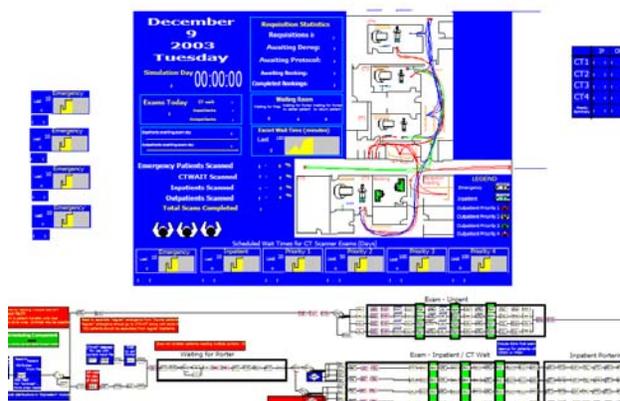
Business Challenge

Changing medical protocols and procedures combined with technological advances in CT (Computerized Tomography) technology has resulted in increased use of CT as a clinical diagnostic tool. This increasing demand for CT scans creates a significant challenge for the client to effectively manage their existing long waitlist for CT scans while maintaining service standards for various patient categories with different allowable waiting times. The client also faces the challenge of managing the fluctuating inpatient and emergency patient demand while effectively scheduling the elective scans into the remaining available capacity. The client approached the Centre for Operations Excellence (COE) to study the CT scanning system and scheduling processes to identify the system's bottlenecks and inefficiencies. The goal of this project was to use a variety of analysis tools to recommend different methods to reduce waiting times while performing cost-benefit analyses on possible system changes.

Value Delivered

The COE identified ways to eliminate the current waitlist and to improve the efficiency and operations of the CT scan system. The COE team developed an interactive tool for management to analyse the cost and benefit of different strategies to eliminate the waitlist. The tool can adapt to the changes in resource usage, costs and waitlist status. The COE also delivered quantitative and qualitative recommendations for process changes and system improvement. Data requirements for system-wide analysis for CT operations and centralized planning were also identified.

The COE Approach



For the selected hospitals, the COE interviewed key personnel and observed the processes to establish a detailed process map. The team assessed the availability and quality of the data at each site then developed a data collection methodology and determined waiting times by patient type and priority categories based on the historical and collected data. Through extensive process and data analyses, the COE team identified areas of inefficiency. Using Excel and VBA, an analytical tool was developed that allows management to determine the costs and strategies to eliminate the current waitlist. Finally, a simulation tool was developed for future evaluation of the potential system changes.