

COVID-19 CADTH BRIEFING NOTE

Resumption of Elective Health Services Amid COVID-19

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Issue and Purpose

Canadian health systems are at various stages of planning for the reintroduction of elective procedures deferred as a result of the COVID-19 pandemic. CADTH has received a number of requests from stakeholders across Canada related to the resumption of services and how to address the existing backlog of delayed procedures. This briefing note describes the challenges health systems face in making decisions about service resumption, summarizes some recent guidance on resuming services, and discusses potential implications and long-term considerations for these choices.

Key Messages

- The deferral of elective health services due to capacity concerns associated with the COVID-19 pandemic has led to a substantial backlog of Canadians requiring care. Many of the conditions that necessitated deferring elective procedures (e.g., personal protective equipment and medication supply issues; workforce capacity; infection control risk) are still present, meaning that careful planning is required to gradually reintroduce these services.
- Some guidelines for the safe resumption of elective services amid the COVID-19 pandemic have been issued publicly, while others are currently in progress. Existing guidelines call for:
 - the use of prioritization methods to ensure that the most urgent cases are handled first
 - the availability of sufficient resources to support elective care, including personal protective equipment, workforce, physical space, supplies, testing capacity, and availability of post-acute care
 - clear procedures around patient cohorting and infection control practices, including cleaning and facility set-up
 - the use of screening and testing (as available) for patients coming in for elective procedures
 - clear communication with patients, families, and staff around measures being taken to ensure safety
 - use of ambulatory care centres or other alternate care sites outside of acute care facilities as appropriate to help address backlog.
- The main challenge health systems face in beginning to address the health system backlog is in scaling usual care back-up while maintaining adequate slack capacity to deal with a potential resurgence of COVID-19 cases requiring intensive care unit treatment. Guidelines suggest that health systems and facilities must closely monitor local trends in COVID-19 transmission and critical care needs and be prepared to once again scale down elective procedures if conditions change.

Background

Elective Procedures During the COVID-19 Pandemic

- Most North American health systems have deferred all but the most urgent procedures during the COVID-19 pandemic. The reasons for doing so include:
 - to free up personal protective equipment (PPE) for use by staff caring for patients with COVID-19

- to reduce postsurgical patient demand for intensive care unit (ICU) and medical-surgical floor and free up these spaces for treating those with COVID-19
- to allow surgical and other staff to be reassigned to other care duties, including caring for patients with COVID-19
- to reduce the risk of COVID-19 exposure by having fewer patients come into the hospital
- because preliminary evidence from China suggested that patients exposed to COVID-19 after surgery had high mortality rates.¹
- Reductions in surgical volumes have been significant. Although official figures are not available, a CBC News report from April 25, 2020, estimated that more than 100,000 surgical procedures have been delayed across Canada. The Canadian Cardiovascular Society estimates that between 15,000 and 20,000 cardiac procedures have been delayed.² Ontario's Ministry of Health and Long-Term Care estimates that approximately 40% fewer cancer surgeries were performed between March 15 and April 12, 2020, as compared with the same period in 2019.² University Health Network (UHN) in Toronto reduced total surgical hours across all specialties by 50%.¹
- A variety of triage strategies are in use by North American hospitals and health systems to prioritize what procedures can occur at the present stage of the pandemic. Some examples of these include:
 - *Prioritization According to Surgical Wait Time Targets:* UHN is using a data-driven approach based on provincial targets for maximum wait times for each surgery by condition. Surgeries that can be scheduled in advance are divided into priorities 1 through 4, with priority 1 being the most urgent and emergent cases. Within priority 1, UHN has further stratified cases by urgency, ranging from those that must be completed within 45 minutes and those that must be completed within 14 days. In late March, as COVID-19 cases peaked, UHN implemented a 14-day rule, stating that the only surgeries that could be performed were those in which patients would be harmed if the procedure were not carried out within 14 days. As of mid-April, operating rooms (ORs) at UHN were being used at roughly 25% to 30% of pre-pandemic capacity, with the majority of surgeries being priorities 1 to 2. OR time was assigned based on urgency rather than scheduled OR days or surgical block times.¹
 - *Prioritization by Risk Stratification:* Cedars-Sinai, a major health centre in Los Angeles, prioritized patients into categories A and B. Category A patients were current inpatients, those who would require post-operative hospitalizations on a ward or in ICU, or those who would require intubation during surgery, and were the highest risk group for COVID-19 exposure. Type B patients were outpatients or those who were not expected to require intubation and were deemed lower risk. Surgical capacity was determined on the basis of OR and ICU bed availability as well as COVID-19 testing capacity. All category A patients were required to be tested for COVID-19 while a decision had not yet been made about whether asymptomatic category B patients must be tested as of mid-April.¹ Another example of risk-stratified prioritization is Medically Necessary Time-Sensitive Prioritization (MeNTS), a decision support tool developed by researchers at the University of Chicago for use during the pandemic. The MeNTS prioritization process was created by a multidisciplinary team comprised of members from general surgery, vascular surgery, surgical oncology, transplant surgery, cardiac surgery, otolaryngology, and surgical ethics. The scale prioritizes necessary elective surgeries on the basis of 21 factors related to the specific procedure (e.g., OR time required, inpatient length of stay required, risk of post-op

ICU need), the disease (e.g., impact of delays on disease outcome and surgical difficulty and risk), and the individual patient (age, underlying health conditions, potential COVID-19 exposures). The University of Chicago’s health system reports that in two weeks of use, the application of MeNTS has resulted in an additional 15 necessary procedures completed per day.³

- *Phased Reductions and Reintroductions*: The Canadian Society of Cardiac Surgeons issued guidance based on the percentage of normal operating capacity a facility is operating at. At a 0% to 30% reduction, only least symptomatic outpatient surgeries and “truly elective” procedures would be delayed, while at a less than 50% reduction, only emergent services for inpatients would be provided.⁴
- *Case-By-Case Committee and Panel Approaches*: Cedars-Sinai and Northwell Health in New York State and Carilion Health in Virginia established committees comprised of physician leaders and administrators to review and prioritize all proposed surgical cases on a case-by-case basis. Administrators from Northwell Health stated that having a multidisciplinary committee review cases was important to ensure that a common understanding of the risks was present and to help prevent competition between specialties for OR time.⁵

Elective Procedures Backlog

- The cancellation of elective procedures due to COVID-19 has led to a substantial unmet need for care across Canada. An April 28, 2020, a report from Ontario’s Financial Accountability Office found that in Ontario alone, there have been 52,700 cancelled procedures as a result of measures taken to free up acute care beds to treat patients who are COVID-19 positive, a figure that will grow by 12,200 each week under current conditions.⁶ There is evidence that the high volume of cancelled procedures in combination with citizens’ reticence to seek necessary care due to fear of infection with the virus is resulting in suffering and avoidable mortality for those who have seen delays in care that is necessary but deemed non-urgent. Citing a modelling estimate from researchers at UHN, Ontario’s Ministry of Health and Long-Term Care acknowledged that as many as 35 cardiac patients may have died while awaiting surgery,⁷ and similar concerns have been raised by the professional association representing cardiologists in Quebec.⁸

Resuming Elective Procedures

- Planning is underway across Canada on how to safely resume elective procedures. Most Canadian jurisdictions have referred to the resumption of select elective procedures within their phased “re-opening” plans, although few details have been made public about how this will occur.
- There are substantial tensions associated with reintroducing elective procedures. Given that inpatient COVID-19 care needs have fallen short of model projections, many health systems, particularly those in less hard-hit areas, have experienced empty ORs. Although there is widespread recognition that this has caused suffering and potentially adverse outcomes for patients with urgent health conditions who do not have COVID-19, there is also substantial caution around how and when to resume procedures.
- The main challenge health systems face in beginning to address the health system backlog is in scaling usual care back-up while maintaining adequate slack capacity to deal with a potential resurgence of COVID-19 cases requiring ICU treatment. Health systems must also manage existing supply challenges for PPE and the medications required for surgery or intubation as these decisions are made.

Existing Guidance on Resuming Elective Procedures

- Some health systems, oversight bodies, and regulatory agencies have released their guidance related to resuming elective procedure public. Highly read documents from the US Centers for Medicare & Medicaid Services (CMS) and the American College of Surgeons (ACS) were released publicly during the week of April 20, 2020.^{9,10} Additionally, the Canadian Society of Cardiovascular Surgeons released guidance on cardiac surgery ramp-up on April 24, which outlines what surgeries should be performed at various phases of capacity increase (0% to 25% increase, 25% to 50% increase, and 50% to 100% increase).¹¹ Key considerations from these documents are summarized in what follows. It must be noted that other guidelines from health systems, as well as service-specific guidelines, are forthcoming.

Local Considerations

- In coordination with public health officials, it is important to understand the incidence and rates of infection of COVID-19 within the local area where re-starting elective care is being considered.
- Elective procedures should be prioritized based on need and urgency. The previously described existing triage methods could be used.
- Sufficient resources must be made available, including PPE, workforce, physical space, supplies, testing capacity, and availability of post-acute care. Accounting for available resources must also consider what is required to maintain surge capacity in case of a spike or second wave of COVID-19 infections.

Cohorting

- It is recommended that facilities create non-COVID-19 care zones for patients who are COVID-19 negative. Patients in the non-COVID-19 zones should be regularly screened for symptoms. Similarly, all staff and visitors (where permitted) who would enter non-COVID-19 areas would also be required to be screened before entering. Staff working in non-COVID-19 zones should be limited to working in those zones; for example, physicians should be limited from having rounds across a hospital and then coming to work in a non-COVID-19 zone. Non-COVID-19 zones should be separate from other facilities to the greatest extent possible (e.g., in separate buildings or in designated rooms or on floors with separate entrances and minimal crossover with other areas).

Facility Considerations

- Systems and controls that accommodate physical distancing must be established within facilities, such as scheduling to minimize time spent in waiting rooms and spacing chairs in waiting areas two metres apart.
- Systems (or individual facilities or specialty areas) should establish and communicate clear family and visitor presence policies. When visitors are necessary for care, they should be pre-screened in the same way as patients and staff.

Cleaning and Sanitation

- Ensure established protocols are in place for cleaning and sanitizing spaces and equipment in non-COVID-19 care areas. This includes following the most up-to-date protocols and guidelines for decontaminating equipment used for patients who are positive for COVID-19.

Use of Virtual Care for Consults and Pre-screening

- CMS guidelines encourage “maximum use” of telehealth modalities for any care that can be accomplished virtually. This could include discussions about goals of care and reviews of advanced directives, history and physical assessment, as well as re-consent to procedures.⁹

Testing Capacity

- While testing capacity remains limited, all patients should be screened for potential COVID-19 symptoms before entering the facility or unit. Once adequate testing capacity is available (which could be aided by the use of new rapid diagnostic tests), patients and staff should be regularly screened by laboratory tests as well.
- The ACS guidelines specifically note that consideration should be given to establishing guidelines for post-operative testing, given that there are common post-operative symptoms for given procedures (like fever) that are also COVID-19 symptoms.¹⁰

Assess Need for and Availability of Post-Acute Care

- Prior to a procedure, the potential need for post-acute care, including home care, skilled nursing, rehabilitation, and convalescence, should be evaluated and discussed with the patient and family, given that availability of these services may be limited further due to the COVID-19 pandemic.

Communication With Patients and Families

- Patients and families may understandably have questions and concerns about safety and access to services. The ACS recommends creating a multidisciplinary committee to organize and review messaging to patients and families on a variety of topics. Potential topics include triage and prioritization processes, testing policies, safety measures being taken, PPE use, family and visitor guidelines, and post-discharge care and follow-up expectations. Helping patients feel more comfortable prior to their procedures may also reduce the risk of cancellations and scheduling issues that could impede efforts to clear some of the existing backlog.

Health Professional Safety

- Like for patients and families, health professionals must understand the measures being taken to protect them, how prioritization will be done, and have avenues to advocate for themselves and their patients if they feel rules are being incorrectly applied. For example, Cedars-Sinai has implemented an appeal process for surgeons facilitated through the case review committee or their individual department head.¹

Usage of Ambulatory Centres

- Officials from Cedars-Sinai noted that ambulatory surgical centres may be able to take on some of the surgical volume once elective procedures are resumed. Officials cautioned that ambulatory centres should focus on routine procedures that are usually performed there, with more complex procedures being reserved for tertiary centres as usual.¹ Similarly, clinical spaces separate from hospitals (e.g., imaging clinics and lab collection sites) may be able to take on additional volume if scaling up these procedures in acute care settings is not possible or must proceed more slowly.

Be Prepared to Cease or Scale Down Non-Essential Procedures if Circumstances Change

- CMS guidance emphasizes that systems and facilities must have the ability to monitor trends in COVID-19 transmission and care needs and be prepared to pause non-essential procedures again if capacity is needed for COVID-19 care.⁹

Managing Discharges to Sub-acute Care

- Although to date demand for COVID-19 care in acute care facilities has fallen short of what was predicted by even the most conservative models, the current spread in residential care settings like long-term care (LTC) homes has significant consequences for health system patient flow. As acute care capacity was enhanced to meet projected demand from pandemic models, discharges for alternate level of care (ALC) patients were accelerated, with admissions to LTC homes or community settings happening wherever possible. However, as COVID-19 outbreaks in LTC homes have become a growing problem and concern, admissions to LTC homes from acute care have been stopped in some jurisdictions (such as Ontario). This creates a situation in which ALC patients who cannot be safely discharged home must remain in hospital, which ties up beds that may be needed for either COVID-19 care or for dealing with the care backlog. Although this is not a unique challenge, discharge options have become increasingly limited as a result of the current outbreak. No publicly available literature on how jurisdictions are approaching these additional constraints was identified.

Analysis and Implications

- Although some provinces seem to have reached a peak of COVID-19 cases for the current phase of the outbreak, some conditions that led to the cancellation of elective procedures (infection control concerns, PPE and medication supply issues, workforce capacity challenges) are still present. These factors will necessarily limit the rate at which the backlog of cancelled or delayed procedures can be addressed.
- Guidelines from the Canadian Society of Cardiac Surgeons flag the possibility of false-negative tests and the inability to conclusively rule out COVID-19 on the basis of current tests. They recommend that all patients with a negative molecular test where clinical suspicion of COVID-19 exists remain in isolation. Additional investigative methods such as CT scan imaging may be considered in these cases, as appropriate.¹¹
- Additional COVID-19–specific infection control training and education may be required for health workers as more routine care is reintroduced into the acute care environment. Staff at all levels will need to understand the approach taken to cohorting patients and clinical areas, and the specific infection control measures they must follow. This issue may be of specific concern in smaller, rural facilities with limited physical space and equipment to provide true separation between patients who are COVID-19 positive and those who are not.
- Funding issues will need to be considered if extraordinary measures, like having procedures scheduled outside of normal working hours for given clinics or specialties, or contracting out a higher volume of procedures and tests to private clinics, are to be implemented. Some of these measures may also require the renegotiation of existing collective agreements for health professionals.

- Reliable data collection, demand modelling, and reporting at the provincial, territorial, regional, and local levels are required to allow health systems to make decisions about resuming or pausing elective procedures in real time. Although this will to some extent be dictated by provincial and territorial “re-opening” plans, the ability to understand capacity and demand in real time is needed to appropriately allocate resources to resuming paused services in addition to COVID-19 care and other, non–COVID-19–related emergent care. Publicly accessible tools like the COVID-19 Acute and Intense Resource Tool, developed by University of Toronto researchers, may assist with resource allocation planning based on local trends in COVID-19 transmission and severity of active cases.¹²
- There is widespread recognition of the mental health impacts of the COVID-19 pandemic on health care workers. Some jurisdictions (e.g., Quebec) have seen high levels of absenteeism among health workers, likely as a result of burnout and stress, and health systems are adjusting to offer workplace mental health supports for staff on an ongoing basis. This will continue to be an ongoing challenge in the coming months, as staff continue to cope with the challenges of the COVID-19 pandemic while also working to resume and catch up on usual care. Communication with health workers at this time should acknowledge their stressors and convey empathy and understanding.¹³
- Communication with the public about the resumption of services should be clear and transparent, providing patients with a sense of when they can expect to receive a rebooked appointment and of what to expect when they come in for the procedure or test. As noted in the ACS guidelines, communication with patients should provide information around PPE and other infection control measures being taken.¹⁰ Public communications about service resumption should be provided through a variety of media to reach those who may not use the internet, and be provided in a variety of languages appropriate to the patient population in the area.
- Published guidelines recommend the maximum use of virtual care options at this time to limit exposures for health professionals and patients. This presents an opportunity to test and routinize the use of new and existing technology solutions that to date have not been widely adopted in the Canadian health care system.

References

1. Patient-Centered Outcomes Research Institute (PCORI). MEETING SUMMARY: Confronting COVID-19: Finding Hospital Capacity and Improving Patient Flow. Part 3 – Elective and Urgent Surgeries amid COVID-19. 2020: <https://www.pcori.org/sites/default/files/PCORI-Confronting-COVID-19-Webinar-Series-Part-3-Summary-Report-041420.pdf>. Accessed May 3, 2020.
2. Ireland N. How hospitals will tackle the backlog of nearly 100,000 surgeries delayed by the pandemic. 2020; <https://www.cbc.ca/news/health/covid-19-surgery-backlog-canada-1.5543530>.
3. Prachand VN, Milner R, Angelos P, et al. Medically Necessary, Time-Sensitive Procedures: Scoring System to Ethically and Efficiently Manage Resource Scarcity and Provider Risk During the COVID-19 Pandemic. *Journal of the American College of Surgeons*. 2020.
4. Hassan A, Arora RC, Adams C, et al. Cardiac Surgery in Canada During the COVID-19 Pandemic: A Guidance Statement From the Canadian Society of Cardiac Surgeons. *Can J Cardiol*. 2020:S0828-0282X(0820)30323-30328.
5. Patient-Centered Outcomes Research Institute (PCORI). MEETING SUMMARY: Confronting COVID-19: Finding Hospital Capacity and Improving Patient Flow. Part 1 – Report from the Field: How We Are Managing Incident Command. 2020: <https://www.pcori.org/sites/default/files/PCORI-Confronting-COVID-19-Webinar-Series-Part-1-Summary-Report-033120-040220.pdf>. Accessed May 3, 2020.
6. Financial Accountability Office of Ontario. Ontario Health Sector: A Preliminary Review of the Impact of the COVID-19 Outbreak on Hospital Capacity. . 2020: <https://www.fao.on.org/en/Blog/Publications/health-2020>. Accessed May 3, 2020.
7. Ferguson R. At least 35 Ontarians died waiting for treatment after hospitals were cleared for COVID-19. *Toronto Star* 2020; <https://www.thestar.com/politics/provincial/2020/04/28/ontario-has-recorded-1012-deaths-from-covid-19.html>.
8. Gerbet T. Déjà des personnes décédées indirectement de la COVID-19. *Radio-Canada* 2020; <https://ici.radio-canada.ca/nouvelle/1695697/decès-cardiaque-urgences-hopitaux-medecins-quebec-covid>.
9. Centres for Medicare and Medicaid Services (CMS). Opening Up America Again: Re-opening Facilities to Provide Non-emergent Non-COVID-19 Healthcare, Phase I. 2020: <https://www.cms.gov/files/document/covid-flexibility-reopen-essential-non-covid-services.pdf>. Accessed May 3, 2020.
10. American College of Surgeons. Local Resumption of Elective Services Guidelines. 2020: <https://www.facs.org/covid-19/clinical-guidance/resuming-elective-surgery>. Accessed May 3, 2020.
11. Hassan A, Arora RC, Lothar SA, et al. Ramping Up the Delivery of Cardiac Surgery During the COVID-19 Pandemic: A Guidance Statement from the Canadian Society of Cardiac Surgeons. *Canadian Journal of Cardiology*. 2020.
12. Giannakeas V, Bhatia D, Warkentin MT, Bogoch I, Stall NM. Estimating the maximum daily number of incident COVID-19 cases manageable by a healthcare system. *medRxiv*. 2020:2020.2003.2025.20043711.
13. Shanafelt T, Ripp J, Trockel M. Understanding and Addressing Sources of Anxiety Among Health Care Professionals During the COVID-19 Pandemic. *JAMA*. 2020.