



College of Medical
Laboratory Technologists
of Ontario

Registration Statistics Report

Medical Laboratory Technologists: 2023 Health Human Resources Report

25 ADELAIDE STREET EAST, SUITE 2100
TORONTO ONTARIO M5C 3A1
T 416 861 9605 1 800 323 9672 F 416 861 0934
www.cmlto.com

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A. Introduction

A.1 The College of Medical Laboratory Technologists of Ontario

The College of Medical Laboratory Technologists of Ontario (CMLTO) is one of 26 health regulatory Colleges defined by the *Regulated Health Professions Act, 1991*, which oversees 29 healthcare professions in Ontario. The CMLTO exists to protect the public's interest and ensures the highest healthcare standards through the regulation of the province's approximately 6700 Medical Laboratory Technologists (MLTs). The CMLTO sets entry to practice requirements for the profession and professional standards of practice, as well as investigates complaints regarding MLT's conduct within Ontario.

A.2 Purpose of the 2023 MLT Health Human Resources Report

The CMLTO's health human resources report is an analysis of the 2023 CMLTO registration data that examines MLT practice, employment status, MLT specialties, provision of clinical education, and demographic information. The CMLTO, as part of its mandate and as required by legislation, captures this data during the initial registration and the annual registration renewal processes. The report provides insights into relevant demographics and practice changes in the MLT profession.

Health human resources planning is oftentimes informed by professional demographics and practice-specific data. The CMLTO's data supports the broader-based health human resources planning initiatives for medical laboratory technology that the Ontario Ministry of Health undertakes. In particular, the CMLTO submits data to the Ministry of Health to inform their Health Professions Database. Additionally, CMLTO supports the Canadian Institute for Health Information (CIHI) by providing data to inform their Health Workforce Database (HWDB).



B. Methodology

B.1 Data set description

As part of the annual registration renewal process, per the CMLTO By-Law, all registrants are required to renew their registration by December 31 of the current year. During renewal, registrants provide information related to various aspects of their practice, including employment, specialties, and provision of clinical education. In addition to the annual renewal process, any in-year changes to a registrant's registration or demographic information are processed as it is reported. This approach ensures that the CMLTO registration database is up-to-date and dynamic.

Certain fields in the data set used to produce this report are complete and comprehensive, such as electoral district, age, and specialty. However, many data fields rely on MLT self-reporting. Two limitations arise from this process: firstly, the data in certain areas may not be comprehensive. Throughout this report, the number of MLTs who self-reported on any question is noted. Secondly, there are certain parts where registrants have made multiple selections. This information is noted where relevant.

This report is a comprehensive snapshot of CMLTO's 2023 Practising and Non-Practising registrant data as of February 9, 2024.



B.2 Certificates of Registration

In accordance with the *Medical Laboratory Technology Act, 1991*, CMLTO has three certificates of registration: Practising, Non-Practising, and Emergency. At the time of the data retrieval, there were **6679 CMLTO registrants** which included **6104 Practising and 575 Non-Practising MLTs**. Currently, there are no registrants holding an Emergency certificate of registration.

Practising MLTs are subject to the requirements set out in the *Regulated Health Professions Act, 1991*, the *Medical Laboratory Technology Act, 1991*, and other applicable regulations, including the CMLTO By-Law. These include, but are not limited to, the Quality Assurance Program, the Inquiries, Complaints & Reports, Fitness to Practice, and Discipline processes.

Non-Practising MLTs have met the CMLTO registration requirements but do not practice medical laboratory technology. Non-Practising registrants are subject to the same requirements as Practising registrants, with the exception of the Quality Assurance Program. Non-Practising registrants may change their class of registration to Practising by meeting the requirements in force at the time.

Emergency certificates of registration are only issued when the Ministry of Health or the CMLTO Board of Directors declares an emergency (i.e., any significant interruption to the normal MLT registration process at CMLTO). Emergency MLTs are subject to the same requirements as Practising registrants with the exemption of the national exam requirement and are to practice under an MLT supervisor during a declared emergency. Once an emergency has been declared over, Emergency MLTs have three months to apply for a Practising certificate or their certificate expires.

In addition to the registration classes outlined in the *Medical Laboratory Technology Act 1991*, there are MLTs who fall into categories defined by internal CMLTO



registration statuses. For example, individuals who submitted applications to become MLTs were not included in this analysis as they were not registered with the CMLTO at the time of the data retrieval. Registrants suspended for non-payment of registration fees were also excluded.



B.3 Electoral districts

The CMLTO By-Law describes eight electoral districts that delineate the physical areas of Ontario from which the Board of Directors are elected. The CMLTO performs data analysis using electoral districts as it is a comprehensive data set that assists in identifying practice trends related to specific jurisdictions in Ontario.

Figure B.3 – CMLTO electoral districts

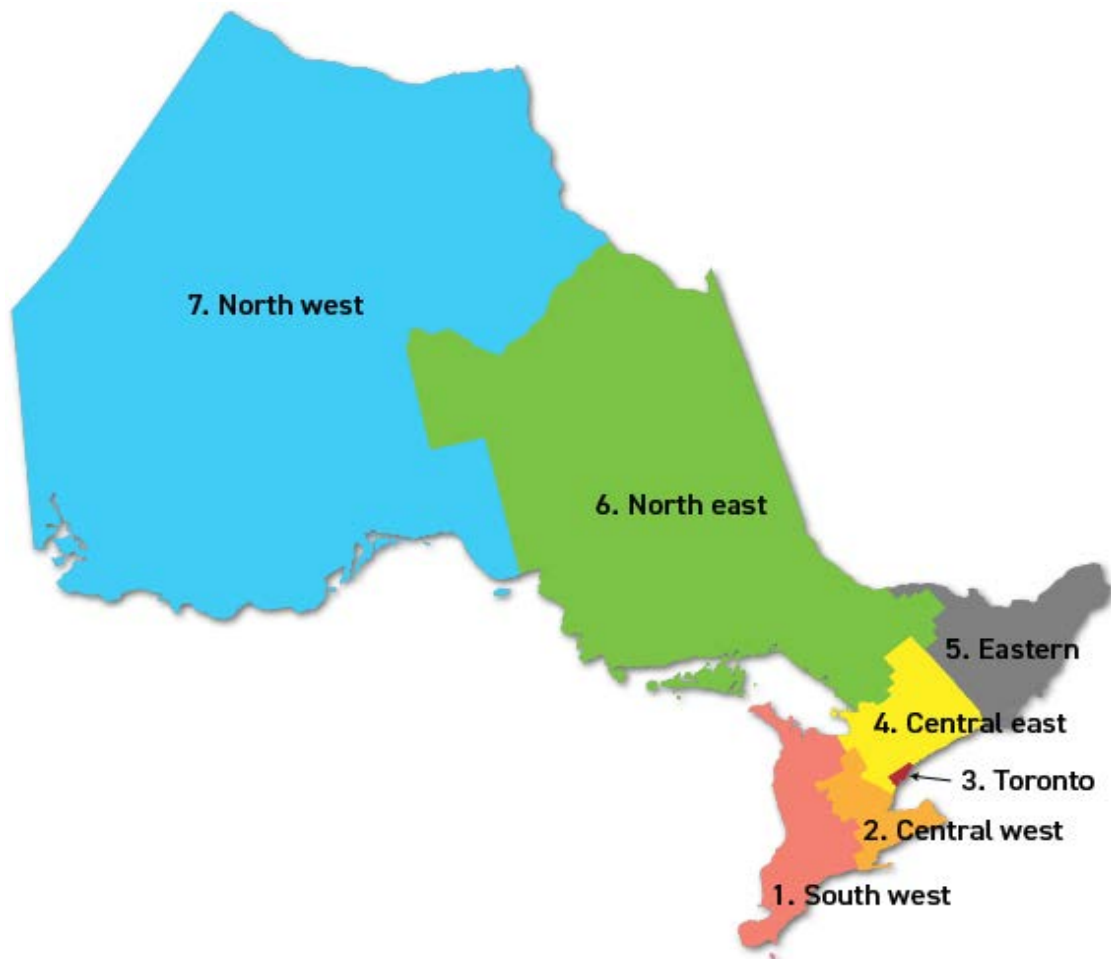




Table B.3 – Description of CMLTO electoral districts

District 1- Southwest Region	District 2 – Central West Region
Composed of the Cities of London, St. Thomas, Stratford, and Windsor; Bruce, Elgin, Essex, Grey, Huron, Lambton, Middlesex, Oxford, and Perth Counties; Municipality of Chatham-Kent; Town of St. Mary’s; and the Township of Pelee.	Composed of the Cities of Brantford, Guelph, and Hamilton; Brant, Dufferin, Haldimand, Norfolk, and Wellington Counties; and the Regional Municipalities of Halton, Niagara, and Waterloo.
District 3 – Metropolitan Toronto	District 4 – Central East Region
Composed of the City of Toronto.	Composed of the Cities of Barrie, Kawartha Lakes, Orillia, and Peterborough; Haliburton, Northumberland, Peterborough, and Simcoe Counties; and the Regional Municipalities of Durham, Peel, and York.
District 5 – East Region	District 6 – Northeast Region
Composed of the Cities of Belleville, Brockville, Cornwall, Kingston, Ottawa, Pembroke, Prince Edward County, and Quinte West; Frontenac, Hastings, Lanark, Lennox, Addington, and Renfrew Counties; Towns of Gananoque, Prescott, and Smith Falls; and the United Counties of Leeds and Grenville, Prescott and Russell and Stormont, Dundas, and Glengarry.	Composed of the City of Greater Sudbury; the Districts of Algoma, Cochrane, Manitoulin, Nipissing, Parry Sound, Sudbury, and Temiskaming; and the District Municipality of Muskoka.
District 7 – Northwest Region	District 8 – Registrant-at-Large
Composed of the Districts of Kenora, Rainy River, and Thunder Bay.	Composed of the whole province and registrants residing outside Ontario for the purpose of electing a member-at-large.

Note: Districts named in Electoral District 6: Northeast Region, and Electoral District 7: Northwest Region include all single-tier municipalities contained within them. A complete list of single-tiered municipalities contained in each district is provided by the Ontario Ministry of Municipal Affairs and Housing.



C. MLT Health Human Resource Report

C.1 MLT data overview

Figure C.1 – Age distribution for all CMLTO registrants

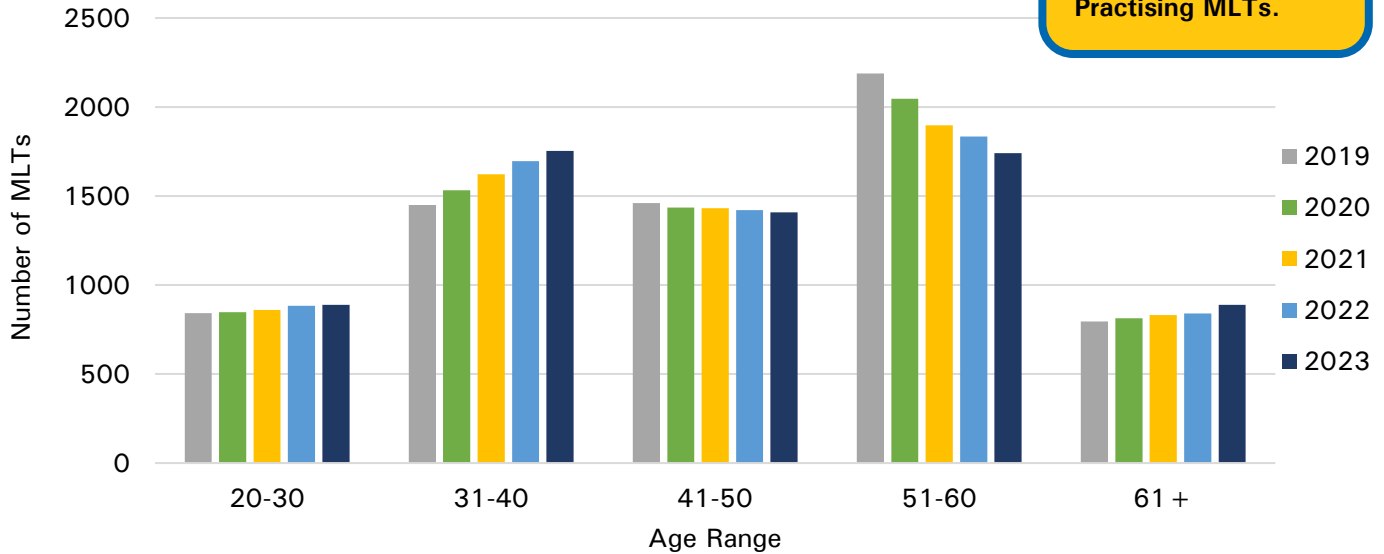
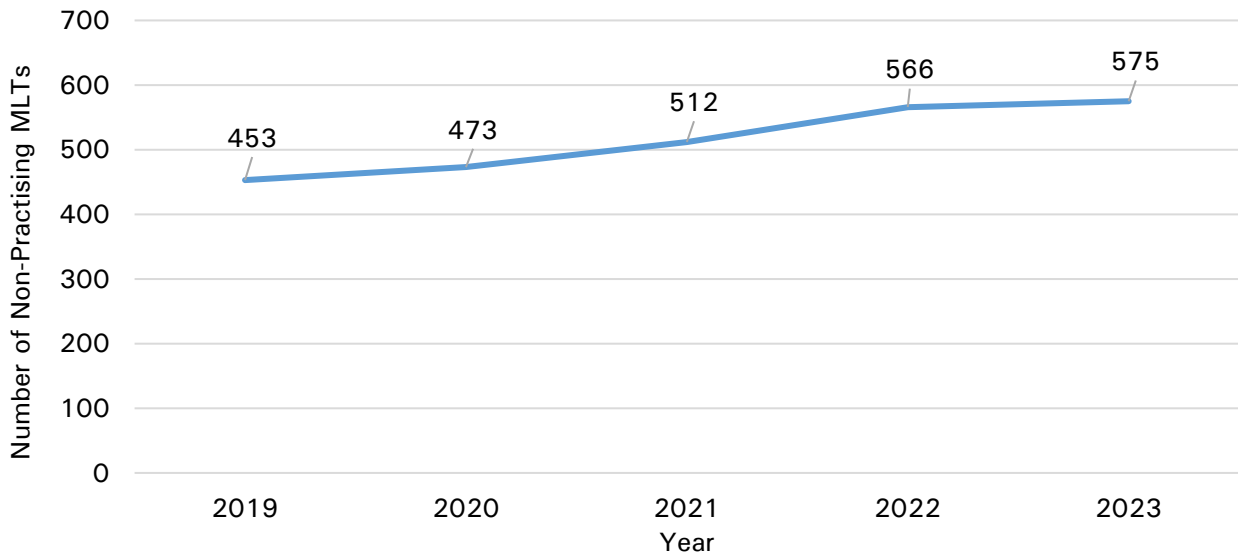


Table C.1 – Age distribution for all CMLTO registrants

Age range	Number of all registrants (Practising & Non-Practising)					Number of Practising registrants				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
20-30	842	848	860	884	888	826	832	838	845	850
31-40	1450	1532	1622	1695	1753	1375	1458	1529	1576	1623
41-50	1461	1436	1431	1420	1409	1375	1353	1336	1326	1306
51-60	2188	2047	1898	1835	1741	2025	1871	1714	1654	1586
61+	796	813	831	841	888	683	689	713	708	739
Total	6737	6676	6642	6675	6679	6284	6203	6130	6109	6104



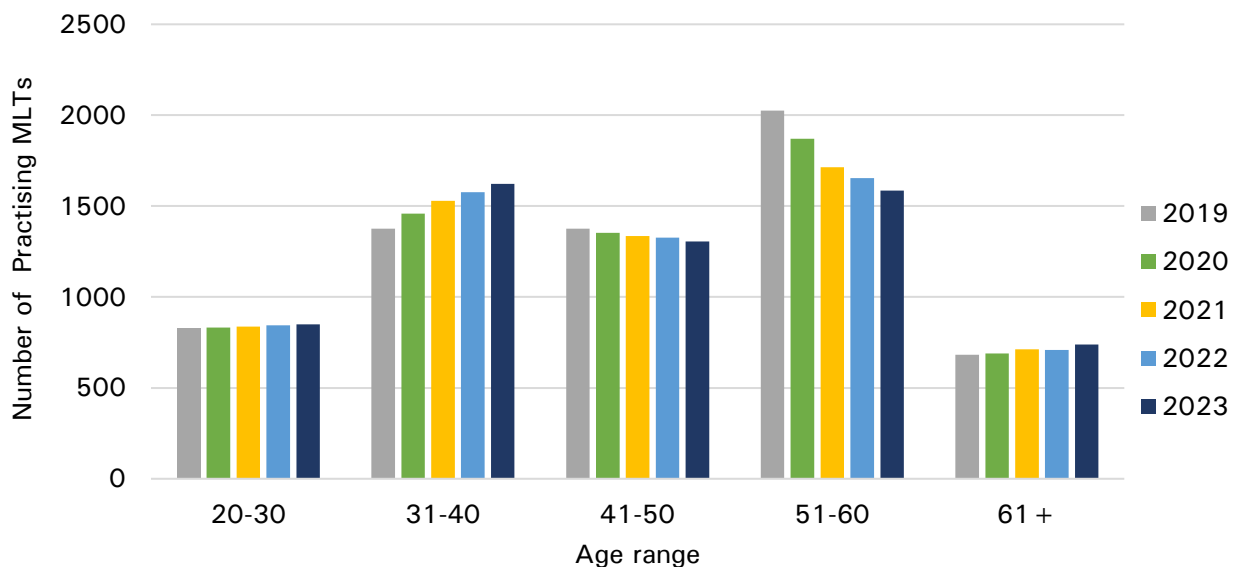
Figure C.1.2 – Number of Non-Practising MLTs



C.2 Practising Medical Laboratory Technologists

All further analysis presented in this report is based only on those who were registered as Practising in the CMLTO database at the time of data retrieval. Please note that MLTs may change their class of registration at any time during the year.

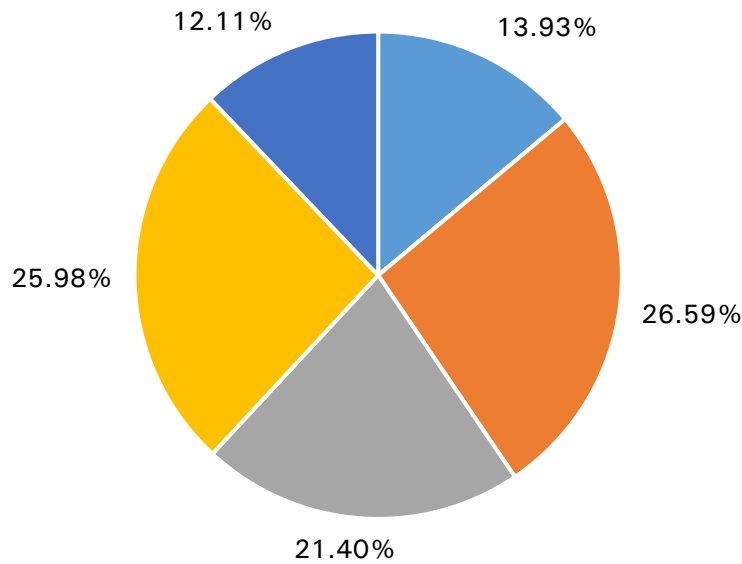
Figure C.2 – Age distribution for Practising MLTs





C.2.1 Age distribution

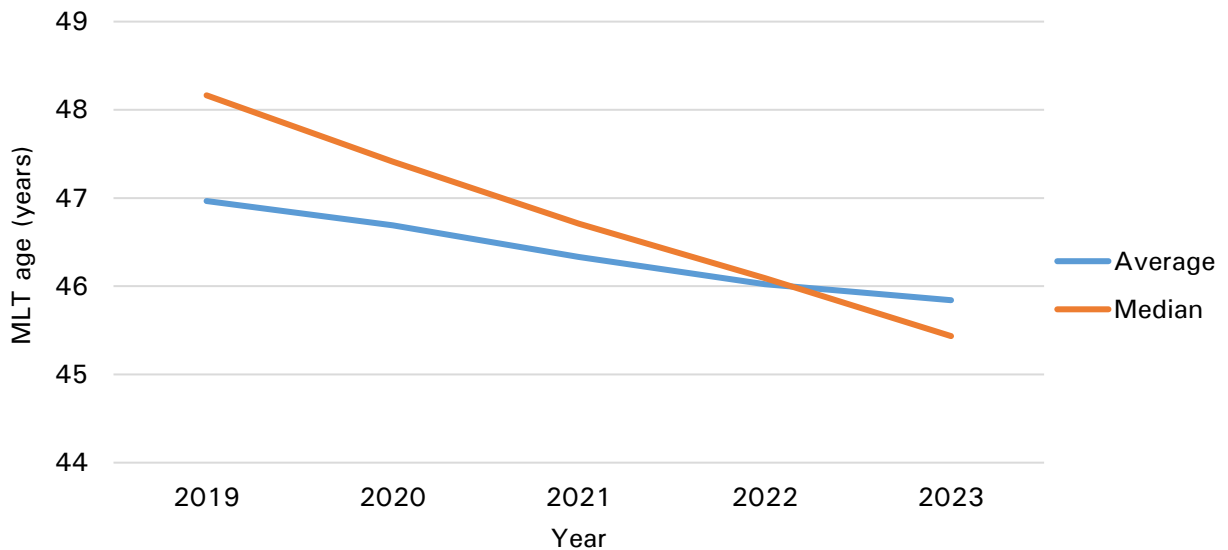
Figure C.2.1.a – Age distribution for Practising MLTs



The age of Practising MLTs is available for all CMLTO registrants. This information can facilitate long-term health human resources planning.

- 20 - 30
- 31 - 40
- 41 - 50
- 51 - 60
- 61 +

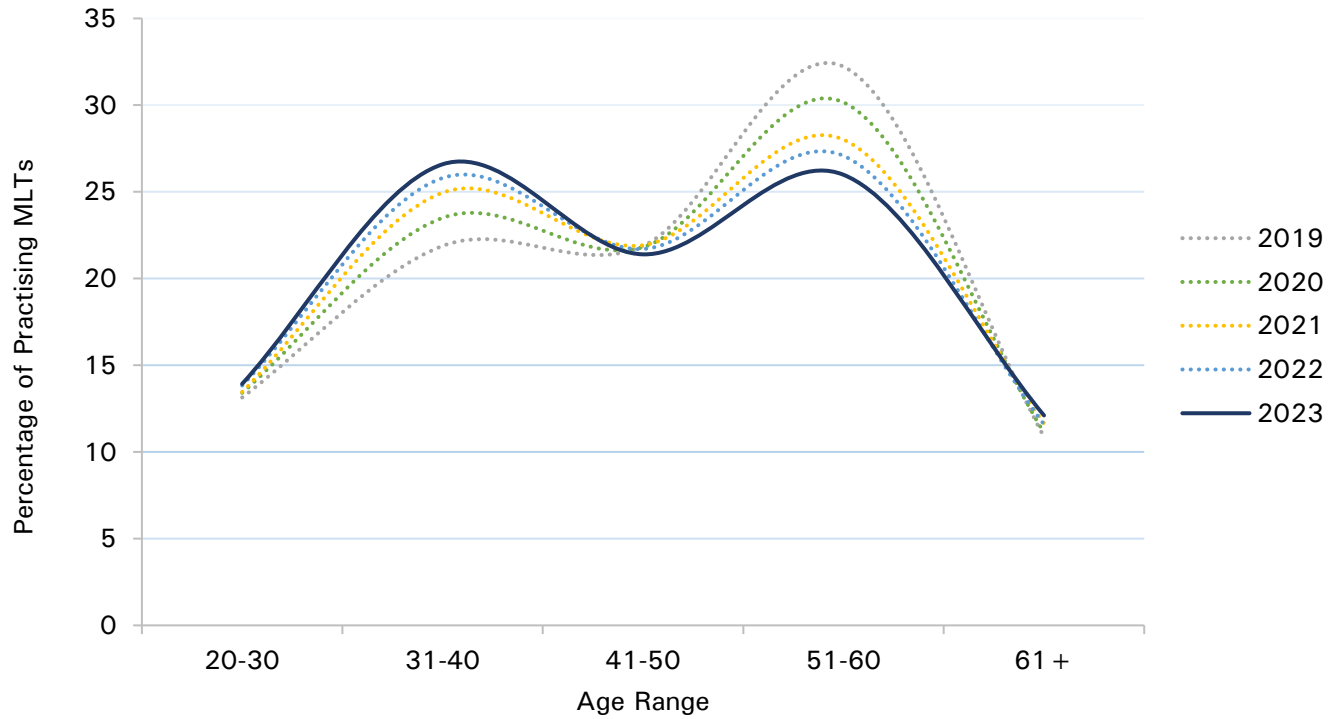
Figure C.2.1.b – Average and median age for Practising MLTs



Note: Overall, the average age for Practising MLTs in 2023 was 45.75 years and the median was 45.43 years. The average age for Practising MLTs in 2022 was 45.84 years and the median was 46.09 years.



Figure C.2.1.c – Age distribution curve for Practising MLTs





C.2.2 Electoral districts

Figure C.2.2 – Number of Practising MLTs in each electoral district

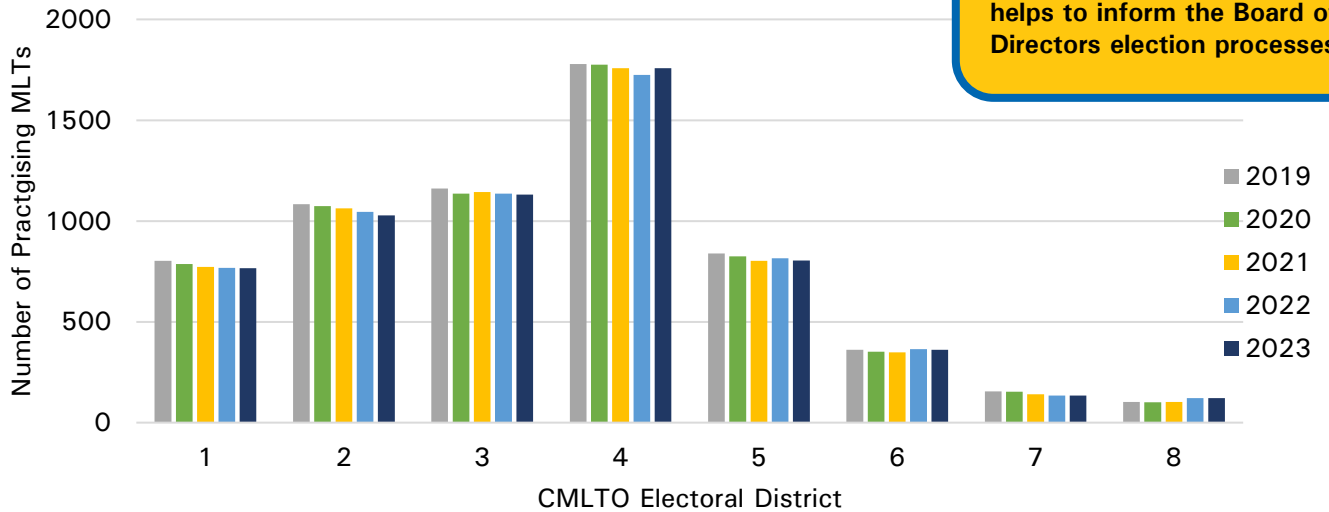


Table C.2.2 – Number and percentage of Practising MLTs in each electoral district

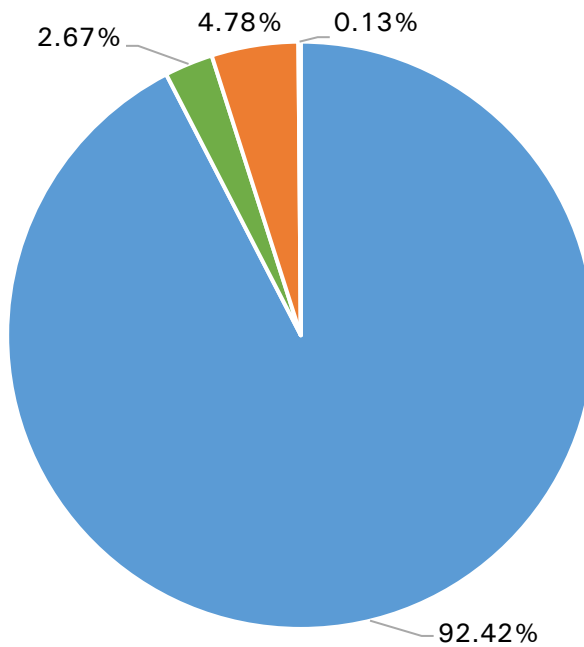
Electoral district		1	2	3	4	5	6	7	8*
Number of Practising MLTs	2022	767	1046	1135	1724	815	365	135	122
	2023	766	1028	1131	1758	804	361	135	121
Percentage of all Practising MLTs	2022	12.56%	17.12%	18.58%	28.22%	13.34%	5.97%	2.21%	2.00%
	2023	12.55%	16.84%	18.53%	28.80%	13.17%	5.91%	2.21%	1.98%

Note: Electoral District 8 is composed of all CMLTO registrants in Ontario along with those who practise outside of Ontario for the purpose of electing a member-at-large for the Board of Directors. The data in Table C.2.2 only reports Practising MLTs who reside outside of Ontario.



C.2.3 Employment status

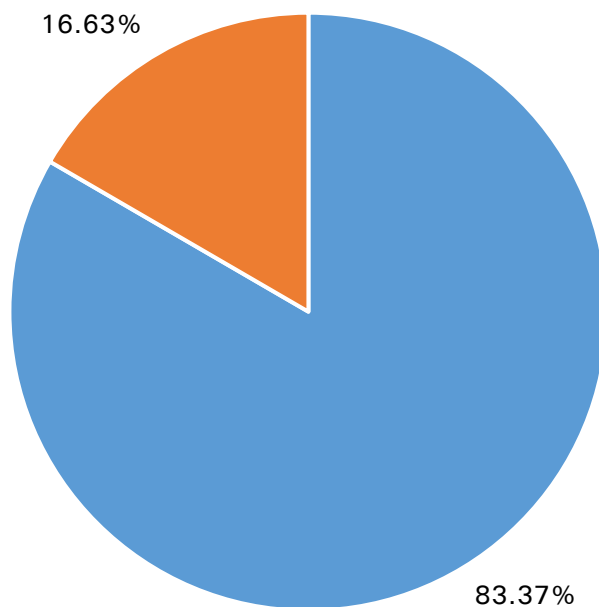
Figure C.2.3.a – Percentage of Practising MLTs by employment category



Employment category is self-reported by MLTs through the annual renewal process. In 2023, 6030 (98.78%) Practising MLTs reported an employment category.

- Permanent
- Casual
- Temporary
- Self-Employed*

Figure C.2.3.b – Percentage of Practising MLTs by employment status



Employment status is self-reported by MLTs through the annual renewal process. In 2023, 6030 (98.78%) Practising MLTs reported an employment status.

- Full time
- Part time



C.2.4 Specialties

Table C.2.4 – Number of Practising MLTs by specialty

Specialty	Number of Practising MLTs				
	2019	2020	2021	2022	2023
Biochemistry	5501	5458	5413	5398	5418
Cytogenetics	299	300	300	309	319
Cytology	261	251	255	252	249
Hematology	5478	5441	5395	5385	5408
Histology	5248	5246	5240	5238	5291
Microbiology	5480	5433	5393	5378	5395
Molecular Genetics	284	292	298	308	309
Phlebotomy	4869	4904	4922	4983	5044
Transfusion Science	5403	5372	5336	5327	5353
Former specialties	89	80	67	63	63

Notes:

- MLT specialties are listed in Ontario Regulation 207/94, Schedule 1.
- MLTs may have multiple specialties listed on their certificate of registration. This does not necessarily indicate that an MLT actively practices in all listed specialties.
- Microbiology includes those registered in one or more subspecialties (bacteriology, parasitology, mycology, and virology).

C.2.5 Main area of practice

Table C.2.5 – Number of Practising MLTs by main area of practice

Main area of practice	Number of Practising MLTs				
	2019	2020	2021	2022	2023
Biochemistry	1105	1070	1041	1037	1046
Cytogenetics	149	141	136	135	136
Cytology	215	200	197	194	199
Education	52	50	46	51	54
Hematology	693	666	667	644	656
Histology	650	645	631	659	668
Infection Control	53	49	46	43	39
Laboratory Information Systems	88	90	93	95	101
Management	241	234	228	245	232
Microbiology	627	647	669	651	651
Bacteriology	189	159	144	139	136
Virology	101	151	147	122	116
Molecular Genetics	188	227	241	231	240
Point of Care Testing (POCT)	44	47	49	52	55
Quality Management	96	94	98	116	112
Research	24	23	21	21	19
Transfusion Science	510	520	529	507	523
Other specialty areas (i.e., sales, specimen procurement)	154	147	146	149	147
Cannot Identify	1004	971	923	905	900

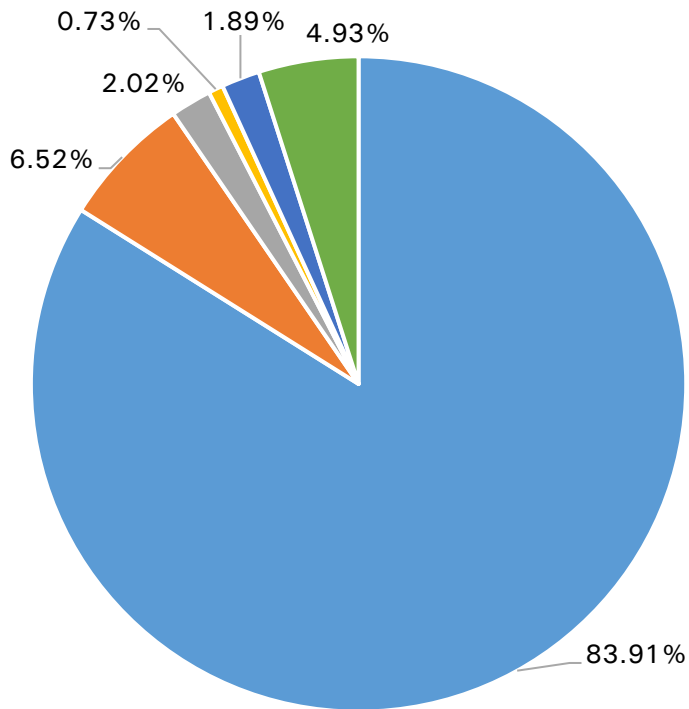
The shaded rows indicate selections under “Main area of practice” that do not correspond directly with a “Specialty” described in Ontario Regulation 207/94, Schedule 1.

Main area of practice is the area in which an MLT works the greatest number of hours. In 2023, 6030 (98.78%) Practising MLTs reported their main area of practice.



C.2.6 Major function

Figure C.2.6 – Major function of Practising MLTs



The major function of Practising MLTs is self-reported through the renewal process. In 2023, 6030 (98.78%) Practising MLTs reported their major function.

- Diagnostic and therapeutic laboratory services
- Administration
- Quality Management
- Research
- Post-secondary teaching
- Other

C.2.7 Provision of MLT clinical education

Table C.2.7.a – Age range of Practising MLTs involved in MLT clinical education

Age range	Number of Practising MLTs involved in MLT clinical education		Percentage of Practising MLTs involved in clinical education		Percentage of MLTs involved in clinical education from all Practising MLTs within the age range	
	2022	2023	2022	2023	2022	2023
20-30	159	163	9.19%	9.53%	18.82%	19.18%
31-40	411	412	23.74%	24.09%	26.08%	25.39%
41-50	408	399	23.57%	23.33%	30.77%	30.55%
51-60	512	476	29.58%	27.84%	30.96%	30.01%
61 +	241	260	13.92%	15.20%	34.04%	35.18%

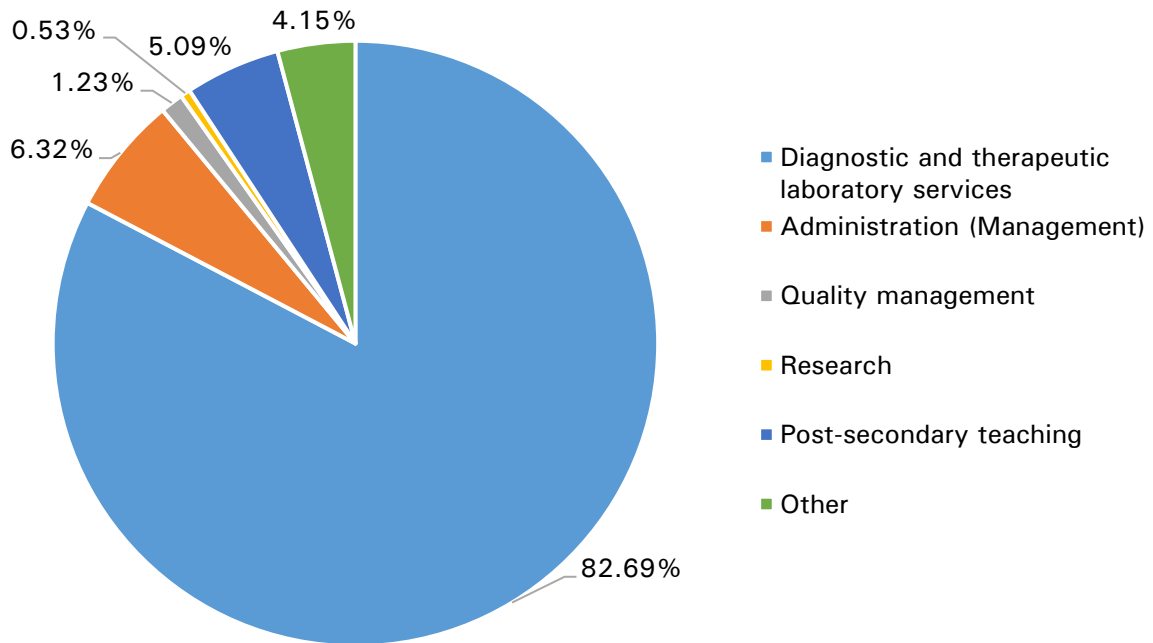
Note: Total number of MLTs indicating that they "...provide clinical education (part-time or full-time) to MLTs and/or other health professionals" is 1710 in 2023 and 1731 in 2022.

Table C.2.7.b – Practising MLTs involved in clinical education by electoral district

Electoral district	Number of Practising MLTs involved in MLT clinical education	Percentage of Practising MLTs involved in clinical education	Percentage of MLTs involved in clinical education from all Practising MLTs within the district
1	212	12.22	27.68%
2	279	16.08	27.14%
3	328	18.90	29.00%
4	466	26.86	26.51%
5	235	13.54	29.23%
6	114	6.57	31.58%
7	40	2.31	29.63%
8	36	2.07	29.75%



Figure C.2.7 – Major function of MLTs involved in clinical education



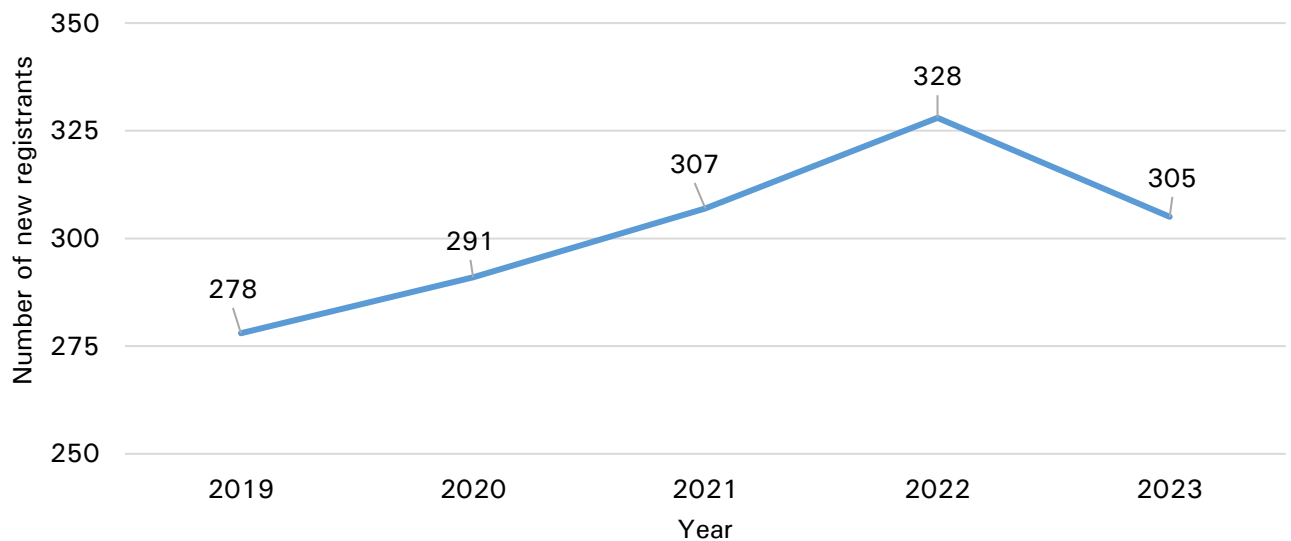


C.2.8 New Registrants

Table C.2.8 – New registrants each year

New registrants	2019	2020	2021	2022	2023
Canadian-educated/trained	243	258	267	258	245
Internationally educated/trained	35	33	40	70	60
Total	278	291	307	328	305

Figure C.2.8.a – Total new registrants each year



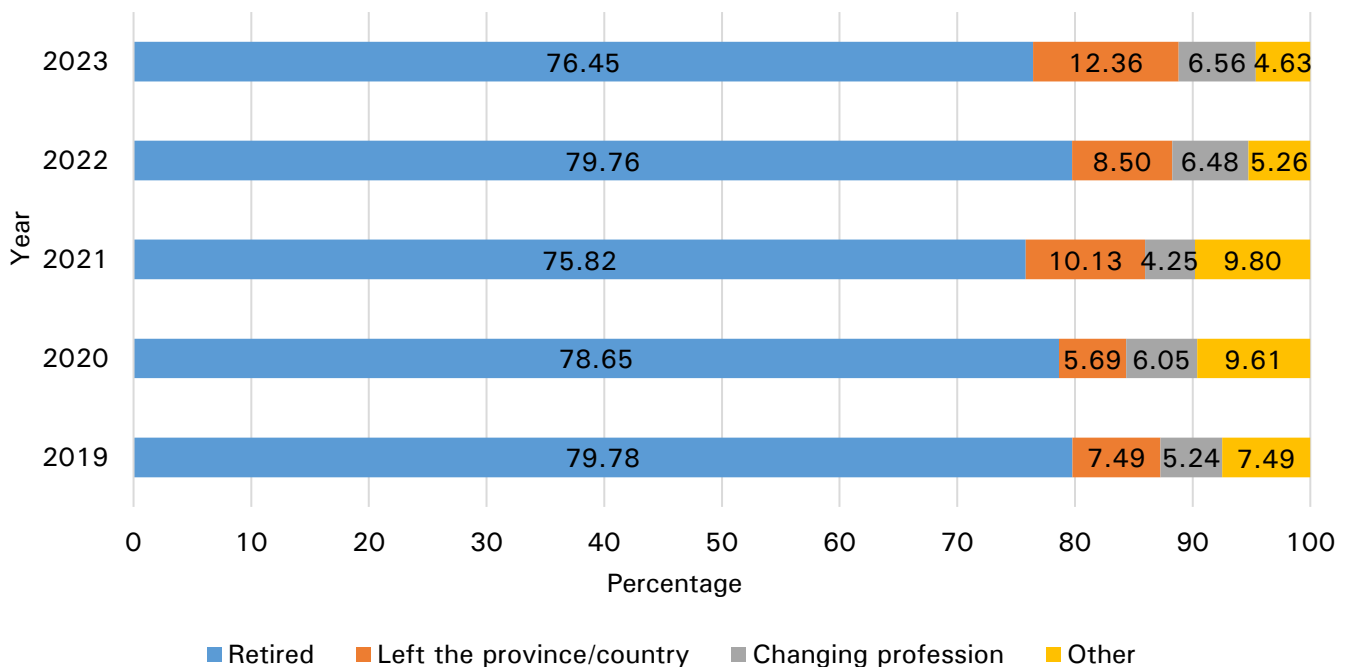
C.2.9 Resignations

Table C.2.9 – Resignations each year

Reason for resignation	2019	2020	2021	2022	2023
Retired	213	221	232	197	198
Left the province/country	20	16	31	21	32
Changing profession	14	17	13	16	17
Other (i.e., health, family)	20	27	30	13	12
Total	267	281	306	247	259

Note: MLTs self-report their reasons for resigning their CMLTO registration through the resignation process. Both Practising and Non-Practising registrants may resign at any time throughout the year or through the annual renewal process. The resignations for each year are comprised of both in-year resignations and resignations completed during annual renewal.

Figure C.2.9.a – Reason for resignation





D. Conclusion

D.1 Summary

Analyzing health human resources data is an essential planning tool for the current and future needs of the healthcare system. The 2023 CMLTO Medical Laboratory Technologists Health Human Resources Report is the result of an in-depth analysis of CMLTO's registration data.

The data presented in this report is open to interpretation through a variety of perspectives and methodologies. The questions answered by this specific analysis may be valuable to a variety of stakeholders. However, everyone will approach and interpret the data from their own specific perspective. The CMLTO would be pleased to discuss the findings presented in this report to provide further insights and consider other interpretations of the data.

The CMLTO is committed to supporting health human resources planning for medical laboratory technologists in Ontario. Please contact the Registrar & CEO at executiveoffice@cmlto.com should you want to connect about the findings of this report or have additional data that you would like to discuss further.

Please visit www.cmlto.com for more information about the College of Medical Laboratory Technologists of Ontario.