



Medical Laboratory Technologists in Canada, 2011



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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About This Report

Medical Laboratory Technologists in Canada, 2011 is the fourth annual report from the Medical Laboratory Technologist Database (MLTDB). It provides the most recent statistics on the medical laboratory technologist (MLT) workforce, including supply, demographics, geographic, education, certification and employment dimensions of the MLT workforce. The population of reference includes those MLTs who registered between the start of the registration period for their regulatory bodies, provincial societies and the Canadian Society for Medical Laboratory Science (CSMLS), which provided data to the MLTDB, and August 1, 2011. Data tables are supplemented with detailed information about the data collection process, limitations of the current data and an explanation of the analytical methods.

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

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

Medical Laboratory Technologists in Canada, 2011 includes

- National data highlights and profile;
- Provincial/territorial data highlights and profiles;
- A Methodological Notes section; and
- *Cross-Jurisdictional Data Tables* and *Jurisdictional Profiles* in MS Excel.

National Data Highlights and Profile

Medical laboratory technologists (MLTs) are health care professionals who perform laboratory analyses and investigations and interpret laboratory results to assist clinicians with the diagnosis, treatment, monitoring and prevention of disease.

As of 2011, the profession of medical laboratory technology is regulated in seven Canadian provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta. Data collected for the Medical Laboratory Technologist Database (MLTDB) includes all registrations with the provincial regulatory bodies for these regulated provinces, as well as voluntary registrations with the Canadian Society for Medical Laboratory Science (CSMLS) for the unregulated jurisdictions: Newfoundland and Labrador, Prince Edward Island, British Columbia, Yukon, the Northwest Territories and Nunavut.ⁱ

All statistics in this section refer to the 2011 registered MLT workforce, unless otherwise specified.

Workforce Supply

In accordance with CIHI's definition,ⁱⁱ the registered MLT workforce in 2011 totaled 19,664. For the seven regulated provinces combined, the number of MLTs per 100,000 population was 58, ranging from 50 in Ontario to 97 in Nova Scotia. From 2008 to 2011, the MLT workforce in all regulated provinces grew by 1.6%. During the same period of time, the population in these provinces grew by 3.4%.ⁱⁱⁱ

Please refer to Tab 1 in the Excel Workbook *2011 Cross-Jurisdictional Data Tables* for more details on the workforce supply of registered MLTs from 2008 to 2011.

Demographics

In 2011, more than 85% of the MLT workforce in Canada was female and nearly 15% was male. The gender split varied by province; Ontario had the lowest percentage of females (82.2%) and Saskatchewan had the highest (93.0%).

In the seven regulated provinces, 21.6% of MLTs were younger than 35 and 23.9% of MLTs were 55 and older. The average age for all MLTs in the seven regulated provinces was 45.

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- i. The quality of the data for the unregulated provinces and territories is generally low and, as such, most data elements (including age and gender) cannot be reported. As a result, only initial certification information is included in this report for the unregulated provinces and territories.
 - ii. The MLT workforce includes active registered MLTs who work in medical laboratory technology and are identified as primary registrations according to CIHI's methodology. See details in *Medical Laboratory Technologist Database Technical Notes* and in the Methodological Notes of this report, which can be downloaded from CIHI's website at www.cihi.ca.
 - iii. Statistics Canada. *Quarterly Population Estimates, National Perspective—Population, Quarterly Demographic Estimates—July to September 2011*. <http://www.statcan.gc.ca/pub/91-002-x/91-002-x2011003-eng.pdf>.

Education and Certification

To become an MLT, post-secondary education in medical laboratory technology from a program accredited by the Canadian Medical Association is required. In 2011, the majority of MLTs in the seven regulated provinces (Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta) held a diploma (91.3%) as their basic level of education for entry to practice. New graduates are the main source of supply for the MLT workforce. The percentage of MLTs who had graduated in the last two years was 4.3% in Nova Scotia, 4.2% in New Brunswick, 9.3% in Quebec, 4.8% in Manitoba, 3.9% in Saskatchewan and 2.1% in Alberta (the provinces where data was available). Some MLTs received their basic level of education in medical laboratory technology outside of Canada. In 2011, 9.4% of MLTs in five provinces (Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta) reported that they obtained their training and education outside of Canada.

Graduates are eligible to write a national certification examination offered by the CSMLS. Graduates who plan to work in Quebec must participate in a certification process specific to that province and meet all of its requirements; some may also choose to take the CSMLS national exam. MLTs can become certified by the CSMLS in one of three areas: general medical laboratory technology, clinical genetics or diagnostic cytology. The MLTDB also includes certification information on other areas that were recognized in the certification system in previous years. Approximately 85% of MLTs obtained their initial certification in general medical laboratory technology, while a small proportion (between 1% and 3%) of the MLT workforce obtained certification in each area of diagnostic cytology, clinical genetics or historical subject areas, such as clinical chemistry, hematology, histology, microbiology or transfusion medicine/science.

Primary Employment

MLTs can practise in the discipline(s) in which they are certified. The top five disciplines/areas in which MLTs practised were clinical chemistry (18.4%), hematology (16.5%), transfusion medicine/science (13.6%), microbiology (13.2%) and specimen procurement, receipt and dispatch (12.0%) for the six regulated provinces of Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and Alberta.

For a given employment, MLTs can work in multiple areas of practice, having one main area of practice that is associated with the greatest number of hours worked. In 2011, for Nova Scotia, New Brunswick, Ontario, Manitoba and Alberta, the top three areas that MLTs identified as their main area of practice for primary employment were microbiology (15.3%), clinical chemistry (15.0%) and hematology (10.1%).

The majority of MLTs provided diagnostic and therapeutic laboratory services directly to patients. This was observed in the provinces of Nova Scotia, New Brunswick, Ontario, Manitoba and Alberta, where 80.3% of MLTs engaged in diagnostic and therapeutic laboratory services.

The percentage of MLTs who worked in a hospital setting ranged from 48.9% in Alberta to 91.1% in New Brunswick, reflecting different organizational structures and unique ways of delivering laboratory services across the provinces (Nova Scotia, New Brunswick, Quebec, Manitoba and Alberta). A small number of MLTs worked in other settings, such as centralized diagnostic laboratories (7.3%), free-standing diagnostic laboratories (3.1%), public health laboratories/departments/units (2.6%), blood transfusion centres (1.9%) and post-secondary educational institutions (1.6%).

The national profile below provides a snapshot of the MLT workforce across Canada in 2011. For complete details of the MLT workforce related to supply, demographics, education, certification and employment, please see the *2011 Cross-Jurisdictional Data Tables* and *Jurisdictional Profiles* that accompany this report.

Canada Profile—Total Registered Medical Laboratory Technologist Workforce, 2011

		Count	Percentage	Jurisdictions With Available Data
Supply and Demographics				
Total Registered Medical Laboratory Technologist Workforce in Canada		19,664		All Jurisdictions
Gender	Female	14,306	85.4	N.S., N.B., Que., Ont., Man., Sask., Alta.
	Male	2,451	14.6	
	Total	16,757		
Average Age	Years	45.2		N.S., N.B., Que., Ont., Man., Sask., Alta.
Age Group	<35	3,619	21.6	N.S., N.B., Que., Ont., Man., Sask., Alta.
	35–54	9,111	54.4	
	55+	4,001	23.9	
	Unknown	26	0.2	
	Total	16,757		
Education and Certification				
Level of Basic Education in Medical Laboratory Technology	Diploma	15,295	91.3	N.S., N.B., Que., Ont., Man., Sask., Alta.
	Baccalaureate	98†	5.†	
	Master's or Doctorate	6†	0.†	
	Unknown	413	2.5	
	Total	16,757		
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	10,262	87.3	N.S., Ont., Man., Sask., Alta.
	Foreign Trained	1,102	9.4	
	Unknown	387	3.3	
	Total	11,751		
New Graduates	Yes—Graduated in Last Two Years	600	6.0	N.S., N.B., Que., Man., Sask., Alta.
	No—Graduated More Than Two Years Ago	9,351	93.2	
	Unknown	84	0.8	
	Total	10,035		
Initial Certification Discipline	General	13,06†	85.†	N.L., P.E.I., N.S., N.B., Ont., Man., Sask., Alta., B.C., Territories
	Clinical Genetics	21†	1.†	
	Diagnostic Cytology	44†	2.†	
	Clinical Chemistry	214	1.4	
	Hematology	226	1.5	
	Histology	86	0.6	
	Microbiology	457	3.0	
	Transfusion Medicine/Science	84	0.5	
	Other or Unspecified‡	454	3.0	
	Unknown	75	0.5	
Total	15,320			
Employment				
Multiple Employment Status	Single Employer	4,590	95.3	N.S., N.B., Man., Alta.
	Multiple Employers	217	4.5	
	Unknown	7	0.1	
	Total	4,814		
Total Usual Weekly Hours of Work	<22.5	1,177	11.1	N.B., Ont., Man., Alta.
	22.5–37.4	1,988	18.7	
	37.5+	7,182	67.6	
	Unknown	273	2.6	
	Total	10,620		
Primary Employment				
Employment Category	Permanent Employee	10,518	91.2	N.S., N.B., Ont., Man., Alta.
	Temporary Employee	272	2.4	
	Casual Employee	50†	4.†	
	Self-Employed	2†	0.†	
	Unknown	222	1.9	
	Total	11,536		
Full-Time/Part-Time Status	Full Time	4,806	69.2	N.S., N.B., Que., Man.
	Part Time	2,080	29.9	
	Unknown	59	0.8	
	Total	6,945		
Place of Employment	General Hospital	7,006	76.5	N.S., N.B., Que., Man., Alta.
	Residential Care Facility	5	0.1	
	Physician's Office/Other Professional Practice Office	42	0.5	
	Community Health Centre	143	1.6	
	Public Health Laboratory/Department/Unit	236	2.6	
	Centralized Diagnostic Laboratory Facility	666	7.3	
	Free-Standing Diagnostic Laboratory	284	3.1	
	Specimen Collection Centre	24	0.3	
	Blood Transfusion Centre	174	1.9	
	Other Laboratory Facility	87	0.9	
	Post-Secondary Educational Institution	149	1.6	
	Association/Government/Para-Governmental	44	0.5	
	Industry, Manufacturing and Commercial	66	0.7	
	Other	206	2.2	
	Unknown	26	0.3	
Total	9,158			

(continued on next page)

Canada Profile—Total Registered Medical Laboratory Technologist Workforce, 2011 (cont'd)

		Count	Percentage	Jurisdictions With Available Data
Position	Manager	205	2.2	N.S., N.B., Que., Man., Alta.
	Supervisor	620	6.8	
	Staff MLT	7,326	80.0	
	Technical Specialist	42†	4.†	
	Laboratory Information System Specialist	52	0.6	
	Consultant	18	0.2	
	Educator	151	1.6	
	Researcher	†	0.†	
	Sales	10	0.1	
	Other	316	3.5	
	Unknown	22	0.2	
	Total	9,158		
Major Function	Diagnostic and Therapeutic Laboratory Services	9,258	80.3	N.S., N.B., Ont., Man., Alta.
	Administration	778	6.7	
	Quality Management	241	2.1	
	Teaching, Medical Laboratory Technology–Related	212	1.8	
	Research	124	1.1	
	Other Major Function	601	5.2	
	Unknown	322	2.8	
Total	11,536			
Area of Practice	Clinical Chemistry	5,454	18.4	N.S., N.B., Que., Ont., Man., Alta.
	Hematology	4,872	16.5	
	Transfusion Medicine/Science	4,034	13.6	
	Microbiology	3,901	13.2	
	Specimen Procurement, Receipt and Dispatch	3,556	12.0	
	Histology	1,894	6.4	
	Immunology	78†	2.†	
	Point-of-Care Testing	68†	2.†	
	Diagnostic Cytology	631	2.1	
	Clinical Genetics	41†	1.†	
	Other Area of Practice	3,368	11.4	
	Total	29,588		
Main Area of Practice	Clinical Chemistry	1,727	15.0	N.S., N.B., Ont., Man., Alta.
	Hematology	1,162	10.1	
	Transfusion Medicine/Science	935	8.1	
	Microbiology	1,760	15.3	
	Specimen Procurement, Receipt and Dispatch	96	0.8	
	Histology	886	7.7	
	Immunology	99	0.9	
	Point-of-Care Testing	41	0.4	
	Diagnostic Cytology	481	4.2	
	Clinical Genetics	332	2.9	
	Other Area of Practice	1,919	16.6	
	Cannot Identify One Main Area of Practice	1,839	15.9	
	Not Applicable	76	0.7	
Unknown	183	1.6		
Total	11,536			
Number of Employment Sites	Single Site	2,702	24.8	N.S., Ont., Man., Alta.
	Multiple Sites	7,924	72.9	
	Unknown	248	2.3	
	Total	10,874		

Notes

† Value suppressed to ensure confidentiality.

‡ This category may include more certification disciplines than are defined in the *MLTDB Reference Guide*.

Workforce Count and Regulation Status

In 2011, due to records with missing Employment Status for Newfoundland and Labrador, P.E.I., B.C. and the territories (Yukon, the Northwest Territories and Nunavut), the workforce count may not represent the entire workforce due to voluntary registration with the CSMLS. Refer to Appendix B for more information.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

About CIHI's Medical Laboratory Technologist Database

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

In consultation with provincial regulatory bodies, provincial professional societies, the CSMLS and other stakeholders, CIHI developed a standardized set of data elements to capture information on the MLT workforce in Canada. These data elements cover demographic, geographic, education, certification and employment dimensions and have been compiled in the *MLTDB Reference Guide*. Since 2008, the MLTDB has collected information on supply and distribution, geography, education, certification and employment of MLTs in Canada.

MLTDB Data Providers

The primary data collectors for the MLTDB are the provincial regulatory bodies and the CSMLS for the unregulated jurisdictions (Newfoundland and Labrador, P.E.I., B.C., Yukon, the Northwest Territories and Nunavut) through voluntary registration with the CSMLS. All the data providers have participated in data submission activities since 2008.

MLTDB Data Providers	Corresponding Province/ Territory of Data Submission
Nova Scotia College of Medical Laboratory Technologists	Nova Scotia
New Brunswick Society of Medical Laboratory Technologists	New Brunswick
Ordre professionnel des technologistes médicaux du Québec	Quebec
College of Medical Laboratory Technologists of Ontario	Ontario
College of Medical Laboratory Technologists of Manitoba	Manitoba
Saskatchewan Society of Medical Laboratory Technologists	Saskatchewan
College of Medical Laboratory Technologists of Alberta	Alberta
Canadian Society for Medical Laboratory Science	Newfoundland and Labrador Prince Edward Island British Columbia Yukon Northwest Territories Nunavut

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

The *MLTDB Reference Guide* is available free of charge on CIHI's website at www.cihi.ca.

Notes

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

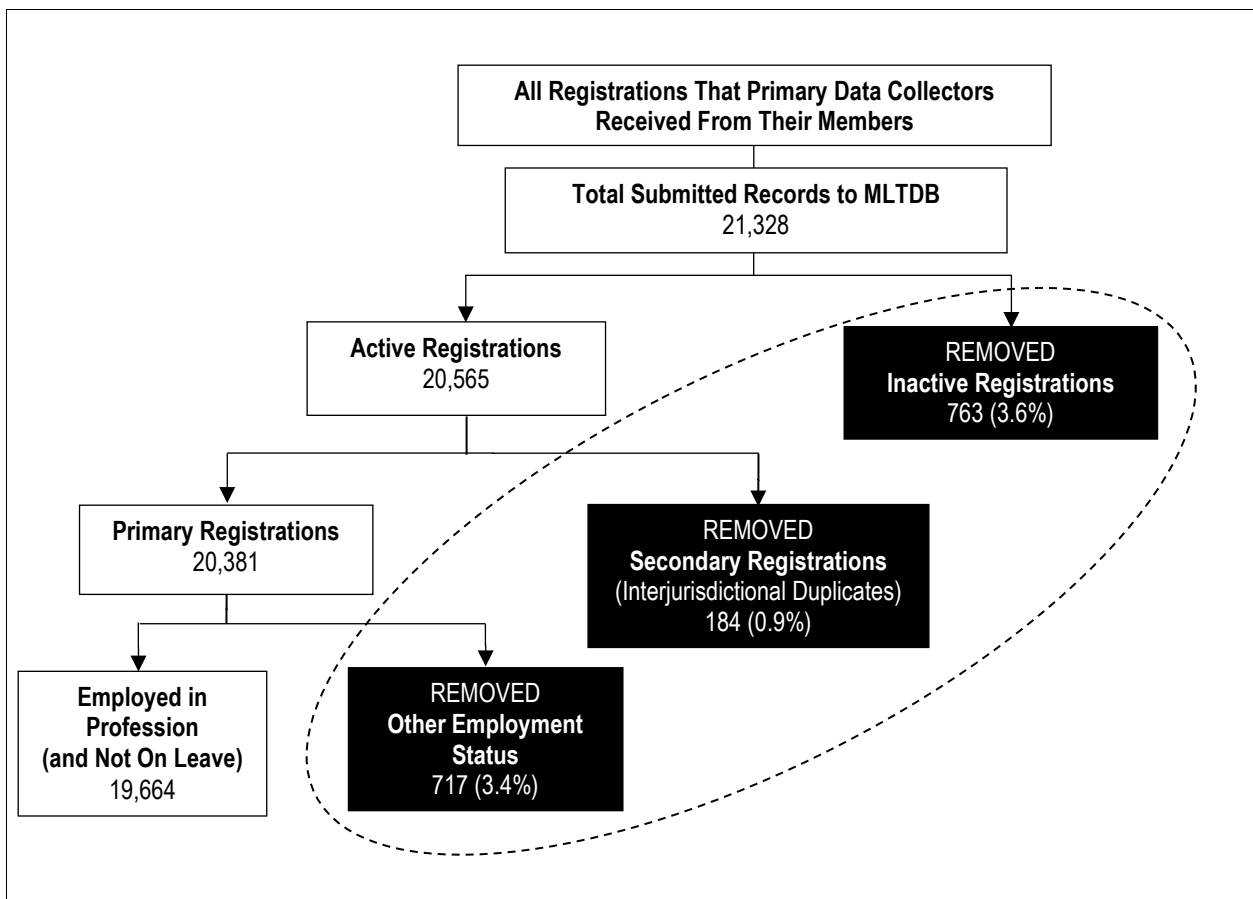
1. **Collection period**—The statistics released by provincial regulatory authorities or the CSMLS include all registrations received during the 12-month registration period. In contrast, CIHI requests to collect data as of August 1 of the data collection year. This point-in-time data collection period was established in consultation with the provincial regulatory authorities and the CSMLS to ensure timely and comprehensive information despite the different registration periods. Refer to Appendix A for details on registration start and end periods for the different jurisdictions.
2. **Reference population**—For the MLTDB, the population of reference includes all MLTs who register with a Canadian provincial regulatory body or the CSMLS, which submit data to CIHI.
3. **Exclusions from CIHI data**—The MLTDB does not have data on MLTs who reside and work in an unregulated province or territory and do not voluntarily register with the CSMLS.
4. **CIHI editing and processing**—All records sent to CIHI undergo processing before they are included in the national database. The MLTDB system checks whether the records are in the proper format and whether they can pass specific validity and logic tests. If the submitted data fails to meet CIHI's standards, or if a logical relationship between specific fields does not make sense (for example, the initial year of employment for a record is before the year of birth), an exception or anomaly report will be generated and sent back to the data provider. These reports assist the data providers in making corrections to the records and resubmitting the data file to CIHI, where it is reviewed again. In cases where the data provider is not able to make the necessary corrections, CIHI may make them with the explicit consent of the provider. CIHI and the data providers work collectively to ensure that high data quality is achieved.

CIHI's Definition of the MLT Workforce in Canada

In this publication, the MLT workforce is defined as practising MLTs who hold active registrations or membership with a provincial regulatory body or the CSMLS, excluding double counts for those who are registered in more than one jurisdiction.

The following registrations that were submitted by the provincial regulatory bodies and the CSMLS were excluded from the 2011 workforce counts: 763 (3.6%) inactive registrations, 184 (0.9%) secondary registrations and 717 (3.4%) registrations that were identified as individuals who did not work in medical laboratory technology. The total exclusion accounted for 7.9% of the total registrations. The breakdown of the 2011 data is shown in Figure 1.

Figure 1: Defining CIHI's MLTDB Medical Laboratory Technologist Workforce, 2011



Notes

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Impact of Regulation Status on MLT Workforce Estimates

The profession of medical laboratory technology is not regulated in all Canadian provinces and territories. As of August 2011, the profession is regulated in seven Canadian provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta. Consequently, the annual statistics for these provinces in this report represent the MLT workforce in these provinces. The profession is not regulated in the following jurisdictions: Newfoundland and Labrador, P.E.I., B.C., Yukon, the Northwest Territories and Nunavut. Statistics for MLTs in unregulated provinces and territories may not represent the entire population. Statistics for the unregulated provinces and territories instead represent the majority of those who voluntarily registered with the CSMLS, which provided data to the MLTDB on behalf of these jurisdictions. For this reason, it is important to note that statistics presented in this report for all provinces and territories may not represent the entire population of MLTs or of the entire MLT workforce in Canada.

Want to Know More?

The full text of *Medical Laboratory Technologists in Canada, 2011* is available, free of charge, in both English and French on CIHI's website at www.cihi.ca.

Other related MLTDB reports/documents that may be of interest are also available on CIHI's website:

- *Medical Laboratory Technologists in Canada, 2010*
- *Medical Laboratory Technologist Database, 2009 Data Release*
- *Medical Laboratory Technologists and Their Work Environment*
- *Medical Laboratory Technologist Database Reference Guide, Version 1.0*
- *Medical Laboratory Technologist Database Technical Notes*

For more information, please contact

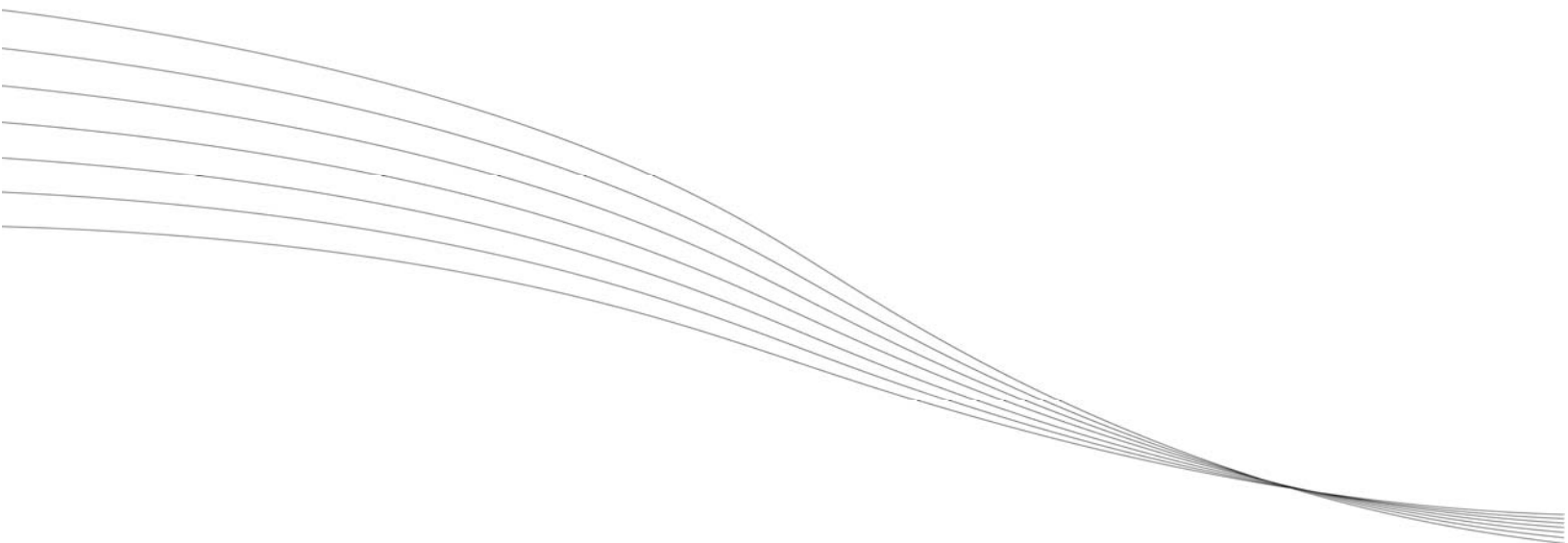
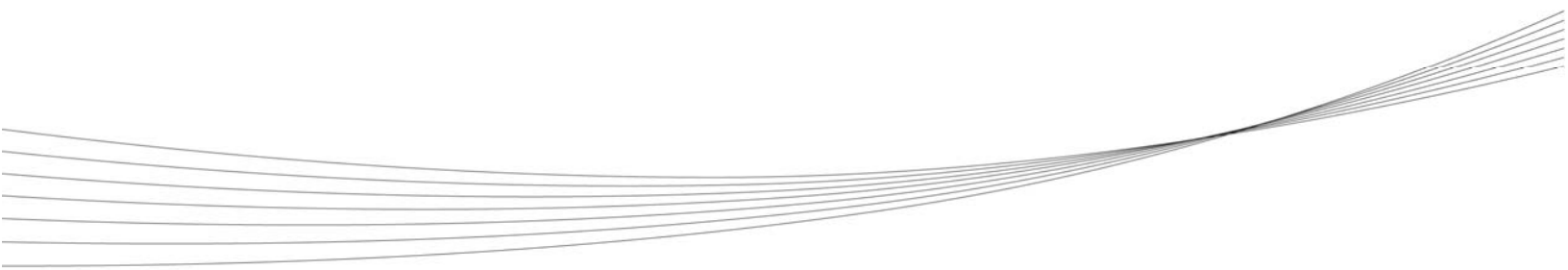
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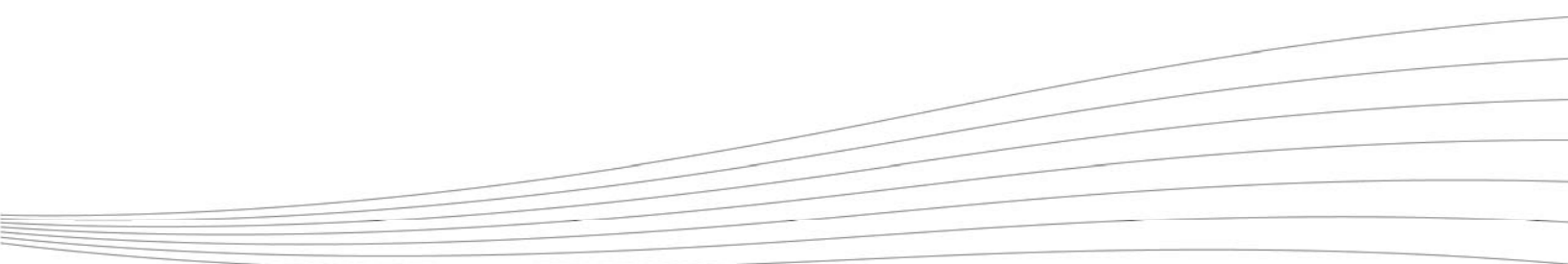
Provincial/Territorial Data Highlights and Profiles

Regulated Provinces:

Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba,
Saskatchewan and Alberta

Unregulated Provinces and Territories:

Newfoundland and Labrador, Prince Edward Island,
British Columbia, Yukon, the Northwest Territories
and Nunavut



2011 Data Highlights for Medical Laboratory Technologists in Nova Scotia

Workforce Supply and Demographics

- Nova Scotia had 916 registered MLTs in 2011.
- The majority of the MLT workforce was female (85.2%).
- The average age of MLTs was 46; 22.7% of the workforce was age 55 and older.

Education and Certification

- The majority (99.1%) of MLTs held a diploma as their basic level of education.
- Most (98.6%) of the MLT workforce received training in Canada.
- Slightly more than 4% of the MLT workforce had graduated from a medical laboratory technology training program within the past two years.
- Most (89.7%) MLTs received their initial certification in general medical laboratory technology.

Primary Employment

- Most (90.8%) of the MLT workforce were permanent employees.
- The majority of the MLT workforce (81.4%) had full-time status in their primary employment.
- Most of the MLT workforce worked in general hospitals (87.8%), followed by blood transfusion centres (3.9%) and community health centres (2.8%).
- Staff MLTs accounted for 88.2% of the workforce.
- Most practising MLTs (90.3%) reported that their major function at work was providing diagnostic and therapeutic laboratory services.
- The top five areas of practice in which MLTs worked were clinical chemistry (19.1%), hematology (18.8%), transfusion medicine/science (15.0%), specimen procurement, receipt and dispatch (14.0%) and microbiology (9.2%).
- More than half (56.6%) of MLTs were employed in the Capital Health Authority health region.

Nova Scotia MLT Workforce Profile

Nova Scotia—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		921		936		916	
Gender	Female	791	85.9%	798	85.3%	780	85.2%
	Male	130	14.1%	138	14.7%	136	14.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	45.5		46.0		46.0	
Age Group	<35	148	16.1%	153	16.3%	170	18.6%
	35-54	585	63.5%	573	61.2%	538	58.7%
	55+	188	20.4%	210	22.4%	208	22.7%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	912	99.0%	927	99.0%	908	99.1%
	Baccalaureate	5	0.5%	6	0.6%	8	0.9%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	4	0.4%	3	0.3%	0	0.0%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	908	98.6%	922	98.5%	903	98.6%
	Foreign Trained	8	0.9%	10	1.1%	13	1.4%
	Unknown	5	0.5%	4	0.4%	0	0.0%
New Graduates	Yes—Graduated in Last Two Years	43	4.7%	29	3.1%	39	4.3%
	No—Graduated More Than Two Years Ago	874	94.9%	904	96.6%	877	95.7%
	Unknown	4	0.4%	3	0.3%	0	0.0%
Initial Certification Discipline	General	821	89.1%	837	89.4%	822	89.7%
	Clinical Genetics	10	1.1%	11	1.2%	14	1.5%
	Diagnostic Cytology	54	5.9%	55	5.9%	54	5.9%
	Clinical Chemistry	*	*	*	*	*	*
	Hematology	*	*	*	*	*	*
	Histology	*	*	*	*	*	*
	Microbiology	*	*	*	*	*	*
	Transfusion Medicine/Science	*	*	*	*	*	*
	Other or Unspecified	22	2.4%	20	2.1%	15	1.6%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	91†	†	93†	†	91†	†
	Multiple Employers	*	*	*	*	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5-37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	832	90.8%
	Temporary Employee	—	—	—	—	14	1.5%
	Casual Employee	—	—	—	—	53	5.8%
	Self-Employed	—	—	—	—	6	0.7%
	Unknown	—	—	—	—	11	1.2%
Full-Time/Part-Time Status	Full Time	—	—	—	—	746	81.4%
	Part Time	—	—	—	—	132	14.4%
	Unknown	—	—	—	—	38	4.1%
Place of Employment	General Hospital	798	86.6%	816	87.2%	804	87.8%
	Residential Care Facility	0	0.0%	0	0.0%	0	0.0%
	Physician's Office/Other Professional Practice Office	*	*	*	*	*	*
	Community Health Centre	28	3.0%	27	2.9%	26	2.8%
	Public Health Laboratory/Department/Unit	0	0.0%	0	0.0%	0	0.0%
	Centralized Diagnostic Laboratory Facility	0	0.0%	0	0.0%	0	0.0%
	Free-Standing Diagnostic Laboratory	*	*	0	0.0%	0	0.0%
	Specimen Collection Centre	0	0.0%	0	0.0%	0	0.0%
	Blood Transfusion Centre	3†	†	38	4.1%	36	3.9%
	Other Laboratory Facility	6	0.7%	6	0.6%	6	0.7%
	Post-Secondary Educational Institution	12	1.3%	12	1.3%	11	1.2%
	Association/Government/Para-Governmental	11	1.2%	11	1.2%	10	1.1%
	Industry, Manufacturing and Commercial	13	1.4%	13	1.4%	11	1.2%
	Other	†	†	†	†	†	†
	Unknown	0	0.0%	0	0.0%	1	0.1%

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Nova Scotia—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011		
		Count	Percentage	Count	Percentage	Count	Percentage	
Position	Manager	37	4.0%	41	4.4%	38	4.1%	
	Supervisor	20	2.2%	18	1.9%	18	2.0%	
	Staff MLT	817	88.7%	824	88.0%	808	88.2%	
	Technical Specialist	5	0.5%	5	0.5%	5	0.5%	
	Laboratory Information System Specialist	14	1.5%	19	2.0%	21	2.3%	
	Consultant	7	0.8%	*	*	*	*	
	Educator	11	1.2%	12	1.3%	11	1.2%	
	Researcher	0	0.0%	0	0.0%	0	0.0%	
	Sales	*	*	9	1.0%	*	*	
	Other	†	†	†	†	6	0.7%	
	Unknown	0	0.0%	0	0.0%	2	0.2%	
	Clinical	Yes	—	—	—	—	—	—
Education/Preceptor	No	—	—	—	—	—	—	
Activity Indicator	Unknown	—	—	—	—	—	—	
Major Function	Diagnostic and Therapeutic Laboratory Services	837	90.9%	847	90.5%	827	90.3%	
	Administration	23	2.5%	26	2.8%	24	2.6%	
	Quality Management	22	2.4%	22	2.4%	19	2.1%	
	Teaching, Medical Laboratory Technology-Related	10	1.1%	10	1.1%	10	1.1%	
	Research	*	*	*	*	*	*	
	Other Major Function	2†	†	2†	†	3†	†	
	Unknown	2	0.2%	1	0.1%	3	0.3%	
Area of Practice	Clinical Chemistry	450	21.5%	430	19.1%	422	19.1%	
	Hematology	444	21.2%	424	18.8%	416	18.8%	
	Transfusion Medicine/Science	429	20.5%	371	16.5%	332	15.0%	
	Microbiology	143	6.8%	209	9.3%	203	9.2%	
	Specimen Procurement, Receipt and Dispatch	386	18.5%	326	14.5%	310	14.0%	
	Histology	77	3.7%	93	4.1%	101	4.6%	
	Immunology	29	1.4%	118	5.2%	112	5.1%	
	Point-of-Care Testing	*	*	113	5.0%	129	5.8%	
	Diagnostic Cytology	49	2.3%	50	2.2%	49	2.2%	
	Clinical Genetics	17	0.8%	19	0.8%	19	0.9%	
	Other	6†	†	100	4.4%	121	5.5%	
	Health Region (Statistics Canada PCCF Health Region Code)	Zone 1 (South Shore and South West Health Authorities) (1210)	89	9.7%	91	9.7%	89	9.7%
		Zone 2 (Annapolis Valley Health Authority) (1223)	57	6.2%	57	6.1%	59	6.4%
Zone 3 (Colchester East Hants and Cumberland Health Authorities) (1230)		64	6.9%	62	6.6%	61	6.7%	
Zone 4 (Pictou County and Guysborough Antigonish Strait Health Authorities) (1240)		68	7.4%	70	7.5%	69	7.5%	
Zone 5 (Cape Breton Health Authority) (1258)		117	12.7%	120	12.8%	116	12.7%	
Zone 6 (Capital Health Authority) (1269)		521	56.6%	534	57.1%	518	56.6%	
Unknown		5	0.5%	2	0.2%	4	0.4%	

Notes

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

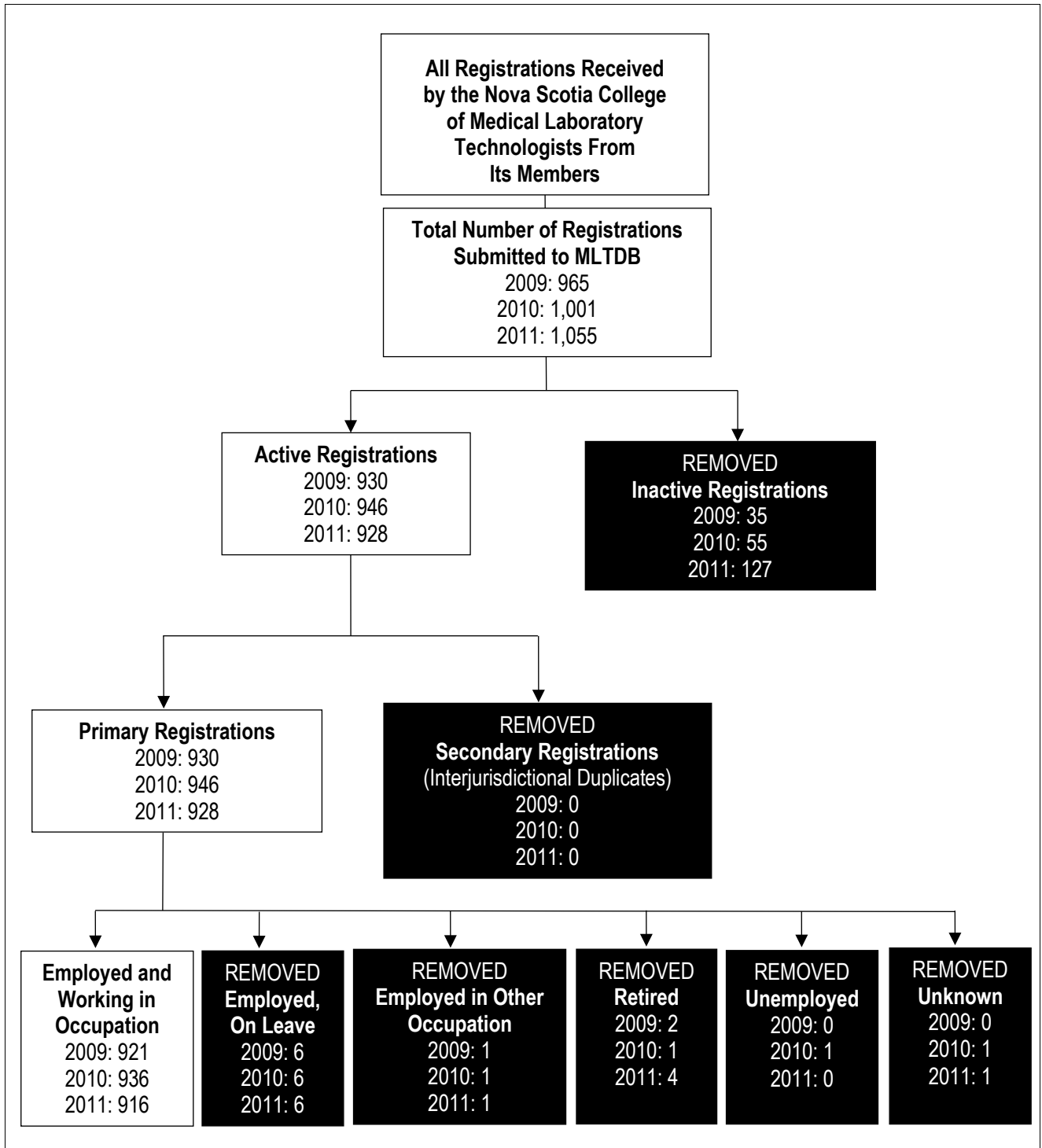
† Value suppressed to ensure confidentiality.

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Nova Scotia College of Medical Laboratory Technologists to CIHI



2011 Data Highlights for Medical Laboratory Technologists in New Brunswick

Workforce Supply and Demographics

- New Brunswick had 662 registered MLTs in 2011.
- The majority of the MLT workforce was female (88.4%).
- The average age of the MLT workforce was 44. MLTs who were 55 and older accounted for 18.6% of the workforce, which was lower than the combined average across the regulated provinces (23.9%).

Education and Certification

- Almost all MLTs held a diploma as their basic level of education (99.8%).
- Slightly more than 4% of MLTs were new graduates who had graduated from a medical laboratory technology training program within the past two years.
- Most (92.9%) MLTs received their initial certification in general medical laboratory technology, higher than the combined average (approximately 85% for all provinces and territories, excluding Quebec).

Primary Employment

- Most (89.1%) MLTs were permanent employees in their place of primary employment.
- More than three-quarters (79.0%) of MLTs worked on a full-time basis.
- New Brunswick had the highest percentage of MLTs who worked in general hospitals (91.1%) among five regulated provinces (Nova Scotia, New Brunswick, Quebec, Manitoba and Alberta).
- The majority of MLTs worked as staff MLTs (76.9%), while 11.5% were supervisors and 5% were managers.
- More than three-quarters (76.9%) of MLTs provided diagnostic and therapeutic laboratory services.
- The top areas in which MLTs practised were clinical chemistry (35.8%), hematology (16.4%) and microbiology (15.9%).

Total Usual Weekly Hours of Work

- More than three-quarters (76.7%) of the workforce worked 37.5 hours or longer per week.

New Brunswick MLT Workforce Profile

New Brunswick—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		638		642		662	
Gender	Female	568	89.0%	566	88.2%	585	88.4%
	Male	70	11.0%	76	11.8%	77	11.6%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	43.6		43.7		43.9	
Age Group	<35	141	22.1%	146	22.7%	161	24.3%
	35-54	405	63.5%	396	61.7%	378	57.1%
	55+	91	14.3%	98	15.3%	123	18.6%
	Unknown	1	0.2%	2	0.3%	0	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	638	100.0%	642	100.0%	661	99.8%
	Baccalaureate	0	0.0%	0	0.0%	0	0.0%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	1	0.2%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	26	4.1%	20	3.1%	28	4.2%
	No—Graduated More Than Two Years Ago	608	95.3%	617	96.1%	629	95.0%
	Unknown	4	0.6%	5	0.8%	5	0.8%
Initial Certification Discipline	General	587	92.0%	596	92.8%	615	92.9%
	Clinical Genetics	5	0.8%	5	0.8%	5	0.8%
	Diagnostic Cytology	29	4.5%	28	4.4%	30	4.5%
	Clinical Chemistry	5	0.8%	*	*	*	*
	Hematology	*	*	*	*	*	*
	Histology	*	*	*	*	*	*
	Microbiology	6	0.9%	*	*	*	*
	Transfusion Medicine/Science	*	*	*	*	*	*
	Other or Unspecified	*	*	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	627	98.3%	637	99.2%	65†	†
	Multiple Employers	11	1.7%	5	0.8%	*	*
	Unknown	0	0.0%	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	56	8.8%	56	8.7%	53	8.0%
	22.5-37.4	106	16.6%	101	15.7%	101	15.3%
	37.5+	476	74.6%	485	75.5%	508	76.7%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Primary Employment							
Employment Category	Permanent Employee	574	90.0%	574	89.4%	590	89.1%
	Temporary Employee	20	3.1%	26	4.0%	33	5.0%
	Casual Employee	44	6.9%	42	6.5%	39	5.9%
	Self-Employed	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Full-Time/Part-Time Status	Full Time	494	77.4%	500	77.9%	523	79.0%
	Part Time	132	20.7%	122	19.0%	119	18.0%
	Unknown	12	1.9%	20	3.1%	20	3.0%
Place of Employment	General Hospital	587	92.0%	588	91.6%	603	91.1%
	Residential Care Facility	0	0.0%	0	0.0%	0	0.0%
	Physician's Office/Other Professional Practice Office	13	2.0%	14	2.2%	15	2.3%
	Community Health Centre	10	1.6%	11	1.7%	10	1.5%
	Public Health Laboratory/Department/Unit	0	0.0%	0	0.0%	0	0.0%
	Centralized Diagnostic Laboratory Facility	0	0.0%	0	0.0%	0	0.0%
	Free-Standing Diagnostic Laboratory	0	0.0%	0	0.0%	0	0.0%
	Specimen Collection Centre	0	0.0%	0	0.0%	0	0.0%
	Blood Transfusion Centre	0	0.0%	0	0.0%	0	0.0%
	Other Laboratory Facility	0	0.0%	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	1†	†	1†	†	13	2.0%
	Association/Government/Para-Governmental	*	*	*	*	6	0.9%
	Industry, Manufacturing and Commercial	0	0.0%	0	0.0%	0	0.0%
	Other	1†	†	1†	†	15	2.3%
	Unknown	0	0.0%	0	0.0%	0	0.0%

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New Brunswick—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	30	4.7%	28	4.4%	33	5.0%
	Supervisor	75	11.8%	76	11.8%	76	11.5%
	Staff MLT	496	77.7%	499	77.7%	509	76.9%
	Technical Specialist	*	*	*	*	*	*
	Laboratory Information System Specialist	5	0.8%	6	0.9%	*	*
	Consultant	*	*	*	*	*	*
	Educator	1†	†	1†	†	14	2.1%
	Researcher	0	0.0%	0	0.0%	0	0.0%
	Sales	0	0.0%	0	0.0%	0	0.0%
	Other	1†	†	1†	†	21	3.2%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Clinical Education/Preceptor Activity Indicator	Yes	—	—	—	—	—	—
	No	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	496	77.7%	499	77.7%	509	76.9%
	Administration	76	11.9%	77	12.0%	80	12.1%
	Quality Management	8	1.3%	9	1.4%	11	1.7%
	Teaching, Medical Laboratory Technology-Related	12	1.9%	13	2.0%	14	2.1%
	Research	0	0.0%	0	0.0%	0	0.0%
	Other Major Function	46	7.2%	44	6.9%	48	7.3%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Area of Practice	Clinical Chemistry	256	38.2%	253	37.9%	245	35.8%
	Hematology	98	14.6%	107	16.0%	112	16.4%
	Transfusion Medicine/Science	61	9.1%	62	9.3%	62	9.1%
	Microbiology	99	14.8%	99	14.8%	109	15.9%
	Specimen Procurement, Receipt and Dispatch	7	1.0%	8	1.2%	11	1.6%
	Histology	47	7.0%	42	6.3%	44	6.4%
	Immunology	*	*	*	*	*	*
	Point-of-Care Testing	*	*	*	*	*	*
	Diagnostic Cytology	32	4.8%	31	4.6%	33	4.8%
	Clinical Genetics	*	*	*	*	*	*
	Other	63	9.4%	58	8.7%	61	8.9%
Health Region (Statistics Canada PCCF Health Region Code)‡	Zone 1 (Moncton area) (1301)	161	25.2%	169	26.3%	182	27.5%
	Zone 2 (Saint John area) (1302)	168	26.3%	170	26.5%	176	26.6%
	Zone 3 (Fredericton area) (1303)	139	21.8%	137	21.3%	140	21.1%
	Zone 4 (Edmundston area) (1304)	38	6.0%	38	5.9%	41	6.2%
	Zone 5 (Campbellton area) (1305)	31	4.9%	31	4.8%	31	4.7%
	Zone 6 (Bathurst area) (1306)	63	9.9%	61	9.5%	66	10.0%
	Zone 7 (Miramichi area) (1307)	26	4.1%	27	4.2%	25	3.8%
	Unknown	12	1.9%	9	1.4%	1	0.2%

Notes

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

† Value suppressed to ensure confidentiality.

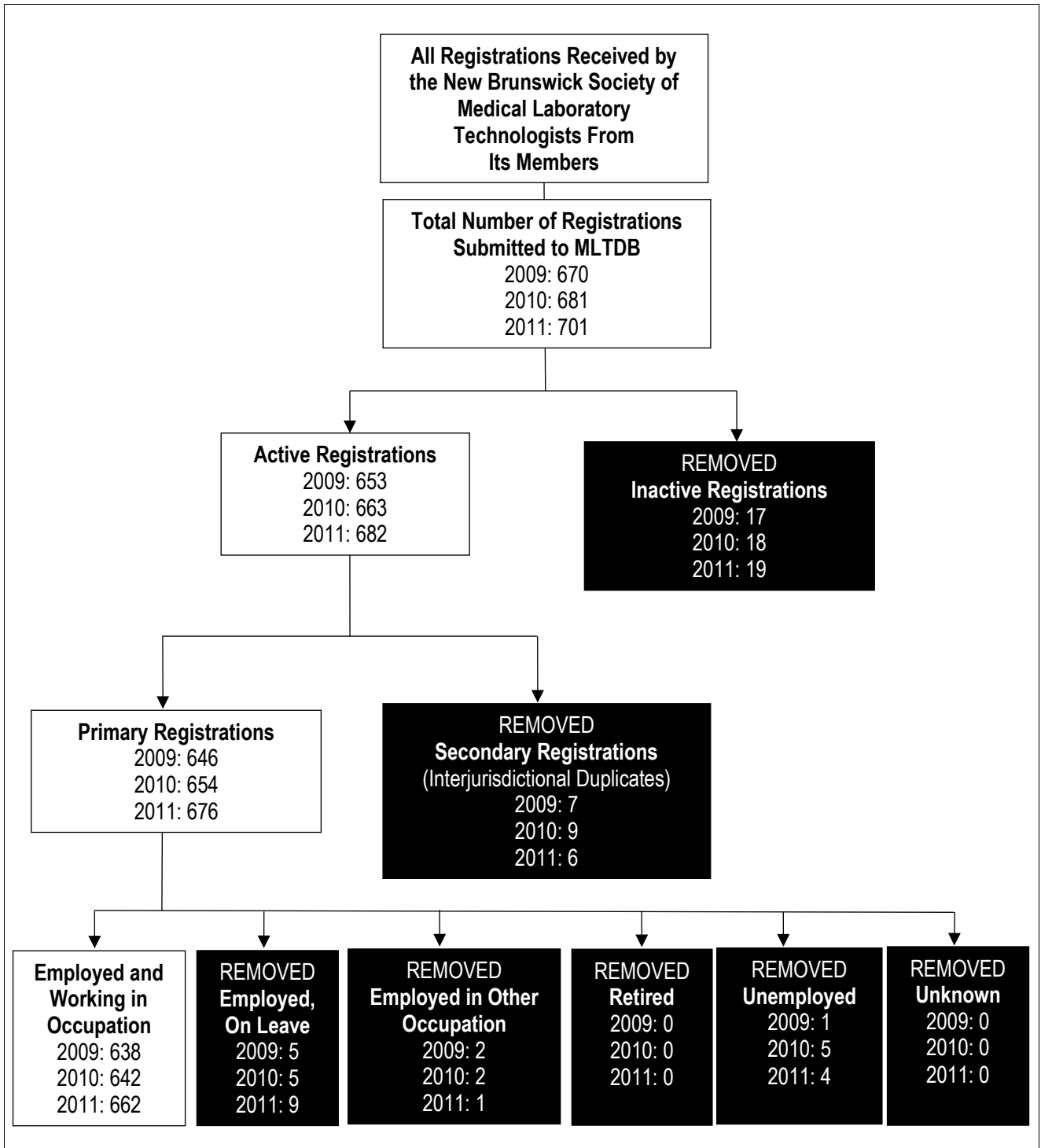
‡ On September 1, 2008, eight regional health authorities in New Brunswick amalgamated into two. Nevertheless, the data in this table has been reported using boundaries in accordance with Statistics Canada's Postal Code Conversion File. Further details about boundaries can be found at www.statcan.gc.ca.

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the New Brunswick Society of Medical Laboratory Technologists to CIHI



2011 Data Highlights for Medical Laboratory Technologists in Quebec

Workforce Supply and Demographics

- Quebec had 4,344 registered MLTs in 2011.
- The majority of the MLT workforce was female (86.5%).
- The average age of the MLT workforce was 40, five years younger than the overall average age for the seven regulated provinces (45).
- In 2011, 13.2% of working MLTs were 55 and older, the lowest percentage across the seven regulated provinces. The percentage of MLTs who were younger than 35 (41.3%) was almost double that of the seven regulated provinces combined (21.6%).

Education and Certification

- The majority of MLTs held a diploma as their basic level of education (96.3%).
- More than 9% of MLTs were new graduates who had graduated from a medical laboratory technology training program within the past two years.

Primary Employment

- More than 60% of MLTs held a full-time job in 2011.
- Most of the MLT workforce worked in general hospitals (89.8%).
- More than 80% of MLTs were staff MLTs, with smaller percentages working as technical specialists (7.8%) and supervisors (4.7%).
- The top three areas in which MLTs practised were clinical chemistry (21.2%), hematology (20.1%) and specimen procurement, receipt and dispatch (18.4%).
- The top three health regions in which MLTs worked were région de Montréal (32.6%), région de la Montérégie (11.5%) and région de la Capitale-Nationale (10.8%).

Quebec MLT Workforce Profile

Quebec—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		4,197		4,213		4,344	
Gender	Female	3,663	87.3%	3,664	87.0%	3,759	86.5%
	Male	534	12.7%	549	13.0%	585	13.5%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	39.7		39.7		39.7	
Age Group	<35	1,701	40.5%	1,730	41.1%	1,795	41.3%
	35–54	1,977	47.1%	1,958	46.5%	1,976	45.5%
	55+	519	12.4%	525	12.5%	573	13.2%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	4,015	95.7%	4,048	96.1%	4,184	96.3%
	Baccalaureate	0	0.0%	0	0.0%	0	0.0%
	Master's	0	0.0%	0	0.0%	0	0.0%
	Doctorate	0	0.0%	0	0.0%	0	0.0%
	Unknown	182	4.3%	165	3.9%	160	3.7%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	400	9.5%	387	9.2%	404	9.3%
	No—Graduated More Than Two Years Ago	3,797	90.5%	3,824	90.8%	3,940	90.7%
	Unknown	0	0.0%	2	0.0%	0	0.0%
Initial Certification Discipline	General	—	—	—	—	—	—
	Clinical Genetics	—	—	—	—	—	—
	Diagnostic Cytology	—	—	—	—	—	—
	Clinical Chemistry	—	—	—	—	—	—
	Hematology	—	—	—	—	—	—
	Histology	—	—	—	—	—	—
	Microbiology	—	—	—	—	—	—
	Transfusion Medicine/Science	—	—	—	—	—	—
	Other or Unspecified	—	—	—	—	—	—
Unknown	—	—	—	—	—	—	
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	—	—
	Temporary Employee	—	—	—	—	—	—
	Casual Employee	—	—	—	—	—	—
	Self-Employed	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Full-Time/Part-Time Status	Full Time	2,293	54.6%	2,622	62.2%	2,776	63.9%
	Part Time	1,716	40.9%	1,591	37.8%	1,568	36.1%
	Unknown	188	4.5%	0	0.0%	0	0.0%
Place of Employment	General Hospital	3,712	88.4%	3,718	88.3%	3,902	89.8%
	Residential Care Facility	0	0.0%	0	0.0%	0	0.0%
	Physician's Office/Other Professional Practice Office	0	0.0%	0	0.0%	0	0.0%
	Community Health Centre	*	*	0	0.0%	0	0.0%
	Public Health Laboratory/Department/Unit	1†	†	20	0.5%	23	0.5%
	Centralized Diagnostic Laboratory Facility	0	0.0%	0	0.0%	0	0.0%
	Free-Standing Diagnostic Laboratory	208	5.0%	203	4.8%	174	4.0%
	Specimen Collection Centre	18	0.4%	21	0.5%	19	0.4%
	Blood Transfusion Centre	0	0.0%	0	0.0%	0	0.0%
	Other Laboratory Facility	0	0.0%	0	0.0%	0	0.0%
	Post-Secondary Educational Institution	4†	†	47	1.1%	46	1.1%
	Association/Government/Para-Governmental	0	0.0%	0	0.0%	0	0.0%
	Industry, Manufacturing and Commercial	47	1.1%	37	0.9%	40	0.9%
	Other	2†	†	158	3.8%	132	3.0%
	Unknown	127	3.0%	9	0.2%	8	0.2%

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Quebec—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

	2009		2010		2011		
	Count	Percentage	Count	Percentage	Count	Percentage	
Position	Manager	40	1.0%	41	1.0%	39	0.9%
	Supervisor	202	4.8%	191	4.5%	202	4.7%
	Staff MLT	3,341	79.6%	3,338	79.2%	3,522	81.1%
	Technical Specialist	309	7.4%	331	7.9%	341	7.8%
	Laboratory Information System Specialist	0	0.0%	0	0.0%	0	0.0%
	Consultant	0	0.0%	0	0.0%	0	0.0%
	Educator	47	1.1%	50	1.2%	49	1.1%
	Researcher	0	0.0%	0	0.0%	0	0.0%
	Sales	6	0.1%	7	0.2%	5	0.1%
	Other	135	3.2%	255	6.1%	186	4.3%
	Unknown	117	2.8%	0	0.0%	0	0.0%
	Clinical Education/Preceptor Activity Indicator	Yes	—	—	—	—	—
No		—	—	—	—	—	—
Unknown		—	—	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	—	—
	Administration	—	—	—	—	—	—
	Quality Management	—	—	—	—	—	—
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	—	—
	Research	—	—	—	—	—	—
	Other Major Function	—	—	—	—	—	—
Area of Practice	Unknown	—	—	—	—	—	—
	Clinical Chemistry [‡]	—	—	1,841	20.8%	2,037	21.2%
	Hematology	1,708	52.3%	1,681	19.0%	1,931	20.1%
	Transfusion Medicine/Science	—	—	1,606	18.1%	1,743	18.1%
	Microbiology	1,419	43.4%	1,300	14.7%	1,381	14.3%
	Specimen Procurement, Receipt and Dispatch	—	—	1,715	19.4%	1,776	18.4%
	Histology	—	—	583	6.6%	615	6.4%
	Immunology	—	—	—	—	—	—
	Point-of-Care Testing	—	—	—	—	—	—
	Diagnostic Cytology	115	3.5%	113	1.3%	123	1.3%
	Clinical Genetics	24	0.7%	22	0.2%	21	0.2%
	Other	—	—	—	—	—	—
	Health Region (Statistics Canada PCCF Health Region Code)	Région du Bas-Saint-Laurent (2401)	161	3.8%	155	3.7%	162
Région du Saguenay–Lac-Saint-Jean (2402)		182	4.3%	179	4.2%	191	4.4%
Région de la Capitale-Nationale (2403)		495	11.8%	461	10.9%	469	10.8%
Région de la Mauricie et du Centre-du-Québec (2404)		272	6.5%	270	6.4%	286	6.6%
Région de l'Estrie (2405)		195	4.6%	197	4.7%	199	4.6%
Région de Montréal (2406)		1,313	31.3%	1,366	32.4%	1,417	32.6%
Région de l'Outaouais (2407)		117	2.8%	118	2.8%	131	3.0%
Région de l'Abitibi-Témiscamingue (2408)		107	2.5%	105	2.5%	110	2.5%
Région de la Côte-Nord (2409)		82	2.0%	82	1.9%	81	1.9%
Région du Nord-du-Québec (2410)		20	0.5%	20	0.5%	19	0.4%
Région de la Gaspésie-Îles de la Madeleine (2411)		74	1.8%	72	1.7%	76	1.7%
Région de Chaudière-Appalaches (2412)		139	3.3%	137	3.3%	142	3.3%
Région de Laval (2413)		83	2.0%	85	2.0%	87	2.0%
Région de Lanaudière (2414)		116	2.8%	113	2.7%	124	2.9%
Région des Laurentides (2415)		206	4.9%	211	5.0%	209	4.8%
Région de la Montérégie (2416)		469	11.2%	469	11.1%	501	11.5%
Région du Nunavik (2417)		12	0.3%	11	0.3%	14	0.3%
Région des Terres-Criées-de-la-Baie-James (2418)		5	0.1%	5	0.1%	*	*
Unknown		149	3.6%	157	3.7%	12†	†

Notes

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

† Value suppressed to ensure confidentiality.

‡ MLTs in Quebec who perform clinical chemistry, a part of medical biology, did not have to register with the Ordre professionnel des technologistes médicaux du Québec, which provided data to CIHI. Refer to the *Technical Notes* for further details.

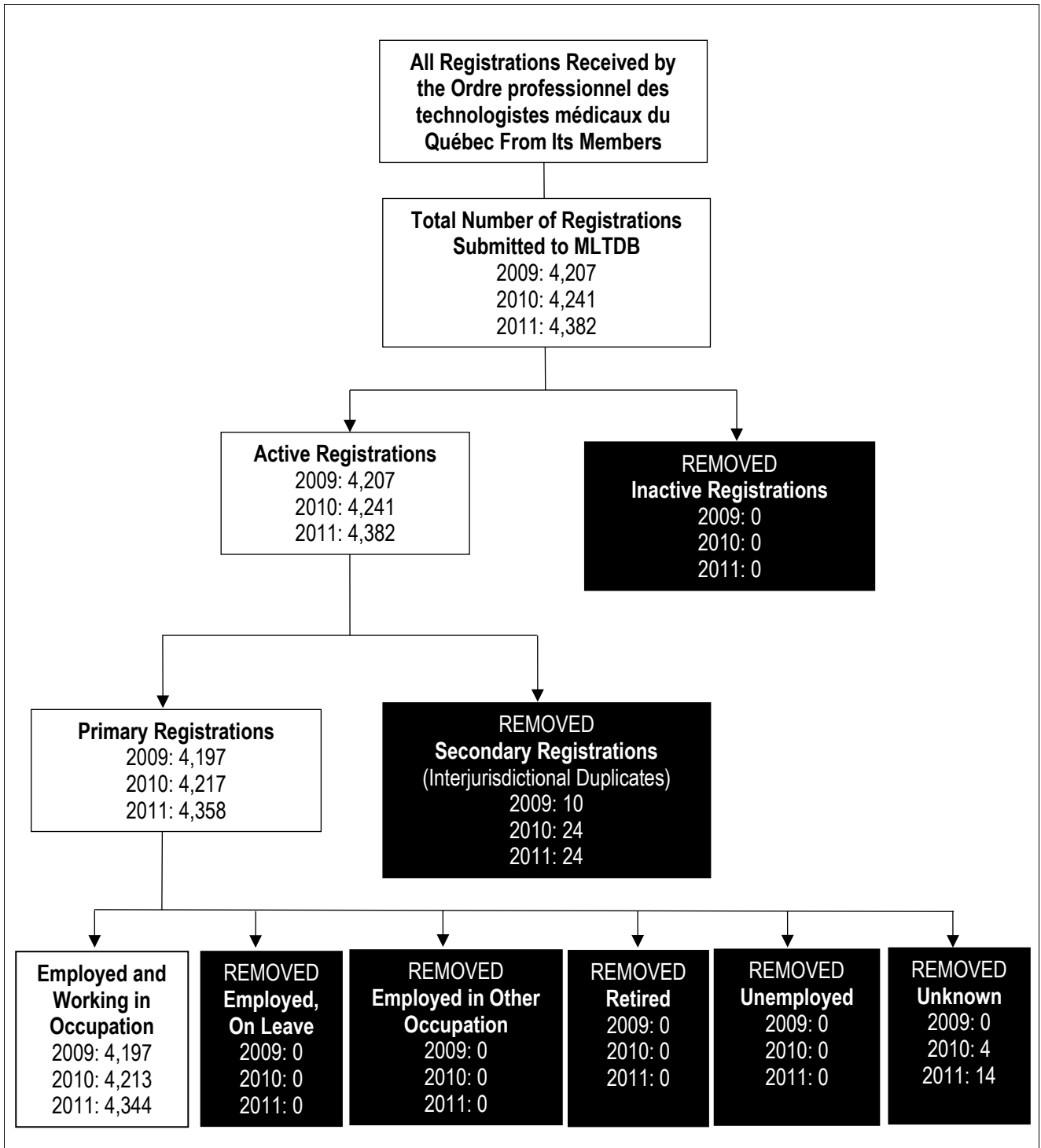
— Data is not applicable, not collected or does not meet data selection criteria.

In 2009, Employment Status for all 4,197 records was initially assigned the value *unknown* by the data provider. Assuming that most of the individuals were working in medical laboratory technology, the value was converted to *employed in medical laboratory technology* in the final version of the data submission from the data provider.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Ordre professionnel des technologistes médicaux du Québec to CIHI



2011 Data Highlights for Medical Laboratory Technologists in Ontario

Workforce Supply and Demographics

- Ontario had 6,722 registered MLTs in 2011.
- The majority of MLTs were female (82.2%).
- The average age of MLTs was 48, the highest among the seven regulated provinces. Nearly one-third (30.5%) of the MLT workforce were 55 and older, almost seven percentage points higher than the combined average across the regulated provinces (23.9%).

Education and Certification

- The majority (83.4%) of MLTs held a diploma as their basic level of education, while 12.8% of MLTs had a baccalaureate as their basic level of education.
- More than 10% of working MLTs were foreign trained.
- Most (80.2%) MLTs received their initial certification in general medical laboratory technology.

Primary Employment

- The majority (91.7%) of MLTs were permanent employees in their place of primary employment.
- Close to 80% of MLTs provided diagnostic and therapeutic laboratory services.
- The top three areas in which MLTs practised were clinical chemistry (16.4%), microbiology (14.3%) and hematology (14.1%).
- The top three regions in which MLTs worked were Toronto (18.1%), Hamilton Niagara Haldimand Brant (10.4%) and Champlain (10.4%).

Ontario MLT Workforce Profile

Ontario—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		6,765		6,819		6,722	
Gender	Female	5,570	82.3%	5,601	82.1%	5,528	82.2%
	Male	1,195	17.7%	1,218	17.9%	1,194	17.8%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	47.4		47.7		48.3	
Age Group	<35	781	11.5%	820	12.0%	758	11.3%
	35-54	4,229	62.5%	4,080	59.8%	3,911	58.2%
	55+	1,755	25.9%	1,919	28.1%	2,053	30.5%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	5,673	83.2%	5,603	83.4%
	Baccalaureate	—	—	885	13.0%	862	12.8%
	Master's	—	—	6†	†	5†	†
	Doctorate	—	—	*	*	*	*
	Unknown	—	—	196	2.9%	197	2.9%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	5,554	81.4%	5,480	81.5%
	Foreign Trained	—	—	952	14.0%	925	13.8%
	Unknown	—	—	313	4.6%	317	4.7%
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	—	—
	No—Graduated More Than Two Years Ago	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Initial Certification Discipline	General	5,012	74.1%	5,448	79.9%	5,390	80.2%
	Clinical Genetics	90	1.3%	89	1.3%	87	1.3%
	Diagnostic Cytology	264	3.9%	169	2.5%	169	2.5%
	Clinical Chemistry	200	3.0%	157	2.3%	151	2.2%
	Hematology	0	0.0%	160	2.3%	155	2.3%
	Histology	294	4.3%	59	0.9%	55	0.8%
	Microbiology	343	5.1%	362	5.3%	347	5.2%
	Transfusion Medicine/Science	89	1.3%	49	0.7%	44	0.7%
	Other or Unspecified‡	190	2.8%	275	4.0%	282	4.2%
	Unknown	283	4.2%	51	0.7%	42	0.6%
Employment							
Multiple Employment Status	Single Employer	6,128	90.6%	—	—	—	—
	Multiple Employers	637	9.4%	—	—	—	—
	Unknown	0	0.0%	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	659	9.8%
	22.5-37.4	—	—	—	—	1,091	16.2%
	37.5+	—	—	—	—	4,702	69.9%
	Unknown	—	—	—	—	270	4.0%
Primary Employment							
Employment Category	Permanent Employee	—	—	6,286	92.2%	6,162	91.7%
	Temporary Employee	—	—	199	2.9%	189	2.8%
	Casual Employee	—	—	204	3.0%	181	2.7%
	Self-Employed	—	—	13	0.2%	13	0.2%
	Unknown	—	—	117	1.7%	177	2.6%
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	4,807	71.1%	—	—	—	—
	Residential Care Facility	6	0.1%	—	—	—	—
	Physician's Office/Other Professional Practice Office	*	*	—	—	—	—
	Community Health Centre	2†	†	—	—	—	—
	Public Health Laboratory/Department/Unit	811	12.0%	—	—	—	—
	Centralized Diagnostic Laboratory Facility	340	5.0%	—	—	—	—
	Free-Standing Diagnostic Laboratory	103	1.5%	—	—	—	—
	Specimen Collection Centre	11	0.2%	—	—	—	—
	Blood Transfusion Centre	228	3.4%	—	—	—	—
	Other Laboratory Facility	44	0.7%	—	—	—	—
	Post-Secondary Educational Institution	99	1.5%	—	—	—	—
	Association/Government/Para-Governmental	32	0.5%	—	—	—	—
	Industry, Manufacturing and Commercial	62	0.9%	—	—	—	—
	Other	68	1.0%	—	—	—	—
Unknown	130	1.9%	—	—	—	—	

(continued on next page)

Ontario—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011		
		Count	Percentage	Count	Percentage	Count	Percentage	
Position	Manager	183	2.7%	—	—	—	—	
	Supervisor	273	4.0%	—	—	—	—	
	Staff MLT	5,081	75.1%	—	—	—	—	
	Technical Specialist	312	4.6%	—	—	—	—	
	Laboratory Information System Specialist	135	2.0%	—	—	—	—	
	Consultant	18	0.3%	—	—	—	—	
	Educator	83	1.2%	—	—	—	—	
	Researcher	139	2.1%	—	—	—	—	
	Sales	11	0.2%	—	—	—	—	
	Other	375	5.5%	—	—	—	—	
	Unknown	155	2.3%	—	—	—	—	
Clinical Education/Preceptor Activity Indicator	Yes	—	—	—	—	—	—	
	No	—	—	—	—	—	—	
	Unknown	—	—	—	—	—	—	
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	5,401	79.2%	5,279	78.5%	
	Administration	—	—	556	8.2%	542	8.1%	
	Quality Management	—	—	143	2.1%	141	2.1%	
	Teaching, Medical Laboratory Technology–Related	—	—	80	1.2%	79	1.2%	
	Research	—	—	104	1.5%	97	1.4%	
	Other Major Function	—	—	319	4.7%	310	4.6%	
	Unknown	—	—	216	3.2%	274	4.1%	
Area of Practice	Clinical Chemistry	2,836	15.7%	1,890	16.5%	1,843	16.4%	
	Hematology	2,583	14.3%	1,614	14.1%	1,583	14.1%	
	Transfusion Medicine/Science	2,225	12.3%	1,318	11.5%	1,295	11.5%	
	Microbiology	2,083	11.5%	1,635	14.3%	1,607	14.3%	
	Specimen Procurement, Receipt and Dispatch	2,502	13.9%	1,085	9.5%	1,061	9.5%	
	Histology	1,208	6.7%	870	7.6%	853	7.6%	
	Immunology	94	0.5%	520	4.5%	508	4.5%	
	Point-of-Care Testing	110	0.6%	335	2.9%	331	3.0%	
	Diagnostic Cytology	287	1.6%	300	2.6%	291	2.6%	
	Clinical Genetics	281	1.6%	298	2.6%	292	2.6%	
	Other	3,836	21.3%	1,588	13.9%	1,553	13.8%	
	Health Region (Statistics Canada PCCF Health Region Code)	Erie St. Clair (3501)	245	3.6%	233	3.4%	224	3.3%
		South West (3502)	672	9.9%	652	9.6%	631	9.4%
Waterloo Wellington (3503)		185	2.7%	175	2.6%	171	2.5%	
Hamilton Niagara Haldimand Brant (3504)		716	10.6%	713	10.5%	698	10.4%	
Central West (3505)		464	6.9%	468	6.9%	464	6.9%	
Mississauga Halton (3506)		486	7.2%	495	7.3%	487	7.2%	
Toronto (3507)		1,222	18.1%	1,242	18.2%	1,220	18.1%	
Central (3508)		599	8.9%	601	8.8%	585	8.7%	
Central East (3509)		343	5.1%	336	4.9%	324	4.8%	
South East (3510)		296	4.4%	292	4.3%	279	4.2%	
Champlain (3511)		709	10.5%	708	10.4%	698	10.4%	
North Simcoe Muskoka (3512)		151	2.2%	164	2.4%	161	2.4%	
North East (3513)		370	5.5%	371	5.4%	359	5.3%	
North West (3514)		164	2.4%	167	2.4%	162	2.4%	
Unknown		143	2.1%	202	3.0%	259	3.9%	

Notes

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† Value suppressed to ensure confidentiality.

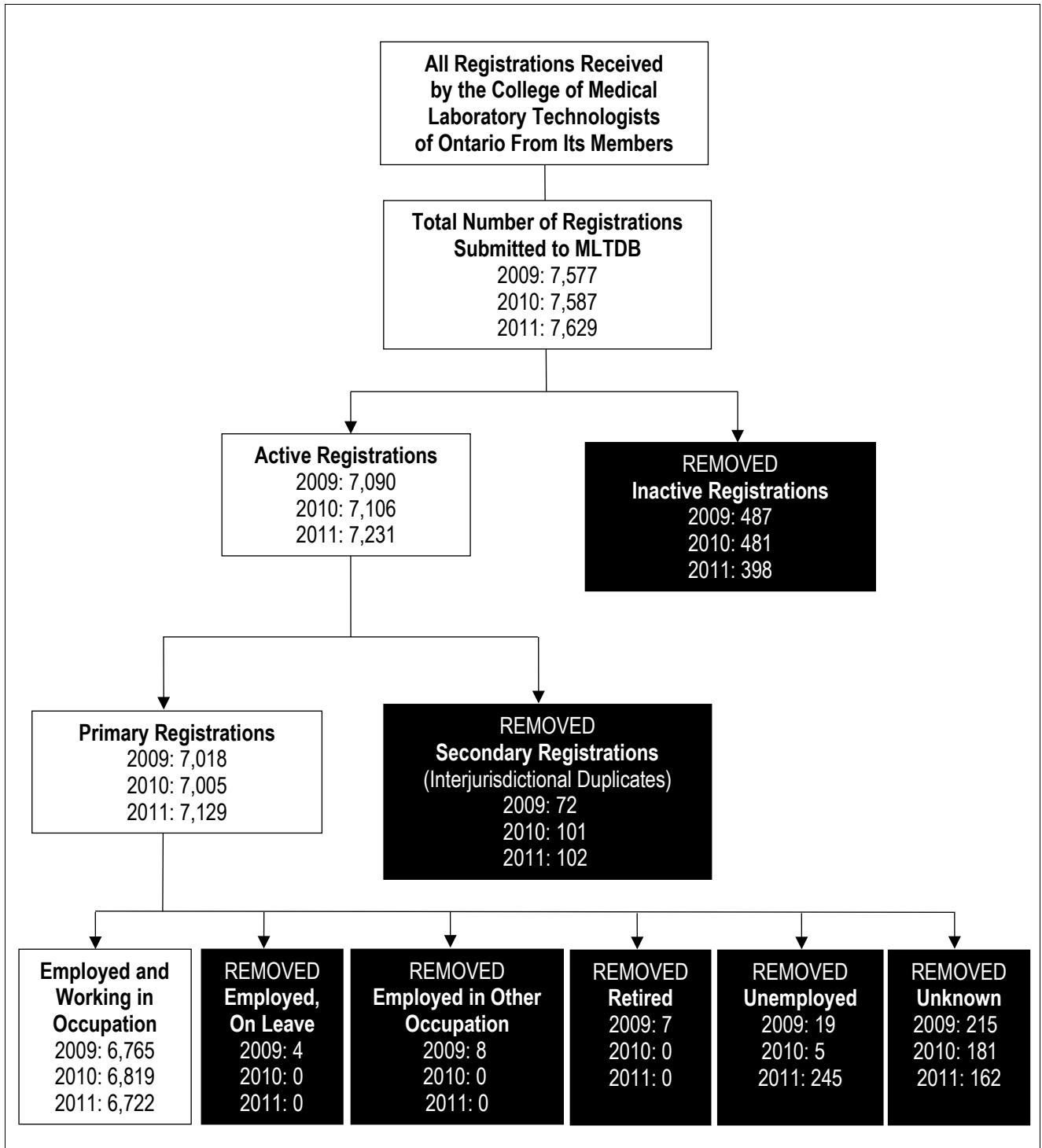
‡ Ontario collects more certification disciplines than are defined in the *MLTDB Reference Guide*.

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

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



2011 Data Highlights for Medical Laboratory Technologists in Manitoba

Workforce Supply and Demographics

- Manitoba had 1,023 registered MLTs in 2011.
- The majority of the MLTs were female (84.9%).
- The average age of MLTs was 48; almost 30% of the MLT workforce were 55 and older.

Education and Certification

- The majority (95.6%) of MLTs held a diploma as their basic level of education.
- Most (93.8%) MLTs received training in Canada.
- Close to 5% of Manitoba MLTs were new graduates who had graduated from a medical laboratory technology training program within the past two years.
- Most (87.8%) MLTs received their initial certification in general medical laboratory technology.

Primary Employment

- The majority (90.0%) of MLTs were permanent employees in their primary place of employment.
- Close to three-quarters (74.4%) of MLTs workforce worked on a full-time basis.
- In 2011, 60% of MLTs were employed in general hospitals, while 11.8% were employed in centralized diagnostic laboratory facilities and 6.8% worked in organizations associated with public health.
- More than three-quarters (75.2%) of MLTs were staff MLTs.
- Close to 86% of MLTs provided diagnostic and therapeutic laboratory services.

Total Usual Weekly Hours of Work

- More than two-thirds (68.7%) of MLTs worked 37.5 hours or longer per week.

Manitoba MLT Workforce Profile

Manitoba—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		1,001		1,009		1,023	
Gender	Female	851	85.0%	863	85.5%	869	84.9%
	Male	150	15.0%	146	14.5%	154	15.1%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	47.4		47.5		46.9	
Age Group	<35	136	13.6%	150	14.9%	186	18.2%
	35–54	589	58.8%	568	56.3%	536	52.4%
	55+	276	27.6%	291	28.8%	301	29.4%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	935	92.7%	978	95.6%
	Baccalaureate	—	—	6†	†	45	4.4%
	Master's	—	—	*	*	0	0.0%
	Doctorate	—	—	0	0.0%	0	0.0%
	Unknown	—	—	4	0.4%	0	0.0%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	940	93.9%	958	94.9%	960	93.8%
	Foreign Trained	43	4.3%	43	4.3%	63	6.2%
	Unknown	18	1.8%	8	0.8%	0	0.0%
New Graduates	Yes—Graduated in Last Two Years	28	2.8%	44	4.4%	49	4.8%
	No—Graduated More Than Two Years Ago	938	93.7%	963	95.4%	973	95.1%
	Unknown	35	3.5%	2	0.2%	1	0.1%
Initial Certification Discipline	General	—	—	897	88.9%	898	87.8%
	Clinical Genetics	—	—	9	0.9%	12	1.2%
	Diagnostic Cytology	—	—	36	3.6%	0	0.0%
	Clinical Chemistry	—	—	5	0.5%	9	0.9%
	Hematology	—	—	*	*	11	1.1%
	Histology	—	—	*	*	*	*
	Microbiology	—	—	13	1.3%	18	1.8%
	Transfusion Medicine/Science	—	—	6	0.6%	6	0.6%
	Other or Unspecified	—	—	5	0.5%	6†	†
	Unknown	—	—	32	3.2%	0	0.0%
Employment (Counts After Exclusion of Non-Response for 2009 [297, 29.7%])		704					
Multiple Employment Status	Single Employer	—	—	979	97.0%	978	95.6%
	Multiple Employers	—	—	30	3.0%	45	4.4%
	Unknown	—	—	0	0.0%	0	0.0%
Total Usual Weekly Hours of Work	<22.5	136	19.3%	146	14.5%	129	12.6%
	22.5–37.4	131	18.6%	178	17.6%	191	18.7%
	37.5+	437	62.1%	685	67.9%	703	68.7%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Primary Employment							
Employment Category	Permanent Employee	—	—	912	90.4%	921	90.0%
	Temporary Employee	—	—	28	2.8%	36	3.5%
	Casual Employee	—	—	61	6.0%	66	6.5%
	Self-Employed	—	—	0	0.0%	0	0.0%
	Unknown	—	—	8	0.8%	0	0.0%
Full-Time/Part-Time Status	Full Time	—	—	753	74.6%	761	74.4%
	Part Time	—	—	254	25.2%	261	25.5%
	Unknown	—	—	2	0.2%	1	0.1%
Place of Employment	General Hospital	425	60.4%	608	60.3%	614	60.0%
	Residential Care Facility	*	*	*	*	0	0.0%
	Physician's Office/Other Professional Practice Office	*	*	23	2.3%	15	1.5%
	Community Health Centre	10	1.4%	28	2.8%	35	3.4%
	Public Health Laboratory/Department/Unit	60	8.5%	79	7.8%	70	6.8%
	Centralized Diagnostic Laboratory Facility	59	8.4%	100	9.9%	121	11.8%
	Free-Standing Diagnostic Laboratory	51	7.2%	38	3.8%	42	4.1%
	Specimen Collection Centre	0	0.0%	*	*	*	*
	Blood Transfusion Centre	42	6.0%	64	6.3%	63	6.2%
	Other Laboratory Facility	20	2.8%	17	1.7%	16	1.6%
	Post-Secondary Educational Institution	9	1.3%	14	1.4%	13	1.3%
	Association/Government/Para-Governmental	6	0.9%	20	2.0%	19	1.9%
	Industry, Manufacturing and Commercial	*	*	*	*	*	*
	Other	9	1.3%	9	0.9%	5	0.5%
	Unknown	5	0.7%	2	0.2%	7	0.7%

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Manitoba—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	23	3.3%	24	2.4%	26	2.5%
	Supervisor	78	11.1%	129	12.8%	125	12.2%
	Staff MLT	523	74.3%	761	75.4%	769	75.2%
	Technical Specialist	46	6.5%	34	3.4%	39	3.8%
	Laboratory Information System Specialist	*	*	8	0.8%	10	1.0%
	Consultant	0	0.0%	*	*	*	*
	Educator	13	1.8%	20	2.0%	17	1.7%
	Researcher	*	*	*	*	*	*
	Sales	*	*	*	*	0	0.0%
	Other	*	*	20	2.0%	17	1.7%
	Unknown	11	1.6%	1	0.1%	13	1.3%
Clinical Education/Preceptor Activity Indicator	Yes	80	11.4%	352	34.9%	323	31.6%
	No	624	88.6%	623	61.7%	700	68.4%
	Unknown	0	0.0%	34	3.4%	0	0.0%
Major Function	Diagnostic and Therapeutic Laboratory Services	577	82.0%	867	85.9%	879	85.9%
	Administration	46	6.5%	53	5.3%	51	5.0%
	Quality Management	36	5.1%	20	2.0%	18	1.8%
	Teaching, Medical Laboratory Technology–Related	12	1.7%	35	3.5%	21	2.1%
	Research	*	*	8	0.8%	6	0.6%
	Other Major Function	†	†	24	2.4%	35	3.4%
	Unknown	23	3.3%	2	0.2%	13	1.3%
Area of Practice	Clinical Chemistry	231	17.4%	—	—	120	11.7%
	Hematology	223	16.8%	—	—	100	9.8%
	Transfusion Medicine/Science	110	8.3%	—	—	64	6.3%
	Microbiology	147	11.1%	—	—	142	13.9%
	Specimen Procurement, Receipt and Dispatch	225	17.0%	—	—	14	1.4%
	Histology	32	2.4%	—	—	53	5.2%
	Immunology	26	2.0%	—	—	29	2.8%
	Point-of-Care Testing	0	0.0%	—	—	0	0.0%
	Diagnostic Cytology	22	1.7%	—	—	40	3.9%
	Clinical Genetics	24	1.8%	—	—	20	2.0%
	Other	284	21.5%	—	—	441	43.1%
Health Region (Statistics Canada PCCF Health Region Code)	Winnipeg Regional Health Authority (4610)	—	—	927	91.9%	1,001	97.8%
	Brandon Regional Health Authority (4615)	—	—	69	6.8%	13	1.3%
	North Eastman Regional Health Authority (4620)	—	—	*	*	0	0.0%
	South Eastman Regional Health Authority (4625)	—	—	0	0.0%	0	0.0%
	Interlake Regional Health Authority (4630)	—	—	*	*	*	*
	Central Regional Health Authority (4640)	—	—	*	*	*	*
	Assiniboine Regional Health Authority (4645)	—	—	0	0.0%	*	*
	Parkland Regional Health Authority (4660)	—	—	0	0.0%	0	0.0%
	NOR-MAN Regional Health Authority (4670)	—	—	*	*	0	0.0%
	Burntwood Regional Health Authority (4680)	—	—	*	*	*	*
	Churchill Regional Health Authority (4690)	—	—	0	0.0%	0	0.0%
	Unknown	—	—	5	0.5%	1	0.1%

Notes

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† Value suppressed to ensure confidentiality.

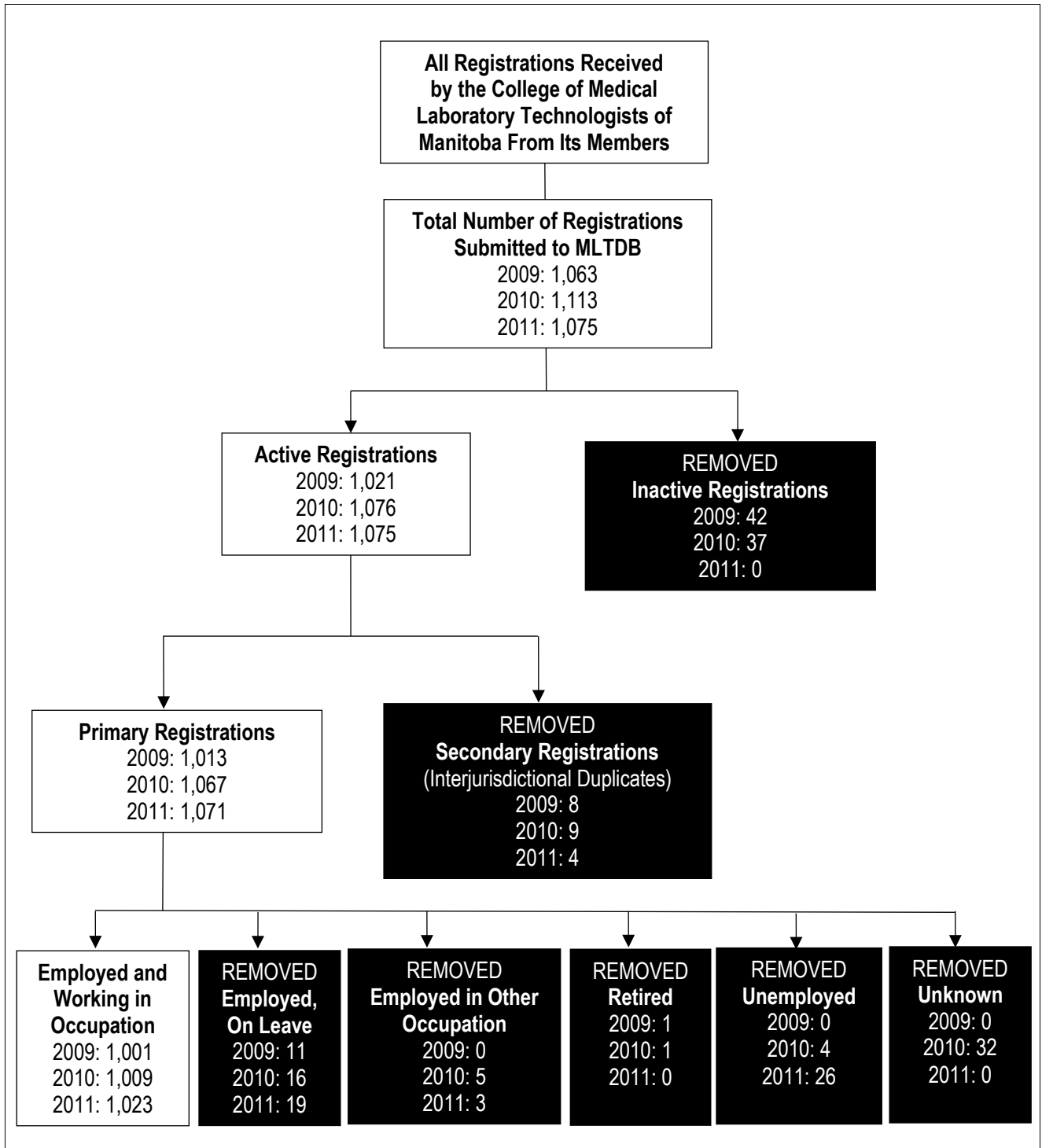
— Data is not applicable, not collected or does not meet data selection criteria.

In 2009, the level of *unknown* values for some employment data elements was consistently between 29% and 32%. These data elements included Place of Employment for Primary Employment, Position for Primary Employment and Areas of Practice for Primary Employment. To avoid discounting the entire pool of employment data because of the high levels of *unknown* values, most of the members who provided *unknown* values were excluded from the statistics for these data elements. This allowed CIHI to report the majority of the members from the province. Consequently, the total for these data elements does not match the total workforce (or the total for demographic, education and certification data elements). This adjustment was made outside the database and applied to the above-mentioned primary employment data elements in the profile only.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the College of Medical Laboratory Technologists of Manitoba to CIHI



2011 Data Highlights for Medical Laboratory Technologists in Saskatchewan

Workforce Supply and Demographics

- Saskatchewan had 877 registered MLTs in 2011.
- The majority of MLTs were female (93.0%), the highest among the seven regulated provinces.
- The average age of MLTs was 47, the second-highest after Ontario (48).

Education and Certification

- The majority (88.6%) of MLTs held a diploma as their basic level of education.
- Close to 4% of MLTs were new graduates who had graduated from a medical laboratory technology training program within the past two years.
- Most (90.4%) MLTs received their initial certification in general medical laboratory technology.

Saskatchewan MLT Workforce Profile

Saskatchewan—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		864		874		877	
Gender	Female	805	93.2%	811	92.8%	816	93.0%
	Male	59	6.8%	63	7.2%	61	7.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	46.6		47.1		47.2	
Age Group	<35	115	13.3%	119	13.6%	132	15.1%
	35–54	542	62.7%	522	59.7%	496	56.6%
	55+	183	21.2%	209	23.9%	224	25.5%
	Unknown	24	2.8%	24	2.7%	25	2.9%
Education and Certification (Counts After Exclusion of Non-Response for 2010 [78, 8.9%])				796			
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	73†	†	777	88.6%
	Baccalaureate	—	—	60	7.5%	6†	†
	Master's	—	—	*	*	*	*
	Doctorate	—	—	*	*	*	*
Location of Graduation for Basic Education in Medical Laboratory Technology	Unknown	—	—	1	0.1%	32	3.6%
	Canadian Trained	—	—	78†	†	833	95.0%
	Foreign Trained	—	—	*	*	9	1.0%
New Graduates	Unknown	—	—	10	1.3%	35	4.0%
	Yes—Graduated in Last Two Years	—	—	30	3.8%	34	3.9%
	No—Graduated More Than Two Years Ago	—	—	766	96.2%	811	92.5%
Initial Certification Discipline	Unknown	—	—	0	0.0%	32	3.6%
	General	—	—	743	93.3%	793	90.4%
	Clinical Genetics	—	—	*	*	*	*
	Diagnostic Cytology	—	—	25	3.1%	25	2.9%
	Clinical Chemistry	—	—	5	0.6%	6	0.7%
	Hematology	—	—	5	0.6%	5	0.6%
	Histology	—	—	*	*	*	*
	Microbiology	—	—	5	0.6%	5	0.6%
	Transfusion Medicine/Science	—	—	0	0.0%	0	0.0%
	Other or Unspecified	—	—	7	0.9%	6	0.7%
Unknown	—	—	0	0.0%	32	3.6%	
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment (Counts After Exclusion of Non-Response for 2009 [338, 39%])		526					
Employment Category	Permanent Employee	461	87.6%	—	—	—	—
	Temporary Employee	1†	†	—	—	—	—
	Casual Employee	44	8.4%	—	—	—	—
	Self-Employed	*	*	—	—	—	—
	Unknown	9	1.7%	—	—	—	—
Full-Time/Part-Time Status	Full Time	345	65.6%	—	—	—	—
	Part Time	172	32.7%	—	—	—	—
	Unknown	9	1.7%	—	—	—	—
Place of Employment	General Hospital	382	72.6%	—	—	—	—
	Residential Care Facility	*	*	—	—	—	—
	Physician's Office/Other Professional Practice Office	*	*	—	—	—	—
	Community Health Centre	21	4.0%	—	—	—	—
	Public Health Laboratory/Department/Unit	1†	†	—	—	—	—
	Centralized Diagnostic Laboratory Facility	29	5.5%	—	—	—	—
	Free-Standing Diagnostic Laboratory	*	*	—	—	—	—
	Specimen Collection Centre	8	1.5%	—	—	—	—
	Blood Transfusion Centre	10	1.9%	—	—	—	—
	Other Laboratory Facility	14	2.7%	—	—	—	—
	Post-Secondary Educational Institution	14	2.7%	—	—	—	—
	Association/Government/Para-Governmental	7	1.3%	—	—	—	—
	Industry, Manufacturing and Commercial	*	*	—	—	—	—
	Other	14	2.7%	—	—	—	—
	Unknown	9	1.7%	—	—	—	—

(continued on next page)

Saskatchewan—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	22	4.2%	—	—	—	—
	Supervisor	42	8.0%	—	—	—	—
	Staff MLT	403	76.6%	—	—	—	—
	Technical Specialist	†	†	—	—	—	—
	Laboratory Information System Specialist	5	1.0%	—	—	—	—
	Consultant	*	*	—	—	—	—
	Educator	1†	†	—	—	—	—
	Researcher	*	*	—	—	—	—
	Sales	0	0.0%	—	—	—	—
	Other	24	4.6%	—	—	—	—
	Unknown	9	1.7%	—	—	—	—
Clinical Education/Preceptor Activity Indicator	Yes	201	38.2%	—	—	—	—
	No	316	60.1%	—	—	—	—
	Unknown	9	1.7%	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	454	86.3%	—	—	—	—
	Administration	14	2.7%	—	—	—	—
	Quality Management	*	*	—	—	—	—
	Teaching, Medical Laboratory Technology-Related	17	3.2%	—	—	—	—
	Research	*	*	—	—	—	—
	Other Major Function	27	5.1%	—	—	—	—
	Unknown	9	1.7%	—	—	—	—
Area of Practice	Clinical Chemistry	277	17.6%	—	—	—	—
	Hematology	288	18.3%	—	—	—	—
	Transfusion Medicine/Science	216	13.7%	—	—	—	—
	Microbiology	167	10.6%	—	—	—	—
	Specimen Procurement, Receipt and Dispatch	280	17.8%	—	—	—	—
	Histology	55	3.5%	—	—	—	—
	Immunology	7†	†	—	—	—	—
	Point-of-Care Testing	12†	†	—	—	—	—
	Diagnostic Cytology	19	1.2%	—	—	—	—
	Clinical Genetics	*	*	—	—	—	—
	Other	79	5.0%	—	—	—	—
Health Region (Statistics Canada PCCF Health Region Code)	Sun Country Regional Health Authority (4701)	—	—	—	—	—	—
	Five Hills Regional Health Authority (4702)	—	—	—	—	—	—
	Cypress Regional Health Authority (4703)	—	—	—	—	—	—
	Regina Qu'Appelle Regional Health Authority (4704)	—	—	—	—	—	—
	Sunrise Regional Health Authority (4705)	—	—	—	—	—	—
	Saskatoon Regional Health Authority (4706)	—	—	—	—	—	—
	Heartland Regional Health Authority (4707)	—	—	—	—	—	—
	Kelsey Trail Regional Health Authority (4708)	—	—	—	—	—	—
	Prince Albert Parkland Regional Health Authority (4709)	—	—	—	—	—	—
	Prairie North Regional Health Authority (4710)	—	—	—	—	—	—
	Mamawetan Churchill River Regional Health Authority (4711)	—	—	—	—	—	—
	Keewatin Yatthé Regional Health Authority (4712)	—	—	—	—	—	—
	Athabasca Health Authority (4713)	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

Notes

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

† Value suppressed to ensure confidentiality.

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

In 2011, the Employment Status of 612 registrants with missing Employment Status (69.8% of the workforce) was reclassified as *employed in medical laboratory technology*. These registrants were included in the total workforce, gender and age statistics.

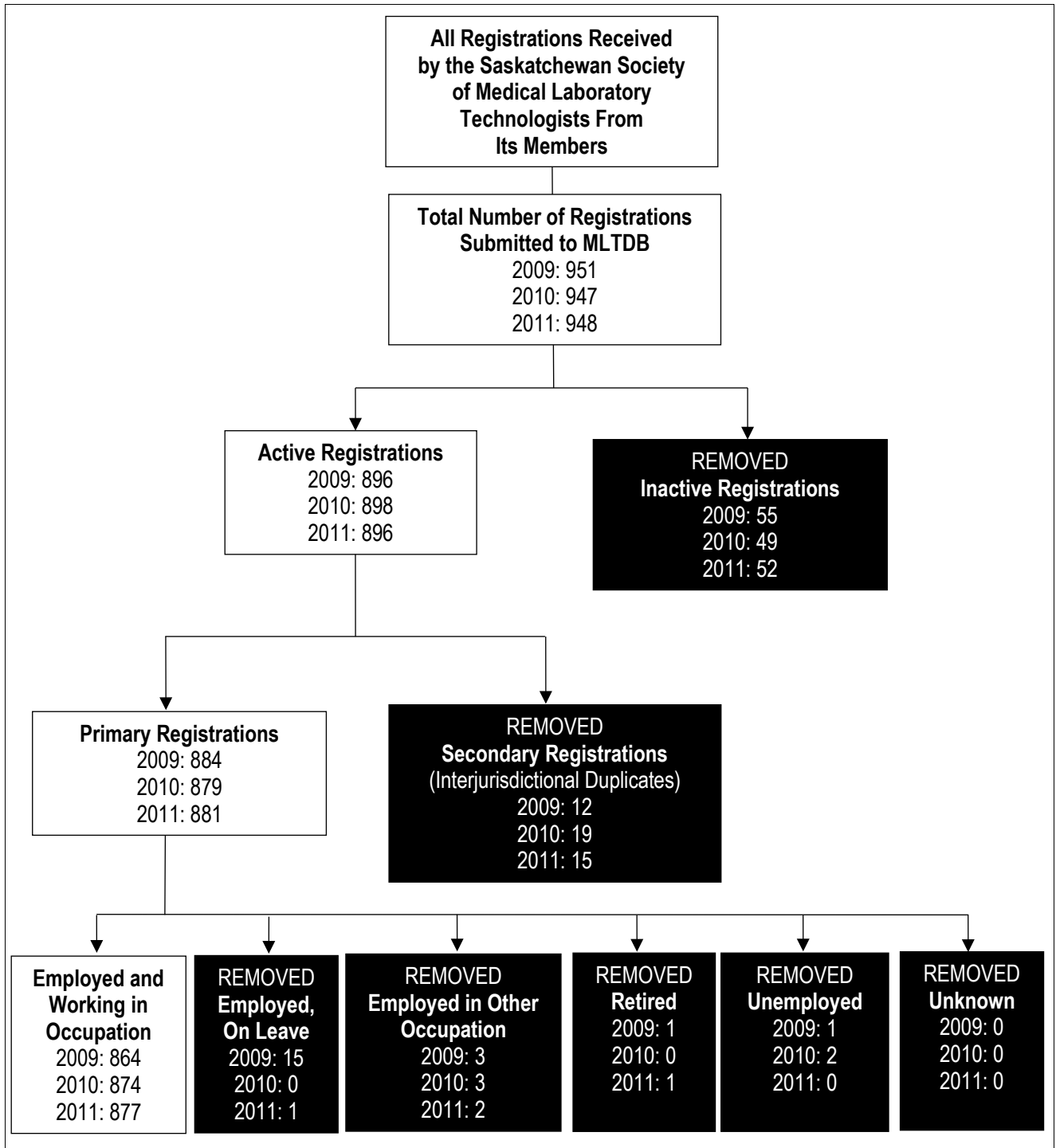
In 2010, 487 registrants with *unknown* Employment Status (55.7% of the workforce) had Employment Status assigned as *employed in medical laboratory technology*. These registrants were included in the total workforce, gender and age statistics. In addition, there were 78 registrants (8.9% of the workforce) who did not have education and certification information for 2010. Consequently, the education and certification totals for 2010 did not match the total workforce. This adjustment was made outside the database and included in the profile only.

In 2009, 337 registrants with *unknown* Employment Status (39% of the workforce) had data for gender and age available. For these registrants, Employment Status was assigned as *employed in medical laboratory technology* and, as such, these registrants were included in the total workforce, gender and age statistics. Meanwhile, 338 registrants (39.1% of the workforce) who did not provide information for the employment data elements (such as Total Usual Weekly Hours of Work, Employment Category, Full-Time/Part-Time Status, Province of Primary Employment, Country of Primary Employment, Postal Code of Primary Employment, Place of Primary Employment, Position of Primary Employment, Clinical Education/Preceptor Indicator, Major Function and Main Area of Practice for Primary Employment) were excluded from the employment section reported for 2009. Consequently, the employment total for 2009 did not match the workforce total. This adjustment was made outside the database and included in the profile only.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Saskatchewan Society of Medical Laboratory Technologists to CIHI



2011 Data Highlights for Medical Laboratory Technologists in Alberta

Workforce Supply and Demographics

- Alberta had 2,213 registered MLTs in 2011.
- The majority of MLTs were female (89.0%).
- The average age of MLTs was 46.

Education and Certification

- The majority (98.7%) of MLTs held a diploma as their basic level of education.
- Most MLTs received training in Canada (94.3%).
- More than 2% of MLTs were new graduates who had graduated from a medical laboratory technology training program within the past two years.
- Most MLTs received their initial certification in general medical laboratory technology (88.3%).

Primary Employment

- The majority (92.3%) of MLTs worked for one employer.
- Most Alberta MLTs (91.0%) were permanently employed.
- In Alberta, 48.9% of MLTs worked in general hospitals, significantly lower than the average of five regulated provinces combined (76.5%) (Nova Scotia, New Brunswick, Quebec, Manitoba and Alberta). This reflects a difference in organizational structure and a unique way of delivering laboratory services in Alberta, compared with other provinces.
- Centralized diagnostic laboratories employed almost a quarter (24.6%) of the MLT workforce.
- More than three-quarters (77.6%) of MLTs were staff MLTs.
- About half (51.0%) of MLTs participated in clinical education/preceptor activities at their primary employment.
- The top three areas of practice were clinical chemistry (16.3%), hematology (15.1%) and transfusion medicine/science (11.2%).
- The majority of MLTs worked in the Edmonton zone (39.1%) and Calgary zone (36.8%).

Alberta MLT Workforce Profile

Alberta—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		2,223		2,251		2,213	
Gender	Female	1,985	89.3%	2,002	88.9%	1,969	89.0%
	Male	238	10.7%	249	11.1%	244	11.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Average Age	Years	44.9		45.2		45.5	
Age Group	<35	419	18.8%	424	18.8%	417	18.8%
	35–54	1,364	61.4%	1,327	59.0%	1,276	57.7%
	55+	438	19.7%	499	22.2%	519	23.5%
	Unknown	2	0.1%	1	0.0%	1	0.0%
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	2,14†	†	2,184	98.7%
	Baccalaureate	—	—	*	*	6	0.3%
	Master's	—	—	0	0.0%	0	0.0%
	Doctorate	—	—	0	0.0%	0	0.0%
	Unknown	—	—	104	4.6%	23	1.0%
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	2,086	94.3%
	Foreign Trained	—	—	—	—	92	4.2%
	Unknown	—	—	—	—	35	1.6%
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	46	2.1%
	No—Graduated More Than Two Years Ago	—	—	—	—	2,121	95.8%
	Unknown	—	—	—	—	46	2.1%
Initial Certification Discipline	General	1,984	89.2%	1,997	88.7%	1,953	88.3%
	Clinical Genetics	29	1.3%	28	1.2%	43	1.9%
	Diagnostic Cytology	93	4.2%	100	4.4%	89	4.0%
	Clinical Chemistry	11	0.5%	11	0.5%	*	*
	Hematology	18	0.8%	17	0.8%	16	0.7%
	Histology	10	0.4%	11	0.5%	10	0.5%
	Microbiology	32	1.4%	29	1.3%	27	1.2%
	Transfusion Medicine/Science	*	*	*	*	7	0.3%
	Other or Unspecified	†	†	5†	†	6†	†
	Unknown	36	1.6%	0	0.0%	1	0.0%
Employment (Counts After Exclusion of Non-Response for 2010 [60, 2.7%])				2,191			
Multiple Employment Status	Single Employer	2,064	92.8%	2,043	93.2%	2,042	92.3%
	Multiple Employers	150	6.7%	148	6.8%	164	7.4%
	Unknown	9	0.4%	0	0.0%	7	0.3%
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	336	15.2%
	22.5–37.4	—	—	—	—	605	27.3%
	37.5+	—	—	—	—	1,269	57.3%
	Unknown	—	—	—	—	3	0.1%
Primary Employment							
Employment Category	Permanent Employee	—	—	1,953	89.1%	2,013	91.0%
	Temporary Employee	—	—	0	0.0%	0	0.0%
	Casual Employee	—	—	13†	†	16†	†
	Self-Employed	—	—	*	*	*	*
	Unknown	—	—	101	4.6%	34	1.5%
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	1,130	50.8%	1,087	49.6%	1,083	48.9%
	Residential Care Facility	*	*	*	*	†	†
	Physician's Office/Other Professional Practice Office	11	0.5%	8	0.4%	9	0.4%
	Community Health Centre	65	2.9%	71	3.2%	72	3.3%
	Public Health Laboratory/Department/Unit	134	6.0%	132	6.0%	143	6.5%
	Centralized Diagnostic Laboratory Facility	492	22.1%	460	21.0%	545	24.6%
	Free-Standing Diagnostic Laboratory	75	3.4%	87	4.0%	68	3.1%
	Specimen Collection Centre	*	*	*	*	*	*
	Blood Transfusion Centre	6†	†	66	3.0%	75	3.4%
	Other Laboratory Facility	62	2.8%	78	3.6%	65	2.9%
	Post-Secondary Educational Institution	4†	†	55	2.5%	66	3.0%
	Association/Government/Para-Governmental	9	0.4%	14	0.6%	9	0.4%
	Industry, Manufacturing and Commercial	8	0.4%	7	0.3%	14	0.6%
	Other	38	1.7%	44	2.0%	46	2.1%
Unknown	84	3.8%	75	3.4%	10	0.5%	

(continued on next page)

Alberta—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	66	3.0%	70	3.2%	69	3.1%
	Supervisor	213	9.6%	208	9.5%	199	9.0%
	Staff MLT	1,640	73.8%	1,618	73.8%	1,718	77.6%
	Technical Specialist	33	1.5%	41	1.9%	43	1.9%
	Laboratory Information System Specialist	23	1.0%	22	1.0%	17	0.8%
	Consultant	8	0.4%	7	0.3%	7	0.3%
	Educator	52	2.3%	48	2.2%	60	2.7%
	Researcher	†	†	†	†	†	†
	Sales	*	*	*	*	*	*
	Other	94	4.2%	95	4.3%	86	3.9%
	Unknown	84	3.8%	75	3.4%	7	0.3%
Clinical Education/Preceptor Activity Indicator	Yes	914	41.1%	1,023	46.7%	1,129	51.0%
	No	1,200	54.0%	1,091	49.8%	1,077	48.7%
Major Function	Unknown	109	4.9%	77	3.5%	7	0.3%
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	1,764	79.7%
	Administration	—	—	—	—	81	3.7%
	Quality Management	—	—	—	—	52	2.3%
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	88	4.0%
	Research	—	—	—	—	20	0.9%
	Other Major Function	—	—	—	—	176	8.0%
	Unknown	—	—	—	—	32	1.4%
Area of Practice[‡]	Clinical Chemistry	752	18.0%	766	18.2%	787	16.3%
	Hematology	737	17.6%	721	17.2%	730	15.1%
	Transfusion Medicine/Science	522	12.5%	505	12.0%	538	11.2%
	Microbiology	451	10.8%	468	11.1%	459	9.5%
	Specimen Procurement, Receipt and Dispatch	405	9.7%	397	9.4%	384	8.0%
	Histology	208	5.0%	210	5.0%	228	4.7%
	Immunology	120	2.9%	121	2.9%	133	2.8%
	Point-of-Care Testing	205	4.9%	207	4.9%	219	4.5%
	Diagnostic Cytology	99	2.4%	100	2.4%	95	2.0%
	Clinical Genetics	44	1.1%	51	1.2%	58	1.2%
Other	642	15.3%	656	15.6%	1,192	24.7%	
Health Region (Statistics Canada PCCF Health Region Code)[§]	South Zone (4831)	—	—	—	—	157	7.1%
	Calgary Zone (4832)	—	—	—	—	815	36.8%
	Central Zone (4833)	—	—	—	—	173	7.8%
	Edmonton Zone (4834)	—	—	—	—	865	39.1%
	North Zone (4835)	—	—	—	—	161	7.3%
	Unknown	—	—	—	—	42	1.9%

Notes

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

† Value suppressed to ensure confidentiality.

‡ For Alberta, more areas of practice are included as Other area of practice in the MLTDB.

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

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

In 2011, for active primary registrations, the non-response rate was 2.6%, higher than that in 2010 (1.3%); this contributed to a slight decrease in the total workforce counts.

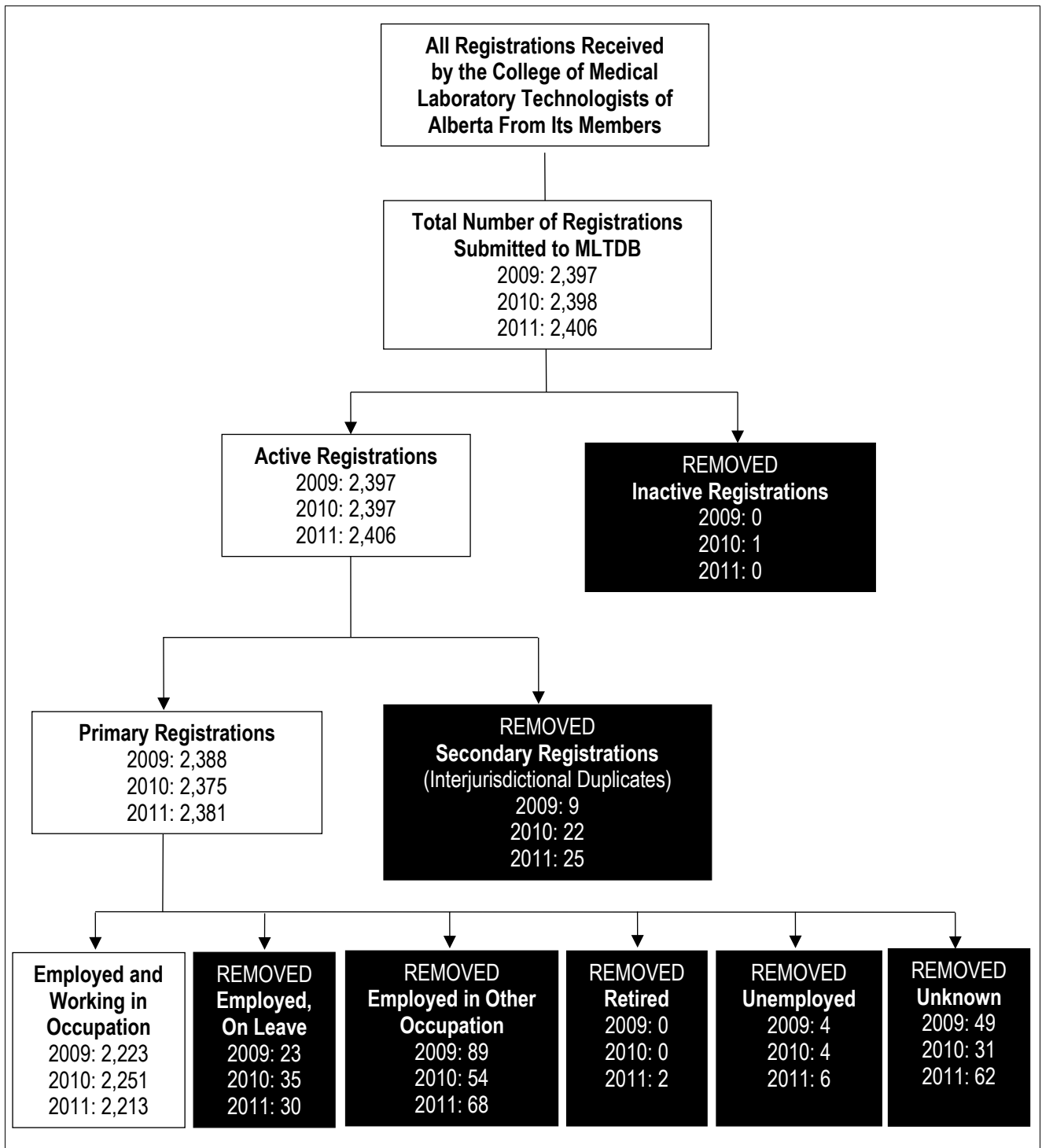
In 2010, 60 registrants (2.7% of the workforce) had missing values for most employment-related elements: Employment Category, Full-Time/Part-Time Status, Province of Employment, Country of Employment, Place of Employment, Clinical Education/Preceptor Indicator and Major Function for Primary Employment. To report more data elements for Alberta and meet the 5% selection criterion, these 60 registrants were excluded from the employment-related section of the report. As a result, the total for the employment elements in 2010 was 2,191 (97.3% of the workforce).

For 2009, of the 262 registrants with *unknown* Employment Status (11.8% of the workforce), more than 80% provided known values for most data elements. As such, the Employment Status for these records was converted to the value *employed in medical laboratory technology* and included in the profile. Four primary employment data elements were used as a screening tool for inclusion: Province of Employment, Full-Time/Part-Time Status, Place of Employment and Multiple Employment Sites. If values for these data elements were provided, the registrant was counted as part of the workforce and included in the profile. The remaining registrants, who did not provide information for Employment Status as well as for the four above-mentioned employment data elements, were excluded. This adjustment was made outside the database and included in the profile only.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Alberta College of Medical Laboratory Technologists to CIHI



2011 Data Highlights for Medical Laboratory Technologists in Unregulated Provinces and Territories

Newfoundland and Labrador, P.E.I., B.C., Yukon, the Northwest Territories and Nunavut

- In 2011, the numbers of MLTs in the unregulated provinces and territories who registered with the CSMLS were as follows: Newfoundland and Labrador, 505; P.E.I., 116; B.C., 2,233; and the three territories, 53.
- An MLT certification in general medical laboratory technology was the initial certification held by most of the MLTs.

Newfoundland and Labrador MLT Workforce Profile

Newfoundland and Labrador—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		347		482		505	
Gender	Female	—	—	—	—	—	—
	Male	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Average Age	Years	—	—	—	—	—	—
Age Group	<35	—	—	—	—	—	—
	35–54	—	—	—	—	—	—
	55+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	—	—	—	—
	Baccalaureate	—	—	—	—	—	—
	Master's	—	—	—	—	—	—
	Doctorate	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	—	—
	No—Graduated More Than Two Years Ago	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Initial Certification Discipline	General	313	90.2%	431	89.4%	457	90.5%
	Clinical Genetics	*	*	*	*	5	1.0%
	Diagnostic Cytology	*	*	5	1.0%	*	*
	Clinical Chemistry	8	2.3%	15	3.1%	11	2.2%
	Hematology	7	2.0%	13	2.7%	14	2.8%
	Histology	0	0.0%	0	0.0%	0	0.0%
	Microbiology	10	2.9%	10	2.1%	9	1.8%
	Transfusion Medicine/Science	*	*	*	*	*	*
	Other or Unspecified	0	0.0%	0	0.0%	*	*
	Unknown	1	0.3%	1	0.2%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	—	—
	Temporary Employee	—	—	—	—	—	—
	Casual Employee	—	—	—	—	—	—
	Self-Employed	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	—	—	—	—	—	—
	Residential Care Facility	—	—	—	—	—	—
	Physician's Office/Other Professional Practice Office	—	—	—	—	—	—
	Community Health Centre	—	—	—	—	—	—
	Public Health Laboratory/Department/Unit	—	—	—	—	—	—
	Centralized Diagnostic Laboratory Facility	—	—	—	—	—	—
	Free-Standing Diagnostic Laboratory	—	—	—	—	—	—
	Specimen Collection Centre	—	—	—	—	—	—
	Blood Transfusion Centre	—	—	—	—	—	—
	Other Laboratory Facility	—	—	—	—	—	—
	Post-Secondary Educational Institution	—	—	—	—	—	—
	Association/Government/Para-Governmental	—	—	—	—	—	—
	Industry, Manufacturing and Commercial	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

(continued on next page)

Newfoundland and Labrador—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	—	—	—	—	—	—
	Supervisor	—	—	—	—	—	—
	Staff MLT	—	—	—	—	—	—
	Technical Specialist	—	—	—	—	—	—
	Laboratory Information System Specialist	—	—	—	—	—	—
	Consultant	—	—	—	—	—	—
	Educator	—	—	—	—	—	—
	Researcher	—	—	—	—	—	—
	Sales	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Clinical	Yes	—	—	—	—	—	—
Education/Preceptor	No	—	—	—	—	—	—
Activity Indicator	Unknown	—	—	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	—	—
	Administration	—	—	—	—	—	—
	Quality Management	—	—	—	—	—	—
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	—	—
	Research	—	—	—	—	—	—
	Other Major Function	—	—	—	—	—	—
Area of Practice	Unknown	—	—	—	—	—	—
Area of Practice	Clinical Chemistry	—	—	—	—	—	—
	Hematology	—	—	—	—	—	—
	Transfusion Medicine/Science	—	—	—	—	—	—
	Microbiology	—	—	—	—	—	—
	Specimen Procurement, Receipt and Dispatch	—	—	—	—	—	—
	Histology	—	—	—	—	—	—
	Immunology	—	—	—	—	—	—
	Point-of-Care Testing	—	—	—	—	—	—
	Diagnostic Cytology	—	—	—	—	—	—
	Clinical Genetics	—	—	—	—	—	—
Other	—	—	—	—	—	—	
Health Region (Statistics Canada)	Eastern Regional Integrated Health Authority (1011)	—	—	—	—	—	—
	Central Regional Integrated Health Authority (1012)	—	—	—	—	—	—
PCCF Health Region Code)	Western Regional Integrated Health Authority (1013)	—	—	—	—	—	—
Region Code)	Labrador-Grenfell Regional Integrated Health Authority (1014)	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

Notes

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

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

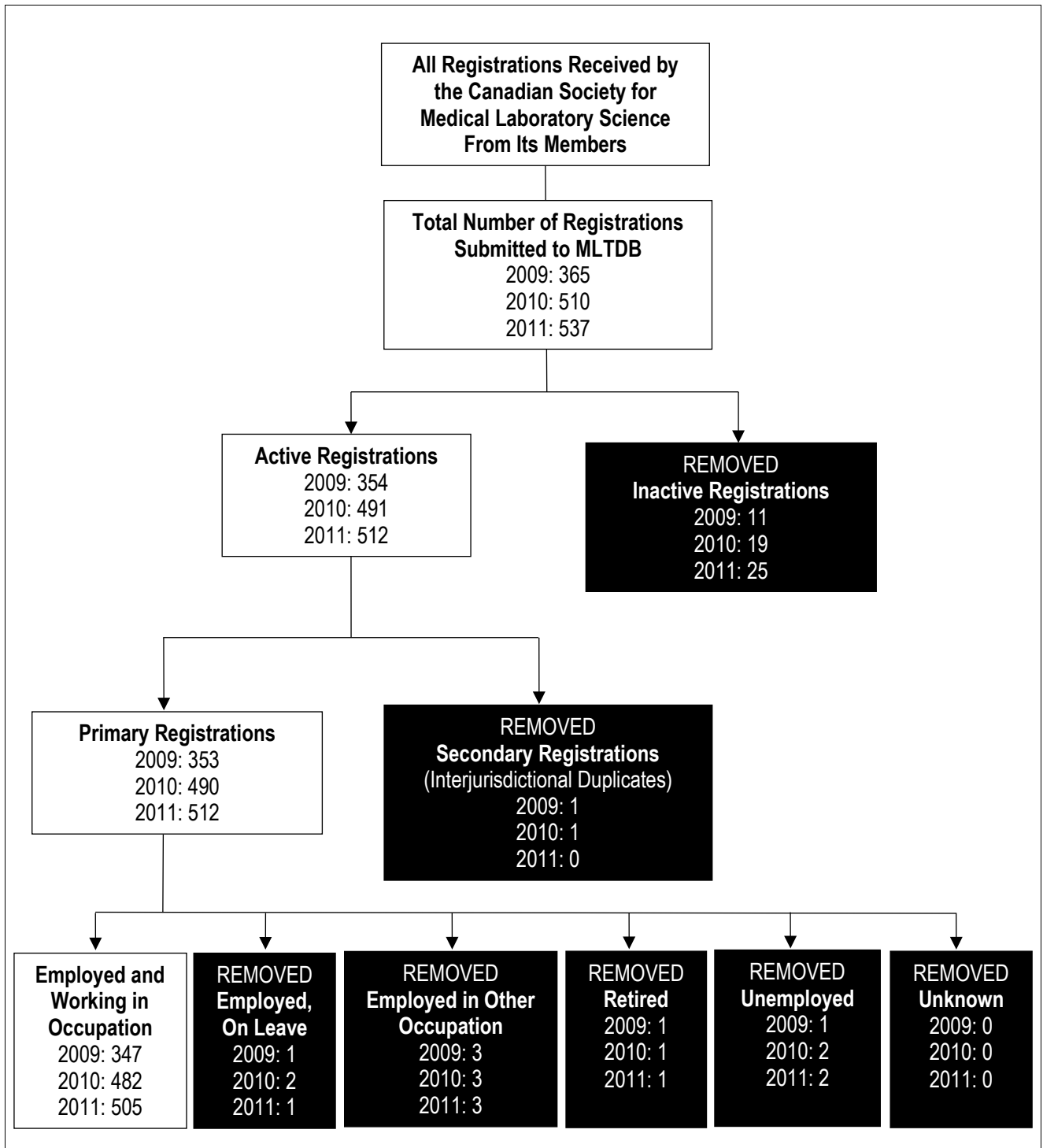
Workforce Count and Regulation Status

In 2011, 385 records (76.2% of the workforce) with missing Employment Status were assigned to the data element value *employed in medical laboratory technology*. The workforce count may not represent the entire workforce due to voluntary registration with the CSMLS. Refer to Appendix B for more information.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for Newfoundland and Labrador)



Prince Edward Island MLT Workforce Profile

Prince Edward Island—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		107		112		116	
Gender	Female	—	—	—	—	—	—
	Male	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Average Age	Years	—	—	—	—	—	—
Age Group	<35	—	—	—	—	—	—
	35–54	—	—	—	—	—	—
	55+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	—	—	—	—
	Baccalaureate	—	—	—	—	—	—
	Master's	—	—	—	—	—	—
	Doctorate	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	—	—
	No—Graduated More Than Two Years Ago	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Initial Certification Discipline	General	99	92.5%	104	92.9%	108	93.1%
	Clinical Genetics	0	0.0%	0	0.0%	0	0.0%
	Diagnostic Cytology	5	4.7%	5	4.5%	5	4.3%
	Clinical Chemistry	*	*	*	*	*	*
	Hematology	0	0.0%	0	0.0%	0	0.0%
	Histology	0	0.0%	0	0.0%	0	0.0%
	Microbiology	0	0.0%	0	0.0%	0	0.0%
	Transfusion Medicine/Science	*	*	*	*	*	*
	Other or Unspecified	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	—	—
	Temporary Employee	—	—	—	—	—	—
	Casual Employee	—	—	—	—	—	—
	Self-Employed	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	—	—	—	—	—	—
	Residential Care Facility	—	—	—	—	—	—
	Physician's Office/Other Professional Practice Office	—	—	—	—	—	—
	Community Health Centre	—	—	—	—	—	—
	Public Health Laboratory/Department/Unit	—	—	—	—	—	—
	Centralized Diagnostic Laboratory Facility	—	—	—	—	—	—
	Free-Standing Diagnostic Laboratory	—	—	—	—	—	—
	Specimen Collection Centre	—	—	—	—	—	—
	Blood Transfusion Centre	—	—	—	—	—	—
	Other Laboratory Facility	—	—	—	—	—	—
	Post-Secondary Educational Institution	—	—	—	—	—	—
	Association/Government/Para-Governmental	—	—	—	—	—	—
	Industry, Manufacturing and Commercial	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

(continued on next page)

Prince Edward Island—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	—	—	—	—	—	—
	Supervisor	—	—	—	—	—	—
	Staff MLT	—	—	—	—	—	—
	Technical Specialist	—	—	—	—	—	—
	Laboratory Information System Specialist	—	—	—	—	—	—
	Consultant	—	—	—	—	—	—
	Educator	—	—	—	—	—	—
	Researcher	—	—	—	—	—	—
	Sales	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
	Clinical	Yes	—	—	—	—	—
Education/Preceptor	No	—	—	—	—	—	—
Activity Indicator	Unknown	—	—	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	—	—
	Administration	—	—	—	—	—	—
	Quality Management	—	—	—	—	—	—
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	—	—
	Research	—	—	—	—	—	—
	Other Major Function	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Area of Practice	Clinical Chemistry	—	—	—	—	—	—
	Hematology	—	—	—	—	—	—
	Transfusion Medicine/Science	—	—	—	—	—	—
	Microbiology	—	—	—	—	—	—
	Specimen Procurement, Receipt and Dispatch	—	—	—	—	—	—
	Histology	—	—	—	—	—	—
	Immunology	—	—	—	—	—	—
	Point-of-Care Testing	—	—	—	—	—	—
	Diagnostic Cytology	—	—	—	—	—	—
	Clinical Genetics	—	—	—	—	—	—
	Other	—	—	—	—	—	—
Health Region (Statistics Canada PCCF Health Region Code)	Kings County (1101)	—	—	—	—	—	—
	Queens County (1102)	—	—	—	—	—	—
	Prince County (1103)	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

Notes

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

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

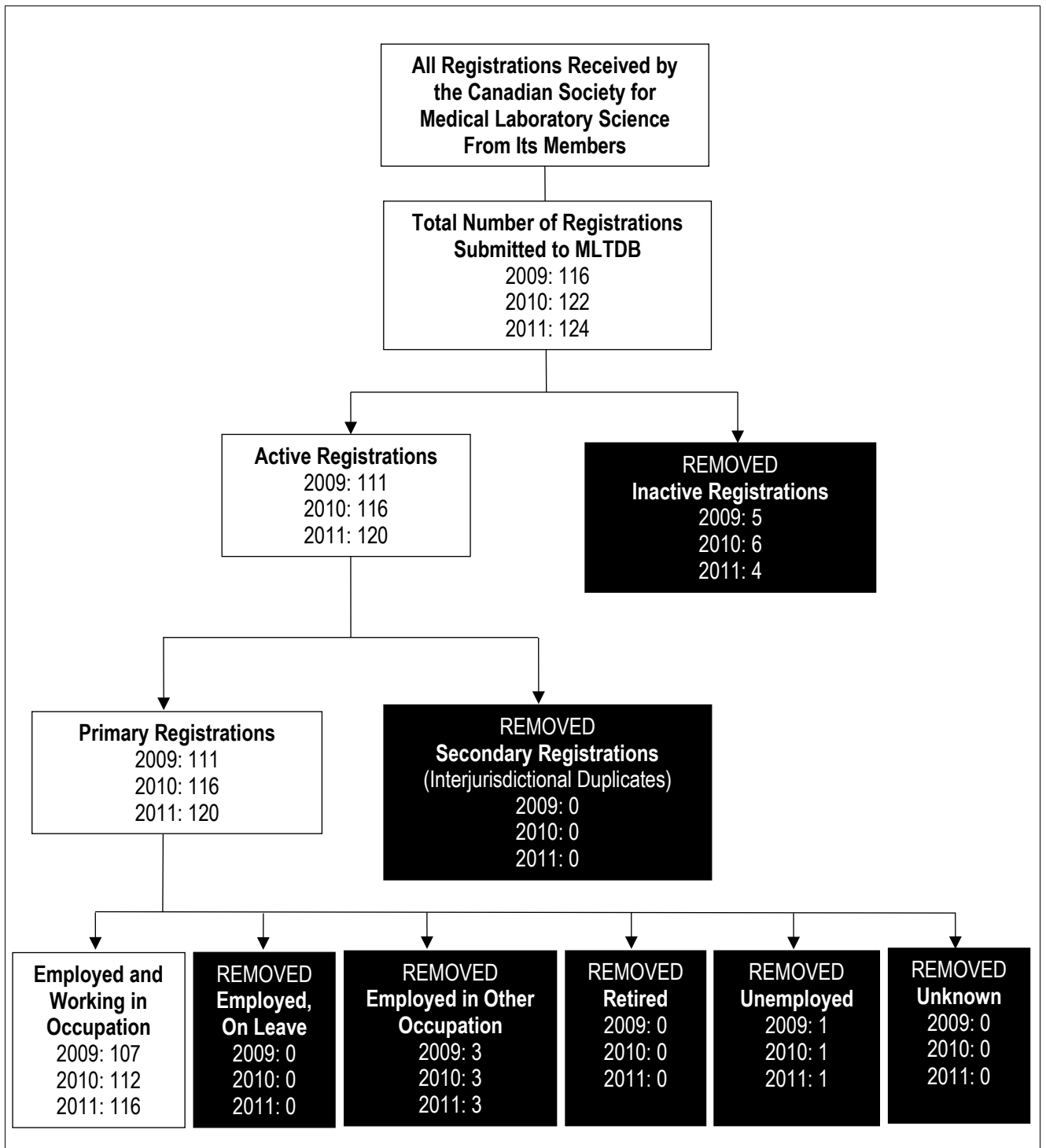
Workforce Count and Regulation Status

In 2011, 72 records (62.1% of the workforce) with missing Employment Status were assigned to the data element value *employed in medical laboratory technology*. The workforce count may not represent the entire workforce due to voluntary registration with the CSMLS. Refer to Appendix B for more information.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for Prince Edward Island)



British Columbia MLT Workforce Profile

British Columbia—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		2,126		2,245		2,233	
Gender	Female	—	—	—	—	—	—
	Male	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Average Age	Years	—	—	—	—	—	—
Age Group	<35	—	—	—	—	—	—
	35–54	—	—	—	—	—	—
	55+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	—	—	—	—
	Baccalaureate	—	—	—	—	—	—
	Master's	—	—	—	—	—	—
	Doctorate	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	—	—
	No—Graduated More Than Two Years Ago	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Initial Certification Discipline	General	1,875	88.2%	1,987	88.5%	1,981	88.7%
	Clinical Genetics	47	2.2%	47	2.1%	46	2.1%
	Diagnostic Cytology	61	2.9%	64	2.9%	64	2.9%
	Clinical Chemistry	29	1.4%	30	1.3%	28	1.3%
	Hematology	21	1.0%	21	0.9%	20	0.9%
	Histology	13	0.6%	14	0.6%	12	0.5%
	Microbiology	43	2.0%	43	1.9%	44	2.0%
	Transfusion Medicine/Science	18	0.8%	20	0.9%	19	0.9%
	Other or Unspecified	19	0.9%	19	0.8%	19	0.9%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	—	—
	Temporary Employee	—	—	—	—	—	—
	Casual Employee	—	—	—	—	—	—
	Self-Employed	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	—	—	—	—	—	—
	Residential Care Facility	—	—	—	—	—	—
	Physician's Office/Other Professional Practice Office	—	—	—	—	—	—
	Community Health Centre	—	—	—	—	—	—
	Public Health Laboratory/Department/Unit	—	—	—	—	—	—
	Centralized Diagnostic Laboratory Facility	—	—	—	—	—	—
	Free-Standing Diagnostic Laboratory	—	—	—	—	—	—
	Specimen Collection Centre	—	—	—	—	—	—
	Blood Transfusion Centre	—	—	—	—	—	—
	Other Laboratory Facility	—	—	—	—	—	—
	Post-Secondary Educational Institution	—	—	—	—	—	—
	Association/Government/Para-Governmental	—	—	—	—	—	—
	Industry, Manufacturing and Commercial	—	—	—	—	—	—
	Other	—	—	—	—	—	—
Unknown	—	—	—	—	—	—	

(continued on next page)

**British Columbia—Total Registered Medical Laboratory Technologist Workforce,
2009 to 2011 (cont'd)**

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Position	Manager	—	—	—	—	—	—
	Supervisor	—	—	—	—	—	—
	Staff MLT	—	—	—	—	—	—
	Technical Specialist	—	—	—	—	—	—
	Laboratory Information System Specialist	—	—	—	—	—	—
	Consultant	—	—	—	—	—	—
	Educator	—	—	—	—	—	—
	Researcher	—	—	—	—	—	—
	Sales	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
	Clinical Education/Preceptor Activity Indicator	Yes	—	—	—	—	—
No		—	—	—	—	—	—
Unknown		—	—	—	—	—	—
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	—	—
	Administration	—	—	—	—	—	—
	Quality Management	—	—	—	—	—	—
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	—	—
	Research	—	—	—	—	—	—
	Other Major Function	—	—	—	—	—	—
Area of Practice	Unknown	—	—	—	—	—	—
	Clinical Chemistry	—	—	—	—	—	—
	Hematology	—	—	—	—	—	—
	Transfusion Medicine/Science	—	—	—	—	—	—
	Microbiology	—	—	—	—	—	—
	Specimen Procurement, Receipt and Dispatch	—	—	—	—	—	—
	Histology	—	—	—	—	—	—
	Immunology	—	—	—	—	—	—
	Point-of-Care Testing	—	—	—	—	—	—
	Diagnostic Cytology	—	—	—	—	—	—
	Clinical Genetics	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Health Region (Statistics Canada PCCF Health Region Code)	East Kootenay (5911)	—	—	—	—	—
Kootenay-Boundary (5912)		—	—	—	—	—	—
Okanagan (5913)		—	—	—	—	—	—
Thompson/Cariboo (5914)		—	—	—	—	—	—
Fraser East (5921)		—	—	—	—	—	—
Fraser North (5922)		—	—	—	—	—	—
Fraser South (5923)		—	—	—	—	—	—
Richmond (5931)		—	—	—	—	—	—
Vancouver (5932)		—	—	—	—	—	—
North Shore/Coast Garibaldi (5933)		—	—	—	—	—	—
South Vancouver Island (5941)		—	—	—	—	—	—
Central Vancouver Island (5942)		—	—	—	—	—	—
North Vancouver Island (5943)		—	—	—	—	—	—
Northwest (5951)		—	—	—	—	—	—
Northern Interior (5952)		—	—	—	—	—	—
Northeast (5953)		—	—	—	—	—	—
Unknown	—	—	—	—	—	—	

Notes

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

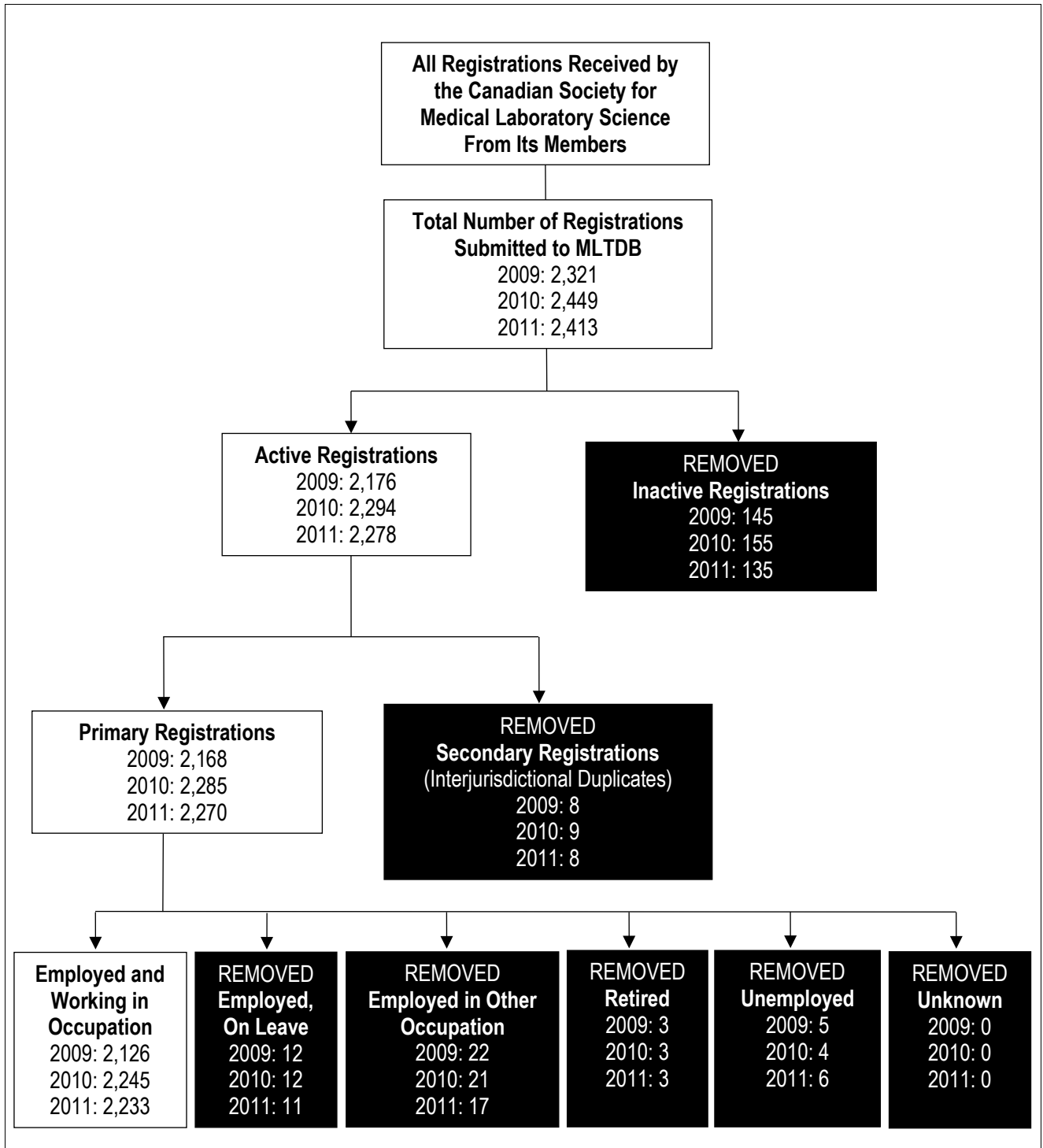
Workforce Count and Regulation Status

In 2011, 1,519 records (68% of the workforce) with missing Employment Status were assigned the data element value *employed in medical laboratory technology*. The workforce count may not represent the entire workforce due to voluntary registration with the CSMLS. Refer to Appendix B for more information.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for British Columbia)



Territories MLT Workforce Profile

Yukon, Northwest Territories and Nunavut—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011

		2009		2010		2011	
		Count	Percentage	Count	Percentage	Count	Percentage
Supply and Demographics							
Total Registered Medical Laboratory Technologist Workforce		49		51		53	
Gender	Female	—	—	—	—	—	—
	Male	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Average Age	Years	—	—	—	—	—	—
Age Group	<35	—	—	—	—	—	—
	35–54	—	—	—	—	—	—
	55+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Education and Certification							
Level of Basic Education in Medical Laboratory Technology	Diploma	—	—	—	—	—	—
	Baccalaureate	—	—	—	—	—	—
	Master's	—	—	—	—	—	—
	Doctorate	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Location of Graduation for Basic Education in Medical Laboratory Technology	Canadian Trained	—	—	—	—	—	—
	Foreign Trained	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
New Graduates	Yes—Graduated in Last Two Years	—	—	—	—	—	—
	No—Graduated More Than Two Years Ago	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Initial Certification Discipline	General	49	100.0%	51	100.0%	51	†
	Clinical Genetics	0	0.0%	0	0.0%	0	0.0%
	Diagnostic Cytology	0	0.0%	0	0.0%	0	0.0%
	Clinical Chemistry	0	0.0%	0	0.0%	*	*
	Hematology	0	0.0%	0	0.0%	0	0.0%
	Histology	0	0.0%	0	0.0%	0	0.0%
	Microbiology	0	0.0%	0	0.0%	0	0.0%
	Transfusion Medicine/Science	0	0.0%	0	0.0%	0	0.0%
	Other or Unspecified	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%
Employment							
Multiple Employment Status	Single Employer	—	—	—	—	—	—
	Multiple Employers	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Total Usual Weekly Hours of Work	<22.5	—	—	—	—	—	—
	22.5–37.4	—	—	—	—	—	—
	37.5+	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Primary Employment							
Employment Category	Permanent Employee	—	—	—	—	—	—
	Temporary Employee	—	—	—	—	—	—
	Casual Employee	—	—	—	—	—	—
	Self-Employed	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Full-Time/Part-Time Status	Full Time	—	—	—	—	—	—
	Part Time	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—
Place of Employment	General Hospital	—	—	—	—	—	—
	Residential Care Facility	—	—	—	—	—	—
	Physician's Office/Other Professional Practice Office	—	—	—	—	—	—
	Community Health Centre	—	—	—	—	—	—
	Public Health Laboratory/Department/Unit	—	—	—	—	—	—
	Centralized Diagnostic Laboratory Facility	—	—	—	—	—	—
	Free-Standing Diagnostic Laboratory	—	—	—	—	—	—
	Specimen Collection Centre	—	—	—	—	—	—
	Blood Transfusion Centre	—	—	—	—	—	—
	Other Laboratory Facility	—	—	—	—	—	—
	Post-Secondary Educational Institution	—	—	—	—	—	—
	Association/Government/Para-Governmental	—	—	—	—	—	—
	Industry, Manufacturing and Commercial	—	—	—	—	—	—
	Other	—	—	—	—	—	—
	Unknown	—	—	—	—	—	—

(continued on next page)

Yukon, Northwest Territories and Nunavut—Total Registered Medical Laboratory Technologist Workforce, 2009 to 2011 (cont'd)

		2009		2010		2011		
		Count	Percentage	Count	Percentage	Count	Percentage	
Position	Manager	—	—	—	—	—	—	
	Supervisor	—	—	—	—	—	—	
	Staff MLT	—	—	—	—	—	—	
	Technical Specialist	—	—	—	—	—	—	
	Laboratory Information System Specialist	—	—	—	—	—	—	
	Consultant	—	—	—	—	—	—	
	Educator	—	—	—	—	—	—	
	Researcher	—	—	—	—	—	—	
	Sales	—	—	—	—	—	—	
	Other	—	—	—	—	—	—	
	Unknown	—	—	—	—	—	—	
	Clinical	Yes	—	—	—	—	—	—
	Education/Preceptor	No	—	—	—	—	—	—
Activity Indicator	Unknown	—	—	—	—	—	—	
Major Function	Diagnostic and Therapeutic Laboratory Services	—	—	—	—	—	—	
	Administration	—	—	—	—	—	—	
	Quality Management	—	—	—	—	—	—	
	Teaching, Medical Laboratory Technology-Related	—	—	—	—	—	—	
	Research	—	—	—	—	—	—	
	Other Major Function	—	—	—	—	—	—	
	Unknown	—	—	—	—	—	—	
Area of Practice	Clinical Chemistry	—	—	—	—	—	—	
	Hematology	—	—	—	—	—	—	
	Transfusion Medicine/Science	—	—	—	—	—	—	
	Microbiology	—	—	—	—	—	—	
	Specimen Procurement, Receipt and Dispatch	—	—	—	—	—	—	
	Histology	—	—	—	—	—	—	
	Immunology	—	—	—	—	—	—	
	Point-of-Care Testing	—	—	—	—	—	—	
	Diagnostic Cytology	—	—	—	—	—	—	
	Clinical Genetics	—	—	—	—	—	—	
	Other	—	—	—	—	—	—	
	Unknown	—	—	—	—	—	—	
Health Region (Statistics Canada PCCF Health Region Code)	Yukon (6001)	—	—	—	—	—	—	
	Northwest Territories (6101)	—	—	—	—	—	—	
	Nunavut (6201)	—	—	—	—	—	—	
	Unknown	—	—	—	—	—	—	

Notes

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

† Value suppressed to ensure confidentiality.

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

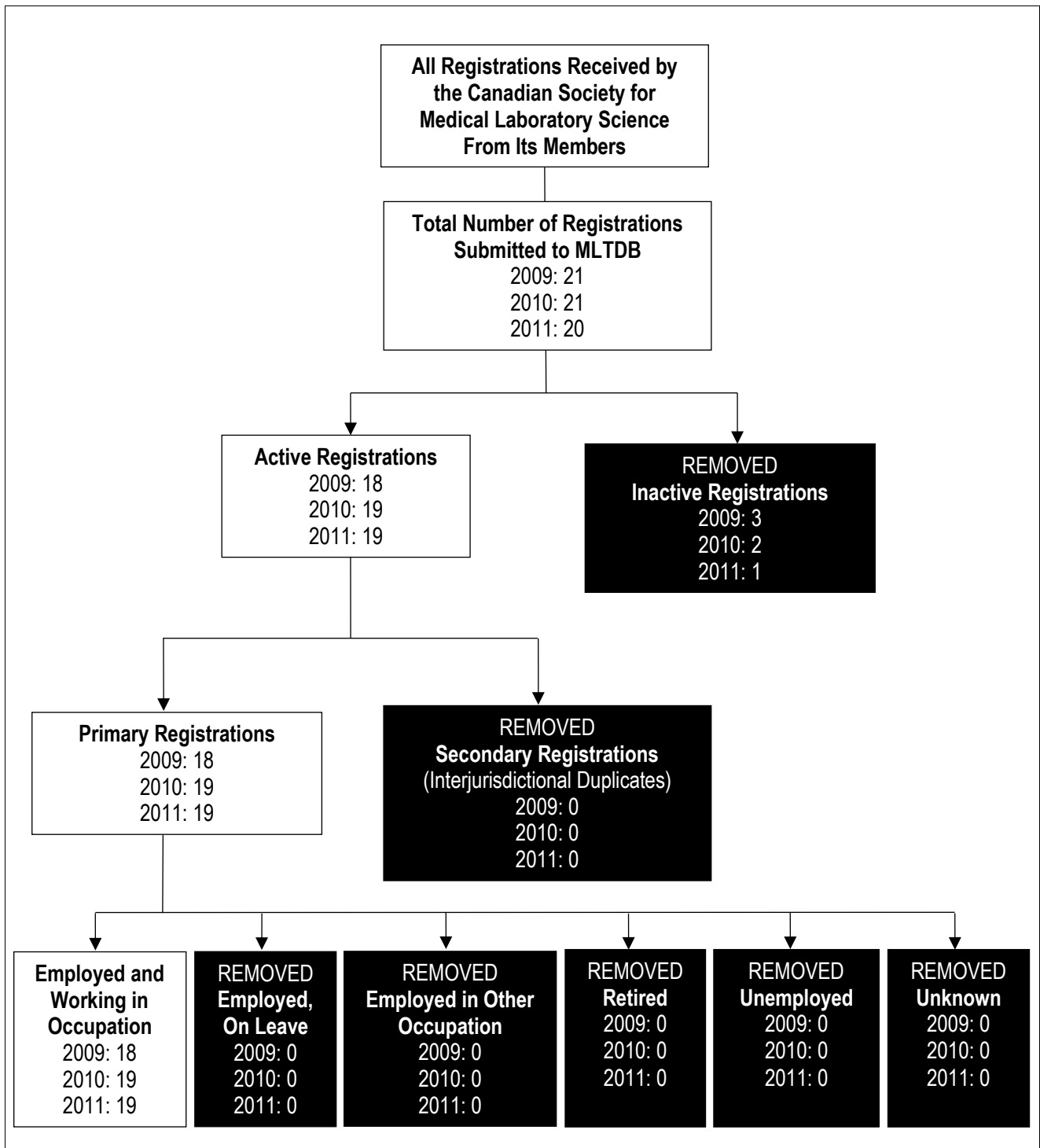
Workforce Count and Regulation Status

In 2010, 34 records (64.2% of the workforce) with missing Employment Status were assigned to the data element value *employed in medical laboratory technology*. The workforce count may not represent the entire workforce due to voluntary registration with the CSMLS. Refer to Appendix B for more information.

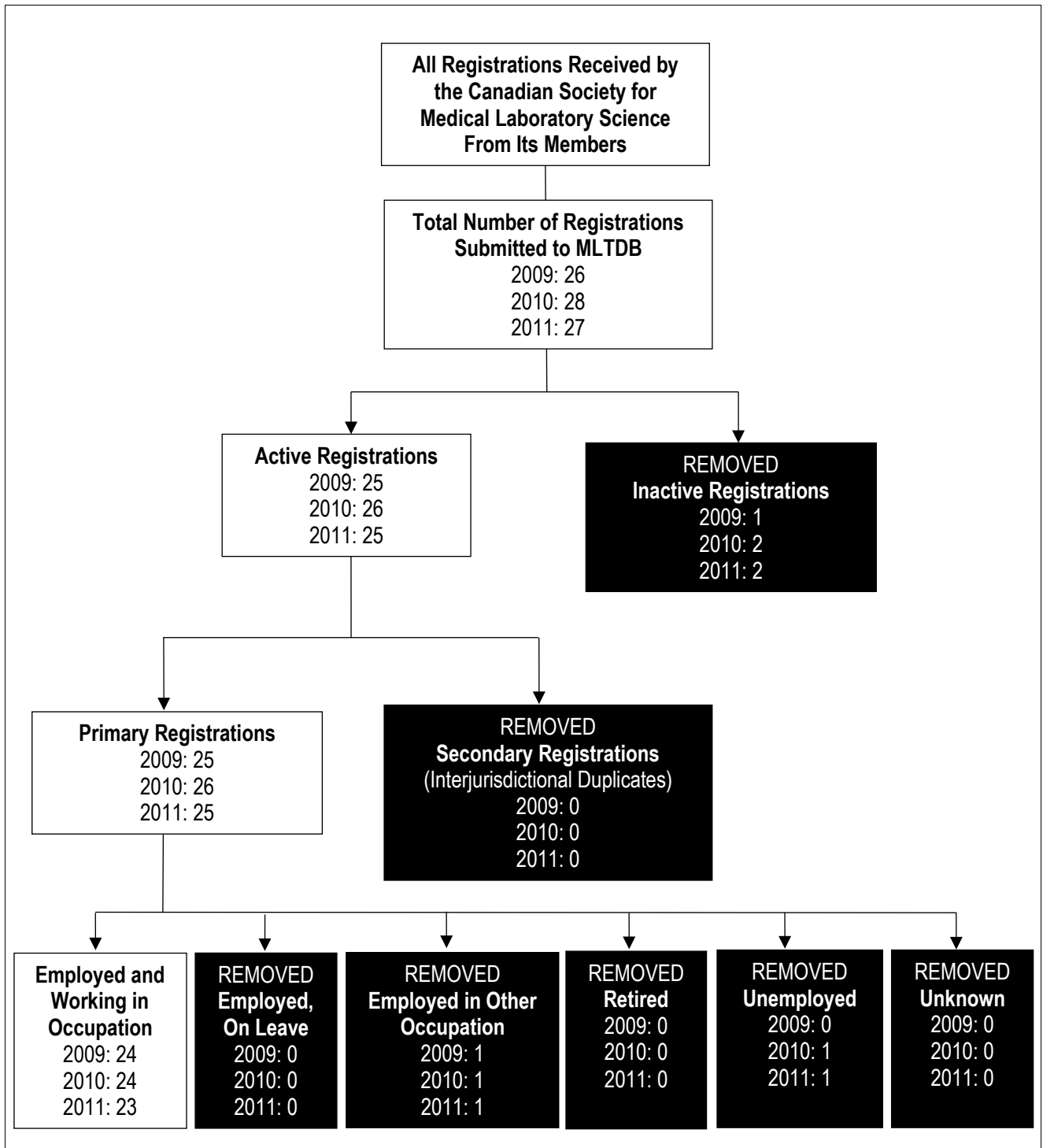
Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

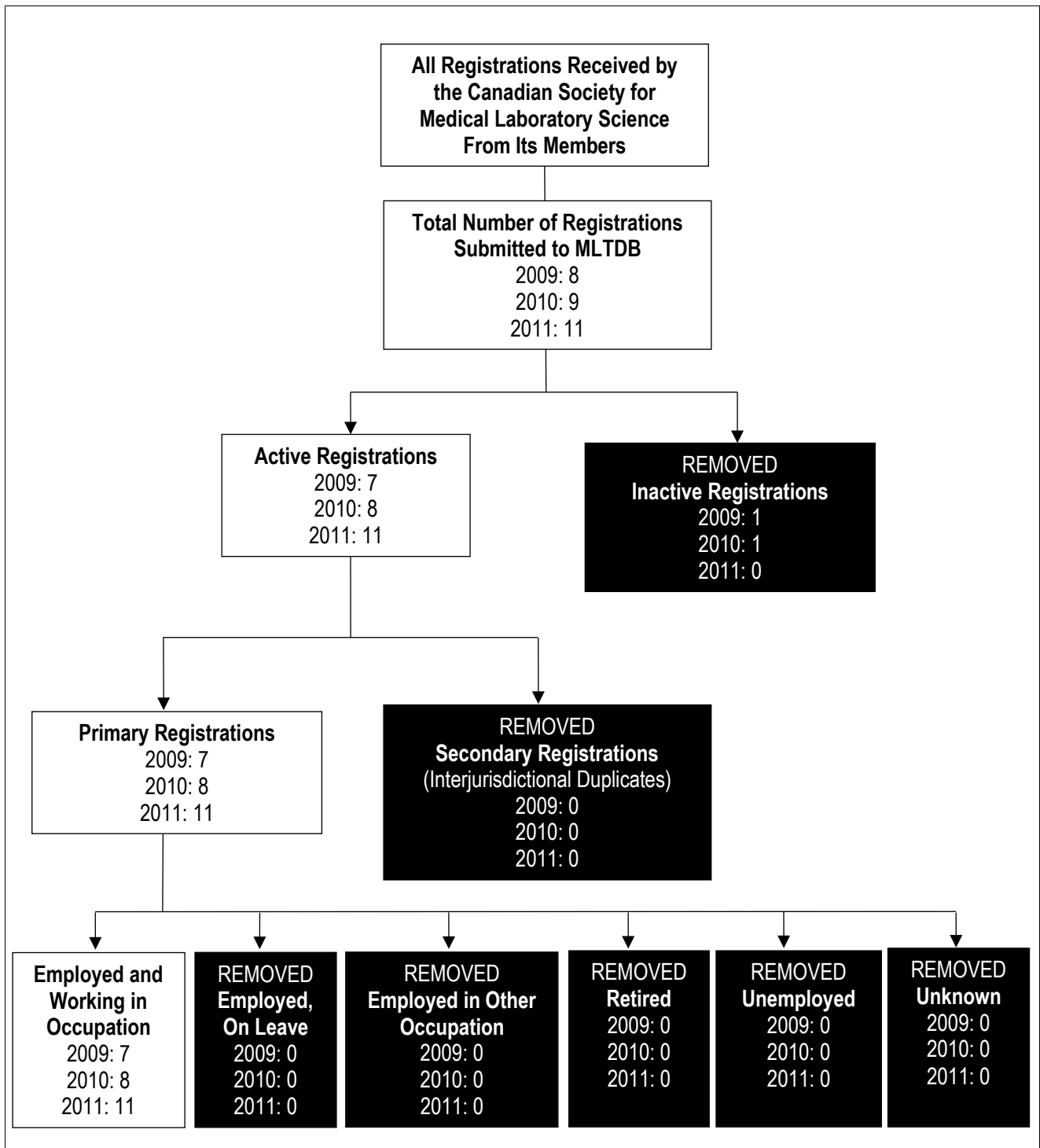
Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for Yukon)

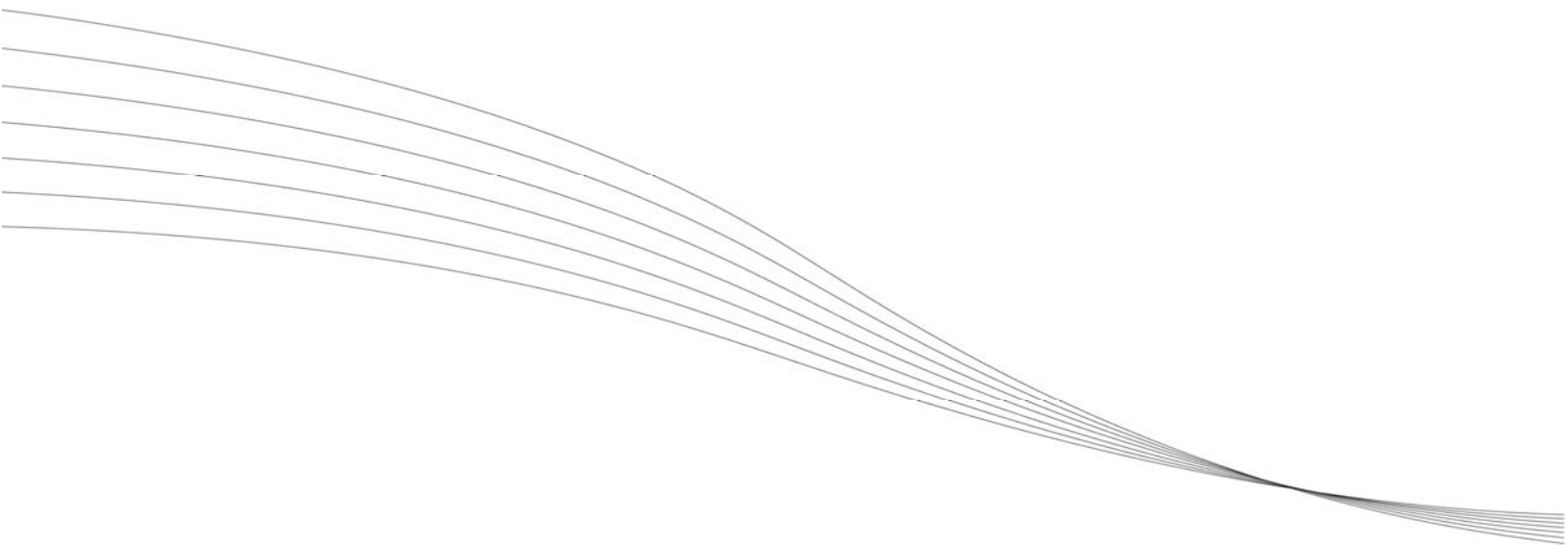


Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for the Northwest Territories)



Data Flow From the Canadian Society for Medical Laboratory Science to CIHI (for Nunavut)







Methodological Notes



All notes pertaining to the Medical Laboratory Technologist Database (MLTDB) and its publications are documented separately. The general notes that pertain to the basic concepts and routines of the MLTDB are included in a stand-alone document titled *Technical Notes*. Notes that outline the underlying methodologies, particularly the methodologies for handling data quality issues up to 2011, are included in the Methodological Notes section of the current report. The *Technical Notes* and Methodological Notes together will help provide a better understanding of the strengths and limitations of the data and demonstrate the ways in which the data can be used effectively. This information is of particular importance when making comparisons with data from other sources and when making conclusions based on changes over time.

CIHI relies on superior principles of data quality, privacy and confidentiality. CIHI's commitment to ensuring the collection of quality data in a privacy-sensitive manner is applied to data collection, processing, analysis and dissemination. For further details regarding CIHI's privacy principles, which are outlined in *Privacy Policy on the Collection, Use, Disclosure and Retention of Health Workforce Personal Information and De-Identified Data* and *Health Human Resources Database Privacy Impact Assessment*, go to www.cihi.ca.

Topics Covered in the *Technical Notes*:

MLTDB population of interest and reference; period of reference for annual reports; data inclusion and exclusion for the MLTDB; point-in-time data collection method; data collection, processing, validation and verification methods; key concepts and definitions of data elements and missing values; information gaps, under-coverage, over-coverage and other identified data quality issues associated with the MLTDB.

See the full document *Medical Laboratory Technologist Database Technical Notes* on CIHI's website, at www.cihi.ca.

Data Selection Criteria for This Publication

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

1. MLTs must be registered, have an active membership with a provincial MLT regulatory body or the CSMLS and be working in medical laboratory technology, with the registration being recognized as a primary registration. Inactive registrations, active but secondary registrations and registrations with an Employment Status other than *employed in medical laboratory technology* are excluded.^{iv}
2. When all values for a selected data element (by reporting year or province/territories of registration) are presented in a data table, the percentage of *unknown* values must be less than 5% of the total count. Setting this criterion helps CIHI balance data that can be published while considering the limitations of data with *unknown* values.

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

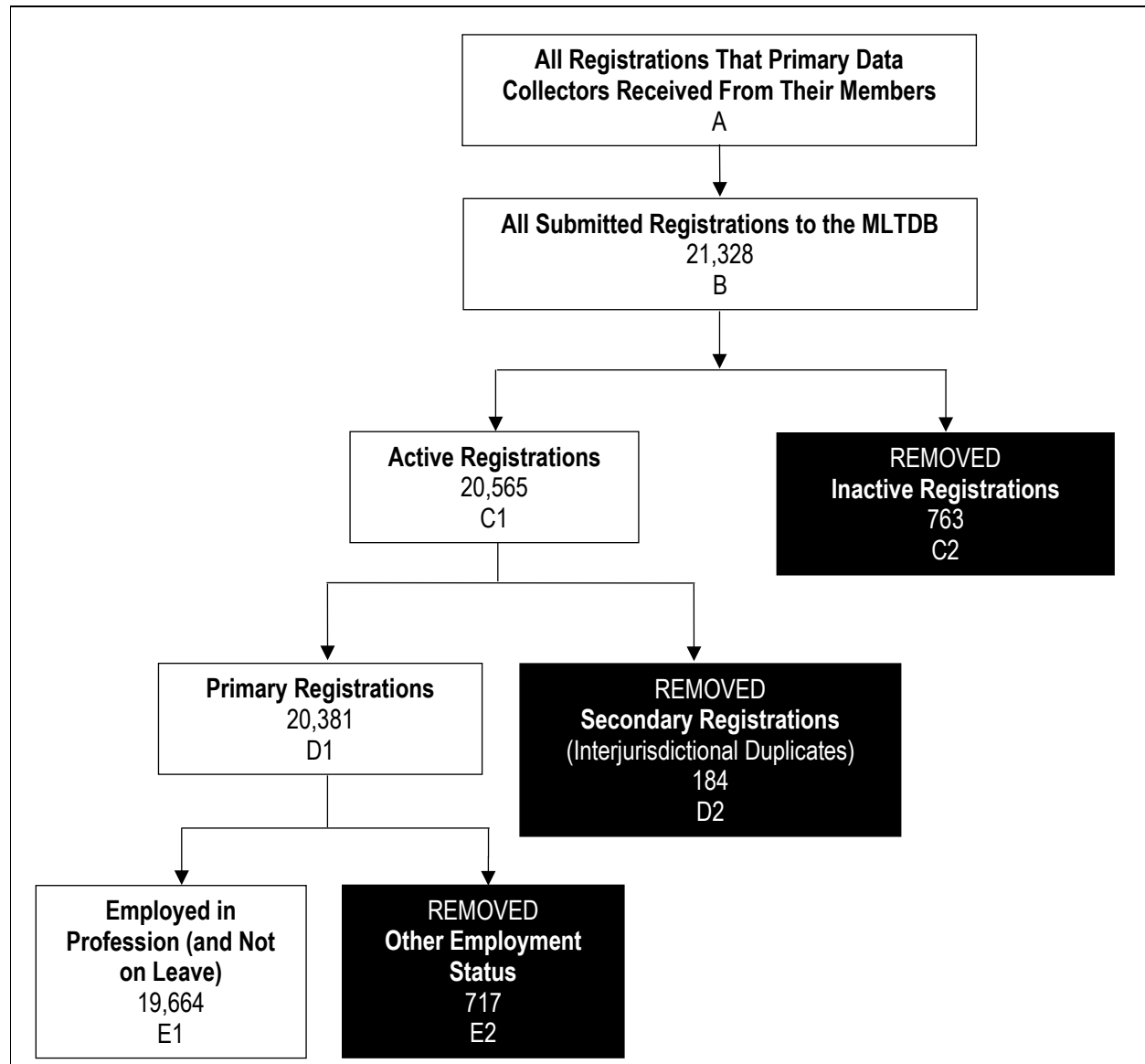
3. For Saskatchewan and Alberta in 2010, the criterion was applied to certain data elements after removing registrants who did not respond to elements for either the education/ certification or employment fields. This approach enabled CIHI to report the majority of the workforce, who submitted high-quality data, assuming the statistics of this sample data represent the entire workforce. Further details can be found in the Data Adjustments section of this document.
4. Under certain circumstances, a data element that has met the above criteria may not be included in the analysis. For example, a given data element may be used primarily for data validation or derivation purposes (for example, Province/Territory of Residence or Province/ Territory of Primary Employment). Or it may be that the distribution of the values for this data element has an obvious bias due to the volume of *unknown* values or other data quality issues.
5. If all or most values for a data element are suppressed to protect privacy and confidentiality of personal information and the presentation of this data element would not add any value to the report, this data element may be removed from the report.

Data Flow From Primary Data Collector to CIHI

The data providers for the MLTDB collect membership data on an annual basis. This administrative data is submitted to the MLTDB according to established standards.

Figure M-1 illustrates the data flow when this methodology is applied. Explanations of each step within the data flow are provided below.

Figure M-1: Tracing Data Flow From Primary Data Collectors to MLTDB, 2011



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

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

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

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

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

Box D2: MLTs in Canada can work in more than one jurisdiction concurrently as long as they meet the licensure or employment requirements in the jurisdiction. In the interest of preventing double-counting across jurisdictions, this box represents the secondary registrations or interjurisdictional duplicates to be removed from the final count for the workforce. The methodology that identifies primary and secondary registrations is explained in the *Technical Notes*.

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

The results of this methodology and breakdown by province or territories of registration are shown in Table M-1.

Table M-1: Record Composition by Province or Territories of Registration, 2011

	All Submitted Records (A)	Remove Inactive Records (B)	Remove Duplicate Registrations* (C)	Remove Records if Employment Status Not Identified as Working MLT† (D)	Registered MLT Workforce (A, B, C and D)
Total	21,328	763	184	717	19,664
Regulated Provinces					
N.S.	1,055	127	—	12	916
N.B.	701	19	6	14	662
Que.	4,382	—	24	14	4,344
Ont.	7,629	398	102	407	6,722
Man.	1,075	0	4	48	1,023
Sask.	948	52	15	4	877
Alta.	2,406	0	25	168	2,213
Unregulated Provinces/Territories‡					
N.L.	537	25	—	7	505
P.E.I.	124	4	—	4	116
B.C.	2,413	135	8	37	2,233
Territories**	58	3	—	2	53

Notes

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

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

‡ Data for unregulated provinces/territories represents voluntary registrations with the CSMLS.

** Territories include Yukon, the Northwest Territories and Nunavut.

— Information not available.

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

CIHI's Methodology for Identifying the Medical Laboratory Technologist Workforce

Data Adjustments

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

I. Adjustment for Employment Status

In some jurisdictions, where the proportion of registrants with *unknown* Employment Status was unreasonably high, adjustments have been made to include these registrants in the workforce. In these situations the registrant's Employment Status was converted to *employed in medical laboratory technology*.

1. **Newfoundland and Labrador, P.E.I., B.C. and the territories, 2009 to 2011:** All records with missing Employment Status have been assigned the data element value *employed in medical laboratory technology*. This adjustment was included in the database.
2. **Quebec, 2008 and 2009:** For all records, Employment Status was initially assigned the value *unknown* by the data provider. Assuming that most of the individuals were working in medical laboratory technology, the value was converted to *employed in medical laboratory technology* in the final version of the data submission from the data provider. This adjustment was made in the database.
3. **Saskatchewan, 2009 to 2011:** For registrants with *unknown* Employment Status, their data for gender and age is available. For these registrants, their missing Employment Status has been assigned to *employed in medical laboratory technology* and, as such, these registrants are included in the total workforce, gender and age statistics.
4. **Alberta, 2008 and 2009:** In 2008 and 2009, of the registrants with *unknown* Employment Status, more than 80% provided known values for most data elements. As such, the Employment Status for these records was converted to the value *employed in medical laboratory technology* and included in the report. Four primary employment data elements were used as a screening tool for inclusion; if values for these data elements were provided, the registrant was counted as part of the workforce and included in the report. These four data elements were Province of Employment, Full-Time/Part-Time Status, Place of Employment and Multiple Employment Sites. The remaining registrants, who did not provide information for Employment Status as well as for the four above-mentioned employment data elements, were excluded. This adjustment was made outside the database and included in the report only.

This type of adjustment is based on the assumption that most individuals are employed in the profession of medical laboratory technology. Although this adjustment may cause over-coverage, the bias will be smaller than leaving them out of the workforce altogether. The number of registrations and the percentage of the workforce that was affected by the above adjustments are summarized in Table M-2.

Table M-2: Reclassification of Employment Status, 2008 to 2011

Jurisdiction	Data Collection Year	Number of Reclassified Registrations	Estimated Workforce	Percentage of the Workforce
N.L.	2009	239	347	68.9%
	2010	361	482	74.9%
	2011	385	505	76.2%
P.E.I.	2009	15	107	14.0%
	2010	71	112	63.4%
	2011	72	116	62.1%
Que.	2008	4,223	4,223	100.0%
	2009	4,197	4,197	100.0%
Sask.	2009	337	864	39.0%
	2010	487	874	55.7%
	2011	612	877	69.8%
Alta.	2008	257	2,215	11.6%
	2009	262	2,223	11.8%
B.C.	2009	1,200	2,126	56.4%
	2010	1,491	2,245	66.4%
	2011	1,519	2,233	68.0%
Territories	2009	27	49	55.1%
	2010	32	51	62.7%
	2011	34	53	64.2%

II. Adjustment for Reporting More Data Elements

Adjustments have been made to exclude a small number of registrants who entered *unknown* values for certain data elements for some provinces (see below). Please see Table M-3 for more detailed information.

1. **Manitoba, 2009:** The level of *unknown* values for some employment data elements was consistently between 29% and 32%. These data elements included Place of Employment for Primary Employment, Position for Primary Employment and Areas of Practice for Primary Employment. To avoid discounting the entire pool of employment data because of the high levels of *unknown* values, most of the members who provided *unknown* values were excluded from the statistics for these data elements. This allowed CIHI to still report the majority of the members from the province. Consequently, the total for these data elements does not match the total workforce (or the total for demographic, education and certification data elements). This adjustment was made outside the database and applied to the above-mentioned primary employment data elements in the report only.

2. **Saskatchewan, 2009 and 2010:** The registrants with missing Employment Status did not have employment data elements reported for 2009, and did not have education and certification data elements reported for 2010. Consequently, the employment total for 2009 and education and certification totals for 2010 did not match the total workforce or the total head counts for gender and age. This adjustment was made outside the database and included in the report only.

3. **Alberta, 2010:** In 2010, 60 registrants were missing values for most employment-related elements: Employment Category, Full-Time/Part-Time Status, Province of Employment, Country of Employment, Place of Employment, Clinical Education/Preceptor Indicator and Major Function for Primary Employment. To report more data elements for Alberta and meet the 5% selection criterion, these 60 registrants were excluded from the employment-related section of the report. The adjustment was made outside the database and included in the report only.

The number of registrations and the percentage of the workforce that was affected by the above adjustments are summarized in Table M-3.

Table M-3: Exclusion of Registrations From the Analysis for Certain Data Elements, 2009 to 2011

Province	Data Collection Year	Number of Excluded Registrations	Percentage of the Workforce	Excluded From
Man.	2009	297	29.7%	Employment data elements
Sask.	2009	337	39.0%	Employment data elements
	2010	78	8.9%	Education and certification data elements
Alta.	2010	60	2.7%	Employment data elements

Data Limitations

Voluntary Registration in Unregulated Provinces and Territories

Data in the MLTDB for Newfoundland and Labrador, P.E.I., B.C. and the territories (Yukon, the Northwest Territories and Nunavut) captures only those MLTs who voluntarily register with the CSMLS. The total supply of MLTs and their distributions in these jurisdictions, as well as across the country, are therefore not as accurate as they would be if all MLTs were registered.

Combined Territorial Information

Information for Yukon, the Northwest Territories and Nunavut, wherever data is available, has been combined and labelled with “Territories” to avoid small counts that could potentially lead to the identification of individuals.

Privacy and Confidentiality

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

MLTDB Workforce Products and Services

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

- *Medical Laboratory Technologist Database Reference Guide, Version 1.0*
- *Medical Laboratory Technologist Database Technical Notes*
- *Medical Laboratory Technologists in Canada, 2010*
- *Medical Laboratory Technologist Database, 2009 Data Release*
- *Medical Laboratory Technologist Database, 2008 Data Release*
- *Medical Laboratory Technologists and Their Work Environment*

Request for Services

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

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

Appendix A—12-Month Registration Periods,* by Province or Territories, 2011

Registration Period by Jurisdiction		2011												2012			
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Jan. 1– Dec. 31	N.L.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	P.E.I.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	N.S.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	N.B.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Apr. 1– Mar. 31	Que.				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	
Jan. 1– Dec. 31	Ont.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	Man.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Dec. 1– Nov. 30	Sask.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx					
Jan. 1– Dec. 31	Alta.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	B.C.	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				
Jan. 1– Dec. 31	Territories [†]	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx				

Notes

* Registration periods for MLTs in Newfoundland and Labrador, P.E.I., B.C. and the territories (Yukon, the Northwest Territories and Nunavut) are represented by voluntary registrations with the Canadian Society for Medical Laboratory Science.

† Territories include Yukon, the Northwest Territories and Nunavut.

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

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Appendix B—Regulation Status of Provinces and Territories

Regulation Status of Provinces and Territories	
Regulated Provinces	First Year of Regulation
N.S.	2004
N.B.	1992
Que.	1973
Ont.	1994
Man.	2007
Sask.	1996
Alta.	2002
Unregulated Provinces and Territories	
N.L.*	N/A
P.E.I.†	N/A
B.C.	N/A
Y.T.	N/A
N.W.T.	N/A
Nun.	N/A

Notes

* Newfoundland and Labrador has plans for regulation in 2012.

† Data submission from P.E.I. is expected in the near future, based on proposed legislation in the province.

N/A: not applicable.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Appendix C—Data Sources

Data Source	Corresponding Province/ Territory of Data Submission	Province/Territory Abbreviation
Nova Scotia College of Medical Laboratory Technologists	Nova Scotia	N.S.
New Brunswick Society of Medical Laboratory Technologists	New Brunswick	N.B.
Ordre professionnel des technologistes médicaux du Québec	Quebec	Que.
College of Medical Laboratory Technologists of Ontario	Ontario	Ont.
College of Medical Laboratory Technologists of Manitoba	Manitoba	Man.
Saskatchewan Society of Medical Laboratory Technologists	Saskatchewan	Sask.
College of Medical Laboratory Technologists of Alberta	Alberta	Alta.
Canadian Society for Medical Laboratory Science	Newfoundland and Labrador Prince Edward Island British Columbia Yukon Northwest Territories Nunavut	N.L. P.E.I. B.C. Y.T. N.W.T. Nun.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

Appendix D—Medical Laboratory Technologist Records Where Data Is Not Collected and Percentage of Records With *Unknown* Values for Core Data Elements, by Jurisdiction, Canada, 2010 to 2011

Appendix D—Medical Laboratory Technologist Records Where Data Is Not Collected and Percentage of Records With *Unknown* Values for Core Data Elements, by Jurisdiction, Canada, 2010 to 2011

Data Element	N.L.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Y.T.		N.W.T.		Nun.		
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	
Gender	73	75	62	61																66	68	32	37	75	78	75	82
Year of Birth	74	77	63	63			0.3									0.1											
Province/Territory of Residence			0.9	0.9																							
Country of Residence															0.2	0.2											
Province/Territory of Registration																											
Level of Basic Education in Medical Laboratory Technology	74	76	61	60	0.3	0.3		0.2	4	4	3	3			0.1	4	5	1	67	69	32	37	75	78	75	82	
Year of Graduation for Basic Education in Medical Laboratory Technology	74	76	61	60	0.3	0.3	0.8	0.8			4	4			4	56	1	67	68	32	37	75	78	75	82		
Institution of Graduation for Basic Education in Medical Laboratory Technology	74	76	61	60	0.4	0.4	10	10			86	75			4	56	2	67	68	32	37	75	78	75	82		
Province/Territory of Graduation for Basic Education in Medical Laboratory Technology	74	76	61	60	0.4	0.4	10	11	X	X	5	5				56	2	67	68	32	37	75	78	75	82		
Country of Graduation for Basic Education in Medical Laboratory Technology	74	76	61	60	0.4	0.4	10	10	X	X	5	5	1		1	56	2	67	68	32	37	75	78	75	82		
Certification Area 1	0.2								X	X	0.8	0.6	3		4												
Certification Level 1	0.2								X	X	0.7	0.6	3	0.5													
Certification Area 2	91	91	95	95			7		X	X	92	92			0.1	4	100	100	94	94	100	100	100	100	100	100	
Certification Level 2	91	91	95	95			7		X	X	92	92			0.2	0.1	100	99									
Initial Province/Territory of Canadian Employment in Medical Laboratory Technology	74	75	62	61	5	5	0.5	0.9			11	12		0.1	0.9	100	97.9		66	68	32	37	75	78	75	82	
Total Usual Weekly Hours of Work	75	77	64	63	10	7			X	X	6	4				0.1	1	0.1			32	37	75	78	75	82	
Employment Category (for Primary Employment)	74	77	63	62	6	1			99	99	2	3	0.8		55	70	2	67	68	32	37	75	78	75	82		
Full-Time/Part-Time Status (for Primary Employment)	75	78	64	64	10	4	3	3			11	12	0.2	0.1	55	70	12	10	68	70	32	37	75	78	75	82	
Postal Code of Employment (for Primary Employment)	85	86	76	75	0.2	0.2			3	3	0.9	2	0.3	0.1	55	70	4	0.6	81	82	37	42	79	83	88	91	
Position (for Primary Employment)	74	76	63	64		0.2					100	100	0.1	1	55	70	3	0.3	66	68	32	37	75	78	75	82	
Place of Employment (for Primary Employment)	74	76	63	62					0.2	0.2	6	7	0.2	0.7	55	70	3	0.5	66	68	32	37	75	78	75	82	
Clinical Education/Preceptor Activity Indicator (for Primary Employment)	74	76	63	62	X		X				12	12	3		55	70	3	0.3	66	68	32	37	75	78	75	82	

Data Element	N.L.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Y.T.		N.W.T.		Nun.	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Major Function (for Primary Employment)	74	76	63	62	0.1	0.3			X	X	3	4	0.2	1	55	70	5	1	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Clinical Chemistry	74	76	63	62	1								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Clinical Genetics	74	76	63	62	0.8								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Diagnostic Cytology	74	76	63	62	0.8								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Hematology	74	76	63	62	2								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Histology	74	76	63	62	2								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Immunology	74	76	63	62	2								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Microbiology	74	76	63	62	1								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Specimen Procurement, Receipt and Dispatch	74	76	63	62	3								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Transfusion Medicine/Science	74	76	63	62	2								39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Point-of-Care Testing	74	76	63	62	12	0.9							39		55	70	3	0.3	66	68	32	37	75	78	75	82
Area of Practice for Primary Employment—Other	74	76	63	62	14	0.8			100	100			39		55	70	3	0.3	66	68	32	37	75	78	75	82
Main Area of Practice for Primary Employment	74	76	63	63	0.6				16	12	3	3	39		55	70	4	0.3	67	68	32	37	75	78	75	82

Notes

X Indicates that items are not collected or submitted.

Blank cells indicate that non-response rates for the items are 0.

Percentages indicate the *unknown* rate in the Medical Laboratory Technologist Database.

Source

Medical Laboratory Technologist Database, Canadian Institute for Health Information.

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