Under the Microscope: Medical Laboratory Technologists in BC

Health Sciences Association of BC

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HSA

HEALTH SCIENCES ASSOCIATION

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Introduction

At least 70 per cent of medical decisions depend on medical laboratory results.[1] And yet, British Columbia faces a critical shortage of medical laboratory technologists (MLTs) who are required to analyze tissue samples, blood and other body fluids. Over the last decade, medical laboratory technologist staffing levels declined relative the growing population -- and BC has the fewest MLTs per capita among the provinces. Shortages and understaffing of these of specialized professionals in our public health system contribute to wait times, delayed diagnoses, and health care strain.

In 2019, the Ministry of Health, Health Employers Association of British Columbia, and the Health Science Professionals Bargaining Association (led by HSA), through the Recruitment and Retention Working Group, identified MLTs as a priority health science profession facing labour market challenges. The Ministry of Health and health authority employers are acutely aware of the shortages of MLTs.

In July 2022, the province announced an expansion of post-secondary training spaces for MLTs at BCIT and College of New Caledonia. Then in October 2022, the Ministry of Health released its provincial health human resources strategy.[2] There are many welcome commitments to address recruitment and retention, but few specific actions identified for health science professionals. Critically, there is no mention of the increasingly severe public-sector shortages of MLTs. MLTs are especially important to the government's broader efforts on improving timely diagnosis and treatment and reducing health care wait times. Importantly, the recently negotiated master collective agreement will make MLT wages among the most competitive in the country – and help to address a key barrier to recruitment and retention.

This report documents the severe workforce challenges facing BC's public medical laboratories. This report uses statistical analysis validated by interviews conducted with four frontline MLTs and a key informant with post-secondary expertise.[3] Together, these interviewees have over 100 years of frontline and post-secondary knowledge. This report finds that the medical laboratory workforce is facing severe and worsening shortages and understaffing, and offers recommendations to address the staffing crisis.

What are medical laboratory technologists?

Beginning in the early twentieth century, medical laboratories became essential parts of hospitals. Advances in science and technology dramatically shifted the role of hospitals to become centres of scientific advancement in disease diagnosis and treatment. Early labs focused on disease control by diagnosing infectious diseases and helping public health officials stop transmission. As part of this shift, a professional laboratory workforce was required. However, it was not until the 1930s that the medical laboratory technologist profession was established.

Medical laboratory technologists (MLTs) are health professionals who manage and perform laboratory testing through the analysis of tissue samples, blood, and other bodily fluids as part of

1 Centers for Disease Control and Prevention (2018, Nov. 15), "Strengthening Clinical Laboratories," https://www.cdc.gov/csels/dls/strengthening-clinical-labs.html (accessed Sep. 28, 2022).

2 Ministry of Health (2022), *BC's Health Human Resources Strategy: Putting People First*, Victoria: Government of BC.

3 Interviews were conducted in fall 2022.

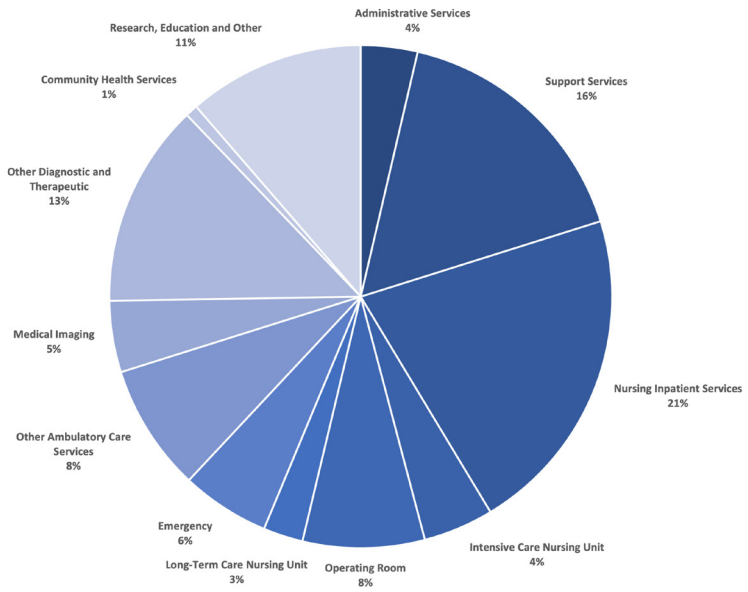
diagnostic procedures using a variety of instruments.[4] Without MLTs, physicians would not be able to make accurate diagnoses and recommend appropriate treatments for patients. MLTs specialize in several areas, including: clinical chemistry, clinical microbiology, hematology, transfusion science, and histology. Lab disciplines also include cytotechnologists and clinical genetics technologists. These lab professionals work closely with medical laboratory assistants (MLAs). Teamwork is critical to all aspects of lab work. While there are distinct lab professional disciplines, this report will use the broad term of medical laboratory technologists unless making specific reference to particular disciplines.

Since the early twentieth century, the medical laboratory workforce has become one of the largest parts of the overall health care workforce. However, unlike doctors and nurses, the work of lab professionals is often poorly understood, unseen, and undervalued.

Provincial funding context

In 2020/21, BC provided $9.8 billion in public hospital funding,[5] with $1.3 billion – or 13 per cent of total provincial hospital expenditures – funding hospital-based diagnostic and therapeutic services, including labs (Figure 1). The share of hospital spending dedicated to diagnostic and therapeutic services has fallen from an average of 14.3 per cent of total hospital spending between 2005/06 and 2014/15 to an average of 13.3 per cent over the last six years.[6]

Figure 1: Distribution of BC hospital expenditure by functional area, 2020/21



Sources: CIHI (2022), *Trends in Hospital Spending, 2005–2006 to 2020–2021— Data Tables — Series B: Hospital Spending by Service Area*.

4 M. Manogaran & B. Gamble (2022), "Medical Laboratory Technologists," in I.L. Bourgeault, ed. (2021) *Introduction to the Health Workforce in Canada.* Ottawa: Canadian Health Workforce Network.

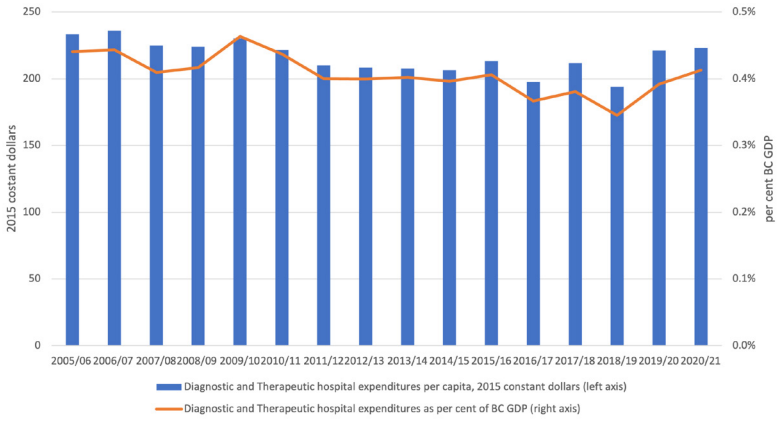
5 CIHI, 2022, *Trends in Hospital Spending, 2005–2006 to 2020–2021— Data Tables — Series B: Hospital Spending by Service Area*, Table B.10.1.

6 Author's calculations from CIHI (2022), Table B.10.2.

However, on a per capita basis, provincial funding for hospital-based diagnostic and therapeutic services has increased in recent years (Figure 2). Per capita spending increased from $198 to $223 over the last five years of available data (2016/17 to 2020/21). The amount BC spends on these services as a share of the economy (measured as GDP) has also increased over this period.

While this is a positive development, per capita spending still remains below 2005/06 levels. This reflects the deteriorating of funding for these critical public health care services over the last decade and a half. Much more investment is needed to address low baseline staffing levels, unmanageable workloads, and the acute shortages of medical laboratory technologists in hospitals across BC.

Figure 2: Diagnostic and therapeutic hospital expenditures in BC, per capita, 2005/06 to 2020/21



Sources: CIHI (2022), *Trends in Hospital Spending, 2005–2006 to 2020–2021— Data Tables — Series B: Hospital Spending by Service Area*; population estimates and GDP retrieved from CIHI (2022), *NHEX, 2021: Data Tables: Appendix A*.

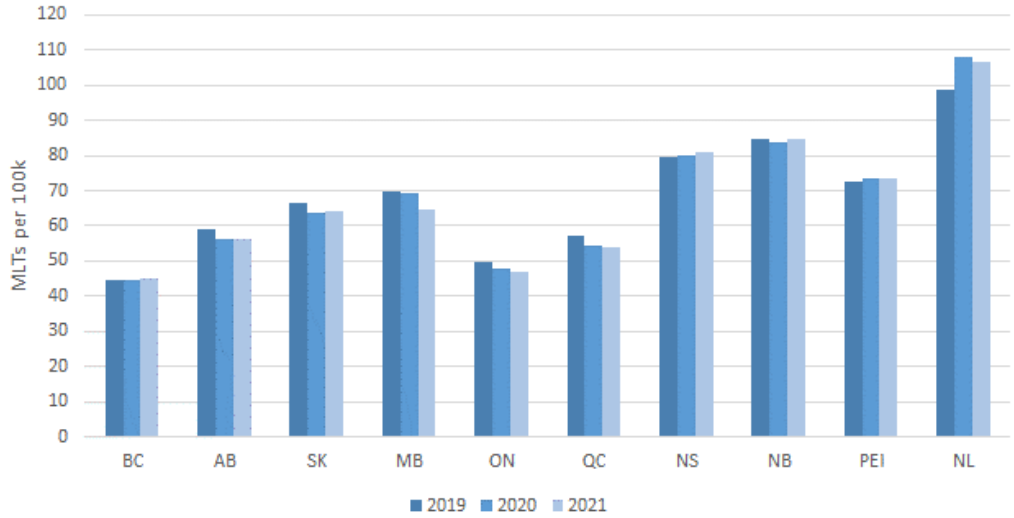
Key Findings

Widespread medical laboratory technologist shortages are worsening and impacting working conditions and patient care

Shortages of medical laboratory technologists are widespread and worsening in BC. According to the Canadian Institute for Health Information:

- In 2021, BC had the fewest MLTs per 100,000 population among the provinces, at 44.8 MLTs per 100k (Figure 3).
- Newfoundland and Labrador (106.6), New Brunswick (84.6), and Nova Scotia (81.2) had the most MLTs per 100k in 2021. Quebec (53.7), Ontario (46.8), and BC (44.8) had the least MLTs per 100k in 2021.

Figure 3: Medical laboratory technologists per 100k population, 2019 to 2021



Sources: Freedom of Information requests and Canadian Institute for Health Information (2022), *Canada's Health Care Providers, 2017 to 2021 — Data Tables* and BC data from Health Authority Freedom of Information requests

Note: Due to data accuracy concerns, BC counts come from health authority data rather than CIHI, and thus may not capture private sector employment. All other provincial data come from counts of professional registrants (as reported by CIHI) and may include public and private sectors. In Manitoba and PEI, counts may be understated due to the non-regulated status of the profession. Please use with caution.

Although there are data limitations to understating the size of the MLT workforce in each province, there is a concerning decline in public sector staffing levels, specifically, at a time when we need our public medical labs more than ever. In BC between 2014 and 2023, full-time equivalent (FTE) MLT staffing declined in relation to the growing population (Table 1):

- There was an absolute reduction in MLT staffing levels (measured in FTE) in the Lower Mainland from 1,213 FTE to 1,160 FTE.
- The Lower Mainland (-17%) and Interior Health (-5%) experienced a decline in MLTs per 100k residents while this rate marginally increased in Northern Health and on Vancouver Island.
- Vancouver Island Health had the fewest MLTs per 100k residents in 2014 and 2023 compared to the other health regions followed by Interior Health -- health regions that have older populations with more complex health conditions.
- Even without accounting for population growth, MLT staffing levels marginally increased in absolute terms over the last decade from 1,826 FTE to 1,856 FTE (Table 2).

Table 1: Medical laboratory technologist staffing rates by health authority, 2014 to 2023

	Population		Public MLT FTE		Public MLT FTE per 100k		Change in MLT FTE per 100k
	2014	2023	2014	2023	2014	2023	
Lower Mainland Consolidated (FHA, PHC, PHSA, VCHA)	2,886,682	3,341,426	1,213	1,160	42	35	-17%
Interior Health	745,266	855,545	258	282	35	33	-5%
Northern Health	293,991	306,759	147	162	50	53	6%
Vancouver Island Health	781,164	899,337	208	252	27	28	5%
British Columbia	4,707,103	5,403,067	1,826	1,856	39	34	-11%

Sources: Freedom of Information requests and BC Stats population estimates (accessed September 18, 2023).

Table 2: Medical laboratory technologist FTE staffing levels by health authority, 2014 to 2023

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Lower Mainland Consolidated (FHA, PHC, PHSA, VCHA)	1,213	1,182	1,170	1,180	1,194	1,132	1,143	1,140	1,139	1,160
Interior Health	258	264	267	266	268	274	276	294	294	282
Northern Health	147	151	151	160	136	137	139	159	164	162
Vancouver Island Health	208	218	195	214	234	208	252	277	266	252
British Columbia	1,826	1,814	1,783	1,820	1,832	1,751	1,811	1,871	1,863	1,856
% annual change		-0.7%	-1.7%	2.1%	0.7%	-4.4%	3.4%	3.3%	-0.4%	-0.4%

Sources: Freedom of Information requests and BC Stats population estimates (accessed September 18, 2023).

These data show that understaffing and shortages have become increasingly acute over the last decade. Interviews with HSA members indicate that shortages resulting from demographic shifts in the MLT workforce are getting worse, driven specifically by pandemic-related burnout and early retirement:

> *At the time they were posting part time jobs, there were casual positions, there wasn't anything full time for recruitment, and then now they're at the point when they're posting full time jobs, there's nobody to fill them. So it's too little, too late. So by trying to be proactive and raise the alarm early I feel like we just made ourselves a target[.]* (MLT interviewee 1)

> *In my entire career we've had ebbs and flows in staffing and being able to recruit staff but never to the point that it is now. I've never seen it so short staffed that no one has any casuals. I don't think they take into account that labs are so much more busy.* (MLT interviewee 3)

The increasingly severe shortages of MLTs and MLAs are negatively affecting patient care because diagnoses can be delayed. Public labs must prioritize sample analysis for the emergency department and in-patient wards; this is referred to as "stat" work. This results in delay of routine work for patients who need samples analyzed for medical diagnoses:

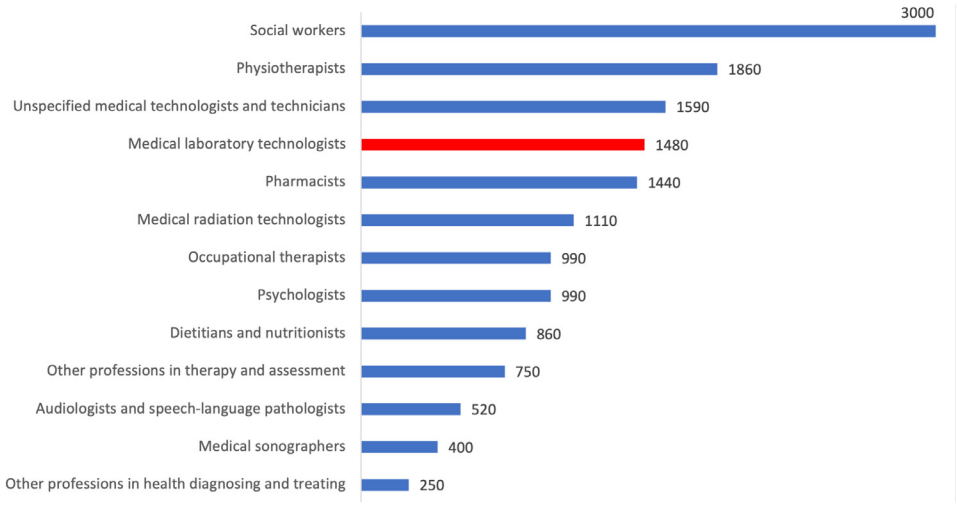
> *We definitely run into challenges around turnaround. The real struggle that we're having in acute care is ensuring that our stat work and serving our emergency room and our in-patient is unaffected as possible. But our turnaround times are affected. And we have our set priorities. We set our priorities and then it means that the routine work waits a little longer. But in the reality of it, sometimes the onslaught of volume is so much that there's only so much humanly possible to stay on top of it. So it does start affecting our acute care and our stat work, yes.* (MLT interviewee 4)

As routine lab works gets delayed and backlogs build, this has a cumulative impact on workload and working conditions. Interviewees characterized the challenge of completing stat work while trying to keep up with routine lab work – while working short staffed – as something that is leading many to leave or consider leaving the profession, take stress leave, or retire early.

Government forecasts large number of vacancies over next decade

In addition, the BC government forecasts that MLTs are among one of the province's high demand professions, with many expected vacancies over the next ten years. The BC Ministry of Advanced Education and Skills Training has designated MLTs as one of its "high opportunity occupations" and expects 1,480 MLT vacancies between 2021 and 2031 (Figure 4).

Figure 4: WorkBC "high opportunity" health science professions by expected job openings, 2021-2031



Source: Ministry of Advanced Education and Skills Training (2021), *BC Labour Market Outlook: 2021 Edition*.

Overtime symptomatic of MLT shortages and risks patient and worker safety

Research evidence demonstrates a relationship between the conditions of work and the conditions of care. High levels of overtime and a deterioration of working conditions correspond with higher risk of mental and physical occupational injury, and poses risks to patient safety.[7]

Reliance on overtime to manage staffing shortages is apparent from data obtained from BC health authorities (with the exception of Northern Health). Overtime increased in Fraser Health (166 per cent), Interior Health (49 per cent), Island Health (66 per cent), Provincial Health Services (145 per cent), and Vancouver Coastal Health (47 per cent) between 2018/19 and 2021/22 (Table 3).

In BC, with the exception of Northern Health, MLTs worked 123,388 hours of overtime in 2021/22, an increase of 67 per cent since 2018/19. At least 63 additional MLT FTE are required in order to avoid the use of overtime. As one key informant interviewed for this research stated, BC is missing at least one-third of its MLT workforce due to unfilled vacancies. Data demonstrate an increasing and unhealthy reliance on overtime and private agency staffing to manage low baseline staffing levels and chronic unfilled vacancies.

Table 3: MLT overtime hours in selected health authorities, 2018/19 to 2021/22

	Overtime hours (OT)				% change in OT hours, 2018/19 to 2021/22	New FTE required to avoid overtime (1 FTE = 1950 hours)			
	2018/19	2019/20	2020/21	2021/22		2018/19	2019/20	2020/21	2021/22
Fraser Health	6,759	6,653	6,692	17,999	166%	3.5	3.4	3.4	9.2
Interior Health	35,048	34,853	37,222	52,380	49%	18.0	17.9	19.1	26.9
Island Health	10,129	14,356	10,663	16,797	66%	5.2	7.4	5.5	8.6
Provincial Health Services	7,150	11,974	16,077	17,516	145%	3.7	6.1	8.2	9.0
Providence Health	4,689	3,390	2,655	4,141	-12%	2.4	1.7	1.4	2.1
Vancouver Coastal Health	9,926	9,655	10,934	14,555	47%	5.1	5.0	5.6	7.5
Total	73,702	80,882	84,244	123,388	67%	37.8	41.5	43.2	63.3

Source: Author's calculations from Freedom of Information requests to health authorities.

7 D.H. Hickam, S. Severance, A. Feldstein, et al. (2003), *The Effect of Health Care Working Conditions on Patient Safety*, Evidence Report/Technology Assessment No. 74 (Prepared by Oregon Health & Science University), Rockville, MD: Agency for Health-care Research and Quality.
A. E. Rogers, W.-T. Hwang, L. D. Scott, L. H. Aiken, & D. F. Dinges (2004), The working hours of hospital staff nurses and patient safety, *Health Affairs 23*(4), 202-212.
A. W. Stimpfel, D. M. Sloane, & L. H. Aiken (2012), The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction, *Health Affairs 31*(11), 2501-2509.

Growing reliance on private agency staffing undermines public sector recruitment and retention

When short staffing is so severe and overtime has been exhausted, health authority employers are increasingly contracting-in agency staff. Contracting-in is a form of health care privatization when a private, for-profit company is contracted to bring its own staff into a unionized workplace to do the work of unionized workers covered by a collective agreement.

In BC, HSA has learned that contracting-in of MLTs is occurring in at least three health authorities (VCHA, VIHA, NHA) based on information shared from members, but likely occurring across the province based on a province-wide service contract between Provincial Health Services Authority (on behalf of all regional health authorities) and a large private, for-profit health care staffing agency.

Non-union agency MLTs are making $10-15 more per hour than regular unionized MLTs, and may receive signing bonuses and payment of accommodation and travel expenses. Members tell us that agency MLTs can receive a $5,000 signing bonus for a six-month commitment, and pro-rated for a shorter commitment. Health authority employers are using contracted-in agency MLTs are working at sites with chronic unfilled vacancies where they have been unable to recruit for reasons including low compensation, high cost of living, and heavy workload. At many sites, our members report that this is the first time that agency MLTs have been contracted in to work alongside unionized MLTs who are earning $10-15 less per hour and do not receive bonuses nor payment of accommodation and travel expenses.

HSA has also learned that agency MLTs sign non-compete clauses and agree not to accept health authority employment for one year. While this may be standard language in the temp staffing agency industry, this creates real barriers for the public sector to recruit MLTs into direct health authority employment. In essence, the temp agency basically "owns" that worker for a year, and this arrangement means that even if they wanted to accept direct health authority employment, they cannot.

As one member working as an MLT in a rural coastal community put it, "[W]e're trying to recruit people to come here, it's a beautiful place to live and a lot of people don't realize what it's like until they get here and we were hoping that they would stay but apparently it would be really difficult for them to be able to" (MLT interviewee 1).

Public sector MLT wages have been among the lowest in Canada

For many years, BC public sector MLT compensation has been among the lowest in Canada. However, the new Health Science Professionals Collective Agreement begins to significantly increase compensation to become more competitive with other provinces.

In the late 1990s and early 2000s BC provided competitive compensation for public sector MLTs – but BC public health sector compensation no longer gives BC a competitive advantage. As a 2002 BC government laboratory system review noted, "BC compensates public MLTs at rates from 9 per cent to 12 per cent higher than the Canadian average during 2001/02." [8] The report concluded that "[c]ompetitive salaries have helped BC to avert the serious professional staff shortages experienced in other jurisdictions such as Manitoba."[9]

Over the three years of the new collective agreement (ratified in December 2022), BC MLT compensation will only remain behind Alberta for MLT wages at the sixth-year step (Table 4). This

8 L. Bayne (2003), *BC Laboratory Services Review*, Lillian Bayne & Associates prepared for the Ministry of Health, 37.

9 Ibid.

puts BC in a much more competitive position than has been the case historically where MLT wages have been among the lowest in Canada. And while compensation is not the only reason leading MLTs to avoid or leave public sector employment in BC, it is one of the most important factors contributing to recruitment and retention challenges. The new wage increases for BC MLTs as part of the new collective agreement is a step in the right direction, and ongoing wage improvements will be necessary to address recruitment and retention challenges over the long-term.

Table 4: Interprovincial wage comparisons

			2022		2023		2024	
Province	Union	Job Title	6th year April 2022	Diff from BC	6th year April 2023	Diff from BC	6th year April 2024	Diff from BC
B.C.	HSABC	Medical Laboratory Technologist I	$40.55	-	$43.29	-	$44.72	-
Alberta	HSAA	Medical Laboratory Technologist I	$45.20	11%	$45.76	6%	$46.68	4%
Saskatchewan	CUPE 5430	Medical Laboratory Technologist I	$39.22	-3%	N/A	N/A	N/A	N/A
Manitoba	MAHCP	General Duty Laboratory Technologist	$36.21	-11%	2022 unless new CA	N/A	2022 unless new CA	N/A
Ontario	OPSEU	Medical Laboratory Technologist	$40.36	0%	$40.76	-6%	$41.17	-8%
Nova Scotia	NSGEU	Medical Laboratory Technologist A (HTH418)	$36.27	-11%	$36.81	-15%	$37.18	-17%
New Brunswick	NBU	Medical Lab Technologist 2 (Grp 3)	$38.80	-4%	$39.57	-9%	$40.37	-10%
PEI	IUOE	Medical Laboratory Technologist 1	$35.74	-12%	CA expired	N/A	CA expired	N/A
Nfld. & Labrador	NAPE	Laboratory Technologist LX-27	$37.88	-7%	$38.64	-11%	$39.41	-12%

Note: For HSABC, modified Grade I rates used for 2022 and 2023, and Grade II/new P1 rate used for 2024 as classification changes come into effect. Minimum GWI are used.

Ongoing and significant expansion of post-secondary medical laboratory science training opportunities required

Currently, post-secondary training to receive a medical laboratory science diploma are only offered at the BC Institute of Technology (Lower Mainland) and College of New Caledonia (Prince George), which collectively will train 122 MLTs in the 36-month, full-time program. However, these programs have high attrition rates, so the total number of graduates is typically lower the actual number of seats.

As part of a strategy to address the shortage of MLTs, BC needs to continue expanding post-secondary laboratory science training opportunities. In July 2022, the BC government added 16 new MLT seats at BCIT and 12 new seats at College of New Caledonia.[10] This is a welcome investment in addressing the shortage of MLTs, but the low baseline staffing levels, excessive overtime, and chronic unfilled vacancies indicate that BC needs to continue expanding post-secondary training seats. For the key informant with post-secondary expertise, BC needs to urgently and significantly expand post-secondary MLT training spaces, ensure clinical placements are available:

> *My estimate is you're missing 30% of your workforce and it's not coming anytime soon, despite government putting 30 more spots in. They needed 30 more spots 10 years ago. And so you're way behind the eight-ball with respect to capacity […] The single biggest bottleneck to just putting more students in class is the clinical placement and […] BC has the longest clinical placement in the country.* (Key informant 1)

For example, the key informant noted that Kelowna Hospital's lab has been working at half capacity because they have unfilled vacancies, and as a result, do not have the capacity to host even one clinical placement, which is a necessary part of training and certification. The key informant added that when an MLT takes on a student, lab output will decrease, which is why many labs are struggling to accept clinical placements:

10 BC Ministry of Health (2022, July 19), British Columbia trains, recruits more allied health professionals, news release.

> *It's been documented in other fields that when you take on a student, your productivity goes down by about 30%. So, you know, if you have 2,000 specimens, waiting today, and you normally only have 1,000. Now, you have a student, you're cranking out 700. You're cranking out 700 of the 2,000, right? And now your line up starts. So I feel like a hospital, and in particular clinical preceptor, literally has to decide with that conundrum, right, "is today's patient the most important thing, or is preparing for the future for the most important?" And there's no right answer. (Key informant 1)*

Increasing staffing levels and filling unfilled vacancies would go a long way to helping hospital labs and existing MLTs manage workload and have the capacity to take on students. Otherwise, this vicious cycle where BC is not training enough students, and quickly enough, will continue.

The need to retain medical laboratory professionals

In addition to increasing the number of new MLTs in the province, BC must improve retention of the existing workforce. The staffing shortages crisis is taking a toll on both patients and frontline professionals. In a 2023 survey of HSA members, 41 per cent told us they are considering leaving public practice due to unmanageable workload. The trends analyzed in earlier sections suggest that BC is struggling to retain existing MLTs.

One of the four areas of focus in the BC government's new health human resources strategy – *Putting People First* – is retaining existing public sector health care workers. This is particularly welcome as frontline HSA members routinely raise concerns about the unmanageable workloads that are driving many to burnout, leaves of absence, reducing hours, or leaving their profession altogether.

HSA eagerly awaits concrete strategies, including workload standards, that will help address the retention crisis in BC's health sector. If policy interventions only focus on recruitment and increasing the supply of new health professionals, without addressing why professionals are leaving the health sector, the province will never address the broader workforce crisis. The urgency of addressing the retention challenges in public medical laboratories is captured by a frontline MLT:

> *So we had seven techs last year. One left, he went back to school to [work in finance] because he couldn't have a good work-life balance. And then two of them retired and the other one is set to retire in June, so we will have lost over half of our tech base and that's a lot of knowledge and a lot of ability to run the worksite that's walked out the door.*

The situation can be particularly dire in rural and remote BC hospitals where may only have a handful of MLTs. If even one or two leave, recruitment can take many months (or years), and the workload burden becomes unmanageable for the remaining team.

However, there are significant gaps in HHR data collection that would help explain the extent of the province's retention challenges for health care workers, generally, and MLTs, specifically.

To HSA's knowledge, neither the Ministry of Health nor employers routinely collect and report retention and turnover nor are these data reported by provincial or national agencies. The plan for a new workforce experience survey, conducted by the BC Statistical Agency and the Ministry of Health, is a welcome development, and should survey workers as to why they leave the public sector, move within it, or maintain employment.

BC remains only large province without professional regulation of medical laboratory technologists — and lacks high-quality workforce data

Professional regulation is intended to protect patients by establishing the protected activities and scope of practice for MLTs. It also helps establish consistency across post-secondary institutions for curriculum and training, while also helping to ensure that employers and other health professionals understand the profession's scope of practice.

BC is the only large province where MLTs remain unregulated. Quebec was the first province to regulate the profession in 1973, while most provinces regulated the profession in the 1990s and early 2000s. At a time of growing staffing shortages, professional regulation helps protect against employers substituting non-MLT trained staff to perform tasks that would otherwise be protected scope of practice under legislation.

In this way, professional MLT regulation helps protect patient safety and accurate diagnosis by ensuring that those performing specialized lab work have the necessary skills and training. Rather than employers looking to other workers to perform the work of MLTs due to staffing shortages, professional regulation necessitates that employers and government address the root of the problem – the shortage of MLTs in the first place.

Professional regulation also helps provinces improve the collection of workforce data by knowing the number of professionals in the system and demographic information that support workforce planning (e.g., forecasting retirement and workforce turnover). A key informant with knowledge of medical laboratory workforce issues across the country added: "So that's one of the benefits of regulation. We will have a good data set."

In 2018, the BC government committed to professional regulation of MLTs along with radiation therapists, perfusionists, and respiratory therapists, and it is anticipated that the process of regulation should proceed following the enactment of the *Health Professions and Occupations Act*.

Table 5: Regulatory status of medical laboratory technologists

Province	First year of regulation	Protected titles
British Columbia	Unregulated	Not applicable
Alberta	2002	MLT
Saskatchewan	1996	MLT
Manitoba	2007	MLT
Ontario	1994	MLT
Quebec	1973	Technologiste Médical (TM), Registered Technologist (RT), Technologist Médical Laboratoire (TML)
New Brunswick	1992	Registered Technologist (RT), Advanced Registered Technologist (ART), MLT, Fellowship of the CSLMS (FCSLMS)
Nova Scotia	2004	MLT
Prince Edward Island	Unregulated	Not applicable
Newfoundland & Labrador	2012	MLT

Source: M. Manogaran & B. Gamble (2022), "Medical Laboratory Technologists," in I.L. Bourgeault, ed. (2021) *Introduction to the Health Workforce in Canada.* Ottawa: Canadian Health Workforce Network, p. 4

Conclusions and Recommendations

Over the last decade, medical laboratory technologist staffing levels declined relative the growing population -- and BC has the fewest MLTs per capita among the provinces. MLTs working in BC hospitals are under severe strain due to staffing shortages, low baseline staffing levels, and chronic unfilled vacancies due to a lack of new graduates and competitive compensation.

Focused provincial attention on the medical laboratory workforce and public labs is urgently required to avoid the further deterioration of diagnostic testing capacity in BC, and longer health care wait times for diagnosis and treatment.

Based on the key findings of this research report, HSA recommends the following immediate actions:

Immediately address MLT shortages and increase baseline staffing levels

The Ministry of Health, Health Employers Association of BC (HEABC), and health authorities need to work with HSA and the Health Science Professionals Bargaining Association (HSPBA) to address worsening professional shortages in the public lab system, including chronic unfilled vacancies and longstanding understaffing.

Building on commitments in the province's health workforce strategy, and in collaboration with the HSPBA, HSA recommends a suite of complementary strategies that would improve working conditions, address wage inequities with the private sector and other provinces, and provide new clinical leadership opportunities:

- **Fill existing vacancies**: Fill existing vacancies using targeted initiatives to support immediate recruitment into unfilled vacancies.

- **Increase baseline staffing levels** in order to reduce unmanageable workload causing burnout, and expand clinical leadership opportunities, all of which will help recruit more new graduates and encourage recruitment of new graduates and help the province retain its lab professionals. Increasing staffing levels will also improve working conditions and job quality and support a higher level of retention of MLTs. Declining per capita laboratory staffing levels should be reversed.

- **Provide provincial funding for province-wide and health authority-directed recruitment incentives** and a return of service for those not currently employed in the public sector as well as loan forgiveness, travel and relocation expense reimbursement, housing stipends for relocation, and providing housing in communities with housing shortages.

- **Stop contracting-in MLTs and other health science professionals**, which contributes to the hollowing out of the public sector workforce, as higher private-sector agency wages, bonuses, and other incentives encourages public sector MLTs to work for private staffing agencies. Private staffing agencies should be prohibited from requiring that MLTs sign non-compete agreements that prohibit them from accepting permanent health authority employment for a certain period of time.

Increase post-secondary training opportunities for medical laboratory technologists

Over the last year, BC has taken encouraging steps towards creating new education and training opportunities for health science professionals, including 28 new seats in laboratory science. These are important steps, and we need to continue to invest in post-secondary training opportunities for MLTs and all health science professions facing severe shortages.

The severe shortage of MLTs has been the result, in part, due to a lack of strategic multi-year expansion of post-secondary training and capacity in the health system to offer clinical placements. However, increased training alone will not be enough. The new provincial health workforce strategy creates urgency on the need for immediate strategies to bring new graduates into public health care, strategies to maintain and increase public sector staffing levels, and urgent steps must be taken to address the worsening shortages and workload concerns in BC's public laboratories.

HSA recommends the Ministry of Health, Ministry of Advanced Education, HEABC and employers, and post-secondary institutions, in partnership with HSA and the HSPBA, develop an ongoing multi-year plan to continue expanding post-secondary education and clinical placement opportunities to meet the growing demand on the laboratory workforce in the years to come.

Appendix A: Counts and rates of medical laboratory technologists by province, 2015-2021

		2019	2020	2021	% change, 2019 to 2021
BC	Count	2,262	2,303	2,337	3.2%
	Per 100k	44.4	44.6	44.8	0.9%
	Annual change per 100k		0.6%	0.4%	
AB	Count	2,578	2,479	2,507	-2.8%
	Per 100k	59.1	56.1	56.4	-4.7%
	Annual change per 100k		-5.1%	0.6%	
SK	Count	778	749	758	-2.6%
	Per 100k	66.4	63.5	64.2	-3.4%
	Annual change per 100k		-4.4%	1.1%	
MB*	Count	850*	887*	893*	4.8%
	Per 100k	62.0*	64.2*	64.5*	3.9%
	Annual change per 100k		3.5%	0.5%	
ON	Count	7,253	7,021	6,939	-4.5%
	Per 100k	49.9	47.6	46.8	-6.6%
	Annual change per 100k		-4.6%	-1.7%	
QC	Count	4,883	4,661	4,622	-5.6%
	Per 100k	57.4	54.3	53.7	-6.9%
	Annual change per 100k		-5.4%	-1.1%	
NS	Count	773	784	806	4.1%
	Per 100k	79.7	79.8	81.2	1.8%
	Annual change per 100k		0.1%	1.8%	
NB	Count	659	655	668	1.3%
	Per 100k	84.8	83.6	84.6	-0.2%
	Annual change per 100k		-1.4%	1.2%	
PEI*	Count	114*	117*	121*	5.8%
	Per 100k	72.4*	72.5*	73.6*	1.6%
	Annual change per 100k		0.1%	1.5%	
NL	Count	517	564	555	6.8%
	Per 100k	98.8	108.2	106.6	7.3%
	Annual change per 100k		9.5%	-1.5%	

Source: Freedom of Information requests; CIHI (2022), Health workforce in Canada, 2017 to 2021: Overview – Data Tables.

Note: Due to data accuracy concerns, BC counts come from health authority data rather than CIHI, and thus may not capture private sector employment. All other provincial data come from counts of professional registrants (as reported by CIHI) and may include public and private sectors. In Manitoba and PEI, counts may be understated due to the non-regulated status of the profession. Please use with caution.

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The Health Sciences Association of BC (HSA) is a democratic union that represents more than 20,000 health science and social service professionals in over 250 acute and community settings across BC including hospitals, long-term care homes, child development centres, mental health programs, and community social service agencies.

Prepared by: Andrew Longhurst

Transcription: Pattie McCormack

Cover and layout: Katie Riecken

Reviewers: David Bieber, Katie Riecken, Miriam Sobrino, Sheila Vataiki, and one anonymous HSA MLT member

Copyediting: Miriam Sobrino

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Health Sciences Association of BC

180 East Columbia Street, New Westminster, BC V3L 0G7
Phone: 604 517 0994 / toll free 800 663 2017
Fax: 604 515 8889 / toll free 800 663 6119

HSA would like to acknowledge that our office is located on the unceded homelands of the Qayqayt First Nation (pronounced keekite) on whose territories we live and thrive on. Our union works and has members in unceded territories across the province. Unceded means that Aboriginal title to this land has never been surrendered or relinquished.