

## Medical Laboratory Professionals' Association of Ontario

# Survey Report: Shortage of Genetics Medical Laboratory Technologists Causing Delays in Cancer Diagnosis

The incidence of cancer has increased every year since 1984 and rates continue to rise. In 2022, Cancer Care Ontario reported an expected 95,325 new cases of cancer, with the most diagnosed cancers being breast, lung, and prostate.<sup>1</sup> Doctors rely on lab results to accurately diagnose, monitor, and provide a prognosis for every cancer patient. The challenge to hire new Genetics MLTs is becoming more prevalent which is having a detrimental effect on turnaround times and new test development across Ontario. There is a direct impact on cancer patients across Ontario whose diagnosis and treatment are delayed as they wait for lab results. An MLPAO survey shows that the shortage of Genetics MLTs is dire and needs to be addressed immediately.

### Overview:

- 233 Genetics MLTs working in Ontario
- 31 current vacancies for Genetics MLTs
- 19% of Genetics MLTs are eligible to retire in the next 4 years
- 58% of labs are currently experiencing a backlog leading to delays in turnaround times
- 75% of labs are interested in participating in an accelerated genetics MLT program
- All genetics labs anticipate the implementation of new testing technologies in the next 5 years

### Synopsis:

- There is a shortage of Genetics MLTs across Ontario. The Michener Institute offers the only Genetics MLT program in Ontario and their intake is 16 students per year. There is a wait list for the Michener Genetics program.
- The number of graduating Genetics MLTs is insufficient to fill existing vacancies and pending retirements. As genetics testing increases and new technology is acquired, the demand for Genetics MLTs will continue to grow. The supply does not meet the demand.
- The MLT shortage is resulting in delayed turnaround times for genetic testing.
- There is interest from Genetics labs in Ontario for an accelerated genetics program to increase the number of genetics MLTs to help manage workload and decrease turnaround times.

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<sup>1</sup> [Ontario Cancer Plan 2019-2023](#)

## Genetic Medical Laboratory Technologist (MLT) Scarcity

**There are 233 Genetics MLTs working in 12 genetics labs across Ontario, 19% (37) of whom are eligible to retire within the next 4 years.**

Age	21-30	31-40	41-50	51-55	Over 55
Percent MLTs	22%	29%	30%	7%	12%

There are currently **31 vacancies** for genetics MLTs in these labs.

## Genetic Testing

**58% of labs said they are currently experiencing a backlog leading to delayed turnaround times (TAT)**

- Delays in turnaround times are being experienced in both cancer and non-cancer (constitutional) testing. Two labs are experiencing TAT delays in all 5 testing areas.

Types of Genetic Testing	Number of Labs Experiencing TAT Delays
Constitutional - Cytogenetics	4
Cancer - Cytogenetics	4
Hereditary Cancer - Molecular	3
Somatic Cancer - Molecular	3
Constitutional - Molecular	2

- Labs indicate that the demand for genetic testing is increasing dramatically, and testing needs will continue to increase over the next 5 years, especially for cancer diagnosis. New tests and new testing platforms will require additional Genetics MLTs.
- New testing that labs anticipate implementing in genetics labs over the next 5 years include those in the chart below. Each new test requires additional staffing resources to implement and operate.

Type of Testing	Number of Labs that Plan to Implement
Whole Exome Sequencing (WES)	6
Optical Genome Mapping (OGM)	5
Whole Genome Sequencing (WGS)	3
Next Generation Sequencing (NGS)	2

## Accelerated Genetics Training Program\*

**75% of labs indicated interest in participating in an accelerated genetics MLT training program**

- Two labs indicated that they are interested in the program but could not guarantee employment at the end of the program.



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- **83% of labs indicated that they could support one learner in a pilot project**, and that if the project was funded, they would be able to fund 1-5 learners over the next 5 years. One program indicated it could fund 16-20 learners in this time frame, and 2 labs indicated they could fund 6-10 learners.

**Other Comments About the Accelerated Genetics MLT Program:**

- A simulated component to the program would be beneficial and be a significant commitment when labs are busy as students will come better prepared for clinical.
- Sites that don't have cytogenetics should be considered for molecular; the current proposal would not allow for this.

**\*Accelerated Genetics Program Proposal:** Mohawk College, in collaboration with Hamilton Health Sciences (HHS), is proposing a pilot project for a 13-month accelerated Genetics MLT training program. The program consists of 2 didactic semesters that would be delivered virtually by Mohawk College supported by in-person skills intensives and a 30-week clinical placement at a Genetics laboratory. The project requires employer sponsorship; employers will be required guarantee a position to a successful student upon completion of the program and passing the national exam. The program proposal was submitted for funding through the Ministry of Labour, Immigration, Training and Skills Development.