



Medical Laboratory Professionals' Association of Ontario
L'Association des professionnels des laboratoires médicaux de l'Ontario

Brief: Phase 1 - 2022-2025: Laboratory Externship Program – \$3.6M (over 3 years)

Call to Action: Investing in Laboratory Health Human Resources

Objective: To obtain your approval for a laboratory externship program for medical laboratory technologists (MLTs).

SUMMARY

Ontario is experiencing a rapidly accelerating shortage of medical laboratory technologists (MLTs). 70% of medical decisions rely on laboratory results.¹ Medical laboratories impact all aspects of patient care, from emergency rooms to family medicine to mental health. Every sample—COVID-19 swabs taken in pharmacies, blood drawn in doctor's offices, tumors extracted during surgery—is processed and analyzed by an MLT.

MLTs conduct 270M lab tests annually² for 14.9M Ontarians. With an aging population and expansions to preventative medicine, testing demand is increasing by 4% annually (more than double the predicted increase of 1.8%).³

As we move towards economic recovery, our healthcare system is facing a significant backlog of services, which the OMA estimates at approximately 20 million.⁴ Most of these are either diagnostic tests or involve laboratory services such as biopsy analysis, surgical transfusions, and more.

6203 practicing MLTs shoulder this testing demand.⁵ This workforce has been declining for decades:

- 70% of labs entered COVID-19 short-staffed.⁶
- 41% of practicing MLTs eligible to retire within 2-4 years.⁷
- 90% medical laboratory professionals experiencing burnout, **73% actively desire to leave.**⁸
- A cycle of shortages, increased workload, burnout, turnover worsens this HHR crisis.⁹
- Significant shortfall between current shortage (466) and new MLTs entering the market (291).

Human health resources shortages mean delays in turnaround time (TAT), lengthened hospital stays, and duplicate appointments with family doctors. Without intervention, ongoing **MLT shortages could cost over \$1.6 billion dollars annually** and negatively impact patient health.

Clinical placements (externships) are a major roadblock for both laboratories and training programs, making this a target area to alleviate MLT shortages. Labs are not able to take on students due to their staffing shortage. Schools are not able to take on more students due to lack of externships.

Efficient laboratory services would improve patient care provision across Canada. As part of our 3-Phase *Call to Action: Investing in Laboratory Health Human Resources*, we are asking for **\$3.6M support over 2022-2025 for our Phase 1 - Laboratory Externship Program.**

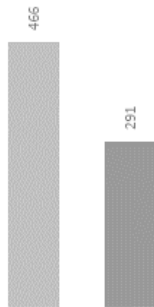
Our investment plan outlines cost-efficient, data-driven solutions to this health human resource crisis with high return on investment (ROI), as well as improving healthcare for Canadians.

ANALYSIS: Health Human Resource Shortage

Demand for laboratory testing is increasing but practicing MLTs are decreasing.

Shortages of MLTs have been increasing each year since 7 training programs were closed in the 1990s under the assumption that instrumentation upgrades would reduce future need for MLTs. While new technology has created more efficient processes, MLTs remain essential to interpret test results, validate and maintain equipment, and more.

OPEN POSITIONS VS NEW MLTs



With an aging population, expansion of preventative medicine, and new pathogens; demand is only increasing for laboratory testing. Even prior to COVID-19, the annual increase in Ontario was 4% (more than double the projected rate of 1.8% annually).¹⁰

Data from the Ministry of Labour, Training and Skills Development (MLTSD) indicates a concurrent increase in MLT postings at a rate of 16.68% in the last 5 years.¹¹ Recent data from laboratory employers reflects this change, with **466 open MLT positions** reported by 120 worksites.¹² With 291 new applicants to the College of Medical Laboratory Technologists of Ontario (CMLTO) in 2020¹³ to fill those open positions, the current demand far exceeds supply. 66% of laboratories reported positions remaining **unfilled for more than 3 months**.¹⁴

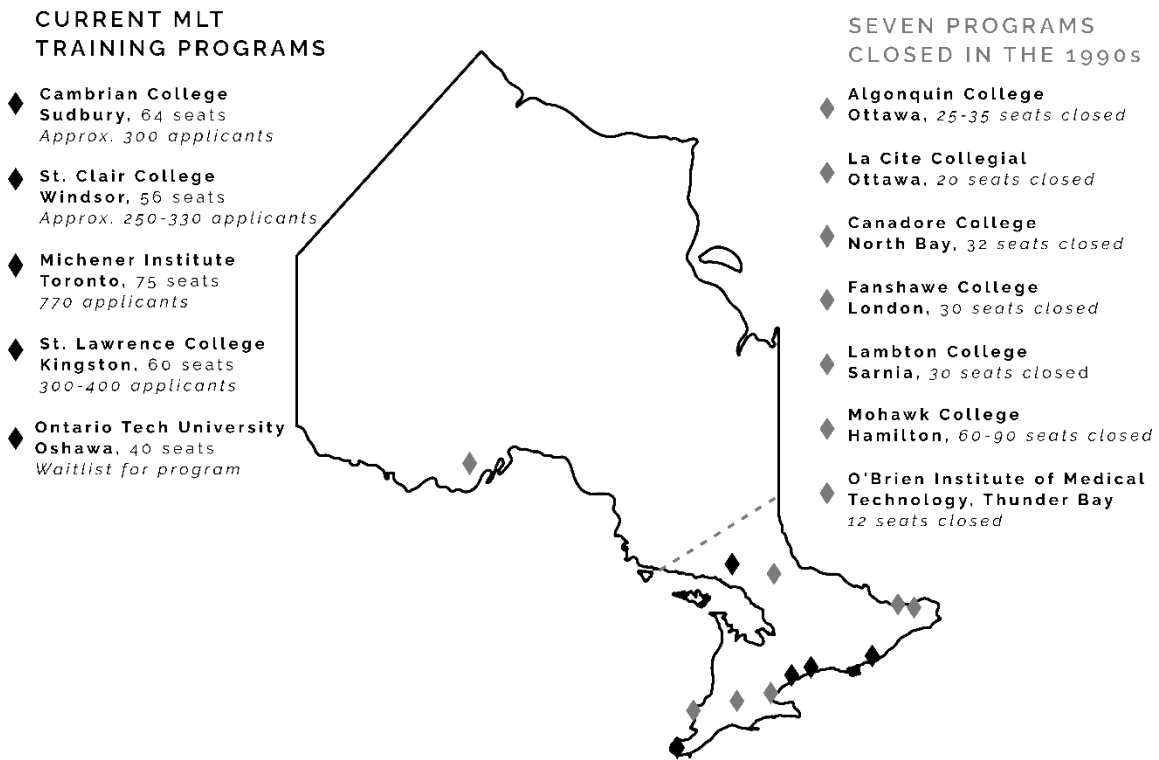


Figure 1- Map of Ontario showing closed MLT programs. Cambrian College serves Northern Ontario above the dotted line.

ANALYSIS: MLT Training - Clinical Placements Required to Expand

To become an MLT, students must study full-time in an accredited, post-secondary Medical Laboratory Science program for 2.5 – 4 years. After graduating, candidates must pass a certification exam with the Canadian Society of Medical Laboratory Science (CSMLS) and register with the College of Medical Laboratory Technologists of Ontario (CMLTO).

5 programs remain, highly competitive.

Only 5 Medical Laboratory Science programs remain. These constitute Cambrian College (Sudbury), St. Lawrence College (Kingston), St. Clair College (Windsor), and Ontario Tech University (Oshawa); funded by the Ministry of Training Colleges and Universities (MTCU), and the Michener Institute (Toronto); funded by the Ministry of Health (MOH).

All 5 schools receive far more applications than they have available seats.¹⁵ All 4 colleges (Ontario Tech University is not included in this dataset) are designated on the OntarioColleges.ca website as “highly competitive;” for comparison there are 7 highly competitive and 221 non-competitive programs for PSWs in Ontario, and 7 highly competitive and 4 non-competitive programs for Medical Radiation Technologists.¹⁶

Ontario programs remain the main source of new MLTs.

Currently, 58% of applicants to the CMLTO recently completed a training program, 16% were trained in Ontario but graduated before the current year, 14% were internationally educated MLTs, and 12% trained in other provinces.¹⁷ Provincial training programs provide approximately 74% of all MLTs in our province and essential to increasing MLT workforce supply.

Clinical placement availability restricts program expansion.

MLT programs indicate uncertainty about clinical placements, where students finalize training in a professional laboratory environment, as a significant barrier to increasing seats.¹⁸ Without more spots in professional labs, programs are unable to expand.

TRAINING ROAD BLOCKS

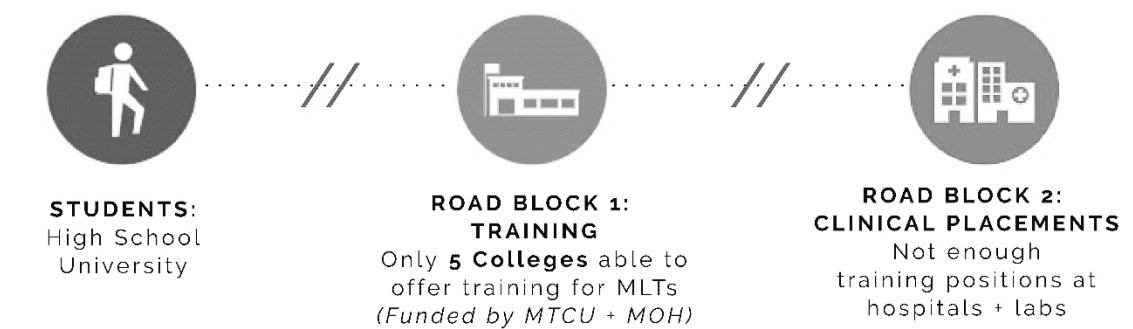


Figure 2 - Showing the two major training roadblocks for MLT students entering the field.

RECOMMENDATIONS – 2022-2025: Laboratory Externship Program

Cycle of shortages: placements, student seats, and practicing MLTs.

Employers struggle to commit resources to training clinical placement students while understaffed. This limits placement sites, restricting seats in MLT programs, which in turn reduces numbers of practicing MLTs, intensifying the staffing shortage.

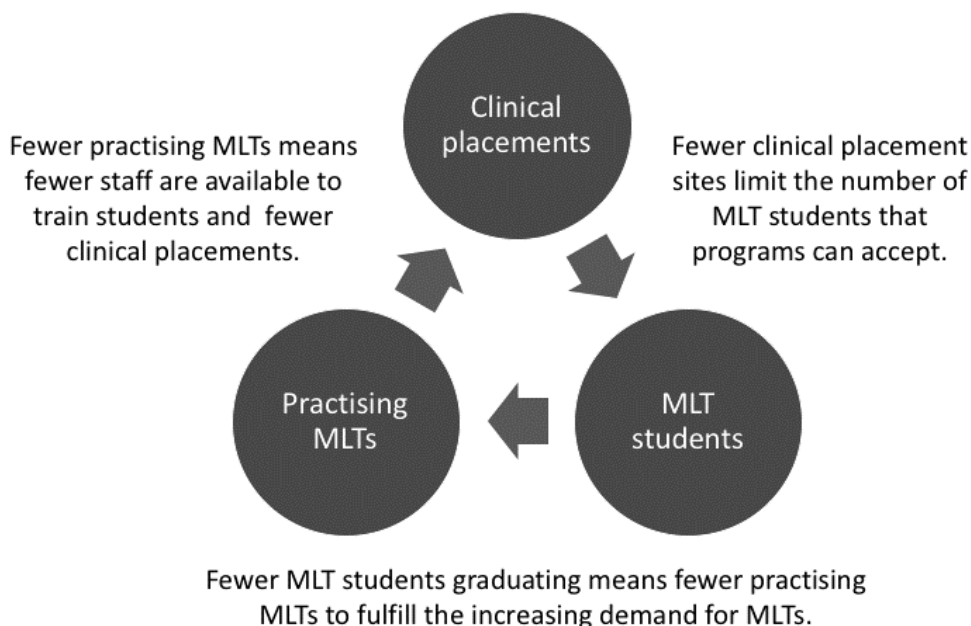


Figure 3 - Judy Tran, "Clinical Placements and the Shortage of Medical Laboratory Technologists," (July 2021). Reproduced with author's consent.

Dedicated funding supports preceptors and other costs.

Laboratories identified staffing shortages, burnout, lack of placement preceptors, laboratory space and resources, and other factors as barriers to accepting students. Dedicated funding would provide short-term support in these areas as a stopgap measure for longer-term solutions.¹⁹

Our proposal is that the government fund a temporary Laboratory Externship Program equivalent to the current Nursing Externship Program which will provide support to laboratory employers in hiring clinical placement students. Research indicates a payment of \$6,000/student is standard to offset professional development, laboratory operations, clinical placement preceptors, and other costs associated with taking on trainee MLTs.²⁰

We recommend the development of a Laboratory Externship Program using current Nursing Externship Program as an example to support to public and private laboratory employers in hiring clinical placement students for 3 years - \$6000/student for 200 students.

CONCLUSION/NEXT STEPS

Ontario is experiencing a significant shortage of MLTs. Clinical Placements are a significant barrier for laboratories and training programs due to a cycle of burnout. As such, it makes a Laboratory Externship Program a target area to alleviate MLT shortages.

We are asking for **\$3.6M support over 2022-2025 for Phase 1 of our Call to Action, a Laboratory Externship Program**. This would support public and private laboratory employers in hiring clinical placement students for 3 years - \$6000/student for 200 students.

This immediate measure would slow the negative cycle of burnout with understaffing and clinical placements, supporting both critical healthcare workers and patients. In addition to bettering healthcare for all Canadians, investing in laboratory health human resources could also **save \$1.6 billion** in lengthened hospital stays, duplicate doctor's appointment, and more.

To learn more about the larger Call to Action project, please go to www.mlpao.org/actnow. We would love to meet with you to discuss this issue further. Please contact CEO Michelle Hoad, CAE at mhoad@mlpao.org or 416-485-6768 x4 to set up a meeting.

The Medical Laboratory Professionals' Association of Ontario (MLPAO) is a non-profit health professional organization founded in 1963 with over 4000 members across the province. The MLPAO represents the interests of Medical Laboratory Professionals with government, regulatory bodies, educational institutions, health care professions and other stakeholders.

¹ Centers for Disease Control and Prevention, Division of Laboratory Systems, "Strengthening Clinical Laboratories," <https://www.cdc.gov/csels/dls/strengthening-clinical-labs.html>.

² Office of the Auditor General, "1.07 - Laboratory Services in the Health Sector," page 107. https://www.auditor.on.ca/en/content/annualreports/arreports/en19/v4_107en19.pdf

³ Judy Tran, "Clinical Placements and the Shortage of Medical Laboratory Technologists," MLPAO (July 2021), page 11.

⁴ "Ontario Medical Association releases five-point plan for better health care," *Ontario Medical Association, October 26, 2021*.

⁵ CMLTO, "Medical Laboratory Technologists: 2020 Health Human Resource Report," Registration Statistics Report, March 2021, page 7,

http://www.cmlto.com/images/stories/Resources/CollegePublications/ResearchReportsPositionStatementsWhitePapers/2020_mlt_hhr_rprt_fnl.pdf

⁶ Based on a survey of lab leaders and professionals in May 2020.

⁷ CMLTO, "Medical Laboratory Technologists," page 7. Assumes retirement eligibility at 55.

⁸ MLPAO, "Supplemental Report: Medical Laboratory Professionals in Crisis – Two Year Analysis," data from 1200+ medical laboratory professionals, published February 23, 2022, https://www.mlpao.org/files/ugd/691355_870e5fae53f34d0cba723820bac97c13.pdf.

⁹ Tran, "Clinical Placements," page 13.

¹⁰ Ibid., page 11.

¹¹ Ibid., page 11-12.

¹² Based on a survey of lab leaders and professionals in Spring 2021.

¹³ CMLTO personal communication, February 2021 - MLTs who completed exam this year, previous years, and IEMLTs.

¹⁴ Data self-reported by 120 laboratory workplaces – see our brief "MLPAO MLT Shortage Report – Spring 2021."

¹⁵ Tran, "Clinical Placements," page 27.

¹⁶ OntarioColleges.ca, "Find a Program," date accessed: July 7, 2021.

¹⁷ Tran, "Clinical Placements," page 31-32.

¹⁸ Ibid., page 32.

¹⁹ Ibid., pages 40-41.

²⁰ Ibid., page 39.