How B.C. is Improving Safety in Surgery

How British Columbia has taken a multifaceted approach to successfully improve surgical safety rates and outcomes was the topic of the most recent Quality Rounds hosted by Health Quality Ontario.

Dr. Doug Cochrane, a pediatric neurosurgeon at both the Children's Hospital of B.C. and SickKids in Toronto, as well as being chair of the B.C. Patient Safety and Quality Council, presented the session from the Ottawa Hospital.

Lee Fairclough, VP of Quality Improvement for Health Quality Ontario, introduced the session, noting that Dr. Cochrane's presentation was "very, very relevant to us."

Dr. Cochrane focused much of his presentation on how the 23 institutions who are part of the Surgical Quality Access Network in B.C. have used data (available to them from being part of the American College of Surgeons – National Surgical Quality Improvement Program (NSQIP)) to make changes and document their effectiveness.

His presentation looked at both the importance of these data and a parallel emphasis on team culture and understanding the dynamics of teams to support effective quality improvement.

He described the database as "an absolutely fundamental cornerstone" of what B.C. has been able to achieve as it provides a variety of risk-adjusted outcomes from hundreds of hospitals that can be used for comparison purposes.

B.C. was the first Canadian jurisdiction to make use of this database and Ontario now has 33 hospitals participating in a similar network, known as the Ontario Surgical Quality Improvement Network (ONSQIN).

Dr. Cochrane said the journey towards improving surgical safety and outcomes in B.C. really began with publication of Canadian data by Dr. Ross Baker, professor in the Institute of Health Policy, Management and Evaluation at the University of Toronto, and colleagues in 2004. This data suggestedthat half of the adverse events in hospitals were related to surgery, half of which were preventable.

Dr. Cochrane traced the development of programs in B.C. to improve patient safety, and specifically surgical safety, from the creation of the B.C. Patient Safety and Quality Council in 2008 to the foundation of the surgical network in the province in 2011.

Initiatives to improve surgical safety and reduce urinary tract infections and other surgical site infections, as well as introducing surgical checklists, have been based on a matrix of approaches to initiate quality care, none of which supersedes the other, reported Dr. Cochrane.

He said the impetus to make specific changes also came after the B.C. hospitals became part of the NSQIP program and found they performed "very poorly" when compared to other hospitals from across North America included in the database.

In addition to instituting rigorous measurement of surgical procedures, Dr. Cochrane also stressed the importance of changing the underlying culture in hospitals to one that is tailored towards offering quality care.

"Culture is fundamental to improving care," he said.

“For me, the emphasis you have placed on culture cannot be underestimated,” Fairclough said after the presentation.

Dr. Cochrane specifically referenced the power gradient in the surgical suite itself and how this impacts communications between various team members.

A lack of good communications between surgeons, anesthesiologists and nurses – as was documented in a B.C. survey of 14 hospitals – can have an impact that exceeds that of the technical execution of the surgery, Dr. Cochrane said.

While it is not really possible to measure the costs savings associated with improvements in surgical safety in the Canadian setting, Dr. Cochrane said the number of days saved in hospital care by reducing infection rates was used as an outcome measure in addition to length of hospital stay.

Use of a multifaceted strategy in B.C., including measurement against peer hospitals included in the U.S. database, has resulted in significant reductions in urinary tract infections and other surgical infections, as well as reduced lengths of stay associated with some surgical procedures.

Dr. Cochrane noted thatanalysis has shown reductions in length of stay across various surgical specialties, as a result of improved patient safety, which in turn has opened up more than 12,000 bed days between 2012 and 2015.

While there continues to be variable acceptance of NSQIP in the province, Dr. Cochrane said, it is generally viewed as a reliable program.

“For those sites who use it, they use it very well and British Columbians benefit from that.”