THE WAIT:
Addressing Canada's Critical Backlog of Hip and Knee Replacement Surgeries

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Executive Summary

As the COVID-19 pandemic surged in Canada, the ensuing redirection of hospital resources effectively halted joint replacement surgeries across the country. This development exacerbated an existing crisis in patient care and galvanized the Arthritis Society into bringing together a pan-Canadian group to unpack the complex problem and propose a wide range of potential solutions.

By convening health system leaders from across the country who share a deep commitment to improving the healthcare of the thousands of Canadians currently waiting for so-called "elective" surgeries, the Arthritis Society sought to accomplish two related goals.

First, the Arthritis Society reinforced its longstanding focus on alleviating the burden felt by the growing number of Canadians waiting in an expanding queue for life-changing surgeries. Second, the Arthritis Society demonstrated its core belief that the best public policy solutions can only be developed by harnessing the collective experience, insights and advice of clinicians, patient advocates, industry and health policy experts from across the country.

In concise and direct language, this report analyzes the factors contributing to Canada's crisis in joint replacement wait times – and proposes a core set of complementary solutions that have the best chance of alleviating the burden faced by too many Canadians, their families and loved ones, and their care teams.

Building on this policy foundation, the Arthritis Society and its allies and collaborators will continue to advocate for the new policies, programs and funding to make sure Canadians have accelerated access to the joint replacement surgeries they need and deserve.

While solutions in this report are especially focused on addressing the issues relating to hip and knee surgeries, the challenge of ballooning wait times is a much larger and more comprehensive one, and the Arthritis Society recognizes that further coordinated action is needed to support patients and clinicians by building stronger, more resilient and more adaptive healthcare systems as we emerge from the worst days of the pandemic.

The Arthritis Society thanks the members of the pan-Canadian Wait Times Working Group ("Working Group") for sharing their valuable time, providing their perspectives and engaging in a thoughtful and productive dialogue on this critical issue.

Introduction

Arthritis affects more Canadians than any other chronic health condition. As many as 6 million Canadians live with arthritis and that number is expected to increase to 9 million by 2040[i]. In parallel, the demand for hip and knee replacement surgeries has increased by approximately 20% in the past 5 years. Along with the surging demand comes increased cost of care: in 2020, Canadian healthcare systems spent over $1.4B on more than 137,000 hip and knee joint replacement surgeries (excluding rehabilitation costs) [ii]. However, what is not captured is the cost of missed or delayed diagnosis and treatment, which includes how living with debilitating pain and reduced mobility can impact a person's quality of life and those who care for them, along with the economic costs from a societal (e.g., productivity) and individual (e.g., loss of independence, caregiver burnout, etc.) perspective.

Even before COVID-19, Canada's wait times for "elective" surgeries were unacceptably long compared to other OECD countries – and the pandemic has made a bad situation measurably worse[iv]. During the initial wave of COVID-19 between April and May 2020, there was a 67% decrease (13,500 fewer) in hip and knee surgeries performed compared to the previous year[v]. And as multiple studies have shown, longer surgical wait times lead to worse long-term prognosis, increased pain and depression [iii,vi].

Knee and hip surgeries make up the second and third most performed inpatient surgeries in Canada, respectively[iii].

Eager to address this massive expansion of surgical backlogs and the ensuing negative impact on patients, the Arthritis Society assembled a cross-Canada group of leading clinicians, advocates and health system leaders for two working group sessions on Dec. 9, 2020 and Jan. 20, 2021. The goal of these sessions was to not only better understand the factors leading to the extension of joint replacement wait times, but to also identify and prioritize a series of solutions that can be applied to the widest range of osteoarthritic surgeries.

This document is both a summary of the discussions and a "Call to Action" that makes the case for a new, different and better approach to delivering more transformative hip and knee surgeries to more Canadians in ways that are faster, more efficient and more patient-centred.

"We're underwater. We are so far behind that we have to drain the swamp first and then rebuild the dikes. I saw a patient today who said they will seek medically assisted suicide if they didn't get surgery soon. They said this while crying in front of their family. That was the gun to my head, and these are the kinds of patients I suspect other surgical colleagues are starting to see."

The Problem

Reflecting on their own experiences and expertise, the Working Group identified a number of key issues that are prolonging and exacerbating the wait times crisis for hip and knee procedures in Canada.

Major Issues Exacerbating Canada's Wait Times Crisis

1. *Health Systems that Minimize the Severity of Arthritis*
2. *Missed Opportunities for Early Diagnosis*
3. *Inconsistent Access to Early Treatment*
4. *Fragmented Surgical Pathways*
5. *Increased Demand for Surgeries*
6. *Shortfalls or Gaps in Surgical Funding*

1. Health Systems that Minimize the Severity of Arthritis

Arthritis affects more Canadians than any other chronic health condition, and osteoarthritis (OA) is the most common type of arthritis. Participants noted that OA is the main health condition driving hip and knee replacement surgeries and it is the third most rapidly rising condition associated with disability after diabetes and dementia. Not only does OA affect the individual, but it also has additional consequences of increased healthcare use, absenteeism and early retirement – each of which increases the socioeconomic burden of the disease.

Despite the prevalence of arthritis, the Working Group called out the frequency with which OA is discussed in dismissive terms (e.g., "it's just age," or "it's just wear and tear"). Even the use of the term "elective" can be rather dismissive and should instead always be called "scheduled." This impacts the timely utilization of publicly available disease prevention resources (e.g., obesity, physical inactivity, knee injury prevention), early diagnosis and treatment interventions in primary care / interdisciplinary care, and investment in research to slow progression of OA. This dismissive attitude is a critical factor in multiple interrelated problems that will be discussed further in this document and is a major factor in the rapid growth of advanced OA in younger adults that is being observed worldwide.

> *"Don't use language like 'non-surgical' as it is extremely dismissive when somebody thinks they're going to see a surgeon and then they're told 'you're non-surgical'. Some of my patients think that means they will never receive surgery, and yet, three years later when they require surgery, they are left confused."*

2. Missed Opportunities for Early Diagnosis

The focus on surgical backlogs cannot exclude a focus on upstream effects that contribute to why patients require surgery in the first place. The lack of focus and funding given to effectively diagnose and treat patients early through hip and knee management programs will only increase the number of arthroplasty (joint) surgeries in the future. Shifting the dialogue to include these upstream effects, along with the value of health dollars on prevention, is essential.

The Working Group noted that many patients on waiting lists are not offered joint management programs or can't access these programs as they are not broadly understood by providers or patients and for the most part are only covered by employee benefits.

3. Inconsistent Access to Early Treatments

COVID-19 has forced swift, but much needed, changes across Canadian healthcare systems. As healthcare professionals refine and improve their approach to treating patients, it is vital that reassessment and updating of treatment guidelines and protocols ensures arthritis patients are diagnosed in a timely fashion and prioritized appropriately.

The Working Group expressed the need to address the changing landscape (e.g., the revolution in virtual care currently underway) and to ensure consistency in the use of clinical best practices among all health professionals that treat and manage arthritis patients across Canada. Participating surgeons mentioned the challenges they experience in precisely determining the appropriateness of surgery for a specific patient resulting from a lack of consistent standards to guide who to treat, how and when treatments should be changed or stopped entirely.

> *"We don't have good objective criteria on how to assess patients to know when conservative management is no longer working for them and when they go to the next level of their treatment."*

Fortunately, there is work in developing criteria and validating it that is happening or has been completed. An example is the evidence-based care paths endorsed and followed in Alberta. But what remains unclear is how to best adapt and implement programs or tools that work in one province for consistent use across Canada.

4. Fragmented Surgical Pathways

The Working Group highlighted how fragmented hip and knee surgical pathways are worsening wait times. This fragmentation is caused by the lack of communication and understanding between health professionals managing the same patient (e.g., when to provide hip and knee joint health management programs), and the lack of dedicated focus and understanding of the patient journey from the time they first recognize a problem to the time they get the right care.

Carefully unpacking the patient journey is an important step toward providing a more complete picture of the wait times issue and how it can be solved. As the health system is not optimally connected, primary care may not be aware of the magnitude of surgical backlogs and may not offer supportive treatments (e.g., physiotherapy) while the patient waits for a surgical consult.

5. Increased Demand for Surgeries

Participants noted that demand for hip and knee surgery will continue to increase for the foreseeable future due to the following factors: (1) aging populations; (2) increasing disease burden independent of aging; and (3) expanded criteria for arthroplasty surgeries. Therefore, addressing this will require a multi-pronged approach – funding, improving efficiencies and improving non-operational management so that patients can potentially avoid or delay surgery.

A focus on just increasing supply through increased funding, elongating operating room times, or having surgeons work on the weekends will not be enough. These have been tried, and even though they may have worked in the short-term, they do not solve the problem in the long-term.

> *"A few years ago, Saskatchewan decided to get their wait lists down by streamlining processes and directing funding to create a whole bunch of extra operating room time. This worked and the majority of surgeons had their wait lists down to three months. Things were good for a couple of years and then they ran out of money, and since then, unfortunately, wait times have gone back up."*

6. Shortfalls or Gaps in Surgical Funding

Participants provided wait time reduction success stories that were linked to transient increased funding provided by their province. However, increased funding has shown to not be sustainable and is usually cut once wait times are under control. However, such sustainable funds are needed to continue to keep wait times under control and would likely need to be increased over time to meet the growing demand. Participants also noted that hospitals are not incentivized to increase operating room time and support staff required as this would impact their global hospital budgets.

Funding will always be part of the wait times discussion and will be needed for any type of initiative. However, only focusing on funding is short-sighted and fundamentally won't break the cycle. The key focus for any initiative must be to improve the process through efficiency, innovation and a patient-centred approach to ensure surgeries occur in a timely manner and take action to proactively reduce the demand. This broader focus is essential as the Working Group expressed concerns that even if we were to increase capacity through funding (e.g., more operating room time, more operating rooms) there is a general shortage of staff to run them. Funding is part of the solution but not the only action required.

The Working Group also noted the inability to capture savings from surgical advances and process improvements and have it reinvested back into improving care and reducing wait times for joint replacement surgeries due to the siloed nature of healthcare budgets. It was also noted that the current system does not provide incentives for clinicians to implement models of care for OA that could prevent and reduce or delay the need for surgery. This disconnect can undermine and slow the search for efficiencies, leaving arthritis specialists competing for resources against multiple hospital priorities.

"We've shortened length of stays, decreased implant costs, decreased transfusion rates and decreased revision rates. Yet, the ability to capture these savings and reinvest them to provide increased levels of high-quality surgical care and in turn make the healthcare system more efficient is entirely impossible. I don't think our healthcare system is structured in such a way to be able to capture those savings. It just disappears into healthcare deficits."

Opportunities and Solutions

Reflecting on the discussions regarding key issues impacting and prolonging wait times for hip and knee procedures, the Working Group identified a number of solutions that have the highest potential to positively impact and support patients across their care journey. Those solutions are outlined below.

Potential Solutions for Canada's Wait Times Crisis

I. *Spreading and Scaling Innovative Models of Care*

II. *Standardized Patient-Centred Approach to Collection and Reporting of Data*

III. *Better Leveraging Digital Technology*

IV. *Broadening Access to Community-Based Joint Health Management Programs*

V. *Re-investing Savings from Surgical Efficiencies into Improving Patient Care*

I. Spreading and Scaling Innovative Models of Care

Over the last 20 years, there have been a number of new initiatives developed across the country to improve the care of arthritis patients. Unfortunately, many of the most promising and positive innovations have been limited to local or regional success stories without the resources or will to spread and scale them more broadly. COVID-19 put already-burdened health systems under even more strain, and destabilized healthcare systems. It has further highlighted the importance of identifying and expanding access to innovative models of care. Three examples are especially promising:

Implement "Single-Entry" Triage Models Across Canada

The single-entry model ensures a patient is allocated to the next available surgeon, instead of a surgeon being blindly selected / preferred by the patient. This model includes:

- A pooled common waiting list to consolidate multiple waiting lists
- A single point of entry where referrals are received, and service provisions arranged
- A single triage system where referrals are assessed for appropriateness and / or urgency

A single queue that directs each patient to the next available surgeon based on patient status, patient's preference for a particular surgeon and priority within the queue could help to address surgical wait times in an efficient and fair manner, while reducing duplication and ensuring surgeons have similar wait lists[vii].

Incentivize the Creation of Team-Based Models of Care

Team-based models of care that allow for a patient to be shared by a cooperative group of providers have shown to provide more opportunities for standardization around decision-making and perioperative preparation, and more easily accessible second opinions for complex patients[vii]. By ensuring allied health professionals (e.g., Advanced Practice Practitioners, Care Coordinators, etc.) are integrated into team-based models of care for hip and knee joint management, there is potential to improve clinician coordination, communication and optimize patient care across multiple providers[vii]. This would also include non-surgical management, education and an understanding of patient's preferences and expectations.

Expedite Widespread Adoption of Same-Day Surgeries for Arthroplasty

Despite alleviating bed management pressures and decreasing the overall cost of procedures by as much as 30%, same-day surgeries have not been widely adopted in Canada compared to other countries like the United States[viii]. To move towards a wider adoption of same-day surgeries for hips and knees, examples of some provider-, patient- and organization-level solutions are outlined below:

- **Provider Factors:** Improve care coordination and communication between surgeons, physiotherapists, occupational therapists, nurses and anaesthesiologists and provide funding models to enable process adjustments required by health professionals to support outpatient pathways.
- **Patient Factors:** Improve education on surgical expectations and appropriate social support and access to home care services post-surgery.
- **Organizational Factors:** Ensure there is administrative support and incentives (e.g., funding) for a dedicated outpatient shift, and a focus on safety and enhanced recovery after surgery within the outpatient approach.

To support the transition of broader adoption of same-day surgeries across Canada, Healthcare Excellence Canada – the new organization uniting the Canadian Patient Safety Institute and Canadian Foundation for Healthcare Improvement – has recently developed the ***Enhanced Recovery Canada*** clinical pathway. Implementation resources for patients and providers are available on enhancedrecoverycanada.ca.

II. Standardized Patient-Centred Approach to Collection and Reporting of Data

Over the years, tracking surgical wait times and process metrics has not changed what's happening to the patient or improved wait times overall. Rather than solely focusing on standardizing surgical wait times data, there needs to be a shift towards standardizing patient-focused data that captures the patient's entire journey from primary care provider to assessment (Wait 1) and then surgery (Wait 2). Ultimately, whether it is for surgeries or diagnosis, it is about the patient, and understanding these patients to better optimize and improve case management.

Better patient data and transparent access to that data by patients and providers allows for improved quality assurance and patient optimization through appropriate measurement of patient-related outcomes and experiences. Furthermore, standardizing patient data, along with ensuring accountability measures for the collection and reporting of the same data on the same process steps from every province, will ensure better connected and coordinated care throughout the patient healthcare journey.

"Instead of thinking about standardizing surgical data, we need to transition into focusing on standardizing patient data because at the end of the day, this is about the patient and understanding the patient to better prioritize and better optimize care management. That can only be done through a better understanding of the full profile of the patient."

III. Better Leveraging Digital Technology

From e-referrals and virtual care, accelerating the implementation of digital technology will further optimize the innovative models of care, standardized patient data outlined above and enhance patient experiences overall (e.g., getting people home faster, reduce return visits to emergency departments post-operatively, etc.). E-referrals that have been adopted have resulted in better utilization of resources and planning for health human resources, while improving the coordination of care and the ability to select the right patients for surgery.

Leveraging digital technology like e-referrals and virtual care can improve health system efficiency and transparency by ensuring faster response rates. Not only do e-referrals decrease wait times, but they also allow for better resource utilization[ix].

In line with digital adoption, there should be greater consideration and focus on how to incorporate and leverage technology in the following initiatives:

- Assessing clinical practices due to the shift in patient care that has recently occurred (e.g., virtual care).
- Ensuring up-to-date clinical best practices are comprehensively and consistently utilized across Canada.
- Establishing consistent criteria for patients to determine when they are ready / need surgery.

"We've talked about optimizing funds and that we cannot squeeze another ounce of juice from this lemon. However, e-referral systems have shown positive results in ensuring patients are going to the right place and also that wait lists are managed appropriately, so we actually get more bang for our buck."

IV. Broadening Access to Community-Based Joint Health Management Programs

Broader recognition and adoption of community-based joint health management programs will ensure better accessibility for individuals living with joint pain, in particular hip and knee conditions, and can help prevent and delay the need for joint replacement surgery. This is essential as these programs can help prevent or delay the need for surgery and improve hip/ knee joint and patient health to ensure the best possible outcomes after surgery when needed. Working Group participants noted that pre-operative pain and dysfunction is predictive of post-operative pain and dysfunction. Therefore, making patients wait longer prolongs their disability and worsens their function prior to surgery.

A Working Group participant also noted that while after surgery most patients see great improvements, they don't get back to the point where they could have been if either they had surgery earlier or if they were provided other treatment options to maintain joint health. Ultimately, joint health management programs like Good Life with Osteoarthritis: Denmark (GLA:D) in Canada and Osteoarthritis Service Integration System (OASIS) in Vancouver have shown significant improvements in pain management, functional ability of the joint and quality of life and should be part of a patient's arthritis care continuum[x].

V. Re-investing Savings from Surgical Efficiencies into Improving Patient Care

The proposed solutions will provide health system efficiencies, better reporting and transparency and therefore cost savings. However, siloed budgets within the healthcare system can prevent savings from process and model improvements from being reinvested back into this area of focus and these patients. This is a major concern as many Working Group participants noted that this disincentivizes further improvements within the healthcare system by various health professionals.

A reinvestment process must be developed, not only for hip and knee procedures but across the healthcare system, to:

- Incentivize the adoption of best practices that improve patient outcomes and achieve savings overall; and
- Give money back to the areas that have worked hard for such improvements for further reinvestment and future innovations.

Summary

Why Canada Must Address the Surgical Wait Times Crisis for Hips and Knees

By leveraging innovations in approaches to perioperative care, Canadian clinical leaders have dramatically *increased* the annual number of joint replacement surgeries performed over the past decade and *decreased* the average length of hospital stay[xi,xii]. Despite these successes, the crisis of expanding surgical wait times continues to worsen.

Elongating surgical wait times and ballooning backlogs are problems that existed before COVID-19, but the pandemic has made a serious challenge even worse. Addressing this need will require new partnerships to coordinate and optimize solutions with the possibility of driving permanent positive change. The Arthritis Society is committed to working with a wide range of collaborators to ensure that the tens of thousands of Canadian arthritis patients waiting for treatments can access better care, faster.

Next Steps

Over the coming months, the Arthritis Society, along with its partners, collaborators and allies, will engage with federal, provincial and territorial governments to make the case for a coordinated, innovative and inclusive approach to adopting and implementing the policies, programs and investments required to address Canada's crisis in joint replacement wait times.

At the centre of this advocacy is our call for a **Canadian Wait Times Task Force** that includes clinical, health system, government, industry and patient leaders and is mandated to develop and resource a pan-Canadian action plan – a plan we hope includes many of the ideas, options and solutions outlined in the pages above. While this report is focused on hip and knee, many of these same challenges and potential solutions apply more broadly in arthritis care, both surgical and non-surgical, which should be considered when determining recommendations.

This work is closely aligned with the Arthritis Society's innovation strategy and provides an opportunity to leverage different sectors and potential new partnerships to innovate and move forward to implement these recommendations. We are determined and committed to work with collaborators and partners in the health ecosystem on both short-term and long-term solutions that put the patient at the centre and enables them to get back the mobility and quality of life they deserve.

Appendix 1: Arthritis Society's Wait Times Working Group

Name	Title / Organization
Trish Barbato	President and CEO, Arthritis Society
Dr. Bob Bell DCM, MSc, FRCSC, FRCSE (hon)	Internationally recognized Orthopedic Surgeon, Clinician-Scientist and Educator and former Deputy Minister of Health at the Ministry of Health and Long-Term Care
Dr. Siân Bevan Ph.D	Chief Science Officer, Arthritis Society
Dr. Eric Bohm BEng, MD, MSc, FRCSC	Chair of the Manitoba Provincial Orthopedic Standards and Quality Committee, and the Advisory Committee of the Canadian Joint Replacement Registry, and Winnipeg Regional Health Authority's Orthopedic Waitlist, and medical advisor to the Joint Replacement Registry, and Central Intake Program, respectively
Sameer Chunara PT, MSc(PT), B.Ed, ACPAC	Board Member of the Arthritis Health Professionals Association and Advanced Practice Physiotherapist and clinic director of St. George Physiotherapy Clinic
Joanne Di Nardo	Director, Public Policy and Government Affairs, Arthritis Society (job-share)
Dr. Michael Dunbar MD, FRCSC, PhD, FCAHS	Professor of Surgery, Division of Orthopaedics, Dalhousie University and Co-Chair of the Canadian Joint Replacement Registry
Dr. William Dust MD, FRCSC	Professor, Orthopedic Surgery at the Royal University Hospital
Kelly Gorman	Director, Public Policy and Government Affairs, Arthritis Society (job-share)
Dr. Pierre Guy MD, MBA, FRCSC	Chair and President, and Board of Directors of the Canadian Orthopaedic Foundation, Board Member of the Canadian Orthopaedic Association, and Professor and Clinician-Scientist at UBC Department of Orthopaedic and practicing Orthopaedic Trauma Surgeon at B.C.'s Level 1 Trauma Centre, Vancouver General Hospital
Dr. Gillian Hawker MD, FRCPC	Sir John and Lady Eaton Professor and Chair, Department of Medicine, University of Toronto, Clinician-Scientist at the Women' College Research Institute, Senior Scientist at the Institute for Health Policy, Management and Evaluation, and Adjunct Senior Scientist at the Institute for Clinical Evaluative Sciences
Izabella Kaczmarek MPH	Consultant, Santis Health
Normand Laberge	General Manager, CHIRURGIE DIX30
Raj Malik	Vice President, Federal Affairs & Health Systems at MedTech Canada
Rhona McGlasson	Executive Director, Bone and Joint Canada
Dr. Raja Rampersaud, MD, FRCPC	Orthopedic Spine Surgeon at Toronto Western Hospital and Clinician Investigator at the Krembil Research Institute

Dr. Kam Shojana MD, FRCPC	Scientist – Medical Director, Mary Pack Arthritis Program, Vancouver Coastal Health, and Clinical Professor and Chief of Rheumatology at the University of British Columbia
Michael Terner MSc	Manager of Joint Replacement and Patient-Reported Outcomes and Experiences, Canadian Institute for Health Information
Ross Wallace	Principal, Santis Health
Dr. Stephen Weiss	Director, Board of Directors, Arthritis Society
Carla Williams RN, MHSM, CPPS	Senior Program Manager, Healthcare Excellence Canada

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