



**Canada's Medical Radiation  
Technologists:**  
A Case for Investment in Health Workforce

Submitted by: The Canadian Association of Medical Radiation Technologists (CAMRT)

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## **About Medical Radiation Technologists in Canada**

Medical radiation technologists (MRTs) provide the essential link between compassionate care and the sophisticated medical imaging and therapeutic technologies that underpin modern healthcare. In total, there are more than 22,000 technologists working across Canada within the three medical imaging areas of radiologic technology, nuclear medicine, magnetic resonance, and in the practice of radiation therapy.

MRTs play an indispensable role in the Canadian healthcare system. It is estimated that nearly one in every three Canadians undergo medical imaging in each 6-month period,<sup>1</sup> where MRTs are responsible for producing detailed and high-quality diagnostic information critical for decision-making. MRTs working in radiation therapy play an integral role in cancer care, with 50% of all cancer patients receiving radiation treatment each year.

Whatever their specialization, MRTs use their expert knowledge of imaging and radiation therapy technology, together with an extensive understanding of the principles of anatomy, physiology and pathology and radiation safety to deliver quality care to their patients. They are integral to ensuring care provided is safe, appropriate, tailored, timely, and maximizes the potential of the available equipment and resources.

## **About the CAMRT**

Established in 1942, the Canadian Association of Medical Radiation Technologists (CAMRT) is the national professional association and certifying body for radiological, nuclear medicine and magnetic resonance imaging technologists and radiation therapists. Recognized in Canada and internationally as a leading advocate for the MRT profession, the CAMRT is an authoritative voice on the critical issues that affect its members and their practice.

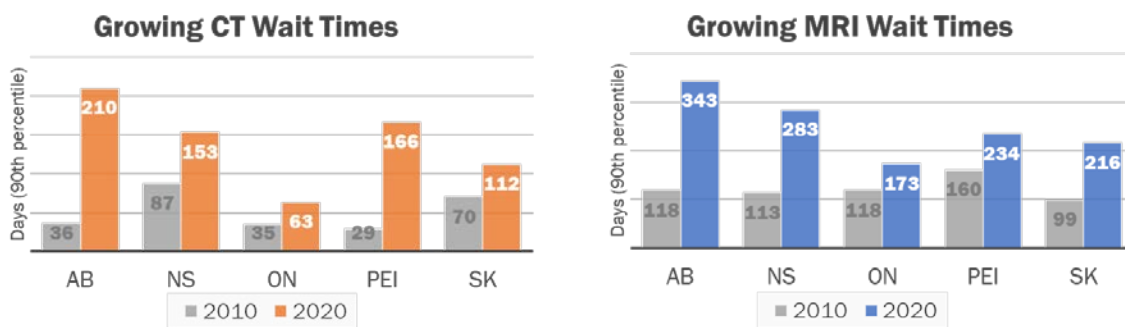
## Lengthy wait times: a long-standing issue exacerbated by COVID-19

Medical radiation technologists care for and interact with patients at some of the most critical junctures in their care. Unfortunately, in 2022, the interactions, particularly in medical imaging, are becoming bottlenecks for the Canadian healthcare system. An illustration of these bottlenecks and how MRT staffing issues are affecting Canadian healthcare can be seen in national statistics that track computerized tomography (CT) and magnetic resonance imaging (MRI).

Before the pandemic, long wait times for critical imaging exams like CT scans and MRI were already common in Canada. In 2019, it was estimated that Canadians could wait 50 to 82 days for CT scans and 89 days for MRI imaging.<sup>2</sup>

COVID-19 and the measures used to contain its spread have further prolonged these wait times. In mid-2020, lower priority exams were cancelled to keep patients out of hospitals. In the months that followed, the extra measures adopted to keep coronavirus at bay slowed patient throughput. Due to these factors combined, the Canadian Institute for Health Information (CIHI) estimated the annual volume of MRI scans in Canada decreased by over 25% in 2020, and CT scans were down 20% for the year.<sup>3</sup>

Despite the decrease in volume, the need and demand for both CT and MRI did not wane, leading to the ballooning wait times we see today. Right now, massive numbers of patients are waiting for diagnostic exams across the country. It varies by province, but many patients are waiting 6 months at a minimum, and many up to a year for their tests.<sup>4</sup> This is despite Canadian targets of 30 to 60 days for even the lowest priority groupings for these exams.



\* Data shown is from provinces where comparable data was available from 2010 and 2020. <sup>4</sup>

*Effects of wait times cascade to other parts of the healthcare system*

Because these vital imaging exams often come early in a patient’s interaction with the healthcare system, delays of this magnitude create a cascade of further delays, leading to months of anxiety, uncertainty and unresolved health issues. Many of the other backlogs being experienced throughout the system, such as those in surgeries, are affected by a bottleneck in imaging.

In cancer care, the 2020 shutdowns and postponements during the pandemic have also led to increased volumes of cancer patients in the system. In radiation oncology, MRTs working in radiation therapy are seeing more patients because many that would have otherwise been candidates for surgical intervention are instead receiving radiation therapy. Recent research from McGill University estimates that there could be 21,247 excess deaths resulting from disruptions to cancer diagnosis and care during COVID-19 in the next decade.<sup>5</sup> The researchers noted these *“could be mitigated by increasing diagnostic and treatment capacity in the short-term to address the service backlog.”*<sup>5</sup>

**A workforce left behind**

It is often forgotten that even technology-heavy aspects of the healthcare system also ultimately rely on professionals. While the use of precision technology has grown in response to burgeoning demand, growth in human resources to support these services has not kept pace.<sup>6,7,8</sup>

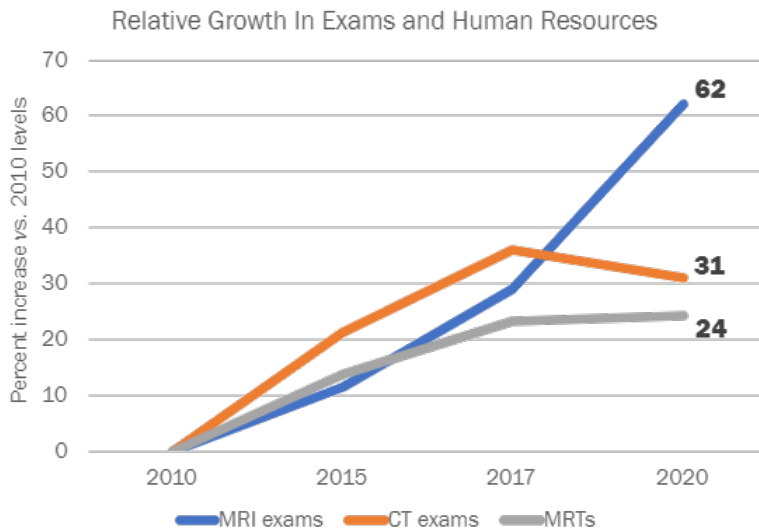
In the area of CT scanning, there was a 31% increase in scans between 2010 and 2020, an absolute increase of 1,297,663 scans nationwide. In MRI, the number of exams increased by 62% over the same time frame, a total of 895,724 more scans across Canada.<sup>6</sup>

This was largely achieved by expanding service using measures like extension of service time. In the 5-year period before the pandemic alone, CT scanners were running for 28% longer every week; while MRI was running for 22% more hours.<sup>6,9,10</sup>

**Average Operational Hours for CT and MRI in Canada <sup>6,9,10</sup>**

	2015	2017	2020
<b>CT</b>	63 hrs/wk	76.5 hrs/wk	80.5 hrs/wk
<b>MRI</b>	72.2 hrs/wk	78.7 hrs/wk	87.8 hrs/wk

In contract, investment in the MRT workforce did not keep pace – the growth in the professional MRT ranks in the last decade was 24%, well below the increases in exams performed. While extending hours of service time can clearly make a difference to provincial wait times in the short term, the over reliance on these shortcut measures and the corresponding neglect of the human resources in the area has worn the workforce thin.



Because governments have used extension of hours to combat wait times for decades, these tools are less available to combat historic backlogs today. In fact, the current wait times dilemma comes at the same time as, and in many ways is exacerbating, a **parallel crisis of extreme fatigue, burnout and staffing shortages in the MRT profession** — the people the system is relying on to staff this historic recovery.

*A parallel crisis: burnout and attrition*

Solutions that ignore the fact that healthcare is delivered by human beings, not machines are doomed to fail. A healthy system requires a healthy workforce.

Burnout was a serious issue for the MRT profession even before the pandemic, with more than a third of the workforce reporting signs of burnout in 2018. Our subsequent mental health survey showed how the pandemic pushed MRTs to the breaking point.<sup>11</sup> In 2021, there was an 80% jump in MRTs reporting signs of burnout, with two-thirds (64%) of the workforce now reporting the highest level of emotional exhaustion.<sup>11</sup> These conditions persist today.

**CAMRT National Mental Health Survey Results: Burnout<sup>11</sup>**

Maslach Burnout Inventory (Category)	Percentage Participants with High Burnout Score		Relative increase
	2018	2021	
<b>Emotional exhaustion</b>	36%	64%	+78%
<b>Depersonalization</b>	16%	29%	+81%
<b>Reduced perception of personal accomplishment</b>	19%	24%	+26%

Like the crisis playing out in other healthcare professions, stress and burnout in the MRT profession now appear to be leading to the loss of professionals from the workforce. Preliminary data from CAMRT’s profession-wide HHR survey conducted in December 2021 reveal that vacancies in the specialty areas of CT imaging and MRI have risen three- to five-fold since 2019, now standing at 10% and 11%, respectively.<sup>12</sup>

Those working side by side with MRTs agree, 70% of respondents to a survey conducted by the Canadian Association of Radiologists (CAR) in the summer of 2021 felt there were insufficient resources within the radiology departments they needed to tackle the backlogs. When asked what deficits needed most urgent attention, 70% identified health human resources as the major issue.<sup>13</sup>

Based on this data from the MRT profession, the CAMRT believes it will be impossible to address wait times and the backlogs in medical imaging without due consideration for the professionals the system relies upon. A profession exhibiting massive burnout is not at a good starting point to take on the workloads of historic proportions coming after this pandemic. Collectively, we need to recognize the true threat of working staff until they are overburdened for the sake of improving productivity metrics.<sup>14</sup>

**The need for investment in medical radiation technologists**

The CAMRT is encouraged to hear the general agreement from political and healthcare leaders across the country that investment in medical imaging is necessary at this critical juncture to return the country and the healthcare system to a place of manageable equilibrium.

The Federal government has found and demonstrated a clear role for national leadership in health at many important junctures these past two years. The Canadian public has taken note, and according to polls would welcome continued leadership through the recovery phase of the pandemic. On the issue of medical imaging backlogs, a January 2020 poll of

Canadians showed 90% public support for federal government investment to shorten wait times.<sup>15</sup>

As such, **the CAMRT calls on the Federal government to work in collaboration with the provinces to address the historic backlogs in medical imaging with particular consideration for the growing human resources crisis in the MRT profession.**

The CAMRT also recognizes that work is required over the long-term to help ensure that situations of chronic underinvestment do not again jeopardize the integrity of the healthcare system and its workforce. Indeed, maintaining a thriving and functional healthcare system requires a thorough understanding of its capacity to absorb new and existing demands, as well as data and analytics to help identify strategies for increasing efficiency and reducing waste. So that future crises in healthcare can be addressed with a more accurate and complete understanding of the crises at hand:

**The CAMRT calls on the Federal government to establish a dedicated coordinating body to build and maintain a national repository of meaningful and responsive health human resources information.**

The merits of this approach have been established by the Canadian Health Workforce Network and it is supported by dozens of Canadian healthcare professional groups.<sup>16</sup>

## References

1. Harris Decima Omnibus Survey, January 2010.
2. The Conference Board of Canada *The Value of Radiology, Part II*. Ottawa: 2019.
3. Canadian Institute for Health Information. *Wait Times for Priority Procedures in Canada, 2021: Focus on the First 6 Months of the COVID-19 Pandemic*. Ottawa, ON: CIHI; 2021.
4. Canadian Institute for Health Information. *Wait Times for Priority Procedures in Canada – Data Tables*. Ottawa, ON: CIHI; 2021.
5. Malagón T, Yong JHE, Tope P, Miller WH Jr, Franco EL; 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. *Int J Cancer*. 2022 Apr 15;150(8):1244-1254.
6. Canadian Agency for Drugs and Technologies in Health. *The Canadian Medical Imaging Inventory 2019–2020*. Ottawa: CADTH; 2021 Jan.
7. Canadian Institute for Health Information. *Canada’s Health Care Providers, 2016 to 2020 – Data Tables*. Ottawa, ON: CIHI; 2022.
8. Canadian Institute for Health Information, *Medical Radiation Technologists in Canada, 2010*.
9. Canadian Agency for Drugs and Technologies in Health. *The Canadian Medical Imaging Inventory 2017*. Ottawa: CADTH; 2018 March.
10. Canadian Agency for Drugs and Technologies in Health. *The Canadian Medical Imaging Inventory 2015*. Ottawa: CADTH; 2016, March.
11. Canadian Association of Medical Radiation Technologists. *The Mental Health of Medical Radiation Technologists in Canada: 2021 Survey*. 2021
12. Canadian Association of Medical Radiation Technologists. Human Resources Survey: Medical Imaging and Radiation Therapy 2021, in publication.

13. Canadian Association of Radiologists. The COVID Affect and Backlogs for Medical Imaging in Canada Available at: <https://car.ca/news/the-covid-affect-and-backlogs-for-medical-imaging-in-canada/#more-16019>.
14. Canadian Association of Radiologists. Radiology Resumption of Clinical Services. Report Published May 8, 2020.
15. National Survey. Conducted by Nanos for the Canadian Association of Radiologists, January 2022.Submission 2022-2065.
16. Canadian Health WorkForce Network. Call to Action - Help our Healthcare Heroes Now! Available at: <https://docs.google.com/forms/d/e/1FAIpQLSdtUoIRLGTQrrGDpbgmBvYPMpfkLu-y-UAADeyeS6Ewqt7ohg/viewform>.