The Long Haul: The Impact of COVID-19 on the Surgical Backlog Problem

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Abstract

Wait times for elective and non-elective surgeries were an existing concern, pre-COVID-19. The effects of the pandemic year have prolonged these wait times, causing further harm to surgical candidates. These delays pose a significant challenge for governments and require higher prioritization of healthcare spending to prevent worsening outcomes from delayed surgeries.

March 11th, 2021 marks one year since the COVID-19 outbreak was declared by the World Health Organization [1]. Since then, the world has watched as the world's economy, social interactions, employment, and day-to-day lives changed inextricably. Most importantly, the healthcare system remains a highly stressed sector throughout the pandemic. From the beginning, healthcare professionals warned of the impact an even moderately deadly virus would have on healthcare systems [2].

Intensive care units (ICUs) in hospitals worldwide experienced an influx of patients requiring intensive care for complications of infection with COVID-19. Ontario was projected to see 1904 hospitalizations from COVID-19 over 60 days [3]. In efforts to preserve hospital capacity and resources in early April of 2020, the Ontario government cancelled all elective surgeries, increasing the availability of acute care and critical care beds by 7,849 and 585, respectively [4]. Elective surgeries are planned, non-emergency surgeries, which are often the first to face cancellations in situations of hospital stress, such as knee replacements and gallbladder removals. Compared to 2019, Canada saw a 20% reduction in elective cancer and cardiac surgeries in 2020, as well as even larger reductions in vasectomies, hernia repairs, and pelvic floor repairs (Figure 1) [5].

Although these efforts have provided extra hospital space in a time of need, they are not without consequence. The cancelling and delay of elective surgeries has resulted in a backlog, further increasing wait times and potential harm to recipients [6,7]. In Canada, cancellations for elective surgeries began as early as mid-March of 2020, which have continued rising. One model forecasted the cancellation of 32,881 surgeries per week in Canada, extrapolating to a total of 394,576 cancelled surgeries if this continued for 12 weeks, which would take an estimated 40 weeks to overcome [8].

In Ontario, the lockdown in spring of 2020 created a surgical backlog of 148,364 (11,413/week), which were estimated to take 84 weeks to clear, but it could be anywhere from 11 months to 2.8 years [7]. In British Columbia, 30,000 surgeries were delayed over a 2-month period, resulting in a waitlist of 93,000 by the time surgeries resumed [9]. It was estimated that British Columbia would take roughly 2 years to clear their waitlist [9].

The delays have significant implications for patient outcomes. A study analyzed the impact of surgical delays for cancer patients by using observational data of cancer survival in England. They found that even moderate surgical delays of three and six months would result in 4,755 and 10,760 excess deaths, respectively, of the 94,912 surgical resections performed in England each year [6]. Regarding colorectal cancer, surgical delays of one and three months are associated with respective 13% and 57% increased mortality risks [10]. For hip replacement surgeries, each month on a waiting list is associated with decreased post-operative function [11].

Additionally, surgical delays introduce a significant financial burden within the healthcare system. Increased risk of infection and post-operative mortality due to surgical delays results in significant increases in cost for individual surgeries [12]. As a result of elective surgery delays during COVID-19, the cost has increased from $36 to 47 thousand for coronary artery bypass grafts and from $20 to 29 thousand for colon resections [12]. Furthermore, these delays were more likely to occur for patients who were female, Black/Hispanic, and those with other comorbidities [12]. These cost increases accumulate, increasing the financial burden beyond that already imposed by COVID-19 [13].

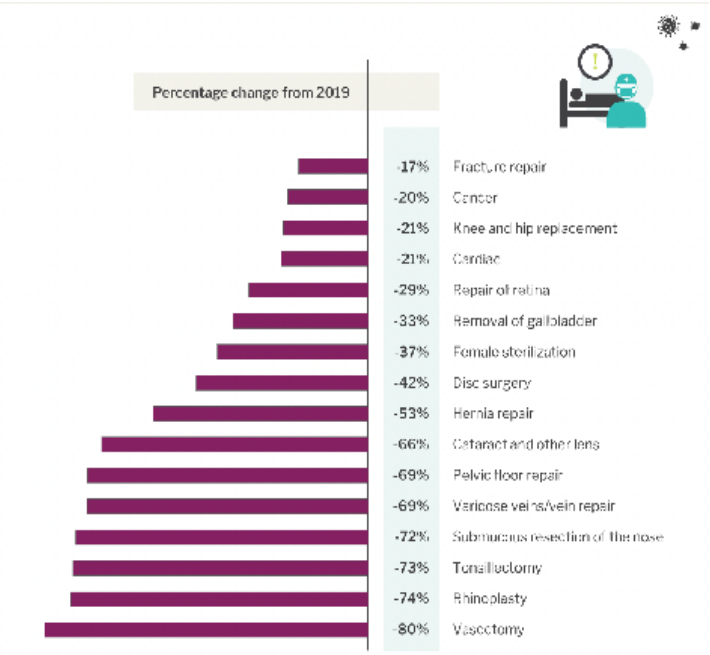
Clearance of these backlogs would require operating room time, ward beds, ICU beds, not to mention the availability of the staff [7]. Providing these resources in the near future could be difficult, as ICU patient counts in Ontario are at an all-time high in the midst of a third wave, providing little ICU capacity to spare [14].

Conservative opponents to universal healthcare in Alberta have used the pandemic as an opportunity to constrain the public system by outsourcing operations to private clinics [15]. Alberta Health Minister Tyler Shandro announced a partnership with private health clinics, funneling a significant portion of the federal government's COVID-19 funding into these clinics, with the goal of clearing the backlog by the end of 2021 [15].

The province of British Columbia has set a promising example with their response to their surgical backlog, demonstrating the importance of prioritizing healthcare funding [9]. British Columbia was able to reduce their estimated 2-year long waitlist largely due to a funding addition of $250 million a year; this money was allocated to hiring more staff, purchasing more MRI machines and increasing operation times of diagnostic imaging machinery [9]. By December of 2020, the province's Health Minister Adrian Dix reported that 90% of patients with surgeries postponed during the first wave of COVID-19 have had their procedures completed. They were hopeful that their projected 2-year long backlog would be gone in under 15 months [9].

Although the current situation regarding surgical delays is dire, provinces are working to implement solutions to address the backlogs. There is hope that in the future, increased healthcare spending will be prioritized to reduce the need in canceling elective surgeries during crises such as the COVID-19 pandemic.

Figure 1. Changes in selected surgeries, March to June 2020



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