



College of Medical
Laboratory Technologists
of Ontario

Registration Statistics Report

Medical Laboratory Technologists: 2021 Health Human Resource Report

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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 ensure the highest healthcare standards through regulation of the province's approximately 6700 medical laboratory technologists (MLTs). The CMLTO sets practice entry 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 2021 MLT Health Human Resource Report

The CMLTO's health human resource report is an analysis of the 2021 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 initial registration and the annual registration renewal processes. The report provides insights into relevant demographics and practice changes in the MLT profession.

Health human resource planning is oftentimes informed by professional demographics and practice-specific data. The CMLTO's data supports the broader-based health human resource planning initiatives for medical laboratory technology that the Ontario Ministry of Health undertakes. The Health Professions Database is administered by HealthForceOntario, which is part of Ontario Health. Once populated, the database will:



“...provide standardized, consistent and comparable demographic, geographic, educational, and employment information on all of the regulated allied health professionals in Ontario.”¹

The information and analysis produced by the Health Professions Database are publicly accessible. The information contained in the HealthForceOntario report may also be useful those who are interested in health human resource issues affecting the medical laboratory technology field.

¹ For further information on the Health Professions Database, please refer to:
http://www.health.gov.on.ca/en/pro/programs/hhrsd/evidence_research/health_professions_database.aspx



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 status or demographic information are processed as 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 2021 Practising and Non-Practising registrant data as of February 7, 2022.



B.2 Registration classes

In accordance with the *Medical Laboratory Technology Act, 1991*, CMLTO has two classes of registration: Practising and Non-Practising. At the time of the data retrieval, there were **6642 CMLTO registrants** that included **6130 Practising and 512 Non-Practising MLTs**.

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.

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 fully comprehensive data set that assists in identifying practice trends related to specific jurisdictions in Ontario.

Figure B.3 – CMLTO electoral districts

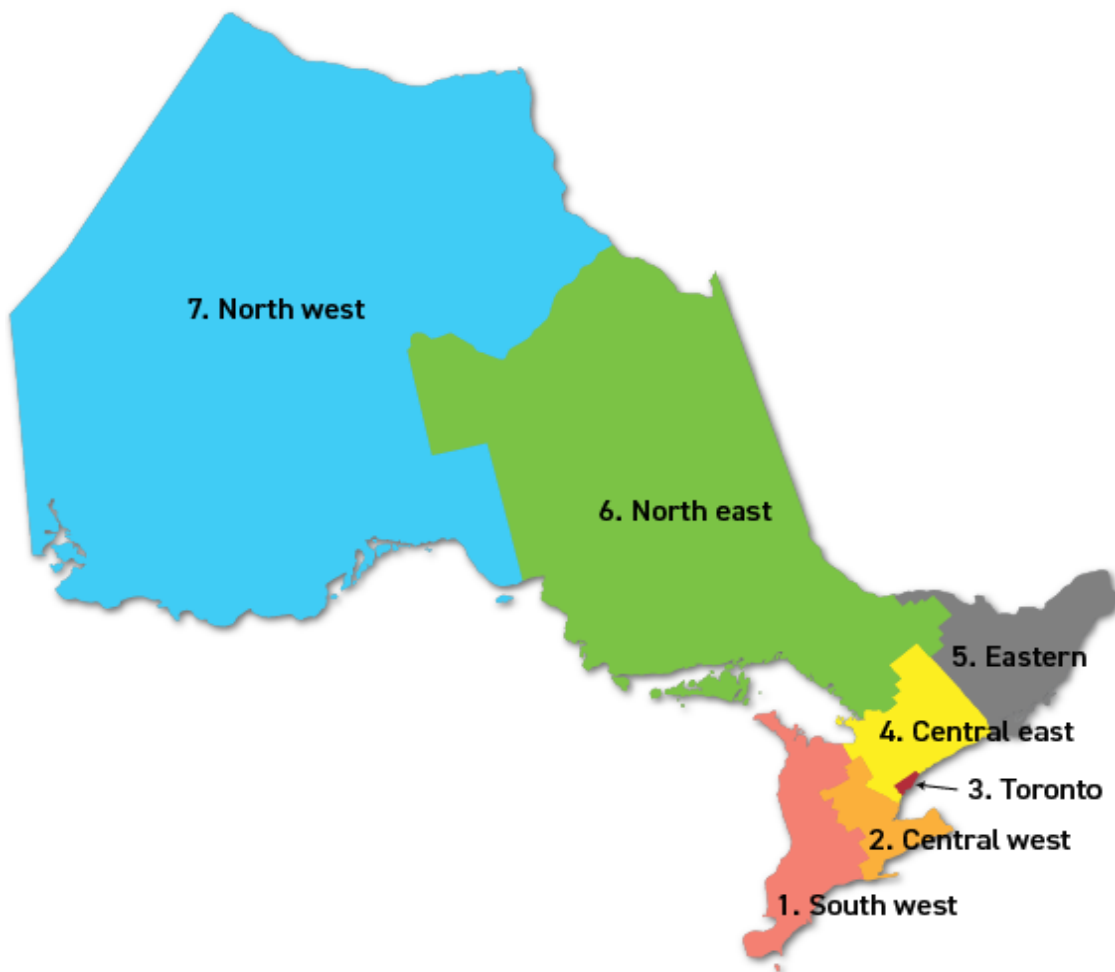




Table B.3 – Description of CMLTO electoral districts

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 – Member-at-Large
Composed of the Districts of Kenora, Rainy River, and Thunder Bay.	Composed of the whole province and members 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

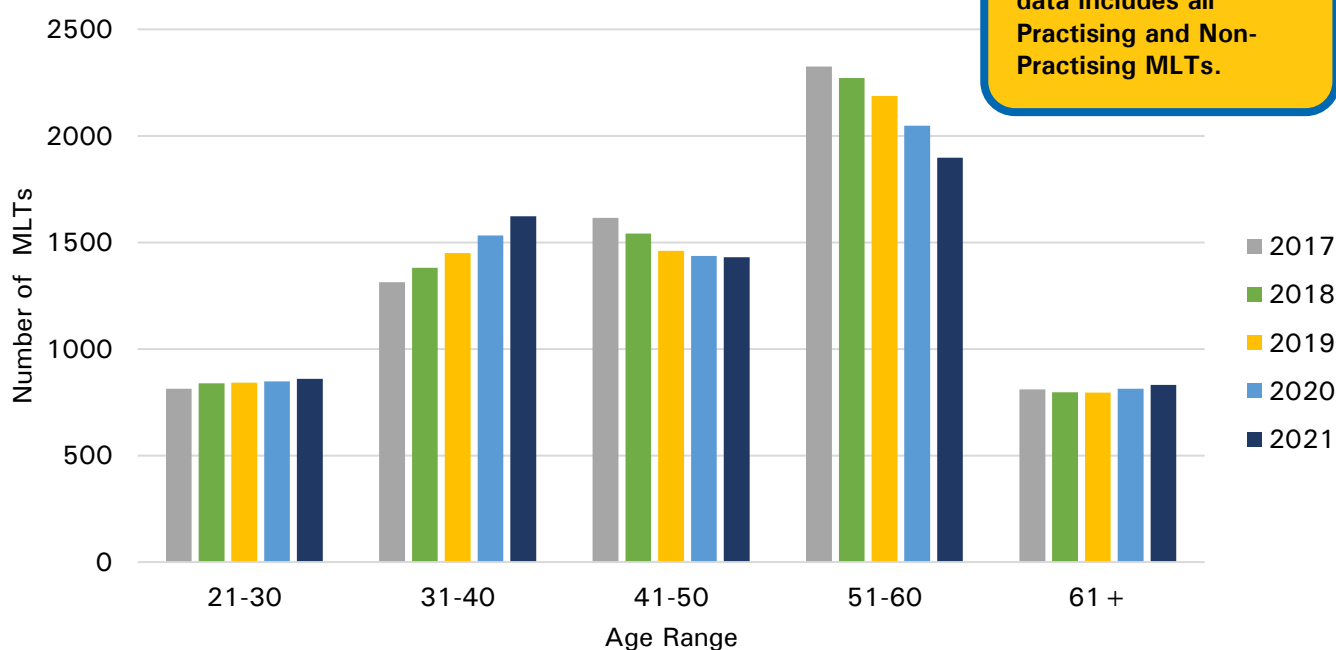
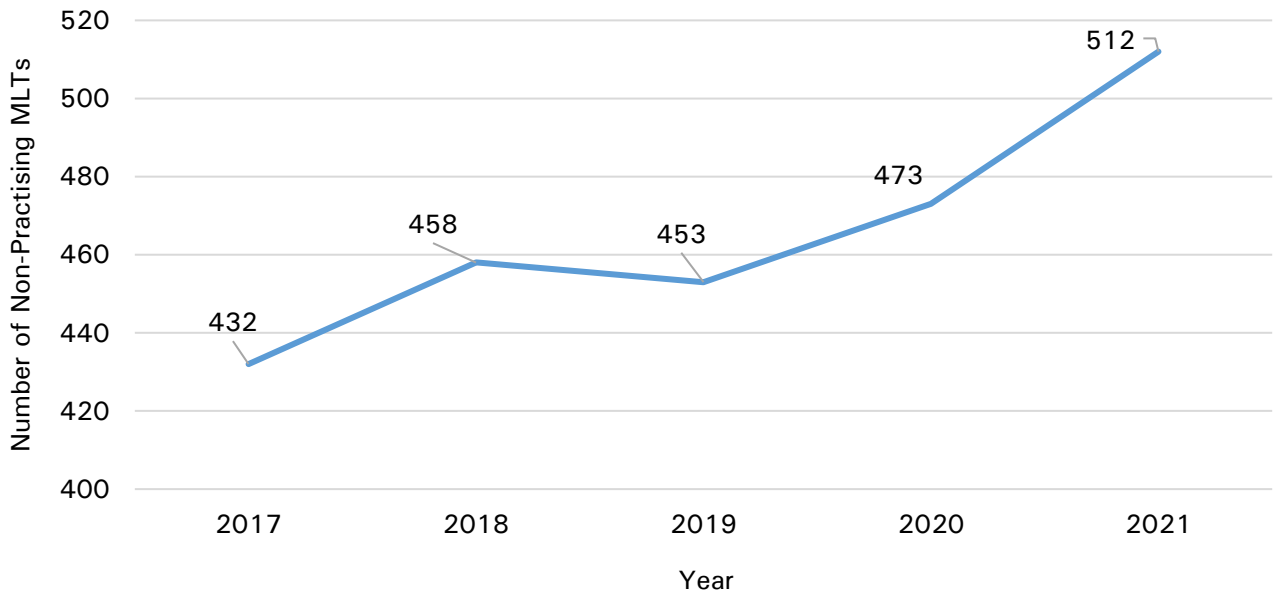


Table C.1 – Age distribution for all CMLTO registrants

Age range	Number of all registrants (Practising & Non-Practising)					Number of Practising registrants				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
21-30	814	839	842	848	860	803	817	826	832	838
31-40	1314	1381	1450	1532	1622	1249	1302	1375	1458	1529
41-50	1615	1541	1461	1436	1431	1527	1463	1375	1353	1336
51-60	2326	2271	2188	2047	1898	2167	2117	2025	1871	1714
61+	810	797	796	813	831	701	672	683	689	713
Total	6879	6829	6737	6676	6642	6447	6371	6284	6203	6130



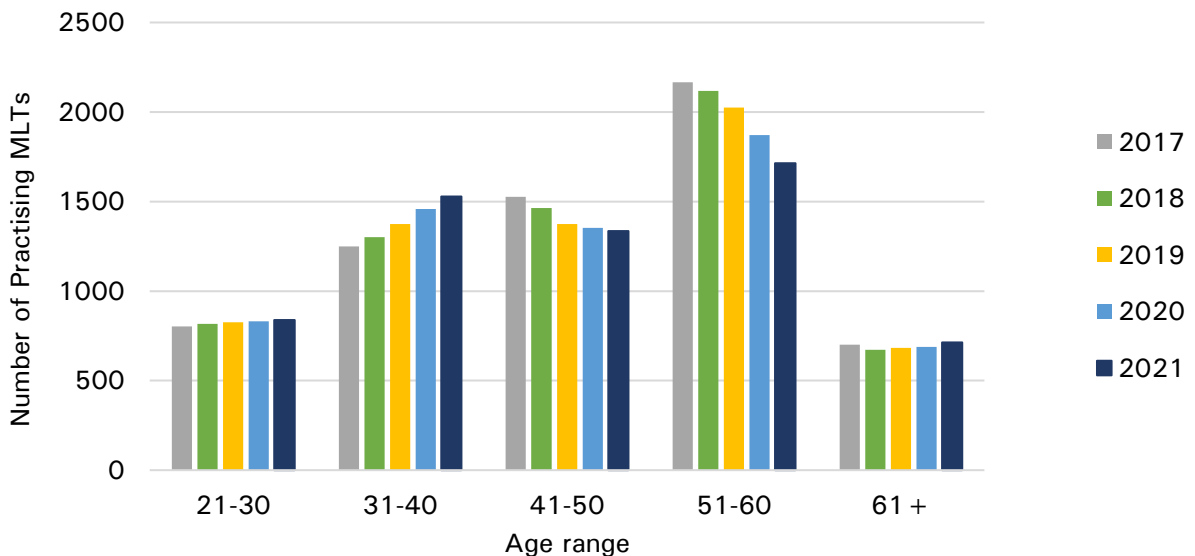
Figure C.1.2 – Number of Non-Practising MLTs



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.

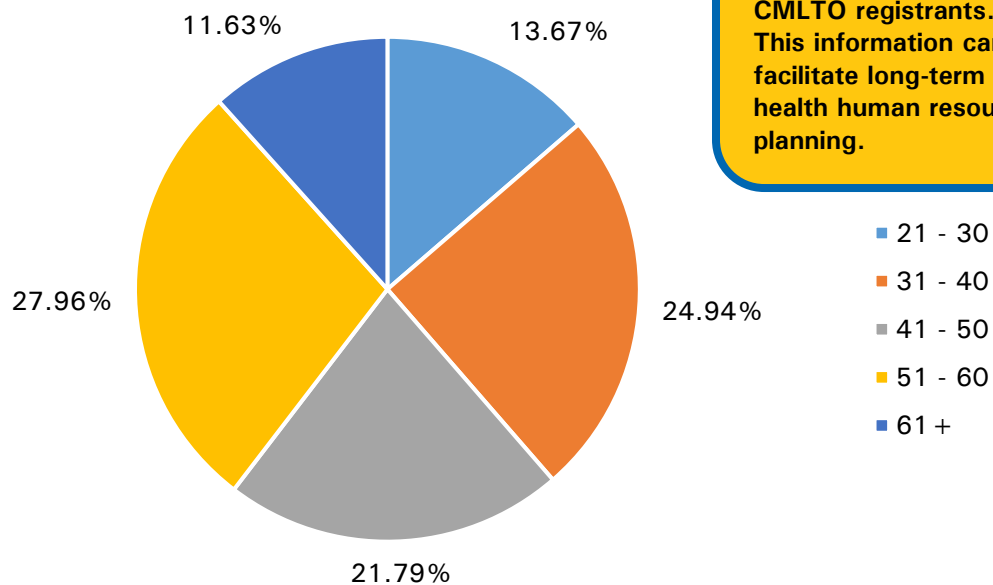
Figure C.2 – Age distribution for Practising MLTs





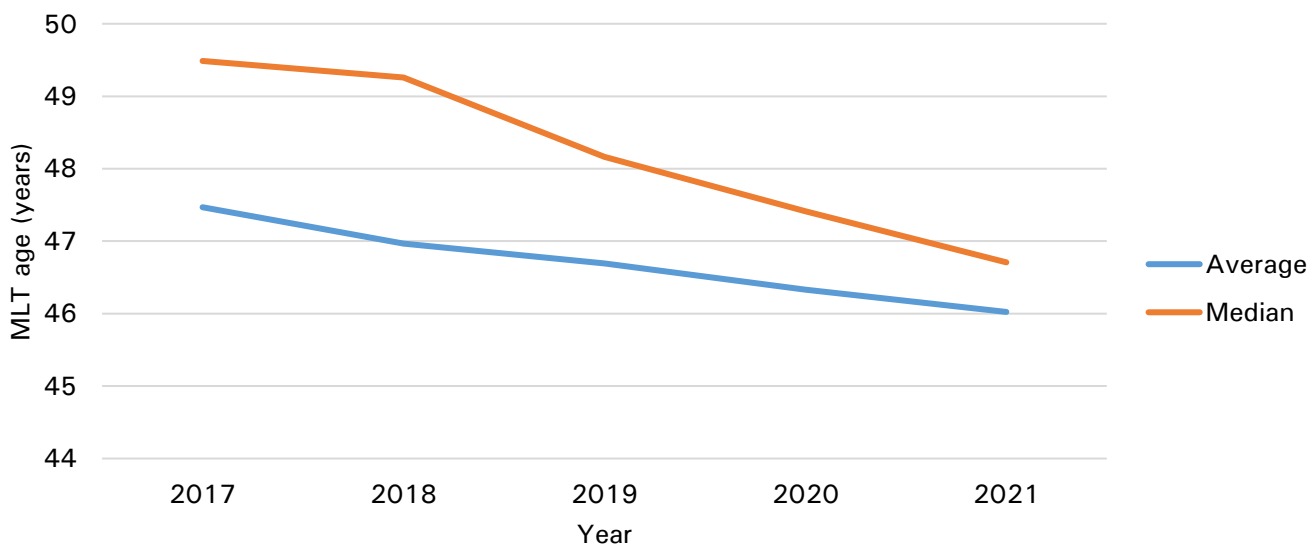
C.2.1 Age distribution

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 resource planning.

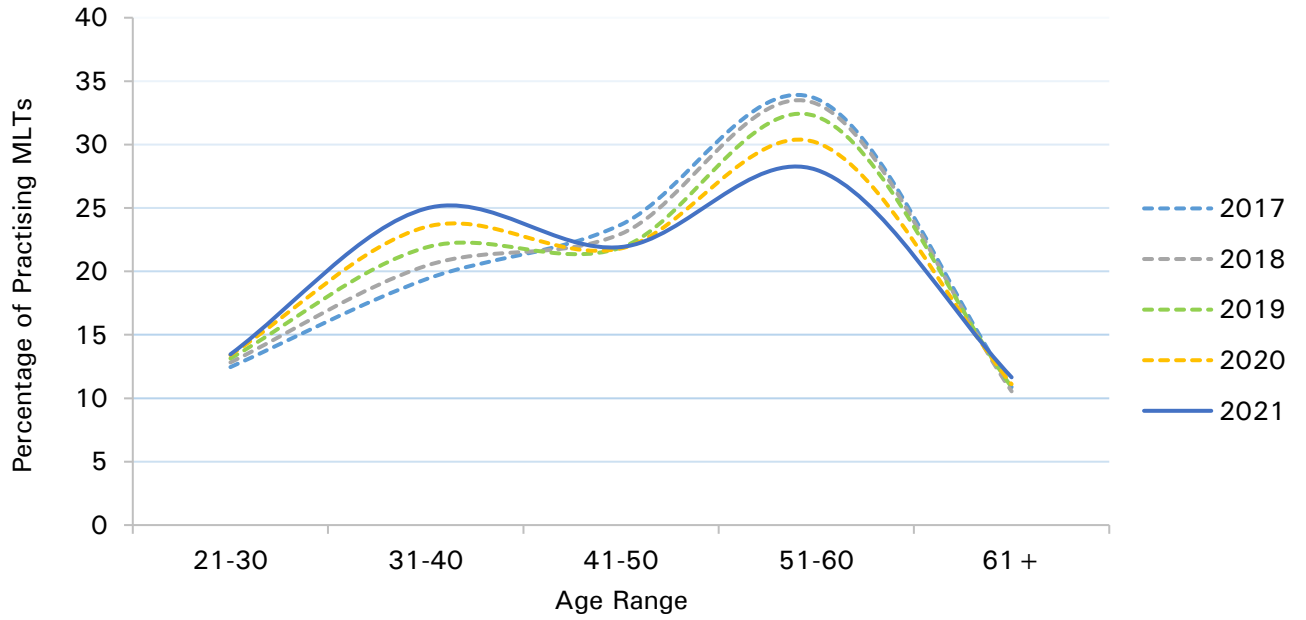
Figure C.2.1.b – Average and median age for Practising MLTs



Note: Overall, the average age for Practising MLTs in 2021 was 46.02 years and the median was 46.70 years. The average age for Practising MLTs in 2020 was 46.33 years and the median was 47.41 years.



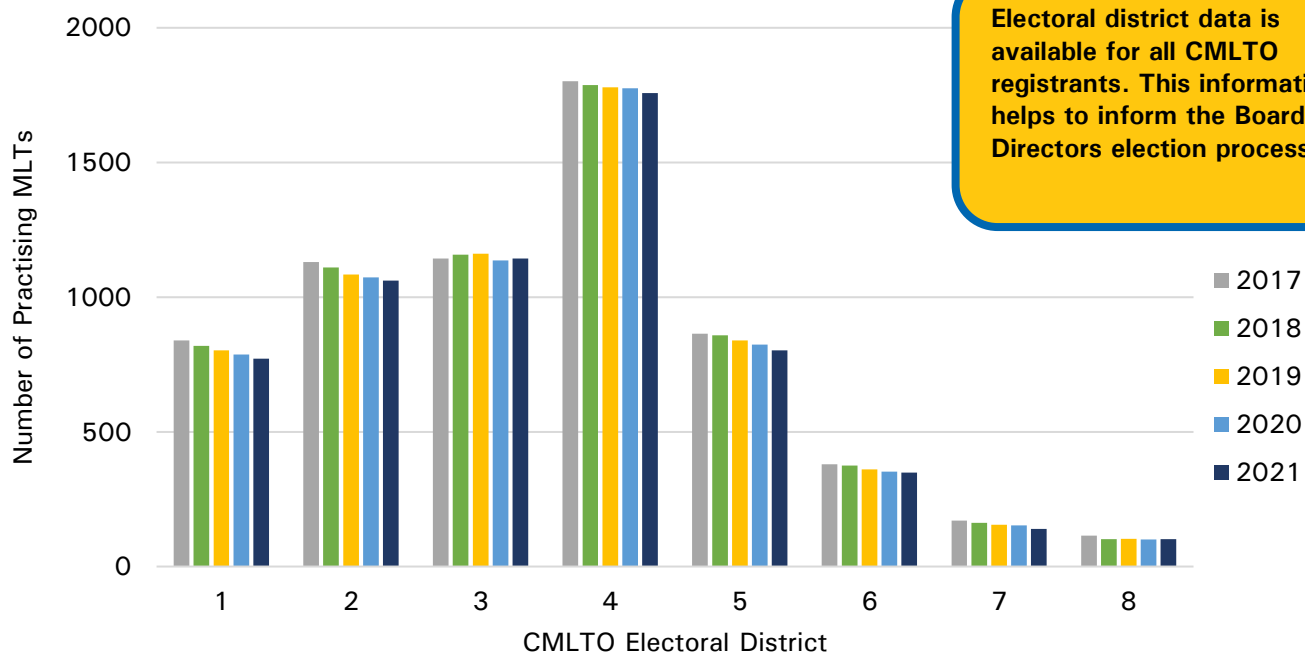
Figure C.2.1.c – Age distribution curve for Practising MLTs





C.2.2 Electoral districts

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



Electoral district data is available for all CMLTO registrants. This information helps to inform the Board of Directors election processes.

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

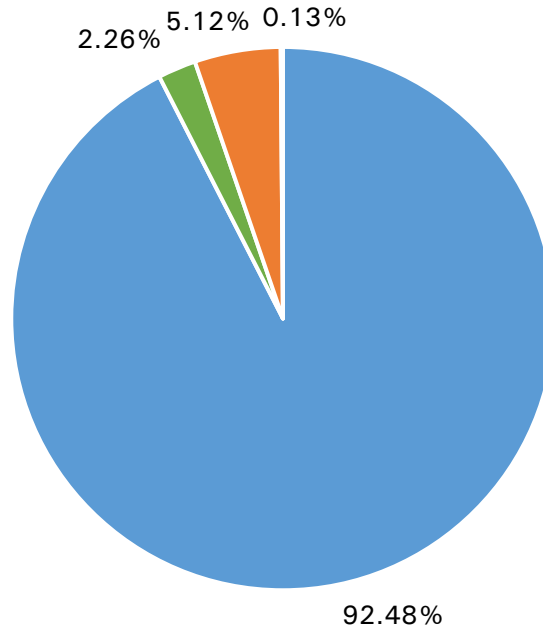
Electoral district		1	2	3	4	5	6	7	8*
Number of Practising MLTs	2020	787	1074	1136	1776	824	352	153	101
	2021	772	1062	1144	1758	803	349	140	102
Percentage of all Practising MLTs	2020	12.69%	17.31%	18.31%	28.63%	13.28%	5.67%	2.47%	1.63%
	2021	12.59%	17.32%	18.66%	28.68%	13.10%	5.69%	2.28%	1.66%

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

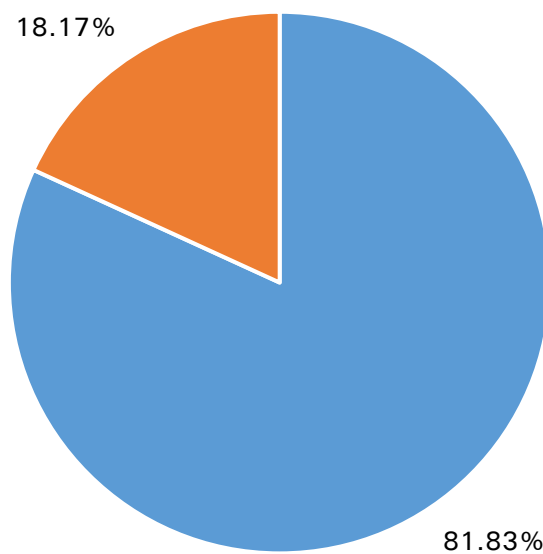
Figure C.2.3.a – Percentage of Practising MLTs by employment category



Employment category is self-reported by MLTs through the annual renewal process. In 2021, 6052 (98.72%) 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 2021, 6027 (98.31%) 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				
	2017	2018	2019	2020	2021
Bacteriology	4784	4602	4402	4155	3937
Biochemistry	5598	5557	5501	5458	5413
Cytogenetics	282	293	299	300	300
Cytology	262	263	261	251	255
Electron Microscopy	31	23	19	16	14
Hematology	5564	5526	5478	5441	5395
Histology	5265	5263	5248	5246	5240
Immunoassay	38	35	29	25	21
Immunology	54	50	41	39	32
Microbiology	1766	2037	2212	2428	2608
Molecular Genetics	275	279	284	292	298
Mycology	3385	3317	3212	3091	2955
Parasitology	3431	3354	3245	3121	2989
Phlebotomy	4818	4857	4869	4904	4922
Transfusion Science	5473	5447	5403	5372	5336
Virology	175	157	191	224	249

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.



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				
	2017	2018	2019	2020	2021
Biochemistry	875	953	1105	1070	1041
Cytogenetics	130	141	149	141	136
Cytology	192	201	215	200	197
Education	48	52	52	50	46
Electron Microscopy	17	15	17	13	12
Hematology	559	623	693	666	667
Histology	559	604	650	645	631
Infection Control	47	53	53	49	46
Immunoassay	22	20	24	21	23
Immunology	46	48	48	46	53
Laboratory Information Systems	86	86	88	90	93
Management	246	251	241	234	228
Microbiology	489	547	627	647	669
Bacteriology	207	201	189	159	144
Mycology	8	11	15	13	13
Parasitology	22	23	26	27	22
Virology	103	100	101	151	147
Molecular Genetics	127	163	188	227	241
Phlebotomy	8	8	7	10	8
Point of Care Testing (POCT)	36	36	44	47	49
Quality Management	87	93	96	94	98
Research	28	25	24	23	21
Sales	7	9	12	12	11
Specimen Procurement	2	2	5	5	4
Transfusion Science	471	493	510	520	529
Cannot Identify	931	967	1004	971	923

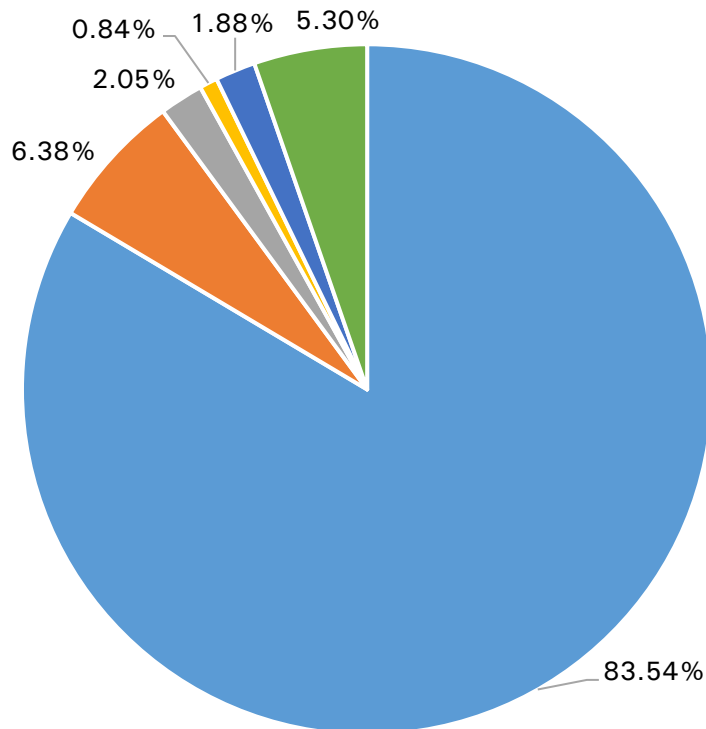
The shaded rows indicate selections under “Main area of practice” that do not correspond directly with a “Specialty” described in Ontario Regulation 207/94, Schedule 1.

Main area of practice is the area in which an MLT works the greatest number of hours. This information is self-reported through the renewal process. In 2021, 6052 (98.72%) 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 2021, 6052 (98.72%) 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	
	2020	2021	2020	2021	2020	2021
21-30	162	152	9.32%	8.88%	19.47%	18.14%
31-40	355	391	20.41%	22.84%	24.35%	25.57%
41-50	387	379	22.25%	22.14%	28.60%	28.37%
51-60	595	537	34.22%	31.37%	31.80%	31.33%
61 +	240	253	13.80%	14.78%	34.83%	35.48%

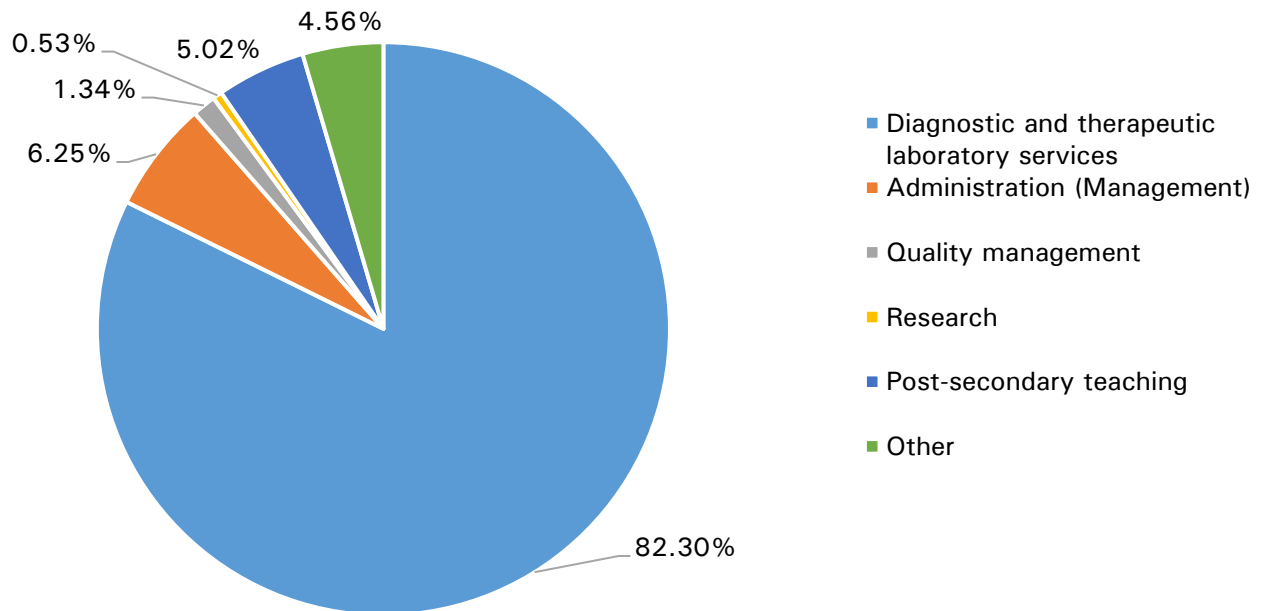
Note: Total number of MLTs indicating that they "...provide clinical education (part-time or full-time) to MLTs and/or other health professionals" is 1712 in 2021 and 1739 in 2020.

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	227	13.26%	29.40%
2	296	17.29%	27.87%
3	331	19.33%	28.93%
4	466	27.22%	26.51%
5	230	13.43%	28.64%
6	105	6.13%	30.09%
7	34	1.99%	24.29%
8	23	1.34%	22.55%



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



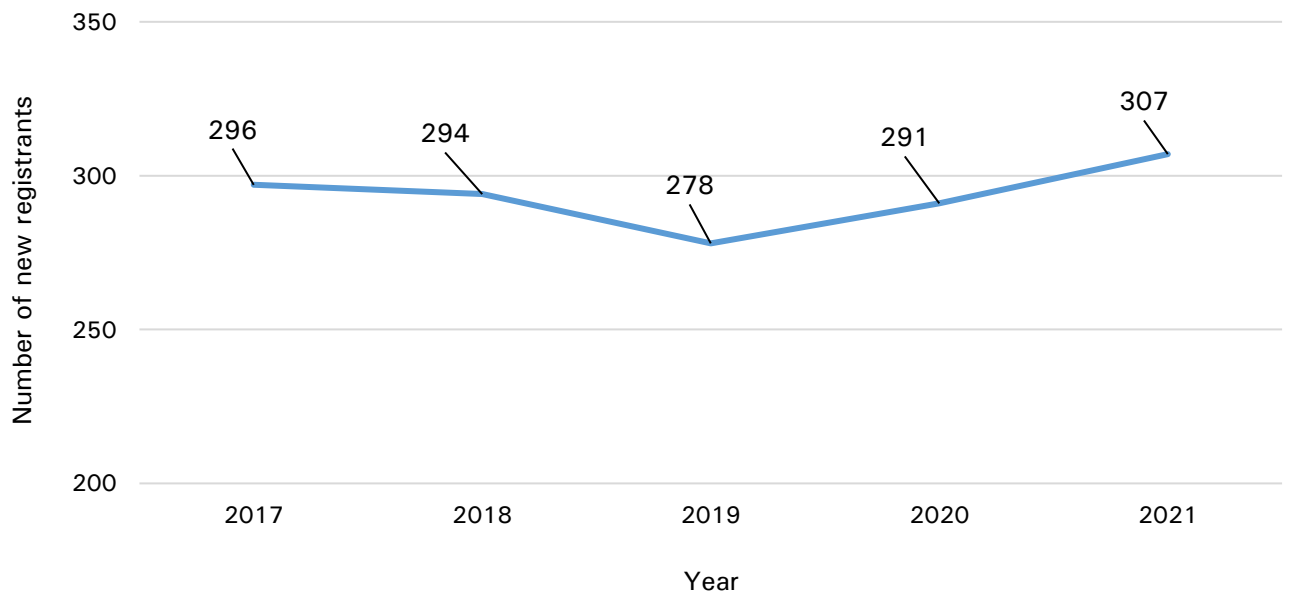


C.2.8 New Registrants

Table C.2.8 – New registrants each year

New registrants	2017	2018	2019	2020	2021
Canadian-educated/trained	233	237	243	258	267
Internationally educated/trained	63	57	35	33	40
Total	296	294	278	291	307

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





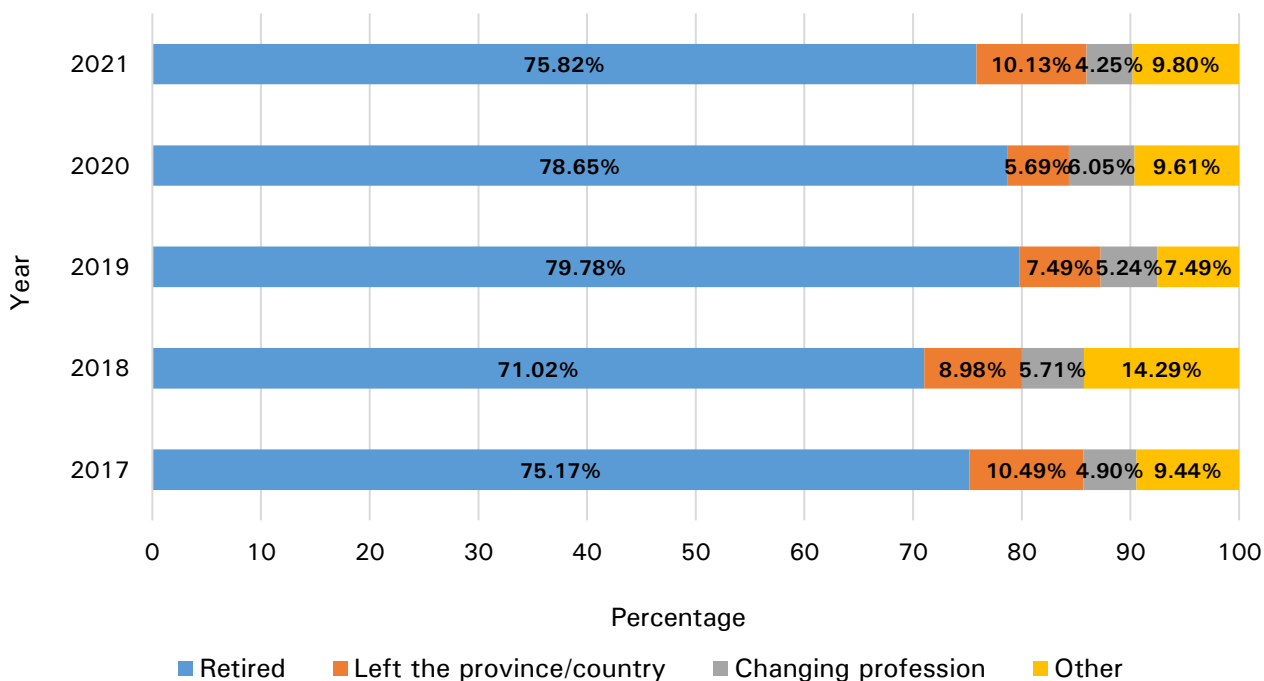
C.2.9 Resignations

Table C.2.8 – Resignation each year

Reason for resignation	2017	2018	2019	2020	2021
Retired	215	174	213	221	232
Left the province/country	30	22	20	16	31
Changing profession	14	14	14	17	13
Other (i.e., health, family)	27	35	20	27	30
Total	286	245	267	281	306

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.2.8.a – Reason for resignation





D. Conclusion

D.1 Summary

Analyzing health human resource is an essential planning tool for the current and future needs of the healthcare system. The 2021 CMLTO Medical Laboratory Technologists Health Human Resource 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 individuals. However, everyone will approach and interpret the data from their own specific perspective. The CMLTO would be pleased to discuss the findings and provide further insight as well as consider other interpretations of the data.

The CMLTO is committed to supporting health human resource 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.