



Hyper-specialisation has been one approach to delivering value-based healthcare, because it aims to achieve the best possible clinical outcomes at the lowest cost. Since 1945 Shouldice Hospital in Canada has maintained a singular surgical focus on primary inguinal hernias. Over those 70 years the hospital has achieved a 99.5% lifetime success rate while consistently delivering services at a lower cost than other health providers.

Specialisation and standardisation: Value-based healthcare at Canada's Shouldice Hospital

A delivery model predicated on specialisation, standardisation and high volume is more reminiscent of manufacturing rather than medicine. But the core aim of high-performance manufacturing—consistent delivery of high-quality products at the lowest per unit cost—is wholly applicable to Shouldice Hospital, an Ontario-based hospital specialising in hernia surgery. To deliver value-based healthcare systemically in a specialised hospital, also referred to as the focused-factory model of hospital surgery,¹ process efficiency must be accompanied by clinical expertise throughout the standardisation of care.

With this competitive advantage, Shouldice has reduced surgical time and achieved world-class clinical outcome levels and high patient satisfaction. Research done in 2014 by the University College of Dublin reported that Shouldice is able to offer hernia treatments at approximately half the market rate by controlling costs and realising efficiencies in its activities.² While the procedure is free for Ontario residents, Shouldice bills the province C\$618 for the surgery plus the hospital stay, which is 50% less than other general hospitals bill the province for the surgery alone.

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1 D Cook, et al., "From 'Solution Shop' Model To 'Focused Factory' In Hospital Surgery: Increasing Care Value And Predictability", *Health Affairs*, 2014.

2 D Taylor, et al., Supply Chain Operations—Shouldice Case Report, University College Dublin, March 2014

Inguinal hernias are the most common type of hernia, representing two-thirds of all adult hernias³ and accounting for the most frequent operation in general surgery.⁴ The "Shouldice Technique" for repairing inguinal hernias was developed by the hospital's founder, Dr Edward Earle Shouldice, in 1945; it has been practised and refined for 70 years at the centre to become what is considered to be one of the best available today for pure-tissue hernia repair. Even with a high success rate of 99.5%, the hospital's system is designed to learn and to improve outcomes whenever possible. As explained by Shouldice's chief medical officer, Dr Michael Alexander, "When we operate, we keep the same rule that Dr Shouldice insisted upon—that we do everything possible to make sure there is not a recurrence. If the patient comes back to us because the procedure failed, we fix the hernia free of charge. We write off the cost of surgery to learn."

Dr Alexander, who has been at Shouldice for 30 years, makes clear that mastering the Shouldice Technique is of the utmost importance. At Shouldice, mastery comes from practice, peer consultation and experience. Its surgeons have been with the hospital an average of 10 years, but what stands apart is the volume of hernia surgeries. While general surgeons typically don't do more than 20 hernia surgeries in a year on average, at Shouldice surgeons perform five to six a day, and as a staff nearly 7,000 operations annually or approximately one-quarter of all abdominal hernia surgeries done in Ontario. The clinical experience and effectiveness are also evident in operational efficiency and staffing levels. At Shouldice turnaround time for surgeries is 10 minutes versus up to an hour at other hospitals and the ratio of staff-to-bed is approximately 1.8:1, while other hospitals in Canada, albeit likely treating more conditions, have a staff-to-bed ratio from 9 to 12.6 per bed. This combination of lean staffing and quick surgical turnaround is a considerable cost advantage for Shouldice, which, combined with being able to consistently deliver strong outcomes, makes it a unique example of value-based healthcare in Canada.

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The Shouldice experience

For Shouldice, pre- and post-surgery care plays a major role in preventing patient readmissions. Cindy Giroux, business development manager at Shouldice, explains, "We are patient-care centred. We look at the patient as a commitment of the staff to deliver the highest surgical outcome and best patient experience." The four-day stay begins with patient orientation a full day prior to scheduled surgery and a two-day stay post-surgery for monitoring and rehabilitation versus a same day outpatient procedure at a public hospital. Normally more time and services increase costs, but Shouldice has tailored all aspects of the patient experience, surgical and non-surgical, to achieve the best possible outcomes, cost-effectiveness and patient satisfaction.

At Shouldice they believe that during their stay patients develop an informal support network that builds trust in the Shouldice model and increases patient satisfaction. When post-operative patients interact with newly admitted patients, they are able to answer questions about what to expect before and after the operation. During the two-day post-surgery recovery period, patients can be monitored by the staff for complications, while the camaraderie of the patients makes recovery and rehabilitation more effective than if an individual is discharged

³ <https://www.herniasolutions.com/about-hernias/types-of-hernias>

⁴ B Amato, et al., Shouldice technique versus other open techniques for inguinal hernia repair. Cochran Database System Review, 2012, Abstract [PubMed]

and sent home. After patients are discharged from Shouldice, they are eligible for free annual check-ups, which provide an opportunity for Shouldice to collect qualitative data through patient feedback and track longitudinal outcomes.

A broader application

Despite the success of Shouldice, hyper-specialised hospitals in Canada are not common. Under Ontario's Private Hospitals Act of 1990, private hospitals are not allowed in the province. However, Shouldice is one of seven Ontario hospitals grandfathered in as private but are still part of the public health system and are reimbursed by the government. Elsewhere in Canada, the Cambie Surgery Centre of British Columbia specialises in orthopaedics within sports medicine and has treated more than 55,000 patients since 1996.⁵ Surgeons at the Gimbel Eye Centre in Calgary have performed more than 200,000 vision-correction procedures and corrective eye surgeries since 1964.⁶ In November 2015, the province of Saskatchewan passed legislation that allows people to pay for their MRIs at private, specialised facilities.

What Shouldice contributes to these deliberations is an example of the potential for specialised private providers and facilities to deliver value-based healthcare within public provincial health systems. "Although there are challenges on the regulatory and funding levels on how best to do it, the Ontario Ministry of Health and Long-Term Care do understand the benefits of specialisation," says John Hughes, managing director of Shouldice.

Indeed the ministry is working to introduce and integrate more specialisation into the health system. As such the Kensington Eye Institute is a non-profit, independent health facility that has performed more than 9,500 cataract surgeries in 2015 alone; like Shouldice, Kensington is accessible through the public health system. These community-based specialty clinics were first proposed as a key part of the 2012 Action Plan for Health Care and fall into two categories, a public hospital operating in a new site (such as an ambulatory care centre) or a non-profit, independent health facility. The Kensington Eye Institute, following the success of the Shouldice hospital, suggests that the government is open to more specialised health services. This approach is intended to improve access to low-risk procedures providing the right care, at the right time and in the right place.

As a specialised private hospital, Shouldice is permitted some discretion when considering what hernia patients fall under a set of criteria that deem them fit for the Shouldice Technique. Patients better-suited for a procedure reduce the risk of complications from surgery, improve the likelihood of successful outcomes and lower the probability of readmission—which reduces the long-term cost associated with the procedure. What Shouldice has proven, however, is that highly specialised and standardised care can achieve consistently excellent outcomes that are cost-effective—and even as a private hospital, have generated more value for the public health systems. ■

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5 <http://www.cambiesurgery.com/>

6 <http://www.gimbeleyecentre.com/>