


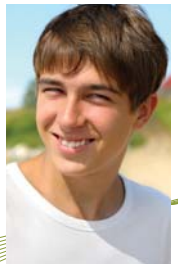


Medical Radiation Technologists in Canada, 2010

Spending and Health Workforce

Canadian Institute for Health Information
Institut canadien d'information sur la santé

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Better data. Better decisions.
Healthier Canadians.

Our Mandate

To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

Our Values

Respect, Integrity, Collaboration, Excellence, Innovation

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About the Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada's federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI's goal is to provide timely, accurate and comparable information. CIHI's data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

CIHI's mandate is to remain neutral and objective, and to deliver quality, unbiased information. We are not policy-makers. Yet we play an integral role in providing relevant and reliable data and analyses to those who do formulate the policies that shape Canada's health system.

For more information, visit our website at www.cihi.ca.

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- Mr. Graham Whitmarsh, Deputy Minister, Ministry of Health Services, British Columbia

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- Prince Edward Island Association of Medical Radiation Technologists
- Nova Scotia Association of Medical Radiation Technologists
- New Brunswick Association of Medical Radiation Technologists
- Ordre des technologues en imagerie médicale et en radio-oncologie du Québec
- College of Medical Radiation Technologists of Ontario
- Ontario Association of Medical Radiation Technologists
- Manitoba Association of Medical Radiation Technologists
- Saskatchewan Association of Medical Radiation Technologists
- Alberta College of Medical Diagnostic and Therapeutic Technologists
- British Columbia Association of Medical Radiation Technologists

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Please note that the analyses and conclusions in the present document do not necessarily reflect those of the individuals or organizations mentioned above.

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We wish to extend our thanks and gratitude to all medical radiation technologists who work with Canadians to improve their quality of life.

About This Report

Medical Radiation Technologists in Canada, 2010 is the third-year release from the Medical Radiation Technologist Database (MRTDB). It provides the most recent statistics on the medical radiation technologist (MRT) workforce, including supply, demographic, geographic, education, certification and employment dimensions. Data tables and charts are supplemented with detailed information about the data collection process, limitations of the current data and an explanation of the analytical methods.

This report is intended for use by all levels of government, as well as researchers, stakeholders and advocacy groups, private and public organizations, educational institutions, media and MRTs, as a source of data on the MRT workforce in Canada. The information contained in this report contributes to effective human resources planning in the health care sector.

In this report, CIHI presents information on MRTs as a distinct health provider group.

Medical Radiation Technologists in Canada, 2010 includes

- A 2010 MRTDB data analysis section;
- Provincial/territorial highlights and profiles;
- A comprehensive Methodological Notes section; and
- Separate supporting data tables in MS Excel.

Certain acronyms that are frequently used in this report are explained below:

- CIHI—Canadian Institute for Health Information
- MRT(s)—medical radiation technologist(s)
- MRTDB—Medical Radiation Technologist Database
- CAMRT—Canadian Association of Medical Radiation Technologists
- CMDB—Canadian MIS Database
- MLT(s)—medical laboratory technologist(s)
- OT(s)—occupational therapist(s)
- PT(s)—physiotherapist(s)

Want to Know More?

The full text of *Medical Radiation Technologists in Canada, 2010* is available, free of charge, in both English and French on CIHI's website at www.cihi.ca.

Other related Medical Radiation Technologist Database reports/documents that may be of interest are also available on CIHI's website:

- *Medical Radiation Technologist Database, 2009 Data Release*
- *Medical Radiation Technologists and Their Work Environment*
- *Medical Radiation Technologist Database Data Dictionary v1.0*
- *Medical Radiation Technologist Data Submission Specification Manual v1.1*

While this report provides health human resources information on medical radiation technologists, the data tables *Medical Imaging Technology, 2011*, released by CIHI, address information on the technology that most MRTs work with on a daily basis. These data tables are also available, free of charge, in both English and French on CIHI's website.

For more information, please contact

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Executive Summary

Medical radiation technologists (MRTs) are health care professionals who operate radiographic equipment to produce images of body structures to diagnose and treat injury and disease and/or operate radiation therapy equipment to plan and administer radiation treatment.

As of 2010, nine Canadian provinces either regulated the profession of medical radiation technology or required mandatory registration with the Canadian Association of Medical Radiation Technologists (CAMRT) and the association in the province where an MRT plans to work. These provinces are Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta. The workforce statistics in these provinces represent the entire MRT workforce population. MRTs working in British Columbia and the territories (Yukon, the Northwest Territories and Nunavut) usually register with the CAMRT to meet employment conditions required by employers.

All statistics in this section refer to the 2010 registered MRT workforce, unless otherwise specified.

Workforce Supply

Per CIHI's definition,[i] the total number of registered MRTs working in Canada was 17,378 in 2010. In the nine provinces combined that require mandatory registration (all provinces except B.C.[ii]), the number of MRTs per 100,000 population was 52, ranging from 45 in Saskatchewan to 74 in New Brunswick. The workforce size for these provinces combined has increased by 4.2% since 2008, while the population in these nine provinces grew by 2.3% during the same time period.[1]

Demographics

Age

In 2010, 31.0% of MRTs were younger than 35; this was lower than the percentage in the same age group for occupational therapists (38.0%) but higher than that for pharmacists (26.9%), nurses (22.9%), medical laboratory technologists (21.2%) and physicians (10.8%). Additionally, 16.7% of MRTs were 55 and older; this was the third-lowest percentage, after occupational therapists (8.4%) and physiotherapists (14.7%) in Canada. The average age of the MRT workforce in 2010 was 42.1.

In this report, MRTs who met the following criteria were categorized into a potential retirement group: 1) those who were at least age 55 and had worked more than 30 years in the profession; 2) those who were at least 60 and had worked more than 25 years in the profession; and 3) those who were 65 and older and were still working in the profession. For the selected jurisdictions of P.E.I., Quebec, Manitoba, Saskatchewan and the territories, the percentage of MRTs who may

i. The MRT workforce includes active registered MRTs who work in medical radiation technology and are identified as primary registrations according to CIHI's methodology. See details in the Methodological Notes of this report.

ii. Due to voluntary registration, B.C. may not be comparable with other provinces and therefore was excluded from the analysis.

consider retiring—given their age and number of years worked—was estimated as 13.0% of the combined workforce, ranging from 5.6% in the territories to 19.4% in Manitoba.

Gender

Females dominated the MRT workforce in Canada in 2010. Of working MRTs in all jurisdictions, 81.1% were women. The gender split varied by province; Newfoundland and Labrador had the lowest percentage of females (76.0%) and New Brunswick had the highest (85.6%).

The proportion of female MRTs (81.1%) was in the middle of the range compared with six other groups of health professionals: the female proportions were 36.1% for physicians, 59.7% for pharmacists, 77.6% for physiotherapists, 85.4% for medical laboratory technologists, 91.8% for occupational therapists and 93.1% for nurses.

Gender Difference in Full-Time/Part-Time Status

There were gender differences in full-time/part-time status. In Newfoundland and Labrador, P.E.I., Quebec, Manitoba and Saskatchewan, at the provincial level, the difference in percentage points between the two gender groups for full-time registered MRTs varied from 3 percentage points in Newfoundland and Labrador to double digits in Manitoba (19 percentage points) and Saskatchewan (16 percentage points).

Education and Certification

To become an MRT, post-secondary education in medical radiation technology from a program accredited by the Canadian Medical Association is required. In 2010, the majority of MRTs in seven provinces (Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Saskatchewan and Alberta) and the three territories (Yukon, the Northwest Territories and Nunavut) held a diploma (94.7%) as their level of basic education for entry to practice. This was similar to medical laboratory technologists (90.6%). By comparison, the majority of pharmacists, occupational therapists and physiotherapists held baccalaureate or higher-level degrees. The differences reflect the various educational requirements for entry to practice in different health professions.

New graduates are the main source of supply for the MRT workforce. In 2010, the percentage of recently graduated MRTs was 8.0% overall in seven provinces (P.E.I., New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta and B.C.), ranging from 3.6% in Manitoba to 10.2% in P.E.I. The average age of new graduates in these provinces was between 26 and 29.

Graduates are eligible to write a national certification examination offered by the CAMRT. MRTs can become certified in one of four areas: radiological technology, radiation therapy, nuclear medicine and magnetic resonance imaging (MRI). Graduates who wish to work in Quebec participate in a certification process specific to that province offered by the Ordre des technologues en imagerie médicale et en radio-oncologie du Québec (OTIMRO). Candidates who successfully complete either the CAMRT or OTIMRO exam are able to practise in the discipline in which they were certified in any jurisdiction in Canada, as long as they meet all of the requirements for registration in that jurisdiction.

The majority of MRTs obtained their initial certification in radiological technology (74.9%), while a smaller proportion of the MRT workforce was initially certified in radiation therapy (11.9%) and nuclear medicine (10.3%).

Employment

In 2010, approximately two-thirds of the combined MRT workforce in Newfoundland and Labrador, P.E.I., New Brunswick, Ontario and Saskatchewan worked 37.5 hours or more per week. Younger MRTs (those in their 20s) worked approximately 35 hours per week. As age increased, male MRTs tended to work longer hours than female MRTs; there was a difference of approximately three hours per week for MRTs in their 30s and just more than six hours per week for MRTs who were age 60 or older.

Based on the actual provincial workforce across the provinces of Newfoundland and Labrador, P.E.I., New Brunswick, Ontario and Saskatchewan, the full-time equivalent (FTE) in 2010 (calculated based on total usual weekly hours of work) was estimated at between 89% (P.E.I.) and 94% (Saskatchewan).

All statistics below refer to MRTs' primary employment.

For the combined MRT workforce from eight provinces (Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta) and the three territories (Yukon, the Northwest Territories and Nunavut), the majority (85.9%) of MRTs were permanent employees, while 11.5% had either temporary or casual employment.

In Newfoundland and Labrador, P.E.I., Quebec, Manitoba, Saskatchewan and the three territories, 76.5% of the combined MRT workforce worked on a full-time basis.

Most MRTs (80.8%) were staff technologists. The remainder were managers (2.4%), supervisors (2.7%), charge technologists/team leaders (6.1%), radiation safety officers (0.2%), educators (2.6%) or held other positions (3.1%). This information is available for Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and the three territories.

The majority of MRTs provided diagnostic and therapeutic services directly to patients, at 88.2% of the combined total workforce for Newfoundland and Labrador, P.E.I., Ontario, Manitoba, Saskatchewan and the three territories.

Nuclear medicine cameras, computed tomography (CT) and MRI scanners are three of many types of medical imaging equipment with which MRTs perform examinations on a daily basis. As of January 1, 2010, there were 618 nuclear medicine cameras, 484 CT scanners and 281 MRI scanners in Canada. In 2009–2010, the average number of examinations per scanner was 9,603 for CT scanners and 5,738 for MRI scanners.[2]

The percentage of MRTs who worked in a hospital setting ranged from 55.4% in Alberta to 95.7% in New Brunswick, reflecting different organizational structures and unique ways of delivering medical imaging services across the jurisdictions (Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Alberta and the three territories). Comparing selected groups of health professionals, MRTs (76.6%) and medical laboratory technologists (75.8%) represented the highest percentage of the workforce working in a hospital setting, followed by regulated nurses (56.5%), occupational therapists (45.3%), physiotherapists (38.0%) and pharmacists (18.3%). A small number of MRTs worked in other settings, such as free-standing imaging facilities/clinics (13.3%), cancer care centres (4.0%), community health centres (2.4%) and other places (3.1%).

For five selected provinces (Nova Scotia, New Brunswick, Ontario, Alberta and B.C.), between 2006–2007 and 2009–2010, medical imaging compensation expenses in the hospital sector gradually increased, comprising more than 50% of total medical imaging expenses in hospital imaging departments.

About CIHI's Medical Radiation Technologist Database

To determine the demand for MRTs in any jurisdiction, it is important to understand the present supply and the ways in which that supply is changing.

In consultation with provincial regulatory bodies, the provincial professional associations, the CAMRT and other stakeholders, CIHI developed a standardized set of data elements to capture information on the MRT workforce in Canada. These data elements cover demographic, geographic, education, certification and employment dimensions and have been compiled in the MRTDB Data Dictionary. Since 2008, the MRTDB has collected information on the supply and distribution, geography, education, certification and employment of MRTs in Canada.

MRTDB Data Providers

The primary data collectors for the MRTDB are the provincial regulatory bodies or the professional associations (except for the British Columbia Association of Medical Radiation Technologists) and the national association (the CAMRT), which provided data on behalf of B.C., Yukon, the Northwest Territories and Nunavut through voluntary registration with the CAMRT. All of these data providers have participated in data submission activities since 2008.

The MRTDB Data Providers	Corresponding Province/ Territory of Data Submission
Newfoundland and Labrador Association of Medical Radiation Technologists	Newfoundland and Labrador
Prince Edward Island Association of Medical Radiation Technologists	Prince Edward Island
Nova Scotia Association of Medical Radiation Technologists	Nova Scotia
New Brunswick Association of Medical Radiation Technologists	New Brunswick
Ordre des technologues en imagerie médicale et en radio-oncologie du Québec	Quebec
College of Medical Radiation Technologists of Ontario	Ontario
Manitoba Association of Medical Radiation Technologists	Manitoba
Saskatchewan Association of Medical Radiation Technologists	Saskatchewan
Alberta College of Medical Diagnostic and Therapeutic Technologists	Alberta
Canadian Association of Medical Radiation Technologists (CAMRT)	Saskatchewan (2008 and 2009)* British Columbia* Yukon Northwest Territories Nunavut

Note

* Aggregate-level data for Saskatchewan (2008 and 2009) and B.C. was provided by the CAMRT.

To be registered or licensed, MRTs are required to complete an electronic or paper registration form from their provincial regulatory body/association or the CAMRT. The form may collect registrants' employment, education, certification and demographic information. The provincial registrars or the CAMRT capture the information needed for administrative purposes and prepare a subset of the data for CIHI. Sometimes data collectors survey their members to collect additional information to meet the database's requirement. A compiled data file is then submitted to the database according to the *MRTDB Data Submission Specification Manual*. Collecting this data provides a unique opportunity to examine aggregate information about MRTs in Canada, which is essential to identifying supply-based issues for future health human resources planning.

The *MRTDB Data Dictionary* and *Data Submission Specification Manual* are available free of charge on CIHI's website at www.cihi.ca.

Notes

CIHI's figures on MRTs will not be the same as figures published by other organizations for the following reasons:

a. **Collection period—**The statistics released by provincial regulatory authorities/professional associations or the CAMRT include all registrations received during the 12-month registration period. In contrast, CIHI collects data as of August 1 of the data collection year. In consultation with provincial regulatory authorities/professional associations and the CAMRT, this point-in-time data collection was established to ensure timely and comprehensive information in spite of the different registration periods. This method of data collection provides a snapshot of the MRT workforce across jurisdictions on a specific day. Using the same approach consistently will enable comparability over time, which is necessary to accurately determine a trend. Please refer to Appendix A for details on registration start and end periods for the different jurisdictions.

b. **Reference population—**For the MRTDB, the population of reference includes all MRTs who register with a Canadian provincial regulatory body, a provincial professional association or the CAMRT, given that these organizations have submitted data to CIHI.

c. **Exclusions from CIHI data—**The MRTDB does not have data on MRTs who reside and work in B.C. or the territories and do not register with the CAMRT. Data for MRTs who registered with their provincial regulatory body/professional association or the CAMRT *after* July 31 of each given year is not collected until the next data collection cycle.

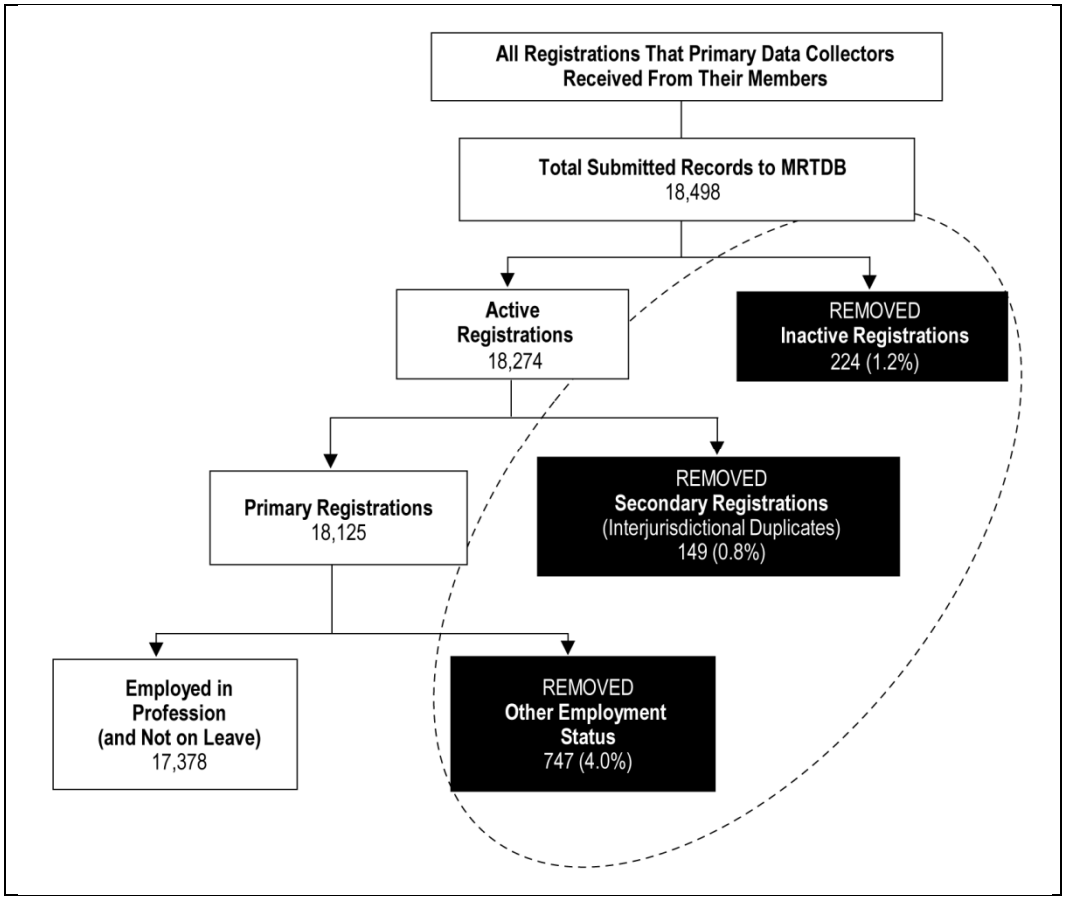
d. **CIHI editing and processing—**Once the data providers send the data files to CIHI, all records undergo processing before they are included in the national database. The MRTDB system checks whether the records are in the proper format and whether they can pass specific validity and logic tests. If the submitted data fails to meet CIHI's standards, or if a logical relationship between specific fields does not make sense (for example, the initial year of employment for a record is before the year of birth), an exception or anomaly report will be generated and sent back to the data provider. These reports assist the data providers in making corrections to the records and resubmitting the data file to CIHI, where it is reviewed again. In cases where the data provider is not able to make the necessary corrections, CIHI may make them with the explicit consent of the provider. CIHI and the data providers work collectively to ensure that high data quality is achieved.

CIHI's Definition of the MRT Workforce in Canada

In this publication, the MRT workforce in Canada is defined as practising MRTs who hold active registrations with provincial regulatory bodies, provincial professional associations or the CAMRT for B.C. and the territories, excluding double counts for those who are registered in more than one jurisdiction. For further details, please see the Methodological Notes section of this report.

The following registrations that were submitted by the provincial regulatory bodies, the provincial professional associations and the CAMRT were excluded from the 2010 workforce counts: 224 (1.2%) inactive registrations, 149 (0.8%) secondary registrations and 747 (4.0%) registrations that were identified as individuals who did not work in medical radiation technology. The total exclusion accounted for 6.1% of the total registrations. The breakdown of the 2010 data is shown in Figure 1.

Figure 1: Defining the CIHI MRTDB Medical Radiation Technologist Workforce, 2010

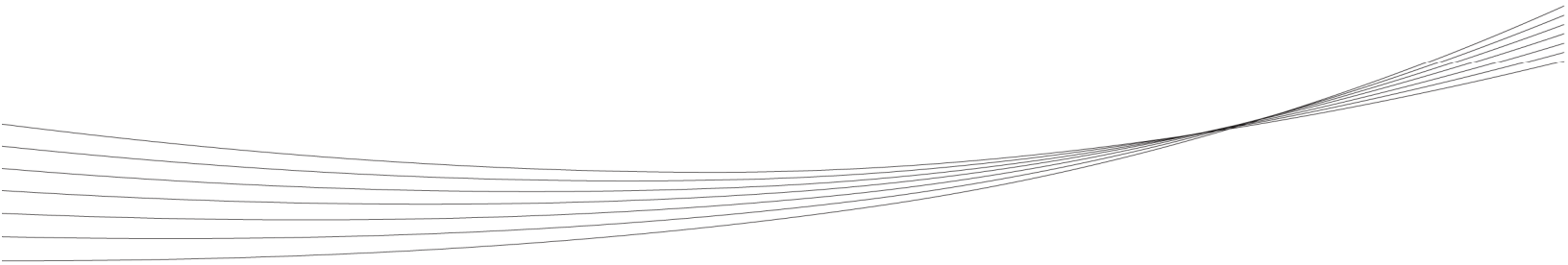


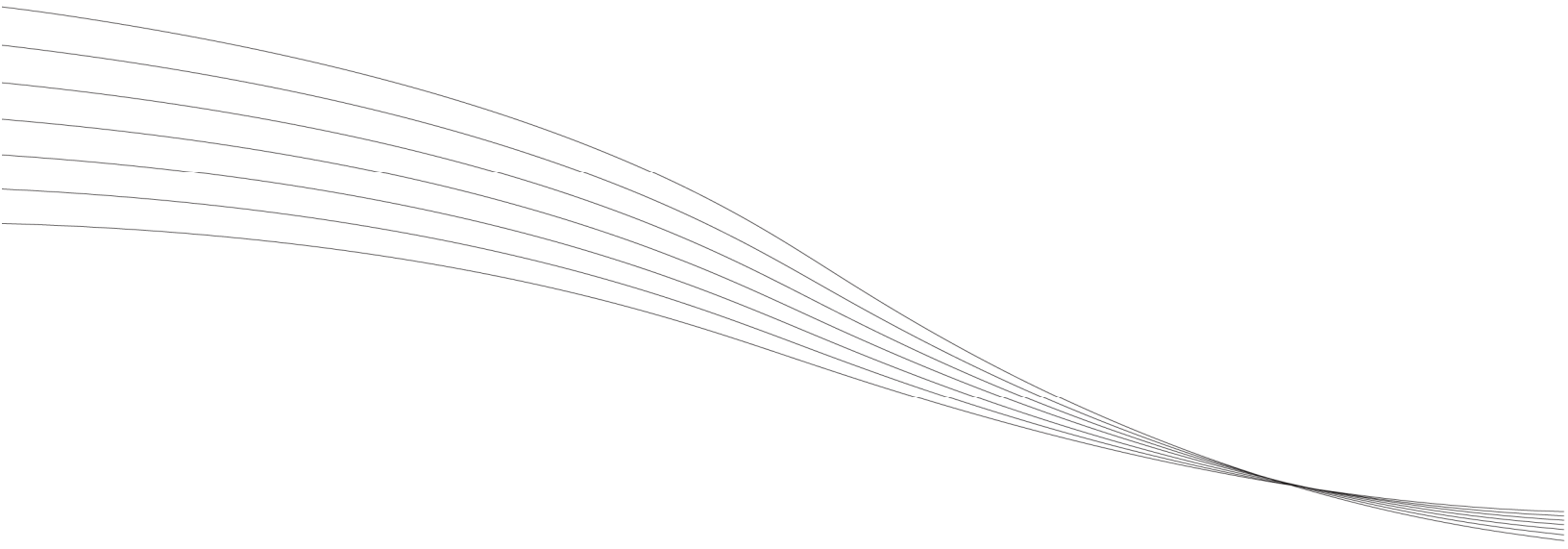
Notes

The percentages for exclusions are calculated based on the total number of records submitted to the MRTDB.
See detailed explanation in the section Data Flow From Primary Data Collector to MRTDB of the Methodological Notes.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.





Chapter 1—Regulation Status and Workforce Supply

Regulation Status

The profession of medical radiation technology is currently regulated in six Canadian provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan and Alberta. Although the profession is not regulated through provincial statute in Newfoundland and Labrador, P.E.I. and Manitoba, MRTs who practise in these three provinces are required to register with both the provincial professional association and the CAMRT. Consequently, the 2008, 2009 and 2010 statistics in this report for all of the above-mentioned provinces represent all MRTs or the entire MRT workforce registered with the provincial regulatory bodies or associations, which provided their membership data to the MRTDB as of August 1 of each year. The remaining jurisdictions—B.C., Yukon, the Northwest Territories and Nunavut—are not regulated and do not require mandatory registration. MRTs in these jurisdictions are registered either as a condition of employment or on a voluntary basis (both referred to as “voluntary registration” in this report) with the CAMRT, which provides data to the MRTDB on behalf of these jurisdictions. For this reason, it is important to note that statistics included in this report may not represent the entire MRT population or the MRT workforce in B.C., the territories or Canada.

Supply of Registered MRTs

Table 1 demonstrates the total number of all registrations, active registrations, primary registrations and workforce for three years from 2008 to 2010. See the Methodological Notes for detailed definitions for each category.

The total number of registered MRTs in Canada was 17,457 in 2008, 17,949 in 2009 and 18,498 in 2010. The majority of the registrations represented active registered MRTs.

The total number of active registrations in Canada was 18,274 in 2010. After removing interjurisdictional duplicates, the total number of primary registrations was 18,125 in 2010.

The MRT workforce supply was further calculated by narrowing the data down to MRTs who worked in medical radiation technology, which resulted in 17,378 MRTs in Canada in 2010 (15,282 MRTs for the provinces requiring mandatory registration and 2,096 MRTs for the unregulated jurisdictions).

Table 2 shows an overall total of 52 MRTs per 100,000 population in 2010 when combining the provinces that required mandatory registration (Newfoundland and Labrador, P.E.I., Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta). Due to the unregulated nature of the other jurisdictions (B.C., Yukon, the Northwest Territories and Nunavut), per population estimates may not be an accurate representation of the workforce and so have not been included in Table 2.

Table 1: Supply of Medical Radiation Technologists, 2008 to 2010

		Provinces With Mandatory Registration (With Provincial Professional Associations and CAMRT)										Unregulated Jurisdictions With Voluntary CAMRT Registration‡			
		Regulated						Unregulated							
	Year	N.S.	N.B.	Que.	Ont.	Sask.	Alta.	N.L.	P.E.I.	Man.	Subtotal	B.C.†	Territories	Subtotal	Overall
Total Registrations Submitted to MRTDB	2008	552	543	4,596	6,289	570	1,913	226	87	661	**15,437**	1,997	23	**2,020**	**17,457**
	2009	524	557	4,806	6,417	570	1,967	258	93	709	**15,901**	2,027	21	**2,048**	**17,949**
	2010	504	591	4,902	6,663	559	2,045	279	100	709	**16,352**	2,119	27	**2,146**	**18,498**
Total Active Registrations Submitted to MRTDB	2008	552	524	4,596	6,289	569	1,849	226	87	661	**15,353**	1,939	23	**1,962**	**17,315**
	2009	524	538	4,806	6,417	569	1,893	258	93	708	**15,806**	1,983	21	**2,004**	**17,810**
	2010	504	573	4,902	6,663	495	1,946	279	98	709	**16,169**	2,078	27	**2,105**	**18,274**
Primary Registrations§	2008	545	520	4,560	6,229	557	1,790	224	85	659	**15,169**	1,939	23	**1,962**	**17,131**
	2009	518	534	4,762	6,368	557	1,844	257	89	704	**15,633**	1,983	21	**2,004**	**17,637**
	2010	498	571	4,872	6,609	492	1,901	278	94	705	**16,020**	2,078	27	**2,105**	**18,125**
MRT Workforce (Employed in Medical Radiation Technology)	2008	545	518	4,279	6,030	557	1,790	218	82	653	**14,672**	1,939	23	**1,962**	**16,634**
	2009	514	514	4,471	6,154	557	1,747	247	83	684	**14,971**	1,983	14	**1,997**	**16,968**
	2010	492	556	4,610	6,338	468	1,792	267	88	671	**15,282**	2,078	18	**2,096**	**17,378**
Workforce Percentage Chance Since 2008*		**-9.7%**	**7.3%**	**7.7%**	**5.1%**	**-16.0%**	**0.1%**	**22.5%**	**7.3%**	**2.8%**	**4.2%**	**7.2%**	**-21.7%**	**6.8%**	**4.5%**

Notes

* The negative change since 2008 in Nova Scotia, Saskatchewan and territories may not represent the actual change in workforce size. For Nova Scotia and Saskatchewan, it most likely reflects data quality improvements. In 2010, the data providers from these two provinces were able to identify the MRTs who were registered but not employed in the profession (on leave, unemployed, unknown Employment Status, etc.). Most of these members were included in the 2008 data. For the territories, the negative change most likely reflects variations in voluntary registrations between 2008 and 2010.

† Data from B.C. was provided by the CAMRT at the aggregate level; therefore, it was not possible to identify primary registrations. The number of active registrations was carried over for primary registrations.

‡ Data for B.C., Yukon, the Northwest Territories and Nunavut represents voluntary registrations with the CAMRT.

§ Primary registrations may include *employed in medical radiation technology*; *employed in medical radiation technology but on leave*; *employed outside of medical radiation technology*; *retired*; *unemployed* or *unknown*. Interjurisdictional duplicates are excluded.

The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Table 2: Registered Medical Radiation Technologist Workforce per 100,000 Population, by Province of Registration, 2010

Provinces With Mandatory Registration (With Provincial Professional Associations and CAMRT)									
Regulated						Unregulated			
N.S.	N.B.	Que.	Ont.	Sask.	Alta.	N.L.	P.E.I.	Man.	**Overall**
52	74	58	48	45	48	52	61	54	**52**

Notes

Counts and supply per 100,000 population were calculated for provinces where the data represents the entire workforce population. Information for B.C., Yukon, the Northwest Territories and Nunavut was not included due to the information gap.

Population estimates were obtained from Statistics Canada, *Quarterly Demographic Estimates* (April to June 2011), <http://www.statcan.gc.ca/pub/91-002-x/2011002/t002-eng.htm>, catalogue no. 91-002-X.

Sources

Medical Radiation Technologist Database, Canadian Institute for Health Information; Statistics Canada.

Full-Time Equivalent (FTE)

A single head count does not necessarily equal one full-time MRT. An FTE MRT is calculated based on the total usual weekly hours worked (for all MRTs that have valid hour information) divided by the corresponding head counts and 37.5 hours, the assumed standard full-time weekly hours for most MRTs:

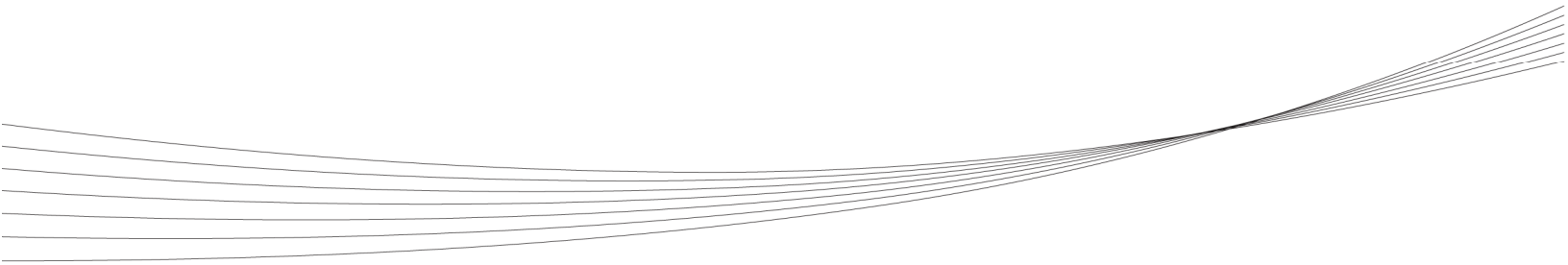
$$\text{Daily Average FTE} = \frac{\Sigma \text{Total Usual Weekly Hours of Work}}{\text{Number of MRTs} \times 37.5 \text{ Hours}}$$

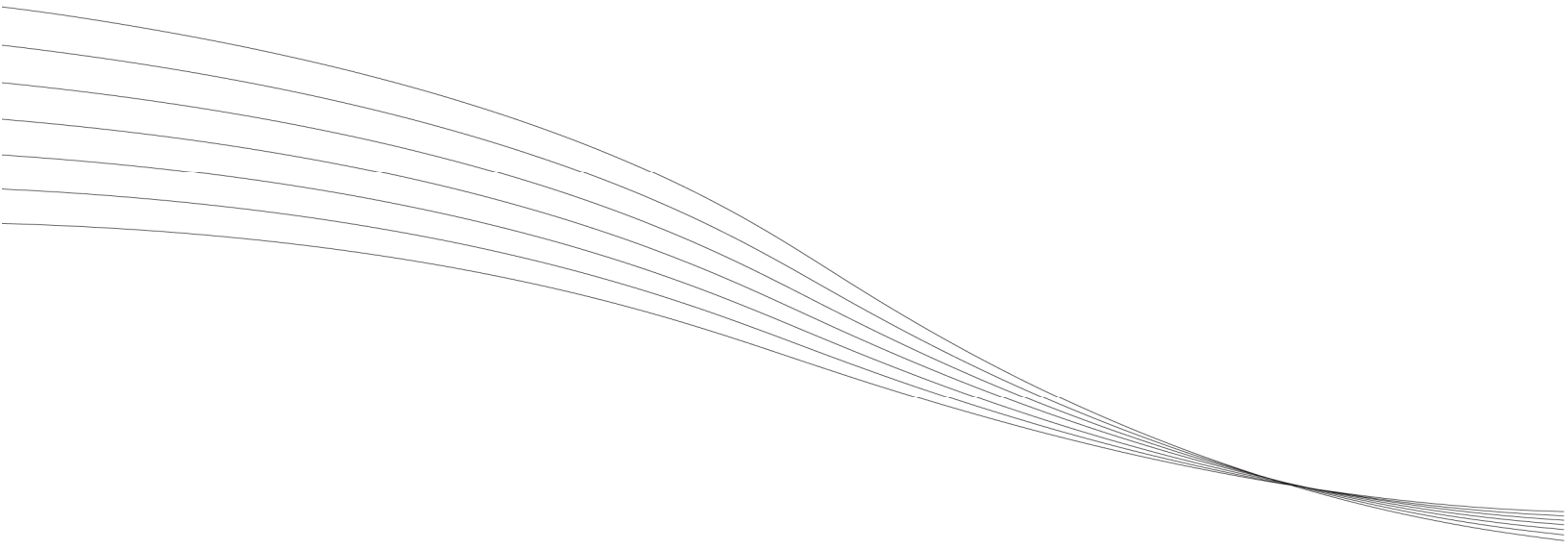
From the MRTDB, the daily average FTE varied from 0.89 for P.E.I. to 0.94 for Saskatchewan. Compared with the actual head counts, the FTEs were smaller in the five provinces and three territories in 2010.

Table 3: Registered Medical Radiation Technologist Workforce, by Full-Time Equivalent and Selected Province or Territories of Registration, 2010

	Head Count	FTE	Adjusted Head Count
	(A)	(B)	(A x B)
N.L.	267	0.90	240
P.E.I.	88	0.89	78
N.B.	556	0.92	512
Ont.	6,338	0.92	5,831
Sask.	468	0.94	440
Territories	18	0.93	17

Notes
FTE: full-time equivalent.
Data for other jurisdictions (Nova Scotia, Quebec, Manitoba, Alberta and B.C.) was not included due to a high percentage of *unknown* values.
The territories include Yukon, the Northwest Territories and Nunavut.
Source
Medical Radiation Technologist Database, Canadian Institute for Health Information.





Chapter 2—Demographics

Potential Retirement of Medical Radiation Technologists

Based on available data, an analysis was conducted to examine several groups of MRTs who may potentially plan to retire based on their age and number of years working in medical radiation technology. The term "potentially retiring MRTs" is defined as those MRTs who were (1) at least 55 and had worked more than 30 years in the profession; (2) who were at least 60 and had worked more than 25 years in the profession; and (3) who were 65 and older and were still working in the profession.[iii]

In Table 4, the data for potentially retiring MRTs is highlighted in the dark cells. Data was available only for the selected provinces of P.E.I., Quebec, Manitoba and Saskatchewan and the territories (Yukon, the Northwest Territories and Nunavut), for which the data has been combined.

Table 4: Potentially Retiring Medical Radiation Technologists,‡ by Age Category and Years Since Initial Canadian Employment in Medical Radiation Technology, 2010

		Age Category										
		<55		55–59		60–64		65+		Unknown Age		
		Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Total
Years Since Initial Employment	**<25**	3,887	66.4%	63	1.1%	22	0.4%	7	0.1%	3	0.1%	**3,982**
	25–29	46†	7.9%	6	0.1%	*	0.0%	0	0.0%	0	0.0%	**468**
	30+	469	8.0%	484	8.3%	208	3.6%	60	1.0%	0	0.0%	**1,221**
	Unknown	14†	2.5%	20	0.3%	1†	0.2%	7	0.1%	0	0.0%	**184**
	Total	**4,962**	**84.7%**	**573**	**9.8%**	**243**	**4.2%**	**74**	**1.3%**	**3**	**0.1%**	**5,855**

Peer MRTs Potentially Retiring MRTs

Notes

* Value suppressed in accordance with CIHI's privacy policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ Data for potentially retiring MRTs is highlighted in the dark cells.

Data reflects information for age and years since initial Canadian employment in medical radiation technology for P.E.I., Quebec, Manitoba, Saskatchewan and the territories. Data for other jurisdictions was not included due to a high percentage of *unknown* values for years since initial Canadian employment.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

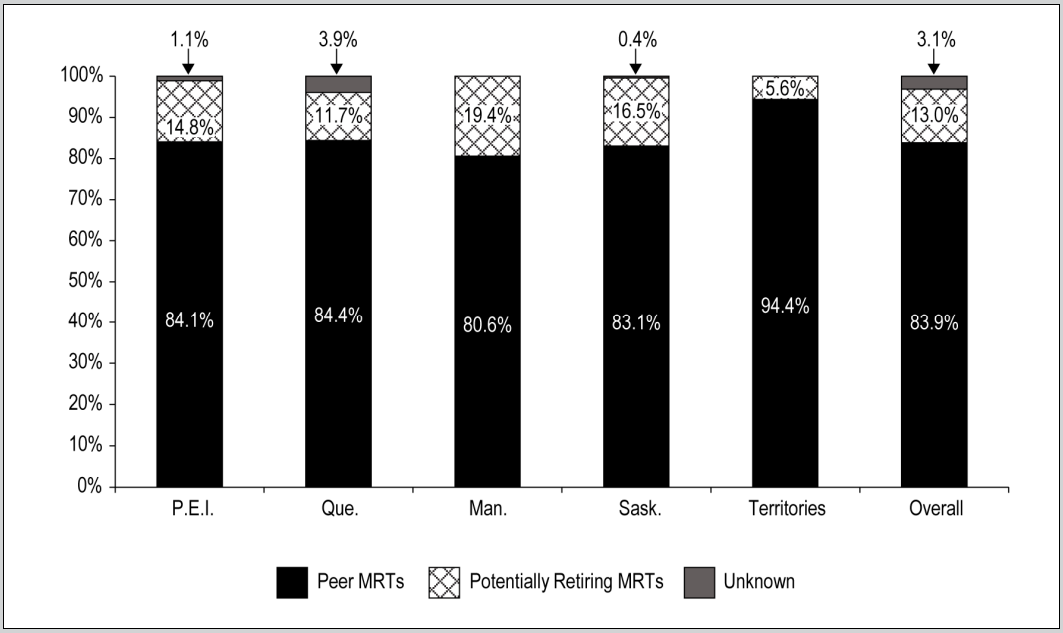
(continued on next page)

iii. The number of years since initial Canadian employment is a proxy estimation for the number of employment years, which may include interruptions in work during this period.

Potential Retirement of Medical Radiation Technologists (cont'd)

The figure below shows potentially retiring MRTs as a percentage of the total provincial MRT workforce, ranging from the lowest in the territories, at 5.6%, to the highest in Manitoba, at 19.4%.

Figure 2: Potentially Retiring Medical Radiation Technologists, by Selected Province or Territories of Registration, 2010



Notes
Data for other jurisdictions (Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Alberta and B.C.) was not included due to a high percentage of *unknown* values for years since initial Canadian employment.
The territories include Yukon, the Northwest Territories and Nunavut.
Source
Medical Radiation Technologist Database, Canadian Institute for Health Information.

From 1997 to 2007, the Labour Force Survey revealed that the median retirement age for the general Canadian population was approximately 61;[3] this assisted with determining the criteria for defining the potentially retiring MRT workforce in the current analysis. With a predominantly female workforce in the MRT profession, the age of retirement may be younger as, in general, women are more likely to retire at a younger age than men.[3]

Overall in the Canadian workforce, women are retiring earlier than men, which could have a significant impact on female-dominated occupations. The average age of women retiring is 60.6 years, while for men it is 61.4 years.

Employees in the public sector retire earlier on average, at 58.8 years of age, than those in the private sector (average age of 62.4).

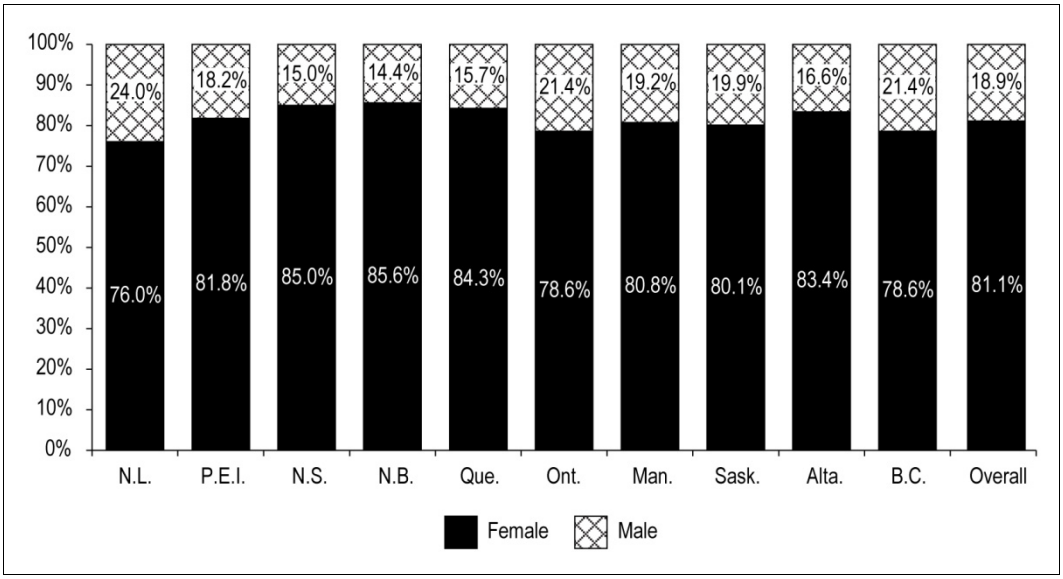
Source
The Canadian Labour Market at a Glance, 2008, Statistics Canada.

The youngest MRTs in the potentially retiring group (who are currently age 55 to 59) will be at least 65 years old in 10 years. Table 4 shows that MRTs currently in the 65+ age group represent only 1.3% of the MRT 2010 working population. This suggests that the majority of MRTs stop working before they reach 65 and that many of them are likely due to retire. If MRTs' intention to retire remains unchanged, it is possible that most of the MRTs who currently represent 10% to 20% of the workforce (and who will be 65 in 10 years) will then retire or will already be retired. Whether the MRT workforce is adequate to meet Canadian population demands depends on whether the profession continues to recruit an adequate supply of new entrants, primarily new graduates in medical radiation technology. The balance between potentially retiring MRTs and new ones entering the profession will continue to be an important issue that requires further information and analysis.

Gender

In 2010, the majority of MRTs were female, representing 81.1% of the workforce in the 10 provinces across Canada. Newfoundland and Labrador had the lowest percentage of female MRTs (76.0%) while New Brunswick accounted for the highest percentage (85.6%).

Figure 3: Registered Medical Radiation Technologist Workforce, by Gender, 2010



Notes

Data for Yukon, the Northwest Territories and Nunavut was not included due to small cells.

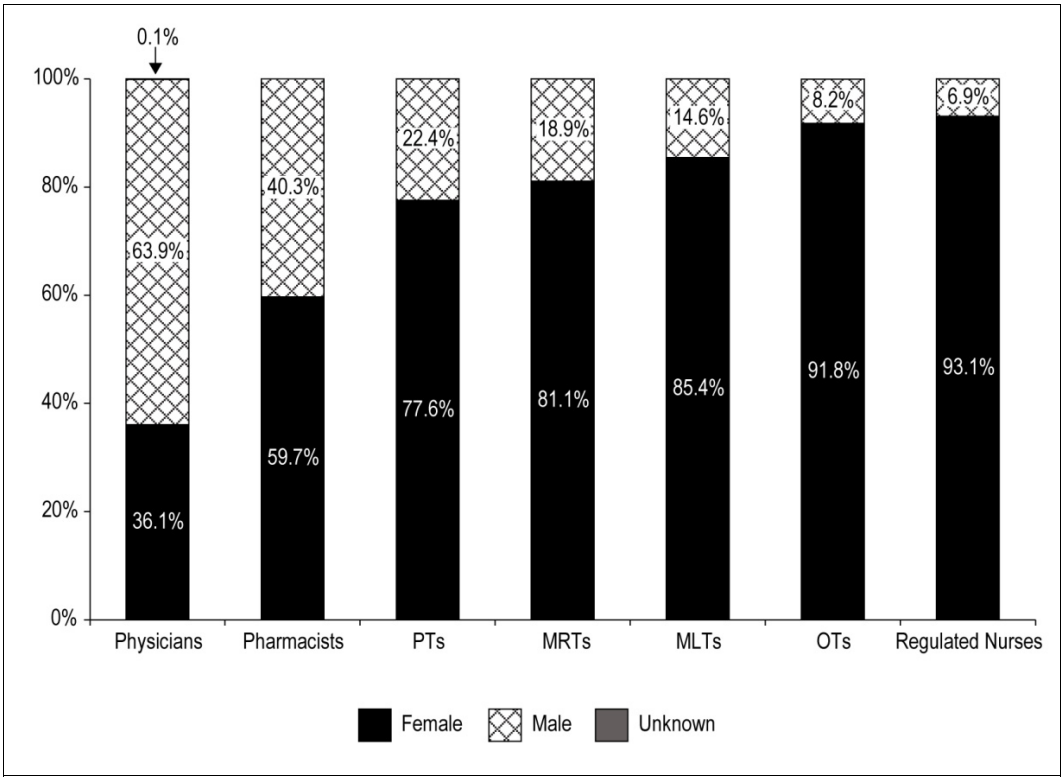
Registrants with *unknown* gender: Quebec (2, <0.01%).

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Females also dominated several other selected groups of professionals (see Figure 4), comprising from 59.7% of pharmacists to 93.1% of regulated nurses. Physicians were the only selected group of professionals dominated by men. Female doctors comprised approximately one-third of the physician workforce in 2010.

Figure 4: Health Professionals by Gender, 2010



Notes

Registrants with *unknown* gender for MRTs: Quebec (2, <0.01%).

For the other professionals listed, please see the Methodological Notes in their respective annual reports for comprehensive information regarding collection and comparability of CIHI data, at www.cihi.ca.

Sources

Medical Radiation Technologist Database, Medical Laboratory Technologist Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database, Nursing Database and Scott's Medical Database, Canadian Institute for Health Information.

Age

The five-year age group with the largest percentage of MRTs was the 45-to-49 age category, which represented 13.9% of the total registered MRT workforce in all provinces in 2010. Quebec had the highest percentage of MRTs who were younger than 25 (10.7%), while Nova Scotia had the highest percentage of MRTs who were older than 60 (10.9%).

In 2010, Newfoundland and Labrador and New Brunswick had the youngest workforce in terms of average age (39.4), while the Nova Scotia workforce had the oldest average age of 46.

Table 5: Registered Medical Radiation Technologist Workforce, by Five-Year Age Group, Average Age and Province of Registration, 2010

Five-Year Age Group	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Overall
Counts											
<25	1†	*	*	38	493	277	18	13	65	62	**979**
25–29	58	16	26	88	695	695	72	67	247	261	**2,225**
30–34	45	11	44	91	555	756	84	71	219	309	**2,185**
35–39	35	17	47	75	517	748	70	61	209	250	**2,029**
40–44	29	9	100	83	540	935	75	56	246	278	**2,351**
45–49	22	6	81	70	574	958	115	80	232	271	**2,409**
50–54	31	13	91	49	579	835	100	39	236	285	**2,258**
55–59	27	6	42	36	450	622	64	51	203	186	**1,687**
60–64	8	7	40	21	161	374	55	19	101	121	**907**
65+	*	*	1†	5	46	138	15	11	34	45	**311**
Unknown	1	0	5	0	0	0	3	0	0	10	**19**
Total	**267**	**88**	**492**	**556**	**4,610**	**6,338**	**671**	**468**	**1,792**	**2,078**	**17,360**
Percentage Distribution (%)											
<25	†	*	*	6.8	10.7	4.4	2.7	2.8	3.6	3.0	**5.6**
25–29	21.7	18.2	5.3	15.8	15.1	11.0	10.7	14.3	13.8	12.6	**12.8**
30–34	16.9	12.5	8.9	16.4	12.0	11.9	12.5	15.2	12.2	14.9	**12.6**
35–39	13.1	19.3	9.6	13.5	11.2	11.8	10.4	13.0	11.7	12.0	**11.7**
40–44	10.9	10.2	20.3	14.9	11.7	14.8	11.2	12.0	13.7	13.4	**13.5**
45–49	8.2	6.8	16.5	12.6	12.5	15.1	17.1	17.1	12.9	13.0	**13.9**
50–54	11.6	14.8	18.5	8.8	12.6	13.2	14.9	8.3	13.2	13.7	**13.0**
55–59	10.1	6.8	8.5	6.5	9.8	9.8	9.5	10.9	11.3	9.0	**9.7**
60–64	3.0	8.0	8.1	3.8	3.5	5.9	8.2	4.1	5.6	5.8	**5.2**
65+	*	*	†	0.9	1.0	2.2	2.2	2.4	1.9	2.2	**1.8**
Unknown	0.4	0.0	1.0	0.0	0.0	0.0	0.4	0.0	0.0	0.5	**0.1**
Average Age (Years)											
Average Age	39.4	42.0	46.0	39.4	40.1	43.0	44.1	42.0	42.7	42.6	**42.1**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; corresponding head count value is from 1 to 4.

† Value suppressed to ensure confidentiality.

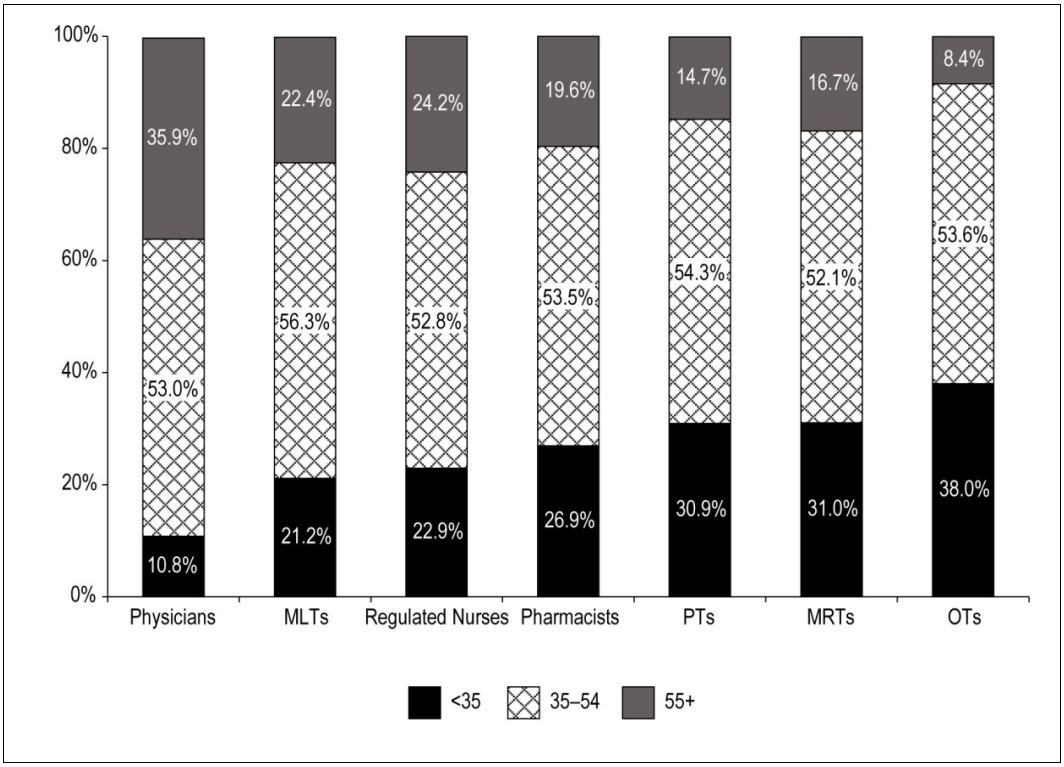
Data for the territories (Yukon, the Northwest Territories and Nunavut) was not included due to too many small cells.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Compared with six other selected groups of health professionals, MRTs had the second-highest proportion (31.0%) of members who were younger than 35, lower only than the occupational therapist workforce in 2010. The MRT workforce also had the third-lowest proportion of members who were 55 and older, after occupational therapists and physiotherapists. This may reflect the fact that some MRTs choose to leave the workforce at relatively younger age.

Figure 5: Health Professionals by Age Group, 2010



Notes

Registrants with *unknown* age for MRTs: 19, 0.01%.

For the other professionals listed, please see the Methodological Notes in their respective annual reports for comprehensive information regarding collection and comparability of CIHI data, at www.cihi.ca.

Sources

Medical Radiation Technologist Database, Medical Laboratory Technologist Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database, Nursing Database and Scott's Medical Database, Canadian Institute for Health Information.

Chapter 3—Education and Certification

New Graduates

Educational programs for medical radiation technology are accredited by the Conjoint Accreditation Services of the Canadian Medical Association (CMA).[4] The program areas for medical radiation technology include magnetic resonance, nuclear medicine, radiation therapy and radiological technology. All programs require a period of supervised training or clinical education in a workplace setting.[5]

Data from 2008 to 2009 in Table 6 shows that about 1,000 students graduated from more than 20 schools with medical radiation technology programs across Canada. In 2010 close to 800 students completed medical radiation technology programs from most schools. It currently appears that the estimated number of graduates for 2011 and 2012 will be between 600 and 700. The information should be interpreted with caution since data was not obtained from all schools.

Table 6: Number of Graduates or Estimated Number of Graduates of Medical Radiation Technology Programs, by School of Graduation, Canada, 2008 to 2012

School	2008	2009	Series Break	2010	2011*	2012*
	(Data From HPDB)			(Data from CAMRT)		
N.L.						
College of the North Atlantic	14	14		13	14	14
P.E.I.						
University of Prince Edward Island/ Queen Elizabeth Hospital	6	6		6	6	6
N.S.						
Queen Elizabeth II Health Sciences Centre/Dalhousie School of Health Sciences	17	19		14	–	–
N.B.						
Collège communautaire du Nouveau-Brunswick/Université de Moncton	10	8		9	9	9
Moncton Hospital/UNB Saint John	6	5		6	7	7
Saint John Regional Hospital/ UNB Saint John	12	12		11	6†	6†
Que.						
Dawson College	41	44		–	–	–
Collège d'enseignement général et professionnel de Rimouski	28	45		–	–	–
Collège Ahuntsic	148	158		–	–	–
Collège d'enseignement général et professionnel de Sainte-Foy	88	88		–	–	–
Ont.						
Cambrian College	29	31		39	32	33
Collège Boréal	24	20		20	25	25
Confederation College	8	6		6	8	12
Fanshawe College of Applied Arts and Technology	44	43		52	–	–
Mohawk College/McMaster University	47	59		77	67	81
Queen's University/Eastern Ontario School of X-Ray Technology	16	16		14	–	–

(continued on next page)

Table 6: Number of Graduates or Estimated Number of Graduates of Medical Radiation Technology Programs, by School of Graduation, Canada, 2008 to 2012 (cont'd)

School	2008 (Data From HPDB)	2009 (Data From HPDB)	Series Break	2010 (Data from CAMRT)	2011* (Data from CAMRT)	2012* (Data from CAMRT)
Ont. (cont'd)						
Michener Institute	–	–		40	32	40
The Michener Institute/ Laurentian University	12	14		12	11	15
The Michener Institute/University of Toronto	118	124		123	130	125
Man.						
Red River College	52	44		43	40‡	40‡
Cancer Care Manitoba	5	6		4	6	13
Sask.						
Saskatchewan Institute of Applied Science and Technology	15	13		16	20	20
Saskatchewan School of Radiation Therapy	3	3		2	5	–
Alta.						
Alberta School of Radiation Therapy	4	9		5	4	6
Northern Alberta Institute of Technology	28	18		72	84	98
Southern Alberta Institute of Technology	69	53		59	67	77
B.C.						
British Columbia Institute of Technology	108	125		142	61§	73§
Total	**952**	**983**		**785**	**634***	**700***

Notes

* Anticipated number of graduates for 2011 and 2012; estimates are based on the CAMRT Survey of Canadian Accredited Education Programs. Totals may be limited since numbers for some institutions were not available from the survey.

† Data does not include the number of graduates from the Nuclear Medicine and Radiation Therapy programs.

‡ Data does not include the number of graduates from the Magnetic Resonance programs.

§ Data does not include the number of graduates from the Radiological Technology programs.

– Information was not available.

Data for 2008 and 2009 was obtained from the Health Personnel Database. Please see Methodological Notes in *Canada's Health Care Providers, 2000 to 2009: A Reference Guide*.

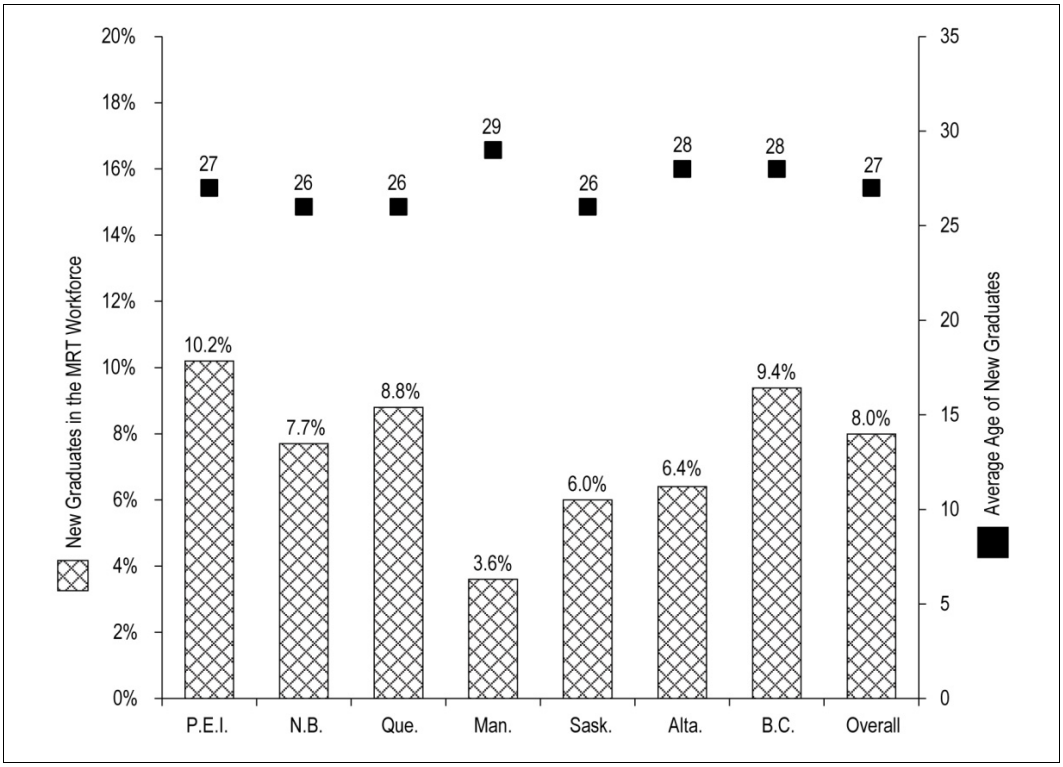
For 2010, data includes the number of MRT graduates by school of graduation who applied for the national certification exam with the CAMRT. With the exception of Quebec, almost all graduates from accredited education programs apply for national certification.

Sources

Health Personnel Database, Canadian Institute for Health Information; CAMRT Survey of Canadian Accredited Education Programs, Canadian Association of Medical Radiation Technologists.

Graduate information is included in the MRTDB when new graduates register with a regulatory body, provincial professional association or the CAMRT. Registrants who graduated in the past two years were identified as new graduates in the MRTDB. Figure 6 shows that MRTs who graduated in the past two years accounted for 10.2% or less of the workforce in each selected province in 2010. The average age of these recently graduated MRTs was 27 for the combined selected provinces in 2010.

Figure 6: New Graduates (Graduated in 2009 and 2010) of the Registered Medical Radiation Technologist Workforce and Their Average Age, by Selected Province of Registration, 2010



Note

Data for other jurisdictions (Newfoundland and Labrador, Nova Scotia, Ontario, Yukon, the Northwest Territories and Nunavut) was not included due to a high percentage of *unknown* values.

Source

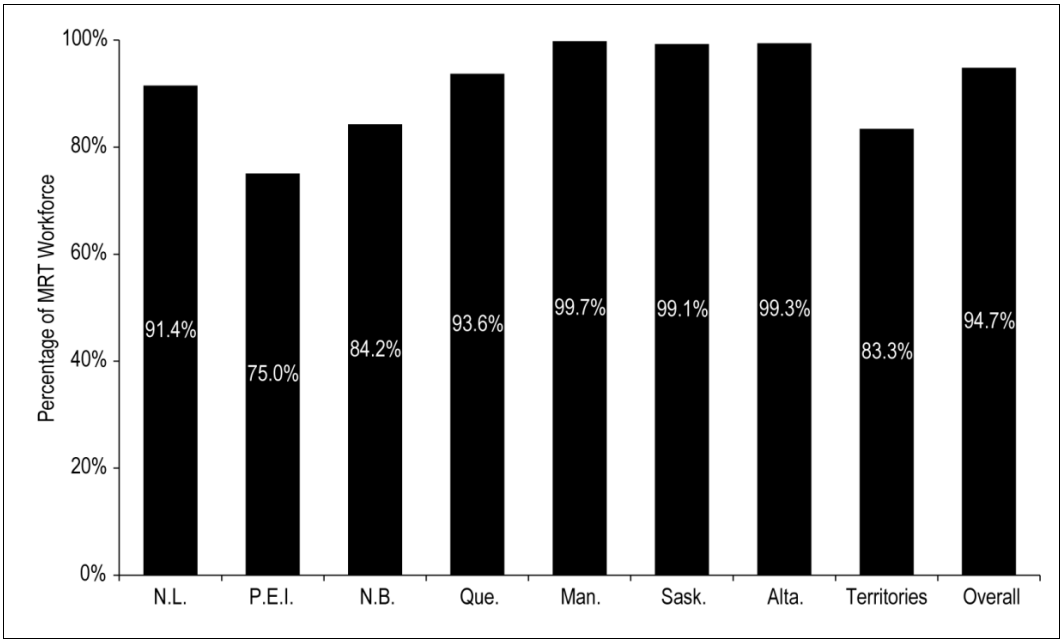
Medical Radiation Technologist Database, Canadian Institute for Health Information.

Basic Education for Entry to the Workforce

Students who wish to become an MRT may apply for enrolment in a bachelor degree program, either in science or in specialized in medical radiation technology, or they may choose to enroll in a two- to three-year college program in medical radiation technology.[6] Although these accredited programs found across Canada offer different levels of education, a diploma was reported as the most common level (compared with baccalaureate, master's and doctorate) for preparing students to enter the MRT workforce.

Across seven selected provinces and three territories, 94.7% of the MRT workforce had a diploma for their basic level of education. P.E.I., New Brunswick and the territories had lower percentages of the MRT workforce with a diploma for basic education. The remaining workforce in these jurisdictions held a baccalaureate degree.

Figure 7: Registered Medical Radiation Technologist Workforce With Diploma for Basic Education, by Province or Territories of Registration, 2010



Notes

Data for other jurisdictions (Nova Scotia, Ontario and B.C.) was not included due to a high percentage of *unknown* values.

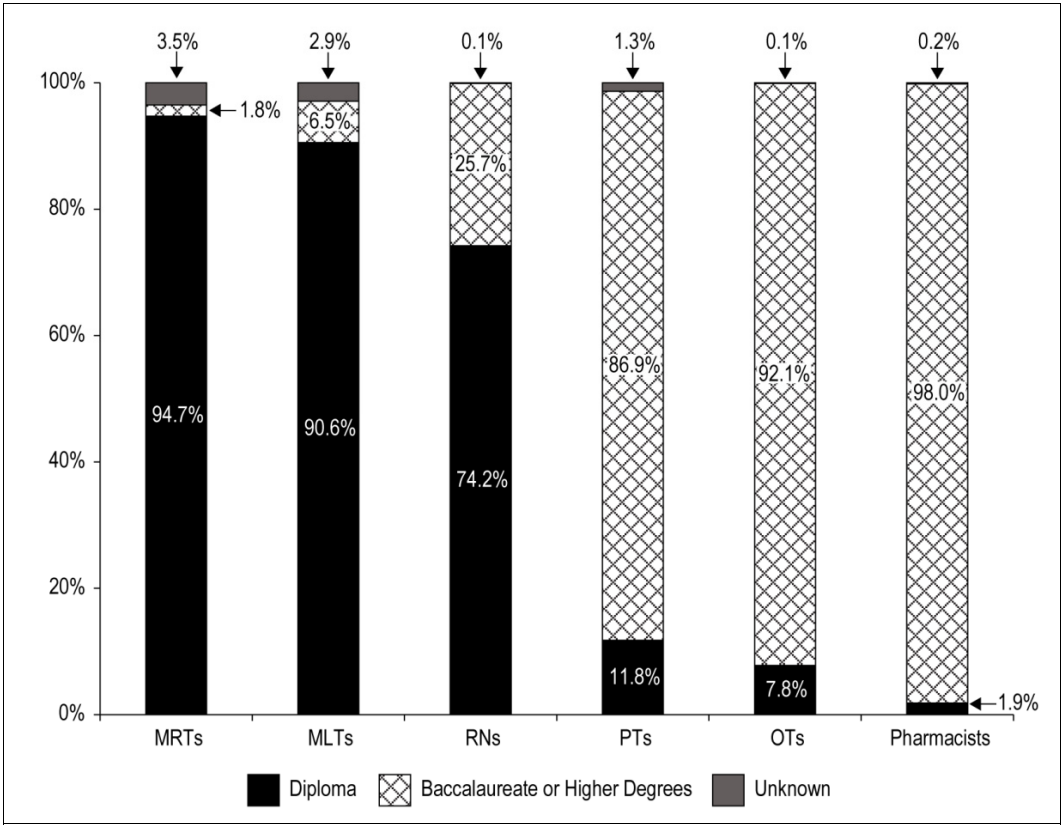
The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Differences in educational requirements for entry to practice are shown for selected health care professionals. As of 2010, occupational therapists and physiotherapists require a master's degree to work in the profession. The required entry-level education for pharmacists is a baccalaureate. For registered nurses (RNs), most provinces require a baccalaureate degree for entry to practice, and provinces that have not mandated this requirement are moving in this direction. Figure 8 shows the level of basic education across selected health care professionals.

Figure 8: Level of Basic Education in Profession, Selected Health Care Professionals, 2010



Notes

Information for MRTs includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta and the territories (Yukon, the Northwest Territories and Nunavut).

Data for other jurisdictions (Nova Scotia, Ontario and B.C.) was not included due to a high percentage of *unknown* values.

For the other professionals listed, please see the Methodological Notes in their respective annual reports for comprehensive information regarding collection and comparability of CIHI data, at www.cihi.ca.

Sources

Medical Radiation Technologist Database, Medical Laboratory Technologist Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database and Nursing Database, Canadian Institute for Health Information.

Clinical Education Programs

Clinical experience is offered as part of the educational requirements of medical radiation technology programs. Students enrolled in medical radiation technology programs have the opportunity to work in a specialty discipline under supervision, which allows them to gain professional competency.[7]

To assist students in completing their clinical education programs, MRTs may be required to provide supervision and/or preceptorship to students in their workplace. In 2010, 41.2% of MRTs in selected jurisdictions were involved in clinical education/preceptor (CEP) activities at their primary employment (Table 7).

Table 7: Registered Medical Radiation Technologist Workforce, by Clinical Education/Preceptor Activity for Primary Employment and Province or Territories of Registration, 2010

Clinical Education/ Preceptor Activity	N.L.	P.E.I.	Que.	Ont.	Man.	Sask.	Alta.	Territories	Overall
Counts									
MRTs Who Provided CEP Activities	114	29	1,320	3,159	251	299	507	9	**5,688**
MRTs Who Did Not Provide CEP Activities	126	59	3,275	2,691	419	154	1,285	8	**8,009**
Unknown	4	0	15	67	1	15	0	1	**111**
Total	**244**	**88**	**4,610**	**5,917**	**671**	**468**	**1,792**	**18**	**13,808**
Percentage Distribution (%)									
MRTs Who Provided CEP Activities	46.7	33.0	28.6	53.4	37.4	63.9	28.3	50.0	**41.2**
MRTs Who Did Not Provide CEP Activities	51.6	67.0	71.0	45.5	62.4	32.9	71.7	44.4	**58.0**
Unknown	1.6	0.0	0.3	1.1	0.1	3.2	0.0	5.6	**0.8**

Notes

Data for other jurisdictions (Nova Scotia, New Brunswick and B.C.) was not included due to a high percentage of *unknown* values. The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Certification

After graduating from a medical radiation technology educational program accredited by the CMA, graduates must write the entry-to-practice national certification exam in their discipline in order to practise in their discipline. This requirement applies in all jurisdictions, with the exception of B.C. and the three territories. While B.C. and the territories do not legally require MRTs to be certified, most employers require it as a condition of employment.

There are two certifying bodies in Canada: the CAMRT and the OTIMRO. Candidates who successfully complete either examination are able to practise in the discipline in which they were certified in any jurisdiction in Canada, as long as they meet all of the requirements for registration in that jurisdiction. Other requirements, such as the ability to practise the profession in the French language in the province of Quebec, are requested when a candidate moves from another province or a territory to Quebec. Typically, most candidates working in Quebec have written the OTIMRO exam, while candidates working in other jurisdictions have written the CAMRT exam.[8]

As of July 26, 2010, the regulatory bodies or associations in six provinces had the authority set out under an act of their province to grant registration certificates in medical radiation technology in the disciplines/specialties. Please see Appendix B for further details.

Currently, the CAMRT examinations are offered in four discipline certifications that MRT program graduates can take: magnetic resonance imaging, nuclear medicine, radiation therapy and radiological technology. In 2010, nearly 800 MRT program graduates applied for the CAMRT exams, with the most popular discipline being radiological technology (Table 8).

Table 8: Number of CAMRT Examination Applicants,* by Discipline and Province Offering the Accredited Programs, 2010

Province	Radiological Technology	Radiation Therapy	Magnetic Resonance	Nuclear Medicine	Total
N.L.	13	n/a	n/a	n/a	**13**
P.E.I.	6	n/a	n/a	n/a	**6**
N.S.	9	n/a	n/a	5	**14**
N.B.	21	2	n/a	3	**26**
Que.†	10	3	n/a	0	**13**
Ont.	213	90	48	32	**383**
Man.	35	4	8	n/a	**47**
Sask.	16	2	n/a	n/a	**18**
Alta.	85	5	27	19	**136**
B.C.	78	18	33	13	**142**
Overall	**486**	**124**	**116**	**72**	**798**

Notes

* New graduates from accredited MRT programs applying to write a CAMRT certification exam for the first time.

† Data for Quebec does not include Quebec MRT graduates who applied to write the OTIMRO certification exam.

n/a Indicates that the province did not offer an accredited educational program in that particular discipline.

Source

Canadian Association of Medical Radiation Technologists.

An MRT could be certified in one or more disciplines after passing the corresponding national exams. As of 2010, more than 70% of CAMRT members were certified in radiological technology, while the remaining were distributed between the disciplines of radiation therapy (11.2%), nuclear medicine (10.5%) and magnetic resonance imaging (7.7%) (Table 9).

Table 9: Number of CAMRT Members, by Certification Discipline and Province, as of December 31, 2010

Provincial Association	Radiological Technology	Radiation Therapy	Nuclear Medicine	Magnetic Resonance	Total*
N.L.	306	35	21	23	**385**
P.E.I.	73	15	7	5	**100**
N.S.	434	65	75	28	**602**
N.B.	478	58	56	47	**639**
Que.†	177	36	15	13	**241**
Ont.	2,877	522	490	378	**4,267**
Man.	597	86	53	38	**774**
Sask.	426	75	48	35	**584**
Alta.	1,446	191	234	185	**2,056**
B.C.	1,568	235	229	155	**2,187**
Non-Provincial	147	33	33	16	**229**
Overall	**8,529**	**1,351**	**1,261**	**923**	**12,064**
Percentage Distribution by Discipline	**70.7%**	**11.2%**	**10.5%**	**7.7%**	**100.0%**

Notes

* Includes full practice, non-practising and limited practice.

† Data for Quebec does not include Quebec MRT graduates who applied to write the OTIMRO certification exam.

Members in more than one discipline are counted once in each discipline.

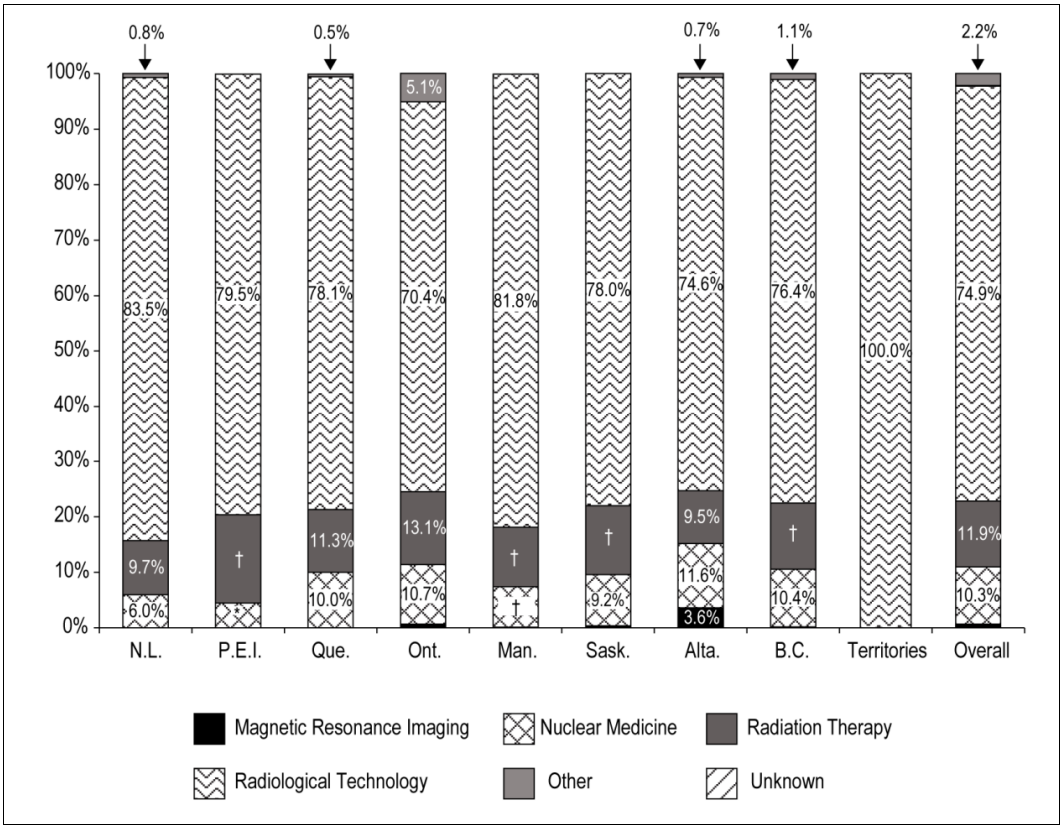
Source

CAMRT 2010 Annual Report, Canadian Association of Medical Radiation Technologists.

Initial MRT Certification

Initial MRT certification represents the first certification received by registrants upon entrance to the workforce; it does not include post-initial certifications. Data from the MRTDB confirms that for initial certification, radiological technology was also the most common discipline, ranging from 70.4% in Ontario to 100% in the territories.

Figure 9: Registered Medical Radiation Technologist Workforce, by Initial MRT Certification Discipline and Selected Province and Territories of Registration, 2010



Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

Data for other jurisdictions (Nova Scotia and New Brunswick) was not included due to a high percentage of *unknown* values.

The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

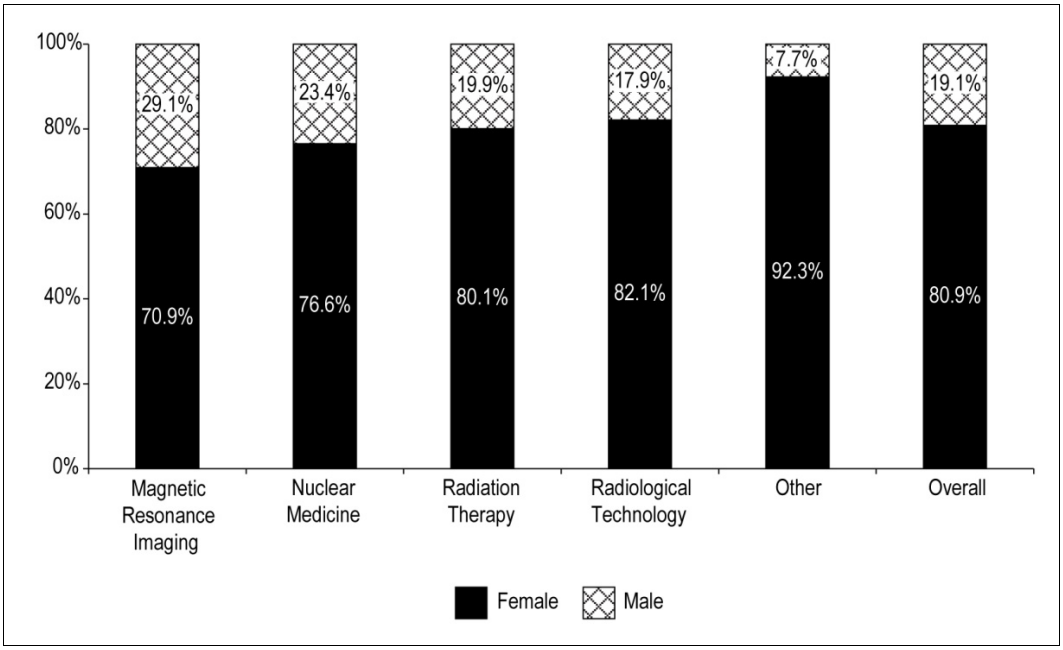
Combining available data from P.E.I., Manitoba, Saskatchewan, Alberta and the territories (Yukon, the Northwest Territories and Nunavut)

- 5.8% of the workforce held specialty certificates;
- The average age for members with specialty certificates was 46, compared with the average age for all MRTs (44); and
- The youngest MRT with a specialty certificate was 25, whereas the youngest MRT was 20.

Source
Medical Radiation Technologist Database, Canadian Institute for Health Information.

Although the MRT workforce was primarily composed of females, gender distributions varied between different disciplines in 2010. While more than 80% of MRTs with certifications in radiation therapy and radiological technology were female, the female proportion in magnetic resonance imaging and nuclear medicine disciplines was 70.9% and 76.6%, respectively.

Figure 10: Registered Medical Radiation Technologist Workforce, by Initial MRT Certification Discipline and Gender, 2010



Notes
Includes data from Newfoundland and Labrador, P.E.I., Quebec, Ontario, Manitoba, Saskatchewan, Alberta, B.C., Yukon, the Northwest Territories and Nunavut. Data for other jurisdictions (Nova Scotia and New Brunswick) was not included due to a high percentage of *unknown* values.
Registrants with *unknown* initial MRT certification discipline for primary employment were excluded (348, 2.2%).
Totals may not equal 100% due to rounding.
Source
Medical Radiation Technologist Database, Canadian Institute for Health Information.

Specialty Certificates

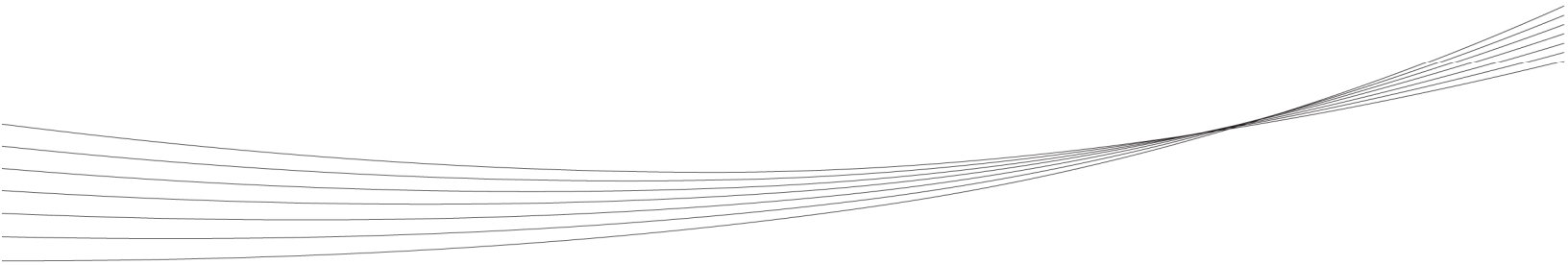
MRTs can obtain specialty certificates to further enhance their knowledge and skills in a particular area. Breast imaging, computed tomography and dosimetry are specialty certificate programs offered by the CAMRT. The CAMRT plans to include interventional radiography as another specialty program.[9]

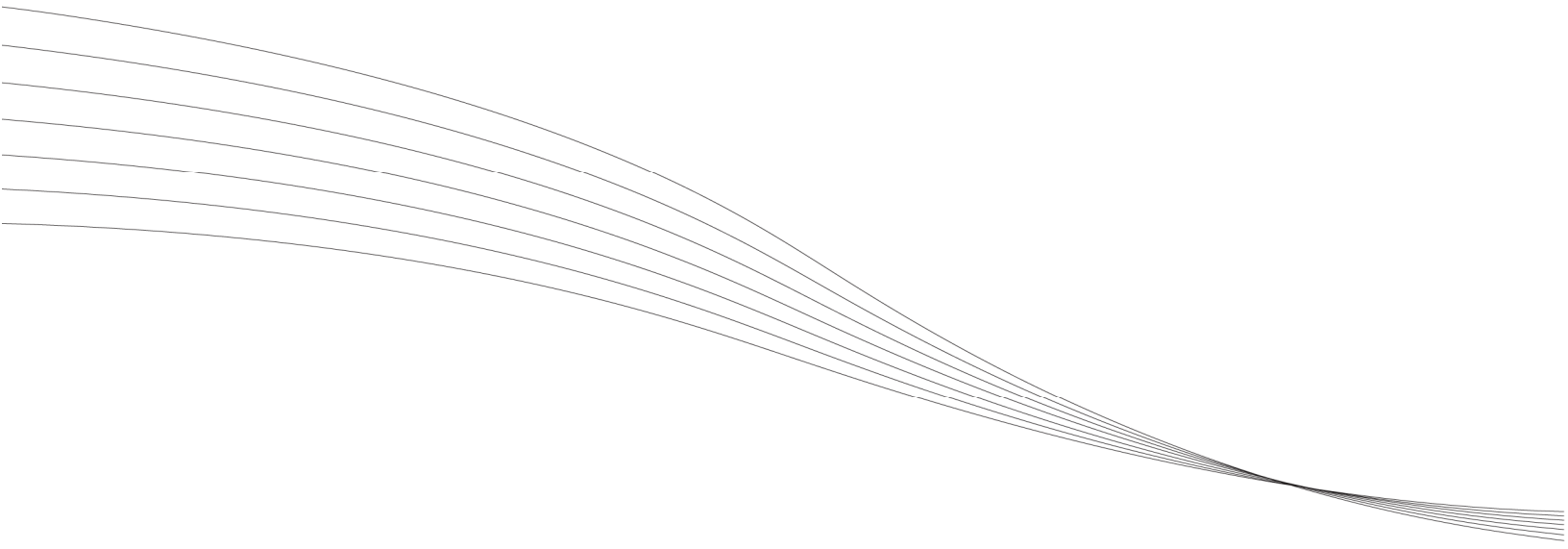
Internationally Educated Medical Radiation Technologists

MRT candidates who completed their education in medical radiation technology internationally and wish to practise in Canada must undergo an assessment and write the CAMRT national exam to determine their eligibility to work in Canada. The assessment is conducted by the provincial regulatory body and/or the CAMRT to evaluate qualifications such as education, language, work experience, certification exam and clinical requirements. Only after the assessment has been completed and the candidates meet all of the requirements are they eligible to write the CAMRT national examination.[10]

The CAMRT, regulators and educators have recognized that internationally educated MRTs (IEMRTs) experience lower pass rates than Canadian graduates on the qualifying examinations required for professional registration in Canada.[11] To address this issue, since 2006, four institutions across Canada have piloted bridging or preparatory education programs to provide orientation and information for IEMRTs. A bridging program assesses the unique needs of IEMRTs, recognizes prior knowledge and experience, and supports IEMRTs from initial interest to employment, to prepare them for safe and effective practice in a Canadian health care environment.[12] Results of the pilot program showed that IEMRTs can benefit from additional education in key competency areas.[11]

Based on MRTDB data available for P.E.I., Quebec, Manitoba, Saskatchewan, Alberta and the territories (Yukon, the Northwest Territories and Nunavut), a total of 156 IEMRTs, or approximately 2% of the registered MRT workforce in these jurisdictions, worked in 2010. These IEMRTs were from the United States (29), the United Kingdom (28), France (14), Morocco (12), Algeria (11) and other countries (62).





Chapter 4—Employment

Total Usual Weekly Hours of Work

Total usual weekly hours of work refers to the usual (typical or average) weekly hours worked with all employers. Table 10 illustrates the differences in the number of hours for the MRT workforce at the provincial level in 2010. Close to 70% of the MRT workforce in Ontario and Saskatchewan, and approximately three-quarters of the MRT workforce in P.E.I. and New Brunswick, worked 37.5 hours or longer per week. In Newfoundland and Labrador, most MRTs worked 35 hours according to the provincial standard for full-time employees.

Table 10: Registered Medical Radiation Technologist Workforce, by Total Usual Weekly Hours of Work and Selected Province of Registration, 2010

Total Usual Weekly Hours of Work	N.L.	P.E.I.	N.B.	Ont.	Sask.	Overall
Counts						
<22.5	0	15	50	532	42	**639**
22.5–37.4	235	7	84	1,232	90	**1,648**
37.5+	*	66	422	4,036	324	**4,85†**
Unknown	†	0	0	117	12	**13†**
Total	**244**	**88**	**556**	**5,917**	**468**	**7,273**
Percentage Distribution (%)						
<22.5	0.0	17.0	9.0	9.0	9.0	**8.8**
22.5–37.4	96.3	8.0	15.1	20.8	19.2	**22.7**
37.5+	*	75.0	75.9	68.2	69.2	**66.†**
Unknown	†	0.0	0.0	2.0	2.6	**1.†**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

Data for Yukon, the Northwest Territories and Nunavut was not included due to small cells.

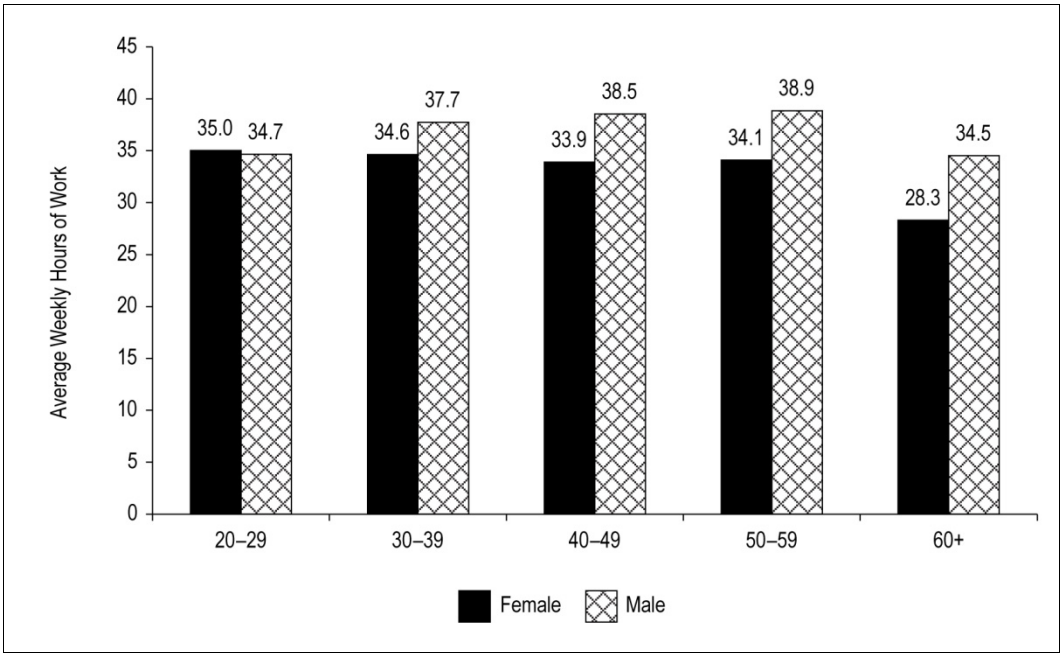
Data for other jurisdictions (Nova Scotia, Quebec, Manitoba, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Figure 11 illustrates the distribution of the total usual weekly hours of work of the MRT workforce by gender and 10-year age groups. Overall, male MRTs' average weekly hours worked were longer than those of female MRTs for almost all age categories; the exception was MRTs age 20 to 29. Both male and female MRTs older than 60 worked fewer hours than MRTs in other age groups.

Figure 11: Average Weekly Hours of Work for Registered Medical Radiation Technologist Workforce, by Gender and 10-Year Age Group, 2010



Notes

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Ontario, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Quebec, Manitoba, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Registrants with *unknown* total usual weekly hours of work or age were excluded (136, 1.9%).

Source

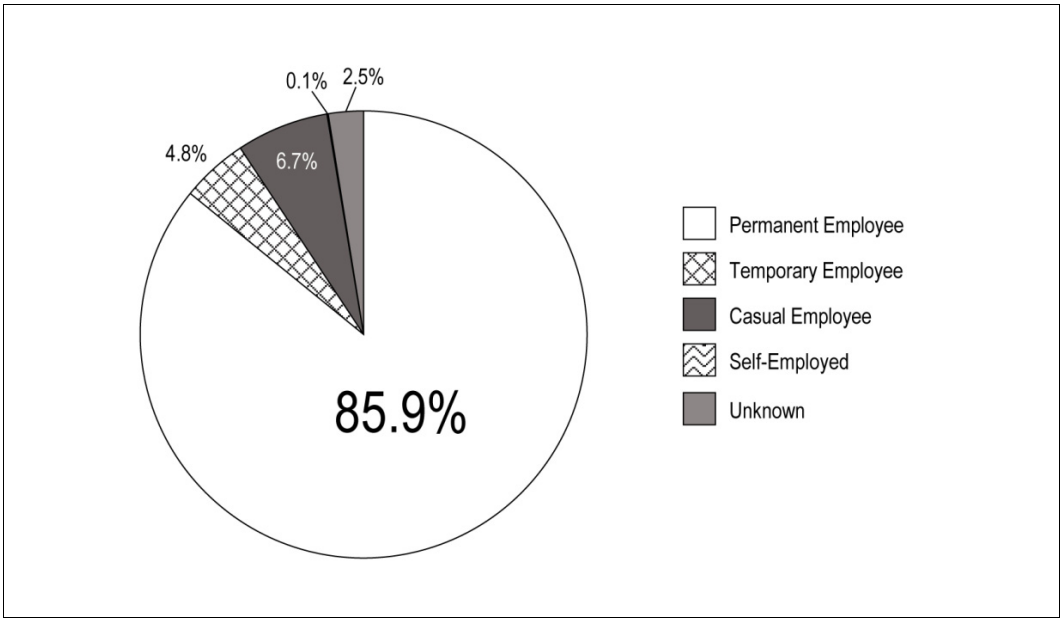
Medical Radiation Technologist Database, Canadian Institute for Health Information.

The employment characteristics described in the following sections are limited to primary employment, except for the information on hospitals obtained from the Canadian MIS Database.

Employment Category

The majority (85.9%) of the MRT workforce in selected jurisdictions were permanent employees. Temporary employees and casual employees accounted for 4.8% and 6.7%, respectively; only 0.1% of MRTs were self-employed.

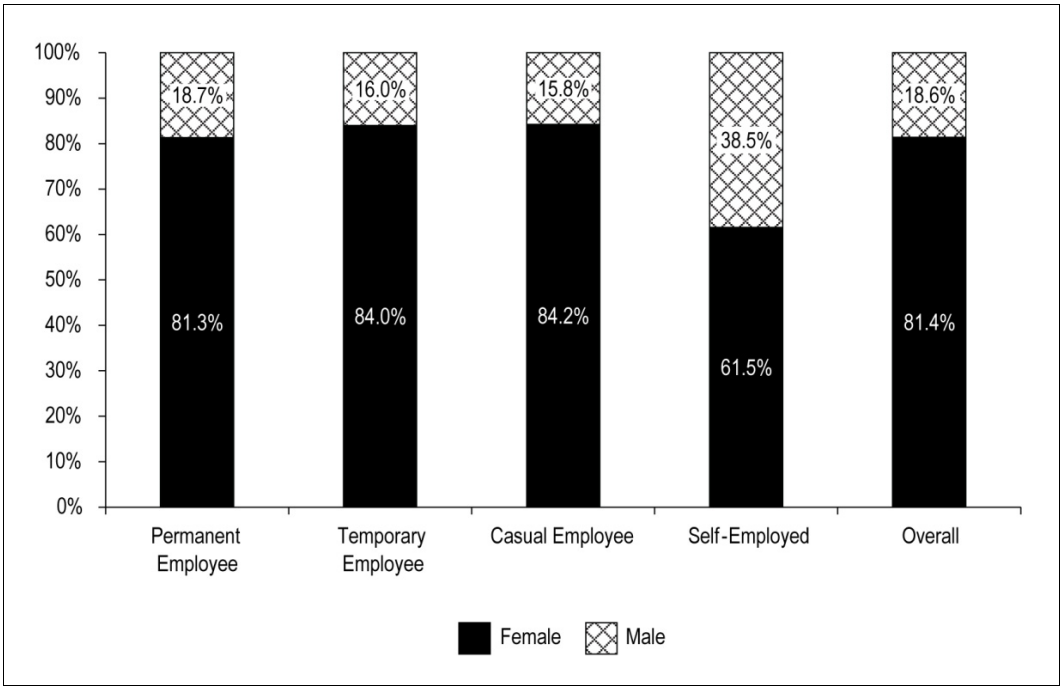
Figure 12: Registered Medical Radiation Technologist Workforce, by Employment Category for Primary Employment, Selected Provinces or Territories of Registration, 2010



Notes
Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.
Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of unknown values.
Source
Medical Radiation Technologist Database, Canadian Institute for Health Information.

The gender distribution of the MRT workforce remained consistent for permanent, temporary and casual employees, with less than one-fifth of the workforce being male in each category.

Figure 13: Registered Medical Radiation Technologist Workforce, by Employment Category for Primary Employment, Gender, Selected Provinces or Territories of Registration, 2010



Notes

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Registrants with *unknown* employment category for primary employment were excluded (365, 2.5%).

Registrants with *unknown* gender were excluded (2, <0.1%).

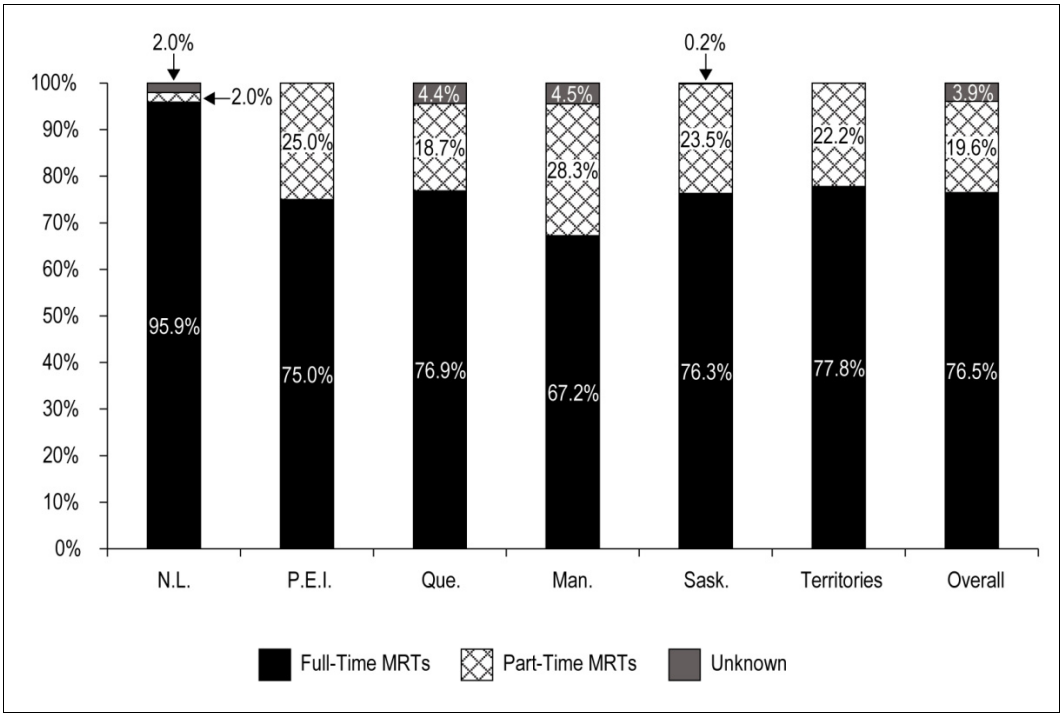
Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Full-Time/Part-Time Status

Most MRTs (76.5%) worked on a full-time basis at their primary employment in five selected provinces and three territories. Newfoundland and Labrador had the highest proportion (95.9%) while Manitoba had the lowest proportion (67.2%) of full-time MRTs.

Figure 14: Registered Medical Radiation Technologist Workforce, by Full-Time/ Part-Time Status for Primary Employment and Selected Province or Territories of Registration, 2010



Notes

Data for other jurisdictions (Nova Scotia, New Brunswick, Ontario, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

For the selected provinces combined, 75.2% of the female workforce and 82.9% of the male MRT workforce worked on a full-time basis. In other words, 752 out of 1,000 female MRTs and 829 out of 1,000 male MRTs worked on a full-time basis. While the percentages for female and male groups differed by less than eight percentage points at the overall level, they varied at the provincial level from 3 percentage points in Newfoundland and Labrador to double digits in Manitoba (19 percentage points) and Saskatchewan (16 percentage points).

Table 11: Full-Time Registered Medical Radiation Technologist Workforce for Primary Employment, by Gender and Selected Province of Registration, 2010

	Female		Male		Full-Time MRTs in Each Gender Category (%)	
Province of Registration	Full-Time MRTs (A)	Total Workforce (B)	Full-Time MRTs (C)	Total Workforce (D)	Female (E = A / B)	Male (F = C / D)
N.L.	176	185	58	59	95.1	98.3
P.E.I.	53	72	13	16	73.6	81.3
Que.	2,957	3,884	586	724	76.1	80.9
Man.	345	542	106	129	63.7	82.2
Sask.	274	375	83	93	73.1	89.2
Overall	**3,805**	**5,058**	**846**	**1,021**	**75.2**	**82.9**

Notes

Data for Yukon, the Northwest Territories and Nunavut was not included due to small cells.

Data for other jurisdictions (Nova Scotia, New Brunswick, Ontario, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

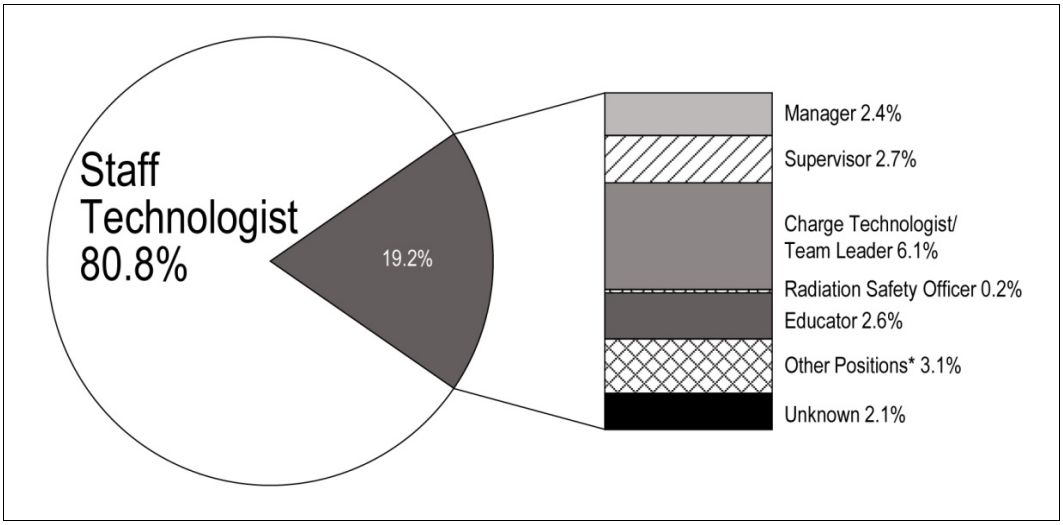
Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Position

In general, the majority (80.8%) of MRTs worked as staff technologists at their primary employment. Other roles of practising MRTs included manager, supervisor, charge technologist/team leader, radiation safety officer and educator (Figure 15).

Figure 15: Registered Medical Radiation Technologist Workforce, by Position for Primary Employment, Selected Provinces or Territories of Registration, 2010



Notes

* *Other positions* include consultant, information system specialist, quality management specialist, researcher, sales and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Table 12 shows the distribution of MRTs by position and jurisdiction. Across all selected provinces and territories, Newfoundland and Labrador had the highest proportion of staff technologists (86.1%). In Saskatchewan, MRTs who worked in the roles of manager, supervisor or charge technologist/team leader represented a higher percentage than their counterparts in other provinces. Differing definitions of roles and responsibilities in managerial, supervisory or charge technologist/team leader positions may contribute to the unique distribution for each jurisdiction.

Table 12: Registered Medical Radiation Technologist Workforce, by Position for Primary Employment and Selected Province or Territories of Registration, 2010

Position for Primary Employment	N.L.	P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Territories	Overall
Counts									
Manager	14	*	22	56	169	19	22	*	**304**
Supervisor	0	9	37	177	74	8	3†	*	**340**
Charge Technologist/ Team Leader	11	*	0	103	547	79	23	*	**767**
Staff Technologist	210	68	476	3,880	4,613	537	361	12	**10,157**
Radiation Safety Officer	0	0	0	0	17	†	*	0	**25**
Educator	*	*	1†	157	120	17	13	0	**330**
Other Positions‡	*	5	*	209	157	*	12	0	**389**
Unknown	3	0	4	28	220	2	3	0	**260**
Total	**244**	**88**	**556**	**4,610**	**5,917**	**671**	**468**	**18**	**12,572**
Percentage Distribution (%)									
Manager	5.7	*	4.0	1.2	2.9	2.8	4.7	*	**2.4**
Supervisor	0.0	10.2	6.7	3.8	1.3	1.2	†	*	**2.7**
Charge Technologist/ Team Leader	4.5	*	0.0	2.2	9.2	11.8	4.9	*	**6.1**
Staff Technologist	86.1	77.3	85.6	84.2	78.0	80.0	77.1	66.7	**80.8**
Radiation Safety Officer	0.0	0.0	0.0	0.0	0.3	†	*	0.0	**0.2**
Educator	*	*	†	3.4	2.0	2.5	2.8	0.0	**2.6**
Other Positions‡	*	5.7	*	4.5	2.7	*	2.6	0.0	**3.1**
Unknown	1.2	0.0	0.7	0.6	3.7	0.3	0.6	0.0	**2.1**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ *Other positions* include consultant, information system specialist, quality management specialist, researcher, sales and other.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

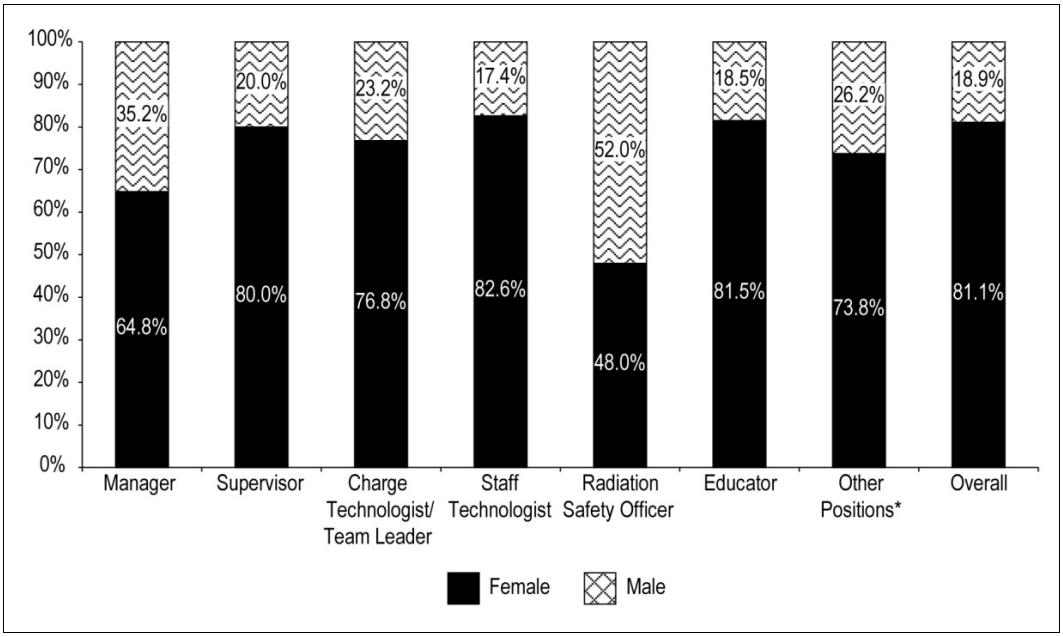
The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

A pattern emerged when gender information was examined by position (Figure 16). While female MRTs accounted for 70% to 80% or more of the workforce in most positions, the percentage of female managers was 64.8%, 16 percentage points lower than all MRT positions combined (81.8%). Radiation safety officers had the lowest proportion of female MRTs compared with other positions; however, only a few provinces offered this position (Table 12).

Figure 16: Registered Medical Radiation Technologist Workforce, by Position for Primary Employment and Gender, Selected Provinces or Territories of Registration, 2010



Notes

* *Other positions* include consultant, information system specialist, quality management specialist, researcher, sales and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Registrants with *unknown* position for primary employment and *unknown* gender were excluded (262, 2.1%).

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

The percentage of managerial positions was different in each gender group, at 1.9% in the female group and 4.5% in the male group. The difference varied across the selected provinces.

Table 13: Registered Medical Radiation Technologist Workforce With Managerial Position for Primary Employment, by Gender and Selected Province of Registration, 2010

Province of Registration	Female		Male		Managers in Each Gender Category (%)	
	Managers (A)	Total Workforce (B)	Managers (C)	Total Workforce (D)	Female (E = A / B)	Male (F = C / D)
N.L.	5	185	9	59	2.7	15.3
P.E.I.	*	72	†	16	*	†
N.B.	1†	476	*	80	†	*
Que.	33	3,884	23	724	0.8	3.2
Ont.	109	4,648	60	1,269	2.3	4.7
Man.	14	542	5	129	2.6	3.9
Sask.	15	375	7	93	4.0	7.5
Overall	**196**	**10,182**	**107**	**2,370**	**1.9**	**4.5**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba and Saskatchewan.

Data for Yukon, the Northwest Territories and Nunavut is not included due to too many small cells.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

The 10-year age group distribution of MRTs within each type of position also showed varying patterns. For example, more than 40% of the MRTs who worked in managerial positions were age 50 to 59. In the staff technologist category, however, the distribution of the MRT workforce was quite similar across all 10-year age groups (19.7% to 25.9%), with the exception of MRTs who were age 60 and older.

Table 14: Registered Medical Radiation Technologist Workforce, by Position for Primary Employment and 10-Year Age Group, Selected Provinces or Territories of Registration, 2010

Position for Primary Employment	Manager	Supervisor	Charge Technologist/ Team Leader	Staff Technologist	Radiation Safety Officer	Educator	Other Positions‡	Unknown Position	Overall
10-Year Age Group	**Counts**								
20–29	*	5	7	2,282	0	22	1†	66	**2,403**
30–39	31	44	122	2,589	†	89	9†	49	**3,021**
40–49	108	137	278	2,628	10	122	122	65	**3,470**
50–59	133	132	287	2,001	7	84	135	59	**2,838**
60+	2†	22	73	653	*	13	2†	21	**836**
Unknown Age	0	0	0	4	0	0	0	0	**4**
Total	**304**	**340**	**767**	**10,157**	**25**	**330**	**389**	**260**	**12,572**
10-Year Age Group	**Percentage Distribution (%)**								
20–29	*	1.5	0.9	22.5	0.0	6.7	†	25.4	**19.1**
30–39	10.2	12.9	15.9	25.5	†	27.0	†	18.8	**24.0**
40–49	35.5	40.3	36.2	25.9	40.0	37.0	31.4	25.0	**27.6**
50–59	43.8	38.8	37.4	19.7	28.0	25.5	34.7	22.7	**22.6**
60+	†	6.5	9.5	6.4	*	3.9	†	8.1	**6.6**
Unknown Age	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ *Other positions* include consultant, information system specialist, quality management specialist, researcher, sales and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

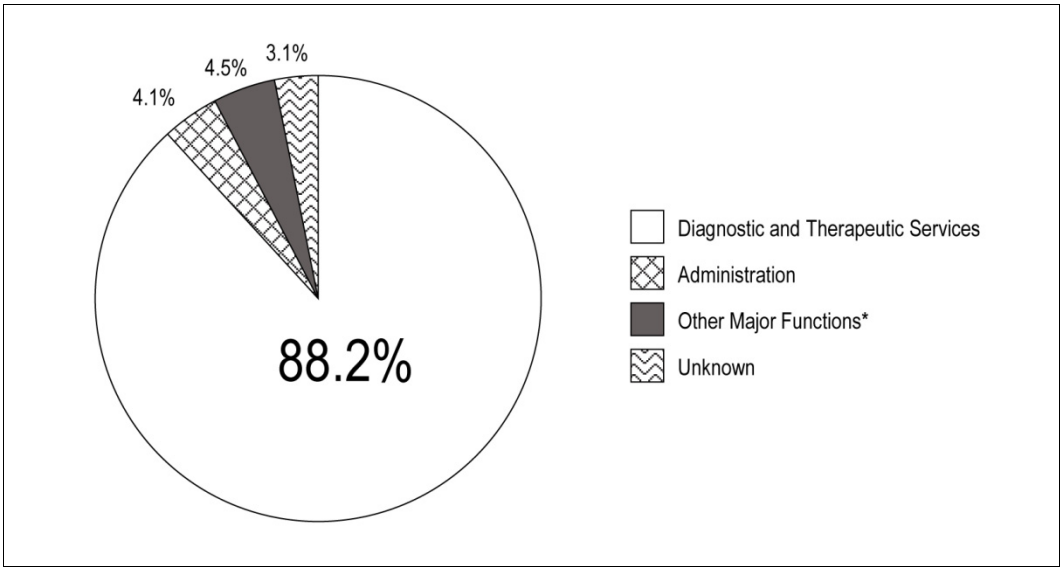
Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Major Function

In 2010, for selected provinces and territories, the majority (88.2%) of MRTs provided diagnostic and therapeutic services directly to patients at their primary employment. Others worked in the areas of administration, information systems, medical radiation technology–related teaching, research, etc.

Figure 17: Registered Medical Radiation Technologist Workforce, by Major Function of Primary Employment, Selected Provinces or Territories of Registration, 2010



Notes

* *Other major functions* include information systems, medical radiation technology–related teaching, research and other major functions.

Includes data from Newfoundland and Labrador, P.E.I., Ontario, Manitoba, Saskatchewan, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, New Brunswick, Quebec, Alberta and B.C.) was not included due to a high percentage of *unknown* values.

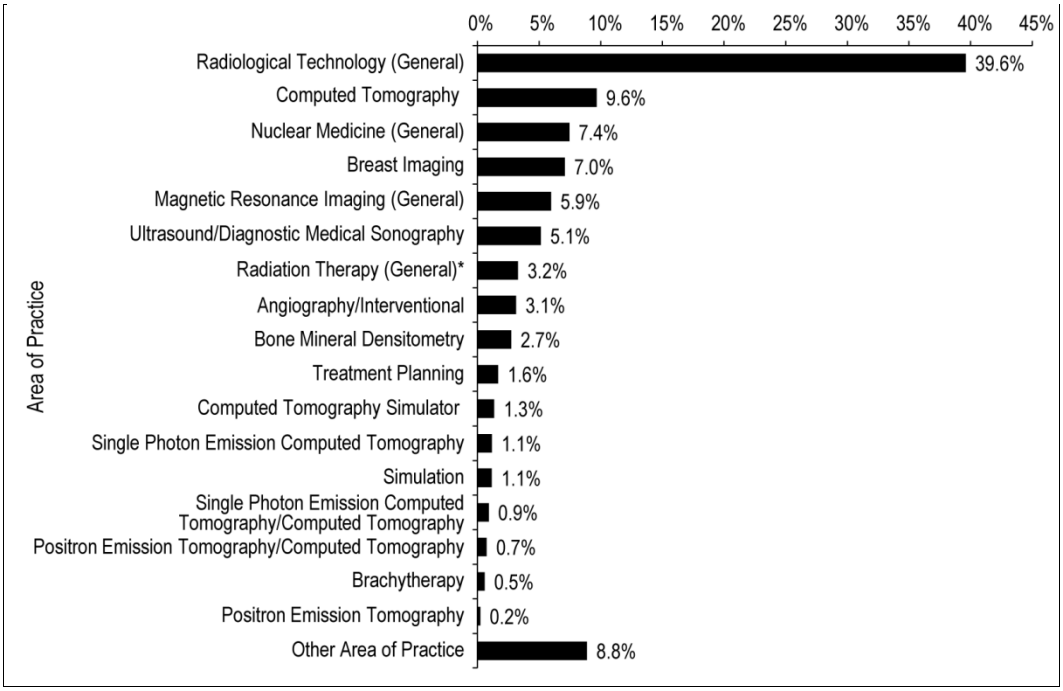
Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Area of Practice

Generally speaking, MRTs can practise in medical radiation technology after they are certified. In 2010, close to 70% of MRTs practised for their primary employment in the following areas: radiological technology (39.6%), computed tomography (9.6%), nuclear medicine (7.4%), breast imaging (7.0%) and magnetic resonance imaging (5.9%).

Figure 18: Registered Medical Radiation Technologist Workforce, by Area of Practice for Primary Employment, Selected Provinces or Territories of Registration, 2010



Notes

* The area of practice *radiation therapy (general)* did not include Quebec data due to data quality concerns. This may affect the proportion and rank of *radiation therapy (general)* and its distribution among all other areas of practice.

Includes data from P.E.I., New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Newfoundland and Labrador, Nova Scotia, Ontario and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

Data for some areas of practice may not be applicable or available for some provinces. Please refer to the Jurisdictional Profiles for details.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

MRTs can work in multiple areas of practice (Figure 18) but can identify one main area of practice that is associated with the greatest number of hours worked. In 2010, for four selected provinces (P.E.I., Manitoba, Saskatchewan and Alberta) and the three territories, the top five areas that MRTs indicated as their main areas of practice for primary employment were radiological technology (42.2%), computed tomography (8.7%), nuclear medicine (7.8%), radiation therapy (6.8%) and breast imaging (6.7%).

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Supply and Utilization of Medical Imaging Equipment in Canada

According to CIHI's National Survey of Selected Medical Imaging Equipment, the following numbers of selected imaging devices were installed and operational in Canadian hospitals and free-standing imaging facilities as of January 1, 2010:[2]

- 484 CT scanners;
- 281 MRI scanners;
- 618 nuclear medicine cameras;
- 10 positron emission tomography (PET) scanners;
- 30 PET/CT scanners (fusion technology); and
- 98 single photon emission computed tomography (SPECT)/CT scanners (fusion technology).

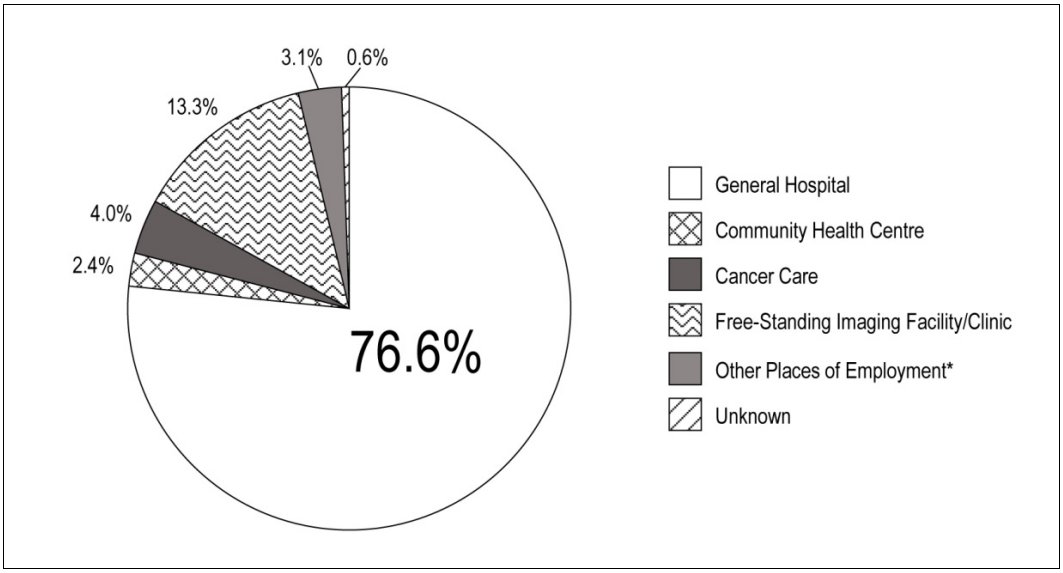
It has been suggested that a high availability of CT services might reduce acquisition of MRI scanners.[13] In 2010, there were 14.3 CT scanners per million population and 8.3 MRI scanners per million population.[2] The ratio of MRIs to CTs was around 1:1.7 at the national level in 2010, higher than the ratios of 1:2.2 in 2003[14] and 1:1.9 in 2007.[13]

In order to measure the utilization level of medical imaging scanners, the number of exams per scanner is reported as an indicator of the intensity level of operation of the scanners. In 2009–2010, the average number of MRI exams was 5,738 per scanner, while the average number of CT exams was 9,603 per scanner.[2]

Place of Employment

More than three-quarters (76.6%) of the MRT workforce worked in general hospitals in 2010 (Figure 19). The remaining workforce was distributed among different types of workplaces, such as free-standing facilities or clinics (13.3%), cancer treatment centres (4.0%), community health centres (2.4%) and other places of primary employment (3.1%).

Figure 19: Registered Medical Radiation Technologist Workforce, by Place of Primary Employment, Selected Provinces or Territories of Registration, 2010



Notes

* *Other places of employment* include mobile imaging unit, post-secondary educational institution, association/government/para-governmental, industry, manufacturing and commercial, and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Alberta, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Ontario, Saskatchewan and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

At the jurisdictional level, each province or territory has its own unique distribution pattern. The proportion of MRTs working in general hospitals in 2010, from high to low, was as follows: the territories, 100%; New Brunswick, 95.7%; Quebec, 83.8%; Newfoundland and Labrador, 79.5%; P.E.I., 78.4%; Manitoba, 66.0%; and Alberta, 55.4%. These differences may be explained by different organizational structures and unique ways of delivering medical imaging services from one province to another. For example, some provinces may offer certain medical imaging services in free-standing imaging centres, while others may offer the same services in hospitals.

Table 15: Registered Medical Radiation Technologist Workforce, by Place of Primary Employment and Selected Province or Territories of Registration, 2010

Place of Primary Employment	N.L.	P.E.I.	N.B.	Que.	Man.	Alta.	Territories	Overall
Counts								
General Hospital	194	69	532	3,865	443	992	18	**6,113**
Community Health Centre	23	0	7	50	56	57	0	**193**
Cancer Care	19	14	0	0	77	209	0	**319**
Free-Standing Imaging Facility/Clinic	*	0	†	506	76	468	0	**1,059**
Other Places of Employment‡	*	5	†	160	17	61	0	**251**
Unknown	2	0	6	29	2	5	0	**44**
Total	**244**	**88**	**556**	**4,610**	**671**	**1,792**	**18**	**7,979**
Percentage Distribution (%)								
General Hospital	79.5	78.4	95.7	83.8	66.0	55.4	100.0	**76.6**
Community Health Centre	9.4	0.0	1.3	1.1	8.3	3.2	0.0	**2.4**
Cancer Care	7.8	15.9	0.0	0.0	11.5	11.7	0.0	**4.0**
Free-Standing Imaging Facility/Clinic	*	0.0	†	11.0	11.3	26.1	0.0	**13.3**
Other Places of Employment‡	*	5.7	†	3.5	2.5	3.4	0.0	**3.1**
Unknown	0.8	0.0	1.1	0.6	0.3	0.3	0.0	**0.6**

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ *Other places of employment* include mobile imaging unit, post-secondary educational institution, association/government/ para-governmental, industry, manufacturing and commercial, and other.

Data for other jurisdictions (Nova Scotia, Ontario, Saskatchewan and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

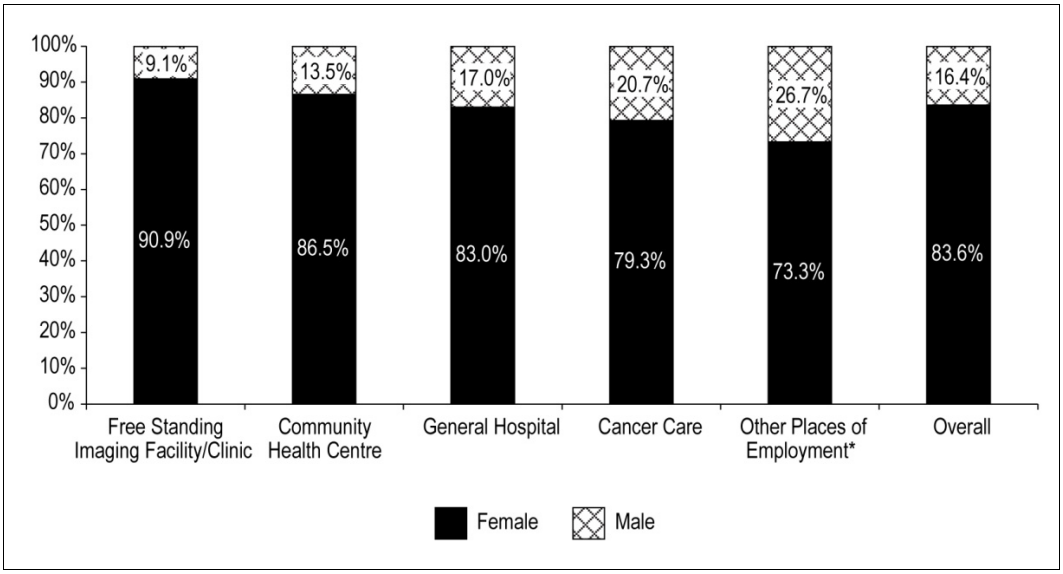
The territories include Yukon, the Northwest Territories and Nunavut.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Females dominated the MRT workforce in all types of work settings. Nevertheless, gender distribution differed slightly from one setting to another. Female MRTs accounted for 90.9% of the workforce in free-standing imaging facilities/clinics, the highest female proportion across all MRT workplace settings. The percentages of the female MRT workforce in other work settings included 86.5% for community health centres, 83.0% for general hospitals and 79.3% for cancer care centres. Female MRTs working in all other sectors combined (mobile imaging unit, post-secondary educational institution, association/government/para-governmental, etc.) accounted for the lowest proportion of the registered workforce, at 73.3%.

Figure 20: Registered Medical Radiation Technologist Workforce, by Place of Primary Employment, by Gender, Selected Provinces of Registration, 2010



Notes

* *Other places of employment* include mobile imaging unit, post-secondary educational institution, association/government/para-governmental, industry, manufacturing and commercial, and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Alberta, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Ontario, Saskatchewan and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

Registrants with *unknown* place of primary employment were excluded (44, 0.6%).

Registrants with *unknown* gender were excluded (2, <0.1%).

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Overall, in 2010, close to half (47.6%) of the MRT workforce was between age 40 and 59. Among the identified work settings, general hospitals (26.0%) and community health centres (12.4%) had more MRTs who were younger than age 30 than other work settings.

Table 16: Registered Medical Radiation Technologist Workforce, by Place of Primary Employment and 10-Year Age Group, Selected Provinces or Territories of Registration, 2010

Place of Primary Employment	General Hospital	Community Health Centre	Cancer Care	Free-Standing Imaging Facility/Clinic	Other Places of Employment*	Unknown Place	Overall
10-Year Age Group	**Counts**						
20–29	1,589	24	37	117	23	6	**1,796**
30–39	1,476	31	101	238	73	10	**1,929**
40–49	1,492	51	112	264	79	5	**2,003**
50–59	1,330	62	57	273	54	16	**1,792**
60+	223	24	12	167	22	7	**455**
Unknown Age	3	1	0	0	0	0	**4**
Total	**6,113**	**193**	**319**	**1,059**	**251**	**44**	**7,979**
10-Year Age Group	**Percentage Distribution (%)**						
20–29	26.0	12.4	11.6	11.0	9.2	13.6	**22.5**
30–39	24.1	16.1	31.7	22.5	29.1	22.7	**24.2**
40–49	24.4	26.4	35.1	24.9	31.5	11.4	**25.1**
50–59	21.8	32.1	17.9	25.8	21.5	36.4	**22.5**
60+	3.6	12.4	3.8	15.8	8.8	15.9	**5.7**
Unknown Age	0.0	0.5	0.0	0.0	0.0	0.0	**0.1**

Notes

* *Other places of employment* include mobile imaging unit, post-secondary educational institution, association/government/ para-governmental, industry, manufacturing and commercial, and other.

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Alberta, Yukon, the Northwest Territories and Nunavut.

Data for other jurisdictions (Nova Scotia, Ontario, Saskatchewan and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

Source

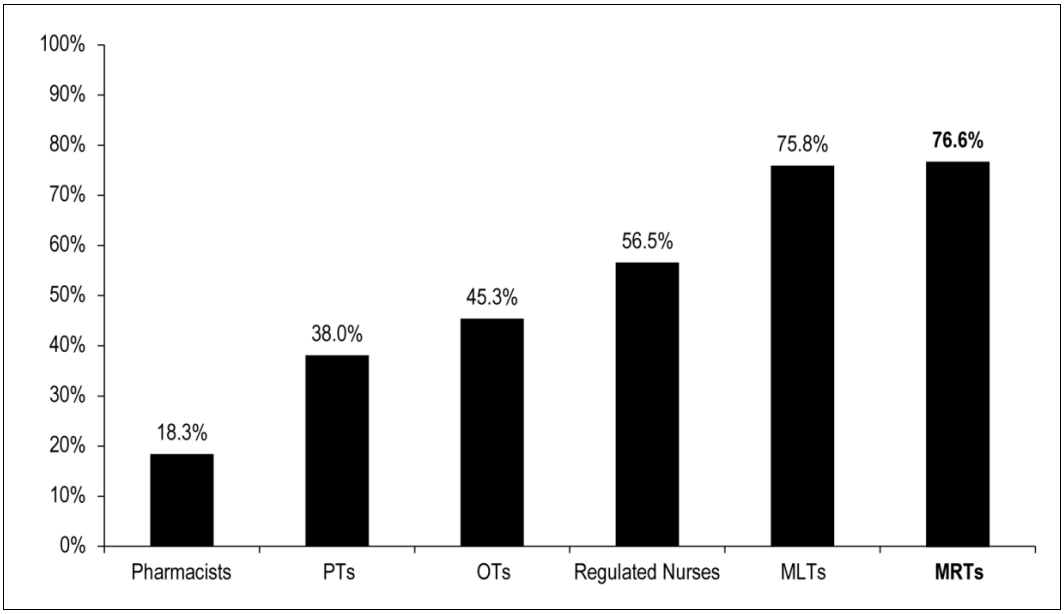
Medical Radiation Technologist Database, Canadian Institute for Health Information.

In Hospital

Cross-Profession Comparison

Compared with other groups of health professionals, such as pharmacists, physiotherapists, occupational therapists and nurses, a much higher proportion of both the MRT and medical laboratory technologist (MLT) workforces was employed in hospitals as their place of primary employment (approximately three-quarters of the total workforce).

Figure 21: Selected Health Professionals Working in Hospitals for Primary Employment, 2010



Notes

Information for MRTs:

Includes data from Newfoundland and Labrador, P.E.I., New Brunswick, Quebec, Manitoba, Alberta, Yukon, the Northwest Territories and Nunavut.

Registrants with *unknown* place of primary employment were excluded (35, 0.5%).

Data for other jurisdictions (Nova Scotia, Ontario, Saskatchewan and B.C.) was not included due to a high percentage of *unknown* values or other quality concerns.

For other professionals, please see the Methodological Notes in their respective annual reports for comprehensive information regarding collection and comparability of CIHI data, at www.cihi.ca.

Sources

Medical Radiation Technologist Database, Medical Laboratory Technologist Database, Occupational Therapist Database, Physiotherapist Database, Pharmacist Database and Nursing Database, Canadian Institute for Health Information.

Additional Information on Medical Imaging Services and Activities

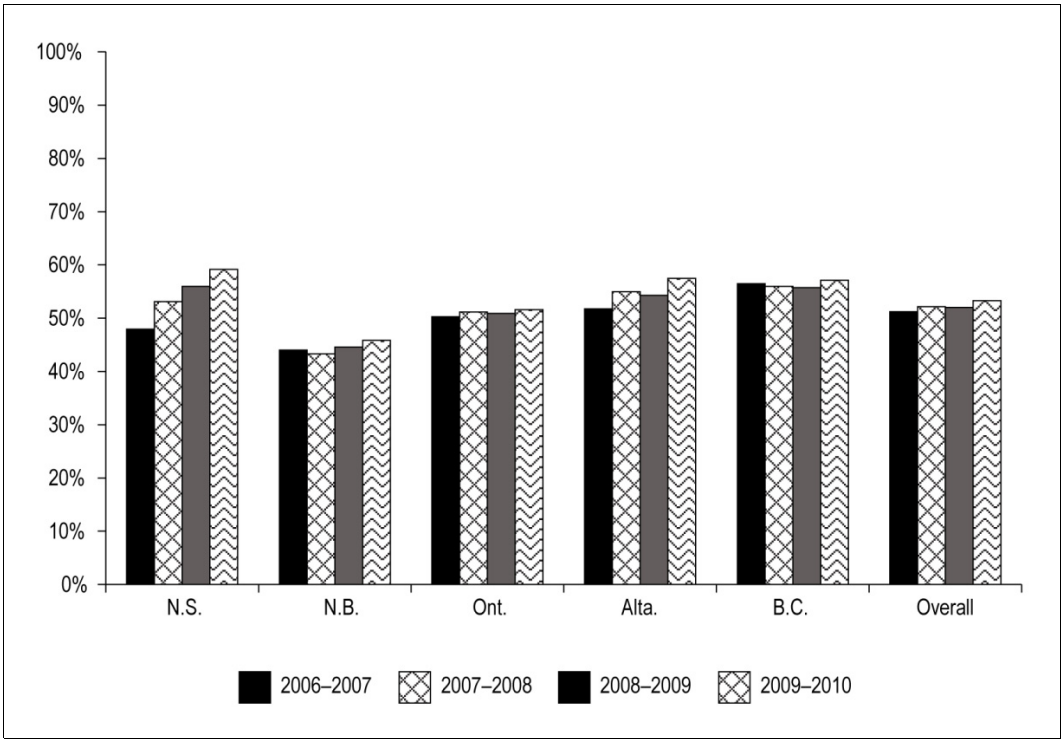
The Canadian MIS Database (CMDB) at CIHI is the national source for financial and statistical data about hospitals and health regions.[15] While the MRTDB's focus is health human resources and the employment section of this report focuses on primary employment, the CMDB contains financial and statistical information on the day-to-day operations of participating organizations, including the primary, secondary or third employment in which health professionals work. The two sections below provide information on compensation expenses and service-recipient inpatient workload related to hospital-based medical imaging services obtained from the CMDB. At this time, we are not able to report data for radiation therapy, due to the small number of facilities reporting to the CMDB, or for non-hospital facilities, per the data limitation of the database.

Medical Imaging Compensation Expense in Hospital

Medical imaging services can include hospital-based medical imaging services, community-based medical imaging services and other service delivery mechanisms.[16] This section provides statistics related to services delivered from hospital-based medical imaging departments only. In hospitals, the total medical imaging expenses consist of compensation (such as salaries), supplies (such as film and contrast media), sundries (such as continuing education fees and materials), equipment (such as the amortization of the cost of imaging equipment, for example, a CT scanner) and contracted-out services (such as the cost of referring patients to other facilities for services not performed in house, such as MRI scans).[16] Staff compensation is a very important component of total medical imaging expenses in hospitals. Figure 22 illustrates compensation paid to MRTs and other staff (excluding medical personnel in medical imaging departments) as a percentage of total medical imaging expenses in hospital settings.

For the selected provinces of Nova Scotia, New Brunswick, Ontario, Alberta and B.C., the overall percentage of medical imaging compensation expense increased by 2% from 2006–2007 to 2009–2010. Nevertheless, each individual province showed different levels in compensation as a percentage of medical imaging expenses in each fiscal year. Of these five provinces, Nova Scotia experienced the highest growth, at 11.2%, and Alberta the second-highest growth, at 5.7%, in terms of medical imaging compensation expense as a percentage of total medical imaging expenses from 2006–2007 to 2009–2010 (Figure 22).

Figure 22: Medical Imaging Compensation Expense as a Percentage of Total Medical Imaging Expenses for Selected Provinces, 2006–2007 to 2009–2010



Notes

Includes compensation for management and operational support personnel and unit-producing personnel working in the medical imaging department; excludes medical personnel.

Please see related CMDB reports for comprehensive information regarding collection and comparability, at www.cihi.ca.

Source

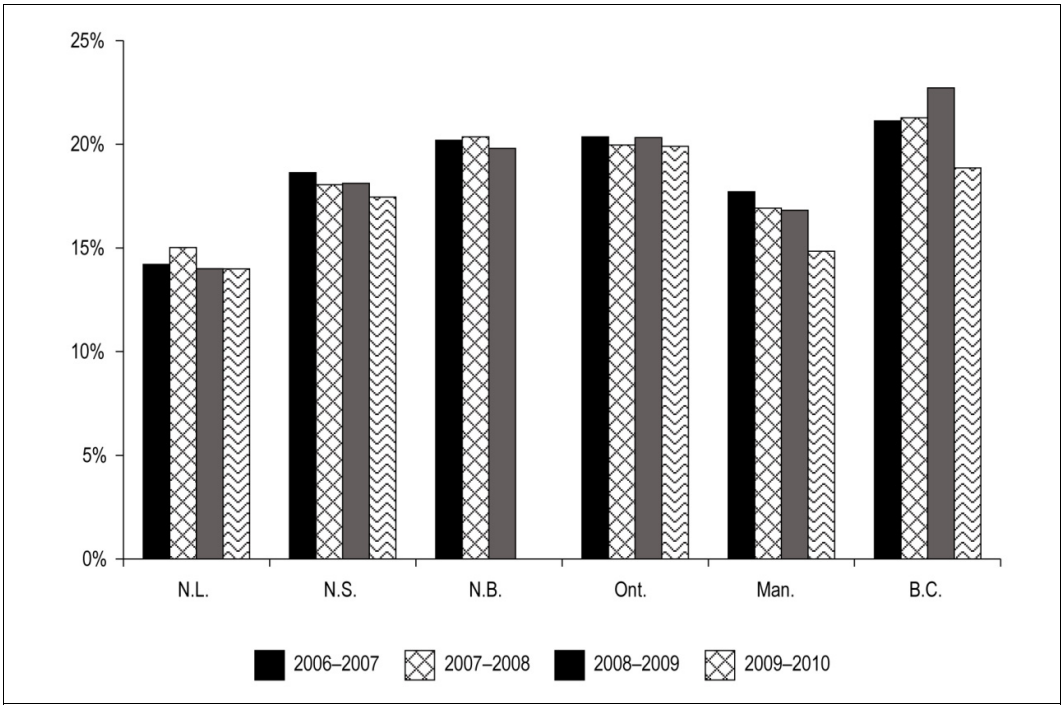
Canadian MIS Database, Canadian Institute for Health Information.

Medical Imaging Service-Recipient Inpatient Workload in Hospital

Workload is measured in medical imaging using a national workload measurement system (WMS). In the WMS, one workload unit represents one minute of time required to perform an activity.[16] Medical imaging workload is divided into two major categories: service-recipient and non–service recipient activity. The service-recipient activity category includes workload that is related to the mandate of the functional centre (for example, taking an X-ray) and is being performed for an individual service recipient. This category of workload is further subdivided into inpatients and outpatient service clients, such as those in emergency, day surgery or clinics, or patients being referred to medical imaging by the physician. In addition, medical imaging functional centres may receive referred-in work from other facilities for patients requiring specialized imaging in modalities not offered in their own facility, such as CT or MRI scans.[16] This section focuses on the hospital-based medical imaging services that are delivered to inpatients.

In Figure 23 below, the proportion of total medical imaging workload attributed to inpatient service recipients varied by province across four years. Every province shows a different trending pattern, and the ranking of service-recipient inpatient workload fluctuated across years. In 2009–2010, the proportion of service-recipient inpatient workload was between 14.0% (Newfoundland and Labrador) and 19.9% (Ontario).

Figure 23: Service-Recipient Inpatient Workload as a Percentage of Total Service-Recipient Workload in Hospital Medical Imaging Departments for Selected Jurisdictions, 2006–2007 to 2009–2010



Notes

New Brunswick data for 2009–2010 was not available.

Please see the Methodological Notes in related reports for comprehensive information regarding collection and comparability of CMDB data, at www.cihi.ca.

Source

Canadian MIS Database, Canadian Institute for Health Information.

Provincial/Territorial Highlights and Analyses

Regulated Provinces or the Provinces Requiring Mandatory Registration:

Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta

Unregulated Provinces and Territories:

British Columbia, Yukon, the Northwest Territories and Nunavut

2010 Data Highlights for Medical Radiation Technologists in Newfoundland and Labrador

Workforce Supply and Demographics

- Newfoundland and Labrador had 267 MRTs registered in the MRT workforce in 2010.
- Three-quarters of the MRT workforce in Newfoundland and Labrador was female (76.0%), the lowest proportion among all provinces that required mandatory registration.
- The average age of the MRT workforce in Newfoundland and Labrador was 39.4, the lowest among all provinces.
- In Newfoundland and Labrador, practising MRTs younger than age 35 accounted for 42.3% of the workforce. Only 13.5% of the workforce was age 55 or older.

Education and Certification

- In 2010, 91.4% of the MRT workforce in Newfoundland and Labrador held a diploma in medical radiation technology for basic education; the remaining 7.8% held a baccalaureate degree.
- In 2010, 6.1% of the Newfoundland and Labrador MRT workforce had graduated from an MRT training program for basic education within the past two years.
- Most MRTs employed in Newfoundland and Labrador received their initial certification in the discipline of radiological technology (83.5%).

Primary Employment

- Most (82.8%) of the Newfoundland and Labrador MRT workforce were permanent employees in their place of primary employment.
- The majority (95.9%) of the Newfoundland and Labrador MRT workforce were full-time employees.
- The majority (79.5%) of the MRT workforce in Newfoundland and Labrador were employed in general hospitals; 9.4% were employed in community health centres and another 7.8% were employed in cancer centres. These were the three largest employers of MRTs in Newfoundland and Labrador.
- More than three-quarters (86.1%) of the MRT workforce in Newfoundland and Labrador worked as staff technologists, providing hands-on medical imaging services on a daily basis.
- Most practising MRTs in Newfoundland and Labrador (90.6%) reported that their major function at work was providing diagnostic and therapeutic services.

Newfoundland and Labrador MRT Workforce Profile

Newfoundland and Labrador—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**218**		**247**		**267**	
Gender	Female	161	73.9%	185	74.9%	203	76.0%
	Male	57	26.1%	62	25.1%	64	24.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	40.0		38.9		39.4	
Age Group	<35	78	35.8%	106	42.9%	113	42.3%
	35–54	119	54.6%	112	45.3%	117	43.8%
	55+	19	8.7%	28	11.3%	36	13.5%
	Unknown	2	0.9%	1	0.4%	1	0.4%
Counts After the Exclusion of Non-Response (Except for Number of Certifications and Initial MRT Certification)‡		**224**		**244**			
Level of Basic Education in MRT	Diploma	201	92.2%	204	91.1%	223	91.4%
	Baccalaureate	17	7.8%	18	8.0%	19	7.8%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	2	0.9%	2	0.8%
Location of Graduation for Basic Education in MRT	Canadian-Trained	212	97.2%	219	97.8%	239	98.0%
	Foreign-Trained	5	2.3%	*	*	*	*
	Unknown	1	0.5%	†	†	†	†
New Graduates in MRT	Yes—Graduated Within Last Two Years	18	8.3%	25	11.2%	15	6.1%
	No—Graduated Longer Than Two Years Ago	200	91.7%	197	87.9%	226	92.6%
	Unknown	0	0.0%	2	0.9%	3	1.2%
Highest Level of Education in MRT	Diploma	197	90.4%	202	90.2%	221	90.6%
	Post-Secondary Certificate	0	0.0%	0	0.0%	0	0.0%
	Baccalaureate	21	9.6%	20	8.9%	21	8.6%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	2	0.9%	2	0.8%
Number of Certifications	Single Certification	192	88.1%	222	89.9%	240	89.9%
	Multiple Certifications	26	11.9%	23	9.3%	25	9.4%
	Unknown	0	0.0%	2	0.8%	2	0.7%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	0	0.0%
	Nuclear Medicine	15	6.9%	15	6.1%	16	6.0%
	Radiation Therapy	20	9.2%	24	9.7%	26	9.7%
	Radiological Technology	183	83.9%	206	83.4%	223	83.5%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	2	0.8%	2	0.7%
Multiple Employment Status	Single Employer	218	100.0%	224	100.0%	244	100.0%
	Multiple Employers	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	*	*	0	0.0%	0	0.0%
	22.5–37.4	201	92.2%	206	92.0%	235	96.3%
	37.5+	†	†	*	*	*	*
	Unknown	7	3.2%	1†	†	†	†
Primary Employment							
Employment Category	Permanent Employee	185	84.9%	179	79.9%	202	82.8%
	Temporary Employee	23	10.6%	3†	†	3†	†
	Casual Employee	8	3.7%	*	*	*	*
	Self-Employed	0	0.0%	0	0.0%	0	0.0%
	Unknown	2	0.9%	13	5.8%	5	2.0%
Full-Time/ Part-Time Status	Full Time	203	93.1%	20†	†	234	95.9%
	Part Time	12	5.5%	*	*	5	2.0%
	Unknown	3	1.4%	13	5.8%	5	2.0%

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Newfoundland and Labrador—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	180	82.6%	166	74.1%	194	79.5%
	Community Health Centre	10	4.6%	23	10.3%	23	9.4%
	Cancer Care	19	8.7%	19	8.5%	19	7.8%
	Free-Standing Imaging Facility/Clinic	5	2.3%	*	*	*	*
	Mobile Imaging Unit	0	0.0%	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	*	*	*	*	*	*
	Association/Government/Para-Governmental	0	0.0%	0	0.0%	0	0.0%
	Industry, Manufacturing and Commercial	0	0.0%	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	*	*	10	4.5%	2	0.8%
Position	Manager	13	6.0%	15	6.7%	14	5.7%
	Supervisor	*	*	0	0.0%	0	0.0%
	Charge Technologist/Team Leader	9	4.1%	9	4.0%	11	4.5%
	Staff Technologist	186	85.3%	183	81.7%	210	86.1%
	Radiation Safety Officer	0	0.0%	0	0.0%	0	0.0%
	Consultant	0	0.0%	0	0.0%	0	0.0%
	Information System Specialist	*	*	*	*	*	*
	Quality Management Specialist	0	0.0%	0	0.0%	0	0.0%
	Educator	*	*	*	*	*	*
	Researcher	0	0.0%	0	0.0%	0	0.0%
	Sales	0	0.0%	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	2	0.9%	11	4.9%	3	1.2%
Clinical Education/ Preceptor Activity Indicator	Yes	103	47.2%	106	47.3%	114	46.7%
	No	106	48.6%	106	47.3%	126	51.6%
	Unknown	9	4.1%	12	5.4%	4	1.6%
Major Function	Diagnostic and Therapeutic Services	197	90.4%	192	85.7%	221	90.6%
	Administration	1†	†	14	6.3%	13	5.3%
	Information Systems	6	2.8%	*	*	*	*
	Teaching, Medical Radiation Technology–Related	*	*	*	*	*	*
	Research	0	0.0%	0	0.0%	0	0.0%
	Other Major Function	0	0.0%	0	0.0%	0	0.0%
	Unknown	1	0.5%	11	4.9%	3	1.2%
Area of Practice	Magnetic Resonance Imaging (General)	8	2.0%	–	–	–	–
	Nuclear Medicine (General)	16	4.1%	–	–	–	–
	Radiation Therapy (General)	22	5.6%	–	–	–	–
	Radiological Technology (General)	165	41.8%	–	–	–	–
	Angiography/Interventional	11	2.8%	–	–	–	–
	Bone Mineral Densitometry	19	4.8%	–	–	–	–
	Brachytherapy	6	1.5%	–	–	–	–
	Breast Imaging	41	10.4%	–	–	–	–
	Computed Tomography (CT)	34	8.6%	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	14	3.5%	–	–	–	–
	Positron Emission Tomography (PET)	0	0.0%	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	*	*	–	–	–	–
	Simulation	15	3.8%	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	8	2.0%	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	*	*	–	–	–	–
	Treatment Planning	*	*	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	21	5.3%	–	–	–	–
	Other Area of Practice	8	2.0%	–	–	–	–

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Newfoundland and Labrador—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	6	2.8%	–	–	–	–
	Nuclear Medicine (General)	14	6.4%	–	–	–	–
	Radiation Therapy (General)	18	8.3%	–	–	–	–
	Radiological Technology (General)	119	54.6%	–	–	–	–
	Angiography/Interventional	*	*	–	–	–	–
	Bone Mineral Densitometry	0	0.0%	–	–	–	–
	Brachytherapy	0	0.0%	–	–	–	–
	Breast Imaging	22	10.1%	–	–	–	–
	Computed Tomography (CT)	11	5.0%	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	*	*	–	–	–	–
	Positron Emission Tomography (PET)	0	0.0%	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	0	0.0%	–	–	–	–
	Simulation	0	0.0%	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	0	0.0%	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	0	0.0%	–	–	–	–
	Treatment Planning	*	*	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	10	4.6%	–	–	–	–
	Other Area of Practice	*	*	–	–	–	–
	Cannot Identify One Main Area of Practice	11	5.0%	–	–	–	–
	Not Applicable	0	0.0%	–	–	–	–
	Unknown	0	0.0%	–	–	–	–
Health Region	Eastern Regional Integrated Health Authority	–	–	–	–	–	–
	Central Regional Integrated Health Authority	–	–	–	–	–	–
	Western Regional Integrated Health Authority	–	–	–	–	–	–
	Labrador–Grenfell Regional Integrated Health Authority	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ A number of registrants (23 for both 2009 and 2010) with Employment Status other than *employed in medical radiation technology* are included for gender, average age, age group, number of certifications and initial MRT certification discipline. This adjustment resulted in the total of 247 in 2009 and 267 in 2010 for the workforce and these elements. These records are excluded from the statistics for other data elements, whose total is 224 in 2009 and 244 in 2010. Refer to the Data Adjustments section of the Methodological Notes for more details.

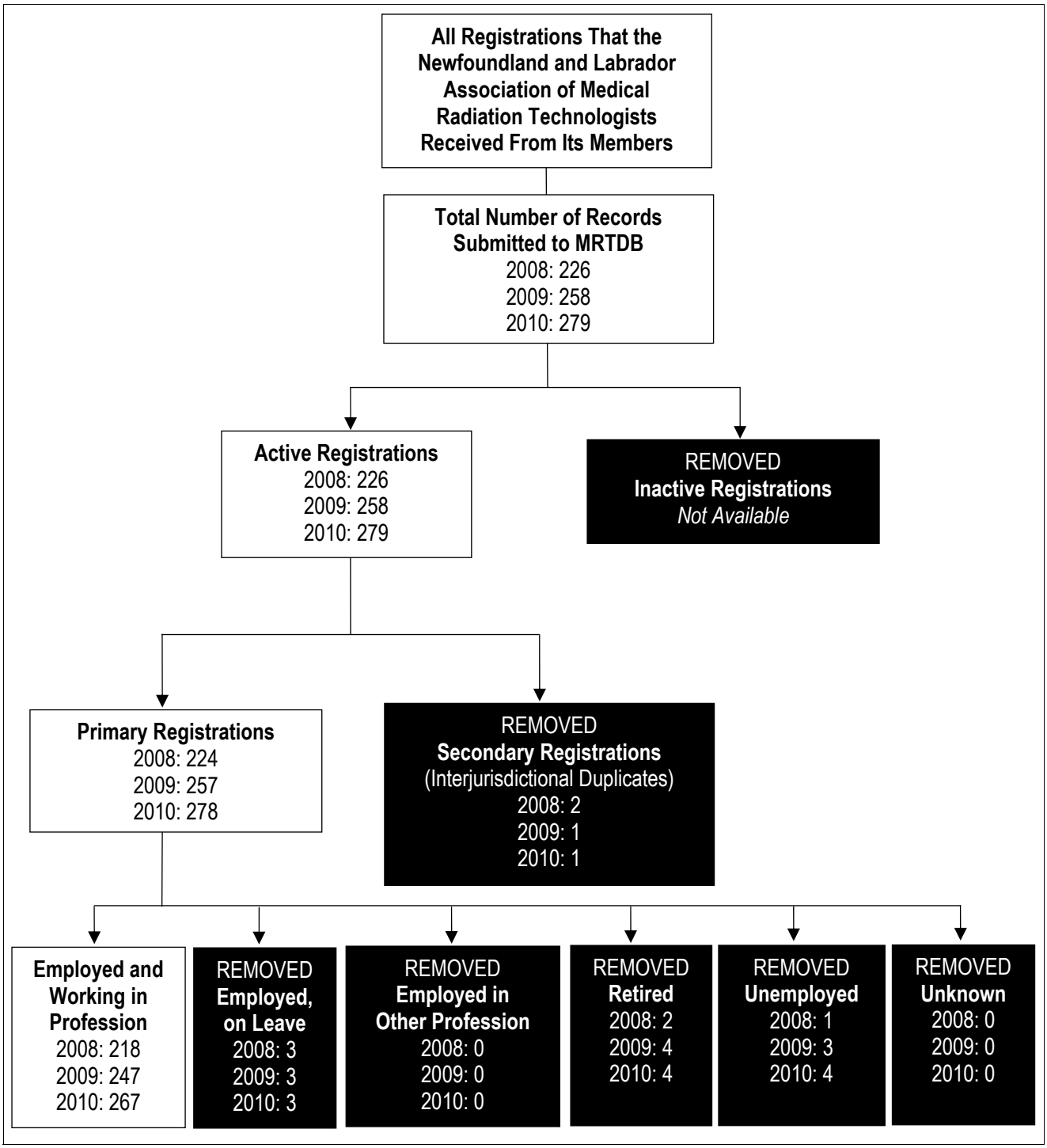
– Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Newfoundland and Labrador Association of Medical Radiation Technologists to CIHI



2010 Data Highlights for Medical Radiation Technologists in Prince Edward Island

Workforce Supply and Demographics

- P.E.I. had 88 MRTs registered in the MRT workforce in 2010.
- The majority of the MRT workforce in P.E.I. was female (81.8%).
- The average age of the P.E.I. MRT workforce was 42.
- More than half of the P.E.I. MRT workforce age 35 to 54 (51.1%).

Education and Certification

- In 2010, 75.0% of the MRT workforce in P.E.I. held a diploma in medical radiation technology for basic education; the remaining 25.0% held a baccalaureate degree.
- Just more than one-tenth (10.2%) of the P.E.I. MRT workforce had graduated from an MRT training program for basic education within the past two years.
- After taking into account levels of post-basic education, close to one-third (31.8%) of the P.E.I. MRT workforce held a baccalaureate degree as their highest level of education in medical radiation technology.
- The majority of the P.E.I. MRT workforce (79.5%) received their initial MRT certification in the discipline of radiological technology.
- In 2010, 19.3% of the P.E.I. MRT workforce had two MRT certifications.

Primary Employment

- Most (85.2%) of the P.E.I. MRT workforce were permanent employees in their area of primary employment.
- In 2010, three-quarters of the MRT workforce in P.E.I. were full-time employees.
- The majority (78.4%) of the P.E.I. MRT workforce were employed in general hospitals, and another 15.9% were employed in cancer care centres; the latter was the second-largest employer of MRTs in P.E.I.
- Approximately three-quarters (77.3%) of the MRT workforce in P.E.I. worked as staff technologists, providing hands-on medical imaging services on a daily basis.
- Most practising MRTs in P.E.I. (90.9%) reported that their major function at work was providing diagnostic and therapeutic services.
- The primary areas in which the P.E.I. MRT workforce practised were radiological technology (general), at 35.9%; radiation therapy (general), at 10.9%; followed by breast imaging, computed tomography simulator and treatment planning, at 8.6% each. The majority (73.9%) of the P.E.I. MRT workforce worked in the Queens County Health Region.

Total Usual Weekly Hours of Work

- In 2010, 75.0% of the MRT workforce in P.E.I. worked 37.5 hours or more per week, while 17.0% of the workforce worked fewer than 22.5 hours and 8.0% worked between 22.5 and 37.4 hours.

Prince Edward Island MRT Workforce Profile

Prince Edward Island—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**82**		**83**		**88**	
Gender	Female	70	85.4%	72	86.7%	72	81.8%
	Male	12	14.6%	11	13.3%	16	18.2%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	41.8		42.3		42.0	
Age Group	<35	25	30.5%	25	30.1%	28	31.8%
	35–54	43	52.4%	42	50.6%	45	51.1%
	55+	14	17.1%	16	19.3%	15	17.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Level of Basic Education in MRT	Diploma	70	85.4%	67	80.7%	66	75.0%
	Baccalaureate	12	14.6%	16	19.3%	22	25.0%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Location of Graduation for Basic Education in MRT	Canadian-Trained	7†	†	8†	†	8†	†
	Foreign-Trained	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
New Graduates in MRT	Yes—Graduated Within Last Two Years	7	8.5%	5	6.0%	9	10.2%
	No—Graduated Longer Than Two Years Ago	75	91.5%	78	94.0%	79	89.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Highest Level of Education in MRT	Diploma	66	80.5%	62	74.7%	60	68.2%
	Post-Secondary Certificate	0	0.0%	0	0.0%	0	0.0%
	Baccalaureate	16	19.5%	21	25.3%	28	31.8%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Number of Certifications	Single Certification	66	80.5%	66	79.5%	71	80.7%
	Multiple Certifications	16	19.5%	17	20.5%	17	19.3%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	0	0.0%
	Nuclear Medicine	*	*	*	*	*	*
	Radiation Therapy	1†	†	1†	†	1†	†
	Radiological Technology	67	81.7%	68	81.9%	70	79.5%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	77	93.9%	77	92.8%	83	94.3%
	Multiple Employers	5	6.1%	6	7.2%	5	5.7%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	20	24.4%	18	21.7%	15	17.0%
	22.5–37.4	8	9.8%	9	10.8%	7	8.0%
	37.5+	54	65.9%	56	67.5%	66	75.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Primary Employment							
Employment Category	Permanent Employee	7†	†	70	84.3%	75	85.2%
	Temporary Employee	*	*	*	*	6	6.8%
	Casual Employee	1†	†	†	†	7	8.0%
	Self-Employed	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Full-Time/ Part-Time Status	Full Time	56	68.3%	59	71.1%	66	75.0%
	Part Time	26	31.7%	24	28.9%	22	25.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%

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Prince Edward Island—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	65	79.3%	66	79.5%	69	78.4%
	Community Health Centre	0	0.0%	*	*	0	0.0%
	Cancer Care	12	14.6%	11	13.3%	14	15.9%
	Free-Standing Imaging Facility/Clinic	0	0.0%	0	0.0%	0	0.0%
	Mobile Imaging Unit	0	0.0%	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	5	6.1%	*	*	*	*
	Association/Government/Para-Governmental	0	0.0%	*	*	*	*
	Industry, Manufacturing and Commercial	0	0.0%	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Position	Manager	*	*	*	*	*	*
	Supervisor	7	8.5%	8	9.6%	9	10.2%
	Charge Technologist/Team Leader	*	*	*	*	*	*
	Staff Technologist	64	78.0%	63	75.9%	68	77.3%
	Radiation Safety Officer	0	0.0%	0	0.0%	0	0.0%
	Consultant	0	0.0%	0	0.0%	0	0.0%
	Information System Specialist	*	*	*	*	*	*
	Quality Management Specialist	*	*	*	*	*	*
	Educator	*	*	*	*	*	*
	Researcher	0	0.0%	0	0.0%	0	0.0%
	Sales	0	0.0%	0	0.0%	0	0.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Clinical Education/ Preceptor Activity Indicator	Yes	30	36.6%	29	34.9%	29	33.0%
	No	52	63.4%	54	65.1%	59	67.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Major Function	Diagnostic and Therapeutic Services	74	90.2%	74	89.2%	80	90.9%
	Administration	*	*	*	*	*	*
	Information Systems	*	*	*	*	*	*
	Teaching, Medical Radiation Technology–Related	*	*	*	*	*	*
	Research	0	0.0%	0	0.0%	0	0.0%
	Other Major Function	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Area of Practice	Magnetic Resonance Imaging (General)	*	*	*	*	*	*
	Nuclear Medicine (General)	*	*	*	*	*	*
	Radiation Therapy (General)	12	10.7%	11	9.6%	14	10.9%
	Radiological Technology (General)	42	37.5%	44	38.6%	46	35.9%
	Angiography/Interventional	*	*	*	*	*	*
	Bone Mineral Densitometry	*	*	*	*	*	*
	Brachytherapy	0	0.0%	*	*	*	*
	Breast Imaging	10	8.9%	10	8.8%	11	8.6%
	Computed Tomography (CT)	12	10.7%	10	8.8%	9	7.0%
	Computed Tomography Simulator (CT/Sim)	8	7.1%	9	7.9%	11	8.6%
	Positron Emission Tomography (PET)	0	0.0%	0	0.0%	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	0	0.0%	0	0.0%	0	0.0%
	Simulation	*	*	*	*	6	4.7%
	Single Photon Emission Computed Tomography (SPECT)	0	0.0%	0	0.0%	*	*
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	0	0.0%	0	0.0%	0	0.0%
	Treatment Planning	8	7.1%	9	7.9%	11	8.6%
	Ultrasound/Diagnostic Medical Sonography	*	*	*	*	*	*
	Other Area of Practice	5	4.5%	5	4.4%	6	4.7%

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Prince Edward Island—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	*	*	*	*	*	*
	Nuclear Medicine (General)	*	*	*	*	*	*
	Radiation Therapy (General)	12	14.6%	11	13.3%	14	15.9%
	Radiological Technology (General)	38	46.3%	39	47.0%	37	42.0%
	Angiography/Interventional	*	*	*	*	*	*
	Bone Mineral Densitometry	*	*	*	*	*	*
	Brachytherapy	0	0.0%	0	0.0%	0	0.0%
	Breast Imaging	9	11.0%	9	10.8%	11	12.5%
	Computed Tomography (CT)	5	6.1%	5	6.0%	7	8.0%
	Computed Tomography Simulator (CT/Sim)	0	0.0%	0	0.0%	0	0.0%
	Positron Emission Tomography (PET)	0	0.0%	0	0.0%	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	0	0.0%	0	0.0%	0	0.0%
	Simulation	0	0.0%	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography (SPECT)	0	0.0%	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	0	0.0%	0	0.0%	0	0.0%
	Treatment Planning	0	0.0%	0	0.0%	0	0.0%
	Ultrasound/Diagnostic Medical Sonography	0	0.0%	0	0.0%	0	0.0%
	Other Area of Practice	0	0.0%	0	0.0%	0	0.0%
	Cannot Identify One Main Area of Practice	*	*	*	*	*	*
	Not Applicable	8	9.8%	9	10.8%	8	9.1%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Health Region	Kings County	*	*	*	*	5	5.7%
	Queens County	6†	†	6†	†	65	73.9%
	Prince County	17	20.7%	18	21.7%	18	20.5%
	Unknown	0	0.0%	0	0.0%	0	0.0%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

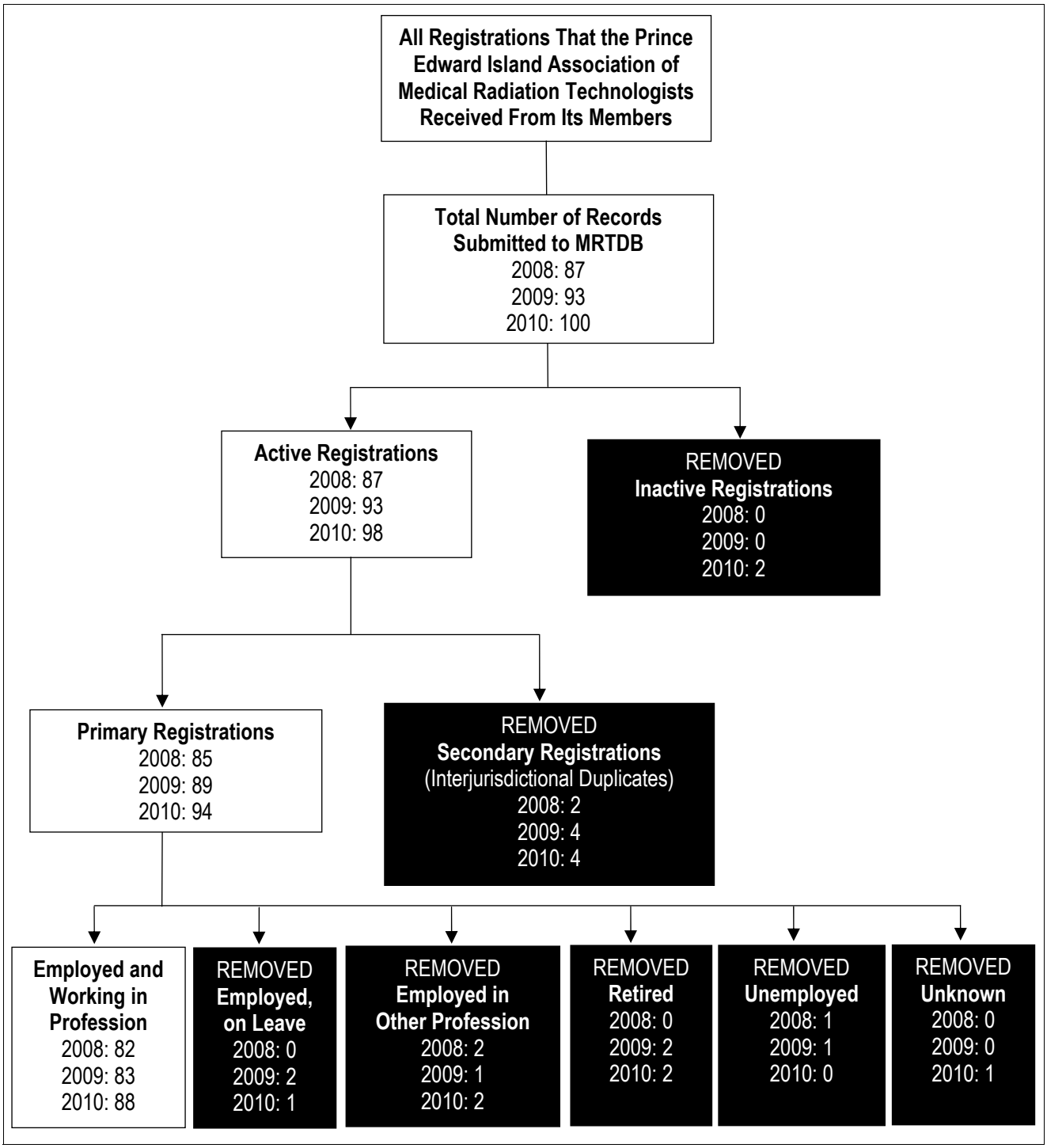
† Value suppressed to ensure confidentiality.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Prince Edward Island Association of Medical Radiation Technologists to CIHI



2010 Data Highlights for Medical Radiation Technologists in Nova Scotia

Workforce Supply and Demographics

- Nova Scotia had 492 MRTs registered in the MRT workforce in 2010.
- The majority of the MRT workforce in Nova Scotia was female (85.0%).
- Of all the provinces that require mandatory registration, Nova Scotia had the highest average age (46) for the MRT workforce in 2010.
- Members of this workforce who were younger than 35 accounted for only 14.6% of the total workforce, approximately half the percentage of the other Atlantic provinces (Newfoundland and Labrador, 42.3%; P.E.I., 31.8%; and New Brunswick, 39.0%). Close to two-thirds of the workforce was age 35 to 54 (64.8%), the highest percentage among all the provinces.

Nova Scotia MRT Workforce Profile

Nova Scotia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**545**		**514**		**492**	
Gender	Female	459	84.2%	434	84.4%	418	85.0%
	Male	86	15.8%	80	15.6%	74	15.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	43.9		45.2		46.0	
Age Group	<35	111	20.4%	88	17.1%	72	14.6%
	35–54	342	62.8%	329	64.0%	319	64.8%
	55+	84	15.4%	91	17.7%	96	19.5%
	Unknown	8	1.5%	6	1.2%	5	1.0%
Level of Basic Education in MRT	Diploma	–	–	–	–	–	–
	Baccalaureate	–	–	–	–	–	–
	Master's	–	–	–	–	–	–
	Doctorate	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Location of Graduation for Basic Education in MRT	Canadian-Trained	–	–	–	–	–	–
	Foreign-Trained	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
New Graduates in MRT	Yes—Graduated Within Last Two Years	–	–	–	–	–	–
	No—Graduated Longer Than Two Years Ago	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Highest Level of Education in MRT	Diploma	–	–	–	–	–	–
	Post-Secondary Certificate	–	–	–	–	–	–
	Baccalaureate	–	–	–	–	–	–
	Master's	–	–	–	–	–	–
	Doctorate	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Number of Certifications	Single Certification	–	–	–	–	–	–
	Multiple Certifications	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Initial MRT Certification Discipline	Magnetic Resonance Imaging	–	–	–	–	–	–
	Nuclear Medicine	–	–	–	–	–	–
	Radiation Therapy	–	–	–	–	–	–
	Radiological Technology	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Multiple Employment Status	Single Employer	–	–	–	–	–	–
	Multiple Employers	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	–	–
	22.5–37.4	–	–	–	–	–	–
	37.5+	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Primary Employment							
Employment Category	Permanent Employee	–	–	–	–	–	–
	Temporary Employee	–	–	–	–	–	–
	Casual Employee	–	–	–	–	–	–
	Self-Employed	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Full-Time/ Part-Time Status	Full Time	–	–	–	–	–	–
	Part Time	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Place of Employment	General Hospital	–	–	–	–	–	–
	Community Health Centre	–	–	–	–	–	–
	Cancer Care	–	–	–	–	–	–
	Free-Standing Imaging Facility/Clinic	–	–	–	–	–	–
	Mobile Imaging Unit	–	–	–	–	–	–
	Post-Secondary Educational Institution	–	–	–	–	–	–
	Association/Government/Para-Governmental	–	–	–	–	–	–
	Industry, Manufacturing and Commercial	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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Nova Scotia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	–	–	–	–	–	–
	Supervisor	–	–	–	–	–	–
	Charge Technologist/Team Leader	–	–	–	–	–	–
	Staff Technologist	–	–	–	–	–	–
	Radiation Safety Officer	–	–	–	–	–	–
	Consultant	–	–	–	–	–	–
	Information System Specialist	–	–	–	–	–	–
	Quality Management Specialist	–	–	–	–	–	–
	Educator	–	–	–	–	–	–
	Researcher	–	–	–	–	–	–
	Sales	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	–	–	–	–
	No	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	–	–
	Administration	–	–	–	–	–	–
	Information Systems	–	–	–	–	–	–
	Teaching, Medical Radiation Technology–Related	–	–	–	–	–	–
	Research	–	–	–	–	–	–
	Other Major Function	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
	Cannot Identify One Main Area of Practice	–	–	–	–	–	–
	Not Applicable	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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Nova Scotia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Health Region	Zone 1 (South Shore and South West Health Authorities)	–	–	–	–	–	–
	Zone 2 (Annapolis Valley Health Authority)	–	–	–	–	–	–
	Zone 3 (Colchester East Hants and Cumberland Health Authorities)	–	–	–	–	–	–
	Zone 4 (Pictou County and Guysborough Antigonish Strait Health Authorities)	–	–	–	–	–	–
	Zone 5 (Cape Breton Health Authority)	–	–	–	–	–	–
	Zone 6 (Capital Health Authority)	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

Notes

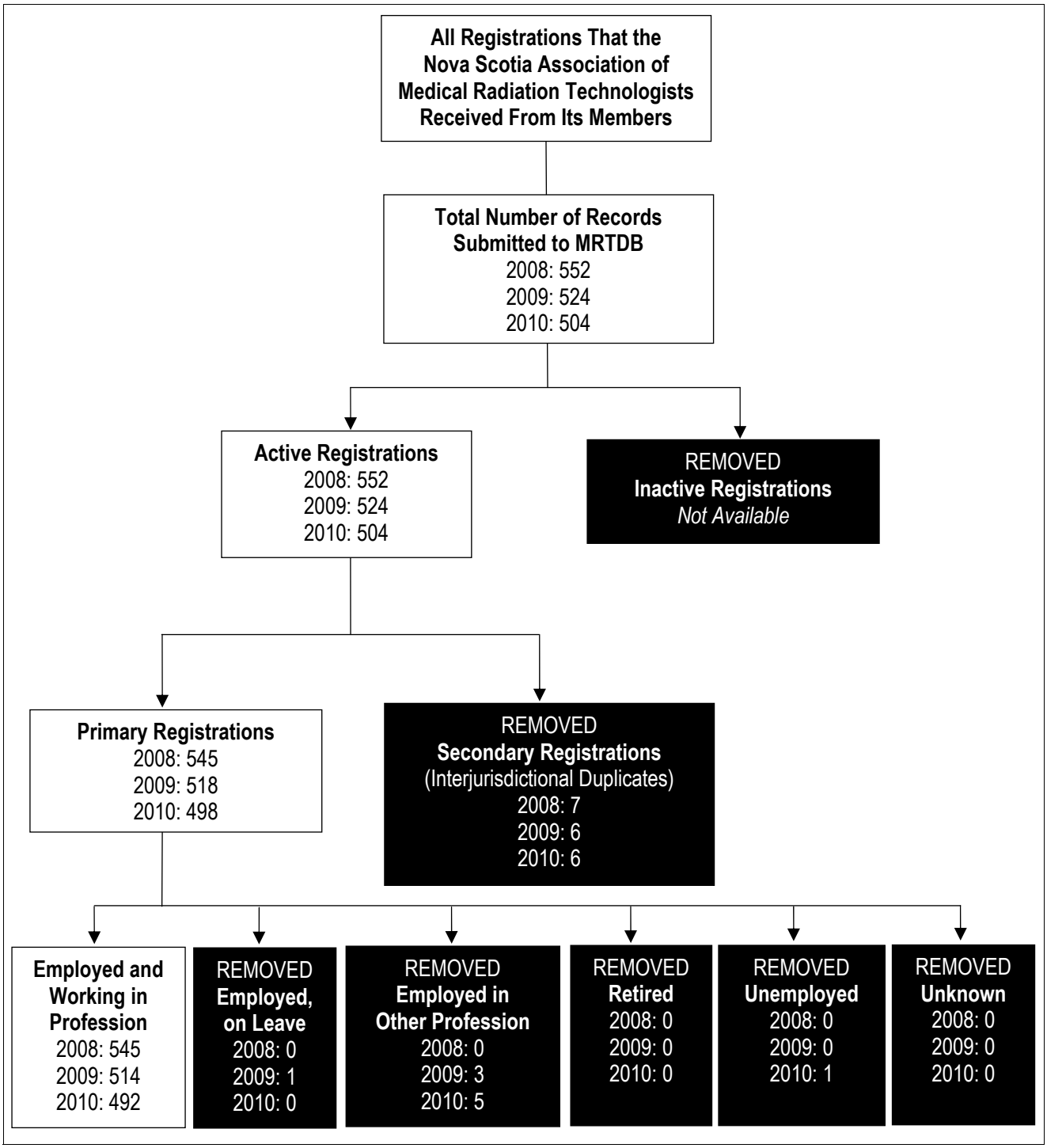
− Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Nova Scotia Association of Medical Radiation Technologists to CIHI



2010 Data Highlights for Medical Radiation Technologists in New Brunswick

Workforce Supply and Demographics

- New Brunswick had 556 MRTs registered in the MRT workforce in 2010.
- The majority of the MRT workforce in New Brunswick was female (85.6%), almost five percentage points higher than the average of all provinces.
- The average age for the New Brunswick MRT workforce was 39.4.
- Members of this MRT workforce who were younger than age 35 represented 39.0% of the total workforce.

Education, Certification and Specialty Certificate

- In 2010, 84.2% of the MRT workforce in New Brunswick held a diploma in medical radiation technology as their basic education; the remaining 15.8% held a baccalaureate degree.
- In New Brunswick, 7.7% of the MRT workforce had graduated from an MRT training program for basic education within the past two years.
- After taking into account levels of post-basic education, the percentage of the New Brunswick MRT workforce with a baccalaureate degree as their highest level of education was 16.9%.

Primary Employment

- In 2010, 87.9% of the New Brunswick MRT workforce were permanent employees in their place of primary employment.
- The majority (95.7%) of the MRT workforce was employed in general hospitals in New Brunswick.
- More than one-tenth (10.7%) of the MRT workforce in New Brunswick worked at a management position (manager or supervisor).
- The top four primary areas in which the New Brunswick MRT workforce practised were radiological technology (general), 53.8%; computed tomography, 9.5%; radiation therapy (general), 7.8%; and nuclear medicine (general), 7.2%.
- The New Brunswick workforce worked primarily in three regions: Moncton Region (30.4%), Saint John Region (26.1%) and Fredericton Region (15.1%).

Total Usual Weekly Hours of Work

- In 2010, more than three-quarters (75.9%) of the MRT workforce in New Brunswick worked 37.5 hours or more per week.
- More than one-tenth (15.1%) of the workforce worked between 22.5 hours and 37.4 hours per week. Approximately another one-tenth (9.0%) of the workforce worked fewer than 22.5 hours per week.

New Brunswick MRT Workforce Profile

New Brunswick—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**518**		**514**		**556**	
Gender	Female	448	86,5%	443	86,2%	476	85,6%
	Male	70	13,5%	71	13,8%	80	14,4%
	Unknown	0	0,0%	0	0,0%	0	0,0%
Average Age	Years	40,2		40,2		39,4	
Age Group	<35	188	36,3%	186	36,2%	217	39,0%
	35–54	263	50,8%	264	51,4%	277	49,8%
	55+	66	12,7%	64	12,5%	62	11,2%
	Unknown	1	0,2%	0	0,0%	0	0,0%
Level of Basic Education in MRT	Diploma	454	87,6%	453	88,1%	468	84,2%
	Baccalaureate	56	10,8%	61	11,9%	88	15,8%
	Master's	0	0,0%	0	0,0%	0	0,0%
	Doctorate	0	0,0%	0	0,0%	0	0,0%
	Unknown	8	1,5%	0	0,0%	0	0,0%
Location of Graduation for Basic Education in MRT	Canadian-Trained	–	–	–	–	–	–
	Foreign-Trained	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
New Graduates in MRT	Yes—Graduated Within Last Two Years	29	5,6%	22	4,3%	43	7,7%
	No—Graduated Longer Than Two Years Ago	481	92,9%	492	95,7%	513	92,3%
	Unknown	8	1,5%	0	0,0%	0	0,0%
Highest Level of Education in MRT	Diploma	453	87,5%	353	68,7%	361	64,9%
	Post-Secondary Certificate	0	0,0%	94	18,3%	101	18,2%
	Baccalaureate	57	11,0%	67	13,0%	94	16,9%
	Master's	0	0,0%	0	0,0%	0	0,0%
	Doctorate	0	0,0%	0	0,0%	0	0,0%
	Unknown	8	1,5%	0	0,0%	0	0,0%
Number of Certifications	Single Certification	112	21,6%	173	33,7%	225	40,5%
	Multiple Certifications	406	78,4%	341	66,3%	331	59,5%
	Unknown	0	0,0%	0	0,0%	0	0,0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0,0%	7	1,4%	–	–
	Nuclear Medicine	50	9,7%	45	8,8%	–	–
	Radiation Therapy	48	9,3%	44	8,6%	–	–
	Radiological Technology	409	79,0%	374	72,8%	–	–
	Other	11	2,1%	20	3,9%	–	–
	Unknown	0	0,0%	24	4,7%	–	–
Multiple Employment Status	Single Employer	518	100,0%	508	98,8%	552	99,3%
	Multiple Employers	0	0,0%	0	0,0%	0	0,0%
	Unknown	0	0,0%	6	1,2%	4	0,7%
Total Usual Weekly Hours of Work	<22.5	–	–	50	9,7%	50	9,0%
	22.5–37.4	–	–	64	12,5%	84	15,1%
	37.5+	–	–	400	77,8%	422	75,9%
	Unknown	–	–	0	0,0%	0	0,0%
Primary Employment							
Employment Category	Permanent Employee	–	–	466	90,7%	489	87,9%
	Temporary Employee	–	–	11	2,1%	9	1,6%
	Casual Employee	–	–	31	6,0%	54	9,7%
	Self-Employed	–	–	0	0,0%	0	0,0%
	Unknown	–	–	6	1,2%	4	0,7%
Full-Time/ Part-Time Status	Full Time	–	–	–	–	–	–
	Part Time	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Place of Employment	General Hospital	492	95,0%	489	95,1%	532	95,7%
	Community Health Centre	16	3,1%	1†	†	7	1,3%
	Cancer Care	0	0,0%	0	0,0%	0	0,0%
	Free-Standing Imaging Facility/Clinic	0	0,0%	*	*	†	†
	Mobile Imaging Unit	0	0,0%	0	0,0%	0	0,0%
	Post-Secondary Educational Institution	*	*	*	*	*	*
	Association/Government/Para-Governmental	0	0,0%	0	0,0%	0	0,0%
	Industry, Manufacturing and Commercial	0	0,0%	0	0,0%	0	0,0%
	Other	†	†	*	*	*	*
	Unknown	0	0,0%	7	1,4%	6	1,1%

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New Brunswick—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	–	–	21	4.1%	22	4.0%
	Supervisor	–	–	37	7.2%	37	6.7%
	Charge Technologist/Team Leader	–	–	0	0.0%	0	0.0%
	Staff Technologist	–	–	43†	†	476	85.6%
	Radiation Safety Officer	–	–	0	0.0%	0	0.0%
	Consultant	–	–	*	*	0	0.0%
	Information System Specialist	–	–	0	0.0%	0	0.0%
	Quality Management Specialist	–	–	0	0.0%	0	0.0%
	Educator	–	–	15	2.9%	1†	†
	Researcher	–	–	0	0.0%	0	0.0%
	Sales	–	–	0	0.0%	0	0.0%
	Other	–	–	*	*	*	*
	Unknown	–	–	6	1.2%	4	0.7%
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	–	–	–	–
	No	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	–	–
	Administration	–	–	–	–	–	–
	Information Systems	–	–	–	–	–	–
	Teaching, Medical Radiation Technology–Related	–	–	–	–	–	–
	Research	–	–	–	–	–	–
	Other Major Function	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Area of Practice	Magnetic Resonance Imaging (General)	–	–	35	6.0%	38	5.6%
	Nuclear Medicine (General)	–	–	47	8.0%	49	7.2%
	Radiation Therapy (General)	–	–	51	8.7%	53	7.8%
	Radiological Technology (General)	–	–	326	55.8%	364	53.8%
	Angiography/Interventional	–	–	19	3.3%	24	3.5%
	Bone Mineral Densitometry	–	–	8	1.4%	15	2.2%
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	35	6.0%	47	6.9%
	Computed Tomography (CT)	–	–	44	7.5%	64	9.5%
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	19	3.3%	23	3.4%
	Other Area of Practice	–	–	–	–	–	–
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
	Cannot Identify One Main Area of Practice	–	–	–	–	–	–
	Not Applicable	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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New Brunswick—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Health Region	Zone 1 (Moncton area)	154	29,7%	158	30,7%	169	30,4%
	Zone 2 (Saint John area)	142	27,4%	141	27,4%	145	26,1%
	Zone 3 (Fredericton area)	73	14,1%	77	15,0%	84	15,1%
	Zone 4 (Edmundston area)	30	5,8%	31	6,0%	35	6,3%
	Zone 5 (Campbellton area)	22	4,2%	18	3,5%	20	3,6%
	Zone 6 (Bathurst area)	54	10,4%	47	9,1%	53	9,5%
	Zone 7 (Miramichi area)	19	3,7%	23	4,5%	25	4,5%
	Unknown	24	4,6%	19	3,7%	25	4,5%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

− Data is not applicable, not collected or does not meet data selection criteria.

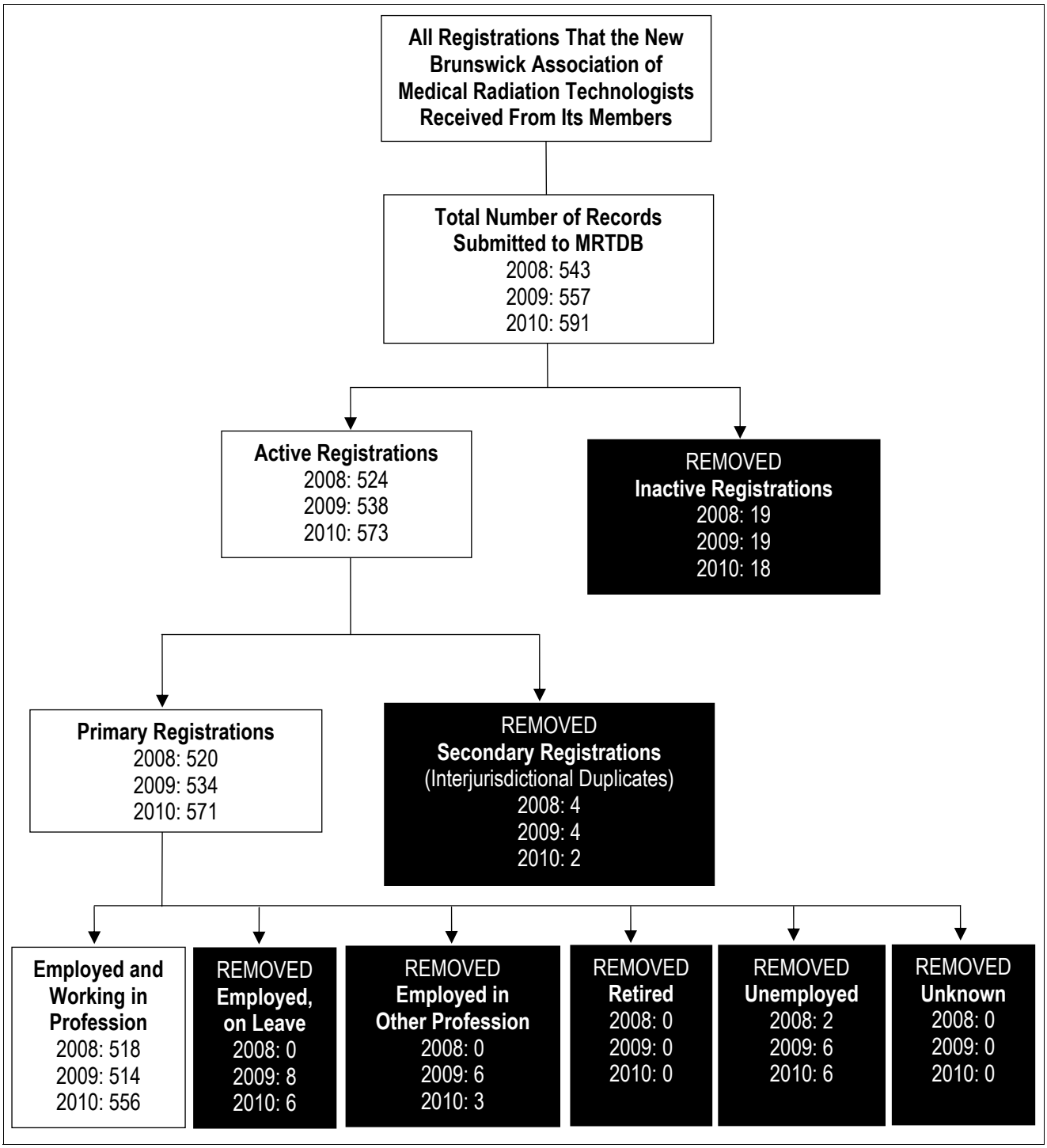
Totals may not equal 100% due to rounding.

On September 1, 2008, eight regional health authorities in New Brunswick amalgamated into two. Nevertheless, the data in this table has been reported using the boundaries in effect as of December 2007, in accordance with Statistics Canada's Postal Code Conversion File. Further details about boundaries can be found at http://www.statcan.gc.ca/.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the New Brunswick Association of Medical Radiation Technologists to CIHI



2010 Data Highlights for Medical Radiation Technologists in Quebec

Workforce Supply and Demographics

- In 2010, Quebec had 4,610 MRTs registered in the MRT workforce.
- The majority (84.3%) of the MRT workforce in Quebec was female.
- The average age of the Quebec MRT workforce was 40.1.
- MRTs younger than age 35 accounted for 37.8% of the workforce, the third-highest proportion among all the provinces.

Education and Certification

- In 2010, most members of the Quebec MRT workforce (93.6%) held a diploma in medical radiation technology for their basic education.
- Of the Quebec MRT workforce, 8.8% had graduated from basic education programs in medical radiation technology within the past two years.
- A small percentage (1.5%) of the Quebec MRT workforce was foreign-trained.
- The majority of the Quebec MRT workforce (78.1%) chose radiological technology for their initial MRT certification, while one-tenth of the workforce chose either radiation therapy (11.3%) or nuclear medicine (10.0%).

Primary Employment

- In 2010, most members of the Quebec MRT workforce (86.8%) were permanent employees for their primary employment.
- The majority of the Quebec MRT workforce worked in either general hospitals (83.8%) or free-standing imaging facilities or clinics (11.0%).
- Approximately 84.2% of the MRT workforce in Quebec were staff technologists.
- More than one-third (38.1%) of the MRT workforce practised in the Région de Montréal health region.

Quebec MRT Workforce Profile

Quebec—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**4,279**		**4,471**		**4,610**	
Gender	Female	3,631	84.9%	3,783	84.6%	3,884	84.3%
	Male	648	15.1%	688	15.4%	724	15.7%
	Unknown	0	0.0%	0	0.0%	2	0.0%
Average Age	Years	41.0		40.5		40.1	
Age Group	<35	1,441	33.7%	1,610	36.0%	1,743	37.8%
	35–54	2,226	52.0%	2,219	49.6%	2,210	47.9%
	55+	612	14.3%	642	14.4%	657	14.3%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Level of Basic Education in MRT	Diploma	3,988	93.2%	4,185	93.6%	4,316	93.6%
	Baccalaureate	0	0.0%	0	0.0%	0	0.0%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	291	6.8%	286	6.4%	294	6.4%
Location of Graduation for Basic Education in MRT	Canadian-Trained	4,156	97.1%	4,347	97.2%	4,478	97.1%
	Foreign-Trained	67	1.6%	68	1.5%	71	1.5%
	Unknown	56	1.3%	56	1.3%	61	1.3%
New Graduates in MRT	Yes—Graduated Within Last Two Years	333	7.8%	385	8.6%	406	8.8%
	No—Graduated Longer Than Two Years Ago	3,699	86.4%	3,839	85.9%	3,953	85.7%
	Unknown	247	5.8%	247	5.5%	251	5.4%
Highest Level of Education in MRT	Diploma	3,953	92.4%	4,114	92.0%	4,227	91.7%
	Post-Secondary Certificate	34	0.8%	74	1.7%	88	1.9%
	Baccalaureate	7	0.2%	*	*	*	*
	Master's	16	0.4%	1†	†	1†	†
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	269	6.3%	268	6.0%	278	6.0%
Number of Certifications	Single Certification	4,276	99.9%	4,468	99.9%	4,607	99.9%
	Multiple Certifications	0	0.0%	0	0.0%	0	0.0%
	Unknown	3	0.1%	3	0.1%	3	0.1%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	0	0.0%
	Nuclear Medicine	445	10.4%	459	10.3%	463	10.0%
	Radiation Therapy	460	10.8%	486	10.9%	523	11.3%
	Radiological Technology	3,368	78.7%	3,514	78.6%	3,602	78.1%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	6	0.1%	12	0.3%	22	0.5%
Multiple Employment Status	Single Employer	–	–	3,768	84.3%	–	–
	Multiple Employers	–	–	703	15.7%	–	–
	Unknown	–	–	0	0.0%	–	–
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	–	–
	22.5–37.4	–	–	–	–	–	–
	37.5+	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Primary Employment							
Employment Category	Permanent Employee	3,818	89.2%	3,952	88.4%	4,002	86.8%
	Temporary Employee	301	7.0%	347	7.8%	406	8.8%
	Casual Employee	126	2.9%	125	2.8%	137	3.0%
	Self-Employed	0	0.0%	0	0.0%	0	0.0%
	Unknown	34	0.8%	47	1.1%	65	1.4%
Full-Time/ Part-Time Status	Full Time	3,264	76.3%	3,439	76.9%	3,544	76.9%
	Part Time	855	20.0%	860	19.2%	864	18.7%
	Unknown	160	3.7%	172	3.8%	202	4.4%
Place of Employment	General Hospital	3,617	84.5%	3,755	84.0%	3,865	83.8%
	Community Health Centre	51	1.2%	57	1.3%	50	1.1%
	Cancer Care	0	0.0%	0	0.0%	0	0.0%
	Free-Standing Imaging Facility/Clinic	472	11.0%	504	11.3%	506	11.0%
	Mobile Imaging Unit	0	0.0%	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	72	1.7%	75	1.7%	83	1.8%
	Association/Government/Para-Governmental	*	*	*	*	*	*
	Industry, Manufacturing and Commercial	23	0.5%	30	0.7%	33	0.7%
	Other	3†	†	3†	†	4†	†
	Unknown	4	0.1%	9	0.2%	29	0.6%

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Quebec—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	55	1.3%	55	1.2%	56	1.2%
	Supervisor	187	4.4%	175	3.9%	177	3.8%
	Charge Technologist/Team Leader	112	2.6%	104	2.3%	103	2.2%
	Staff Technologist	3,625	84.7%	3,815	85.3%	3,880	84.2%
	Radiation Safety Officer	0	0.0%	0	0.0%	0	0.0%
	Consultant	*	*	*	*	*	*
	Information System Specialist	7	0.2%	22	0.5%	27	0.6%
	Quality Management Specialist	*	*	0	0.0%	0	0.0%
	Educator	94	2.2%	9†	†	157	3.4%
	Researcher	*	*	*	*	*	*
	Sales	19	0.4%	23	0.5%	25	0.5%
	Other	168	3.9%	167	3.7%	153	3.3%
	Unknown	7	0.2%	13	0.3%	28	0.6%
Clinical Education/ Preceptor Activity Indicator	Yes	1,024	23.9%	1,159	25.9%	1,320	28.6%
	No	3,255	76.1%	3,309	74.0%	3,275	71.0%
	Unknown	0	0.0%	3	0.1%	15	0.3%
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	–	–
	Administration	–	–	–	–	–	–
	Information Systems	–	–	–	–	–	–
	Teaching, Medical Radiation Technology–Related	–	–	–	–	–	–
	Research	–	–	–	–	–	–
	Other Major Function	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	310	7.3%
	Nuclear Medicine (General)	–	–	–	–	366	8.7%
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	1,555	36.8%
	Angiography/Interventional	–	–	–	–	96	2.3%
	Bone Mineral Densitometry	–	–	–	–	46	1.1%
	Brachytherapy	–	–	–	–	18	0.4%
	Breast Imaging	–	–	–	–	245	5.8%
	Computed Tomography (CT)	–	–	–	–	346	8.2%
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	43	1.0%
	Positron Emission Tomography (PET)	–	–	–	–	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	31	0.7%
	Simulation	–	–	–	–	34	0.8%
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	0	0.0%
	Treatment Planning	–	–	–	–	72	1.7%
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	400	9.5%
	Other Area of Practice	–	–	–	–	661	15.7%
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
	Cannot Identify One Main Area of Practice	–	–	–	–	–	–
	Not Applicable	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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Quebec—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Health Region	Région du Bas-Saint-Laurent	148	3.5%	158	3.5%	154	3.3%
	Région du Saguenay–Lac-Saint-Jean	141	3.3%	151	3.4%	164	3.6%
	Région de la Capitale-Nationale	573	13.4%	600	13.4%	609	13.2%
	Région de la Mauricie et du Centre-du-Québec	235	5.5%	258	5.8%	264	5.7%
	Région de l'Estrie	212	5.0%	226	5.1%	233	5.1%
	Région de Montréal	1,640	38.3%	1,689	37.8%	1,755	38.1%
	Région de l'Outaouais	142	3.3%	150	3.4%	156	3.4%
	Région de l'Abitibi-Témiscamingue	70	1.6%	68	1.5%	64	1.4%
	Région de la Côte-Nord	60	1.4%	53	1.2%	54	1.2%
	Région du Nord-du-Québec	12	0.3%	12	0.3%	15	0.3%
	Région de la Gaspésie–Îles-de-la-Madeleine	57	1.3%	58	1.3%	57	1.2%
	Région de Chaudière-Appalaches	166	3.9%	173	3.9%	179	3.9%
	Région de Laval	133	3.1%	134	3.0%	137	3.0%
	Région de Lanaudière	111	2.6%	117	2.6%	115	2.5%
	Région des Laurentides	160	3.7%	167	3.7%	176	3.8%
	Région de la Montérégie	406	9.5%	442	9.9%	461	10.0%
	Région du Nunavik	7	0.2%	7	0.2%	9	0.2%
	Région des Terres-Cries-de-la-Baie-James	*	*	*	*	*	*
	Unknown‡	*	*	*	*	†	†

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ There were a few records (fewer than six for each year) that stated a health region outside Quebec, although their actual location of employment was in Quebec. The health region is derived from the postal code submitted, which may represent a head office in another province. These records have been included under *unknown*.

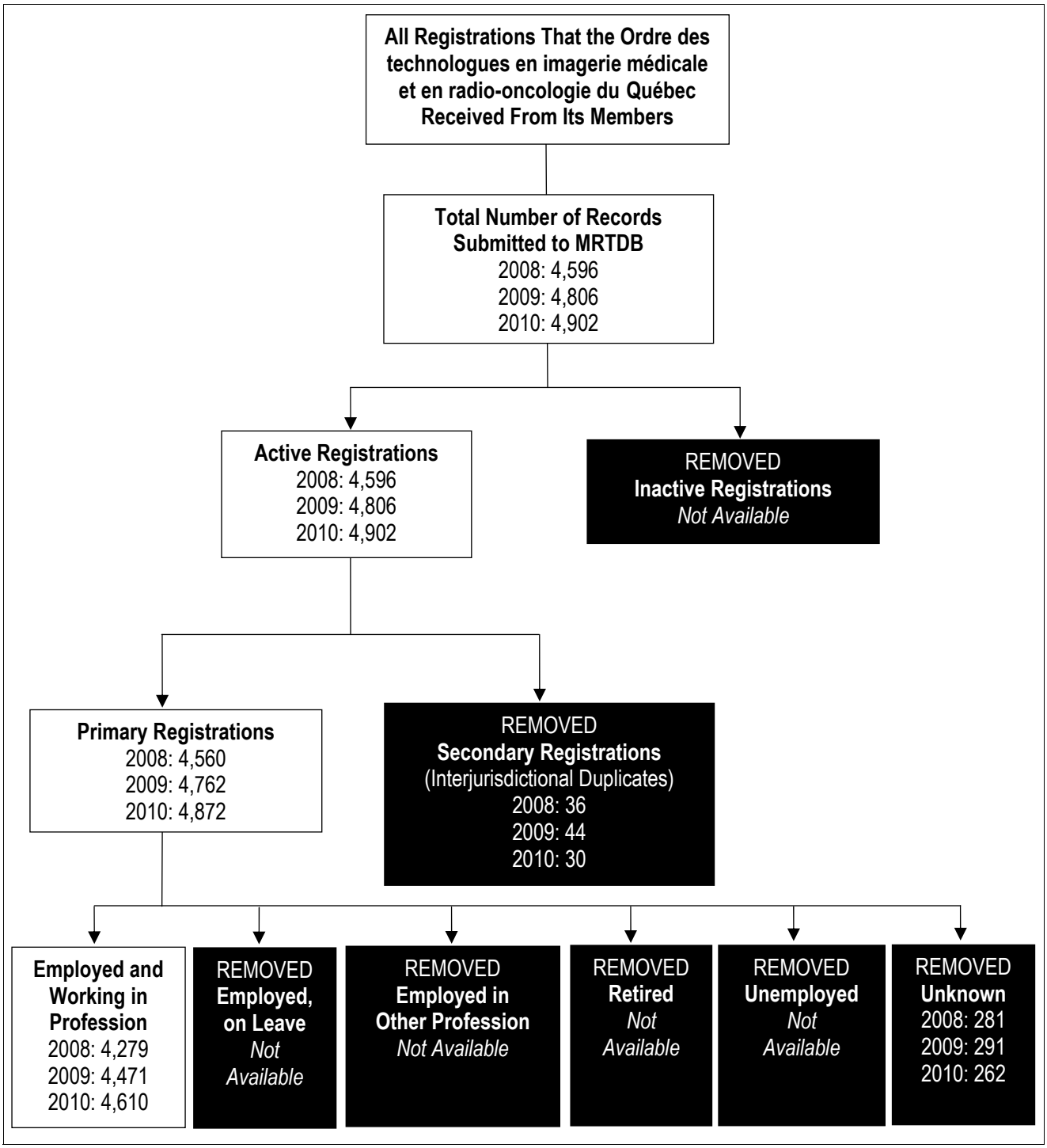
− Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Ordre des technologues en imagerie médicale et en radio-oncologie du Québec to CIHI



2010 Data Highlights for Medical Radiation Technologists in Ontario

Workforce Supply and Demographics

- Ontario had 6,338 MRTs registered in the MRT workforce in 2010.
- More than three-quarters (78.6%) of this workforce were female.
- The average age of the Ontario MRT workforce was 43.
- MRTs younger than age 35 made up 27.3% of the Ontario MRT workforce; 17.9% of the MRT workforce in Ontario were age 55 or older.

Basic Education and Initial Certification

- Internationally educated MRTs in Ontario accounted for 9.1% of the provincial workforce.
- The majority of the Ontario MRT workforce (70.4%) chose radiological technology for their initial MRT certification, while one-tenth of the workforce chose either radiation therapy (13.1%) or nuclear medicine (10.7%).

Primary Employment

- Most Ontario MRTs (85.1%) were permanent employees for their primary employment.
- More than three-quarters (78.0%) of the MRT workforce in Ontario were staff technologists; 9.2% were charge technologists or team leaders and 4.2% were in a management/ supervisor position.
- More than half of the Ontario MRT workforce (53.4%) provided clinical education/ preceptor activities.
- The majority (87.3%) of MRTs indicated that they provided diagnostic and therapeutic services as their major function of primary employment.

Total Usual Weekly Hours of Work

- In 2010, 68.2% of the Ontario MRT workforce worked 37.5 hours or more per week.

Ontario MRT Workforce Profile

Ontario—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**6 030**		**6 154**		**6 338**	
Counts for MRTs Employed in Medical Radiation Technology and Not on Leave		**5 310**					
Gender	Female	4 223	79,5%	4 857	78,9%	4 983	78,6%
	Male	1 087	20,5%	1 297	21,1%	1 355	21,4%
	Unknown	0	0,0%	0	0,0%	0	0,0%
Average Age	Years	42,8		43,1		43,0	
Age Group	<35	1 368	25,8%	1 619	26,3%	1 728	27,3%
	35–54	3 060	57,6%	3 436	55,8%	3 476	54,8%
	55+	882	16,6%	1 099	17,9%	1 134	17,9%
	Unknown	0	0,0%	0	0,0%	0	0,0%
Counts After the Exclusion of Non-Response (Except for Number of Certifications)‡				**5 730**		**5 917**	
Level of Basic Education in MRT	Diploma	4 497	84,7%	4 606	80,4%	–	–
	Baccalaureate	633	11,9%	737	12,9%	–	–
	Master's	1†	†	1†	†	–	–
	Doctorate	*	*	*	*	–	–
	Unknown	167	3,1%	374	6,5%	–	–
Location of Graduation for Basic Education in MRT	Canadian-Trained	–	–	–	–	4 966	83,9%
	Foreign-Trained	–	–	–	–	540	9,1%
	Unknown	–	–	–	–	411	6,9%
New Graduates in MRT	Yes—Graduated Within Last Two Years	–	–	–	–	–	–
	No—Graduated Longer Than Two Years Ago	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Highest Level of Education in MRT	Diploma	–	–	–	–	–	–
	Post-Secondary Certificate	–	–	–	–	–	–
	Baccalaureate	–	–	–	–	–	–
	Master's	–	–	–	–	–	–
	Doctorate	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Number of Certifications	Single Certification	–	–	–	–	–	–
	Multiple Certifications	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Initial MRT Certification Discipline	Magnetic Resonance Imaging	32	0,6%	41	0,7%	39	0,7%
	Nuclear Medicine	590	11,1%	628	11,0%	636	10,7%
	Radiation Therapy	715	13,5%	756	13,2%	777	13,1%
	Radiological Technology	3 968	74,7%	4 155	72,5%	4 164	70,4%
	Other	0	0,0%	0	0,0%	0	0,0%
	Unknown	5	0,1%	150	2,6%	301	5,1%
Multiple Employment Status	Single Employer	–	–	–	–	–	–
	Multiple Employers	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Total Usual Weekly Hours of Work	<22.5	505	9,5%	524	9,1%	532	9,0%
	22.5–37.4	1 063	20,0%	1 168	20,4%	1 232	20,8%
	37.5+	3 657	68,9%	3 921	68,4%	4 036	68,2%
	Unknown	85	1,6%	117	2,0%	117	2,0%
Primary Employment							
Employment Category	Permanent Employee	4 538	85,5%	4 956	86,5%	5 036	85,1%
	Temporary Employee	127	2,4%	124	2,2%	167	2,8%
	Casual Employee	449	8,5%	507	8,8%	545	9,2%
	Self-Employed	9	0,2%	10	0,2%	9	0,2%
	Unknown	187	3,5%	133	2,3%	160	2,7%
Full-Time/ Part-Time Status	Full Time	3 745	70,5%	4 094	71,4%	–	–
	Part Time	1 252	23,6%	1 285	22,4%	–	–
	Unknown	313	5,9%	351	6,1%	–	–

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Ontario—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	–	–	–	–	–	–
	Community Health Centre	–	–	–	–	–	–
	Cancer Care	–	–	–	–	–	–
	Free-Standing Imaging Facility/Clinic	–	–	–	–	–	–
	Mobile Imaging Unit	–	–	–	–	–	–
	Post-Secondary Educational Institution	–	–	–	–	–	–
	Association/Government/Para-Governmental	–	–	–	–	–	–
	Industry, Manufacturing and Commercial	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Position	Manager	153	2.9%	171	3.0%	169	2.9%
	Supervisor	69	1.3%	71	1.2%	74	1.3%
	Charge Technologist/Team Leader	488	9.2%	534	9.3%	547	9.2%
	Staff Technologist	4,163	78.4%	4,466	77.9%	4,613	78.0%
	Radiation Safety Officer	22	0.4%	20	0.3%	17	0.3%
	Consultant	12	0.2%	14	0.2%	15	0.3%
	Information System Specialist	36	0.7%	39	0.7%	42	0.7%
	Quality Management Specialist	11	0.2%	10	0.2%	10	0.2%
	Educator	96	1.8%	114	2.0%	120	2.0%
	Researcher	18	0.3%	24	0.4%	21	0.4%
	Sales	6	0.1%	8	0.1%	8	0.1%
	Other	58	1.1%	61	1.1%	61	1.0%
	Unknown	178	3.4%	198	3.5%	220	3.7%
Clinical Education/ Preceptor Activity Indicator	Yes	2,757	51.9%	3,036	53.0%	3,159	53.4%
	No	2,504	47.2%	2,669	46.6%	2,691	45.5%
	Unknown	49	0.9%	25	0.4%	67	1.1%
Major Function	Diagnostic and Therapeutic Services	4,697	88.5%	5,012	87.5%	5,164	87.3%
	Administration	214	4.0%	243	4.2%	245	4.1%
	Information Systems	42	0.8%	53	0.9%	56	0.9%
	Teaching, Medical Radiation Technology–Related	121	2.3%	140	2.4%	148	2.5%
	Research	27	0.5%	32	0.6%	31	0.5%
	Other Major Function	43	0.8%	45	0.8%	46	0.8%
	Unknown	166	3.1%	205	3.6%	227	3.8%
Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–

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Ontario—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
	Cannot Identify One Main Area of Practice	–	–	–	–	–	–
	Not Applicable	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Health Region	Erie St. Clair	–	–	–	–	–	–
	South West	–	–	–	–	–	–
	Waterloo Wellington	–	–	–	–	–	–
	Hamilton Niagara Haldimand Brant	–	–	–	–	–	–
	Central West	–	–	–	–	–	–
	Mississauga Halton	–	–	–	–	–	–
	Toronto	–	–	–	–	–	–
	Central	–	–	–	–	–	–
	Central East	–	–	–	–	–	–
	South East	–	–	–	–	–	–
	Champlain	–	–	–	–	–	–
	North Simcoe Muskoka	–	–	–	–	–	–
	North East	–	–	–	–	–	–
	North West	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ A number of registrants (424 for 2009 and 421 for 2010) with Employment Status other than *employed in medical radiation technology* (but not on leave) are included for gender, average age, age group and number of certifications. This adjustment resulted in the total of 6,154 in 2009 and 6,338 in 2010 for the workforce and above elements. These records are excluded from the statistics for other data elements, whose total is 5,730 in 2009 and 5,917 in 2010. Refer to the Data Adjustments section of the Methodological Notes for more details.

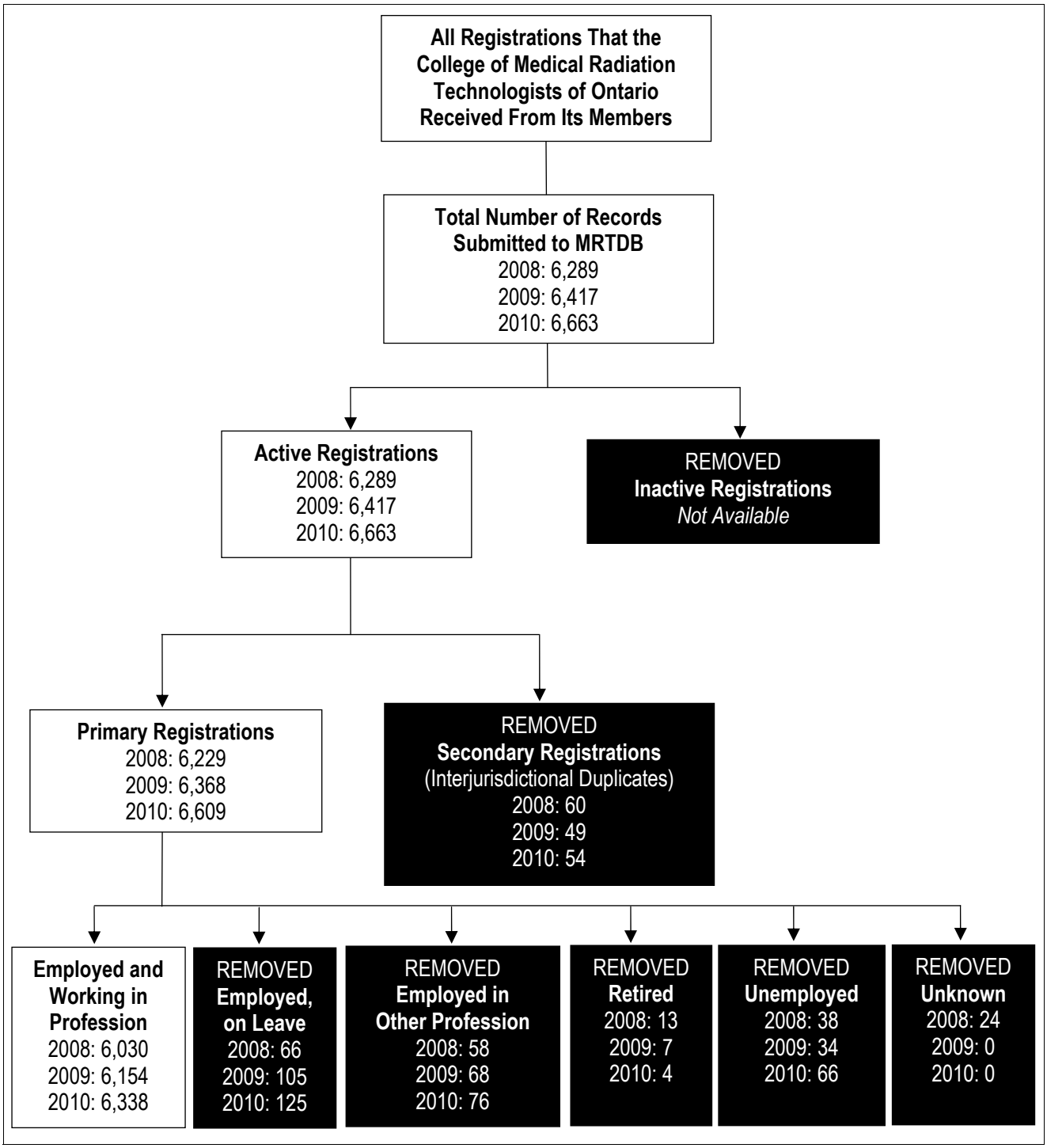
– Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the College of Medical Radiation Technologists of Ontario to CIHI



2010 Data Highlights for Medical Radiation Technologists in Manitoba

Workforce Supply and Demographics

- Manitoba had 671 MRTs registered in the MRT workforce in 2010.
- Female MRTs in Manitoba accounted for 80.8% of the total MRT workforce.
- The average age of the Manitoba MRT workforce was 44.1.
- One-fifth (20.0%) of the MRT workforce in Manitoba were age 55 or older.

Education and Certification

- In 2010, most (98.2%) of the Manitoba MRT workforce was Canadian-trained (for basic education in the profession).
- A small percentage (3.6%) of this workforce had graduated from an MRT training program for basic education within the past two years.
- In 2010, 16.5% of the Manitoba MRT workforce held more than one MRT certification.
- The majority (81.8%) of the Manitoba MRT workforce had their initial MRT certification in radiological technology; a further 10.7% held an initial certification in radiation therapy and another 7.3% were initially certified in nuclear medicine.

Primary Employment

- In 2010, most (89.9%) registered MRTs in Manitoba were permanent employees in their place of primary employment.
- Approximately two-thirds (67.2%) of the Manitoba MRT workforce were employed on a full-time basis.
- For place of primary employment, Manitoba MRTs were employed in general hospitals (66.0%), cancer care centres (11.5%) and other facilities such as free-standing imaging facilities or clinics (11.3%) and community health centres (8.3%).
- The majority (80.0%) of the Manitoba MRT workforce were staff technologists; 11.8% were charge technologists or team leaders and 4.0% were in management positions (managers or supervisors).
- The majority (95.5%) of MRTs indicated that they provided diagnostic and therapeutic services in their place of primary employment.
- More than one-third (37.4%) of the Manitoba MRT workforce provided clinical education/ preceptor activities.
- The top four areas of practice for the majority of the Manitoba MRT workforce were radiological technology (general), 47.4%; computed tomography, 12.2%; radiation therapy (general), 6.5%; and breast imaging, 5.6%.
- The majority (67.7%) of the Manitoba MRT workforce practised in the Winnipeg Regional Health Authority health region.

Manitoba MRT Workforce Profile

Manitoba—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**653**		**684**		**671**	
Gender	Female	522	79.9%	550	80.4%	542	80.8%
	Male	131	20.1%	134	19.6%	129	19.2%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	44.0		43.8		44.1	
Age Group	<35	158	24.2%	178	26.0%	174	25.9%
	35–54	370	56.7%	369	53.9%	360	53.7%
	55+	123	18.8%	136	19.9%	134	20.0%
	Unknown	2	0.3%	1	0.1%	3	0.4%
Level of Basic Education in MRT	Diploma	65†	†	68†	†	66†	†
	Baccalaureate	*	*	*	*	*	*
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Location of Graduation for Basic Education in MRT	Canadian-Trained	639	97.9%	672	98.2%	659	98.2%
	Foreign-Trained	14	2.1%	12	1.8%	12	1.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
New Graduates in MRT	Yes—Graduated Within Last Two Years	44	6.7%	43	6.3%	24	3.6%
	No—Graduated Longer Than Two Years Ago	609	93.3%	641	93.7%	647	96.4%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Highest Level of Education in MRT	Diploma	65†	†	68†	†	66†	†
	Post-Secondary Certificate	0	0.0%	0	0.0%	0	0.0%
	Baccalaureate	*	*	*	*	*	*
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Number of Certifications	Single Certification	543	83.2%	572	83.6%	560	83.5%
	Multiple Certifications	110	16.8%	112	16.4%	111	16.5%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	*	*
	Nuclear Medicine	45	6.9%	48	7.0%	4†	†
	Radiation Therapy	70	10.7%	77	11.3%	7†	†
	Radiological Technology	538	82.4%	559	81.7%	549	81.8%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	593	90.8%	603	88.2%	572	85.2%
	Multiple Employers	60	9.2%	81	11.8%	99	14.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	–	–
	22.5–37.4	–	–	–	–	–	–
	37.5+	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Primary Employment							
Employment Category	Permanent Employee	590	90.4%	606	88.6%	603	89.9%
	Temporary Employee	10	1.5%	21	3.1%	17	2.5%
	Casual Employee	39	6.0%	4†	†	47	7.0%
	Self-Employed	*	*	*	*	*	*
	Unknown	1†	†	8	1.2%	*	*
Full-Time/ Part-Time Status	Full Time	420	64.3%	449	65.6%	451	67.2%
	Part Time	189	28.9%	201	29.4%	190	28.3%
	Unknown	44	6.7%	34	5.0%	30	4.5%

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Manitoba—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	420	64.3%	443	64.8%	443	66.0%
	Community Health Centre	54	8.3%	59	8.6%	56	8.3%
	Cancer Care	74	11.3%	82	12.0%	77	11.5%
	Free-Standing Imaging Facility/Clinic	78	11.9%	76	11.1%	76	11.3%
	Mobile Imaging Unit	*	*	5	0.7%	6	0.9%
	Post-Secondary Educational Institution	8	1.2%	†	†	8	1.2%
	Association/Government/Para-Governmental	0	0.0%	*	*	*	*
	Industry, Manufacturing and Commercial	*	*	*	*	0	0.0%
	Other	*	*	*	*	*	*
	Unknown	14	2.1%	7	1.0%	2	0.3%
Position	Manager	18	2.8%	18	2.6%	19	2.8%
	Supervisor	8	1.2%	8	1.2%	8	1.2%
	Charge Technologist/Team Leader	81	12.4%	89	13.0%	79	11.8%
	Staff Technologist	507	77.6%	534	78.1%	537	80.0%
	Radiation Safety Officer	5	0.8%	6	0.9%	6	0.9%
	Consultant	0	0.0%	0	0.0%	0	0.0%
	Information System Specialist	0	0.0%	0	0.0%	*	*
	Quality Management Specialist	0	0.0%	0	0.0%	0	0.0%
	Educator	20	3.1%	19	2.8%	17	2.5%
	Researcher	0	0.0%	0	0.0%	0	0.0%
	Sales	*	*	*	*	0	0.0%
	Other	*	*	*	*	*	*
	Unknown	11	1.7%	6	0.9%	2	0.3%
Clinical Education/ Preceptor Activity Indicator	Yes	232	35.5%	247	36.1%	251	37.4%
	No	410	62.8%	430	62.9%	419	62.4%
	Unknown	11	1.7%	7	1.0%	1	0.1%
Major Function	Diagnostic and Therapeutic Services	613	93.9%	645	94.3%	641	95.5%
	Administration	14	2.1%	14	2.0%	12	1.8%
	Information Systems	0	0.0%	0	0.0%	0	0.0%
	Teaching, Medical Radiation Technology–Related	1†	†	1†	†	1†	†
	Research	0	0.0%	0	0.0%	0	0.0%
	Other Major Function	*	*	*	*	*	*
	Unknown	10	1.5%	8	1.2%	2	0.3%
Area of Practice	Magnetic Resonance Imaging (General)	27	3.0%	33	3.5%	36	3.6%
	Nuclear Medicine (General)	42	4.7%	43	4.5%	46	4.5%
	Radiation Therapy (General)	61	6.8%	69	7.2%	66	6.5%
	Radiological Technology (General)	480	53.4%	494	51.9%	481	47.5%
	Angiography/Interventional	22	2.4%	2†	†	2†	†
	Bone Mineral Densitometry	11	1.2%	11	1.2%	17	1.7%
	Brachytherapy	7	0.8%	6	0.6%	7	0.7%
	Breast Imaging	48	5.3%	56	5.9%	57	5.6%
	Computed Tomography (CT)	95	10.6%	112	11.8%	124	12.3%
	Computed Tomography Simulator (CT/Sim)	15	1.7%	16	1.7%	16	1.6%
	Positron Emission Tomography (PET)	0	0.0%	*	*	*	*
	Positron Emission Tomography/Computed Tomography (PET/CT)	7	0.8%	12	1.3%	13	1.3%
	Simulation	16	1.8%	15	1.6%	16	1.6%
	Single Photon Emission Computed Tomography (SPECT)	15	1.7%	20	2.1%	30	3.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	6	0.7%	9	0.9%	16	1.6%
	Treatment Planning	12	1.3%	16	1.7%	17	1.7%
	Ultrasound/Diagnostic Medical Sonography	7	0.8%	10	1.1%	11	1.1%
	Other Area of Practice	28	3.1%	30	3.2%	34	3.4%

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Manitoba—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	23	3.5%	29	4.2%	32	4.8%
	Nuclear Medicine (General)	38	5.8%	41	6.0%	43	6.4%
	Radiation Therapy (General)	56	8.6%	58	8.5%	55	8.2%
	Radiological Technology (General)	457	70.0%	431	63.0%	405	60.4%
	Angiography/Interventional	5	0.8%	9	1.3%	10	1.5%
	Bone Mineral Densitometry	*	*	*	*	*	*
	Brachytherapy	*	*	0	0.0%	0	0.0%
	Breast Imaging	20	3.1%	32	4.7%	33	4.9%
	Computed Tomography (CT)	20	3.1%	46	6.7%	60	8.9%
	Computed Tomography Simulator (CT/Sim)	0	0.0%	0	0.0%	0	0.0%
	Positron Emission Tomography (PET)	0	0.0%	0	0.0%	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	*	*	*	*	*	*
	Simulation	*	*	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography (SPECT)	0	0.0%	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	0	0.0%	0	0.0%	0	0.0%
	Treatment Planning	*	*	6	0.9%	5	0.7%
	Ultrasound/Diagnostic Medical Sonography	*	*	*	*	*	*
	Other Area of Practice	5	0.8%	7	1.0%	7	1.0%
	Cannot Identify One Main Area of Practice	14	2.1%	14	2.0%	14	2.1%
	Not Applicable	0	0.0%	0	0.0%	2	0.3%
	Unknown	9	1.4%	6	0.9%	0	0.0%
Health Region	Winnipeg Regional Health Authority	438	67.1%	461	67.4%	454	67.7%
	Brandon Regional Health Authority	37	5.7%	36	5.3%	38	5.7%
	North Eastman Regional Health Authority	*	*	5	0.7%	5	0.7%
	South Eastman Regional Health Authority	10	1.5%	†	†	1†	†
	Interlake Regional Health Authority	25	3.8%	29	4.2%	25	3.7%
	Central Regional Health Authority	31	4.7%	36	5.3%	37	5.5%
	Assiniboine Regional Health Authority	36	5.5%	35	5.1%	36	5.4%
	Parkland Regional Health Authority	14	2.1%	20	2.9%	17	2.5%
	NOR-MAN Regional Health Authority	12	1.8%	14	2.0%	14	2.1%
	Burntwood Regional Health Authority	11	1.7%	11	1.6%	13	1.9%
	Churchill Regional Health Authority	*	*	*	*	*	*
	Unknown	35	5.4%	29	4.2%	15	2.2%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

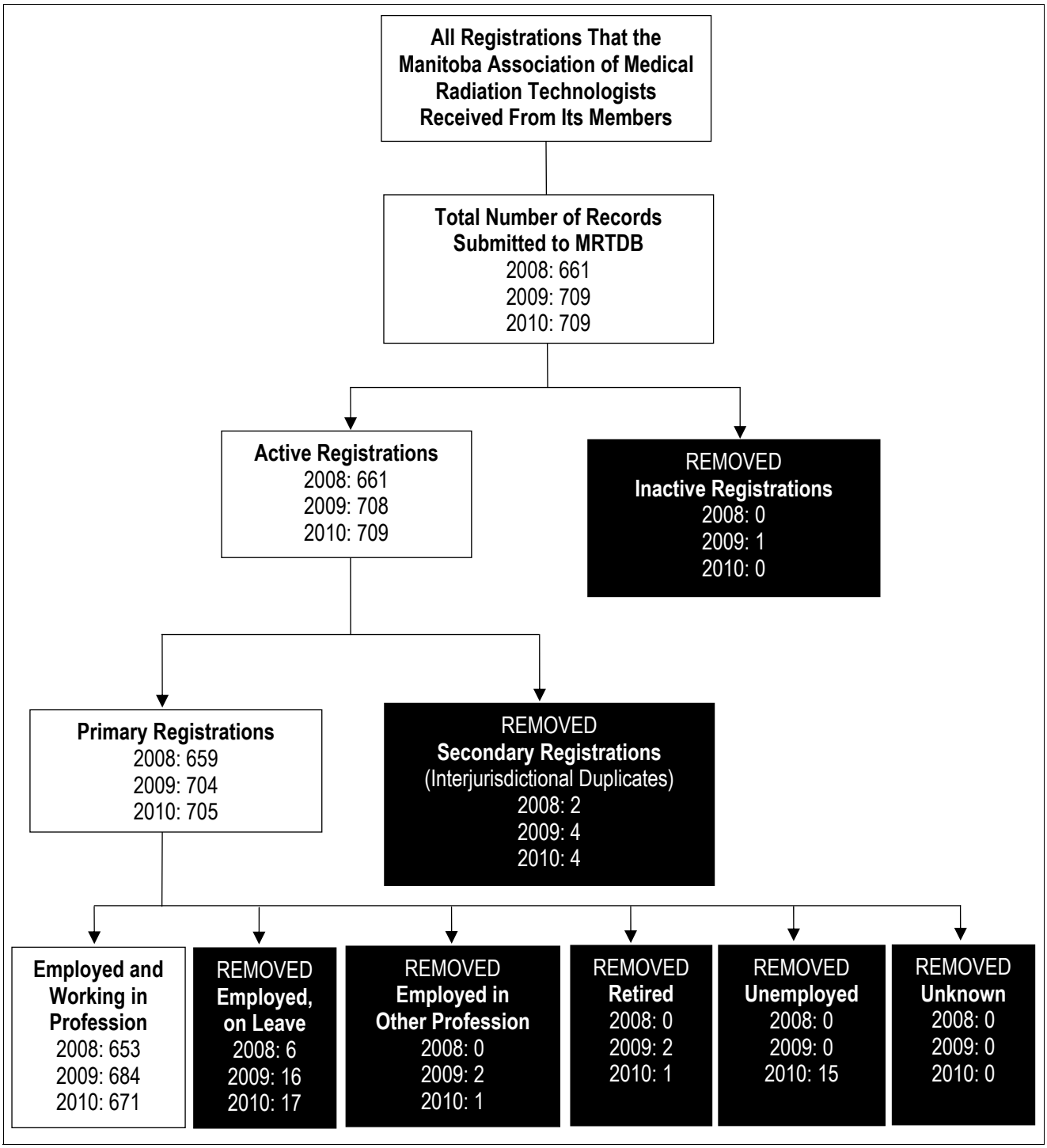
− Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Manitoba Association of Medical Radiation Technologists to CIHI



2010 Data Highlights for Medical Radiation Technologists in Saskatchewan

Workforce Supply and Demographics

- Saskatchewan had 468 MRTs registered in the MRT workforce in 2010.
- Female MRTs in Saskatchewan accounted for 80.1% of the workforce.
- The average age of the Saskatchewan MRT workforce was 42.
- Half (50.4%) of the MRT workforce in Saskatchewan was age 35 to 54.

Education and Certification

- In 2010, most (97.9%) of the Saskatchewan MRT workforce was Canadian-trained (for basic education in the profession).
- A small percentage (6.0%) of this workforce had graduated from an MRT training program for basic education within the past two years.
- The majority (78.0%) of the Saskatchewan MRT workforce had their initial MRT certification in radiological technology, a further 12.4% in radiation therapy and another 9.2% in nuclear medicine.

Primary Employment

- In 2010, most (88.0%) registered MRTs in Saskatchewan were permanent employees for their primary employment.
- Approximately three-quarters (76.3%) of the Saskatchewan MRT workforce were employed on a full-time basis.
- The majority (77.1%) of the Saskatchewan MRT workforce were staff technologists; 11.5% had management positions (managers or supervisors) and 4.9% were charge technologists or team leaders.
- In 2010, 63.9% of MRTs in Saskatchewan offered clinical education/preceptor activities at their workplace.
- The majority (87.4%) of MRTs indicated that they provided diagnostic and therapeutic services in their place of primary employment.
- The top four areas of practice for the majority of the Saskatchewan MRT workforce were radiological technology (general), 38.1%; computed tomography, 10.5%; breast imaging, 7.6%; and radiation therapy (general), 6.7%.
- The two main health regions where Saskatchewan MRTs were employed were Saskatoon Regional Health Authority (40.8%) and Regina Qu'Appelle Regional Health Authority (35.0%).

Saskatchewan MRT Workforce Profile

Saskatchewan—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**557**		**557**		**468**	
Gender	Female	443	79.5%	442	79.4%	375	80.1%
	Male	114	20.5%	115	20.6%	93	19.9%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	–		–		42.0	
Age Group	<35	–	–	–	–	151	32.3%
	35–54	–	–	–	–	236	50.4%
	55+	–	–	–	–	81	17.3%
	Unknown	–	–	–	–	0	0.0%
Level of Basic Education in MRT	Diploma	–	–	–	–	46†	†
	Baccalaureate	–	–	–	–	*	*
	Master's	–	–	–	–	0	0.0%
	Doctorate	–	–	–	–	0	0.0%
	Unknown	–	–	–	–	0	0.0%
Location of Graduation for Basic Education in MRT	Canadian-Trained	–	–	–	–	458	97.9%
	Foreign-Trained	–	–	–	–	9	1.9%
	Unknown	–	–	–	–	1	0.2%
New Graduates in MRT	Yes—Graduated Within Last Two Years	–	–	–	–	28	6.0%
	No—Graduated Longer Than Two Years Ago	–	–	–	–	435	92.9%
	Unknown	–	–	–	–	5	1.1%
Highest Level of Education in MRT	Diploma	–	–	–	–	46†	†
	Post-Secondary Certificate	–	–	–	–	0	0.0%
	Baccalaureate	–	–	–	–	*	*
	Master's	–	–	–	–	0	0.0%
	Doctorate	–	–	–	–	0	0.0%
	Unknown	–	–	–	–	0	0.0%
Number of Certifications	Single Certification	–	–	–	–	46†	†
	Multiple Certifications	–	–	–	–	*	*
	Unknown	–	–	–	–	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	*	*
	Nuclear Medicine	44	7.9%	43	7.7%	43	9.2%
	Radiation Therapy	77	13.8%	76	13.6%	5†	†
	Radiological Technology	435	78.1%	437	78.5%	365	78.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	1	0.2%	1	0.2%	0	0.0%
Multiple Employment Status	Single Employer	–	–	–	–	436	93.2%
	Multiple Employers	–	–	–	–	32	6.8%
	Unknown	–	–	–	–	0	0.0%
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	42	9.0%
	22.5–37.4	–	–	–	–	90	19.2%
	37.5+	–	–	–	–	324	69.2%
	Unknown	–	–	–	–	12	2.6%
Primary Employment							
Employment Category	Permanent Employee	–	–	–	–	412	88.0%
	Temporary Employee	–	–	–	–	17	3.6%
	Casual Employee	–	–	–	–	3†	†
	Self-Employed	–	–	–	–	*	*
	Unknown	–	–	–	–	1	0.2%
Full-Time/ Part-Time Status	Full Time	–	–	–	–	357	76.3%
	Part Time	–	–	–	–	110	23.5%
	Unknown	–	–	–	–	1	0.2%

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Saskatchewan—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	–	–	–	–	–	–
	Community Health Centre	–	–	–	–	–	–
	Cancer Care	–	–	–	–	–	–
	Free-Standing Imaging Facility/Clinic	–	–	–	–	–	–
	Mobile Imaging Unit	–	–	–	–	–	–
	Post-Secondary Educational Institution	–	–	–	–	–	–
	Association/Government/Para-Governmental	–	–	–	–	–	–
	Industry, Manufacturing and Commercial	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Position	Manager	–	–	–	–	22	4.7%
	Supervisor	–	–	–	–	3†	†
	Charge Technologist/Team Leader	–	–	–	–	23	4.9%
	Staff Technologist	–	–	–	–	361	77.1%
	Radiation Safety Officer	–	–	–	–	*	*
	Consultant	–	–	–	–	*	*
	Information System Specialist	–	–	–	–	9	1.9%
	Quality Management Specialist	–	–	–	–	0	0.0%
	Educator	–	–	–	–	13	2.8%
	Researcher	–	–	–	–	*	*
	Sales	–	–	–	–	0	0.0%
	Other	–	–	–	–	*	*
	Unknown	–	–	–	–	3	0.6%
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	–	–	299	63.9%
	No	–	–	–	–	154	32.9%
	Unknown	–	–	–	–	15	3.2%
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	409	87.4%
	Administration	–	–	–	–	33	7.1%
	Information Systems	–	–	–	–	8	1.7%
	Teaching, Medical Radiation Technology–Related	–	–	–	–	13	2.8%
	Research	–	–	–	–	*	*
	Other Major Function	–	–	–	–	*	*
	Unknown	–	–	–	–	1	0.2%
Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	20	2.5%
	Nuclear Medicine (General)	–	–	–	–	40	5.0%
	Radiation Therapy (General)	–	–	–	–	54	6.7%
	Radiological Technology (General)	–	–	–	–	305	38.1%
	Angiography/Interventional	–	–	–	–	42	5.2%
	Bone Mineral Densitometry	–	–	–	–	15	1.9%
	Brachytherapy	–	–	–	–	16	2.0%
	Breast Imaging	–	–	–	–	61	7.6%
	Computed Tomography (CT)	–	–	–	–	84	10.5%
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	29	3.6%
	Positron Emission Tomography (PET)	–	–	–	–	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	0	0.0%
	Simulation	–	–	–	–	25	3.1%
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	28	3.5%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	29	3.6%
	Treatment Planning	–	–	–	–	21	2.6%
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	6	0.7%
	Other Area of Practice	–	–	–	–	26	3.2%

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Saskatchewan—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	19	4.1%
	Nuclear Medicine (General)	–	–	–	–	38	8.1%
	Radiation Therapy (General)	–	–	–	–	43	9.2%
	Radiological Technology (General)	–	–	–	–	223	47.6%
	Angiography/Interventional	–	–	–	–	24	5.1%
	Bone Mineral Densitometry	–	–	–	–	5	1.1%
	Brachytherapy	–	–	–	–	*	*
	Breast Imaging	–	–	–	–	24	5.1%
	Computed Tomography (CT)	–	–	–	–	49	10.5%
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	*	*
	Positron Emission Tomography (PET)	–	–	–	–	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	0	0.0%
	Simulation	–	–	–	–	0	0.0%
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	0	0.0%
	Treatment Planning	–	–	–	–	9	1.9%
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	*	*
	Other Area of Practice	–	–	–	–	19	4.1%
	Cannot Identify One Main Area of Practice	–	–	–	–	*	*
	Not Applicable	–	–	–	–	6	1.3%
	Unknown	–	–	–	–	1	0.2%
Health Region	Sun Country Regional Health Authority	–	–	–	–	†	†
	Five Hills Regional Health Authority	–	–	–	–	15	3.2%
	Cypress Regional Health Authority	–	–	–	–	14	3.0%
	Regina Qu'Appelle Regional Health Authority	–	–	–	–	164	35.0%
	Sunrise Regional Health Authority	–	–	–	–	20	4.3%
	Saskatoon Regional Health Authority	–	–	–	–	191	40.8%
	Heartland Regional Health Authority	–	–	–	–	*	*
	Kelsey Trail Regional Health Authority	–	–	–	–	14	3.0%
	Prince Albert Parkland Regional Health Authority	–	–	–	–	19	4.1%
	Prairie North Regional Health Authority	–	–	–	–	21	4.5%
	Mamawetan Churchill River Regional Health Authority	–	–	–	–	0	0.0%
	Keewatin Yatthé Regional Health Authority	–	–	–	–	0	0.0%
	Athabasca Health Authority	–	–	–	–	0	0.0%
	Unknown	–	–	–	–	0	0.0%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

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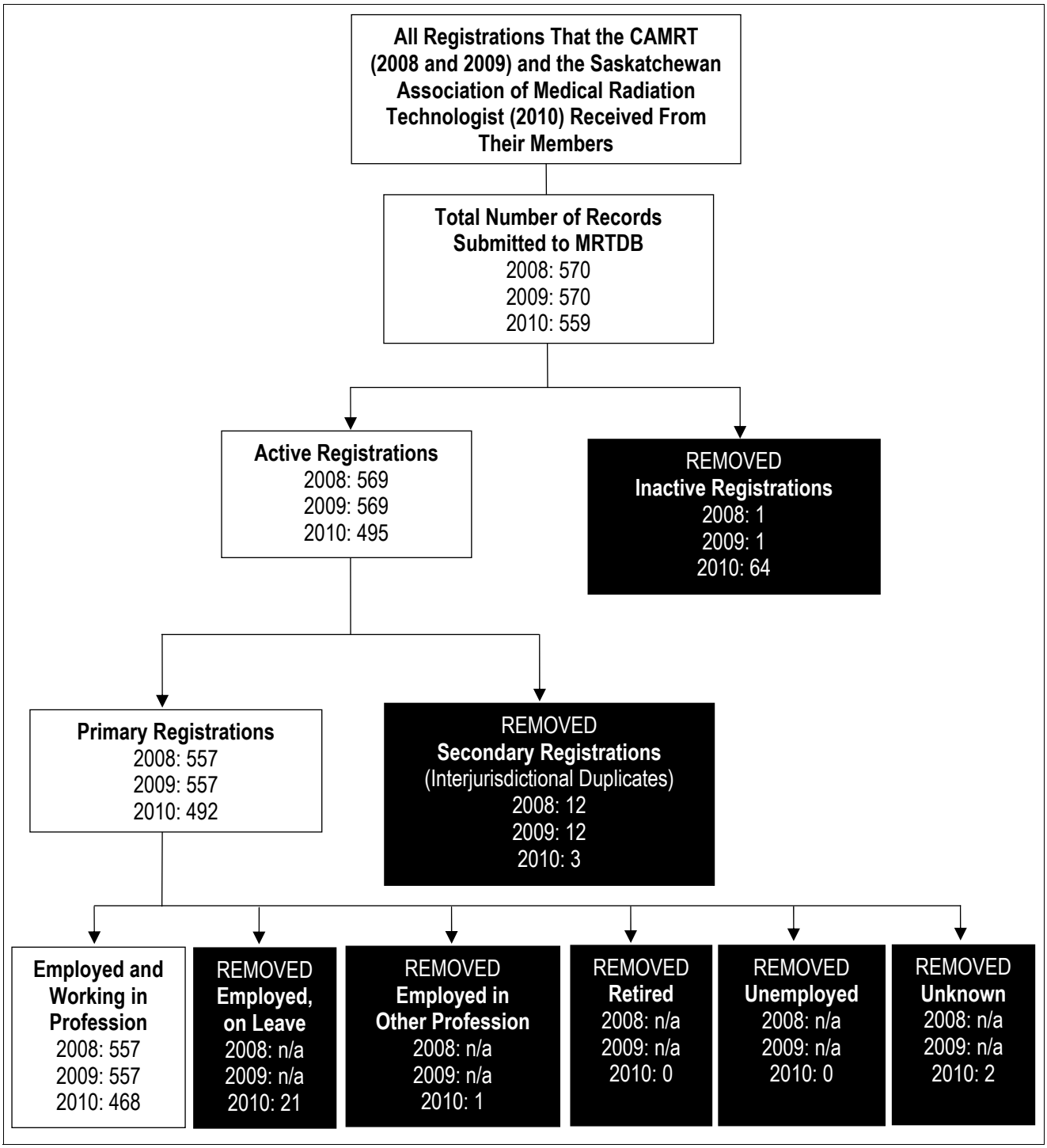
− Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the CAMRT (2008 and 2009) and the Saskatchewan Association of Medical Radiation Technologists (2010) to CIHI



2010 Data Highlights for Medical Radiation Technologists in Alberta

Workforce Supply and Demographics

- Alberta had 1,792 MRTs registered in the MRT workforce in 2010.
- A total of 83.4% of the Alberta MRT workforce was female.
- The average age of this workforce was 42.7.
- Just more than half of the Alberta MRT workforce was in the 35-to-54 age group (51.5%).
- Almost 30% of the workforce was younger than age 35 (29.6%), and the workforce age 55 or older was close to 20% (18.9%).

Education and Certification

- In 2010, almost all members of the Alberta MRT workforce (99.3%) held a diploma in medical radiation technology for basic education.
- Most (96.3%) of the Alberta MRT workforce was Canadian-trained (for basic education).
- A small proportion (6.4%) of the Alberta MRT workforce had graduated from an MRT training program for basic education within the past two years.
- Three-quarters (74.6%) of the Alberta MRT workforce held their initial MRT certification in radiological technology. Other disciplines of initial MRT certification that the Alberta MRT workforce held included nuclear medicine (11.6%), radiation therapy (9.5%) and magnetic resonance imaging (3.6%).
- Most (89.2%) of this workforce had one MRT certification only, but one-tenth (10.8%) of the workforce had more than one.

Primary Employment

- In 2010, most of the Alberta MRT workforce was employed in general hospitals (55.4%), free-standing imaging facilities or clinics (26.1%) and cancer care centres (11.7%).
- In 2010, 28.3% of the Alberta MRT workforce provided clinical education/preceptor activities at work.
- The top four areas of practice for the Alberta MRT workforce were radiological technology (general), 37.5%; computed tomography, 10.9%; breast imaging, 9.8%; and nuclear medicine (general), 7.7%.
- Close to three-quarters of the MRT workforce worked in two health regions: Edmonton Health Region (41.7%) and Calgary Health Region (39.1%).

Alberta MRT Workforce Profile

Alberta—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**1,790**		**1,747**		**1,792**	
Gender	Female	1,476	82.5%	1,447	82.8%	1,495	83.4%
	Male	314	17.5%	300	17.2%	297	16.6%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	42.3		42.7		42.7	
Age Group	<35	533	29.8%	516	29.5%	531	29.6%
	35–54	954	53.3%	920	52.7%	923	51.5%
	55+	303	16.9%	311	17.8%	338	18.9%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Level of Basic Education in MRT	Diploma	1,78†	†	1,741	99.7%	1,780	99.3%
	Baccalaureate	*	*	6	0.3%	11	0.6%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	1	0.1%
Location of Graduation for Basic Education in MRT	Canadian-Trained	1,734	96.9%	1,689	96.7%	1,726	96.3%
	Foreign-Trained	52	2.9%	54	3.1%	60	3.3%
	Unknown	4	0.2%	4	0.2%	6	0.3%
New Graduates in MRT	Yes—Graduated Within Last Two Years	169	9.4%	119	6.8%	115	6.4%
	No—Graduated Longer Than Two Years Ago	1,621	90.6%	1,628	93.2%	1,676	93.5%
	Unknown	0	0.0%	0	0.0%	1	0.1%
Highest Level of Education in MRT	Diploma	1,789	99.9%	1,741	99.7%	1,780	99.3%
	Post-Secondary Certificate	0	0.0%	0	0.0%	0	0.0%
	Baccalaureate	1	0.1%	6	0.3%	11	0.6%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	1	0.1%
Number of Certifications	Single Certification	1,604	89.6%	1,560	89.3%	1,599	89.2%
	Multiple Certifications	186	10.4%	187	10.7%	193	10.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	62	3.5%	63	3.6%	65	3.6%
	Nuclear Medicine	213	11.9%	208	11.9%	207	11.6%
	Radiation Therapy	173	9.7%	162	9.3%	170	9.5%
	Radiological Technology	1,336	74.6%	1,313	75.2%	1,337	74.6%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	6	0.3%	1	0.1%	13	0.7%
Multiple Employment Status	Single Employer	1,563	87.3%	–	–	1,579	88.1%
	Multiple Employers	212	11.8%	–	–	208	11.6%
	Unknown	15	0.8%	–	–	5	0.3%
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	–	–
	22.5–37.4	–	–	–	–	–	–
	37.5+	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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Alberta—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Primary Employment							
Employment Category	Permanent Employee	–	–	–	–	–	–
	Temporary Employee	–	–	–	–	–	–
	Casual Employee	–	–	–	–	–	–
	Self-Employed	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Full-Time/ Part-Time Status	Full Time	–	–	–	–	–	–
	Part Time	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Place of Employment	General Hospital	993	55.5%	–	–	992	55.4%
	Community Health Centre	48	2.7%	–	–	57	3.2%
	Cancer Care	229	12.8%	–	–	209	11.7%
	Free-Standing Imaging Facility/Clinic	473	26.4%	–	–	468	26.1%
	Mobile Imaging Unit	*	*	–	–	0	0.0%
	Post-Secondary Educational Institution	18	1.0%	–	–	31	1.7%
	Association/Government/Para-Governmental	7	0.4%	–	–	9	0.5%
	Industry, Manufacturing and Commercial	*	*	–	–	*	*
	Other	*	*	–	–	1†	†
	Unknown	15	0.8%	–	–	5	0.3%
Position	Manager	–	–	–	–	–	–
	Supervisor	–	–	–	–	–	–
	Charge Technologist/Team Leader	–	–	–	–	–	–
	Staff Technologist	–	–	–	–	–	–
	Radiation Safety Officer	–	–	–	–	–	–
	Consultant	–	–	–	–	–	–
	Information System Specialist	–	–	–	–	–	–
	Quality Management Specialist	–	–	–	–	–	–
	Educator	–	–	–	–	–	–
	Researcher	–	–	–	–	–	–
	Sales	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	413	23.6%	507	28.3%
	No	–	–	1,334	76.4%	1,285	71.7%
	Unknown	–	–	0	0.0%	0	0.0%
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	–	–
	Administration	–	–	–	–	–	–
	Information Systems	–	–	–	–	–	–
	Teaching, Medical Radiation Technology–Related	–	–	–	–	–	–
	Research	–	–	–	–	–	–
	Other Major Function	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Area of Practice	Magnetic Resonance Imaging (General)	–	–	85	5.1%	122	6.0%
	Nuclear Medicine (General)	–	–	126	7.5%	156	7.7%
	Radiation Therapy (General)	–	–	82	4.9%	103	5.1%
	Radiological Technology (General)	–	–	632	37.6%	765	37.5%
	Angiography/Interventional	–	–	70	4.2%	86	4.2%
	Bone Mineral Densitometry	–	–	112	6.7%	143	7.0%
	Brachytherapy	–	–	*	*	6	0.3%
	Breast Imaging	–	–	170	10.1%	199	9.8%
	Computed Tomography (CT)	–	–	187	11.1%	223	10.9%
	Computed Tomography Simulator (CT/Sim)	–	–	15	0.9%	18	0.9%
	Positron Emission Tomography (PET)	–	–	13	0.8%	13	0.6%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	20	1.2%	19	0.9%
	Simulation	–	–	15	0.9%	18	0.9%
	Single Photon Emission Computed Tomography (SPECT)	–	–	41	2.4%	40	2.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	24	1.4%	33	1.6%
	Treatment Planning	–	–	20	1.2%	25	1.2%
	Ultrasound/Diagnostic Medical Sonography	–	–	12	0.7%	11	0.5%
	Other Area of Practice	–	–	5†	†	59	2.9%

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Alberta—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	82	4.7%	115	6.4%
	Nuclear Medicine (General)	–	–	121	6.9%	151	8.4%
	Radiation Therapy (General)	–	–	75	4.3%	95	5.3%
	Radiological Technology (General)	–	–	501	28.7%	609	34.0%
	Angiography/Interventional	–	–	31	1.8%	37	2.1%
	Bone Mineral Densitometry	–	–	13	0.7%	17	0.9%
	Brachytherapy	–	–	*	*	*	*
	Breast Imaging	–	–	116	6.6%	131	7.3%
	Computed Tomography (CT)	–	–	127	7.3%	144	8.0%
	Computed Tomography Simulator (CT/Sim)	–	–	5	0.3%	5	0.3%
	Positron Emission Tomography (PET)	–	–	*	*	*	*
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	*	*	*	*
	Simulation	–	–	*	*	*	*
	Single Photon Emission Computed Tomography (SPECT)	–	–	10	0.6%	6	0.3%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	*	*	5	0.3%
	Treatment Planning	–	–	16	0.9%	20	1.1%
	Ultrasound/Diagnostic Medical Sonography	–	–	*	*	*	*
	Other Area of Practice	–	–	22	1.3%	26	1.5%
	Cannot Identify One Main Area of Practice	–	–	14	0.8%	18	1.0%
	Not Applicable	–	–	590	33.8%	388	21.7%
	Unknown	–	–	10	0.6%	13	0.7%
Health Region‡	South Zone	110	6.1%	–	–	124	6.9%
	Calgary Zone	697	38.9%	–	–	701	39.1%
	Central Zone	134	7.5%	–	–	141	7.9%
	Edmonton Zone	752	42.0%	–	–	747	41.7%
	North Zone	63	3.5%	–	–	72	4.0%
	Unknown	34	1.9%	–	–	7	0.4%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

‡ Alberta is reported by the five planning zones that replaced the former nine health regions (areas): South Zone (former Chinook Health Region and Palliser Health Region); Calgary Zone (former Calgary Health Region); Central Zone (former David Thompson Regional Health Authority and East Central Health); Edmonton Zone (former Capital Health); and North Zone (former Aspen Regional Health Authority, Peace Country Health and Northern Lights Health Region). Boundaries are those that were in effect as of December 2010 and per direction from Alberta Health Services.

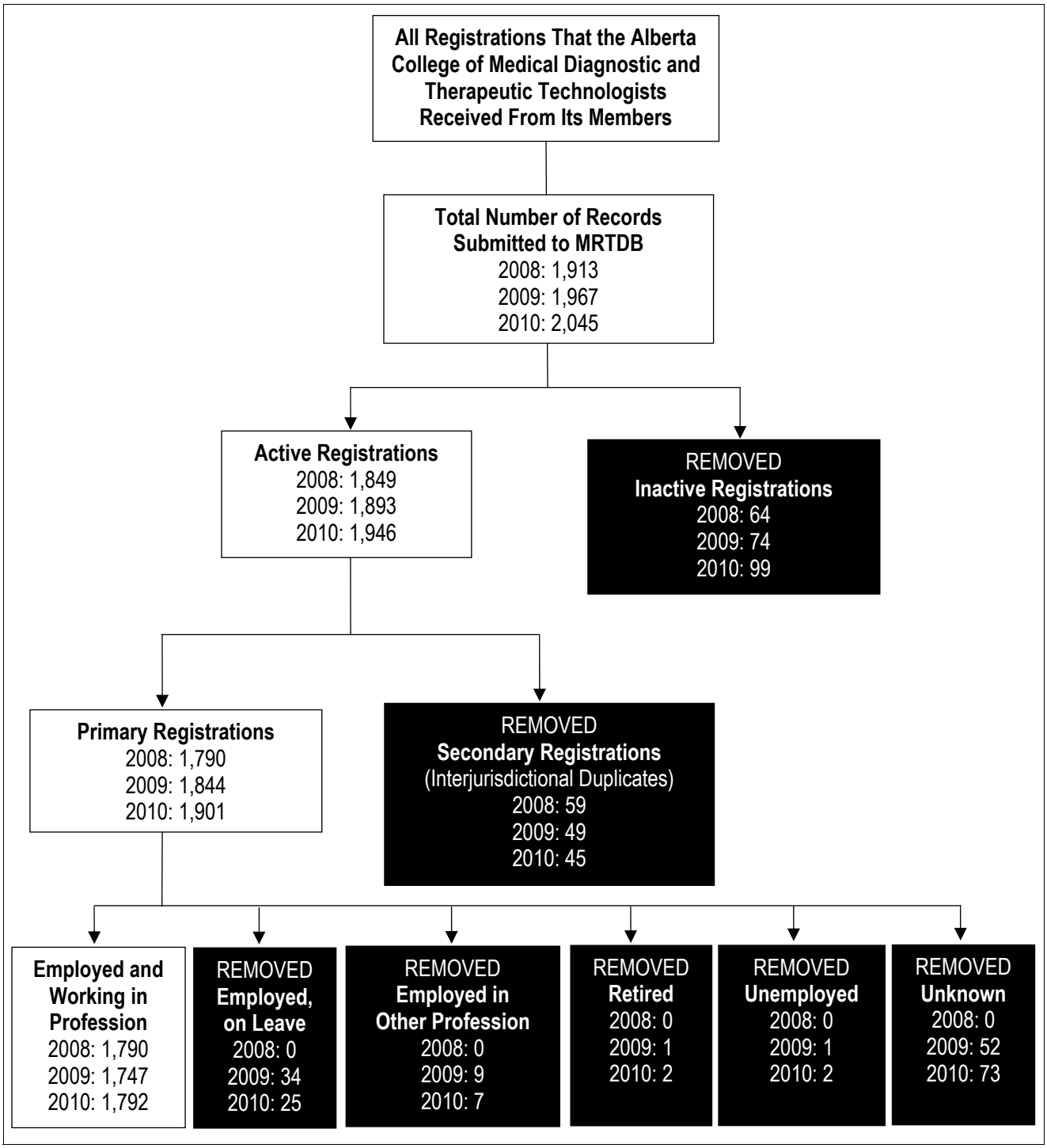
– Data is not applicable, not collected or does not meet data selection criteria.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Alberta College of Medical Diagnostic and Therapeutic Technologists to CIHI



2010 Data Highlights for Registered Medical Radiation Technologists in British Columbia

Workforce Supply and Demographics

- In 2010, there were 2,078 MRTs who registered with the CAMRT and worked in B.C.
- More than three-quarters (78.6%) of this workforce were female.
- The average age of the registered MRT workforce for B.C. was 42.6.
- More than half of this workforce (52.2%) was in the 35-to-54 age group.

Education and Certification

- Three-quarters of the registered MRT workforce in B.C. (76.4%) held an MRT certification in radiological technology.
- Of the B.C. MRT workforce, 9.4% had graduated from basic education programs in medical radiation technology within the past two years.
- A small percentage of the B.C. MRT workforce obtained two certifications (8%).
- The majority of the B.C. MRT workforce (76.4%) chose radiological technology for their initial MRT certification, while one-tenth of the workforce chose either radiation therapy (11.9%) or nuclear medicine (10.4%).

British Columbia Registered MRT Workforce Profile

British Columbia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**1,939**		**1,983**		**2,078**	
Gender	Female	1,534	79.1%	1,549	78.1%	1,634	78.6%
	Male	405	20.9%	434	21.9%	444	21.4%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	42.7		42.4		42.6	
Age Group	<35	526	27.1%	585	29.5%	632	30.4%
	35–54	1,081	55.8%	1,080	54.5%	1,084	52.2%
	55+	306	15.8%	308	15.5%	352	16.9%
	Unknown	26	1.3%	10	0.5%	10	0.5%
Level of Basic Education in MRT	Diploma	–	–	–	–	–	–
	Baccalaureate	–	–	–	–	–	–
	Master's	–	–	–	–	–	–
	Doctorate	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Location of Graduation for Basic Education in MRT	Canadian-Trained	–	–	–	–	–	–
	Foreign-Trained	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
New Graduates in MRT	Yes—Graduated Within Last Two Years	–	–	–	–	195	9.4%
	No—Graduated Longer Than Two Years Ago	–	–	–	–	1,883	90.6%
	Unknown	–	–	–	–	0	0.0%
Highest Level of Education in MRT	Diploma	–	–	–	–	–	–
	Post-Secondary Certificate	–	–	–	–	–	–
	Baccalaureate	–	–	–	–	–	–
	Master's	–	–	–	–	–	–
	Doctorate	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Number of Certifications	Single Certification	–	–	–	–	1,911	92.0%
	Multiple Certifications	–	–	–	–	167	8.0%
	Unknown	–	–	–	–	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	*	*	*	*	*	*
	Nuclear Medicine	208	10.7%	209	10.5%	217	10.4%
	Radiation Therapy	230	11.9%	24†	†	24†	†
	Radiological Technology	1,474	76.0%	1,505	75.9%	1,588	76.4%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	2†	†	24	1.2%	23	1.1%
Multiple Employment Status	Single Employer	–	–	–	–	–	–
	Multiple Employers	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Total Usual Weekly Hours of Work	<22.5	–	–	–	–	–	–
	22.5–37.4	–	–	–	–	–	–
	37.5+	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Primary Employment							
Employment Category	Permanent Employee	–	–	–	–	–	–
	Temporary Employee	–	–	–	–	–	–
	Casual Employee	–	–	–	–	–	–
	Self-Employed	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Full-Time/ Part-Time Status	Full Time	–	–	–	–	–	–
	Part Time	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

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British Columbia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	–	–	–	–	–	–
	Community Health Centre	–	–	–	–	–	–
	Cancer Care	–	–	–	–	–	–
	Free-Standing Imaging Facility/Clinic	–	–	–	–	–	–
	Mobile Imaging Unit	–	–	–	–	–	–
	Post-Secondary Educational Institution	–	–	–	–	–	–
	Association/Government/Para-Governmental	–	–	–	–	–	–
	Industry, Manufacturing and Commercial	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Position	Manager	–	–	–	–	–	–
	Supervisor	–	–	–	–	–	–
	Charge Technologist/Team Leader	–	–	–	–	–	–
	Staff Technologist	–	–	–	–	–	–
	Radiation Safety Officer	–	–	–	–	–	–
	Consultant	–	–	–	–	–	–
	Information System Specialist	–	–	–	–	–	–
	Quality Management Specialist	–	–	–	–	–	–
	Educator	–	–	–	–	–	–
	Researcher	–	–	–	–	–	–
	Sales	–	–	–	–	–	–
	Other	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	–	–	–	–
	No	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	–	–
	Administration	–	–	–	–	–	–
	Information Systems	–	–	–	–	–	–
	Teaching, Medical Radiation Technology–Related	–	–	–	–	–	–
	Research	–	–	–	–	–	–
	Other Major Function	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–

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British Columbia—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	–	–	–	–
	Nuclear Medicine (General)	–	–	–	–	–	–
	Radiation Therapy (General)	–	–	–	–	–	–
	Radiological Technology (General)	–	–	–	–	–	–
	Angiography/Interventional	–	–	–	–	–	–
	Bone Mineral Densitometry	–	–	–	–	–	–
	Brachytherapy	–	–	–	–	–	–
	Breast Imaging	–	–	–	–	–	–
	Computed Tomography (CT)	–	–	–	–	–	–
	Computed Tomography Simulator (CT/Sim)	–	–	–	–	–	–
	Positron Emission Tomography (PET)	–	–	–	–	–	–
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	–	–	–	–
	Simulation	–	–	–	–	–	–
	Single Photon Emission Computed Tomography (SPECT)	–	–	–	–	–	–
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	–	–	–	–
	Treatment Planning	–	–	–	–	–	–
	Ultrasound/Diagnostic Medical Sonography	–	–	–	–	–	–
	Other Area of Practice	–	–	–	–	–	–
	Cannot Identify One Main Area of Practice	–	–	–	–	–	–
	Not Applicable	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–
Health Region	East Kootenay	–	–	–	–	–	–
	Kootenay-Boundary	–	–	–	–	–	–
	Okanagan	–	–	–	–	–	–
	Thompson/Cariboo	–	–	–	–	–	–
	Fraser East	–	–	–	–	–	–
	Fraser North	–	–	–	–	–	–
	Fraser South	–	–	–	–	–	–
	Richmond	–	–	–	–	–	–
	Vancouver	–	–	–	–	–	–
	North Shore/Coast Garibaldi	–	–	–	–	–	–
	South Vancouver Island	–	–	–	–	–	–
	Central Vancouver Island	–	–	–	–	–	–
	North Vancouver Island	–	–	–	–	–	–
	Northwest	–	–	–	–	–	–
	Northern Interior	–	–	–	–	–	–
	Northeast	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

− Data is not applicable, not collected or does not meet data selection criteria.

Count for Workforce and Regulation Status

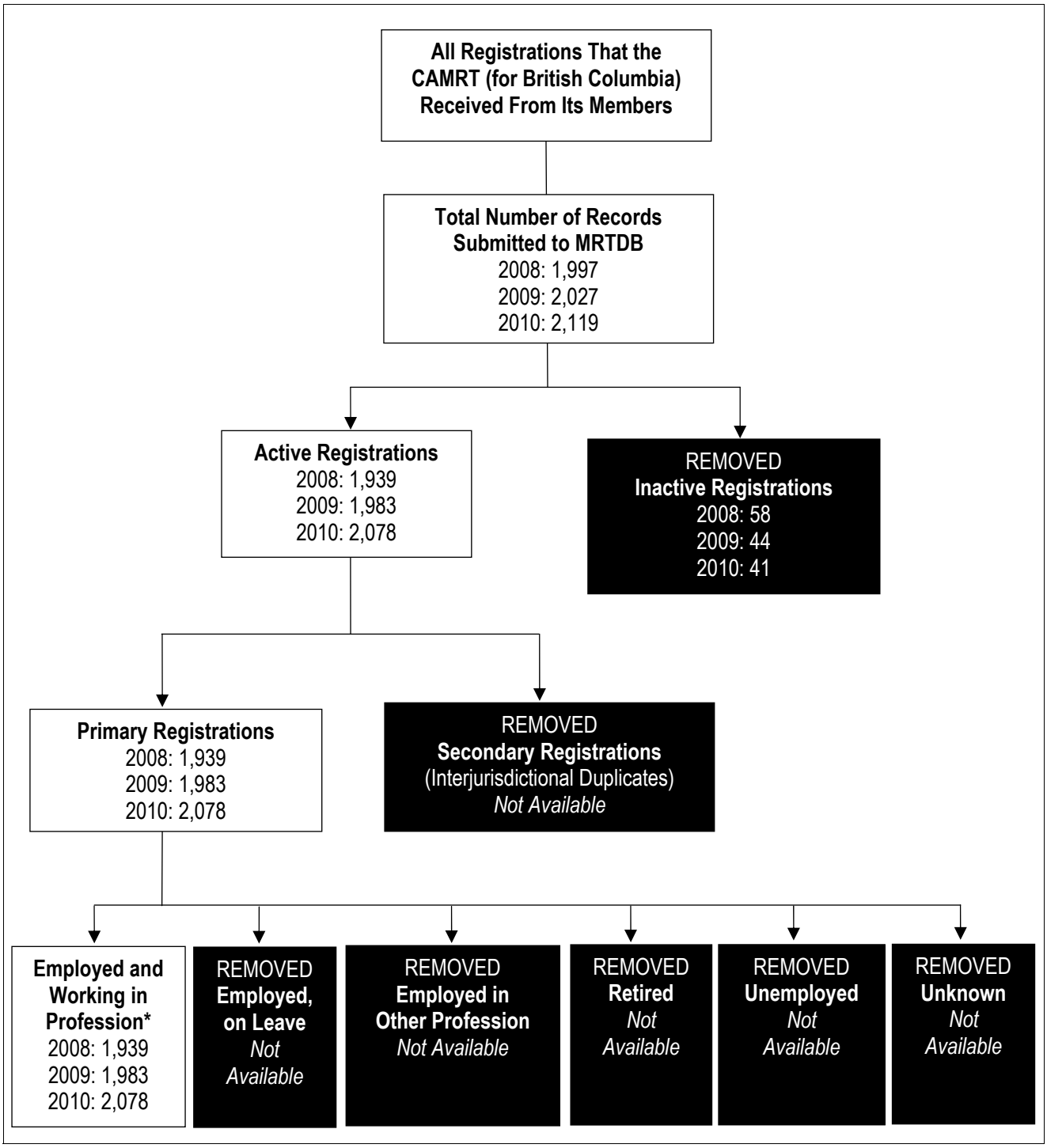
The workforce count may not represent the entire workforce due to voluntary registration with the CAMRT. Refer to the Regulation Status tab and the Methodological Notes for more information.

Totals may not equal 100% due to rounding.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Canadian Association of Medical Radiation Technologists (for British Columbia) to CIHI



Note

* The method for identifying secondary registrations is not applicable to the aggregate data received from the CAMRT. The number of active registrations is carried over for primary registrations and workforce numbers.

2010 Data Highlights for Registered Medical Radiation Technologists in the Territories (Yukon, Northwest Territories, Nunavut)

Workforce Supply and Demographics

- In 2010, 18 MRTs were registered with the CAMRT and worked in Yukon, the Northwest Territories or Nunavut.
- The average age of the registered MRT workforce for the territories was 40.4.

Education and Certification

- In 2010, most of the registered MRT workforce in the territories (83.3%) held a diploma in medical radiation technology for their basic education, but there was a marked increase in those with a baccalaureate (16.7%).
- Most members (94.4%) of the registered MRT workforce in the territories were trained in Canada and had graduated more than two years ago from an MRT basic education program.
- All members of the registered MRT workforce in the territories held an initial certification in radiological technology.

Primary Employment

- In 2010, most of the registered MRT workforce (94.4%) in the territories were permanent employees in their primary employment.
- The entire registered MRT workforce in the territories worked in a general hospital setting.
- Radiological technology (general) was the main area (34.9%) in which the registered MRT workforce in the territories practised, followed by computed tomography at 23.3% and breast imaging at 20.9%.

The Territories Registered MRT Workforce Profile

Yukon, Northwest Territories and Nunavut—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Total Registered Medical Radiation Technologist Workforce		**23**		**14**		**18**	
Gender	Female	2†	†	1†	†	1†	†
	Male	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	39.1		40.8		40.4	
Age Group	<35	10	43.5%	*	*	†	†
	35–54	1†	†	8	57.1%	9	50.0%
	55+	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Level of Basic Education in MRT	Diploma	1†	†	1†	†	1†	†
	Baccalaureate	*	*	*	*	*	*
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Location of Graduation for Basic Education in MRT	Canadian-Trained	2†	†	14	100.0%	1†	†
	Foreign-Trained	*	*	0	0.0%	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
New Graduates in MRT	Yes—Graduated Within Last Two Years	*	*	0	0.0%	0	0.0%
	No—Graduated Longer Than Two Years Ago	1†	†	14	100.0%	18	100.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Highest Level of Education in MRT	Diploma	1†	†	1†	†	1†	†
	Post-Secondary Certificate	0	0.0%	0	0.0%	0	0.0%
	Baccalaureate	*	*	*	*	*	*
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Number of Certifications	Single Certification	2†	†	1†	†	1†	†
	Multiple Certifications	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Initial MRT Certification Discipline	Magnetic Resonance Imaging	0	0.0%	0	0.0%	0	0.0%
	Nuclear Medicine	0	0.0%	0	0.0%	0	0.0%
	Radiation Therapy	0	0.0%	0	0.0%	0	0.0%
	Radiological Technology	23	100.0%	14	100.0%	18	100.0%
	Other	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Multiple Employment Status	Single Employer	–	–	14	100.0%	1†	†
	Multiple Employers	–	–	0	0.0%	*	*
	Unknown	–	–	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	0	0.0%	*	*	*	*
	22.5–37.4	0	0.0%	0	0.0%	*	*
	37.5+	23	100.0%	1†	†	1†	†
	Unknown	0	0.0%	0	0.0%	0	0.0%
Primary Employment							
Employment Category	Permanent Employee	–	–	1†	†	1†	†
	Temporary Employee	–	–	0	0.0%	0	0.0%
	Casual Employee	–	–	*	*	*	*
	Self-Employed	–	–	0	0.0%	0	0.0%
	Unknown	–	–	0	0.0%	0	0.0%
Full-Time/ Part-Time Status	Full Time	–	–	1†	†	1†	†
	Part Time	–	–	*	*	*	*
	Unknown	–	–	0	0.0%	0	0.0%

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Yukon, Northwest Territories and Nunavut—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Place of Employment	General Hospital	–	–	14	100.0%	18	100.0%
	Community Health Centre	–	–	0	0.0%	0	0.0%
	Cancer Care	–	–	0	0.0%	0	0.0%
	Free-Standing Imaging Facility/Clinic	–	–	0	0.0%	0	0.0%
	Mobile Imaging Unit	–	–	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	–	–	0	0.0%	0	0.0%
	Association/Government/Para-Governmental	–	–	0	0.0%	0	0.0%
	Industry, Manufacturing and Commercial	–	–	0	0.0%	0	0.0%
	Other	–	–	0	0.0%	0	0.0%
	Unknown	–	–	0	0.0%	0	0.0%
Position	Manager	–	–	0	0.0%	*	*
	Supervisor	–	–	*	*	*	*
	Charge Technologist/Team Leader	–	–	*	*	*	*
	Staff Technologist	–	–	10	71.4%	12	66.7%
	Radiation Safety Officer	–	–	0	0.0%	0	0.0%
	Consultant	–	–	0	0.0%	0	0.0%
	Information System Specialist	–	–	0	0.0%	0	0.0%
	Quality Management Specialist	–	–	0	0.0%	0	0.0%
	Educator	–	–	0	0.0%	0	0.0%
	Researcher	–	–	0	0.0%	0	0.0%
	Sales	–	–	0	0.0%	0	0.0%
	Other	–	–	0	0.0%	0	0.0%
	Unknown	–	–	1	7.1%	0	0.0%
Clinical Education/ Preceptor Activity Indicator	Yes	–	–	–	–	9	50.0%
	No	–	–	–	–	8	44.4%
	Unknown	–	–	–	–	1	5.6%
Major Function	Diagnostic and Therapeutic Services	–	–	–	–	1†	†
	Administration	–	–	–	–	*	*
	Information Systems	–	–	–	–	0	0.0%
	Teaching, Medical Radiation Technology–Related	–	–	–	–	0	0.0%
	Research	–	–	–	–	0	0.0%
	Other Major Function	–	–	–	–	0	0.0%
	Unknown	–	–	–	–	0	0.0%
Area of Practice	Magnetic Resonance Imaging (General)	–	–	0	0.0%	0	0.0%
	Nuclear Medicine (General)	–	–	0	0.0%	0	0.0%
	Radiation Therapy (General)	–	–	0	0.0%	0	0.0%
	Radiological Technology (General)	–	–	12	33.3%	15	34.9%
	Angiography/Interventional	–	–	*	*	*	*
	Bone Mineral Densitometry	–	–	*	*	*	*
	Brachytherapy	–	–	0	0.0%	0	0.0%
	Breast Imaging	–	–	7	19.4%	9	20.9%
	Computed Tomography (CT)	–	–	7	19.4%	10	23.3%
	Computed Tomography Simulator (CT/Sim)	–	–	0	0.0%	0	0.0%
	Positron Emission Tomography (PET)	–	–	0	0.0%	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	0	0.0%	0	0.0%
	Simulation	–	–	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography (SPECT)	–	–	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	0	0.0%	0	0.0%
	Treatment Planning	–	–	0	0.0%	0	0.0%
	Ultrasound/Diagnostic Medical Sonography	–	–	*	*	*	*
	Other Area of Practice	–	–	*	*	*	*

(continued on next page)

Yukon, Northwest Territories and Nunavut—Total Registered Medical Radiation Technologist Workforce, 2008 to 2010 (cont'd)

		2008		2009		2010	
		Count	Percentage	Count	Percentage	Count	Percentage
Main Area of Practice	Magnetic Resonance Imaging (General)	–	–	0	0.0%	0	0.0%
	Nuclear Medicine (General)	–	–	0	0.0%	0	0.0%
	Radiation Therapy (General)	–	–	0	0.0%	0	0.0%
	Radiological Technology (General)	–	–	7	50.0%	8	44.4%
	Angiography/Interventional	–	–	0	0.0%	0	0.0%
	Bone Mineral Densitometry	–	–	0	0.0%	0	0.0%
	Brachytherapy	–	–	0	0.0%	0	0.0%
	Breast Imaging	–	–	*	*	*	*
	Computed Tomography (CT)	–	–	0	0.0%	*	*
	Computed Tomography Simulator (CT/Sim)	–	–	0	0.0%	0	0.0%
	Positron Emission Tomography (PET)	–	–	0	0.0%	0	0.0%
	Positron Emission Tomography/Computed Tomography (PET/CT)	–	–	0	0.0%	0	0.0%
	Simulation	–	–	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography (SPECT)	–	–	0	0.0%	0	0.0%
	Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)	–	–	0	0.0%	0	0.0%
	Treatment Planning	–	–	0	0.0%	0	0.0%
	Ultrasound/Diagnostic Medical Sonography	–	–	*	*	*	*
	Other Area of Practice	–	–	*	*	*	*
	Cannot Identify One Main Area of Practice	–	–	0	0.0%	0	0.0%
	Not Applicable	–	–	0	0.0%	0	0.0%
	Unknown	–	–	0	0.0%	0	0.0%
Health Region	Yukon	–	–	6	42.9%	8	44.4%
	Northwest Territories	–	–	†	†	†	†
	Nunavut	–	–	*	*	*	*
	Unknown	–	–	0	0.0%	0	0.0%

Notes

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Value suppressed to ensure confidentiality.

− Data is not applicable, not collected or does not meet data selection criteria.

Count for Workforce and Regulation Status

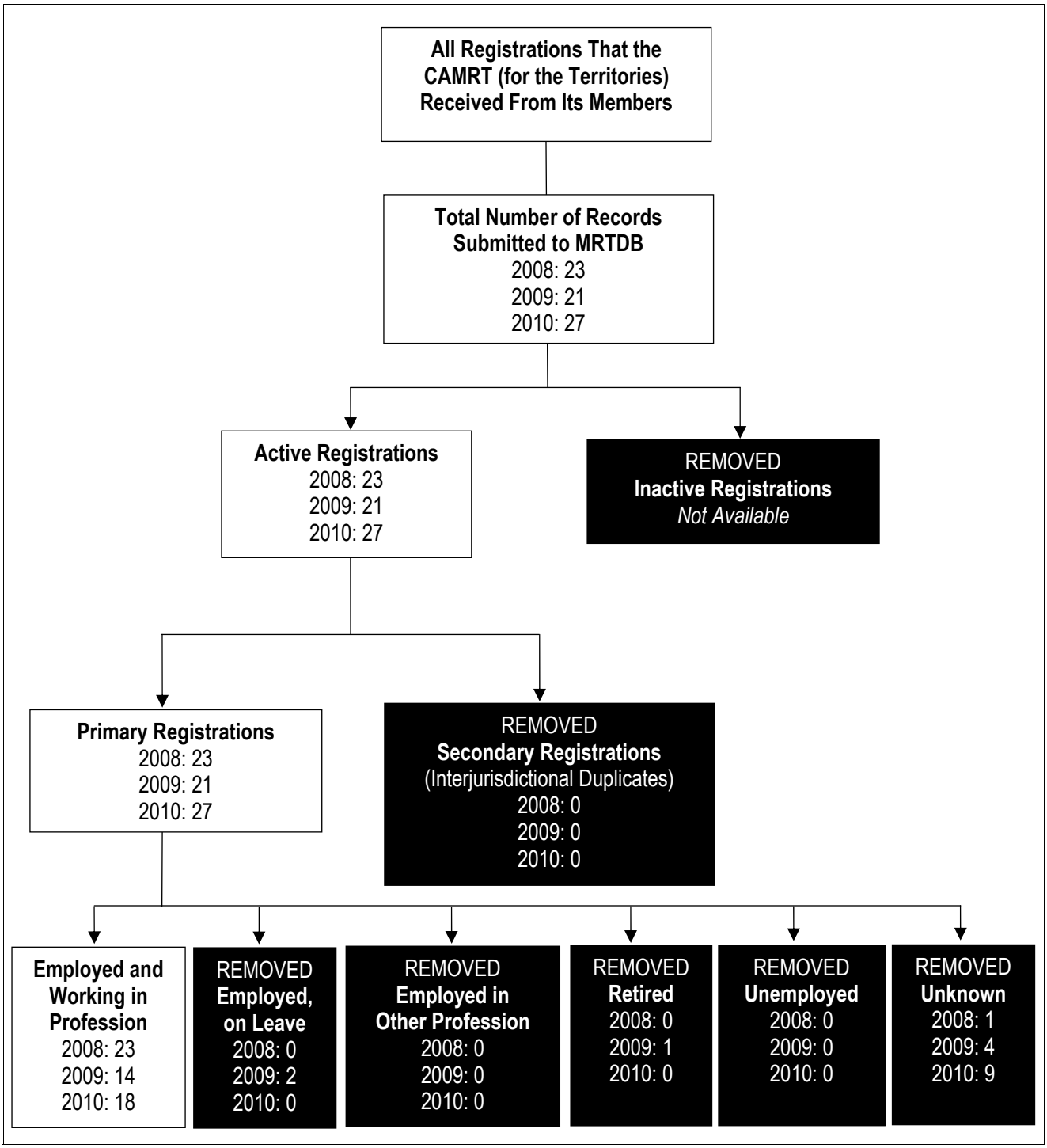
The workforce count may not represent the entire workforce due to voluntary registration with the CAMRT. Refer to the Regulation Status tab and the Methodological Notes for more information.

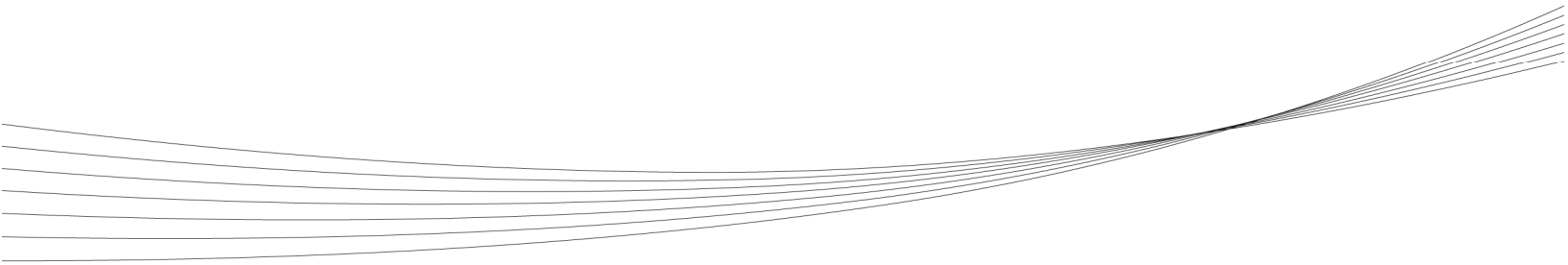
Totals may not equal 100% due to rounding.

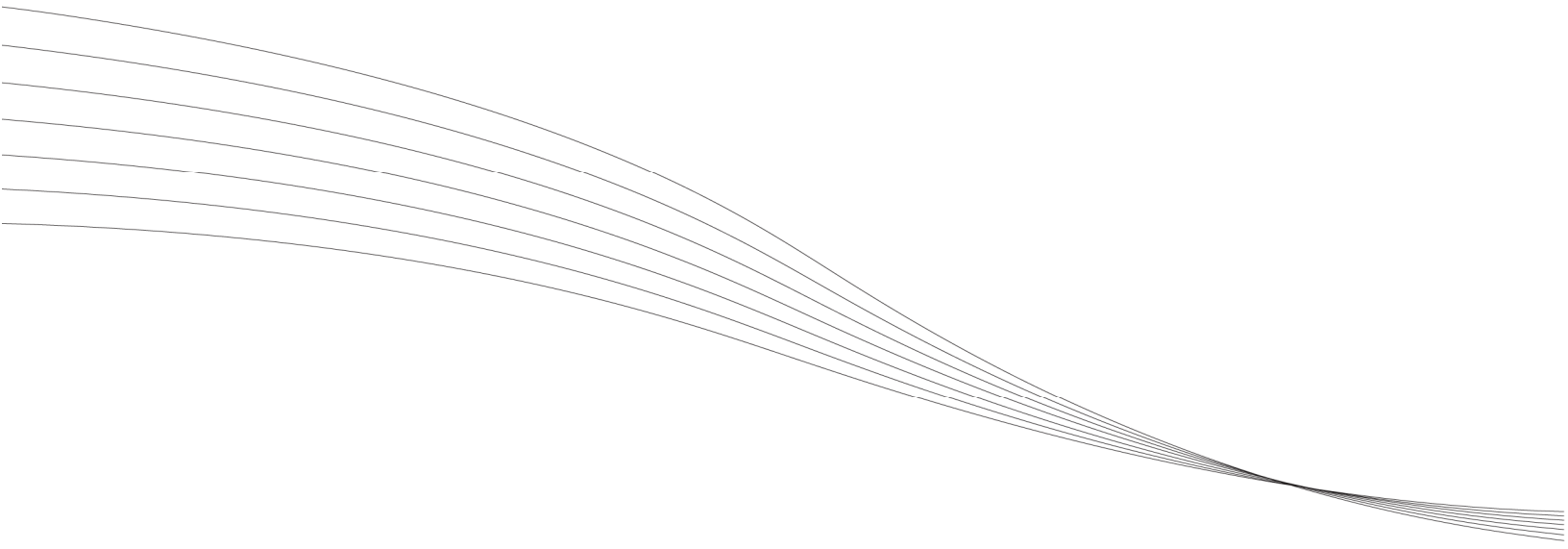
Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Data Flow From the Canadian Association of Medical Radiation Technologists (for Yukon, the Northwest Territories and Nunavut) to CIHI







Methodological Notes

These notes outline the basic concepts behind the data provided in this publication, the underlying methodology of the data collection and key aspects of data quality. They will help provide a better understanding of the strengths and limitations of the data and demonstrate the ways in which the data can be used effectively. This information is of particular importance when making comparisons with data from other sources and when making conclusions based on changes over time.

CIHI relies on superior principles of data quality, privacy and confidentiality. CIHI's commitment to ensuring the collection of quality data in a privacy-sensitive manner is applied to data collection, processing, analysis and dissemination. For further details regarding CIHI's privacy principles, which are outlined in *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Personal Health Information*, go to www.cihi.ca.

History

Policy reports and research papers have consistently demonstrated that there is very little standardized data available on health professionals on a national basis, with the exception of physicians and regulated nursing professionals. Based on consultations with federal and provincial/territorial ministries of health, the profession of medical radiation technology was identified as one of the priority areas for data collection. The MRTDB was established in 2008, with the collection of first-year data from across Canada.

Purpose of This Report

Supply and distribution information is a key component of health human resources planning at the pan-Canadian and provincial/territorial levels. Any planning for or projection of the number of health professionals required for a particular jurisdiction must begin with an understanding of the current supply and how that supply is changing. The presentation of clear, objective data and data analysis enables informed decision-making and supports policy formulation.

Medical Radiation Technologists in Canada, 2010 examines the distribution of the workforce by key factors, including demographic, geographic, education, certification, specialty certificate and employment dimensions. The report provides an indication of a representative population of MRTs in the provinces or territories where data is available. Data tables and charts are supplemented with detailed information about the data collection process, pertinent limitations of the current data and an explanation of the data-compiling methods used.

The information in this third annual report from the MRTDB will support a wide variety of government and non-government organizations and research communities to better understand the supply and distribution of MRTs throughout Canada. Accordingly, it will contribute to policy formulation and decision-making at both the pan-Canadian and provincial/territorial levels.

Scope of the Data

Population of Interest

The population of interest for the MRTDB includes all MRTs who are qualified to work in Canada.

Population of Reference

The population of reference for the MRTDB includes all MRTs who register with a Canadian provincial regulatory body, a provincial professional association or the CAMRT, given that these organizations have submitted data to the MRTDB.

Period of Reference

For any given year, the population of reference includes those MRTs who register between the start of the registration period for the provincial regulatory body, the provincial professional association and/or the CAMRT and August 1. For 2010, the period of reference began with the registration start period and ended on August 1, 2010 (see Appendix A for details of registration start and end periods).

Regulation Status

The profession of medical radiation technology is currently regulated in six Canadian provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan and Alberta. Although the profession is not regulated through provincial statute in Newfoundland and Labrador, Prince Edward Island and Manitoba, MRTs who practise in these three provinces are required to register with both the provincial professional association and the CAMRT. Consequently, the 2008, 2009 and 2010 statistics in this report for all above-mentioned provinces represent all MRTs or the entire MRT workforce registered with the provincial regulatory bodies or associations that provided their membership data to the MRTDB as of August 1 of each year. The remaining jurisdictions (British Columbia, Yukon, the Northwest Territories and Nunavut) are not regulated and do not require mandatory registration. MRTs in these jurisdictions are registered either according to employers' condition of employment or on a voluntary basis (both referred as "voluntary registration" in this report) with the CAMRT, which provided data to the MRTDB on behalf of these jurisdictions. For this reason, it is important to note that statistics included in this report may not represent the entire MRT population or the MRT workforce in B.C., the territories or Canada.

Data Inclusions for the MRTDB

Data collected for the MRTDB includes all registrations collected by the provincial regulatory bodies, provincial associations and the CAMRT from their members as of August 1 of each given year. Currently, the MRTDB holds data for 2008 to 2010.

Data Exclusions for the MRTDB

The MRTDB does not collect data on MRTs who

- Reside and work in B.C. and the territories and chose not to obtain a voluntary membership with the CAMRT; or
- Registered with regulatory bodies or professional associations after July 31 of each given year until the next data collection cycle. The data collection cycles covered in this publication are from 2008 to 2010.

Data Selection Criteria for This Publication

While the overall number of registrations or active registrations held in the MRTDB is summarized in some of the data tables in this publication, most data tables and charts concentrate on the MRT workforce. The workforce data is selected based on a number of criteria, described below.

1. MRTs must be registered, have an active membership with a provincial MRT regulatory body, a provincial professional association or the CAMRT and be working in medical radiation technology as of August 1 of the data year (2008, 2009 and 2010), with the registration being recognized as a primary registration.[iv] Inactive registrations, active but secondary registrations and registrations with an Employment Status other than *employed in medical radiation technology* are excluded.[v]

2. The percentage of *unknown* values for a selected data element must be less than 7% of the total count. For Newfoundland and Labrador's 2009 and 2010 data, and for Ontario's 2009 and 2010 data, the criterion was applied to education and employment data elements after removing registrants who did not respond at all. More details can be found in the Data Adjustments section of this document.

Under certain circumstances, a data element that has met the above criteria may not be included in the analysis. The reason may be that the data element primarily serves data validation or derivation purposes (for example, Province/Territory of Residence or Province/Territory of Primary Employment). Or it may be that the distribution of the values for this data element has an obvious bias due to the volume of *unknown* values or other data quality issues.

If all or most values for a data element are suppressed to protect privacy and confidentiality of personal information and the presentation of this data element would not add any value to the report, this data element may be removed from the report.

iv. Each record in the MRTDB is assessed and identified as a primary or secondary registration according to CIHI's methodology. See details in Appendix D.

v. *Other* Employment Status than *employed in medical radiation technology* refers to registrants who work outside of the profession; registrants who are retired, unemployed or employed in the profession but on leave; and registrants whose status is *unknown*.

Point-in-Time Data Collection

The point-in-time approach to data collection provides a snapshot of the MRT workforce across jurisdictions on a specific day. Using the same approach consistently will enable comparability over time, which is necessary to accurately determine a trend. However, depending on the jurisdiction, this approach may not capture the entire year-end totals equally in every province and territory, as each jurisdiction can have a different start date for its registration period.

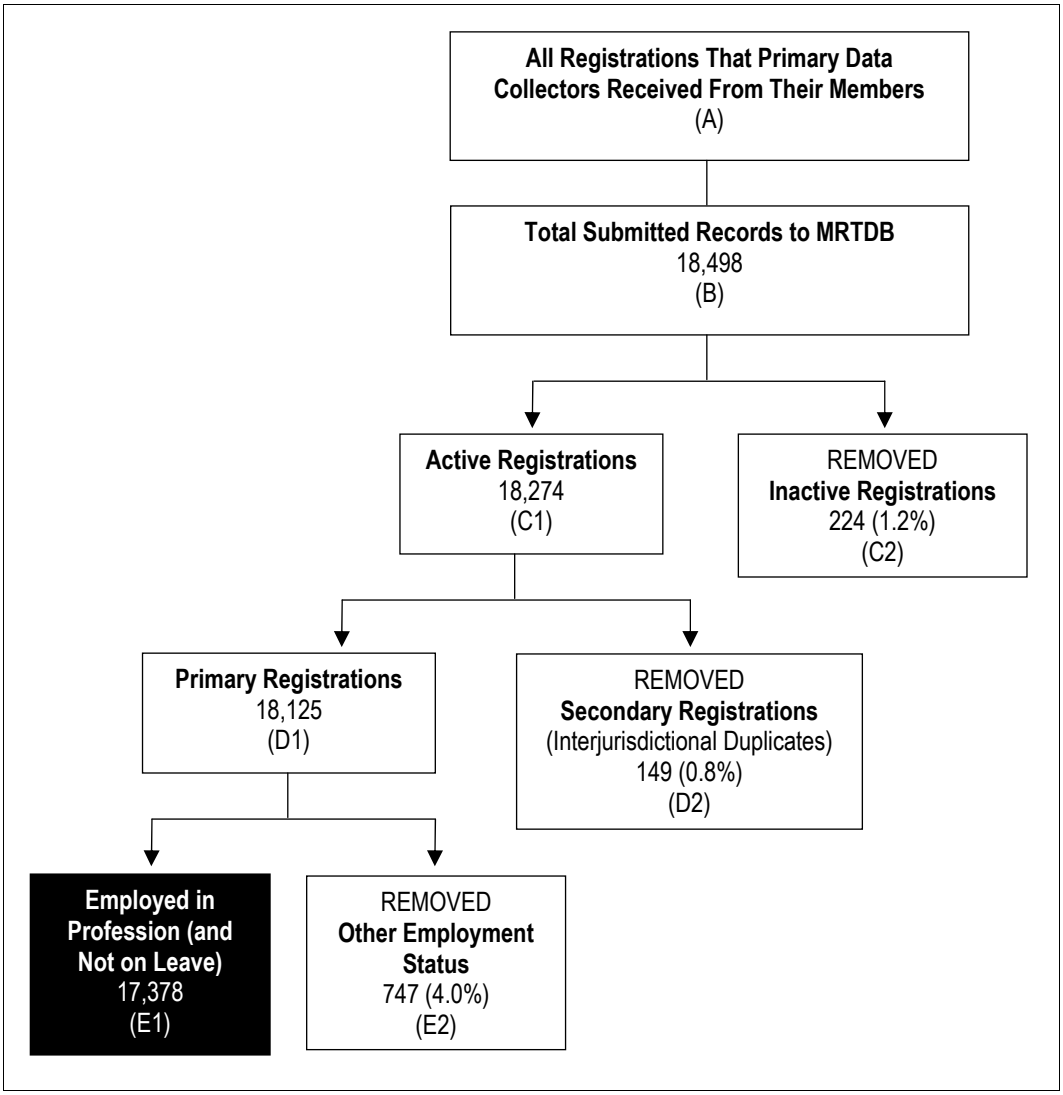
Data collection begins at the onset of the data provider's respective annual registration period and ends on August 1. This collection period was identified as the period that captures most of the registrants renewing or applying for membership. The registration periods for provincial and territorial jurisdictions for the 2010 registration year are presented in Appendix A—Twelve-Month Registration Periods by Province or Territories, 2010.

Data Flow From Primary Data Collector to CIHI

Data providers of the MRTDB collect membership data on an annual basis for their registration/licensing purposes. This administrative data is submitted to the MRTDB according to the established standards.

Figure 24 illustrates the data flow when this methodology is applied. Explanations of each step within the data flow are provided below. Some adjustments may have been made to previous years' data. Please see the Methodological Notes for additional information.

Figure 24: Tracing Data Flow From Primary Data Collectors to MRTDB, 2010



Box A: Includes all registrations that the data providers for the MRTDB collected from their members.

Box B: Includes all registrations that are received by the MRTDB at CIHI. The cut-off date for data collection is August 1 of the collection year.

Box C1: Includes registrations that are identified as an active registration type.

Box C2: Includes registrations that are identified as an inactive registration type. These records are removed from the final count for the workforce.

Box D1: Represents primary registrations, where the province or territory of registration reflects the registrant's primary jurisdiction of practice.

Box D2: MRTs in Canada can work in more than one jurisdiction concurrently as long as they meet the requirements of the provincial regulatory bodies or employers. In the interest of preventing double-counting across jurisdictions, this box represents the secondary registrations or interjurisdictional duplicates to be removed from the final count for the workforce. The methodology that identifies primary and secondary registrations is explained in detail in the Data Processing Methods section.

Boxes E1 and E2: CIHI's statistics for the MRT workforce include registrants who explicitly state that they are employed (and not on leave) in medical radiation technology (Box E1) at the time of registration with a provincial regulatory body, a provincial professional association or the CAMRT who provided data to the MRTDB. Those MRTs who are on leave, employed outside of medical radiation technology, retired or unemployed or whose Employment Status is *unknown* are excluded from the final statistics for the workforce (Box E2).

The results of this methodology and breakdown by province/territories of registration are shown in Table 17.

Table 17: Record Composition by Province or Territories of Registration, 2010

	All Submitted Records	Remove Inactive Records	Remove Duplicate Registrations*	Remove Records if Employment Status Not Identified as Working MRTs†	Registered MRT Workforce
	(A)	(B)	(C)	(D)	(A – B – C – D)
Total	**18,498**	**224**	**149**	**747**	**17,378**
Regulated Provinces					
Nova Scotia	504		6	6	492
New Brunswick	591	18	2	15	556
Quebec	4,902		30	262	4,610
Ontario	6,663		54	271	6,338
Saskatchewan	559	64	3	24	468
Alberta	2,045	99	45	109	1,792
Unregulated Provinces With Mandatory Registration With Provincial Associations and CAMRT					
Newfoundland and Labrador	279		1	11	267
Prince Edward Island	100	2	4	6	88
Manitoba	709		4	34	671
Unregulated Province/Territories With Voluntary CAMRT Registration					
British Columbia‡	2,119	41			2,078
Territories§	27		0	9	18

(cont'd on next page)

Notes

* Duplicate registrations between the provinces/territories are identified and removed from the workforce according to CIHI's primary/secondary registration methodology.

† Employment Status included in this column: *employed in medical radiation technology but on leave*, *employed outside of medical radiation technology*, *retired*, *unemployed* and *unknown*.

‡ B.C. data is provided by the CAMRT at the aggregate level and represents voluntary registrations.

§ The territories include Yukon, the Northwest Territories and Nunavut. Data represents the workforce with voluntary registration with the CAMRT.

All cells that have values of less than 5 in this table are composed of different values or are the result of a more complicated methodology that was used so that the individuals represented by these small cells cannot be identified. For this reason, these small cells are not suppressed.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

CIHI's Methodology for Identifying the Medical Radiation Technologist Workforce

By carefully selecting the reference population for the MRT workforce, CIHI is able to provide standardized comparable data suitable for analysis and trending purposes. The workforce includes active registered working MRTs as of August 1 of each data year (between 2008 and 2010), after excluding secondary registrations. The population of reference for reporting by other organizations may differ for various reasons, such as differences in the time frame used, the inclusion of other registration types (such as inactive), differences in Employment Status (employed versus unemployed) and the inclusion of secondary registrations. Discrepancies between the data in CIHI's publication and data presented by other organizations may be due to these differences. We therefore caution readers to be mindful of these differences when comparing MRTDB data with other data holdings and publications.

Data Collection Methods

Data Sources

CIHI collects record-level data for the MRTDB from provincial regulatory bodies, a number of provincial associations and the CAMRT according to an agreement between CIHI and these organizations. CIHI also collects aggregate-level data for B.C. from the CAMRT to reduce the information gap. See details of data sources in Appendix C.

Data Collection

Paper or online registration forms completed by the registrants for registration/licensing purposes are the usual methods of primary data collection for the provincial regulatory bodies, the provincial professional associations and the CAMRT, which submit data to the MRTDB.

Once in electronic format, an extract of the data is prepared for submission to CIHI. Only those data elements defined in the *Medical Radiation Technologist Database Data Dictionary* (available at www.cihi.ca) are submitted to CIHI. The data extract must conform to the specifications of the MRTDB, as outlined in the *Medical Radiation Technologist Database Data Submission Specifications Manual* (available at www.cihi.ca).

In addition to providing record-level membership data for the territories (Yukon, the Northwest Territories and Nunavut), the CAMRT also provided selected data elements at an aggregate level for Saskatchewan (2008 and 2009) and B.C. (all years), with the consent of the Saskatchewan Association of Medical Radiation Technologists and the British Columbia Association of Medical Radiation Technologists. This additional process serves to fill the data gaps for these two provinces, which occurred because either the provincial association did not participate in the MRTDB (B.C.) or data from the province does not meet CIHI's reporting requirements (Saskatchewan).

A letter of agreement governs CIHI's collection of MRT data. Each year, data providers who participate in the MRTDB will review the core set of data elements that they collect on their registration forms. Under the current agreement, each data provider agrees to make every reasonable effort to collect and submit the 159 elements for each registrant according to the definitions outlined in the *Medical Radiation Technologist Database Data Submission Specifications Manual*.

Canadian MIS Database Frame

"Frame" refers to a list of entities that should supply data to a database. The CMDB contains financial and statistical data from hospitals across the country. CIHI maintains a list of Canadian hospitals reporting to the CMDB, referred to as the CMDB list of hospitals. The CMDB does not yet request data from long-term care facilities, community health centres or home care agencies. Most regionalized provinces, however, do submit non-hospital data.

Key Concepts and Definitions

Data elements used in this publication are described below. For a complete list of data elements in the MRTDB, as well as complete data element names and definitions, please refer to the *Medical Radiation Technologist Database Data Dictionary,* which can be downloaded from CIHI's website (www.cihi.ca). Definitions for reported elements from the CMDB and related concepts are also available on CIHI's website.

Demographics

Gender

The reported gender of a registrant at the time of registration or renewal, used for administrative purposes.

Age

Derived from the year of birth of the registrant.

Geography

Province/Territory of Residence

At the time of registration or renewal.

Country of Residence

At the time of registration or renewal.

Province/Territory of Registration

Based on the jurisdiction of the organization submitting MRT data.

Education and Certification

Level of Basic Education in Medical Radiation Technology

Initial educational program used to prepare an MRT for practice. This refers to the initial education program used, in whole or in part, for consideration of licensure (or registration) as an MRT in Canada.

New Graduates

Number of registrants who graduated from basic education programs in the past two years.

Institution of Graduation for Basic Education in Medical Radiation Technology

Canadian post-secondary educational institutions that provide medical radiation technology programs.

Location of Graduation for Basic Education in Medical Radiation Technology

Derived from the province/territory, country and/or institution of graduation where basic education program was completed. Location may show whether registrants were Canadian- or foreign-trained.

Highest Level of Education in Medical Radiation Technology

Derived from level of basic education and post-basic education in medical radiation technology 1, 2 and 3, whichever level is the highest.

Initial MRT Certification Discipline

Discipline in which the first certification in medical radiation technology was obtained.

Number of Certifications

Derived from initial MRT certification and post-initial certifications 1, 2 and 3 to identify how many MRTs have a single certification and how many have multiple certifications.

Employment

Multiple Employment Status

Based on grouped employment information for primary and secondary employment. Indicates the number of employers that registrants work for.

Total Usual Weekly Hours of Work

At the time of registration or renewal, the total usual (typical or average) weekly hours of work in all medical radiation technology employment(s) related to practice.

The following data elements included in this report refer to the primary employment that is associated with the highest number of usual weekly hours worked.

Employment Category

Employment category at the time of registration or renewal.

Full-Time/Part-Time Status

At the time of registration or renewal, the official status with an employer or, if official status is unknown, the classification of status based on usual hours worked.

Place of Employment

The place of primary employment, whether an employee or self-employed, at the time of registration or renewal.

Position

The main role within primary employment (for registrants with multiple roles within primary employment, reflects the role associated with the most worked hours).

Clinical Education/Preceptor Activity Indicator

Indicates whether clinical education is provided within the place of primary employment to MRTs and/or other health professionals participating in practicum or residency training as part of an accredited post-secondary education program.

Major Function

At the time of registration or renewal, the major focus of activities in primary employment.

Area of Practice

The application of particular skills and knowledge related to medical radiation technology. Areas of practice include magnetic resonance imaging, nuclear medicine, radiation therapy, radiological technology, angiography/interventional, bone mineral densitometry, brachytherapy, breast imaging, computed tomography, computed tomography simulator, positron emission tomography, positron emission tomography/computed tomography, simulation, single photon emission computed tomography, single photon emission computed tomography/computed tomography, treatment planning, ultrasound/diagnostic medical sonography and others. An MRT may have more than one area of practice or just one; on the other hand, an MRT may work at a position such as sales that may not involve any particular area of practice. A sum of the counts for area of practice may or may not equal the total MRT workforce. The percentage distribution of area of practice is based on the total number of areas of practice instead of total head counts for the workforce. For example, if one individual practised in magnetic resonance imaging, computed tomography and breast imaging, and another individual practised in breast imaging area only, the total number of areas of practice in this case would be 4; the percentage distribution for area of practice would be 25% for magnetic resonance imaging, 25% for computed tomography and 50% for breast imaging.

Health Region

Derived from the postal code of the service delivery worksite where the registrant is engaged in practising medical radiation technology. Information for a given health region represents MRTs who worked for employers who were *located* in that region. The information does not necessarily represent employees who *live in* a particular health region.

Health region is assigned according to Statistics Canada's Postal Code Conversion File (PCCF+ version 5G). Within the PCCF+ file, the boundaries of health regions were in effect as of December 2007. Further details regarding boundaries may be found at www.statcan.gc.ca/pub/92-153-g/2010002/new-neuf-eng.htm.

Canadian MIS Database

Compensation Expense

The sum of gross salaries expenses, benefit contribution expense, purchased compensation expense and fee-for-service expense related to the remuneration of management and operational support personnel, unit-producing personnel and medical personnel employed by or under contract to the health service organization.

Service Recipient

The consumer of service activities offered by one or more functional centres of the health service organization. Service recipients include individuals (such as inpatients, residents and clients) and their significant others, and others as defined by the health service organization.

Workload Units (Service-Recipient Activities—Diagnostic/Therapeutic)

A category used to express the workload of medical imaging functional centres as measured by an appropriate workload measurement system. In medical imaging, it represents the minutes measured retrospectively that unit-producing personnel spend performing the diagnostic/therapeutic service-recipient activities of the functional centre.

Functional Centre

A subdivision of an organization used in a functional accounting system to record the budget and actual direct expenses, statistics and/or revenues, if any, which pertain to the function or activity being carried out.

Unit-Producing Personnel

Those personnel whose primary function is to carry out activities that directly contribute to the fulfillment of the service mandate. Examples include registered nurses, laboratory technologists, accounts payable clerks, pharmacists, housekeepers, home care workers and public health officers. Excluded are practising physicians, medical residents, interns and students and, in most cases, diagnostic, therapeutic, nursing and support services students.

Management and Operational Support Personnel

Personnel whose primary function is to manage and/or support the operation of a functional centre. Examples include directors, managers, supervisors, medical personnel fulfilling a management role and secretaries. Excluded are practising physicians, medical residents and interns and all types of students.

Medical Personnel

Those physicians who are compensated by the health service organization for their professional medical services on either a fee-for-service or salary basis. Examples include pathologists, psychiatrists, radiologists, respirologists, cardiologists, hospitalists, medical residents, interns and students. Also those personnel compensated by the health service organization for their medical-type services on a fee-for-service, sessional or salary basis. Includes dentists and podiatrists.

Technologist

Personnel who have completed the post-secondary college educational requirements for a technologist working in a diagnostic/therapeutic functional centre. They may be required to undertake continuing education to remain current; may be licensed with the province/territory in which they are employed; usually have scope of practice regulated by the province/territory of employment; may be a member of the provincial and national professional organization (such as the Canadian Association of Medical Radiation Technologists and the Canadian Society for Medical Laboratory Science); and function independently within the bounds of their occupation. Includes, but is not limited to, MRTs, medical laboratory technologists, medical diagnostic sonographers, electroencephalography/electronystagmography/electromyography/registered evoked potential/neurophysiology/polysomnography technologists and cardiopulmonary technologists. Note: Includes those personnel who have been grandfathered as a member of this defined occupational class group.

Business Rules for CMDB Data

Medical Imaging Compensation as a Percentage of Total Medical Imaging Expenses

An indicator that measures the percentage of hospital medical imaging expenses related to compensation. Includes the compensation component for management and operational support personnel and unit-producing personnel but excludes medical personnel.

$$\frac{\text{Medical Imaging Compensation} \times 100}{\text{Total Medical Imaging Expenses}}$$

Included are all hospitals that report MIS secondary financial account 7 50 * (Amortization on Major Equipment—Distributed) in functional centre account 7 1 4 15 *. Hospitals that do not report this account have been excluded because MIS secondary financial account 7 50 * is a major component of the denominator.

MIS account code used in the numerator includes the secondary financial account 3*, excluding 3 90 *.

MIS account codes used in the denominator include the secondary financial accounts 3*, 4*, 5*, 6*, 7*, 8* and 9*.

Imaging Inpatient Diagnostic/Therapeutic Workload as a Percentage of Total Medical Imaging Diagnostic/Therapeutic Workload

An indicator that measures the percentage of hospital medical imaging diagnostic/therapeutic workload that is attributed to inpatients.

$$\frac{\text{Medical Imaging Inpatient Diagnostic/Therapeutic Workload} \times 100}{\text{Total Medical Imaging Diagnostic/Therapeutic Workload}}$$

Included are all hospitals that report service-recipient workload in medical imaging in MIS secondary statistical account 1 07 * in functional centre account 7 1 4 15 *.

MIS account code used in the numerator includes the secondary statistical account 1 07 10*.

MIS account code used in the denominator includes the secondary statistical account 1 07 **.

About Entry-Level Medical Radiation Technologist Certification

After graduating from an MRT educational program that has been accredited by the CMA Conjoint Accreditation Services, graduates must write the entry-to-practice national certification exam in their discipline in order to practise in their discipline. This requirement applies in all jurisdictions with the exception of B.C. and the territories (Yukon, the Northwest Territories and Nunavut). While B.C. and the territories do not legally require that MRTs be certified, most employers require it as a condition of employment. There are two certifying bodies in Canada: the CAMRT and the OTIMRO. Candidates who successfully complete either examination are able to practise in the discipline in which they were certified in any province in Canada as long as they meet all the requirements for registration in that jurisdiction. Other requirements, such as the ability to practise the profession in the French language in the province of Quebec, are requested when a candidate moves from other provinces or territories to Quebec. Typically, most candidates working in Quebec have written the OTIMRO exam, while candidates working in other jurisdictions have written the CAMRT exam.

Data Processing Methods

B.C. aggregate-level data provided by the CAMRT did not undergo regular data processing as described below.

File Processing

Once data files have been received by CIHI, all records undergo processing before they are included in the national database.

Data Validation

The MRTDB system first ensures that records are in the proper format and that all responses pass specific validity and logic tests. If the data submitted does not match CIHI’s standard or a logical relationship between specific fields does not make sense (for example, the year of graduation is earlier than the year of birth), an exception and/or anomaly report will be generated. The exception and/or anomaly reports are sent to the respective data providers.

Errors and/or anomalies are reviewed jointly by CIHI and the data provider representative. The data provider then corrects the data and resubmits the data file to CIHI, where it is reviewed again. In cases where the data provider is not able to make the necessary corrections, CIHI may make them directly with the explicit consent of the provider.

Derived Variables

Once the file has passed all validity and logic tests, some variables with high interest or importance are derived from the database and for reporting. Examples include age, highest level of education, new graduates or health regions. These derived variables help the reader better understand the data reported from the MRTDB.

Identification of Primary or Secondary Registrations

As part of the derivation process, each record is analyzed and marked as either a primary or secondary registration, according to CIHI's methodology. If a submitted record indicates that an individual lives outside of Canada, this record must be identified and removed from the analysis to avoid over-counting the MRTs living in Canada.

Furthermore, there are administrative incentives for MRTs to maintain their registration in one Canadian jurisdiction while living and/or working in another. To avoid double-counting at the national level, CIHI evaluates each registration to ensure that it reflects the primary jurisdiction of practice. All secondary registrations, which are termed "interjurisdictional duplicates," are excluded.

Primary registrations are defined as records that meet the following conditions:

- Province/Territory or Country of Residence is either in Canada or not provided.
- For MRTs employed in medical radiation technology, Province/Territory of Primary Employment equals Province/Territory of Registration; if Province/Territory of Primary Employment is not provided, then Province/Territory of Residence equals Province/Territory of Registration.
- For MRTs not employed in medical radiation technology, retired or unemployed, or for MRTs with an Employment Status of unknown, Province/Territory of Residence equals Province/Territory of Registration.
- If the registrant does not provide any information on Province/Territory of Primary Employment or Province/Territory of Residence, the registrant is assumed to have primary registration with the province/territory that submitted the data (that is, Province/Territory of Registration).

See Appendix D for the flow diagram illustrating the process of identifying primary and secondary registrations.

The purpose of this methodology is to remove secondary registrations (that is, interjurisdictional duplicates). However, it is not without its limitations. For example, an MRT living in the United States but working in Canada will be erroneously removed as living abroad. Also, when an MRT is registered and employed in a Canadian province and decides to provide short-term relief staffing in another province or territory, the temporary residence information may result in a double count.

Data Verification With Compare Reports

Once a data submission from a data provider has been accepted in the national database, values for each submitted data element are aggregated to the provincial/territorial level. Three compare reports are prepared for this information: one for active registrations, one for inactive registrations and one for the data that is filtered for the workforce and to be published by CIHI. All three compare reports are sent to the data provider so it may review them and approve the use of the data.

For the 2010 report, after the compare reports were signed off, a few more data quality issues were identified while preparing the report. All issues were raised with the corresponding data provider for clarification and verification. With the data provider's consent, some changes at the value level were made in the report, mostly accompanied by footnotes describing the issues. As a result, in some tables, value distribution within a data element may differ slightly from the values shown in the compare reports.

Data Suppression

CIHI is committed to protecting the confidential information of each MRT. Guidelines have been developed to govern the publication and release of health information to safeguard the privacy and confidentiality of the data received by CIHI. These policies also govern CIHI's release of data through ad hoc queries and special analytical studies.

To ensure the anonymity of individual MRTs, cells with counts from 1 to 4 are suppressed in the data tables and replaced by a single asterisk (*). However, presenting accurate row and column totals also necessitates the suppression of a second value to prevent the reader from determining the suppressed value through subtraction. Therefore, in each row and column of a data table or across data tables with a suppressed value, a second value, even if it is greater than 4, is also either suppressed or partially suppressed, whichever provides the best value for the information while satisfying privacy and confidentiality. If necessary, this practice continues with a third value or more until the suppressed value is not able to be identified. This publication uses a dagger (†) to indicate the second type of suppression.

Table 18: Typical Examples of Small-Cell Suppression

Level of Basic Education in Medical Radiation Technology		
	Count	
	Before Suppression	After Suppression
Diploma	203	203
Baccalaureate	13	1†
Master's and Doctorate	4	*
Unknown	3	3
	Percentage Distribution (%)	
	Before Suppression	After Suppression
Diploma	91.0	91.0
Baccalaureate	5.8	†
Master's and Doctorate	1.8	*
Unknown	1.3	1.3

Note
Cell suppression is not necessary for *unknown* values in the data tables.

Symbols

Wherever possible, standard symbols and numerical presentations are used in this report:

* Value suppressed in accordance with CIHI's Privacy Policy; cell value is from 1 to 4.

† Represents a value of 0 to 9 when partial suppression applies. Value may represent values from 5 to 9 when full suppression is applied to ensure confidentiality or percentage values from 0% to 100% when the corresponding percentage is also suppressed.

When necessary, other symbols are footnoted at the bottom of the respective tables or figures.

Processing Missing Values

When a data provider is unable to provide information for a registrant for a specific data element, a missing value in the terms *not collected* or *unknown* is provided to the MRTDB. When the data collected is not relevant to a registrant, the data provider is required to submit *not applicable* to the database. See definitions of the terms in the Missing Values section of this document.

The MRTDB derives some variables such as age (from Year of Birth) or highest level of education (from Level of Basic Education and Level of Post-Basic Education 1, 2, 3) when data is submitted. If the reference data element(s) has missing values, the variable derived from it is usually assigned an *unknown* value.

Data Quality

To ensure a high level of accuracy and usefulness, CIHI developed a framework for assessing and reporting the quality of data contained in its databases and registries. This framework focuses on the five dimensions of data quality: timeliness, usability, relevance, accuracy and comparability. Briefly, they are as follows for the MRTDB:

- Timeliness is achieved by collecting data at a point in time that is determined and agreed upon by the data providers and that reflects a majority of total records. This allows CIHI to analyze and release the data in a timely manner.
- Usability includes the availability and documentation of the data and the ease of interpretation.
- Relevance of the data set includes the adaptability and value of the data when used by decision-makers, policy developers, researchers and the media.
- Accuracy is an assessment of how well the data reflects reality or how closely the data presented in this publication reflects the population of reference. Under- or over-coverage issues, CIHI's methodologies of point-in-time data collection, primary/secondary registration identification and missing data values all have an impact on accuracy.
- Comparability measures how well the data for the current year compares with the data from previous years and how data from the MRTDB compares with data from other sources or between jurisdictions. This publication presents MRT data for registration years from 2008 to 2010. Prior to 2008, data is available in aggregate counts only from CIHI's Health Personnel Database.

Information Gap

An information gap exists between the population of interest and population of reference for the MRTDB.

- The profession of medical radiation technology is not regulated in all Canadian jurisdictions. In 2010, MRTs who were employed in B.C. and the territories (Yukon, the Northwest Territories and Nunavut) were not obliged to register with a professional association such as the CAMRT unless mandated by the employer. More information for regulation status is presented in the section Regulation Status and Appendix B.

  The aspect of voluntary registration has a significant impact on the quality of data; in particular, information gap issues become a major concern for B.C. and the territories, and hence for Canada.

Under-Coverage

Under-coverage results when data that should be collected for the database is not included in the frame for the MRTDB.

According to CIHI's methodology for identifying primary/secondary registrations, records in the MRTDB for MRTs who live outside Canada are excluded from publications for the workforce since they are identified as secondary registrations. Under-coverage occurs when registrants work in the profession in Canada but live in another country. However, such instances are not often observed across the country.

Over-Coverage

Over-coverage is the inclusion of units on the frame beyond the population of reference.

Over-coverage for the workforce may occur when an MRT does not work in the profession but is included in the workforce data.

- Employment Status has seven values defined in the Medical Radiation Technologist Database Data Dictionary: employed in medical radiation technology; employed in medical radiation technology but on leave; employed outside of medical radiation technology; retired; unemployed; not collected and unknown. Each record was assigned one of the values when data was provided, and only the records that are of the first value—that is, employed in medical radiation technology—are included for the workforce in the publication. Nevertheless, Employment Status in the data for Nova Scotia, Quebec, Ontario and B.C. (aggregate data) was not fully provided from all members who were included in the workforce. If the values for Employment Status other than employed in medical radiation technology could have been accurately identified, the records with these values would have been excluded. However, the number of these records is believed to be very small and the impact of their inclusion should be limited for any analysis for the affected jurisdictions.
- Data for B.C. was received from the CAMRT at an aggregate level. For this reason, the workforce counts for the province may include secondary registrations, which may result in over-coverage.

- According to CIHI's methodology for identifying primary/secondary registrations, records in the MRTDB with unknown or not collected values for Province/Territory of Residence and Province/Territory of Primary Employment are classified as primary registrations. If these records are true secondary registrations, over-coverage would occur.

Missing Values

Missing values are values attributed in instances where a data provider is unable to provide information for a registrant for a specific data element. This involves three potential situations:

- Not collected—when the information is not collected by the data provider on the registration form or a data provider cannot submit the information;
- Unknown—when the information was not provided by the registrant; and
- Not applicable—when the data element is not relevant to the situation of the registrant. (For example, when an MRT resides in the United States, the Canadian Province/Territory of Residence is not applicable.)

While the definitions for *not collected* and *unknown* are different, it was observed that the value *not collected* was submitted for *unknown* values for some data elements in some 2008 to 2010 data files. In these cases, the value is interpreted and included as *unknown.*

Appendix E illustrates *not collected* and *unknown* rates by core data element. In cases where *not collected* was confirmed to be a misused value for *unknown*, the value was added to the rate for *unknown*.

Some of the results with a large percentage of *unknown* values were not included in this publication because their questionable accuracy limits their usability and may lead to erroneous interpretation. In other cases, the number of *unknown* values is clearly identified in the analysis and footnoted for explanation when necessary. As a criterion for publishing the current information in this report, a basic quality standard of less than or equal to 7% *unknown* values was implemented to maintain a balance between accuracy and offering a variety of information.

Unknown Values for Postal Code–Related Data Elements

A few derived data elements, such as health region, are based on the postal codes reported by registrants and Statistics Canada's PCCF+. While the majority of *unknown* values for health regions include *unknown* postal codes, they may also include a small portion of values that represent submitted postal codes that cannot be found and mapped to any health regions in the PCCF+.

Data Revisions

Revisions to previously published data are meant to improve data accuracy and consistency. All the revisions have received explicit consent from the respective data provider.

During the 2010 data collection cycle, tombstone data elements received in the MRTDB for 2008, 2009 and 2010 were checked for Newfoundland and Labrador, P.E.I., New Brunswick, Manitoba, Saskatchewan, Alberta, Yukon, the Northwest Territories and Nunavut. A tombstone element such as gender, year of birth or basic education is not supposed to change for the same registrant over time. Different values detected through this data assurance activity were sent to the data providers for verification. After receiving the data providers' approval, CIHI arranged for corrections to be made to the relevant data in the MRTDB. As a result, information for some tombstone elements for 2008 and 2009 may be different from what was released in the previous annual reports.

Quebec, 2008 and 2009: In the 2008 and 2009 annual reports, registrants who claimed *working outside medical radiation technology* or *unknown* Employment Status were reclassified as *working in medical radiation technology* and included in the workforce counts. After further analysis and consultation with the data provider, only the registrants who claimed *working outside medical radiation technology* are included in the MRT workforce in this report. This revision helped reduce over-reporting for the Quebec MRT workforce in the previous reports by 281 (6.6%) for 2008 and 291 (6.5%) for 2009. See Table 19.

Table 19: Revision on Reclassification of Employment Status, Quebec, 2008 and 2009

	Number of Reclassified Registrations		Estimated Workforce		Percentage of the Workforce	
	Before Revision	After Revision	Before Revision	After Revision	Before Revision	After Revision
2008	864*	281	4,560	4,279	18.9%	6.6%
2009	870†	291	4,762	4,471	18.3%	6.5%

Notes

* This includes 583 registrants who incorrectly claimed to be *employed outside of medical radiation technology* and 281 registrants who submitted *unknown* Employment Status.

† This includes 579 registrants who incorrectly claimed to be *employed outside of medical radiation technology* and 291 registrants who submitted *unknown* Employment Status.

Data Adjustments

To better utilize data from the provinces and territories, CIHI assessed the overall quality of the data elements. Depending on the situation, adjustments using various methods have been made either by the data providers or by CIHI after consulting with the data providers and receiving their explicit consent to publish the data.

I. Adjustment for Employment Status

The proportion of registrants with *unknown* or *employed outside of medical radiation technology* Employment Status is unreasonably high in some jurisdictions; adjustments have been made to include these registrants in the workforce by converting their Employment Status to *employed in medical radiation technology*.

1. **Nova Scotia, 2009, and Ontario, 2008 to 2010:** The *unknown* Employment Status was reclassified as *employed in medical radiation technology* to count them for the MRT workforce. The adjustment was made in the database, except for Ontario 2008. The adjustment method used for Ontario 2008 data is different from other years. See details in the section Estimation Methodology below.
2. **Quebec, 2008 to 2010:** In Quebec, some members who worked as MRT clinical instructors, chiefs of staff, etc., incorrectly claimed to be *employed outside of medical radiation technology*. The Employment Status for these registrants was reclassified to *employed in medical radiation technology* to include them in the MRT workforce count. This adjustment was made outside of the database.

This type of adjustment is based on the assumption that most of them are employed in the profession. Although the adjustment may cause over-coverage, the bias will be smaller than leaving them out of the workforce altogether. The number of registrations and the percentage of the workforce that was affected by the above adjustments are summarized in Table 20.

Table 20: Reclassification of Employment Status, 2008 to 2010

Province	Data Collection Year	Number of Reclassified Registrations	Estimated Workforce	Percentage of the Workforce
Nova Scotia	2009	348	514	67.7%
Quebec	2008	583	4,560	12.7%
	2009	579	4,762	12.2%
	2010	348	4,610	7.5%
Ontario	2008	720	6,030	11.9%
	2009	455	6,154	7.4%
	2010	464	6,338	7.3%

II. Adjustment for Reporting More Data Elements

A small number of registrants who entered *unknown* values for certain groups of data elements was excluded from the information reported on these data elements. After this adjustment, the same data selection criterion (less than 7% missing values) was applied to determine which data elements should be included in the report.

1. **Newfoundland and Labrador, 2009 and 2010:** Between 16% and 19% of the members in 2009 and about 9% in 2010 who registered with the Newfoundland and Labrador Association of Medical Radiation Technologists (NLAMRT) did not provide information to the association for most data elements. However, the NLAMRT was able to submit data for these members for gender, age and initial certification discipline. As such, these members are included in the statistics for total workforce, gender, age and initial certification discipline. Nevertheless, since most other data elements did not meet CIHI's data submission requirements for these members, most of these members were excluded so that the remaining members from the province can be reported in the data tables that include those data elements. Level of Basic Education in MRT and Place of Work for Primary Employment were used as the screening tool for exclusion; if the values of these data elements were *unknown*, the record was excluded. Consequently, the total in these data tables does not match the total workforce (or the totals for gender, age and initial certification discipline). This adjustment was made outside the database and included in this report only.
2. **Ontario, 2009 and 2010:** After reclassifying the registrants with *unknown* Employment Status to *employed in medical radiation technology* (see above section Adjustment for Employment Status), some data elements did not meet the 7% selecting criterion for reporting. A number of key data elements for basic education, initial certification and primary employment were used as the screening tool to exclude the registrants who did not report these data elements from the analysis. Data for total workforce counts, age, gender and post-initial certifications remains unadjusted.

The number of registrations and the percentage of the workforce for which the above adjustments were used are summarized in Table 21 below.

Table 21: Exclusion of Registrations From the Analysis for Certain Data Elements, 2008 to 2010

Province	Data Collection Year	Number of Excluded Registrations	Percentage of the Workforce	Excluded From
Newfoundland and Labrador	2009	33	13.4%	All except for total workforce count, age, gender, number of certifications, initial certification
Newfoundland and Labrador	2010	23	8.6%	
Ontario	2008	720	11.9%	All except for total workforce count
	2009	424	6.9%	All except for total workforce count, age, gender, number of certifications
	2010	421	6.6%	

III. Estimation Methodology

1. **Saskatchewan, 2008 and 2009:** Data submitted by the Saskatchewan Association of Medical Radiation Technologists (SAMRT) does not have sufficient detail for most data elements. CIHI requested aggregate-level information from the CAMRT for MRTs who worked in Saskatchewan in 2008 and 2009. Due to different time frames, the totals of the CAMRT data and of the SAMRT data are close but not exactly the same. In consultation with the SAMRT, the total from the SAMRT was proportioned for the values of each data element according to the distribution of the data element provided by the CAMRT.

The following formula shows the calculation for the number of female MRTs in Saskatchewan in 2009:

Number of female MRTs
= Total from the SAMRT
x (Female count from the CAMRT / Total from the CAMRT)
= 557 x (384 / 484)
= 442

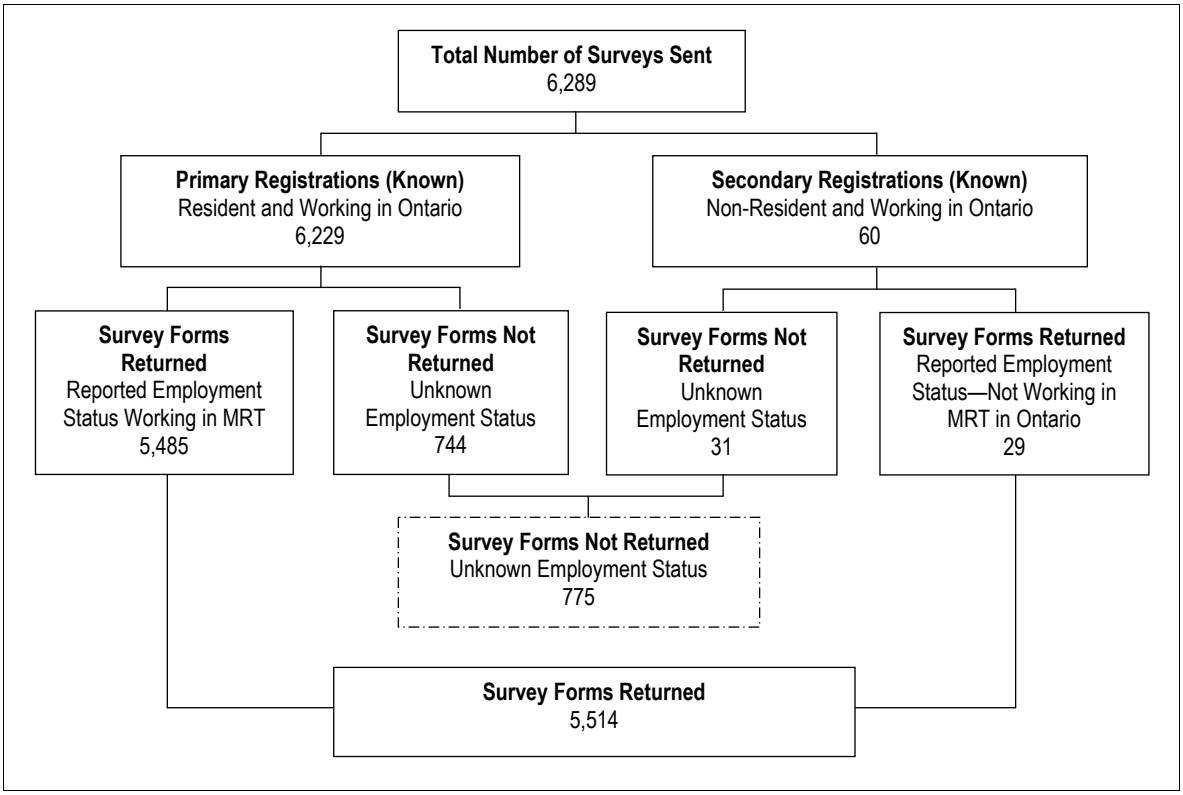
This methodology was performed on both 2008 and 2009 data, on only the data elements that are available from the CAMRT.

2. **Ontario, 2008:** The total number of MRTs shown in the Ontario provincial profile is 5,310, which does not represent the total workforce of the province. The estimated total MRT workforce in 2008 for the province was 6,030. Details are below.

   In 2008, the College of Medical Radiation Technologists of Ontario (CMRTO) sent its members a survey to collect the data required for the MRTDB. Altogether, 6,289 CMRTO members were surveyed; 5,514 completed surveys were received by the college. This resulted in *unknown* values for Employment Status and other data elements for 775 records. Some information is known of the 775 members, such as Province of Residence. The CMRTO has recommended that CIHI include the 775 members when estimating the total MRT workforce in Ontario. The following assumptions were made to obtain the estimated values for these missing records:

   - The majority of the 775 members are likely to be employed in MRT. They should therefore be included in the MRT workforce.
   - Recognizing that, a small portion of the members may be on leave, working outside of medical radiation technology, retired or unemployed.

Figure 25: Illustrations of the Records Breakdown



Following consultation with the CMRTO, CIHI estimated the workforce through the steps below.

Step 1—**identify and exclude secondary registrations:** 60 records were identified as secondary registrations due to interjurisdictional duplicates, according to CIHI's methodology. These included 31 records that had *unknown* Employment Status (as a part of the 775 unreturned survey forms). The remaining 6,229 records (6,289 minus 60), which included 5,485 records with known Employment Status and 744 records (775 minus 31) with *unknown* Employment Status, were carried over to the next steps for processing.

Step 2—**estimation methodology:** The records with a known Employment Status (5,485 records) were broken down into two categories: MRTs who were employed in medical radiation technology and those who fell into the other Employment Status categories (*on leave*, *employed outside of medical radiation technology*, *retired* or *unemployed*). The percentage breakdown between these categories was used to estimate the percentage breakdown for the records in the *unknown* Employment Status group (744 records).

Step 3—**calculation:** Of the 5,485 CMRTO members with a known Employment Status, 96.8% (or 5,310) of them stated that they were *employed in medical radiation technology*. The remaining 3.2% (or 175) members were either *on leave*, *working outside of medical radiation technology*, *retired* or *unemployed*. These proportions were applied to the total number of primary registrations that had *unknown* values for Employment Status (744), using the following calculations:

Estimated MRT workforce in Ontario

= 5,310 + (744 x 96.8%) = 6,030

Estimated number of primary registrations with Employment Status *other than employed in medical radiation technology*

= 175 + (744 x 3.2%) = 199

These 199 records, together with the 60 records that were identified as secondary registrations (not working in Ontario), were excluded from the estimates for the Ontario MRT workforce.

These estimates are included in Data Table 3.1 in the Cross-Jurisdictional Data Tables and Table 1 and Figure 1 in the Methodological Notes for the 2008 data release.

The 744 primary registrations that had *unknown* Employment Status also did not have information for most other data elements. As a result, these records were not included in the data tables for demographic, education, certification and employment information. Only 5,310 CMRTO members who submitted detailed information for the reporting data elements were included in these tables.

Data Limitations

Voluntary Registration in B.C., Yukon, the Northwest Territories and Nunavut

Data in the MRTDB for B.C. and the territories (Yukon, the Northwest Territories and Nunavut) captures only those MRTs who voluntarily registered with the CAMRT. The total supply of the MRTs and their distributions in these jurisdictions, as well as across the country, are therefore not as accurate as they would be if all MRTs were registered.

Data Processing for B.C. Data

Aggregate data received from the CAMRT for B.C. did not go through data validation, derivation, identification of primary/secondary registrations and verification with compare reports, since these processes are applicable only to record-level data. The CAMRT provided aggregate data at the request of CIHI in order to conform to the letter of agreement.

Combined Territorial Information

In most data tables, information for Yukon, the Northwest Territories and Nunavut, wherever data is available, is combined to avoid small counts that could potentially lead to the identification of individuals.

Privacy and Confidentiality

The Privacy and Legal Services Secretariat at CIHI has developed a set of guidelines to safeguard the privacy and confidentiality of data received by CIHI. These policies govern the release of data in publications and media releases, on CIHI's website and through ad hoc requests and special studies. The documents entitled *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Personal Health Information* and *Privacy Impact Assessment*: *Medical Radiation Technologist Database* can be found on CIHI's website (www.cihi.ca).

MRTDB Workforce Products and Services

The following publications relevant to this publication may be downloaded in electronic (PDF) format, free of charge, at www.cihi.ca:

- *Medical Radiation Technologist Database Data Dictionary, Version 1.0*
- *Medical Radiation Technologist Database Data Submission Specifications Manual, Version 1.1*
- *Medical Radiation Technologist Database, 2009 Data Release*
- *Medical Radiation Technologists and Their Work Environment*

Request for Services

CIHI completes ad hoc requests and special analytical projects on a cost-recovery basis using data from the MRTDB. Such requests that are short queries generally can be handled through standard reports and do not require major programming resources, while special analytical projects require project planning and the commitment of extra resources.

For further information on CIHI's data request procedure associated with these products and services, including process and pricing, please visit our website at www.cihi.ca/requestdata.

Appendix A—12-Month Registration Periods* by Province or Territories, 2010

	2009			2010												2011		
Jurisdiction	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
N.L.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
P.E.I.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
N.S.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
N.B.		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Que.							xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Ont.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
Man.					xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		
Sask.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
Alta.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
B.C.*				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			
Territories*, †				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx			

Notes

* Registration periods for MRTs in B.C. and the territories (Yukon, the Northwest Territories and Nunavut) are represented by voluntary registrations with the Canadian Association of Medical Radiation Technologists.

† The territories include Yukon, the Northwest Territories and Nunavut.

xxx Denotes that the month is included as part of the jurisdiction's 12-month registration period.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Appendix B—Regulation Status of Provinces and Territories

Regulation Status of Provinces and Territories	
Regulated Provinces	**First Year of Regulation**
N.S.	1967*
N.B.	1958†
Que.	1973‡
Ont.	1980/1993/2004§
Sask.	1994/2006/2011**
Alta.	1986/2005††
Unregulated Provinces With Mandatory Registration With Provincial Professional Associations	**First Year of Mandatory Registration With the CAMRT**
N.L.	..
P.E.I.	1958‡‡
Man.	..
Unregulated Provinces and Territories With Voluntary CAMRT Registration	
B.C.	n/a
Y.T.	n/a
N.W.T.	n/a
Nun.	n/a

Notes

* Nova Scotia has been regulated in certain areas—radiological technology, nuclear medicine and radiation therapy.

† New Brunswick has been regulated in certain areas—radiological technology, nuclear medicine and radiation therapy.

‡ Quebec has been regulated in certain areas—radiodiagnostic, nuclear medicine and radiation therapy.

§ Ontario has been regulated in certain areas since the following dates: 1980—radiation therapy and radiological technology; 1993—nuclear medicine; 2004—magnetic resonance.

** Saskatchewan has been regulated since 1994; regulation toward radiological technology, nuclear medicine and radiation therapy came into effect in 2006; regulation toward magnetic resonance came into effect in 2011.

†† Alberta has been regulated in certain areas since the following dates: 1986—radiological technology, nuclear medicine and radiation therapy; 2005—magnetic resonance.

‡‡ P.E.I. was a division of the New Brunswick Association of Medical Radiation Technologists prior to 1982.

.. Information is not available.

n/a: not applicable.

CAMRT: Canadian Association of Medical Radiation Technologists.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Appendix C—Data Sources

Data Source	Corresponding Province/Territory of Data Submission	Province/Territory Abbreviation
Newfoundland and Labrador Association of Medical Radiation Technologists	Newfoundland and Labrador	N.L.
Prince Edward Island Association of Medical Radiation Technologists	Prince Edward Island	P.E.I.
Nova Scotia Association of Medical Radiation Technologists	Nova Scotia	N.S.
New Brunswick Association of Medical Radiation Technologists	New Brunswick	N.B.
Ordre des technologues en imagerie médicale et en radio-oncologie du Québec	Quebec	Que.
College of Medical Radiation Technologists of Ontario	Ontario	Ont.
Manitoba Association of Medical Radiation Technologists	Manitoba	Man.
Saskatchewan Association of Medical Radiation Technologists	Saskatchewan	Sask.
Alberta College of Medical Diagnostic and Therapeutic Technologists	Alberta	Alta.
Canadian Association of Medical Radiation Technologists (CAMRT)	Saskatchewan* British Columbia* Yukon Northwest Territories Nunavut	Sask. B.C. Y.T. N.W.T. Nun.

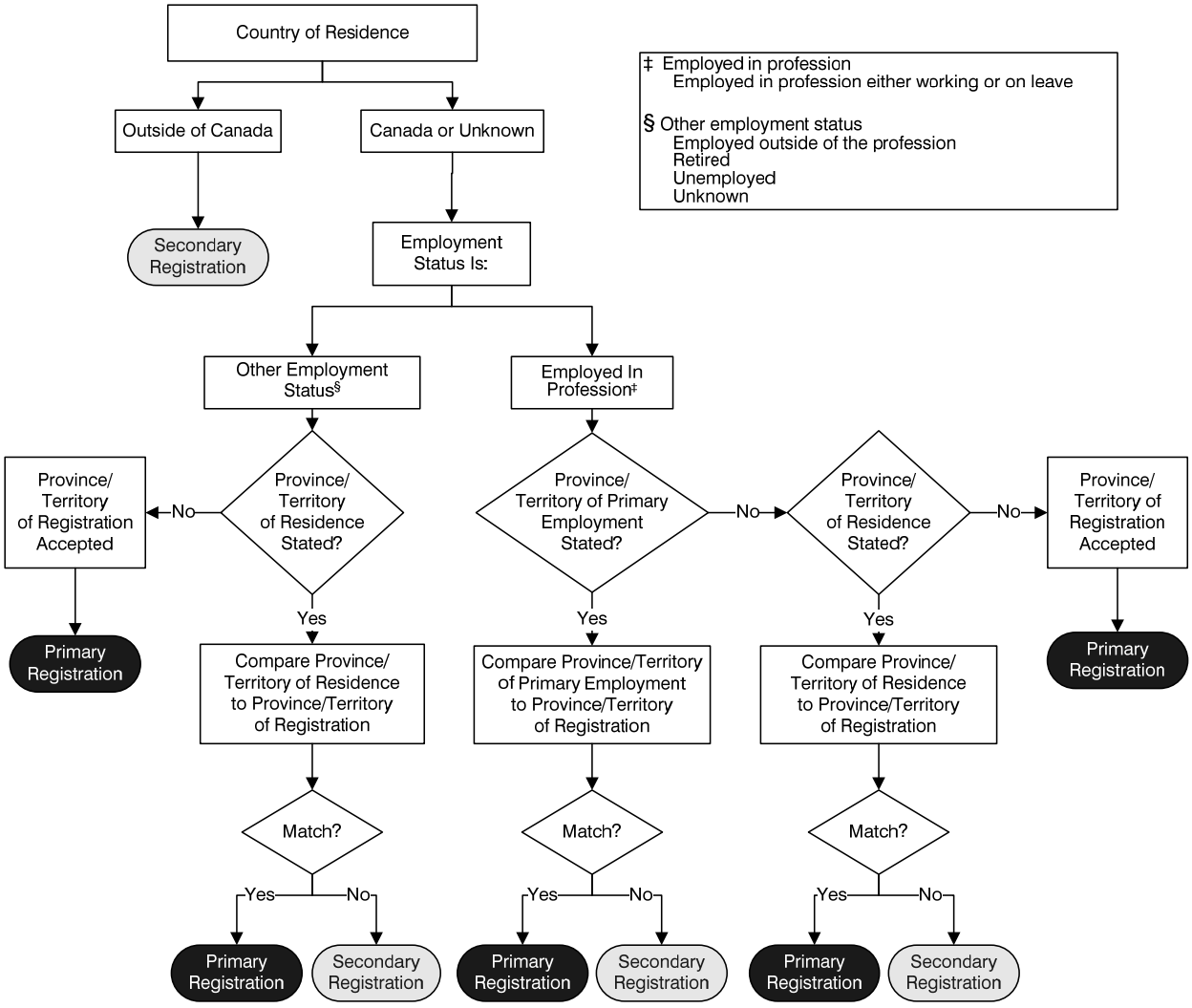
Note

* Aggregate-level data for Saskatchewan (2008 and 2009) and B.C. is provided by the CAMRT.

Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Appendix D—Identification of Primary/Secondary Registration



Source

Medical Radiation Technologist Database, Canadian Institute for Health Information.

Appendix E—Medical Radiation Technologist Records Where Data Is Not Collected and Percentage of Records With *Unknown* Values for Core Data Elements, by Jurisdiction, Canada, 2009 to 2010

Data Element	N.L.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Y.T.		N.W.T.		Nun.	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Gender (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	24.9	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Birth (%)	0.4	0.4	0.0	0.0	1.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	25.1	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Level of Basic Education in Medical Radiation Technology (%)	10.1	9.3	0.0	0.0	63.9	57.1	0.0	0.0	6.6	6.4	13.1	14.8	0.0	0.7	25.1	11.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Graduation for Basic Education in Medical Radiation Technology (%)	10.1	9.7	0.0	0.0	64.3	57.1	0.0	0.0	5.5	5.3	24.9	26.0	0.0	0.7	25.8	12.3	0.0	0.1			0.0	0.0	0.0	0.0	0.0	0.0
Institution of Graduation for Basic Education in Medical Radiation Technology (%)	12.8	11.8	0.0	0.0	65.5	59.1	16.3	14.6	2.2	3.5	19.9	6.5	2.1	2.4	25.4	11.8	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Province/Territory of Graduation for Basic Education in Medical Radiation Technology (%)	10.1	9.3	0.0	0.0	64.3	57.3	15.8	14.6	2.0	1.9	27.1	7.2	0.0	0.0	25.3	11.6	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Country of Graduation for Basic Education in Medical Radiation Technology (%)	10.1	9.3	0.0	0.0	64.5	57.9	15.8	14.6	2.1	1.3	26.4	13.1	0.0	0.0	25.3	11.6	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Level of Post-Basic Education in Medical Radiation Technology 1 (%)	0.0	0.0	0.0	0.0	77.7	72.8	0.0	0.0	X	X	93.8	93.6	0.0	0.7	X	11.4	0.0	0.0			X	35.7	X	30.0	X	33.3
Year of Graduation for Post-Basic Education in Medical Radiation Technology 1 (%)	0.0	0.0	1.1	1.0	86.8	83.1	0.0	0.0	X	X	94.4	94.3	0.0	0.0	X	11.4	0.0	0.0	0.0	0.0	X	X	X	X	X	X
Institution of Graduation for Post-Basic Education in Medical Radiation Technology 1 (%)	0.0	0.0	0.0	0.0	80.5	76.4	93.7	93.4	X	X	93.3	6.5	0.3	0.3	X	11.4	0.0	0.0	0.0	0.0	X	35.7	X	30.0	X	33.3
Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 1 (%)	0.0	0.0	0.0	0.0	80.7	76.6	93.7	93.4	X	X	93.6	6.6	0.0	0.0	X	11.4	0.0	0.0	0.0	0.0	X	35.7	X	30.0	X	33.3
Country of Graduation for Post-Basic Education in Medical Radiation Technology 1 (%)	0.0	0.0	0.0	0.0	81.1	77.0	93.7	93.4	X	X	93.5	92.8	0.0	0.0	X	11.4	0.0	0.0	0.0	0.0	X	35.7	X	30.0	X	33.3
Initial MRT Certification (%)	0.8	0.7	0.0	0.0	68.9	61.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.7	X	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial MRT Certification Discipline (%)	0.8	0.7	0.0	0.0	68.5	61.5	4.7	14.0	0.4	0.5	9.4	11.4	0.0	0.0	X	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Initial MRT Certification (%)	17.1	13.6	0.0	0.0	70.6	62.7	46.1	50.4	0.1	0.1	34.8	35.0	0.0	0.0	X	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Year of Initial Canadian Employment in Medical Radiation Technology (%)	18.2	17.6	2.2	2.0	67.7	59.7	X	X	17.8	4.2	X	9.9	0.1	1.4	25.4	11.8	10.8	13.1	0.0	0.0	0.0	14.3	0.0	20.0	50.0	33.3

Data Element	N.L.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Y.T.		N.W.T.		Nun.	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Initial Province/Territory of Canadian Employment in Medical Radiation Technology (%)	33.7	31.2	2.2	2.0	66.6	59.7	X	X	17.8	6.3	11.6	10.7	0.1	2.1	27.2	13.6	8.0	10.5			0.0	14.3	0.0	20.0	50.0	33.3
Total Usual Weekly Hours of Work (%)	15.5	11.5	4.3	0.0	67.7	61.5	0.4	0.0	33.0	13.5	10.3	10.2	19.5	18.3	18.4	14.8	28.3	21.4			20.0	35.7	28.6	30.0	25.0	33.3
Employment Category (for Primary Employment) (%)	14.0	10.0	0.0	1.0	65.5	58.5	6.6	5.6	7.2	6.7	9.4	9.7	1.1	2.4	X	11.6	12.2	6.4			30.0	35.7	28.6	30.0	50.0	33.3
Full-Time/Part-Time Status (for Primary Employment) (%)	14.0	10.0	0.0	1.0	65.8	59.1	12.6	14.7	9.5	9.2	13.2	14.2	1.7	1.4	X	11.6	14.8	9.7			30.0	35.7	28.6	30.0	50.0	33.3
Postal Code of Employment (for Primary Employment) (%)	18.2	15.4	0.0	1.0	75.4	69.6	0.0	0.0	6.2	5.4	19.0	19.5	3.0	2.3	X	11.6	1.9	1.9			30.0	35.7	28.6	30.0	50.0	33.3
Position (for Primary Employment) (%)	13.2	9.3	0.0	1.0	65.5	58.5	0.0	0.0	6.5	6.0	11.0	11.3	0.8	0.0	X	12.0	21.3	17.2			30.0	35.7	28.6	30.0	75.0	33.3
Place of Employment (for Primary Employment) (%)	12.8	9.0	0.0	1.0	65.6	58.7	0.2	0.3	6.4	6.0	19.0	19.5	1.0	0.0	X	90.5	0.1	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Clinical Education/Preceptor Activity Indicator (for Primary Employment) (%)	13.6	9.7	0.0	1.0	71.9	65.3	X	X	6.3	5.7	7.5	7.8	1.0	0.1	X	14.1	0.0	0.0			30.0	35.7	28.6	30.0	75.0	66.7
Major Function (for Primary Employment) (%)	13.2	9.7	0.0	1.0	67.9	59.9	X	X	X	17.6	10.9	11.2	1.3	0.0	X	11.6	27.1	24.0			30.0	35.7	28.6	30.0	75.0	33.3
Area of Practice for Primary Employment—Magnetic Resonance Imaging (General) (%)	81.0	69.2	0.0	1.0	80.5	76.2	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Nuclear Medicine (General) (%)	81.0	69.2	0.0	1.0	78.1	74.6	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Radiation Therapy (General) (%)	81.0	69.2	0.0	0.1	78.6	75.2	0.0	0.0	X	90.9	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Radiological Technology (General) (%)	80.6	68.8	0.0	1.0	74.0	68.1	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Angiography/ Interventional (%)	81.0	69.2	0.0	1.0	79.0	75.2	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Bone Mineral Densitometry (%)	81.0	69.2	0.0	1.0	79.4	76.0	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Brachytherapy (%)	81.0	69.2	0.0	1.0	80.2	76.8	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Breast Imaging (%)	81.0	69.2	0.0	1.0	77.9	74.2	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3

Data Element	N.L.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Y.T.		N.W.T.		Nun.	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Area of Practice for Primary Employment—Computed Tomography (CT) (%)	81.0	69.2	0.0	1.0	78.2	73.4	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Computed Tomography Simulator (CT/Sim) (%)	81.0	69.2	0.0	1.0	80.0	76.6	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Positron Emission Tomography (PET) (%)	81.0	69.2	0.0	1.0	80.0	76.6	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Positron Emission Tomography/Computed Tomography (PET/CT) (%)	81.0	69.2	0.0	1.0	80.0	76.4	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Simulation (%)	81.0	69.2	0.0	1.0	80.3	77.0	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Single Photon Emission Computed Tomography (SPECT) (%)	81.0	69.2	0.0	1.0	79.4	76.0	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT) (%)	81.0	69.2	0.0	1.0	80.9	77.6	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Treatment Planning (%)	81.0	69.2	0.0	1.0	80.5	77.2	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Ultrasound/ Diagnostic Medical Sonography (%)	81.0	69.2	0.0	1.0	80.3	76.8	0.0	0.0	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Area of Practice for Primary Employment—Other Area of Practice (%)	81.0	69.2	0.0	1.0	79.6	76.2	X	X	X	0.0	8.0	8.7	1.0	0.0	X	11.6	0.0	0.0			30.0	35.7	28.6	30.0	50.0	33.3
Main Area of Practice for Primary Employment (%)	80.6	68.8	0.0	1.0	77.7	60.1	0.0	0.0	X	24.1	13.5	11.3	1.0	0.0	X	11.6	0.6	0.7			30.0	35.7	28.6	30.0	50.0	33.3

References

1. Statistics Canada, *Quarterly Population Estimates, National Perspective—Population, Quarterly Demographic Estimates—April to June 2011*, accessed from <http://www.statcan.gc.ca/pub/91-002-x/2011002/t002-eng.pdf>.
2. Canadian Institute for Health Information, *National Survey of Selected Medical Imaging Equipment* (Ottawa, Ont.: CIHI, 2010).
3. Statistics Canada, *The Canadian Labour Market at a Glance, 2008*, accessed from <http://www.statcan.gc.ca/pub/71-222-x/2008001/sectionl/l-age-eng.htm>, catalogue no. 71-222-XWE.
4. Canadian Medical Association, *Conjoint Accreditation Services*, accessed on September 14, 2011, from <http://www.cma.ca/index.php/ci_id/19316/la_ied/1.htm>.
5. Canadian Association of Medical Radiation Technologists, *About the Profession*, accessed on September 14, 2011, from <http://www.camrt.ca/aboutttheprofession/abouttheprofession/>.
6. Working in Canada, *Medical Radiation Technologists*, accessed on September 14, 2011, from <http://www.workingincanada.gc.ca/show-search-results.do?lang=eng&titleKeyword=Medical+Radiation+Technologists+(NOC+3215)&noc=3215&regionKeyword=0>.
7. Canadian Association of Medical Radiation Technologists, *Scope of Practice*, accessed on September 14, 2011, from <http://www.camrt.ca/aboutttheprofession/scopeofpractice/>.
8. Canadian Association of Medical Radiation Technologists, *A Situational Analysis and Recommendations for Internationally Educated Medical Radiation Technologists* (2006), accessed on September 14, 2011, from <http://www.camrt.ca/publicationsandinformationresources/relevantreports/IEMRT_report.pdf>.
9. Canadian Association of Medical Radiation Technologists, *Specialty Certificates*, accessed on September 14, 2011, from <http://www.camrt.ca/professionaldevelopment/specialtycertificates/>.
10. Canadian Association of Medical Radiation Technologists, *Assessment of Credentials by Province*, accessed on September 14, 2011, from <http://www.camrt.ca/certification/international/assessmentofcredentialsbyprovince/>.
11. P. Blais and P. Darling, *An Analysis of the Performance of Internationally Educated Medical Radiation Technologists (IEMRTs) on the CAMRT Radiological Technology Certification Examination* (2009), accessed on September 14, 2011, from <http://www.camrt.ca/publicationsandinformationresources/relevantreports/Exam-Research-Report-09.pdf>.
12. Canadian Association of Medical Radiation Technologists, *Bridging Programs*, accessed on September 14, 2011, from <http://www.camrt.ca/certification/international/bridgingprograms/>.
13. Canadian Institute for Health Information, *Medical Imaging in Canada, 2007* (Ottawa, Ont.: CIHI, 2008).

14. Canadian Institute for Health Information, *Medical Imaging in Canada, 2003* (Ottawa, Ont.: CIHI, 2004).

15. Canadian Institute for Health Information, *Canadian MIS Database*, accessed on January 23, 2012, from <http://www.cihi.ca/cihi-ext-portal/internet/en/document/spending+and+health+workforce/spending/spend_canmis>.

16. Canadian Institute for Health Information, *Medical Radiation Technologists and Their Work Environment* (Ottawa, Ont.: CIHI, 2010).

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