CADTH: Canadian Medical Imaging Inventory Service Report

Use of MRI and CT in Private Imaging Facilities in Canada (2021-2023)

Key Messages

- The private, for-profit, imaging landscape is expanding and is anticipated to continue expand due to changes in some provincial government policy aimed at reducing wait lists.
- The collection of data on private imaging can help to build a complete and comprehensive picture of overall procedural capacity across the country.
- Estimates on the number of publicly funded exams conducted in private facilities can inform the extent to which wait times have been impacted by the shift in some provincial government policies.
- The number of MRI and CT exams conducted at private facilities has increased over the past four fiscal years, with the exception of the first year of the pandemic (2020-2021).
- Private payment through private insurance and out-of-pocket payments were the main funding sources for MRI scans in 2021-2023 in the private setting. Provincial health care insurance was the main funding source for CT scans conducted at private facilities.

Context

The demand for medical imaging services in Canada is increasing due to a combination of factors, including an aging population.[1,2] Most MRI and CT imaging services in Canada are performed in the publicly funded health care setting, although around 10% take place in privately owned, for-profit, imaging facilities.[3] The private imaging landscape is anticipated to expand due to changes in government policy allowing the private delivery of publicly funded imaging services with a stated primary goal to reduce wait times.[2] Expansion in chain ownership of private imaging and the increase in the acquisition of private facilities by investment firms across Canada is also anticipated to contribute to growth in the private imaging sector.[3]

Relatively little is known about the use of private imaging services in Canada. Estimates of the volume of privately delivered imaging can help to build a complete and comprehensive picture of overall procedural capacity across the country. Private imaging utilization data can also inform the extent to which the transfer of publicly funded exams to the private sector has been successful in reducing wait times, as well as provide insight on the implications for health system management.

This report updates information from a previous CADTH report, Private Imaging Facilities in Canada: MRI and CT, which described results of a survey that covered utilization of MRI and CT exams in private clinics in the two prior fiscal year periods of 2019-2020 and 2020-2021.[4]

Objective

The objective of this report is to provide information on the number and cost of MRI and CT exams conducted during the 2021-2022 and 2022-2023 fiscal years in Canadian privately owned imaging facilities. This report summarizes the results of a survey distributed to private imaging facilities in Canada that offer MRI and/or CT exams.

About This Document

Privately owned facilities in Canada that offer MRI and/or CT exams were identified through the previous survey report[4] and CADTH's Canadian Medical Imaging Inventory (CMII).[5]

Private MRI and/or CT facilities were invited by email to complete a survey that included 4 two-part questions for each imaging modality. The survey questions focused on the total number of exams performed during the fiscal years 2021-2022 and 2022-2023; whether the scans were for residents from within or outside of the province; the sources of payment for the scans (e.g., provincial health insurance, workers' compensation boards, personal insurance or out-of-pocket payments), and the average cost of the scans. Both English- and French-language versions of the survey were offered to survey participants in Quebec and New Brunswick. The survey was emailed to participants beginning on July 17, 2023 and data collection closed on September 15, 2023. One email follow-up reminder was sent to all non-responders.

Results

At least 68 privately owned imaging facilities in Canada offer MRI and/or CT scans. Seven provinces (British Columbia, Alberta, Saskatchewan, Ontario, Quebec, New Brunswick and Nova Scotia) have one or more private imaging facilities that offer MRI and/or CT. Private imaging facilities that offer MRI or CT exams are not available in any of the territories, or in Manitoba, Newfoundland and Labrador, or Prince Edward Island.

For the purposes of this report, private imaging exams refer to exams billed to payment sources other than provincial health insurance plans (e.g., private insurance, worker compensation boards, or out-of-pocket payments). The term facilities used in this report refers to privately operated medical imaging facilities that accept private payment.

Survey Results

Eight of the 68 private diagnostic imaging facilities identified completed the survey. The responses received were from facilities in British Columbia, Alberta, Saskatchewan, and Quebec. Seven of the survey respondents offer MRI scans, and three offer CT scans.

Volume of MRI and CT Exams Conducted in Private Imaging Facilities

MRI

The average (mean) number of MRI scans performed at a single private facility was 4,703 (ranging from 531 to 12,194) during the fiscal year 2021-2022, and 5,178 (ranging from 569 to 12,389) during the fiscal year 2022-2023 (Table 1). The median number of MRI scans performed at a single private facility was 3,232 during the fiscal year 2021-2022, and 3,694 during the fiscal year 2022-2023. It is noted that some private facilities may have more than one unit which may contribute to the broad range of exam volumes. Data were from 7 survey responses for both fiscal years.

One survey respondent provided information on the number of MRI exams performed for patients from out-of-province: 4 in the fiscal year 2021-2022, and 34 in the fiscal year 2022-2023. Two respondents noted that no exams were performed for patients from out-of-province, and the remaining did not provide a response to this question.

CT

The average number of CT scans performed at a single private facility was 4,376 (ranging from 1,984 to 8,951) during the fiscal year 2021-2022, and 7,251 (ranging from 2,599 to 10,472) during the fiscal year 2022-2023 (Table 1). The median number of CT scans performed at a single private facility was 2,193 during the fiscal year 2021-2022, and 8,683 during the fiscal year 2022-2023. It is noted that some private facilities may have more than one unit which may contribute to the broad range of exam volumes. Data were from 3 survey responses for both fiscal years.

Two survey respondents included information on CT exams performed for patients from out-of-province: an average of 4 (ranging from 3 to 5) during the fiscal year 2021-2022, and an average of 14.5 (ranging from 4 to 25) during the fiscal year 2022-2023. The third survey respondent noted this information was not available for either fiscal period.

Costs of MRI and CT Exams in Private Imaging Facilities

MRI

The average cost per MRI exam was $748 (ranging from $625-$990) in fiscal year 2021-2022 with a median cost of $688. In fiscal year 2022-2023, the average cost per MRI exam was $762 (ranging from $640-990) with a median cost of $720 (Table 1). Data were from 6 survey responses in the 2021-2022 fiscal year and 7 survey responses in the 2022-2023 fiscal year.

CT

The average cost per CT exam was $301 (ranging from $192-$470) in the fiscal year 2021-2022 with a median cost of $241. In fiscal year 2022-2023, the average cost per CT exam was $310 (ranging from $192-$490) with a median cost of $248 (Table 1). The costs of exams do not include extra costs for more complex scans of certain body parts, additional costs for the use of contrast media, or discounts for repeat scans. Data were from 3 survey responses for both fiscal years.

Table 1: Average Total Exams, Out-of-Province Patient Scans, and Cost per Scan

MRI and CT scans	Fiscal year 2021-2022		Fiscal year 2022-2023	
	MRI [Mean (range)]	**MRI [Median]**	**MRI [Mean (range)]**	**MRI [Median]**
Number of total scans performed	4,703 (531-12,194)	3,232	5,178 (569-12,389)	3,694
Number of out-of-province MRI scans	4[a]	0[a]	34[a]	0[a]
Cost per scan (CAD$)	$748[b] ($625-$990)	$688[b]	$762 ($640-$990)	$720
	CT [Mean (range)]	**CT [Median]**	**CT [Mean (range)]**	**CT [Median]**
Number of total scans performed	4,376 (1,984-8,951)	2,193	7,251 (2,599-10,472)	8,683
Number of out-of-province MRI scans	4[c] (3-5)	4	14.5[c] (4-25)	14.5[c]
Cost per scan (CAD$)	$301 ($192-$470)	$241	$310 ($192-$490)	$248

[a] Data from 1 facility. [b] Data from 6 facilities. [C] Data available from 2 facilities. CAD=Canadian dollars

Trends in the Volume of MRI and CT Exams Conducted in Private Imaging Facilities

CADTH compared the volume of MRI and CT exams conducted in private facilities over the past four fiscal years (between 2019-2023) using the 2022 survey report data.[4]

The volume of MRI and CT exams in private facilities decreased in the fiscal year 2020-2021 — the first full year of the COVID 19 pandemic. Exam volumes subsequently increased markedly over pre-pandemic estimates in the two most recent fiscal years (2021-2023). The overall average increase in exams over the four-year period was approximately 38% for MRI, and 339% for CT (Table 2). The survey respondents differed between the two surveys — with 3 of the 6 facilities that provided information for the 2022 survey also completing the 2023 survey. This may compromise the reliability of the comparisons.

The overall increase in exams may, in part, reflect easing of pandemic restrictions (such as delaying screening or non-urgent exams), and patients returning for diagnostic exams that had been postponed during the earlier period of the pandemic.[6-8] It is possible that some individuals may choose to pay out of pocket for exams while post-pandemic backlogs and wait lists are addressed, and that the overall volume of these exams may potentially subside over time.

Trends in the Costs of MRI and CT Exams Conducted in Private Imaging Facilities

CADTH compared the costs of MRI and CT exams in private facilities over the past four fiscal years (between 2019-2023) using the 2022 survey report data.[4]

Average and median costs for both MRI and CT exams at private imaging facilities decreased slightly over the last four fiscal years. However, the cost per scan for CTs in 2019-2020 and 2020-2021 is based on information from a single facility and may not accurately reflect costs at all facilities across Canada. The overall average decrease in exam costs over the four-year period was approximately 3% for MRI, and 34% for CT (Table 2).

Table 2: Utilization and Costs of MRI and CT Exams in Private Facilities: 2019-2023

MRI and CT scans	Fiscal year 2019-2020		Fiscal year 2020-2021		Fiscal year 2021-2022		Fiscal year 2022-2023	
	MRI [Mean (range)]	MRI [Median]	MRI [Mean (range)]	MRI [Median]	MRI [Mean (range)]	MRI [Median]	MRI [Mean (range)]	MRI [Median]
Number of total scans performed	3,738 (667-7,642)	3,322	3,188 (614-6,543)	1,672	4,703 (531-12,194)	3,232	5,178 (569-12,389)	3,694
Cost per scan (CAD $)	$782 ($650-$950)	$765	$819 ($650-$950)	$851	$748 ($625-$990)	$688	$762 ($640-$990)	$720
	CT [Mean (range)]	CT [Median]	CT [Mean (range)]	CT [Median]	CT [Mean (range)]	CT [Median]	CT [Mean (range)]	CT [Median]
Number of total scans performed	1,650 (904-2,396)	1,650	1,581 (1,008-2,155)	1,582	4,376 (1,984-8,951)	2,193	7,251 (2,599-10,472)	8,683
Cost per scan[a] (CAD $)	$470[a]	$470[a]	$470[a]	$470[a]	$301 ($192-$470)	$241	$310 ($192-$490)	$248

[a] Data available from only one facility. CAD = Canadian dollars

Funding Sources for MRI and CT Exams in Private Imaging Facilities

The main sources of funding for private MRI exams, for both fiscal years were from private insurance and patients paying out-of-pocket in the private imaging sector. Table 3 shows the percentage of exams based on sources of funding. Unlike MRI, the main sources of funding for private CT exams, for both fiscal years, was provincial health insurance, however, due to the small number of responses from centres offering CT these results may not reliably reflect funding of CT exams in private imaging centres across Canada.

The survey asked for information on the percentage of scans funded by different funding sources. The options included: provincial health care insurance (including funding from regional health authorities, workers' compensation boards, private payment (i.e., personal health insurance or patient out-of-pocket payments), federal funding (i.e., from federal government programs), and other (such as research).

Table 3: Average Number of Scans Attributed to Sources of Funding

Sources of funding	Percentage of scans (Fiscal year 2021-2022)	Percentage of scans (Fiscal year 2022-2023)
	MRI %(range)	
Provincial health care insurance	27.5 (0-82)	29.5 (0-85)
Workers' compensation boards	16.0 (1-49)	15.6 (1-50)
Private insurance and out-of-pocket	50.4 (8-88.7)	51.8 (11-90.5)
Federal funding	0.9 (0-6)	1.0 (0-7)
Other sources	5.3 (0-19)	2.2 (0-12)
	CT %(range)	
Provincial health care insurance	63.4 (0-97.2)	64.7 (0-98)
Workers' compensation board[a]	0.6 (0-1)	1.7 (0.5-4)
Private insurance and out-of-pocket	27.8 (0.46-81)	28.1 (0.97-82)
Federal funding	0	0
Other sources	8.2 (1.6-18)	5.3 (0-14)

Limitations

The response rate to the survey was 11%, and may not accurately represent all private facilities providing MRI or CT exams across Canada. It is possible that a higher response rate would alter the overall results. Consequently, the generalizability of these findings may be low.

One facility that declined to participate in the survey noted that their shareholders were not comfortable sharing this type of information. Another facility responded that they no longer had an MRI unit and had stopped performing these exams at their centre as of October 2022. Although survey respondents were assured that the data would be aggregated, some facilities may be disinclined to disclose this data due to the proprietary nature of this information. As noted in the previous report, other reasons for not participating in the survey include that this information is considered to be confidential and that if the information is shared it may threaten private imaging facility businesses.[4] In addition, private delivery of health care in Canada remains a controversial subject and this may also have contributed to the low survey response rate.[9,10]

Conclusion

The results of the survey indicate that private imaging facilities conducted an average of 4,940 MRI exams and 5,813 CT exams during the two most recent fiscal year periods (2021-2022 and 2022-2023). The volume of MRI and CT scans at private facilities appears to have increased over the past four fiscal years, with the exception of the first year of the pandemic (2020-2021). Private payment through private insurance and out-of-pocket payments were the main funding sources for MRI exams in the private setting from 2021-2023. Provincial health care insurance was the main funding source for CT exams conducted in the private setting from 2021-2023. Costs of MRI and CT scans at private facilities may have decreased slightly over the past four years.

The private imaging landscape appears to be expanding and is anticipated to continue to expand. This change will likely be driven by some provincial government policies aimed at reducing wait lists by transitioning some key imaging services away from non-profit governance and a general increase in the number of private facilities operating across Canada.

Low survey response rates limit the generalizability of these findings. Public controversy surrounding for-profit health services in Canada, and the proprietary nature of the data on numbers of procedures performed at private facilities may explain the limited number of survey responses.

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