Medical Radiation Technologist Database Reference Guide, Version 1.0

Standards and Data Submission

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

Our Vision

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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Preface

The Canadian Institute for Health Information (CIHI) is an independent, pan-Canadian, not-for-profit organization working to improve the health of Canadians and the health care system by providing quality health information.

CIHI's mandate, as established by Canada's health ministers, is to coordinate the development and maintenance of a common approach to health information for Canada. To this end, CIHI is responsible for providing accurate and timely information that is needed to establish sound health policies, manage the Canadian health system effectively and create public awareness of factors affecting good health.

To meet this mandate, CIHI's core functions include the coordination and promotion of national health information standards and health indicators, the development and management of health databases and registries, the funding and facilitation of population health research and analysis, the coordination and development of education sessions and conferences, and the production and dissemination of health information research and analysis.

The Medical Radiation Technologist Database (MRTDB) is one example of a health database maintained by CIHI. Any questions regarding the MRTDB should be directed to

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- Newfoundland and Labrador Association of Medical Radiation Technologists
- 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
- Canadian Association of Medical Radiation Technologists (CAMRT)

1 Introduction

1.1 Background

Prior to 2004, ministers and deputy ministers of health, the former Federal, Provincial and Territorial Advisory Committee on Health Human Resources and Health, and a number of key stakeholder groups identified significant information gaps regarding data development for a variety of health professionals. These information gaps were particularly apparent for occupational therapists, pharmacists, physiotherapists, medical laboratory technologists and medical radiation technologists. Within these health professions, data collection standards did not exist, and there were data gaps in areas such as demographic and geographic characteristics, education and employment practice. The *Framework for Collaborative Pan-Canadian Health Human Resource Planning*,[1] developed under the direction of the Conference of Deputy Ministers of Health (and designed to facilitate pan-Canadian health human resource planning), also reinforced the need to develop supply-based profession-specific databases on the aforementioned five professions. Commencing in 2004–2005 and with the funding from Health Canada, the Canadian Institute for Health Information (CIHI) initiated a Health Human Resources Database Development Project (HHR-DDP) to develop five databases for the above-mentioned professions. The project was concluded in 2009–2010 and the five databases are now maintained and operated by CIHI.

These databases aim to provide standardized comparative data on the demographic, geographic, education and employment information for each of the five professions in Canada. The data from the databases is expected to be used for statistical reporting and research purposes, including, but not limited to, annual statistical reports, analytical tools and studies, and ad hoc data/information requests, pertaining to the supply and distribution of the workforce of health professionals across the country.

The Medical Radiation Technologist Database (MRTDB) is one of the five databases to have been developed. As a part of the HHR-DDP project, the first version of the data dictionary and data submission specifications manual were developed through a consultation process between CIHI and the representatives from provincial regulatory bodies, provincial professional associations and the Canadian Association of Medical Radiation Technologists (CAMRT). All the partners collaboratively identified data elements, values and associated definitions to be included in the MRTDB, which resulted in the birth of the *Medical Radiation Technologist Database Data Dictionary 1.0*; subsequently, CIHI developed the *Medical Radiation Technologist Database Data Submission Specifications Manual 1.1* according to the Data Dictionary 1.0 in order to build the database. The two documents have served as a reference guide for the database development and for data submission activities since 2008 when first-year data was collected for the MRTDB.

As of early 2012, the MRTDB has gone through four complete data collection cycles. While most of the content within the two documents has functioned well, the need for fine tuning and changes has emerged. This document, *Medical Radiation Technologist Database Reference Guide, Version 1.0*, has been updated for future database maintenance and data submission activities.

1.2 Purpose of This Document

The purpose of this document is to

- Explain the rationale for collecting specific data elements;
- Define data elements and their values to be collected for the MRTDB;
- Provide technical specifications for data submission to the MRTDB; and
- Provide technical specifications for the maintenance of the MRTDB at CIHI.

1.3 Major Features of the Changes

The *MRTDB Reference Guide 1.0* is an updated version based on the *MRTDB Data Dictionary 1.0* and *MRTDB Data Submission Specifications Manual 1.1*. The major features of the update include the following:

- A list of data elements (previously called *minimum data set*) and the rationale for collection are presented in Section 2; the definitions of the data elements and their values have been added to Section 3 to provide users with more comprehensive information in one location. These changes reflect the shift in needs and focus of activities from information needs assessment and database development to data submission and database maintenance; they also reflect CIHI's aim to make the document more user-friendly.
- Redundant content is reduced by using a "pointer" reference method. For example, all values for secondary and third employment data elements are the same as those for primary employment; hence they are referred to as primary employment values where applicable.
- Notes that explain definitions or the relationship between data elements are attached where applicable. The notes are expected to help data providers choose the correct values for data submission and improve the quality of the data.
- A new appendix (Appendix D2) has been added, listing historical name changes of Canadian post-secondary institutions that provide education in medical radiation technology. While the research may not be exhaustive, this information has been included to help data providers choose identifiable institution codes as opposed to *unknown* or *other institution* for educational institution data elements.

Note: The above-noted changes do not affect the existing database structure; as such, unnecessary and/or significant system changes or workload beyond regular data submission activities will be avoided.

All major changes in content are summarized in Section 1.4.

1.4 Summary of Major Content Changes

Content Change				Rationale
Where/What	Type	From	To	
Document name	Label	MRTDB Data Dictionary 1.0, and MRTDB Data Submission Specifications Manual 1.1	MRTDB Reference Guide 1.0	See Reference Guide sections 1.1–1.3
File name; control record	Label	Data year/current data year	Data collection year	To make the label reflect definition
Employment-related description	Label	Worked Hours/ Hours Worked	Hours of Work	For consistency
Field #9, 14, 19, 24 Basic Education, Post-Basic Education 1, 2, 3/ code 00000026	Value label	00000026: Non-Canadian Location of Graduation	00000026: Non-Canadian Institution of Graduation	To make the label reflect the definition
Field #12, 13, 14, 15, 16 Post-Basic Education 1	Label and concept	Level of Post-Basic Education in Medical Radiation Technology 1	Level of Most Recent Post-Basic Education in Medical Radiation Technology	Collecting most recent post-basic education allows for monitoring changes in the educational attainment of the workforce after basic education. In conjunction with data elements for basic education, it is possible to capture the current education that the workforce has achieved. These changes correspond with the discontinuation of 10 data elements for post-basic education 2 and 3.
		Year of Graduation for Post-Basic Education in Medical Radiation Technology 1	Year of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
		Institution of Graduation for Post-Basic Education in Medical Radiation Technology 1	Institution of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
		Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 1	Province/Territory of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
		Country of Graduation for Post-Basic Education in Medical Radiation Technology 1	Country of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
Field #72 Employment Status	New values		46: Retired but Return to Work in Occupation 48: Retired and Stop Working in Occupation	To capture more specific information on retired MRTs and allow more in-depth analysis on this particular group of people

Content Change				Rationale
Where/What	Type	From	To	
Field #73	Concept and new values	Activity Status if Not Employed in Occupation	New name: Retirement Intention New values: 52: Planning to Stop Working in 1–5 Years 54: Planning to Stop Working in 6–10 Years 56: Planning to Stop Working After 10 Years	To capture retirement intention of MRTs at the time of registration or renewal for MRT workforce planning
Stop collecting 50 data elements		See Appendix E for the list of data elements	Use *Not Collected* for discontinuation	These data elements are applicable to less than 3% of all registered MRTs. To balance the efforts and benefits of collecting these data elements, the decision for discontinuation was made at the 2011 MRTDB annual meeting.

For more information regarding the rationale or decision-making process for the above-mentioned changes to the MRTDB, please send an email to mrtdb@cihi.ca.

2 Rationale for Data Elements Included in the MRTDB

The MRTDB aims to provide standardized comparative data and reports on demographic, geographic, education, certification, specialty certificate and employment information for medical radiation technologists in Canada. The data elements are identified below, along with the rationale for their inclusion in the MRTDB.

Note: A number of data elements that are not applicable to the majority of MRTs need not be submitted to the MRTDB as of 2012. Please see Appendix E for the list of these data elements.

Field #	Data Element	Rationale
Identifiers and Demographic Information The number and demographic characteristics of health personnel who are registered or licensed or who otherwise are part of the available health workforce provide important information. For example, the statistics permit an examination of how age and gender can influence workforce participation.		
1	Provincial/Territorial Unique Identification/Registration Number	This number is needed to uniquely identify a professional within a particular jurisdiction and to follow changes specific to that individual over time (within the jurisdiction submitting data).
2	Gender	This information is necessary to calculate gender-related workforce indicators (for example, the proportion of the workforce that is female).
3	Year of Birth	This information is necessary to calculate age-related workforce indicators (for example, the average age of the workforce).
Geography and Related Geography is an important consideration in understanding the distribution of health personnel in Canada (for example, rural or urban choice of practice/employment setting). How this distribution relates to geography is important to workforce planning and policy development. Please note that the full six-character postal code of employment is identified for collection under Employment—Current Specific.		
4	Province/Territory of Residence	This information is necessary to analyze the geographic distribution of the workforce. Information on a registrant's province/territory of residence is used (in combination with other elements) to reduce the double-counting of registrants registered in more than one Canadian jurisdiction.
5	Country of Residence	
6	Province/Territory of Registration	This information is necessary to analyze the geographic distribution of the workforce. Information on a registrant's province/territory of registration is used (in combination with other elements) to reduce the level of double-counting of registrants registered in more than one Canadian jurisdiction.
Education Monitoring information on the educational attainment of the workforce can make it possible to examine the sequencing and timing of professionals' educational attainments (for example, initial education in the profession, current education in the profession and highest education outside of the profession). Year of graduation for basic education in the profession is also used to generate an indicator of the maximum length of time in the workforce. Province/territory of graduation can be used to examine a given jurisdiction's capacity to retain medical radiation technologists trained in the jurisdiction. It can also be used to target recruitment efforts (for example, to specific Canadian schools and provinces). Information of both basic education and most recent post-basic education makes it possible to capture the current education attainments of the workforce.		
7 **12**	Level of Basic Education in Medical Radiation Technology Most Recent Post-Basic Education Level in Medical Radiation Technology	This data element is used to monitor changes in the educational attainment of the workforce. A range of levels is included to accommodate situations where education may differ from the Canadian standard (usually diploma or baccalaureate), or cases where post-graduate degrees qualify as entry-level credentials (without a diploma).

Field #	Data Element	Rationale
8	Year of Graduation for Basic Education in Medical Radiation Technology	Collecting this information makes it possible to examine the sequencing and timing of professionals' educational attainments (initial education in the profession of interest, current education in the profession of interest and highest education outside of the profession of interest). Year of graduation for basic education in the profession is also used to generate an indicator of the maximum length of time in the workforce (that is, years since graduation from basic education in the profession).
13	Year of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
9	Institution of Graduation for Basic Education in Medical Radiation Technology	Collecting the Canadian institution, province and country of graduation makes it possible to identify where professionals completed their education in medical radiation technology. It allows for monitoring of the Canadian-educated/internationally educated composition of the workforce and analysis of provincial/territorial capacity to retain provincial/territorial graduates.
14	Institution of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
10	Province/Territory of Graduation for Basic Education in Medical Radiation Technology	
15	Province/Territory of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
11	Country of Graduation for Basic Education in Medical Radiation Technology	
16	Country of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology	
17	Level of Post-Basic Education in Medical Radiation Technology 2	Collecting level of post-basic education allows for monitoring of changes in educational attainment of the workforce.
22	Level of Post-Basic Education in Medical Radiation Technology 3	
18	Year of Graduation for Post-Basic Education in Medical Radiation Technology 2	Collecting the year of completion of post-basic education in medical radiation technology permits monitoring of trends in the sequencing and timing of medical radiation technology educational attainments.
23	Year of Graduation for Post-Basic Education in Medical Radiation Technology 3	
19	Institution of Graduation for Post-Basic Education in Medical Radiation Technology 2	Collecting the Canadian institution, province/territory and country of graduation permits the identification of the location where post-basic education in medical radiation technology was completed and allows monitoring of the Canadian-educated/internationally educated composition of the workforce and analysis of provincial/territorial capacity to retain provincial/territorial graduates (for provinces/ territories with education programs).
24	Institution of Graduation for Post-Basic Education in Medical Radiation Technology 3	
20	Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 2	
25	Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 3	
21	Country of Graduation for Post-Basic Education in Medical Radiation Technology 2	
26	Country of Graduation for Post-Basic Education in Medical Radiation Technology 3	

Field #	Data Element	Rationale
27	Initial MRT Certification	These data elements are used to monitor changes in the medical radiation technologist certification attainment of the workforce. In conjunction with other data elements such as Area of Practice and Major Function, they allow for an examination of the specialty areas in which MRTs are working relative to their completed certifications.
28	Initial MRT Certification Discipline	
29	Year of Initial MRT Certification	Collecting the year of certification in medical radiation technology permits monitoring trends in the sequencing and timing of medical radiation technology certification attainments.
30	Issuer of Initial MRT Certification	This data element is required to identify the organization that granted the first medical radiation technology certification.
31	Post-Initial Certification 1	These data elements are required to identify the discipline(s) in which the professional can practice, as well as the level of certification and specialty certificate and the year the certification/certificate was received.
35	Post-Initial Certification 2	
39	Post-Initial Certification 3	
32	Post-Initial Certification Discipline 1	
36	Post-Initial Certification Discipline 2	
40	Post-Initial Certification Discipline 3	
33	Year of Post-Initial Certification Discipline 1	
37	Year of Post-Initial Certification Discipline 2	
41	Year of Post-Initial Certification Discipline 3	
34	Issuer of Post-Initial MRT Certification 1	
38	Issuer of Post-Initial MRT Certification 2	
42	Issuer of Post-Initial MRT Certification 3	
43	Specialty Certificate 1	
46	Specialty Certificate 2	
49	Specialty Certificate 3	
44	Year of Completion of Specialty Certificate 1	
47	Year of Completion of Specialty Certificate 2	
50	Year of Completion of Specialty Certificate 3	
45	Issuer of Specialty Certificate 1	
48	Issuer of Specialty Certificate 2	
51	Issuer of Specialty Certificate 3	
52	Medical Sonography Certification Indicator	These data elements are required to identify whether/when the professional obtained certification in medical sonography and which organization granted the specialty credential in diagnostic medical sonography (including ultrasound).
53	Year of Completion of Medical Sonography Certification	
54	Issuer of Medical Sonography Certification	

Field #	Data Element	Rationale
55	Level of Education in Other Than Medical Radiation Technology 1	These data elements are used to identify and monitor the level of educational attainment **outside** the field of medical radiation technology and to augment a medical radiation technologist's education profile.
60	Level of Education in Other Than Medical Radiation Technology 2	
65	Level of Education in Other Than Medical Radiation Technology 3	
56	Field of Study for Education in Other Than Medical Radiation Technology 1	Collecting the field of study associated with education completed outside of medical radiation technology allows for analysis of the type of post-secondary training that a professional has obtained outside of their primary health discipline.
61	Field of Study for Education in Other Than Medical Radiation Technology 2	
66	Field of Study for Education in Other Than Medical Radiation Technology 3	
57	Year of Graduation for Education in Other Than Medical Radiation Technology 1	Collecting the year of completion of education in other than medical radiation technology permits the monitoring of trends in the sequencing and timing of educational attainment outside the field of medical radiation technology.
62	Year of Graduation for Education in Other Than Medical Radiation Technology 2	
67	Year of Graduation for Education in Other Than Medical Radiation Technology 3	
58	Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 1	Collecting the province/territory and country of graduation permits the identification of the location where education outside medical radiation technology was completed. It also allows for monitoring of the Canadian-educated/ internationally educated composition of the workforce; and analysis of provincial/territorial capacity to retain provincial/territorial graduates.
63	Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 2	
68	Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 3	
59	Country of Graduation for Education in Other Than Medical Radiation Technology 1	
64	Country of Graduation for Education in Other Than Medical Radiation Technology 2	
69	Country of Graduation for Education in Other Than Medical Radiation Technology 3	
Employment An understanding of employment and practice characteristics as well as the nature of labour force participation of health personnel (for example, whether personnel are working full time or part time) can help inform policy decisions made at a range of levels, from national/provincial/territorial (for example, more education seats could be funded to produce more health personnel) to the site of employment (for example, more full-time positions could be made available).		
Employment—Historical and Current General		
70	Initial Province/Territory of Canadian Employment in Medical Radiation Technology	These data elements provide a baseline indication of professionals' initial entry into the Canadian medical radiation technology workforce. Year of initial employment can be used to generate a proxy indicator for length of time in the workforce (for example, years since initial employment as a medical radiation technologist) and, in combination with other data elements on education, can be used to examine transitions into and out of the work lifecycle.
71	Year of Initial Canadian Employment in Medical Radiation Technology	

Field #	Data Element	Rationale
72	Employment Status	Collection of Employment Status permits the identification of registrants according to employment status. Capturing these data elements makes it possible to estimate the available registered workforce in different ways. When these elements are assessed in combination with other data elements, the capacity of the available workforce can be determined.
73	Retirement Intention	Retirement Intention is aimed at capturing the intention of registrants who are considering retirement at the time of registration or renewal.
74	Total Usual Weekly Hours of Work	Hours of work can be a measure of capacity (available supply of personnel) and can be used to estimate the number of full-time equivalents in relation to comparable head count data. The collection of this element is especially important in situations of casual or self-employed work arrangements, where the hours of work are not prescribed by an employer/employment contract.
Employment—Current Specific (Primary Employment, Secondary Employment and Third Employment) *Primary Employment*—The employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours of work. *Secondary Employment*—The employment, with an employer or in a self-employed arrangement, that is associated with the **second**-highest number of usual weekly hours of work. *Third Employment*—The employment, with an employer or in a self-employed arrangement, that is associated with the **third**-highest number of usual weekly hours of work.		
75 **103** **131**	Employment Category (for Primary Employment) Employment Category (for Secondary Employment) Employment Category (for Third Employment)	The employment category permits the differentiation of those in an employee–employer work relationship from those who are self-employed. For registrants in an employee–employer work relationship, the distinction between permanent, temporary and casual employment (in combination with other data elements, such as Employment Status and Hours of Work) indicates changes in the conditions of employment for a profession (for example, an increase in temporary work arrangements with employers). When these elements are assessed in combination with other data elements, the capacity of the available workforce can be estimated.
76 **104** **132**	Full-Time/Part-Time Status (for Primary Employment) Full-Time/Part-Time Status (for Secondary Employment) Full-Time/Part-Time Status (for Third Employment)	For those in an employee–employer relationship or those who are self-employed, these elements permit identification of some basic conditions of employment. When these elements are assessed in combination with other data elements, the potential capacity of the available workforce can be estimated (for example, the number of professionals working part time who could move to full-time employment).

Field #	Data Element	Rationale
77	Province/Territory of Primary Employment	This information is necessary to analyze the geographic distribution of the workforce. Information on a registrant's location of employment is used (in combination with other elements) to reduce the double-counting of registrants registered in more than one Canadian jurisdiction. Collecting a location for up to three employments (primary, secondary and third) indicates the proportion of the workforce registered or living in Canada who conduct most of their employment activity outside of Canada.
105	Province/Territory of Secondary Employment	
133	Province/Territory of Third Employment	
78	Country of Primary Employment	
106	Country of Secondary Employment	
134	Country of Third Employment	
79	Postal Code of Primary Employment	Professionals' full postal code is collected in order to examine geographic distribution at all of the desired units of analysis (national, provincial/territorial and sub-provincial/-territorial areas) and to investigate geographic concepts relevant to health planning (for example, the urban and rural distribution of the health workforce).
107	Postal Code of Secondary Employment	
135	Postal Code of Third Employment	
80	Place of Employment (for Primary Employment)	These elements indicate the setting in which a professional engages in employment activity and permits monitoring of changes in the setting of employment activity over time. Collection of these elements allows for an examination of, among other information, the number of professionals engaged in employment activity in the community versus a hospital or residential care setting.
108	Place of Employment (for Secondary Employment)	
136	Place of Employment (for Third Employment)	
81	Position (for Primary Employment)	These elements indicate the role that the professional plays within an employment setting and allows for a more precise differentiation between those professionals primarily involved in direct service provision and those involved in other roles, such as education.
109	Position (for Secondary Employment)	
137	Position (for Third Employment)	
82	Clinical Education/Preceptor Activity Indicator (for Primary Employment)	These elements indicate how much of the workforce is actively participating in providing clinical education to students as part of given employment.
110	Clinical Education/Preceptor Activity Indicator (for Secondary Employment)	
138	Clinical Education/Preceptor Activity Indicator (for Third Employment)	
83	Major Function (for Primary Employment)	Collecting this information makes it possible to identify the major focus of activities of a professional.
111	Major Function (for Secondary Employment)	
139	Major Function (for Third Employment)	
84	Area of Practice for Primary Employment—Magnetic Resonance Imaging (General)	Collecting this information makes it possible to identify the area(s) in which a professional is practising.
112	Area of Practice for Secondary Employment—Magnetic Resonance Imaging (General)	
140	Area of Practice for Third Employment—Magnetic Resonance Imaging (General)	

Field #	Data Element	Rationale
85	Area of Practice for Primary Employment—Nuclear Medicine (General)	Collecting this information makes it possible to identify the area(s) in which a professional is practising.
113	Area of Practice for Secondary Employment—Nuclear Medicine (General)	
141	Area of Practice for Third Employment—Nuclear Medicine (General)	
86	Area of Practice for Primary Employment—Radiation Therapy (General)	
114	Area of Practice for Secondary Employment—Radiation Therapy (General)	
142	Area of Practice for Third Employment—Radiation Therapy (General)	
87	Area of Practice for Primary Employment—Radiological Technology (General)	
115	Area of Practice for Secondary Employment—Radiological Technology (General)	
143	Area of Practice for Third Employment—Radiological Technology (General)	
88	Area of Practice for Primary Employment—Angiography/Interventional	
116	Area of Practice for Secondary Employment—Angiography/Interventional	
144	Area of Practice for Third Employment—Angiography/Interventional	
89	Area of Practice for Primary Employment—Bone Mineral Densitometry	
117	Area of Practice for Secondary Employment—Bone Mineral Densitometry	
145	Area of Practice for Third Employment—Bone Mineral Densitometry	
90	Area of Practice for Primary Employment—Brachytherapy	
118	Area of Practice for Secondary Employment—Brachytherapy	
146	Area of Practice for Third Employment—Brachytherapy	
91	Area of Practice for Primary Employment—Breast Imaging	
119	Area of Practice for Secondary Employment—Breast Imaging	
147	Area of Practice for Third Employment—Breast Imaging	

Field #	Data Element	Rationale
92	Area of Practice for Primary Employment—Computed Tomography (CT)	Collecting this information makes it possible to identify the area(s) in which a professional is practising.
120	Area of Practice for Secondary Employment—Computed Tomography (CT)	
148	Area of Practice for Third Employment—Computed Tomography (CT)	
93	Area of Practice for Primary Employment—Computed Tomography Simulator (CT-Sim)	
121	Area of Practice for Secondary Employment—Computed Tomography Simulator (CT-Sim)	
149	Area of Practice for Third Employment—Computed Tomography Simulator (CT-Sim)	
94	Area of Practice for Primary Employment—Positron Emission Tomography (PET)	
122	Area of Practice for Secondary Employment—Positron Emission Tomography (PET)	
150	Area of Practice for Third Employment—Positron Emission Tomography (PET)	
95	Area of Practice for Primary Employment—Positron Emission Tomography/Computed Tomography (PET/CT)	
123	Area of Practice for Secondary Employment—Positron Emission Tomography/Computed Tomography (PET/CT)	
151	Area of Practice for Third Employment—Positron Emission Tomography/Computed Tomography (PET/CT)	
96	Area of Practice for Primary Employment—Simulation	
124	Area of Practice for Secondary Employment—Simulation	
152	Area of Practice for Third Employment—Simulation	
97	Area of Practice for Primary Employment—Single Photon Emission Computed Tomography (SPECT)	
125	Area of Practice for Secondary Employment—Single Photon Emission Computed Tomography (SPECT)	
153	Area of Practice for Third Employment—Single Photon Emission Computed Tomography (SPECT)	

Field #	Data Element	Rationale
98	Area of Practice for Primary Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)	Collecting this information makes it possible to identify the area(s) in which a professional is practising.
126	Area of Practice for Secondary Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)	
154	Area of Practice for Third Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)	
99	Area of Practice for Primary Employment—Treatment Planning	
127	Area of Practice for Secondary Employment—Treatment Planning	
155	Area of Practice for Third Employment—Treatment Planning	
100	Area of Practice for Primary Employment—Ultrasound/Diagnostic Medical Sonography	
128	Area of Practice for Secondary Employment—Ultrasound/Diagnostic Medical Sonography	
156	Area of Practice for Third Employment—Ultrasound/Diagnostic Medical Sonography	
101	Area of Practice for Primary Employment—Other Area of Practice	
129	Area of Practice for Secondary Employment—Other Area of Practice	
157	Area of Practice for Third Employment—Other Area of Practice	
102	Main Area of Practice for Primary Employment	These elements identify the main area of practice in which services are provided.
130	Main Area of Practice for Secondary Employment	
158	Main Area of Practice for Third Employment	
Other		
159	Registration Type	This information is necessary to ensure that the appropriate reference population is submitted to CIHI. Collection makes it possible to separate the short-term licence component of the workforce where required for analysis. It also makes it possible to monitor professionals' transitions from active to inactive members of the workforce, and to more accurately report attrition (for example, the collection of data about inactive professionals makes it possible to identify registrants moving from active to inactive status).

3 Data Submission Specifications

3.1 Guidelines for Data Submission

3.1.1 Data Providers

Data providers consist of provincial regulatory bodies or professional associations who supply licensing membership data for their respective provinces, and the Canadian Association of Medical Radiation Technologists (CAMRT). Please refer to Appendix A for the list of participating data providers and their identifiers for each province or territory.

3.1.2 Annual Data Collection Date

In accordance with agreements between the data providers and CIHI, data will be provided annually for the point-in-time data collection date of August 1. All jurisdictions have different registration periods. For the purposes of the MRTDB, the data provided should include all registrations received between the start of the data provider's registration period and July 31 (inclusive) of the data submission year.

Note: it is crucial for data providers to make a copy when point-in-time data is captured. After submission, CIHI will report back to data providers on errors and anomalies found within the data file. The data provider should then make the necessary changes and updates to the original data file. While data providers may wish to apply updates and changes to the current database, for data submission purposes, it is important that the original data file is updated and resubmitted without the inclusion of any new registrations that have occurred after July 31.

3.1.3 Deadline for Submission

In accordance with the agreements between the data providers and CIHI, the initial data submission should be provided to CIHI between August 1 and August 31 of the respective data submission year.

3.1.4 Records for Submission

The target population for the Medical Radiation Technologist Database (MRTDB) is all active or inactive registrations from medical radiation technologists' registered with the data providers.

Active: Refers to a professional practice licence or registration type issued by a regulatory authority (after an assessment) that authorizes a registrant to engage in professional practice, as defined by the relevant laws, regulations and/or policies of a specific jurisdiction.

Inactive: Refers to a type of registration that does not permit a registrant to engage in professional practice without further consideration and/or licensing by the regulatory authority within a particular jurisdiction, as defined by the relevant laws, regulations and/or policies of that jurisdiction.

The MRTDB accepts both valid active and inactive registrations defined and submitted by data providers.

3.1.5 Data Acceptance Rules

- A submission file can contain only registration data for the period between the start of the data-provider's registration period and July 31 (inclusive) of the data submission year.
- Data providers should edit data at source and submit only error-free data that conforms to the requirements and submission specifications in this document.
- Data must be submitted in a file of fixed record length.
- All data records submitted to CIHI will be validated against the validation rules implemented in the MRTDB. A control record should be present at the start of the data file.
- Once individual records are validated, accepted records will be integrated into the MRTDB; rejected records will not be integrated into the MRTDB. Errors within the rejected records will be documented.
- Data providers will be informed of errors and anomalies detected in their submitted files via a set of reports. The data provider must supply corrected records by resubmitting the entire data file (a file that contains both corrected records and all of the original records without errors).
- Although uppercase is preferred, characters in a data file are not case-sensitive when values are validated through the MRTDB system.

3.2 File Layout and Submission

3.2.1 File Characteristics

A data file to be submitted to CIHI must consist of the following:

- Control record—this record describes the contents of the file. It must be the first record in the file and 371 characters in length.
- Individual records—these records must be 371 characters in length. Each record describes the demographic, geographic, education, certification and employment characteristics of a single medical radiation technologist.
- Each record must start on a new line. A line must be terminated with a line feed character "\n" for Unix systems or by a carriage return, immediately followed by a line feed "\r\n" for DOS/Windows systems.
- The file to be created is a plain (ASCII) text file *without* delimiters (such as tabs or commas). The file extension must be ".txt".
- Files submitted through the electronic Data Submission Services (eDSS) must be zipped with a ".zip" file extension (see Section 3.2.3 for more information on the eDSS).

Detailed information on the record layout for the control record and the individual records is provided in Section 3.3.

3.2.2 File Naming Convention

File names are standardized to facilitate the receipt and processing of medical radiation technologist data. The file name indicates the profession, data collection year, submitting data provider and file version. The file name layout is as follows:

Field	Value and/or Valid Format	Description
Occupation Identification Code	MRT	"MRT" for profession of medical radiation technology.
Data Collection Year	YYYY (format)	The year for which the data is collected by CIHI.
Data Provider Identifier	AA001 (format) See Appendix A	This is a five-character code ending with 001 assigned by CIHI to the data provider.
File Version Number	NN (format)	This number indicates which version of the file is being submitted. The first file submitted for a given data collection year should have the File Version Number 01. Subsequent iterations of the file would have a version number increased by one each time the file is submitted (that is, 02, 03, etc).
Filename Extension	.txt	The file name extension must be .txt, which indicates a text file.

This is an example of a file name: MRT2011AB00102.txt.

This file name indicates that it is a file containing medical radiation technologist data for the year of 2011 and from the data provider AB001 (Alberta College of Medical Diagnostic and Therapeutic Technologists) and it is the second iteration of the file to be submitted by the data provider.

If this data file is submitted in 2012, the Data Collection Year should remain 2011 as opposed to 2012, since this information reflects the year in which the data was collected (2011) rather than the year in which it is submitted to CIHI.

3.2.3 Data Submission and Transmission

To comply with CIHI's rigorous privacy policy and satisfy national and provincial privacy legislation, CIHI requests that all data files are submitted using the electronic Data Submission Services (eDSS) facility. The eDSS permits online transmission of electronic files to CIHI via a secure encrypted session.

For further information, please send an email to the Program Lead, Medical Radiation Technologist Database, at mrtdb@cihi.ca. If you experience difficulties using the eDSS, access CIHI's Help Desk for assistance by phone at 613-241-5543 or by email at help@cihi.ca.

3.3 Record Layout

3.3.1 Control Record Format

A control record is required at the start of each file. It is a summary of the file contents and functions as a reference for verification of individual records in future steps. All the components of the control record are in character type, even if they appear to be a number or a date. If any component of the control record is incorrect, the submitted data file will be rejected with no further validation.

The type and format of information in the control record are outlined in the table below.

Field #	Data Element	Start Byte	Length	Values and/or Format
1	Occupation Abbreviation	1	3	MRT
2	Data Provider Identifier	4	5	Format is AA001. See Appendix A for values.
3	Data Collection Year	9	4	Format is YYYY. This is the year for which the data was collected for CIHI.
4	Number of Records	13	6	Format is NNNNNN, with zeroes filling in any places not occupied by the actual number. So, for instance, if there are 823 records in the file, the Number of Records is 000823. This is the total number of records in the file (**not** including the control record).
5	File Creation Date	19	8	Format is YYYYMMDD. This is the date on which the file was created.
6	Provincial/Territorial Unique Identification/Registration Number Type	27	1	R (Registration Number) or S (Substitute Number)
7	Filler	28	344	Xs are added to the end of the record so that the control record is the same length as the detail records.
	Total length of a record		**371**	

This is an example of a control record: MRTAB00120110007502011082 4Rxxxxxxxxxx . . .

Occupation Abbreviation	Data Provider Identifier	Data Collection Year	Number of Records	File Creation Date (YYYYMMDD)	Provincial Unique Identification/Registration Number Type ((R) Registration or (S) Substitute)	Filler
MRT	AB001	2011	000750	20110824	R	Xs

This control record indicates the following:

- MRT—the profession is medical radiation technologist
- AB001—the record was submitted by data provider AB001
- 2011—the data collection year is 2011
- 000750—there are 750 records in the file (**not** including the control record)
- 20110824—the file was created on August 24, 2011
- R—the registration numbers are actual registration numbers
- Xs—the record is padded with a filler of 344 characters

Notes

- *Provincial/Territorial Unique Identification/Registration Number Type*

  The Provincial/Territorial Unique Identification/Registration Number for medical radiation technologists may be included in one of two ways: as the **actual registration** number or as a **substitute** (dummy) number. The jurisdiction may choose to supply either actual or substitute (dummy) numbers. However, regardless of which type of number is provided, the number for each registrant must be the same each year. If dummy numbers are supplied, they must remain consistent year after year for each registrant. In other words, a registrant should receive a unique lifetime ID. This requirement enables CIHI to conduct longitudinal analysis on the data.

- *Data Collection Year Versus File Creation Date*

  The value for the Data Collection Year and for the year component of the File Creation Date can be the same or different. For example, if a file for 2011 data is created on August 24, 2011, the year value for both the Data Collection Year and the File Creation Date should be 2011; if the file is created on January 22, 2012, the year value for the Data Collection Year is 2011 and the year value for the File Creation Date is 2012.

- *Number of Records*

  If the actual number of records submitted looks the same as the number documented in the control record but the file is rejected due to the mismatch of this component, check whether there are blank lines under the last record. These blank lines need to be removed because they are counted when the system validates the control record for the number of records.

3.3.2 Data Definition and Record Layout

The following table provides the detailed information required to create records in a sequential file suitable for processing by CIHI.

Notes

- Due to the nature of text file format, all values are character type.
- The following terms are used consistently throughout the table below:
  a. *Not Collected*—the primary data collector[i] does not collect this data element or does not submit it to CIHI (if this is true, this term should be applied to all the records related to this element in a data file).
  b. *Not Applicable*—this data element is collected but does not apply.
  c. *Unknown*—the primary data collector is unable to obtain the required information for a specific data element.

Field #	Data Element	Start Byte	Length	Values and/or Format
Identifiers and Demographic Information				
1	**Provincial/Territorial Unique Identification/ Registration Number*** A lifetime registration number, or suitable alternative, that uniquely identifies a medical radiation technologist within a particular jurisdiction. This number is a lifetime unique identifier assigned by the submitting jurisdiction for administrative purposes. * That is, the number assigned to a returning registrant should be the same as the previous number the registrant received. When a registrant no longer registers with the province, the number assigned to this individual must not be recycled for another registrant.	1	16	**Provincial/Territorial Registration Number or Suitable Alternative†** † The number may vary in length between data providers. For numbers shorter than the maximum length (16 characters), the unique identification number must be left-justified with the remainder of the field filled with spaces (that is, blanks) to the maximum of 16 characters. Other acceptable options for fillers include leading or trailing zeroes; however, once a format is selected, it must be unchanged from year to year, or the system will acknowledge the same number with different formats as different registrants.
2	**Gender** The reported sexual category of a registrant, at the time of registration or renewal, used for administrative purposes.	17	1	**F: Female** **M: Male** **7: *Not Collected*** **9: *Unknown***
3	**Year of Birth** Year of birth of the registrant.	18	4	(Valid year in format YYYY) **9997: *Not Collected*** **9999: *Unknown***
Geography and Related				
4	**Province/Territory of Residence** The Canadian province/territory of residence at the time of registration or renewal.	22	2	*Canadian Province/Territory Codes (see Appendix B)* **97: *Not Collected*** **98: *Not Applicable**** **99: *Unknown*** * Includes registrant who resides outside of Canada.

i. Primary data collectors are the provincial regulatory bodies (for regulated provinces) or professional associations and the Canadian Association of Medical Radiation Technologists (CAMRT), which collect data from their members and submit it to CIHI.

Field #	Data Element	Start Byte	Length	Values and/or Format
5	**Country of Residence** The country of residence at the time of registration or renewal.	24	3	*Country Codes (see Appendix C)* **997: *Not Collected*** **999: *Unknown***
6	**Province/Territory of Registration** The province/territory submitting medical radiation technologist data.	27	2	*Canadian Province/Territory Codes (see Appendix B)*
Basic Education				
7	**Level of Basic Education in Medical Radiation Technology** Initial post-secondary education program used to prepare a medical radiation technologist for practice. This refers to initial education in medical radiation technology used, in whole or in part, for consideration of licensure (regulatory authority) or registration (voluntary membership association) as a medical radiation technologist in Canada.	29	2	**10: Diploma*** —Diploma or equivalent, below the level of a baccalaureate, conferred by a college, university or comparable institution. For medical radiation technologists, this refers to direct-entry diplomas for programs completed at a Canadian community college, collège d'enseignement général et professionnel (CEGEP), hospital or equivalent. **20: Baccalaureate**—An undergraduate degree conferred by a university or comparable institution. This refers to direct-entry degrees in medical radiation technology. **30: Master's**—A graduate-level professional university degree. This refers to direct-entry degrees in medical radiation technology. **40: Doctorate**—A post–graduate-level professional university degree. This refers to direct-entry degrees in medical radiation technology. **97: *Not Collected*** **99: *Unknown*** * (1) This code also applies to the members who do not have a diploma but are grandfathered. (2) In the scenario that a registrant received a diploma first, an MRT certification second, and then a degree in baccalaureate in MRT, enter 10 (diploma) for Level of Basic Education, 20 (baccalaureate) for Level of Most Recent Post-Basic Education, and appropriate values for initial certification elements.
8	**Year of Graduation for Basic Education in Medical Radiation Technology** Year of completion of basic education program used to prepare a medical radiation technologist for entry into practice.	31	4	(Valid year in format YYYY) **9997: *Not Collected*** **9999: *Unknown***
9	**Institution of Graduation for Basic Education in Medical Radiation Technology** Name of Canadian college or university of completion of initial education program used to prepare a medical radiation technologist for practice.	35	8	*Canadian Post-Secondary Institution Codes for MRT (see appendices D1 and D2)* **00000016: Other Canadian Institution** **00000026: Non-Canadian Institution of Graduation**—The institution of graduation was outside of Canada. **99999997: *Not Collected*** **99999999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
10	**Province/Territory of Graduation for Basic Education in Medical Radiation Technology** Canadian province/territory of completion of initial post-secondary education program used to prepare a medical radiation technologist for practice.	43	2	*Canadian Province/Territory Codes (see Appendix B)* **26: Non-Canadian Location of Graduation**—Location of graduation was outside of Canada. **97: *Not Collected*** **99: *Unknown***
11	**Country of Graduation for Basic Education in Medical Radiation Technology** Name of country of completion of initial education program used to prepare a medical radiation technologist for practice.	45	3	*Country Codes (see Appendix C)* **997: *Not Collected*** **999: *Unknown***
Most Recent Post-Basic Education If a registrant has basic education only, all fields related to Most Recent Post-Basic Education should be entered as *Not Applicable*. If a registrant has more than one post-basic education, enter the most recent one for Most Recent Post-Basic Education.				
12	**Level of Most Recent Post-Basic Education in Medical Radiation Technology** The most recent post-basic education achieved in medical radiation technology that resulted in a diploma or a degree. (This includes any post-basic medical radiation technology education achieved most recently leading to a diploma or a degree, for example, "laddering," "upgrade," or degree completion education.)	48	2	**10: Diploma**—Diploma or equivalent, below the level of a baccalaureate, conferred by a college, university or comparable institution. **16: Post-Secondary Certificate**—Non-diploma/degree certificate or equivalent conferred by a college or university (or comparable institution). **20: Baccalaureate**—An undergraduate degree conferred by a university or comparable institution. **30: Master's**—A graduate-level university degree. **40: Doctorate**—A post–graduate-level university degree. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
13	**Year of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology** Year of completion of most recent post-basic education in medical radiation technology.	50	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***
14	**Institution of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology** Name of Canadian institution of completion of most recent post-basic education in medical radiation technology.	54	8	*Canadian Post-Secondary Institution Codes for MRT (see appendices D1 and D2)* **00000016: Other Canadian Institution** **00000026: Non-Canadian Institution of Graduation**—Institution of graduation was outside of Canada. **99999997: *Not Collected*** **99999998: *Not Applicable*** **99999999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
15	**Province/Territory of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology** Canadian province/territory of completion of most recent post-basic education in medical radiation technology.	62	2	*Canadian Province/Territory Codes (see Appendix B)* **26: Non-Canadian Location of Graduation**—Location of graduation was outside of Canada. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
16	**Country of Graduation for Most Recent Post-Basic Education in Medical Radiation Technology** Name of country of completion of most recent post-basic education in medical radiation technology.	64	3	*Country Codes (see Appendix C)* **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***
Note It was decided to stop collecting data elements for post-basic education 2 and 3. See Rationale in Section 1.4. *Not Collected* is recommended to allow for these data elements.				
17	**Level of Post-Basic Education in Medical Radiation Technology 2**	67	2	*Refer to field 12* ***97: Not Collected**—Recommended.*
18	**Year of Graduation for Post-Basic Education in Medical Radiation Technology 2**	69	4	*Refer to field 13* ***9997: Not Collected**—Recommended.*
19	**Institution of Graduation for Post-Basic Education in Medical Radiation Technology 2**	73	8	*Refer to field 14* ***99999997: Not Collected**—Recommended.*
20	**Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 2**	81	2	*Refer to field 15* ***97: Not Collected**—Recommended.*
21	**Country of Graduation for Post-Basic Education in Medical Radiation Technology 2**	83	3	*Refer to field 16* ***997: Not Collected**—Recommended.*
22	**Level of Post-Basic Education in Medical Radiation Technology 3**	86	2	*Refer to field 12* ***97: Not Collected**—Recommended.*
23	**Year of Graduation for Post-Basic Education in Medical Radiation Technology 3**	88	4	*Refer to field 13* ***9997: Not Collected**—Recommended.*
24	**Institution of Graduation for Post-Basic Education in Medical Radiation Technology 3**	92	8	*Refer to field 14* ***99999997: Not Collected**—Recommended.*
25	**Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 3**	100	2	*Refer to field 15* ***97: Not Collected**—Recommended.*
26	**Country of Graduation for Post-Basic Education in Medical Radiation Technology 3**	102	3	*Refer to field 16* ***997: Not Collected**—Recommended.*

Field #	Data Element	Start Byte	Length	Values and/or Format
Certification The members who are grandfathered or are registered but have not yet received certification should be coded according to the instructions in the value sections of initial certification data elements. If a registrant has only one certification, data should be provided for initial certification and values for all Post-Initial Certification fields must be *Not Applicable*. If a registrant has more than one certification, data for Post-Initial Certification 1, 2, 3 should be provided chronologically (that is, for three certificates, Post-Initial Certification 1 is for the first one, Post-Initial Certification 2 is for the next one, and Post-Initial Certification 3 is for the most recent). It was decided to stop collecting issuer data elements (fields 30, 34, 38 and 42). See Rationale in Section 1.4. *Not Collected* is recommended to allow for issuer elements.				
27	**Initial MRT Certification** At the time of registration or renewal, the **first** certification in medical radiation technology obtained.	105	2	**18: Medical Radiation Technologist (MRT) Certification**—Designation conferred by a certifying institution upon successful completion of certification requirements. **78: Not Certified*** —Registrant has not received certification. **97: *Not Collected*** **98: *Not Applicable***—*Not recommended as all other codes have covered all scenarios.* **99: *Unknown*** * Enter this code if the member is grandfathered or has a temporary licence for practice before receiving certification.
28	**Initial MRT Certification Discipline** Modality in which the **first** certification in medical radiation technology was obtained.	107	2	**18: Magnetic Resonance Imaging** **28: Nuclear Medicine** **38: Radiation Therapy** **48: Radiological Technology** **58: Other**—Certification discipline not otherwise specified. **97: *Not Collected*** **98: *Not Applicable**** **99: *Unknown*** * Enter this code if the member is grandfathered or has a temporary licence for practice before receiving certification.
29	**Year of Initial MRT Certification** The year in which the **first** certification in medical radiation technology was obtained.	109	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable**** **9999: *Unknown*** * Enter this code if the member is grandfathered or has a temporary licence for practice before receiving certification.

Field #	Data Element	Start Byte	Length	Values and/or Format
30	**Issuer of Initial MRT Certification** Institution that granted the **first** medical radiation technology certification.	113	2	**18: Canadian Association of Medical Radiation Technologists (CAMRT)** **28: Ordre des technologues en imagerie médicale et en radio-oncologie du Québec (OTIMRO)*** **38: Other Canadian Certification Issuer**—Institution granting Canadian certification. **48: Non-Canadian Certification Issuer**—Institution granting certification is not Canadian. **97: *Not Collected***—*Recommended.* **98: *Not Applicable*** **99: *Unknown*** * The previous name was Ordre des technologues en radiologie du Québec (OTRQ).
31	**Post-Initial Certification 1** At the time of registration or renewal, additional certification obtained immediately **after** initial medical radiation technology certification.	115	2	**18: Medical Radiation Technologist (MRT) Certification**—Certification issued by a Canadian certifying institution upon successful completion of certification exam. **28: Advanced Certification (AC)**—Certification issued by a Canadian certifying institution to certified MRTs upon successful completion of advanced certification requirements in an MRT discipline. **38: Fellow of the CAMRT (FCAMRT)**—An academic award given to an MRT by a Canadian professional association to support additional experience, high degree of competence, and consistent contribution to the profession of MRT. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
32	**Post-Initial Certification Discipline 1**	117	2	**18: Magnetic Resonance Imaging** **28: Nuclear Medicine** **38: Radiation Therapy** **48: Radiological Technology** **58: Other**—Certification discipline not otherwise specified. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
33	**Year of Post-Initial Certification 1**	119	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
34	**Issuer of Post-Initial MRT Certification 1**	123	2	**18: Canadian Association of Medical Radiation Technologists (CAMRT)** **28: Ordre des technologues en imagerie médicale et en radio-oncologie du Québec (OTIMRO)*** **38: Other Canadian Certification Issuer**—Institution granting Canadian certification. **48: Non-Canadian Certification Issuer**—Institution granting certification is not Canadian. **97: *Not Collected***—*Recommended.* **98: *Not Applicable*** **99: *Unknown*** * The previous name was Ordre des technologues en radiologie du Québec (OTRQ).
35	**Post-Initial Certification 2**	125	2	*Refer to field 31*
36	**Post-Initial Certification Discipline 2**	127	2	*Refer to field 32*
37	**Year of Post-Initial Certification 2**	129	4	*Refer to field 33*
38	**Issuer of Post-Initial MRT Certification 2**	133	2	*Refer to field 34* ***97: Not Collected***—*Recommended.*
39	**Post-Initial Certification 3**	135	2	*Refer to field 31*
40	**Post-Initial Certification Discipline 3**	137	2	*Refer to field 32*
41	**Year of Post-Initial Certification 3**	139	4	*Refer to field 33*
42	**Issuer of Post-Initial MRT Certification 3**	143	2	*Refer to field 34* ***97: Not Collected***—*Recommended.*
Specialty Certificate If a registrant has initial certification only, all fields related to Specialty Certificate 1, 2, 3 should be entered as *Not Applicable*. If a registrant has one specialty certificate only, data should be provided for initial specialty certificate and values for all other Specialty Certificate fields must be *Not Applicable*. If a registrant has more than one specialty certificate, data for Specialty Certificate 1, 2, 3 should be provided chronologically (that is, for three certificates, Specialty Certificate 1 is for the first one, Specialty Certificate 2 is for the next, and Specialty Certificate 3 is for the most recent). *Not Collected* is recommended to allow for issuer data elements (fields 45, 48, 51).				
43	**Specialty Certificate 1** At the time of registration or renewal, an educational certification offering obtained in a field directly related to medical radiation technology. Includes didactic and clinical components specific to an area of practice, which may include research and maintenance of competence components.	145	3	**018: Bone Mineral Densitometry** **028: Dosimetry** **038: Breast Imaging** **048: Positron Emission Tomography (PET)** **058: Ultrasound** (Quebec) **068: Computed Tomography—Nuclear Medicine** **078: Computed Tomography—Radiation Therapy** **088: Computed Tomography—Radiological Technology** **098: Other**—Specialty certificate type not otherwise specified. **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
44	**Year of Completion of Specialty Certificate 1** The year in which Specialty Certificate 1 was obtained.	148	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***
45	**Issuer of Specialty Certificate 1** Institution that granted Specialty Certificate 1.	152	2	**18: Canadian Association of Medical Radiation Technologists (CAMRT)** **28: Ordre des technologues en imagerie médicale et en radio-oncologie du Québec (OTIMRO)*** **38: Other Canadian Certification Issuer**—Institution granting Canadian certification. **48: Non-Canadian Certification Issuer**—Institution granting certification is not Canadian. **97: *Not Collected***—*Recommended.* **98: *Not Applicable*** **99: *Unknown*** * The previous name was Ordre des technologues en radiologie du Québec (OTRQ).
46	**Specialty Certificate 2**	154	3	*Refer to field 43*
47	**Year of Completion of Specialty Certificate 2**	157	4	*Refer to field 44*
48	**Issuer of Specialty Certificate 2**	161	2	*Refer to field 45* ***97: Not Collected***—*Recommended.*
49	**Specialty Certificate 3**	163	3	*Refer to field 43*
50	**Year of Completion of Specialty Certificate 3**	166	4	*Refer to field 44*
51	**Issuer of Specialty Certificate 3**	170	2	*Refer to field 45* ***97: Not Collected***—*Recommended.*
52	**Medical Sonography Certification Indicator** An indicator that specifies whether or not a medical radiation technologist has been conferred a specialty credential in diagnostic medical sonography (including ultrasound) at the time of registration or renewal.	172	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
53	**Year of Completion of Medical Sonography Certification** The year in which medical sonography certification was obtained.	173	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
54	**Issuer of Medical Sonography Certification** Institution that granted medical sonography certification.	177	2	**58: American Registry for Diagnostic Medical Sonography (ARDMS)** **68: Canadian Association of Registered Diagnostic Ultrasound Professionals (CARDUP)** **78: Other**—Issuer of medical sonography certification not otherwise specified. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
Other Education If a registrant has basic education and/or post-basic education only, all fields related to Other Education 1 and 2 should be entered as *Not Applicable*. If a registrant has more than one entry under Other Education, data for Other Education 1 and 2 should be provided chronologically (that is, Other Education 1 is the first and Other Education 2 is the most recent.) *Not Collected* is recommended to allow for all data elements for Other Education 3.				
55	**Level of Education in Other Than Medical Radiation Technology 1** Level of post-secondary education obtained in a field of study **outside** medical radiation technology. Education may have been acquired prior to or subsequent to entrance into the MRT profession.	179	2	**10: Diploma**—Diploma or equivalent, below the level of a Baccalaureate, conferred by a college, university or comparable institution. **16: Post-Secondary Certificate**—Non-diploma/ degree certificate or equivalent conferred by a college or university (or comparable institution). **20: Baccalaureate**—An undergraduate degree conferred by a university or comparable institution. **30: Master's**—A graduate-level university degree. **40: Doctorate**—A post–graduate-level university degree. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
56	**Field of Study for Education in Other Than Medical Radiation Technology 1**[2] Field of study for education in other than medical radiation technology 1. Reflects education outside of basic and post-basic medical radiation technology education.	181	3	**020: Health Administration/Management** **030: Public Administration** **040: Public Health** **070: Psychology** **080: Health Professions and Related Clinical Sciences** **090: Biological, Biomedical Sciences and Physical Sciences** **098: Mathematics and Statistics** **099: Computer and Information Sciences and Support Services** **100: Social Sciences, Arts and Humanities** **110: Education** **120: Law** **130: Business, Management, Marketing and Related** **140: Other Field of Study**—Other field of study outside of medical radiation technology that is not otherwise specified. **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
57	**Year of Graduation for Education in Other Than Medical Radiation Technology 1** Year of completion of education in other than medical radiation technology 1.	184	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***
58	**Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 1** Canadian province/territory in which education in other than medical radiation technology 1 was completed.	188	2	*Canadian Province/Territory Codes (see Appendix B)* **26: Non-Canadian Location of Graduation**—Location of graduation was outside of Canada. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
59	**Country of Graduation for Education in Other Than Medical Radiation Technology 1** Country in which education in other than medical radiation technology 1 was completed.	190	3	*Country Codes (see Appendix C)* **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***
60	**Level of Education in Other Than Medical Radiation Technology 2**	193	2	*Refer to field 55*
61	**Field of Study for Education in Other Than Medical Radiation Technology 2**	195	3	*Refer to field 56*
62	**Year of Graduation for Education in Other Than Medical Radiation Technology 2**	198	4	*Refer to field 57*
63	**Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 2**	202	2	*Refer to field 58*
64	**Country of Graduation for Education in Other Than Medical Radiation Technology 2**	204	3	*Refer to field 59*
65	**Level of Education in Other Than Medical Radiation Technology 3**	207	2	*Refer to field 55* ***97: Not Collected*—Recommended.**
66	**Field of Study for Education in Other Than Medical Radiation Technology 3**	209	3	*Refer to field 56* ***997: Not Collected*—Recommended.**
67	**Year of Graduation for Education in Other Than Medical Radiation Technology 3**	212	4	*Refer to field 57* ***9997: Not Collected*—Recommended.**
68	**Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 3**	216	2	*Refer to field 58* ***97: Not Collected*—Recommended.**
69	**Country of Graduation for Education in Other Than Medical Radiation Technology 3**	218	3	*Refer to field 59* ***997: Not Collected*—Recommended.**

Field #	Data Element	Start Byte	Length	Values and/or Format
EMPLOYMENT				
Employment—Historical and Current General				
70	**Initial Province/Territory of Canadian Employment in Medical Radiation Technology** The first province/territory in which a registrant began working as a medical radiation technologist in Canada.	221	2	*Canadian Province/Territory Codes—Appendix B* **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
71	**Year of Initial Canadian Employment in Medical Radiation Technology** The year in which a registrant began working as a medical radiation technologist in Canada for the first time.	223	4	(Valid year in format YYYY) **9997: *Not Collected*** **9998: *Not Applicable*** **9999: *Unknown***
72	**Employment Status** At the time of registration or renewal, a registrant's work status.	227	2	**18: Employed in Medical Radiation Technology***—Employed in an occupation directly related to medical radiation technologist practice. **28: Employed in Medical Radiation Technology, On Leave**—Employed in an occupation directly related to medical radiation technologist practice, and not working as a result of an official leave (for example, maternity/paternity leave, leave of absence). **38: Employed Outside of Medical Radiation Technology**—Employed in an occupation unrelated to medical radiation technologist practice. **46: Retired but Return to Work in Occupation** **48: Retired and Stop Working in Occupation†** **56: Retired†, ‡** **66: Unemployed†**—Not employed. **97: Not Collected** **99: Unknown** * The scope defining employment *directly related to practice* is determined by the individual licensing/membership organizations that serve as data providers to CIHI. If a member is retired but returns to work in MRT, enter code 46 instead. † If Employment Status is Retired and Stop Working in Occupation (48), Retired (56) or Unemployed (66), enter Not Applicable for all specific data employment data elements (fields 75 to 130). ‡ Retired (56) is reserved for use before data provider is able to collect data for the two new codes 46 and 48.

Field #	Data Element	Start Byte	Length	Values and/or Format
73	**Retirement Intention** The registrant's retirement intention at the time of registration or renewal. Note: This element uses 2 bytes space previously used for the field *Activity Status if Not Employed in Occupation* to hold the values. It was decided that data providers will stop collecting *Activity Status if Not Employed in Occupation*, although the codes 18 to 46 will remain in the MRTDB to avoid significant system change.	229	2	**18: Seeking Employment Only in Medical Radiation Technology** **28: Seeking Employment Only in Occupations Other Than Medical Radiation Technology** **36: Seeking Employment in Any Occupation** **46: Not Seeking Employment** **52: Planning to Stop Working in 1–5 Years** **54: Planning to Stop Working in 6–10 Years** **56: Planning to Stop Working After 10 Years** **97: *Not Collected*** **98: *Not Applicable**** **99: *Unknown*** * If a registrant has no plans for retirement in the time frames provided or is already retired and not working, enter *Not Applicable* (98).
74	**Total Usual Weekly Hours of Work** At the time of registration or renewal, the total usual (that is, typical or average) weekly hours of work in all medical radiation technology employment(s) related to practice. For registrants in an employee–employer employment category, these hours include all practice hours but should not exceed the hours (including overtime) for which a registrant is scheduled/ approved and recognized. For self-employed registrants, these hours include all practice hours (for example, travel time, preparation and service provision hours).	231	4	(Valid number in format 99.9)* **9997: *Not Collected*** **9999: *Unknown*** * Format examples: If the number of hours is 0 hours, regardless of the reason (on leave, retired, unemployed), the value = 00.0 If the number of hours is 9 hours, the value = 09.0 If the number of hours is 29 hours, the value = 29.0 If the number of hours is 99.9 hours, the value = 99.9 If the number of hours is unknown, the value = 9999 If the data element is not collected, the value = 9997 If Employment Status (field 72) is Retired and Stop Working in Occupation (48), Retired (56) or Unemployed (66), enter 00.0.

Field #	Data Element	Start Byte	Length	Values and/or Format
Employment—Current Specific **Primary Employment—**The employment, with an employer or in a self-employed arrangement, that is associated with the highest number of usual weekly hours of work.				
75	**Employment Category (for Primary Employment)** Employment category at the time of registration or renewal, for the given employment.	235	2	**10: Permanent Employee**—Status with employer is permanent with an indeterminate duration (no specified end date) of employment and guaranteed or fixed hours of work per week. **20: Temporary Employee**—Status with employer is temporary with fixed duration of employment, based on a defined start and end date, and guaranteed or fixed hours of work per week. **30: Casual Employee**—Status with employer is on an as-needed basis, with employment that is typically not characterized by a guaranteed or fixed number of hours per week. **40: Self-Employed**[3]—A person who engages independently in the profession, operating his or her own economic enterprise. The individual may be the working owner of an incorporated or unincorporated business or professional practice, or an individual in a business relationship characterized by a verbal or written agreement(s) in which the self-employed individual agrees to perform specific work for a payer in return for payment. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
76	**Full-Time/Part-Time Status (for Primary Employment)**[4] At the time of registration or renewal, for the given employment, the official status with an employer, or if official status is unknown, the classification of status based on usual hours of work.	237	2	**10: Full-Time**—Official status with employer is full-time or equivalent, or usual hours of work are equal to or greater than 30 hours per week. **20: Part-Time**—Official status with employer is part-time, or usual hours of work are less than 30 hours per week. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
77	**Province/Territory of Primary Employment** The Canadian province/territory of the given employment at the time of registration or renewal.	239	2	*Canadian Province/Territory Codes (see Appendix B)* **26: Non-Canadian Location of Employment**—Registrant is employed outside of a Canadian province/territory. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown***
78	**Country of Primary Employment** The country of the given employment at the time of registration or renewal.	241	3	*Country Codes—Appendix C* **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
79	**Postal Code of Primary Employment** At the time of registration or renewal, the postal code assigned by Canada Post for the given employment. The postal code reflects the service delivery level worksite when available, with employer or business office postal code provided as an alternate (for example, if the employer or business office location is different than service–delivery-level worksite, and only the employer or business office postal code is available). The service–delivery-level worksite is the location where the registrant is directly engaged in their medical radiation technology area of practice: direct service; administration; education; research, or sales.	244	6	*(Six-digit postal code assigned by Canada Post)* **999997:** ***Not Collected*** **999998:** ***Not Applicable*** **999999:** ***Unknown***
80	**Place of Employment (for Primary Employment)** The workplace of the given employment whether an individual is an employee or self-employed, at the time of registration or renewal. This is at the service-delivery level. Service-delivery level refers to the location where the registrant is directly engaged in their medical radiation technology area of practice: direct service; administration; information systems; education; research; or sales.	250	3	**010: General Hospital**—A health care facility that offers a range of inpatient and outpatient health care services (such as medical, surgical and psychiatric services) available to the target population. It includes specialty hospitals not otherwise classified. **060: Community Health Centre**—A community-based organization that may be the first point of contact for clients offering a range of primary health, social and/or other non-institutional-based services, including medical radiation technology. **068: Cancer Care**—A facility that specializes in services related to the treatment, prevention and research of cancer. **078: Free-Standing Imaging Facility/Clinic**—Refers to a stand-alone facility or clinic offering specialized or broad-based imaging services. **088: Mobile Imaging Unit**—Refers to a facility that is transported to various sites and offers specialized or broad-based imaging services. **100: Post-Secondary Educational Institution**—A post-secondary institution (a university, college or equivalent institution), with a primary focus on the delivery of education. **120: Association/Government/Para-Governmental**—An organization or government that deals with regulation, advocacy, policy development, program development, research and/or the protection of the public, at a national, provincial/territorial, regional or municipal level. **130: Industry, Manufacturing and Commercial**—A business/industry whose focus of activities is not in the direct delivery of health care services, but rather the health of workers, health-related product development or commercial activity outside of the health care system entirely.

Field #	Data Element	Start Byte	Length	Values and/or Format
				140: Other—Place of employment not otherwise identified. **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***
81	**Position (for Primary Employment)** At the time of registration or renewal, the **main role** within the given employment (for registrants with multiple roles within the given employment, reflects the role associated with the most worked hours).	253	2	**10: Manager***—Major role is in management. Role may involve the management of a particular program, as in a first-level management position, up to the senior-most management positions. **17: Supervisor**—Major role is the supervision of staff. **18: Charge Technologist/Team Leader**—Major role is the provision of direct medical radiation technology services with supervisory responsibilities. **28: Staff Technologist**—Major role is the provision of direct medical radiation technology services (includes relief staff). **29: Radiation Safety Officer***—Major role is to oversee aspects of radiation safety by ensuring that procedures and equipment meet relevant safety codes and/or regulations. **37: Consultant***—Major role is to provide advice on medical radiation technology and/or services (includes Applications Specialist). **38: Information System Specialist***—Major role is the design, development, testing and/or maintenance of radiology information systems (including PACS administration). **39: Quality Management Specialist***—Major role is the assurance and control of the quality of radiation technology procedures and/or equipment. **40: Educator***—Major role is that of an educator for a particular target group. **50: Researcher***—Major role is in knowledge development and dissemination of research. **57: Sales***—Major role is in sales. **60: Other**—Position that is not otherwise identified. **97: *Not Collected*** **98: *Not Applicable*** **99: *Unknown*** * Although this is a subjective decision, CIHI does **not** consider these positions as “direct care service providers.” However, each jurisdiction should determine this based on common practice.

Field #	Data Element	Start Byte	Length	Values and/or Format
82	**Clinical Education/Preceptor Activity Indicator (for Primary Employment)** An indicator that specifies whether or not a medical radiation technologist provides clinical education, within their primary place of employment, either as a component of or entirely their position, to medical radiation technologists and/or other health professionals participating in practicum or residency training as part of an accredited post-secondary education program.	255	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
83	**Major Function (for Primary Employment)** At the time of registration or renewal, the major focus of activities in the given employment.	256	3	**018: Diagnostic and Therapeutic Services**—Focus of activities is on the performance of diagnostic imaging and/or radiation therapy procedures. **110: Administration**—Focus of activities is on the management of services, the management of staff or the development of policy and/or programs. **118: Information Systems**—Focus of activities is on the design, development, testing and/or maintenance of information systems. **148: Teaching, Medical Radiation Technology–Related**—Focus of activities is on providing post-secondary teaching in medical radiation technology. **150: Research**—Focus of activities is on knowledge development and dissemination of research. **166: Other Major Function**—Major function not otherwise described. **997: *Not Collected*** **998: *Not Applicable*** **999: *Unknown***
Area of Practice for Primary Employment—Whether particular skills and knowledge related to medical radiation technology are applied within primary employment. Note: Enter 8 (*Not Applicable*) for fields 84 to 101 if a member's Position (field 81) is one of non-direct care.				
84	**Area of Practice for Primary Employment—Magnetic Resonance Imaging (General)** Pertains to the acquisition of diagnostic images of body tissues and organs using magnetic fields and radio waves and advanced computer technology for image processing to assist in clinical investigations.	259	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
85	**Area of Practice for Primary Employment—Nuclear Medicine (General)** Pertains to the utilization of the nuclear properties of radioactive and stable nuclides to make diagnostic evaluations of the anatomic and/or physiologic conditions of the body and to provide therapy with unsealed radioactive sources.	260	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
86	**Area of Practice for Primary Employment—Radiation Therapy (General)** Pertains to the planning and delivery of ionizing radiation to cancer/benign sites and includes monitoring of radiation treatments.	261	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
87	**Area of Practice for Primary Employment—Radiological Technology (General)** Pertains to the utilization of ionizing radiation to produce and evaluate diagnostic images to assist in clinical investigations and treatment planning.	262	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
88	**Area of Practice for Primary Employment—Angiography/ Interventional** Pertains to the use of radiographic techniques that use minimally invasive methods and imaging guidance to perform studies that may replace conventional surgery such as, but not limited to, diagnostic arteriography, renal and peripheral vascular interventions, venous access procedures, and embolization.	263	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
89	**Area of Practice for Primary Employment—Bone Mineral Densitometry** Pertains to the use of dual-energy x-ray absorptiometry to measure bone loss.	264	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
90	**Area of Practice for Primary Employment—Brachytherapy** Pertains to the method of treatment in which sealed radioactive sources are used to deliver radiation at a short distance by interstitial, intra-cavitary or surface application.	265	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
91	**Area of Practice for Primary Employment—Breast Imaging** Pertains to the acquisition of breast tissue images using ionizing radiation for screening and/or diagnostic purposes.	266	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
92	**Area of Practice for Primary Employment—Computed Tomography (CT)** Pertains to the acquisition of cross-sectional images using ionizing radiation and advanced computer technology to process images for diagnostic purposes.	267	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
93	**Area of Practice for Primary Employment—Computed Tomography Simulator (CT–Sim)** Pertains to the acquisition of cross-sectional images using ionizing radiation and advanced computer technology to process images for the purposes of radiation treatment planning.	268	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
94	**Area of Practice for Primary Employment—Positron Emission Tomography (PET)** Pertains to the introduction of positron-emitting radioisotopes in the body to make diagnostic examinations and to evaluate disease states by measuring the metabolic activity of cells.	269	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
95	**Area of Practice for Primary Employment—Positron Emission Tomography/Computed Tomography (PET/CT)** Pertains to the acquisition of a set of fused, cross-sectional images using combined positron-emitting radioisotopes and ionizing radiation to illustrate both physiologic and anatomic information of the body.	270	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
96	**Area of Practice for Primary Employment—Simulation** Pertains to the use of ionizing radiation and advanced computer technology for the delineation of the target site and calculation of the treatment dose for radiation therapy.	271	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
97	**Area of Practice for Primary Employment—Single Photon Emission Computed Tomography (SPECT)** Pertains to the introduction of photon-emitting radionuclides in the body, detection by multiple gamma cameras, and the reconstruction of the data to form three dimensional tomographic images for diagnostic evaluation and to monitor tissue changes in disease processes.	272	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
98	**Area of Practice for Primary Employment—Single Photon Emission Computed Tomography/ Computed Tomography (SPECT/CT)** Pertains to the acquisition of a set of fused, cross-sectional images using combined ionizing radiation and the introduction of photon-emitting radionuclides in the body detected by multiple gamma cameras to illustrate both physiologic and anatomic information of the body.	273	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
99	**Area of Practice for Primary Employment—Treatment Planning** Pertains to the use of advanced computer technology to process images, determine optimum beam arrangements, and calculate the absorbed dose in matter and tissues in preparation for radiation therapy (also referred to as Dosimetry).	274	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
100	**Area of Practice for Primary Employment—Ultrasound/ Diagnostic Medical Sonography** Pertains to the production of a visual record of body tissues by means of high-frequency sound waves and to the provision of an interpretation of the record to assist in clinical investigations.	275	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***
101	**Area of Practice for Primary Employment—Other Area of Practice** Pertains to other area of practice not otherwise described.	276	1	**1: Yes** **0: No** **7: *Not Collected*** **8: *Not Applicable*** **9: *Unknown***

Field #	Data Element	Start Byte	Length	Values and/or Format
102	**Main Area of Practice for Primary Employment*** At the time of registration or renewal, the area of practice, within the given employment, that is associated with the greatest number of hours of work. For the definition of each vale, please see the corresponding individual area of practice listed and defined above. * If registrants have more than one area of practice, choose the area in which they work for the most hours. If they work in more than one area for equal amounts of time, choose 176 (Cannot Identify One Main Area of Practice). If one or more individual area(s) of practice are marked, 997 (*Not Collected*) or 998 (*Not Applicable*) cannot be chosen, or the record will be rejected.	277	3	**008: Magnetic Resonance Imaging (General)** **018: Nuclear Medicine (General)** **028: Radiation Therapy (General)** **038: Radiological Technology (General)** **048: Angiography/Interventional** **058: Bone Mineral Densitometry** **068: Brachytherapy** **078: Breast Imaging** **088: Computed Tomography (CT)** **089: Computed Tomography Simulator (CT–Sim)** **108: Positron Emission Tomography (PET)** **109: Positron Emission Tomography/Computed Tomography (PET/CT)** **118: Simulation** **128: Single Photon Emission Computed Tomography (SPECT)** **129: Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)** **138: Treatment Planning** **148: Ultrasound/Diagnostic Medical Sonography** **166: Other Area of Practice** **176: Cannot Identify One Main Area of Practice** **997: *Not Collected***† **998: *Not Applicable*** **999: *Unknown*** † This data element is derived from all individual Area of Practice data elements. Therefore, whether a jurisdiction collects this data element or not, enter one of the other codes according to the individual Area of Practice from fields 84 to 101.
Employment—Current Specific **Secondary Employment—**The employment, with an employer or in a self-employed arrangement, that is associated with the second highest number of usual weekly hours of work.				
103	**Employment Category (for Secondary Employment)**	280	2	*Refer to field 75*
104	**Full-Time/Part-Time Status (for Secondary Employment)**	282	2	*Refer to field 76*
105	**Province/Territory of Secondary Employment**	284	2	*Refer to field 77*
106	**Country of Secondary Employment**	286	3	*Refer to field 78*
107	**Postal Code of Secondary Employment**	289	6	*Refer to field 79*
108	**Place of Employment (for Secondary Employment)**	295	3	*Refer to field 80*
109	**Position (for Secondary Employment)**	298	2	*Refer to field 81*
110	**Clinical Education/Preceptor Activity Indicator (for Secondary Employment)**	300	1	*Refer to field 82*
111	**Major Function (for Secondary Employment)**	301	3	*Refer to field 83*

Field #	Data Element	Start Byte	Length	Values and/or Format
Area of Practice for Secondary Employment—Whether particular skills and knowledge related to medical radiation technology are applied within secondary employment. Note: Enter 8 (Not Applicable) for fields 112 to 129 if a registrant's Position (field 109) is one of non-direct care.				
112	**Area of Practice for Secondary Employment—Magnetic Resonance Imaging (General)**	304	1	*Refer to field 84*
113	**Area of Practice for Secondary Employment—Nuclear Medicine (General)**	305	1	*Refer to field 85*
114	**Area of Practice for Secondary Employment—Radiation Therapy (General)**	306	1	*Refer to field 86*
115	**Area of Practice for Secondary Employment—Radiological Technology (General)**	307	1	*Refer to field 87*
116	**Area of Practice for Secondary Employment—Angiography/ Interventional**	308	1	*Refer to field 88*
117	**Area of Practice for Secondary Employment—Bone Mineral Densitometry**	309	1	*Refer to field 89*
118	**Area of Practice for Secondary Employment—Brachytherapy**	310	1	*Refer to field 90*
119	**Area of Practice for Secondary Employment—Breast Imaging**	311	1	*Refer to field 91*
120	**Area of Practice for Secondary Employment—Computed Tomography (CT)**	312	1	*Refer to field 92*
121	**Area of Practice for Secondary Employment—Computed Tomography Simulator (CT–Sim)**	313	1	*Refer to field 93*
122	**Area of Practice for Secondary Employment—Positron Emission Tomography (PET)**	314	1	*Refer to field 94*
123	**Area of Practice for Secondary Employment—Positron Emission Tomography/Computed Tomography (PET/CT)**	315	1	*Refer to field 95*
124	**Area of Practice for Secondary Employment—Simulation**	316	1	*Refer to field 96*
125	**Area of Practice for Secondary Employment—Single Photon Emission Computed Tomography (SPECT)**	317	1	*Refer to field 97*
126	**Area of Practice for Secondary Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)**	318	1	*Refer to field 98*
127	**Area of Practice for Secondary Employment—Treatment Planning**	319	1	*Refer to field 99*

Field #	Data Element	Start Byte	Length	Values and/or Format
128	**Area of Practice for Secondary Employment—Ultrasound/ Diagnostic Medical Sonography**	320	1	*Refer to field 100*
129	**Area of Practice for Secondary Employment—Other Area of Practice**	321	1	*Refer to field 101*
130	**Main Area of Practice for Secondary Employment**	322	3	*Refer to field 102*
Employment—Current Specific **Third Employment**—The employment, with an employer or in a self-employed arrangement, that is associated with the third highest number of usual weekly hours of work. It has been decided to stop collecting all data elements related to the third employment. See Section 1.4 for rationale. *Not Collected* is recommended for these data elements.				
131	**Employment Category (for Third Employment)**	325	2	*Refer to field 75* ***97: Not Collected**—Recommended.*
132	**Full-Time/Part-Time Status (for Third Employment)**	327	2	*Refer to field 76* ***97: Not Collected**—Recommended.*
133	**Province/Territory of Third Employment**	329	2	*Refer to field 77* ***97: Not Collected**—Recommended.*
134	**Country of Third Employment**	331	3	*Refer to field 78* ***997: Not Collected**—Recommended.*
135	**Postal Code of Third Employment**	334	6	*Refer to field 79* ***999997: Not Collected**—Recommended.*
136	**Place of Employment (for Third Employment)**	340	3	*Refer to field 80* ***997: Not Collected**—Recommended.*
137	**Position (for Third Employment)**	343	2	*Refer to field 81* ***97: Not Collected**—Recommended.*
138	**Clinical Education/Preceptor Activity Indicator (for Third Employment)**	345	1	*Refer to field 82* ***7: Not Collected**—Recommended.*
139	**Major Function (for Third Employment)**	346	3	*Refer to field 83* ***997: Not Collected**—Recommended.*
Area of Practice for Third Employment—Whether particular skills and knowledge related to medical radiation technology are applied within third employment.				
140	**Area of Practice for Third Employment—Magnetic Resonance Imaging (General)**	349	1	*Refer to field 84* ***7: Not Collected**—Recommended.*
141	**Area of Practice for Third Employment—Nuclear Medicine (General)**	350	1	*Refer to field 85* ***7: Not Collected**—Recommended.*
142	**Area of Practice for Third Employment—Radiation Therapy (General)**	351	1	*Refer to field 86* ***7: Not Collected—**Recommended.*
143	**Area of Practice for Third Employment—Radiological Technology (General)**	352	1	*Refer to field 87* ***7: Not Collected**—Recommended.*
144	**Area of Practice for Third Employment—Angiography/ Interventional**	353	1	*Refer to field 88* ***7: Not Collected**—Recommended.*

Field #	Data Element	Start Byte	Length	Values and/or Format
145	**Area of Practice for Third Employment—Bone Mineral Densitometry**	354	1	*Refer to field 89* ***7: Not Collected****—Recommended.*
146	**Area of Practice for Third Employment—Brachytherapy**	355	1	*Refer to field 90* ***7: Not Collected****—Recommended.*
147	**Area of Practice for Third Employment—Breast Imaging**	356	1	*Refer to field 91* ***7: Not Collected****—Recommended.*
148	**Area of Practice for Third Employment—Computed Tomography (CT)**	357	1	*Refer to field 92* ***7: Not Collected****—Recommended.*
149	**Area of Practice for Third Employment—Computed Tomography Simulator (CT–Sim)**	358	1	*Refer to field 93* ***7: Not Collected****—Recommended.*
150	**Area of Practice for Third Employment—Positron Emission Tomography (PET)**	359	1	*Refer to field 94* ***7: Not Collected—****Recommended.*
151	**Area of Practice for Third Employment—Positron Emission Tomography/Computed Tomography (PET/CT)**	360	1	*Refer to field 95* ***7: Not Collected****—Recommended.*
152	**Area of Practice for Third Employment—Simulation**	361	1	*Refer to field 96* ***7: Not Collected****—Recommended.*
153	**Area of Practice for Third Employment—Single Photon Emission Computed Tomography (SPECT)**	362	1	*Refer to field 97* ***7: Not Collected****—Recommended.*
154	**Area of Practice for Third Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)**	363	1	*Refer to field 98* ***7: Not Collected****—Recommended.*
155	**Area of Practice for Third Employment—Treatment Planning**	364	1	*Refer to field 99* ***7: Not Collected****—Recommended.*
156	**Area of Practice for Third Employment—Ultrasound/ Diagnostic Medical Sonography**	365	1	*Refer to field 100* ***7: Not Collected****—Recommended.*
157	**Area of Practice for Third Employment—Other Area of Practice**	366	1	*Refer to field 101* ***7: Not Collected****—Recommended.*
158	**Main Area of Practice for Third Employment**	367	3	*Refer to field 102* ***997: Not Collected****—Recommended.*

Field #	Data Element	Start Byte	Length	Values and/or Format
Other				
159	**Registration Type**	370	2	**14: Active, Full**—A general professional practice licence or registration type with no limitations, restrictions or conditions. It includes professional practice licences that authorize a registrant, based on the assessment and issuance by a regulatory authority, to engage in professional practice, as defined by the relevant laws, regulations and/or policies associated with a specific jurisdiction. **24: Active, Other**—Professional practice licences or membership types with special conditions not otherwise specified (for example, provisional and restricted licence types). It includes professional practice licences that authorize a registrant, based on the assessment and issuance by a regulatory authority, to engage in professional practice, as defined by the relevant laws, regulations and/or policies associated with a specific jurisdiction. **34: Inactive**—A type of registration that does not permit a registrant to engage in professional practice without further consideration and/or licensure by the regulatory authority, within a particular jurisdiction, as defined by the relevant laws, regulations and/or policies associated with that jurisdiction.

4 File and Record Processing

Once CIHI receives the data files, it processes all records before including them in the MRTDB. Processing occurs in the following sequence:

4.1 File/Record Integrity Validation Processing

File/record integrity validation processing checks the physical characteristics of the data file and associated records. These checks are designed to detect corruption and integrity violations of both the file and record structures. The MRTDB will reject an entire file that fails file integrity checks. If a file contains a record that fails a record integrity check, the MRTDB will reject only the erroneous record and will continue to check the remaining records in the file. Reports outlining the errors will be produced.

File integrity checks verify a number of factors, including the following:

- If the file is readable
- File name and extension
- Control record validity

Record integrity checks verify a number of factors, including the following:

- Data record length
- Absence of duplicate records
- Absence of blank registration IDs

4.2 Record Validation Processing

- Record validation processing validates the data elements in each record for format, content and internal consistency.
- This step includes the validation of code fields. For example, the only possible choices for code values for *Gender* are M (male), F (female), 7 (not collected) and 9 (unknown).
- The logical relationships between specific fields are also tested. For example, an error is identified if a Year of Graduation is earlier than a registrant's Year of Birth.
- Should the submitted codes not match the standardized CIHI codes, or if a logical relationship between fields is incorrect, reports will be generated to document this error and the record will not be included in the MRTDB.
- If logical inconsistencies between the fields in a particular record are interesting but not serious, the issue will be flagged as an anomaly in a report and the record will be included in the MRTDB while awaiting further investigation.

4.3 Error and Anomaly Correction

Reports that identify errors and/or anomalies will be shared with the respective data providers. CIHI and the data providers will review errors and anomalies jointly, and the data provider will correct them. This iterative process requires ongoing consultation between CIHI and the data provider in the weeks after file submission. The data providers are expected to correct the source data and to resubmit the entire file containing the original clean records plus the corrected records.

Appendix A—Data Provider Identifier Codes

Code	Corresponding Province/ Territory of Data Submission	Data Provider
NL001	Newfoundland and Labrador	Newfoundland and Labrador Association of Medical Radiation Technologists
PE001	Prince Edward Island	Prince Edward Island Association of Medical Radiation Technologists
NS001	Nova Scotia	Nova Scotia Association of Medical Radiation Technologists
NB001	New Brunswick	New Brunswick Association of Medical Radiation Technologists
QC001	Quebec	Ordre des technologues en imagerie médicale et en radio-oncologie du Québec
ON001	Ontario	College of Medical Radiation Technologists of Ontario
MB001	Manitoba	Manitoba Association of Medical Radiation Technologists
SK001	Saskatchewan	Saskatchewan Association of Medical Radiation Technologists
AB001	Alberta	Alberta College of Medical Diagnostic and Therapeutic Technologists
BC001*	British Columbia	
NT001	Northwest Territories	Canadian Association of Medical Radiation Technologists (CAMRT)
YT001	Yukon	
NU001	Nunavut	

Note

* B.C. does not participate in the Medical Radiation Technologist Database. The code is reserved for future data submission.

Source

Canadian Institute for Health Information.

Appendix B—Canadian Province/ Territory Codes

Code	Canadian Province/Territory
NL	Newfoundland and Labrador
PE	Prince Edward Island
NS	Nova Scotia
NB	New Brunswick
QC	Quebec
ON	Ontario
MB	Manitoba
SK	Saskatchewan
AB	Alberta
BC	British Columbia
YT	Yukon
NT	Northwest Territories
NU	Nunavut

Sources

Canada Post Corporation, *Addressing Guidelines*, http://www.canadapost.ca/tools/pg/manual/PGaddress-e.asp#1380608;
ISO 3166-2: *Codes for the Representation of Names of Countries and Their Subdivisions—Part 2: Country Subdivision Code*.

Appendix C—Country Codes

If you have any difficulty in locating the appropriate code for a country, please contact the program lead by email at mrtdb@cihi.ca.

The table below is sorted by *country*.

Country	Code
Afghanistan	AFG
Åland Islands	ALA
Albania	ALB
Algeria	DZA
American Samoa	ASM
Andorra	AND
Angola	AGO
Anguilla	AIA
Antarctica	ATA
Antigua and Barbuda	ATG
Argentina	ARG
Armenia	ARM
Aruba	ABW
Australia	AUS
Austria	AUT
Azerbaijan	AZE
Bahamas	BHS
Bahrain	BHR
Bangladesh	BGD
Barbados	BRB
Belarus	BLR
Belgium	BEL
Belize	BLZ
Benin	BEN
Bermuda	BMU
Bhutan	BTN
Bolivia, Plurinational State of	BOL
Bonaire, Saint Eustatius And Saba	BES
Bosnia and Herzegovina	BIH
Botswana	BWA
Bouvet Island	BVT
Brazil	BRA
British Indian Ocean Territory	IOT
British Virgin Islands	VGB

Country	Code
Brunei Darussalam	BRN
Bulgaria	BGR
Burkina Faso	BFA
Burundi	BDI
Cambodia	KHM
Cameroon	CMR
Canada	CAN
Cape Verde	CPV
Cayman Islands	CYM
Central African Republic	CAF
Chad	TCD
Chile	CHL
China	CHN
Christmas Island	CXR
Cocos (Keeling) Islands	CCK
Colombia	COL
Comoros	COM
Congo	COG
Congo, The Democratic Republic of the Congo	COD
Cook Islands	COK
Costa Rica	CRI
Côte d'Ivoire	CIV
Croatia	HRV
Cuba	CUB
Curaçao	CUW
Cyprus	CYP
Czech Republic	CZE
Denmark	DNK
Djibouti	DJI
Dominica	DMA
Dominican Republic	DOM
Ecuador	ECU
Egypt	EGY
El Salvador	SLV
Equatorial Guinea	GNQ
Eritrea	ERI
Estonia	EST
Ethiopia	ETH
Faeroe Islands	FRO
Falkland Islands (Malvinas)	FLK
Fiji	FJI

Country	Code
Finland	FIN
France	FRA
French Guiana	GUF
French Polynesia	PYF
French Southern Territories	ATF
Gabon	GAB
Gambia	GMB
Georgia	GEO
Germany	DEU
Ghana	GHA
Gibraltar	GIB
Greece	GRC
Greenland	GRL
Grenada	GRD
Guadeloupe	GLP
Guam	GUM
Guatemala	GTM
Guernsey	GGY
Guinea	GIN
Guinea-Bissau	GNB
Guyana	GUY
Haiti	HTI
Heard Island and McDonald Islands	HMD
Holy See (Vatican City State)	VAT
Honduras	HND
Hong Kong	HKG
Hungary	HUN
Iceland	ISL
India	IND
Indonesia	IDN
Iran, Islamic Republic of	IRN
Iraq	IRQ
Ireland	IRL
Isle of Man	IMN
Israel	ISR
Italy	ITA
Jamaica	JAM
Japan	JPN
Jersey	JEY
Jordan	JOR
Kazakhstan	KAZ

Country	Code
Kenya	KEN
Kiribati	KIR
Korea, Democratic People's Republic	PRK
Korea, Republic of	KOR
Kuwait	KWT
Kyrgyzstan	KGZ
Lao People's Democratic Republic	LAO
Latvia	LVA
Lebanon	LBN
Lesotho	LSO
Liberia	LBR
Libyan Arab Jamahiriya	LBY
Liechtenstein	LIE
Lithuania	LTU
Luxembourg	LUX
Macau, Special Administrative Region	MAC
Macedonia, The former Yugoslav Republic of	MKD
Madagascar	MDG
Malawi	MWI
Malaysia	MYS
Maldives	MDV
Mali	MLI
Malta	MLT
Marshall Islands	MHL
Martinique	MTQ
Mauritania	MRT
Mauritius	MUS
Mayotte	MYT
Mexico	MEX
Micronesia, Federated States of	FSM
Monaco	MCO
Mongolia	MNG
Montenegro	MNE
Montserrat	MSR
Morocco	MAR
Mozambique	MOZ
Myanmar	MMR
Namibia	NAM
Nauru	NRU
Nepal	NPL
Netherlands	NLD

Country	Code
New Caledonia	NCL
New Zealand	NZL
Nicaragua	NIC
Niger	NER
Nigeria	NGA
Niue	NIU
Norfolk Island	NFK
Northern Mariana Islands	MNP
Norway	NOR
Occupied Palestinian Territory	PSE
Oman	OMN
Pakistan	PAK
Palau	PLW
Panama	PAN
Papua New Guinea	PNG
Paraguay	PRY
Peru	PER
Philippines	PHL
Pitcairn	PCN
Poland	POL
Portugal	PRT
Puerto Rico	PRI
Qatar	QAT
Republic of Moldova	MDA
Réunion	REU
Romania	ROU
Russian Federation	RUS
Rwanda	RWA
Saint Barthélemy	BLM
Saint Helena, Ascension and Tristan da Cunha	SHN
Saint Kitts and Nevis	KNA
Saint Lucia	LCA
Saint Martin	MAF
Saint Pierre and Miquelon	SPM
Saint Vincent and the Grenadines	VCT
Samoa	WSM
San Marino	SMR
Sao Tome and Principe	STP
Saudi Arabia	SAU
Senegal	SEN
Serbia	SRB

Country	Code
Seychelles	SYC
Sierra Leone	SLE
Singapore	SGP
Sint Maarten (Dutch Part)	SXM
Slovakia	SVK
Slovenia	SVN
Solomon Islands	SLB
Somalia	SOM
South Africa	ZAF
South Georgia and the South Sandwich Islands	SGS
Spain	ESP
Sri Lanka	LKA
Sudan	SDN
Suriname	SUR
Svalbard and Jan Mayen Islands	SJM
Swaziland	SWZ
Sweden	SWE
Switzerland	CHE
Syrian Arab Republic	SYR
Taiwan, Province of China	TWN
Tajikistan	TJK
Tanzania, United Republic of	TZA
Thailand	THA
Timor-Leste	TLS
Togo	TGO
Tokelau	TKL
Tonga	TON
Trinidad and Tobago	TTO
Tunisia	TUN
Turkey	TUR
Turkmenistan	TKM
Turks and Caicos Islands	TCA
Tuvalu	TUV
Uganda	UGA
Ukraine	UKR
United Arab Emirates	ARE
United Kingdom of Great Britain and Northern Ireland	GBR
United States Minor Outlying Islands	UMI
United States of America	USA
United States Virgin Islands	VIR
Uruguay	URY

Country	Code
Uzbekistan	UZB
Vanuatu	VUT
Venezuela (Bolivarian Republic of)	VEN
Viet Nam	VNM
Wallis and Futuna Islands	WLF
Western Sahara	ESH
Yemen	YEM
Zambia	ZMB
Zimbabwe	ZWE

Source
ISO 3166 December 2010—3 alpha variable representation.

Appendix D1—Canadian Post-Secondary Institution Codes for Medical Radiation Technology

If you have any difficulty in locating the appropriate code for an institution, please contact the program lead by email at mrtdb@cihi.ca.

Code	Post-Secondary Institution	Location of Institution
10020000	College of the North Atlantic—Parent Institution	Newfoundland and Labrador
11001000	University of Prince Edward Island	Prince Edward Island
12028000	Queen Elizabeth II/Health Sciences Centre—Parent Institution	Nova Scotia
13003000	University of New Brunswick—Parent Institution	New Brunswick
13004000	Université de Moncton—Parent Institution	New Brunswick
13018010	Collège communautaire du Nouveau-Brunswick, Dieppe Campus	New Brunswick
13018000	New Brunswick Community College—Parent Institution	New Brunswick
13019000	School of Radiological Technology—Parent Institution Moncton Hospital School of Radiologic Technology School of Radiological Technology, Saint John Regional Hospital	New Brunswick
24021000	Collège d'enseignement général et professionnel (CÉGEP) Ahuntsic	Quebec
24025000	Collège d'enseignement général et professionnel (CÉGEP) Dawson	Quebec
24045000	Collège d'enseignement général et professionnel (CÉGEP) de Rimouski	Quebec
24048000	Collège d'enseignement général et professionnel (CÉGEP) de Sainte-Foy	Quebec
24082000	Collège Laflèche	Quebec
35006000	Laurentian University / Université Laurentienne—Parent Institution	Ontario
35007000	McMaster University—Parent Institution	Ontario
35015000	University of Toronto—Parent Institution	Ontario
35040000	Eastern Ontario School of X-Ray Technology, Kingston General Hospital	Ontario
35043000	Collège Boréal d'arts appliqués et de technologie—Parent Institution	Ontario
35047000	Cambrian College of Applied Arts and Technology	Ontario
35052000	Confederation College of Applied Arts and Technology	Ontario
35054000	Fanshawe College of Applied Arts and Technology	Ontario
35058000	Mohawk College of Applied Arts and Technology	Ontario
35070000	The Michener Institute, Applied Health Sciences	Ontario
46017000	Red River College—Parent Institution	Manitoba
46020000	School of Radiation Therapy at Cancer Care Manitoba	Manitoba
47015000	Saskatchewan Institute of Applied Science and Technology (SIAST)—Parent Institution	Saskatchewan
47027000	School of Radiation Therapy, Allan Blair Cancer Centre	Saskatchewan
47028000	Radiation Therapy Program, Saskatoon Cancer Centre	Saskatchewan

Code	Post-Secondary Institution	Location of Institution
48033000	Northern Alberta Institute of Technology—Parent Institution	Alberta
48034000	Southern Alberta Institute of Technology	Alberta
48037000	Cross Cancer Institute, School of Radiation Therapy	Alberta
48038000	Tom Baker Cancer Centre, School of Radiation Therapy	Alberta
59023000	British Columbia Institute of Technology	British Columbia
59026000	College of New Caledonia	British Columbia

Sources

Statistics Canada: The above list has been derived from the Post-Secondary Institution Code Set used by Statistics Canada as part of the Post-Secondary Student Information System (PSIS). The PSIS is the national survey that enables Statistics Canada to publish information on enrolments and graduates of Canadian post-secondary education institutions. Further information can be obtained from the following website: www.statcan.gc.ca/concepts/psis-siep/postsecond-eng.htm.

Canadian Association of Medical Radiation Technologists (CAMRT): The above list has also been derived from communicating with the CAMRT about its list of CMA-accredited Canadian programs offered in each specific discipline, including magnetic resonance imaging, nuclear medicine, radiological technology and radiation therapy. Further information can be obtained from the following website: www.camrt.ca/english/profession/education_prog.asp.

Appendix D2—Historical Name Changes of the Canadian Post-Secondary Institutions for Medical Radiation Technology

Code	Current Name	Previous Names
10020000	**College of the North Atlantic** Source: www.cna.nl.ca/about/history.asp	**1963–1977** District Vocational Schools (DVS) **1967–1977** Adult Upgrading Centre **1977–1987** Bay St. George Community College **1987–1992** Cabot Institute, Fisher Technical College, Avalon Community College, Eastern Community College, Central Newfoundland Community College, Labrador Community College, Western Community College **1991** Fisher Technical College renamed Fisher Institute of Applied Arts and Technology, Western Community College renamed Western College of Applied Arts and Technology **1992–1997** Cabot College, Eastern College, Central Newfoundland Community College, Westviking College, Labrador College **1997–present** College of the North Atlantic
12028000	**Queen Elizabeth II/Health Sciences Centre** Source: www.cdha.nshealth.ca/default.aspx?page=SubPage&centerContent.Id.0=7705&category.Categories.1=14	**1996** Formed by merger of Victoria General Hospital, Halifax Infirmary, Abbie J. Lane Memorial, Camp Hill Veterans' Memorial, Nova Scotia Rehabilitation Centre and Nova Scotia Cancer Centre
13018000	**New Brunswick Community College (NBCC)** Source: www.nbcc.ca/en/home/newsandevents/communitycollegecorporationsofficiallyautonomous.aspx	**2010** Collège communautaire du Nouveau-Brunswick (CCNB) and NBCC officially became two autonomous institutions, managing separate English and French institutions
35006000	**Laurentian University / Université Laurentienne** Source: www.laurentian.ca/Laurentian/Home/About+LU/Historical+highlights.htm?Laurentian_Lang=en-CA	**1957** Collège du Sacré-Coeur becomes the University of Sudbury **1957** Collège universitaire de Hearst affiliates with the Laurentian University Federation, following affiliation with the University of Sudbury **1963** Thorneloe University joins the Laurentian University Federation **1965** Algoma University College in Sault Ste. Marie affiliates with Laurentian University
35058000	**Mohawk College of Applied Arts and Technology** Source: http://www.mohawkcollege.ca/about/history.html	**1947–1957** The Provincial Institute of Textiles **1957–1966** Hamilton Institute of Technology **1966–present** Mohawk College of Applied Arts and Technology
35070000	**The Michener Institute, Applied Health Sciences** Source: www.michener.ca/about/history.php?main=7&sub=1&sub2=1	**1958–1966** Founded under the name Toronto Institute of Medical Technology **1966–present** The Michener Institute, Applied Health Sciences
46017000	**Red River College** Source: www.rrc.mb.ca/index.php?pid=316	**1948–1963** Manitoba Technical Institute **1963–1969** Manitoba Institute of Technology **1969–1998** Red River Community College (RRCC) **1998–present** Red River College of Applied Arts, Science and Technology

Code	Current Name	Previous Names
47015000	**Saskatchewan Institute of Applied Science and Technology (SIAST)** Source: http://esask.uregina.ca/entry/saskatchewan_institute_of_applied_science_and_technology_siast.html www.gosiast.com/about/index.shtml	**1941** Canadian Vocational Training School was the forerunner to SIAST Kelsey Campus **1963** Named Central Saskatchewan Technical Institute **1967** Renamed Saskatchewan Technical Institute of Saskatoon **1973** Renamed Wascana Institute of Applied Arts and Sciences (WIAAS) **2000** Wascana campus programs were consolidated in a single building, formerly the Regina Plains Health Centre **1958** SIAST Palliser Campus started under the name of Saskatchewan Technical Institute (STI) and after undergoing several name changes, it remained under that name from 1968 until 1987 **1988** SIAST established with the merging of the province's four existing technical institutes and urban colleges (Saskatchewan Technical Institute and Coteau Range Community College in Moose Jaw; Wascana Institute of Applied Arts and Sciences and Regina Plains Community College in Regina; Kelsey Institute of Applied Arts and Sciences, Advanced Technology Training Centre, and Saskatoon Region Community College in Saskatoon; and Northern Institute of Technology, Prince Albert Regional Community College, and Meadow Lake Vocational Centre)
48034000	**Southern Alberta Institute of Technology (SAIT)/ SAIT Polytechnic** Source: http://sait.ca/pages/about/history/index.shtml#Timeline	**1916** Provincial Institute of Technology and Art (PITA) **1960** Southern Alberta Institute of Technology (SAIT) **2004** Rebranded as SAIT Polytechnic
59047000	**Cancer Control Agency of British Columbia/British Columbia Cancer Agency** Source: www.bccancer.bc.ca/NR/rdonlyres/1C2F0481-8451-4CF8-82EC-0294BB2D492B/19827/BCCA_Strategic_Plan_Updated_Oct06.pdf	**1938** The B.C. Cancer Institute (BCCI) was formally opened **1974–1995** The Cancer Control Agency of B.C. (CCABC) was established through the amalgamation of the cancer treatment operations BCCI, Victoria Cancer Clinic and consultative clinics

Appendix E—List of Data Elements Discontinued as of 2012

We recommend submitting *Not Collected* for these data elements, which have been discontinued as of 2012. Please see Section 1.4 for rationale of discontinuation or send an email to mrtdb@cihi.ca to request more information.

Field #	Data Element
17, 22	Level of Post-Basic Education in Medical Radiation Technology 2, 3
18, 23	Year of Graduation for Post-Basic Education in Medical Radiation Technology 2, 3
19, 24	Institution of Graduation for Post-Basic Education in Medical Radiation Technology 2, 3
20, 25	Province/Territory of Graduation for Post-Basic Education in Medical Radiation Technology 2, 3
21, 26	Country of Graduation for Post-Basic Education in Medical Radiation Technology 2, 3
30	Issuer of Initial MRT Certification
34, 38, 42	Issuer of Post-Initial MRT Certification 1,2,3
45, 48, 51	Issuer of Specialty Certificate 1, 2, 3
65	Level of Education in Other Than Medical Radiation Technology 3
66	Field of Study for Education in Other Than Medical Radiation Technology 3
67	Year of Graduation for Education in Other Than Medical Radiation Technology 3
68	Province/Territory of Graduation for Education in Other Than Medical Radiation Technology 3
69	Country of Graduation for Education in Other Than Medical Radiation Technology 3
131	Employment Category (for Third Employment)
132	Full-Time/Part-Time Status (for Third Employment)
133	Province/Territory of Third Employment
134	Country of Third Employment
135	Postal Code of Third Employment
136	Place of Employment (for Third Employment)
137	Position (for Third Employment)
138	Clinical Education/Preceptor Activity Indicator (for Third Employment)
139	Major Function (for Third Employment)
140	Area of Practice for Third Employment—Magnetic Resonance Imaging (General)
141	Area of Practice for Third Employment—Nuclear Medicine (General)
142	Area of Practice for Third Employment—Radiation Therapy (General)
143	Area of Practice for Third Employment—Radiological Technology (General)
144	Area of Practice for Third Employment—Angiography/Interventional
145	Area of Practice for Third Employment—Bone Mineral Densitometry
146	Area of Practice for Third Employment—Brachytherapy
147	Area of Practice for Third Employment—Breast Imaging
148	Area of Practice for Third Employment—Computed Tomography (CT)

Field #	Data Element
149	Area of Practice for Third Employment—Computed Tomography Simulator (CT–Sim)
150	Area of Practice for Third Employment—Positron Emission Tomography (PET)
151	Area of Practice for Third Employment—Positron Emission Tomography/Computed Tomography (PET/CT)
152	Area of Practice for Third Employment—Simulation
153	Area of Practice for Third Employment—Single Photon Emission Computed Tomography (SPECT)
154	Area of Practice for Third Employment—Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT)
155	Area of Practice for Third Employment—Treatment Planning
156	Area of Practice for Third Employment—Ultrasound/Diagnostic Medical Sonography
157	Area of Practice for Third Employment—Other Area of Practice
158	Main Area of Practice for Third Employment

References

1. Health Canada, *A Framework for Collaborative Pan-Canadian Health Human Resource Planning* (Ottawa, Ont.: Health Canada, 2007), accessed from <http://www.hc-sc.gc.ca/hcs-sss/pubs/hhrhs/2007-frame-cadre/index-eng.php>.

2. Field of Study—Classification adapted from Canadian Classification of Instructional Programs (CIP) 2000. Source: Statistics Canada, *Classification of Instructional Programs (CIP), Canada, 2000*, last modified July 18, 2005, cited August 12, 2005, from <http://www.statcan.ca/english/Subjects/Standard/instruction/cip-2000-intro.htm>.

3. The definition for *Self-Employed* is based on three sources. First, input from professional associations. Second, the second sentence of the definition is adapted from Statistics Canada's Self-Employment definition: Working owners of an incorporated business, farm or professional practice, or working owners of an unincorporated business, farm or professional practice. The latter group also includes self-employed workers who do not own a business (such as babysitters and newspaper carriers). Self-employed workers are further subdivided by those with or without paid help. Also included among the self-employed are unpaid family workers. They are persons who work without pay on a farm or in a business or professional practice owned and operated by another family member living in the same dwelling (Source: Statistics Canada, *The Canadian Labour Market at a Glance, 2003*, last modified November 16, 2008, cited June 16, 2011, from <http://www.statcan.ca/english/freepub/71-222-XIE/2004000/glossary.htm#S>). Lastly, at the request of the health professions, a component was included from the Canada Revenue Agency's RC4110 publication which explains to tax filers how to determine if they are an employee or self-employed (Source: Revenue Canada, *Employee or Self-Employed? RC4110 (E)*, Rev. 10, last modified December 13, 2010, cited June 16, 2011, from <http://www.cra-arc.gc.ca/E/pub/tg/rc4110/rc4110-e.html>).

4. Definitions for *Full-Time* and *Part-Time* have been adapted from Statistics Canada's definitions of the terms: Full-time employment—Persons who usually work 30 hours or more per week at their main or only job. Part-time employment—Persons who usually work less than 30 hours per week at their main or only job (Source: Statistics Canada, *The Canadian Labour Market at a Glance, 2003*, last modified November 18, 2004, cited August 12, 2005, from <http://www.statcan.ca/english/freepub/71-222-XIE/2004000/glossary.htm>).

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