

Centre for Operations Excellence

Managing Surgical Waitlists for the Fraser Health Authority

Client Profile

www.fraserhealth.ca

The Fraser Health Authority (FHA) is one of six health authorities in British Columbia, serving people who live from Burnaby to White Rock to Hope. With a budget of \$1.7 billion, FHA is well positioned to provide quality health care ranging from acute care hospitals to community-based residential, home health, mental health, and public health services. With over 2,000 physicians, FHA serves more than 1.47 million people, approximately one third of the total provincial population, and administers 13 hospitals, 12 of them performing surgical procedures.



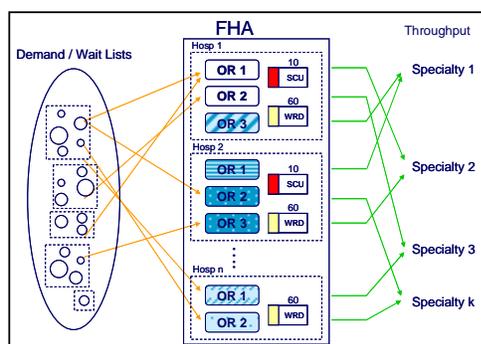
Business Challenge

Scheduling surgeries in a medical facility is a very complex process, especially when considering different surgical specialties, priorities for service, post-surgical capacity, and the combination of both scheduled (elective) and unscheduled (emergency) procedures. There are multiple alternative ways for scheduling surgeries and the choice of schedules impacts directly on the number of patients treated for each specialty, cancellation of surgeries, utilization of resources, wait times, and the overall performance of the system. The client approached the Centre for Operations Excellence (COE) to study the scheduling of surgical procedures and resource management. This study considered all the FHA hospitals and analyzed the different surgical specialties, both elective and emergency procedures, and the main surgical resources (surgeons, operating rooms and beds). The goal of this study was to develop a methodology for management to explore trade-offs between operation room (OR) availability, bed capacity, OR booking privileges by surgeons, and waitlists for patients by speciality and procedure for the total FHA system.

Value Delivered

The COE team first identified the current demand for surgical procedures at each hospital, determining the amount of operating room time required to fulfill it. Secondly, the COE developed a strategic methodology to analyse the impact on resources of different choices for allocating the surgical capacity. The model considered both surgical and post-surgical resources, and provided an estimate of waitlists and wait times over time. The COE delivered quantitative and qualitative recommendations for different scenarios of surgical demand, proposing some changes in the surgical process and future data collection.

The COE Approach



For all the hospitals at FHA that performed major surgical procedures, the COE processed and analyzed data for waitlists and surgeries. The team determined the resource requirements for each surgical specialty at each hospital. Using a database, an algebraic language and a commercial solver, a prototype of the mathematical programming model was developed. The model allowed management to determine the resources required and select strategies to allocate the surgical demand and control waitlists.