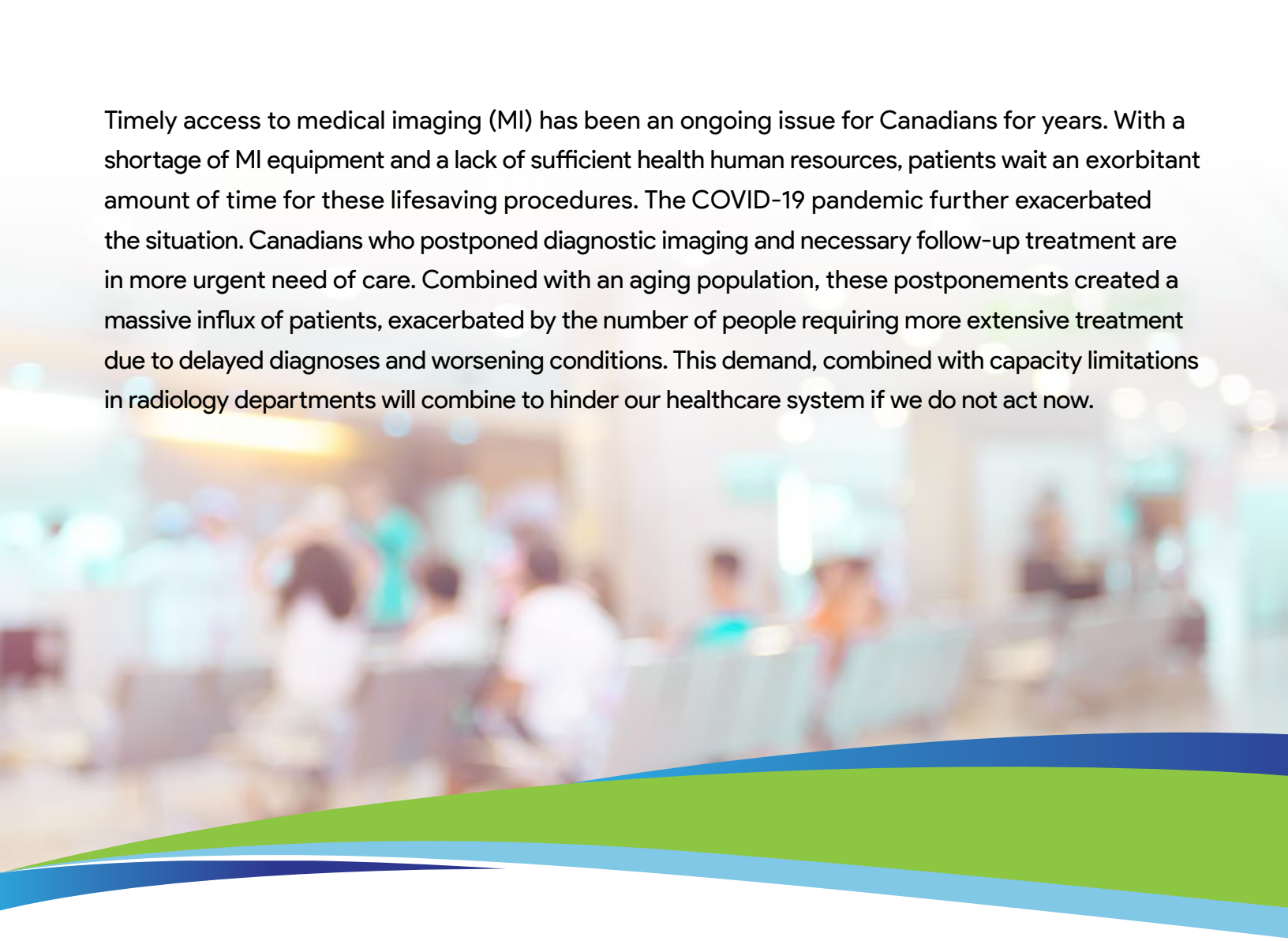
Canadians Need Better Access to Medical Imaging: Addressing the Diagnostic Backlog

Canadian Association of Radiologists
L'Association canadienne des radiologistes

Timely access to medical imaging (MI) has been an ongoing issue for Canadians for years. With a shortage of MI equipment and a lack of sufficient health human resources, patients wait an exorbitant amount of time for these lifesaving procedures. The COVID-19 pandemic further exacerbated the situation. Canadians who postponed diagnostic imaging and necessary follow-up treatment are in more urgent need of care. Combined with an aging population, these postponements created a massive influx of patients, exacerbated by the number of people requiring more extensive treatment due to delayed diagnoses and worsening conditions. This demand, combined with capacity limitations in radiology departments will combine to hinder our healthcare system if we do not act now.



List of Recommendations

To address the significant backlog of Canadians waiting for MI while preparing for the influx of patients needing care, the CAR recommends that the Government act on the following priorities:

1. Invest $1 billion over three years for MI equipment to be distributed to the provinces on a per capita basis. In conjunction, it is imperative that the Government, working with radiology stakeholders, implement a health human resources strategy, including hiring more medical radiation technologists (MRTs) and sonographers to help support the increased equipment capacity.

2. Support the implementation of a national e-referrals program (clinical decision support) to equip referring health professionals with better access to MI guidelines, ensuring that patients receive the right imaging test at the right time.

3. Harness homegrown AI applications for the strategic prioritization of health human resources, technology, and infrastructure for MI in Canada.

Frequently Asked Questions:

How will federal investment in MI benefit Canadians?
It would reduce wait times and improve access to necessary diagnostic and interventional procedures, improving patient outcomes.

Why is investment needed now?
Canadian imaging equipment is undersupplied. We are at a 20-year low for investment in new imaging equipment, which has a significant impact on wait times. Canadians are waiting significantly longer for imaging than the benchmarks recommended by the Wait Time Alliance and the CAR, and these waits have been amplified by COVID-19.

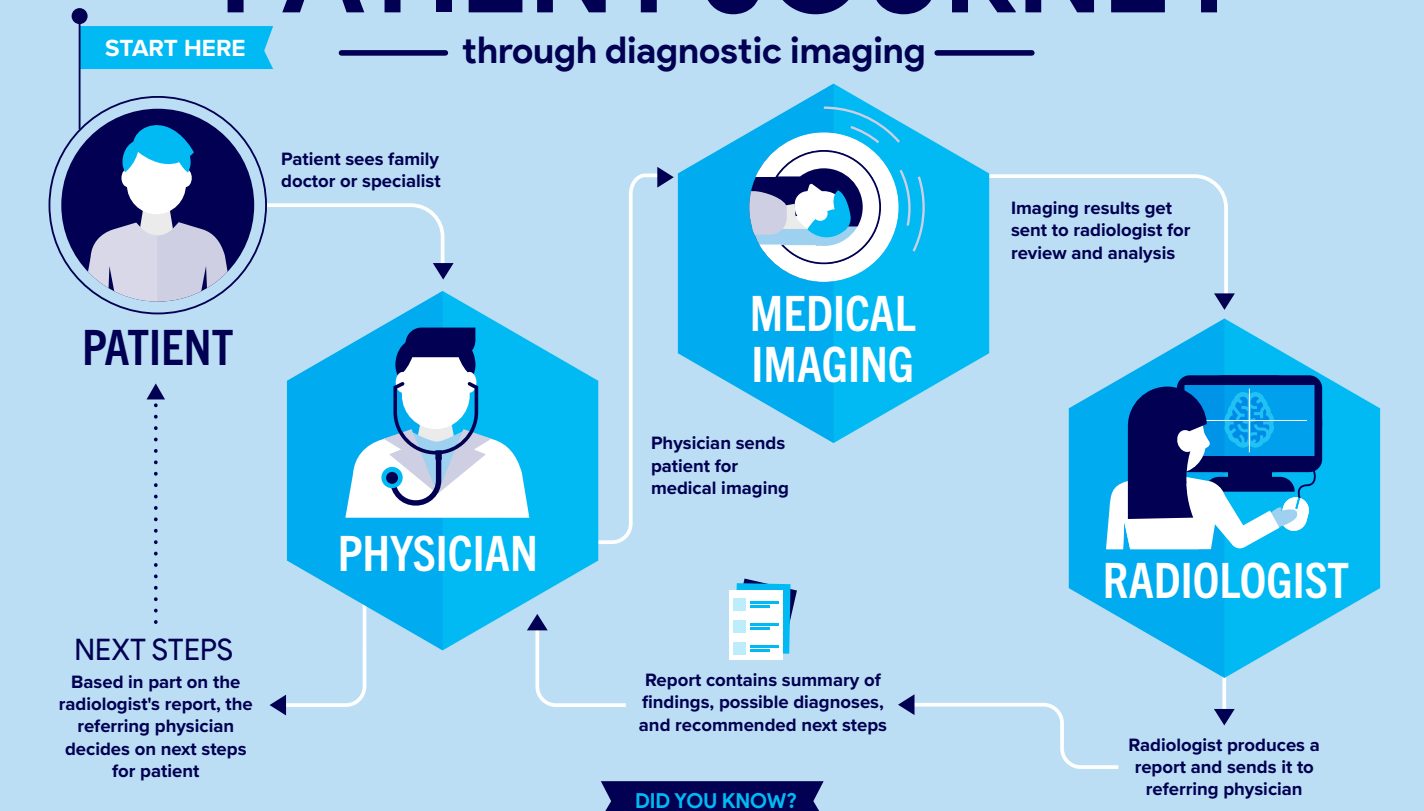
Healthcare is a provincial priority, why ask for federal investment?
The health and well-being of Canadians is a national priority. In 2021, the Liberal Party of Canada promised $6B in new funding to address backlogs in the healthcare system. In March 2022, the Government announced $2B for the provinces and territories to address wait times, including for diagnostics. The CAR applauds this investment and would like to see some of the remaining $4B appropriated for new imaging equipment and health human resources, to ensure that patients in all jurisdictions have equitable access to imaging procedures.

THE RADIOLOGIST IS THE DOCTOR WHO:

- analyzes your images to make a diagnosis
- communicates the findings to your referring physician
- contributes to your treatment plan

PATIENT JOURNEY

through diagnostic imaging



DID YOU KNOW?

- Radiologists are the physicians who specialize in interpreting results of imaging exams. Family physicians and other specialists turn to radiologists for consultation on the safest and most appropriate exam.
- The professional conducting the imaging exam is an imaging technologist.
- The majority of radiologists have at least 14 years of postgraduate education.

Executive Summary

Prior to the pandemic, Canadians were waiting an average of 50 to 82 days for CT scans and up to 89 days for MRI imaging. This is 20 to 52 days longer than the recommended 30-day wait time for these potentially lifesaving modalities.[i] During COVID, waitlists lengthened, creating dire circumstances for people needing cancer screening, or patients requiring treatment or ongoing management of their disease.

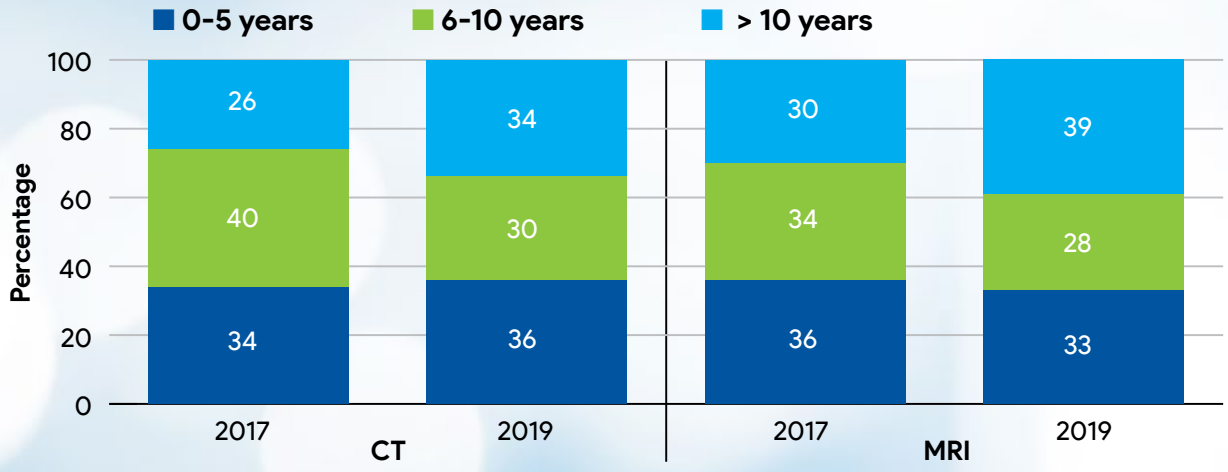
Pandemic realities have piled on to existing healthcare pressures associated with a growing population of aging and older adults. Radiology departments across the country are seeing a massive influx of patients, beyond existing waitlists for imaging in Canada. Our healthcare system is not equipped to handle this capacity: we are at risk of leaving many patients undiagnosed and untreated. The Canadian Cancer Society (CCS) is advocating for rapid access to care for those suspected of having cancer, with an emphasis on equitable access to screening, diagnostics, and treatment regardless of where someone lives. Lives are at stake. One study predicts the possibility of more than 20,000 additional cancer-related deaths over the next 10 years. However, that could be reduced by almost 80% if the cancer care, including diagnostic imaging, is increased 10% above pre-pandemic levels.[ii]

The CAR recommends that the Government invest in MI equipment, health human resources, technology infrastructure, and a national Clinical Decision Support framework to meet the needs of Canadians whose care has been negatively affected by lengthy delays for imaging. This investment will equip our healthcare system to address the MI challenges now, while preparing for future demand and possible disruptions.

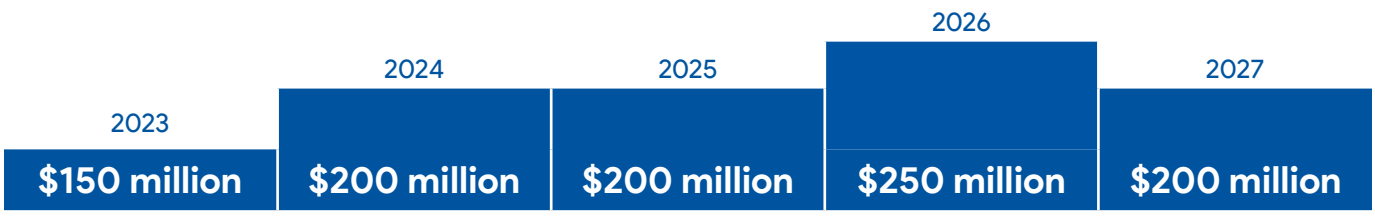
Compliance With Golden Rules

Ageing DI Equipmet getting worse - not compliant with the Golden Rule

Source: The Conference Board of Canada; the Canadian Agency for Drugs and Technologies in Health.



Recommended Yearly Investment – Medical Imaging Equipment



Postponed Cancer Screening Affects Patient Outcomes

Ewa Hodges from Toronto knows firsthand the importance of medical imaging for cancer care. In 2020, Ewa was diagnosed with stage 1 breast cancer. She underwent surgery and treatment, and in the year that followed, she needed follow-up imaging to monitor her condition. When the pandemic caused many facilities to cancel or delay scheduled services, Ewa's follow-up imaging was cancelled because it was deemed not urgent. Despite having a very aggressive form of cancer, she was not able to access the tests she needed.

After 9 months of pleading with her local hospital, she was finally able to obtain imaging only to find out that her cancer had returned, necessitating another surgery, radiation treatment, and 5 years of medication. Her treatment would have been less invasive had she been imaged and assessed in a timely manner. This is one example of many that demonstrate the importance of timely access to lifesaving medical imaging.

Increased Strain on Radiology

Prior to the pandemic, patients faced significant wait times for imaging across Canada due to equipment shortages and the absence of sufficient radiology human resources to operate the equipment. In 2019, the Conference Board of Canada estimated that average wait times in 2022 would be 67 days for a CT and 133 days for an MRI, far exceeding the acceptable 30-day standard, **resulting in a net loss to the economy of $3.5 billion in lost GDP**.[iii] These wait times were already concerning to radiologists, who want to provide lifesaving procedures and imaging for their patients in a timely fashion, and to those who are waiting in uncertainty for imaging care. A 2022 Nanos Poll found that nine out of ten Canadians support the federal government making new investments in MI to reduce wait times. Meanwhile, over 53% of Canadians say wait times to access diagnostic imaging have worsened since the pandemic started, with only 3% of respondents responding that wait times had improved.[iv]

The age of MI equipment also has a significant impact on wait times and the efficiency of imaging departments, which rely on functional equipment to maintain extended hours and service levels to accommodate the demand for tests and procedures. A recent report by the Conference Board of Canada benchmarked the age of imaging equipment in Canada compared to other OECD countries and determined that our equipment supply is outdated and fails to meet the needs of patients and providers.[v]

Planning for the Future

In the transition to the "new normal," healthcare faces the dual challenge of maintaining safe and efficient operations, while simultaneously preparing for the future. Investing in radiology is key to safeguarding patient health and preventing further losses to the Canadian economy.

While healthcare services postponed by COVID have resumed to full capacity in some cases, the current backlog is insurmountable, and patients will simply not be seen within an acceptable timeframe. Future-proofing our MI departments and services means investing in:

- Updated MI equipment that integrates with IT infrastructure and emerging AI systems
- Highly skilled healthcare workers like MRTs, sonographers and support staff to run imaging departments at optimal capacity and reduce burnout in our workforce
- Tools to improve inadequate data management while eliminating missed opportunities to streamline the patient experience.

35.5% of Canadian medical imaging equipment is 10 or more years old, which has a detrimental impact on patient care and health system efficiency.

The Right Test at the Right Time

MI touches on every aspect of the healthcare system. The number of patients who need advanced imaging necessitates the prioritization of referrals. We need to work with referring health professionals to ensure that they have access to the latest Canadian imaging guidelines through the implementation of electronic Clinical Decision Support (CDS) systems. With CDS, we can prioritize imaging as effectively and efficiently as possible to ensure that every patient receives the right test at the right time. Moreover, we can optimize workflows using data sets and tools that are already being developed in hospitals and academic institutions across the country. **We are asking for the Government's support in helping provinces integrate CDS into their electronic patient record systems.**

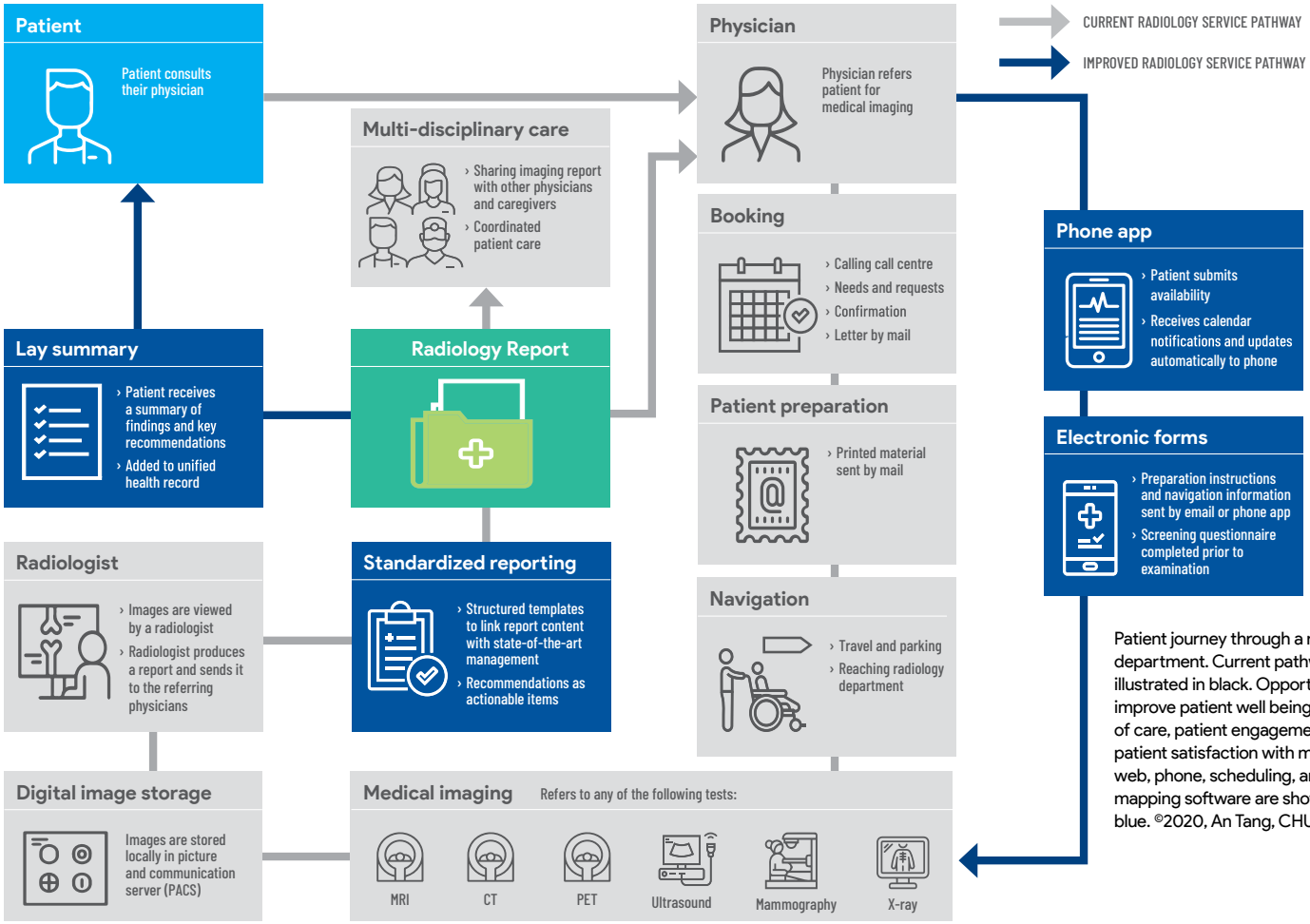
Harnessing Artificial Intelligence

Canada is positioned to lead the integration of AI into healthcare, by capitalizing on existing strengths in research and bioinformatics. The Government has invested in AI R&D in many industries and is renewing commitments to support Canada's robust AI ecosystem.[vi] The next step for healthcare is to establish a clinical evaluation and validation for the multitude of AI applications entering the healthcare market. Clinical insight from end-users like radiologists is essential to ensure that we harness AI to improve outcomes for Canadian patients. AI is not a solution unto itself – expert human guidance is essential to move from research to practical implementations of the technology. **We recommend harnessing existing AI to augment investments made in capital equipment and health human resources.**

There are many AI industry leaders in Canada who have exported their homegrown AI solutions abroad. To improve healthcare for Canadian patients, we should adopt these solutions here at home by developing a comprehensive implementation plan. The Government can play a key role in leading this effort. Moreover, to ensure that healthcare AI tools are deployed with patient safety and privacy in mind, the Government must set standards for the interoperability of AI systems, while addressing regulatory and legal issues that accompany the use of AI in medicine.

The CAR would welcome the opportunity to appear before the Standing Committee on Finance to further elaborate on our recommendations to reduce wait times for MI in Canada and ensure that all Canadians receive the lifesaving care they desperately need in a timely manner.

Simplified Patient Journey



Patient journey through a radiology department. Current pathway is illustrated in black. Opportunities to improve patient well being, quality of care, patient engagement, and patient satisfaction with modern web, phone, scheduling, and mapping software are shown in blue. ©2020, An Tang, CHUM.

About the Canadian Association of Radiologists

The CAR is the national voice for radiologists in Canada, dedicated to imaging excellence and advocating for the highest standard of patient care across the country. We represent 2,900 radiologists who provide vital MI for millions of patients.

References

i Sutherland, Greg, Nigel Russell, Robyn Gibbard, and Alexandru Dobrescu. The Value of Radiology, Part II. Ottawa: The Conference Board of Canada, 2019.

ii Malagón T, Yong JHE, Tope P, Miller WH, Franco EL, and McGill Task Force on the Impact of COVID-19 on Cancer Control and Care. "Predicted Long-Term Impact of COVID-19 Pandemic-Related Care Delays on Cancer Mortality in Canada." *International Journal of Cancer* 150, no. 8 (April 15, 2022): 1244–54. https://doi.org/10.1002/ijc.33884.

iii *Ibid*.

iv Nanos National Survey of Canadian perceptions on radiology and investment for Medical Imaging. Conducted January 2022. Data available: https://nanos.co/wp-content/uploads/2022/01/2022-2065-Radiologists-Jan-Populated-report-with-tabulations.pdf

v Waters, Nicola and Zahra Ahmadvand. Medical Imaging Equipment in Canada 2022: Trends, Challenges, and Opportunities. Ottawa: The Conference Board of Canada, 2022. https://www.conferenceboard.ca/e-library/abstract.aspx?did=11660

vi CIFAR announces plans for second phase of the Pan-Canadian Artificial Intelligence Strategy. CIFAR, https://cifar.ca/cifarnews/2022/06/22/cifar-announces-plans-for-second-phase-of-the-pan-canadian-artificial-intelligence-strategy/ (2022, accessed 28 June 2022).