



Canadian Society for Medical Laboratory Science  
Société canadienne de science de laboratoire médical

House of Commons Standing Committee on Finance  
Pre-budget Consultations 2018

**Recommendation 1/1:** That the Federal Government contribute to meeting the demand of the medical laboratory community by providing funding to a national Simulation-based Curricula.

## **About the Canadian Society for Medical Laboratory Science**

The Canadian Society for Medical Laboratory Science (CSMLS) is the national certifying body and professional association for medical laboratory technologists and medical laboratory assistants. CSMLS is a national not-for-profit association that is funded entirely by membership dues and revenues from goods and services.

Incorporated in 1937, the CSMLS has a long history of leading the medical laboratory profession by setting the standards of practice in the industry. We have continued to grow and develop in order to represent the professional interests to over 14,000 of our members in Canada.

## **About Medical Laboratory Professionals in Canada**

Medical laboratory professionals play a vital role in Canada's health care system, generating over 440 million results each year. With technical expertise, they provide the analysis of accurate, life-saving laboratory results that guide the diagnosis and treatment of patients.

Lab professionals practice in hospital laboratories, private medical laboratories, public health laboratories, government laboratories, research and educational institutions. Our members are proud and passionate about their valuable contributions to patient care, serving over 35 million Canadians.

Laboratory professionals can generally be classified into two main categories: Medical Laboratory Technologists (MLTs) and Medical Laboratory Assistants (MLAs). In the majority of provinces, MLTs are a self-regulated health profession governed by a provincial regulatory college. MLAs are not regulated anywhere in Canada, leaving responsibility for the entry-to-practice standards and scope of practice up to employers.

## **The Issue: Health Human Resources Shortage in Canada**

### **THE INCREASING DEMAND FOR LABORATORY TESTING**

Research indicates that the number and complexity of laboratory tests are increasing. Ontario had projected a 1.8% per year increase in lab tests between 2005 and 2010. However, an actual increase of almost 4% per year was experienced.

Advances in testing capabilities and precision medicine will continue to increase orderable tests in the future. For example, the number of genetic tests available has doubled over the past two years. This situation will be further compounded by Canada's aging population.

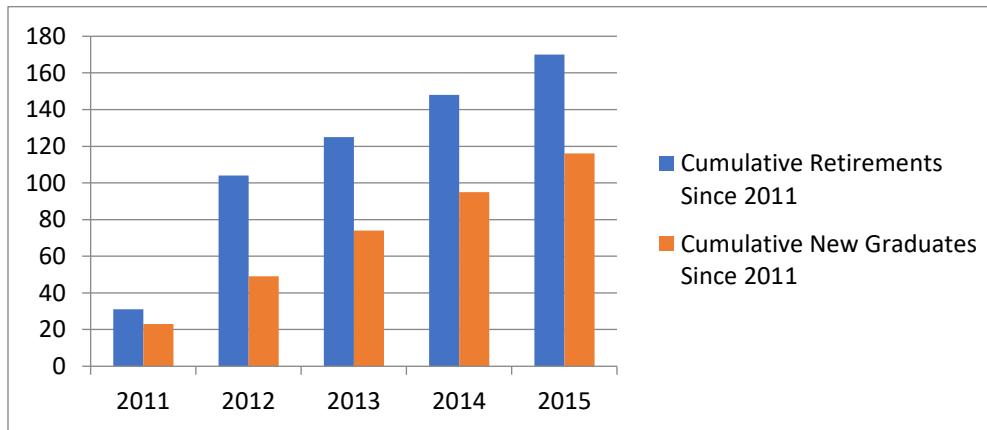
### **THE SHORTAGE OF MEDICAL LABORATORY TECHNOLOGISTS**

Canada is facing a serious shortage of medical laboratory technologists. About half of all MLTs will be eligible to retire in the next ten years. These shortages are already being felt in our rural and remote communities and the impending retirements will exacerbate this issue. This is significant as approximately 30 percent of Canada's total population live in rural and remote areas, according to the Centre for Rural and Northern Health Research.

The current supply of new MLT graduates is not sufficient to offset the projected retirement numbers. It is imperative to include laboratory technology graduates in existing and new incentive programs aimed at recruiting and retaining health care professionals in our communities.

To illustrate the widening gap between retirements and new practitioners, consider the following data from the province of Manitoba. A similar trend is taking place across the country.

**TREND OF RETIREES VS NEW GRADUATES IN MANITOBA**



**Data via College of Medical Laboratory Technologists of Manitoba**

**The Need: Increasing the Supply of New Lab Professionals**

The demand for testing is rising. Simultaneously, so is the shortage in laboratory professionals. The effects of this shortage could be felt throughout the medical system as delayed diagnosis means delayed treatment.

Without qualified professionals to produce lab results, quality patient care is impossible. Canada needs to ensure an adequate supply of qualified laboratory professionals to support the high standard of health care all Canadians deserve.

As such, Canada must increase the capacity of medical laboratory training programs nationally, while maintaining the same high level of graduate competency to protect patient safety.

**TRAINING BOTTLENECK**

All medical laboratory technology students must undertake a clinical placement (internship) as part of their educational program. Programs cannot increase spots without corresponding clinical placements, making this the bottleneck in the system. These spots are scarce due to staffing shortages and high workloads and lack of dedicated educational personnel.

Many laboratories have reported a decline-and even elimination- of clinical placements and clinical education programs due to workload burden and student supervision costs.

**The Recommendation: Provide funding to a national Simulation-based Curricula**

To alleviate the burden on clinical sites, educational programs can introduce or enhance their existing use of simulation-based curricula to effectively supplement or replace onsite education.

If validated by research, simulation stands to help increase the capacity of our existing educational programs and trained professionals without being at a cost to patient safety and service quality.

**As such, it is in the interest and safety of Canadians that the Federal Government contribute to meeting the demand of the medical laboratory community by providing funding to a national Simulation-based Curricula.**

## THE NATIONAL MEDICAL LABORATORY SIMULATION STUDY

Research in nursing and physician education has demonstrated that simulations could reduce the duration of clinical placements required to achieve competency. This, in turn, lowers the cost per trainee, while maximizing trained human capital.

Although a large body of research exists, publications are almost non-existent for the medical laboratory community.

The purpose of the study is to develop and validate simulation-based curricula that will:

1. Support student competency achievement
2. Expedite student's entry into the workforce
3. Increase the graduate output capacity

The study will aim to achieve the following:

- Determine whether simulation can be substituted for clinical hours;
- Construct evidence on the efficiency and effectiveness of varying amounts and types of simulation-based curricula (comparative effectiveness research);
- Determine the educational outcomes of medical laboratory students when enhanced and/or new simulation is integrated into curricula;
- Create a national database of simulation curricula available to all medical laboratory programs for adoption.

The National Medical Laboratory Simulation Study is part of a long term, multi-phase research project. The CSMLS has invested over \$150,000 to develop the foundation upon which the study will continue to build. Activities to date include:

- Environmental scan of academic program models
- Literature review on the use of simulation-based education
- Creation of a simulation knowledge exchange, meeting monthly
- Educators Forum on simulation and clinical education
- Creation of a national teleconference series

A formal grant application has been developed and will be submitted to the Social Sciences and Humanities Research Council (SSHRC). The grant is with the aim of creating, testing, and implementing simulation curricula with new models of clinical placements.

## Conclusion

The standing committee on Finance has requested submissions that address Canadian economic growth and ensure Canada's competitiveness. A national simulation study aims to accomplish this goal by increasing graduate output capacity; expediting the length of time it takes for students to enter the workforce; contributing to a smoother transition in the workforce; and ensuring continued high achievement in competency.

Through a defined scope of study that builds on a large body of existing work, a successful outcome will demonstrably increase the productivity of medical laboratory technologists and in turn, contribute to building a stronger Canadian economy.