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Lobby Day Returns to Parliament Hill

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Ready for Change

Christine Nielsen
CHIEF EXECUTIVE
OFFICER

The medical laboratory technologist (MLT) shortage affecting laboratory professionals across the country has been years in the making. But, as I've said before, the newfound spotlight from pandemic testing demands has a silver lining: Policy makers now see the crisis, and they are ready to listen. We have a comprehensive plan ready for action, and we took our plan to Parliament Hill.

Lobby Week is an annual lobbying event in which CSMLS representatives speak to members of parliament (MPs), and key political staff, to raise awareness of the profession and garner support for long-term solutions to the professions' issues. It was created so that we could deliver messages directly to policy makers.

This May, a group of CSMLS Board and staff travelled to Ottawa to meet with MPs. While steps to mitigate the MLT shortage have been the focus of this lobbying mission for several years now, we lobbied a specific solution this year: We asked MPs for letters of support for our federal grant application with Employment and Social Development Canada.

The grant, if accepted, would fund six initiatives, each centred around three key pillars: improving the domestic labour supply, integrating internationally trained MLTs into the workforce, and improving retention in the workplace. You can read more about the specific arms of the grant on page 23. Of course, each of these pillars are deliberately connected to the HHR crisis affecting labs across the country and the CSMLS Strategic Plan. We have broad support from employers, educators, members and regulators from across Canada – in fact, we provided 20 letters of support with the application. If the grant is not funded, CSMLS will still invest in initiatives that provide modern staffing solutions. This commitment is woven right into our Strategic Plan.

Bringing this grant to MPs moved our Lobby Week mission beyond raising awareness of the HHR crisis into seeking direct support for an established strategy and investment, with their trusted partner for solutions in lab – the CSMLS. Not only does this grant allow us to garner specific support from MPs, but this external funding also stretches your financial contributions to advancing the profession at least twofold. This federal grant is how we bring the big ideas that make solid change, to life. And that is the message we brought to any MP who opened their door to us: We are uniquely positioned to mobilize the profession for positive change and investment.

Coming Back Together

Lucie Alain
2022 CSMLS
PRESIDENT

We all know by now that the pandemic brought many things to light, all while forcing us through life-altering experiences. But what the pandemic has also shown us is that we are stronger together. Whether it's advocacy or learning, we always benefit from bringing this incredible community together. This June, I saw it for myself.

I was thrilled to attend the first LABCON event since 2019! The community gathered in Winnipeg for three incredible days. I saw old friends, made great new connections and even got to meet people I had never seen in person. Seeing rooms full of medical laboratory professionals was inspiring. After so much time apart, we were ready to come together again. It felt like a three-day celebration of our work, our profession and of us.

Presenting the Leaders of Tomorrow at LABCON is such an important tradition, and I felt honoured to do so. These are young professionals who were awarded a trip to our biggest community event. Introducing them at LABCON created an atmosphere of mentorship – something very important to me as Chief Warrant Officer at the Royal Military College. Presenting these awards reminds us that not only are future lab leaders already working in the field, but we all play a part in setting the next generation of professionals on the right foot. As a community, we are responsible for supporting this upcoming generation and helping them achieve even more than we did.

LABCON also gave us the incredible opportunity to learn from the best and brightest in the industry. We learned from Dr. Guillaume Poliquin, the acting Vice President of the National Microbiology Lab, Taylor Morriseau, an expert on the ethics of genetics research in Indigenous health, Dr. Rosina Mete, our CSMLS resident mental health guide, and so many others.

We learned together and grew stronger as individuals and as a community. I am proud to have been there to share this experience with you all. I cannot wait to see the growth we inspired in each other.

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Investigating Worker Injury and Illness Incidents

If a colleague of yours suffers an injury or illness, the first step is to get them immediate first aid or medical care as needed. But what should your medical laboratory team do after the event is resolved to prevent a repeat occurrence? To keep any lab personnel as safe as possible in the workplace, and maintain high standards of safety, you should conduct an investigation to understand what went wrong, what were the causes and what needs to be done to prevent recurrence. The severity of the incident dictates the level of effort applied to the investigation process.

Conducting an Incident Investigation

The incident investigation process is part of the Occupational Health and Safety Management System (OHSMS)[1] of your organization and you may be required as a supervisor to lead the multi-step process.[2,3,4] Plan the investigation by assigning people to the investigation team based on the incident severity – you may need participation from colleagues who were witnesses. Collect data about the incident by taking photos and documenting other relevant details including the people, task, equipment used, presence of hazardous materials and other hazards (e.g. broken glass, spills). Collect information on the location where the incident occurred, including workspace design, lighting and time of day.

Collecting Data Using Interviews and Documents

Now that you have some information at hand, it is a good time to start conducting interviews. It is extremely important that the person being interviewed is not assigned blame or fault. The best organizations have a safety culture that enables workers to speak freely. Begin with open-ended questions to start and encourage the interviewee to give you a full account of what happened. Then, seek clarity in the interview by asking closed-ended questions to get specific details. Collect additional data by reviewing relevant documents from the OHSMS such as hazard assessments and procedures, as well as training and maintenance records.

Using Data to Find the Problem and Solution

When organizing and analyzing the data, it is useful to create a timeline of events and conditions. Deviations from the norm are often areas of special interest during incident investigations. When something has deviated from the norm, ask a series of "Why?" questions. The next step is to identify causal factors, which are problems that

if corrected would likely have prevented the incident in the first place or would have mitigated the incident severity. Causal factors lead you to identifying root causes, i.e. the underlying issue that led to the outcome or the effect. You must address root causes by developing corrective actions. These corrective actions must be clear, evidence-based and directly linked to the root cause. It is important to note that corrective actions are most successful when your colleagues are involved in their development.

Write a Report to Tell a Story

There may be several draft versions of an investigation report. The finalized report should have sections that summarize the incident, describe findings, document observations, and state corrective actions that are explicitly linked to root causes. This covers the whole "story" of the incident, detailing what happened and why.

Communicating the findings to your colleagues and affected workers must be done in a sensitive manner to preserve the integrity of the investigation process. Following through on the investigation report means implementing corrective actions and checking on their effectiveness at a predetermined date in the future. This is an important step to ensure the investigation and corrective action process is successfully closed.

Investigating worker injury and illness incidents in the lab is a time-consuming process – but one that is worth the effort. You can be part of this process by completing incident investigation training and by being part of an investigation team. In doing so, you are directly contributing to the continual improvement of the OHSMS for the organization. The goal of incident investigation is to reduce the likelihood or the severity of an incident, something that has an impact on everyone in the lab.

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FROM BLOOD TO BRAIN: BLOOD-BASED BIOMARKERS FOR MULTIPLE SCLEROSIS

Multiple sclerosis (MS) is a chronic inflammatory disorder of the central nervous system in which neuroaxonal damage is closely related to clinical relapses and development of new brain lesions.[1] Neurofilament light chain (NfL) is a major structural component of neuronal and axonal cytoskeleton proteins.[2,3] Elevations in NfL in blood is thought to reflect neuroaxonal damage, presumably due to release of NfL from injured neurons/axons and spill-over to the circulation.[4] Apart from MS, elevated NfL has been reported in neurodegenerative diseases and traumatic brain injury, amongst others.[5,6] Increased levels of glial fibrillary acidic protein (GFAP), a protein in astrocytes, in blood may reflect astrocyte activation that accompanies injury of the central nervous system.[7] Elevated GFAP has also been reported in brain trauma and neurodegenerative diseases.[8,9] The emergence of these

blood-based biomarkers has created great excitement in the MS community, given that clinical practice relies on magnetic resonance imaging (MRI), history of relapses and neurological examinations for monitoring and prognostication.

Relapsing-remitting MS (RRMS) is characterized by relapses and development of inflammatory lesions visible on MRI.[1] These inflammatory lesions are indicative of neuroaxonal damage, suggesting that NfL and GFAP may be helpful biomarkers in this setting. Indeed, in RRMS, NfL levels increase in close association with relapses and the appearance of inflammatory lesions in the brain.[2,3] NfL levels also decrease after initiation of disease modifying therapies that prevent the appearance of new lesions and relapses, suggesting that NfL may be used as a treatment response biomarker in RRMS.[2,3,10] GFAP levels also correlate with relapses and inflammatory brain lesions in RRMS.[11,12] Researchers are hopeful that these novel biomarkers will be able to improve and simplify disease monitoring, and perhaps even dictate changes in management.

Progressive MS (secondary progressive, or SPMS, and primary progressive, or PPMS) is characterized by steadily increasing unremitting disability,[13,14] and relapses and inflammatory lesions are comparatively rare. As opposed to RRMS, immune-modulating drugs either fail to prevent progression or only have very modest effects.[15] Despite the growing evidence showing that serum NfL correlates with inflammatory disease activity in RRMS[1,2,4], the association of serum NfL with the slow, diffuse neurodegeneration that characterizes PPMS and SPMS is less clear.[4,16] In small studies in PPMS, baseline NfL levels were not predictive of progression and remained somewhat stable over time.[17,18] However, a larger recent study including patients from two randomized controlled trials (EXPAND trial of siponimod in SPMS and INFORMS trial of fingolimod in PPMS) found that baseline NfL was associated with disability progression in SPMS and PPMS.[19] Although these changes were seen in both patients with inflammatory activity or relapses and those without, the effects were less pronounced in those without inflammatory activity.[19] Furthermore, a longitudinal change in serum NfL was not associated with disability progression when only analyzing participants with no inflammatory disease activity in the ASCEND trial of natalizumab in SPMS[20] This suggests that NfL may not be as sensitive to detect slow, steady progression in the absence of relapses or inflammatory lesions visible on MRI.

Given that NfL is reduced after starting immune-modulating drugs in RRMS, where inflammatory activity is rampant, studies have also tried to determine if the same may occur in progressive MS. In SPMS, treatment with siponimod in the EXPAND trial or natalizumab in the ASCEND trial led to reductions in NfL,[19,21,22] but, again, the treatment effect-size was lower in the inactive subgroups. Importantly, the reduction in NfL in ASCEND was seen despite the trial being negative, as natalizumab did not prevent progression.[23] In PPMS, treatment with ocrelizumab (ORATORIO) was also associated with decreased levels of NfL,[24] but this was not seen in participants without inflammatory lesions on MRI, a result recently confirmed in a real-world study.[25] In the INFORMS trial of fingolimod in PPMS, NfL levels were also reduced, despite no treatment effect on disability progression.[18,26] These results once again suggest that the association between NfL and progression free of inflammatory activity in PPMS and SPMS may not be as strong.

The literature on GFAP and progressive MS is much smaller. In PPMS, serum GFAP was correlated with measures of disability, although there was no effect of immunomodulatory treatment on GFAP levels.[27] In a small study, biannual GFAP measurements in 25 people with PPMS failed to show significant change over time, prognostic value or significant correlation with disability.[28]

There is mounting evidence suggesting that NfL will be the first clinically useful blood-based biomarker in MS.[2,3,4,10] It is practical and economical, as blood is readily available in routine clinical practice, and the cost of assays is low comparable to MRIs. However, three main technical issues will need to be sorted out. First, NfL is modified by age and body mass index, so normative values will have to be determined.[10] Second, the technique for measuring NfL (Simoa© Bead-based assays) is not widely available.[29] And third, little is known of NfL dynamics (clearance, kinetics).[30] Additionally, the role of NfL and GFAP in monitoring disease progression and treatment response in SPMS and PPMS, particularly if there are no concomitant relapses or inflammatory lesions, remains unclear.

These emerging biomarkers should complement, and not supplant, current clinical practice, and consensus in the MS community will be needed to determine their precise roles. The hope is that NfL and GFAP may aid in developing personalized management decisions in an increasingly complex field. Nonetheless, NfL and GFAP are mainly structural proteins of neural cells, that tell us much more about their integrity (or injury) than their fuanction. Research into blood-based biomarkers that may offer insight into pathogenesis or therapeutic targets is warranted. Exciting prospects abound, including single cell sequencing,[31] micro-RNA's[32] and circulating immune markers.[33] The future of MS-biomarker research is bright.

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STOP MENTAL HEALTH STIGMA: USE C.A.R.E.

A disclaimer to readers: Please be advised that this article uses outdated terminology to illustrate real-life situations and provide context on how to incorporate a compassionate and destigmatizing lens towards mental illness.

Mental health stigma continues to be prevalent today, regardless of the many advancements and new ideas in 2022. The Canadian Mental Health Association (CMHA), Ontario division, defines stigma towards mental health as "a negative stereotype" which impacts the societal opinions and treatment of individuals who have mental health concerns or a mental health diagnosis.[1]

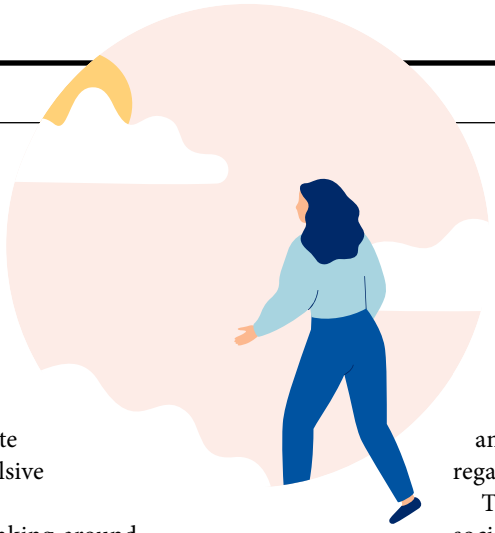
Stigma often results in discriminatory behaviours such as negative references, assumptions, and behaviours towards individuals with a mental illness. Such behaviours facilitate misinformation, judgment, and stereotypes. Public misperceptions may lead to feelings of isolation and low self-esteem for individuals with a mental illness.[2] In Canada, there are federal and provincial human rights that protect individuals with mental illness against discrimination within the workplace. Unfortunately, these protections can often lead to complex legal battles.[3] Discrimination surrounding mental illness continues as individuals who report a mental illness may be denied insurance or housing.[4] Furthermore, the Centre for Addiction and Mental Health (CAMH) identifies that stigma as a barrier for individuals seeking mental health care and prevents 40% of Canadians from accessing services for anxiety or depression.[5]

A source of mental health stigma is social media. A 2019 study found that mental health conditions were more stigmatized and trivialized than physical conditions on Twitter.[6] Schizophrenia was associated with the highest levels of stigmatizing vocabulary within tweets. Within the mental health illnesses discussed, obsessive-compulsive disorder was minimized throughout the studied tweets.[7]

As health care providers, I encourage you to reflect on how you think and talk about mental illness and determine whether you are, unintentionally, contributing to stigma through vocabulary. Because how you think and talk about mental illness ultimately plays a role in how you care for patients and in providing equal care to all.

I would like you to try an activity. Begin by reflecting on recent conversations with family, friends or coworkers where you might have used terms like "that's crazy!" or "how insane!" Do you refer to yourself as "a little OCD" if you tidy up a room in your house? Do you refer to individuals with substance use issues as "addicts?" These terms continue to be frequently used within society and perpetuate mental health stigma.

By now you may be thinking, "Well, Rosina, what is the harm in using those terms? I still believe in access to mental health



care. I know someone who has a mental illness." The harm is that those terms are outdated and they reduce mental illness to stereotypes. An individual who wants to clean their space does not necessarily translate to someone with obsessive or compulsive behaviours which affect their daily life.

To address stigma and reframe your thinking around mental illness, remember to C.A.R.E.*

Consider what you are about to say. Is it compassionate and understanding towards individuals with mental illness? Does it promote mental health and wellbeing? Think about the immediate reactions you have to mental illness and how those thoughts were developed.

Advocate for mental health awareness and education. If your friend uses an outdated term, remind them to discard that term and use one that reduces misinformation and stigma. If you see mental illness portrayed in a negative way in the media, stop watching the show or send in a complaint. Have you read about the lack of mental health services in your community? Reach out for more information and advocate for funding. Societal change starts at the ground level.

Revise your vocabulary towards mental health and mental illness. Recognize that terms such as "schizo," "crazy" and "addict" are outdated and perpetuate stigma. For example, using "that's crazy!" during a conversation. Replace those terms. Why not say, "that's intense!" or "I can't believe that happened!" Refer to individuals as people first, rather than their diagnosis. They may be an individual with an addiction or someone with lived experience of substance use.[8] Treat individuals with kindness, respect and dignity and offer support rather than judgment.[9]

Educate yourself on misconceptions regarding mental illness. That is, learn facts regarding mental health rather than relying on stereotypes. Mental illnesses are caused by a combination of factors, including genetics, environment and life experiences.[10] According to CAMH, "one in two Canadians have — or have had — a mental illness by the time they are 40."[11] However, access to mental health care is disjointed throughout Canada with less than half of individuals with a major depressive episode receiving basic mental health care.[12]

**Acronym was developed by the author based on research and experience within the mental health field*

To conclude, even in 2022 mental health stigma is often a barrier to mental health care and perpetuates stereotypes and harmful thinking regarding mental illness. You can address mental health stigma and increase awareness and support for mental health if you C.A.R.E.: *Consider* what you are about to say, *advocate* for mental health awareness and education, *revise* your vocabulary towards mental health and mental illness, and *educate* yourself on misconceptions regarding mental illness.

Together, we can support and empower our society and foster an open and caring perspective towards mental health and mental illness which benefits all Canadians.

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CREATING A PATH TO SUCCESS

THROUGH CLINICAL PLACEMENT

Clinical placements are an essential part of a medical laboratory student's path to certification and entering the workforce as a confident and capable, new professional. Having been directly involved with placement facilitation for the past year, managing and approving incoming practicum requests for laboratory students in Nova Scotia, I have learned that there are many benefits to placement for both the students and the practicum host lab. Ensuring all sides have a smooth and constructive experience is also a balancing act – one that we can work to maintain.

Benefits of Placement

Ensuring students have a robust understanding of their workplace ahead of their hire certainly benefits both the students and their employers. Clinical placements enable assessment of students for future employment and can provide understanding of particular competencies which may be site- or area-specific (e.g. particular instruments). This allows recent students more opportunity to hit the ground running upon hire.

Partnering with educational institutions fosters a mutually beneficial relationship. Clinical placements help deliver experience around work ethic and professional values and practices, which are difficult concepts to convey during the didactic portion of laboratory programs, but essential to clinical working life. Once students reach an appropriate level of competency, they can also make a real contribution to the health organization, assisting in some capacity with workloads in any number of laboratory settings.

Participating in the clinical placement process allows staff to perform a supervisory role. While the groups may be small, and are comprised of students, it does represent one of the only opportunities for front-line laboratory employees to act in a role that mimics supervisory duties to some degree. This can provide valuable experience for staff looking to gain this experience.

WHAT STUDENTS SHOULD KNOW

What's MacDonald's advice for students entering clinical placement? Ask questions, make connections with the right people, and manage your time wisely. Read his full article at **csmls.org/Career-Centre/Career-Corner**

Did You Know...?

A confirmed clinical placement for each medical laboratory student is required under EQual (Accreditation Canada) program accreditation. While placement length may very, this requirement is one of the strengths of the Canadian medical laboratory education system.

Facilitating a Good Start

It takes a great deal of time to arrange, manage and coordinate placements, so the further ahead placement facilitators start crucial tasks, the better off the whole process is. To help prepare our sites, I try to keep well ahead of the game, and notify areas of incoming cohorts, months in advance. This includes maintaining our placement map and projections, which I use to help identify and remedy conflicts when various cohorts might overwhelm our ability to provide the clinical experience they need.

Determining exactly how we can support the class, and how many we can accommodate at each laboratory, is a key piece to safeguard areas from becoming overwhelmed. Once that is determined, I need to ensure each site understands how many students are coming, when they will arrive, how long they will be with us, and what competencies we need to impart in that timeframe. Having host locations prepare student schedules early in the process, makes sure there is time to iron out any confusion or concerns.

There is a lot of back and forth with the educational institutions themselves; questions inevitably arise regarding timelines, handbooks, locations and any number of other items pertaining to the practicum experience. Getting those answers in a timely fashion is crucial to helping our teams be fully prepared when a student arrives.

How to Support Student Success

These weeks or months of clinical placement are an intensely stressful time for the incoming students. Many institutions require continued academic engagement during the practicum, such as assignments and tests. The students also face the certification exam, and school exams, likely shortly after the conclusion of the practicum. These looming dreads can weigh heavily, and students don't get much rest in their off-hours, as preparation is crucial. To promote student success, preceptors need to be able to impart the needed practical skills, learning, and experience, while also supporting an environment that takes all these pressures into account.

Another aspect each preceptor should be cognizant of is their own level of expertise in the material being taught. After many years of experience, it becomes very easy in the laboratory, with ever-growing levels of workload and expectations, to know what needs to be done, and simply do it. The students, however, lack the benefit of such familiarity with the material, and need to be guided regarding what step to take next, and perhaps even more importantly, why these steps need to be taken. Explaining every piece of the process can feel unusual, but it is crucial for individuals who are just beginning their journey.

The clinical placement process is extremely rewarding, both for the student and the laboratory, but it doesn't come without some sacrifice and effort from both sides. The laboratory is operating in a period of heavily limited resources, and students are propelled into multiple unfamiliar learning environments, with a certification exam on the horizon. It's when we all keep in mind the complexities and pressures we are navigating, factor those in and make allowances as we can, that we each get the most value from the experience. J

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JOIN THE CELEBRATION

We'll be releasing special anniversary content throughout the year. Be sure to subscribe to eNEWS and follow our social media channels to see every update and join the celebrations.

Celebrating 85 Years: 1937 – 2022

A SOLID FOUNDATION

On the 20th of May, 1937, 85 years ago, four visionaries brought an idea to life; an idea that would change the future of the medical laboratory industry and create a profession. On that day, they incorporated an association, named the Canadian Society of Laboratory Technologists (CSLT), that was dedicated to supporting medical laboratory professionals across Canada. While our name was officially changed to the Canadian Society for Medical Laboratory Science (CSMLS) in 1997, 60 years into the founders' legacy, the Society's founding story remains a solid reminder of the passion that created this incredible community.

Helen Smith, an original founder and employee at the Hamilton General Hospital (HGH), dreamed of a professional association for laboratory workers, but recounted a rocky path to creating the CSLT. "We found it much more difficult to reach and interest people than we expected, so we decided to form a society and go for a charter," she recalled. Smith's fellow founders, Frank Elliott, senior HGH biochemist, Dr. William Deadman, supervising pathologist, and Denys Lock, helped recruit nine supporters to apply for a Dominion Charter in 1936. But the group faced more challenges when the Canadian Medical Association (CMA) protested the use of the term "Medical Technologists" in the society name, as they felt it implied the members were doctors. The charter applicants revised the society title to include "laboratory technologists," and the society was finally established. The founders were then so successful in gathering more members that, by May 1937, the Society had amassed 65 members from across Canada.


Denys Lock


Frank Elliot


Helen Smith


William Deadman

As for the founding four, three became society leaders: Elliot became the first president of CSLT, Lock the first treasurer, and Smith the first secretary. Their passion and drive forged the path in gaining representation of the medical laboratory profession in Canada — a path that has allowed their successors to remain strong in their mission to be the voice of medical laboratory science.

Now, in 2022, we are proud to reflect on the many contributions of the Society and its members to the profession as a whole. Still located in Hamilton, Ontario, more than eight decades later, the Society's original purpose and ambitions remain the same: to recognize and support the incredible professionals in Canada's medical laboratories working tirelessly to inform patient care.

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THE FUTURE IS HERE: ARTIFICIAL INTELLIGENCE IN THE MEDICAL LABORATORY

For decades, we have been speculating on how our world will change with new innovations and technology introduced to our workspaces. A 2021 survey of laboratory stakeholders found that 66% of respondents felt they would use artificial intelligence (AI) in the future, but were unsure on how. Perhaps this is why speculation on AI is often shadowed by the fear that these new technologies will take over jobs, rendering humans obsolete and unemployed.

Leah Brown (left) and Microbiology Manager, Alexandra Parks outside of the Brampton, Ontario, laboratory. Photo courtesy Leah Brown.

While Brown and her team completed the implementation, they estimated the AI system would reduce their time spent handling urine cultures by

50 per cent

In reality, the future of AI in the workplace is already here in medical laboratories across Canada. AI is defined as a machine system that has the ability to learn new concepts and perform tasks that require some sort of intelligence, such as visual analysis. The early adopters of AI technology in the lab use it to process, identify and read samples, and they see elements of the technology already shaping the future of the lab.

AI as a Solution

Leah Brown, a technical specialist at Dynacare's Brampton, Ontario, location, has felt the shortages that have been clearly creeping into the workforce, with a generational retirement wave reaching its crest. This medical laboratory technologist (MLT) shortage, coupled with rising testing demands, has reached what Brown calls "a tipping point." But she believes this has inspired new strategies to streamline work in the lab.

In Brown's lab, "more than 50% of the MLTs' time is spent handling urine cultures." Urine cultures comprise the majority of her lab's microbiology sample volume, and the manual process is time consuming. Seeing a chance to increase efficiencies, the laboratory management team looked for a problem-specific solution.

In 2016, Brown's team installed three walk-away specimen processors for use in plating urine specimens that were submitted to their lab for culture and sensitivity. These specimen processors later became part of a WASPLab© system, installed in 2021. The system changed once again in 2022 with the installation of PhenoMATRIX, customizable AI software, to automatically pre-assess and pre-sort culture plates and segregate bacterial cultures. The new AI system alleviated manual steps in the process, including walking plates to incubators, pre-sorting plates, navigating a computer drop-down menu to assign colony counts, and identifying microbial sensitivity tests.

While Brown and her team completed the implementation, they estimated the AI system would reduce their time spent handling urine cultures by 50%, freeing much of the MLTs' time. As this enables staff to redirect their time and effort to other tasks, such as analytics and other analysis more direct to patient care, Brown sees AI technology as a way to provide the highest quality of patient care while alleviating the stress on lab staff by the MLT shortage and high testing demands.

Adapting to Changes and Challenges

Brown is proud that her lab is one of only four microbiology labs across Canada using this system, and she credits this network of early adapters as a support hub. "We were able to connect with other users that did implement the PhenoMATRIX before us," says Brown. "There's tremendous value in this form of knowledge transfer."

This knowledge transfer was essential when attempting to predict challenges. For example, the other labs warned Brown on the hurdle of reading a bacterial culture plate within the new system. With the new system, the MLTs no longer read plates in their hands, where they can tilt and angle the plate at their will, but via digital image. Brown recalls a period of trial and error to find the ideal illumination and additional settings for optimal plate reading. For example, the team had to learn how to differentiate between bacterial growth and dust or artifacts.

Another challenge Brown recalls was how to best leverage laboratory information system (LIS) data to ensure the proper level of scrutiny for each test. Brown points to pregnant patient samples as an example. "We really want to comment on the presence of Group B streptococcus in that culture. So, the challenge became, 'how do we identify that subgroup of patients with our LIS and the

With the new system, the MLTs no longer read plates in their hands, where they can tilt and angle the plate at their will, but

via digital image

A general configuration of the WASPLab system as it would appear in the lab. Image courtesy Copan.

> "To create good clinical solutions, you need clinicians. If we can get clinical users more in tune with development, they'll be able to make better requests and developers will be able to produce better products,"
>
> *–Mohamed Rizk*

information available?' Because, ultimately, that information needs to be sent to WASPLab® and the PhenoMATRIX®, so that we could do something with it," she explains.

Planning for Success

According to Brown, thorough planning is the best way to ensure success, including contingency plans, anticipating challenges, and steps to re-evaluate the project's state throughout implementation.

Just like other technologies, AI needs attention after installation. Any technology can fail, so Brown's team needed to plan strategies for surveillance "that can prevent and minimize downtime… so that you're not reverting back to manual processes," she says. This should also include procedures with contingency plans that allow the team to keep processing tests if the AI system is down and maintenance plans to reduce the risk of downtime, all of which should be monitored and adjusted over time to ensure

the system's optimal performance.

Successful implementation also takes collaborative planning to set goals every stakeholder is onboard with. Brown believes that constant communication is key, as stakeholders, medical laboratory technologists utilizing the AI system, vendors and IT team all need to set clear goals and expectations from day one. It can be financially costly "if you're required to go back to the vendor and have them rework software setups down the road due to poor planning," notes Brown.

Shaping AI Technology

A new certificate program at the Michener Institute of Education at UHN (Michener) was created to meet such a challenge. Jane Mattson, cytotechnologist and Manager of Continuing Education at Michener, saw a need for a program that would empower clinicians to use AI to the very best of its capability before it even arrived at the lab. Mattson and Mohamed Rizk, now the lead developer of the program, then created a certificate program to educate healthcare providers on how to use AI and information systems effectively, now and in the future.

The Artificial Intelligence in Healthcare Certificate Program is a 15-month program that is open to both health care providers and IT professionals, since they are both necessary stakeholders in optimizing the use of AI in health care. In fact, Rizk is passionate about involving clinicians in the development of AI. "To create good clinical solutions, you need clinicians. If we can get clinical users more in tune with development, they'll be able to make better requests and developers will be able to produce better products," he says.

Rizk stresses that AI systems need constant input to continually improve and deliver the best results. Since health care providers are the source of this input, they should guide the technology. To do so, the course teaches MLPs the language and skills they need to communicate and develop solutions working with AI developers, vendors, and IT teams. Armed with the skills to understand the coding behind the technology, this course creates a group of MLPs capable of not only implementing, but forming the AI systems to their needs.

Leah Brown (front right), Microbiology Manager, Alexandra Parks (middle right) and her colleagues standing in front of the WASPLab system. Photo courtesy Leah Brown.

TEST YOUR KNOWLEDGE

Complete a quiz on this article at **learn.csmls.org** to earn Professional Enhancement Program (PEP) hours towards your professional development plan.

A Tool for the Future

Many students in the Michener AI program are MLPs, and some still feel intimidated by AI technology. As for the fear of AI "displacing" trained professionals in the lab, Mattson says that won't happen. Instead, she describes AI as a tool that complements the skills of MLPs and eliminates repetitive, manual steps. Rizk and Brown echo the idea of using the tool of AI as the key to positioning laboratory teams for success in the future, especially in understaffed and over-tasked teams.

When we look closely at its implementation and use, we see that AI technology is not replacing the skills and expertise of the lab professionals, but enhancing workflow and "giving back" valuable time that enables lab professionals to work on higher-value tasks. And through optimizing an AI system, with both enhanced customization and thorough planning, MLPs can now be directly involved in the technologies shaping the future of the lab.

As for who will be leading this change, Mattson sees the naturally inquisitive leaders, MLPs who question the norm and aim for improvement, at the forefront of the implementation curve. Positioning these lab leaders at the forefront of AI adoption could be the key to providing the power MLPs need to carve out efficiencies and make positive change in their labs. J

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Professional Recognition Programs Recipients

APRIL 1, 2021 TO MARCH 31, 2022

We strive to provide the resources you need to help you reach your career goals and meet your professional development needs. Details on CSMLS Professional Recognition Programs are available at csmls.org under the Professional Development tab.

Congratulations to the following members who have recently earned:

Certificate of Continuing Professional Studies (CPS)

General Medical Laboratory Technology
Sandra Nicole Dekker

Laboratory Quality Management
Jeff Ray Arlan Sanchez

Knowledge Certificates

Certificate in Quality Systems for the Clinical Laboratory
Kelly Drover
Kerry Kidney
Sharon A. Mayos
Lorna E. Osmond
Sangeeth Rajkumar
Jenna Williams

Certificate in Phlebotomy Essentials
Megan Barker
Camila Duarte De Almeida
Rhazel Lauron
Sulabhsinh Ganpatsinh Solanki
Carol Ann Yarmolinski

Certificate in Transfusion Medicine Challenges
Gabrielle Moreau

Certificate in Basic Microbiology
Laila Al-Aref

Professional Enhancement Program (PEP)

Lori Donovan
Kelly Drover
Eric Hoiland
Britney Hrywkiw
Kari Marie Laird
Debbie Elaine Maki
Carlene McCaffrey
Harpreet Shoker
Jennifer Smith
Emma Stephens
Jennifer Williams
Amanda Wong
Donna Young
Jiachun Zheng

Our Leaders' Lasting Legacies

Recognize a colleague or fund your future! View our full range of grants, scholarships and awards at **csmls.org > Membership > Members Only > Grants, Scholarships and Awards.**

Members throughout CSMLS' history have made lasting contributions to the profession and Canadian health care. Some of the most influential members are now part of our legacy through our grants, scholarships and awards. The memory of their contributions lives on and inspires the current generation of professionals through awards that are named after these leaders. In honour of our 85th anniversary, let's meet the people behind the awards.

A.R. Shearer Pride of the Profession Award

In celebration of its 60th anniversary, CSMLS established the A.R. Shearer Pride of the Profession Award. The award is named in honour of Archie Shearer, CM, BA, FCSMLS, who was recognized with the Order of Canada for his contribution to Canadian health care during his service as CSMLS's executive director from 1961 to 1980. Shearer also served as CSMLS president in 1954.

The A.R. Shearer Pride of the Profession Award celebrates and recognizes medical laboratory professionals who demonstrate pride through their leadership, outstanding achievements and commitment to excellence. Like Shearer, they consistently go above and beyond in all aspects of their professional and personal life; reaching further than the walls of their department or organization to enhance the image of the profession. This award is a lasting legacy of Shearer's drive, both in and out of the lab.

E.V. Booth Scholarship Award

The E. V. Booth Scholarship Award was created in honour of Valerie Booth, CSMLS executive director from 1980 to 1999, who succeeded the retiring Archie Shearer. Booth's tenure as executive director saw much change in the profession, including the start of widespread regulation, health care reform, the closing and reopening of academic programs, the start of organized advocacy efforts and the changing of the Society's name from CSLT to CSMLS.

Established for her retirement in 1999, this fund assists CSMLS members complete university-level education in medical laboratory sciences. The fund is supported through donations from members, friends and corporations who wish to see the goals of this scholarship fund achieved. Renowned for her leadership, Booth's legacy helps foster individual growth within the profession.

David Ball Award

Medical laboratory professionals make valuable contributions to the health and well-being of Canadians, but many also contribute to their communities as volunteers. The CSMLS Board of Directors established a special award to recognize medical laboratory professionals who volunteer their time and talent to make a difference in their communities.

The award is named in honour of 2001 CSMLS President David Ball. Ball was an outstanding person whose influence extended far beyond the laboratory. Not only was he a leader and an advocate for his profession, but he was an active volunteer in his community of Deer Lake, Newfoundland.

The David Ball Community Service Award is presented annually to a CSMLS member who has made a significant contribution to their community through volunteer service, carrying Ball's commitment to community through the years.

The Gaman J. Modi Award of Excellence

The Gaman J. Modi Award of Excellence is a prestigious award named after Gaman Modi, an honorary CSMLS member who served on the CSMLS Board of Directors from 2002 to 2003. Modi has published more than 30 papers and worked in clinical and research laboratories in Toronto and around the world. He has multiple awards to his name, including the CSMLS Gold Medal (2004), as well as nominations to the Order of Ontario (2006) and Order of Canada (2019).

Founded in 2019, and continually funded by Modi himself, the award recognizes members with a passion for medical laboratory science, reflecting a consistent and genuine display of the 3Cs: commitment, competence and compassion. Recognizing both his passion and distinction, the award is a reflection of Modi's reputation for excellence in patient care.

Society News

LOBBY DAY RETURNS TO PARLIAMENT HILL

For more than ten years, CSMLS has been organizing Lobby Day, originally dubbed Day on the Hill, a flurry of federal lobbying meetings where CSMLS staff and volunteers travel to Ottawa's Parliament Hill to meet face-to-face with members of parliament (MPs). These meetings are a direct channel of communication to federal representatives, and we leverage this opportunity to convey your concerns, as well as solutions, regarding major issues surrounding the profession. Over the years, these meetings have paid large dividends, earning us letters of support, opportunities for research funding, and opening the door (and the ear) of the Prime Minister's office.

For the past few years, the urgency of the MLT shortage has been the main point of our Lobby Day messaging, with our Call to Action strategy being front and centre. Last year, pandemic protocols prevented our team from meeting MPs in person, but we continued our lobbying tradition virtually. We pivoted to bring federal attention to the profession and lobby on your behalf when it mattered most.

This year, CSMLS returned to Parliament Hill with a bang. Not only did Lobby Day turn into Lobby Week, we met with MPs and federal representatives in person and virtually to share our message with as many people as possible. We also came with a

very specific ask: a letter of support for our federal grant application with Employment and Social Development Canada. Submitted in early March, this grant would provide more than $2 million in funding for initiatives aimed at improving the HHR crisis.

This is a multi-faceted proposal for a capacity building strategy for medical laboratory science. The funding would back six separate, yet inter-related projects all aimed at three key areas of focus:

1. increasing the supply of MLTs in Canada;
2. integrating internationally trained MLTs into the workforce;
3. and improving retention of those already licensed and employed.

Some of the specific projects aimed to support these focus areas encompassed in the grant include:

- the creation of a guidance document for educational programs to support laddering medical laboratory assistants/technicians to medical laboratory technologists
- the continuation of the Work Integrated Learning program to subsidize employers to administer clinical placements for internationally educated MLTs looking for licensure in Canada
- the development of mental health resources and counselling to counter workplace burnout and improve retention

By combining in-person and virtual meetings, CSMLS staff and volunteers were able to relay this message to more than 30 MPs and other federal officials, including Senator Margaret Anderson. To maximize the impact of these meetings, we are following up with each MP to encourage them to formally support our grant application, and ultimately fund solutions to the dire MLT shortage.

We respect the time and effort it takes, from both sides of the table, to organize this lobbying event. Thank you to each of our CSMLS volunteers for devoting your own time to participate in Lobby Day. The event would not be a success without you. To maximize our 2022 efforts, we'll be following up with each of the MPs we met to provide more information and confirm support

Bonita Zarrillo, MP for Port Moody-Coquitlam, discussed the MLT shortage with CEO Christine Nielsen and Director Kim Alkalay

CSMLS representatives held a virtual meeting with Senator Margaret Anderson

We would also like to thank each of the MPs who took the time to meet with us amid their busy schedules. Lobby Day is part of a long-standing initiative to create and strengthen relations with federal policy makers and this takes time and effort.

for the profession. While we continue to leverage our federal connections, we take a non-partisan approach, helping everyone understand the value and contribution medical laboratory scientists make to the lives of Canadians. We will continue to advocate for investment and change on your behalf, at all levels of government.

Director Kim Alkalay (left) and Director Lynn Courteau met with MP for Kildonan-St. Paul, Raquel Dancho.

NATIONAL VOICE

As the National Voice of Canada's medical laboratory profession, CSMLS represents the needs and concerns of medical laboratory professionals when working with laboratory and health care-related organizations. The CSMLS Board of Directors, staff and volunteers attend meetings, conferences and events on behalf of CSMLS members and the entire medical laboratory profession.

The Society continues to take the necessary precautions to keep staff, collaborators and members safe, so many of the meetings that are usually attended in person are now virtual or via phone. Not all of those events qualify for the National Voice; however, your representatives have been working with media, policymakers and collaborators each month. Here is where your voice was heard recently.

FEBRUARY

Nova Scotia Community College MLT Student Presentation: "Social Media and Your Professional Reputation"
VIRTUAL PRESENTATION

Virtual Interprofessional Education (IPE) for Medical Laboratory (ML) Learners Partner Meeting with OnTechU
VIRTUAL MEETING

Canadian Network of Agencies for Regulation (CNAR) — Education/Research Committee
VIRTUAL MEETING

Canadian Institute of Health Research (CIHR) Minimum Data Set Standard for Health Care Practitioners – Partners Meeting
VIRTUAL MEETING

Government of Canada Grant Application Meetings
VIRTUAL MEETING

EQual (Accreditation Canada) Council Meeting
VIRTUAL MEETING

MARCH

Colleges and Institutes Canada (CICAN) Lunch and Learn Session — Presentation to Deans of Health Sciences: Survival Solutions for an Association During a Pandemic
VIRTUAL PRESENTATION

Clinical Laboratory Educators Conference – Presentation: Creating Boundaries of Simulation for Clinical Practicum for MLTs
VIRTUAL CONFERENCE

Presentation: Boundaries of Simulation for Clinical Practicum for MLTs with EQual (Accreditation Canada)
VIRTUAL MEETING

Organizations for Health Action (HEAL) Health Human Resources (HHR) Taskforce Meeting
VIRTUAL MEETING

Public Health Agency of Canada (PHAC) Meeting
VIRTUAL MEETING

HEAL Quarterly Meeting
VIRTUAL MEETING

EQual Stakeholders Meeting
VIRTUAL MEETING

Lab Wisely Taskforce (Choosing Wisely Canada)
VIRTUAL MEETING

Manitoba Association of Medical Laboratory Science Annual General Meeting
VIRTUAL MEETING

Health Care Worker Crisis Summit Part II – Hosted by the Canadian Medical Association and the Canadian Nurses Association
VIRTUAL MEETING

CICAN Virtu-WIL Advisory Committee Meeting
VIRTUAL MEETING

The Michener Institute of Education at UHN – Career Fair MLT Student Presentation
VIRTUAL PRESENTATION

Michener Benchmarks Presentation: Capacity Building: MLA to MLT Career Laddering Program and What About Me? Advocating for Medical Laboratory Professionals
VIRTUAL PRESENTATIONS

APRIL

EQual Governance Committee
VIRTUAL MEETING

Virtual IPE for ML Learners Partner Meeting with OnTechU
VIRTUAL MEETING

Conference Board of Canada – National Immigration Centre (NIC) Spring Member Meeting
VIRTUAL MEETING

Forum meeting with the Canadian Alliance of Medical Laboratory Professionals Regulators (CAMLPR)
VIRTUAL MEETING

Anderson College – IEMLT Program Funding Meeting
VIRTUAL MEETING

CNAR Education/Research Committee
VIRTUAL MEETING

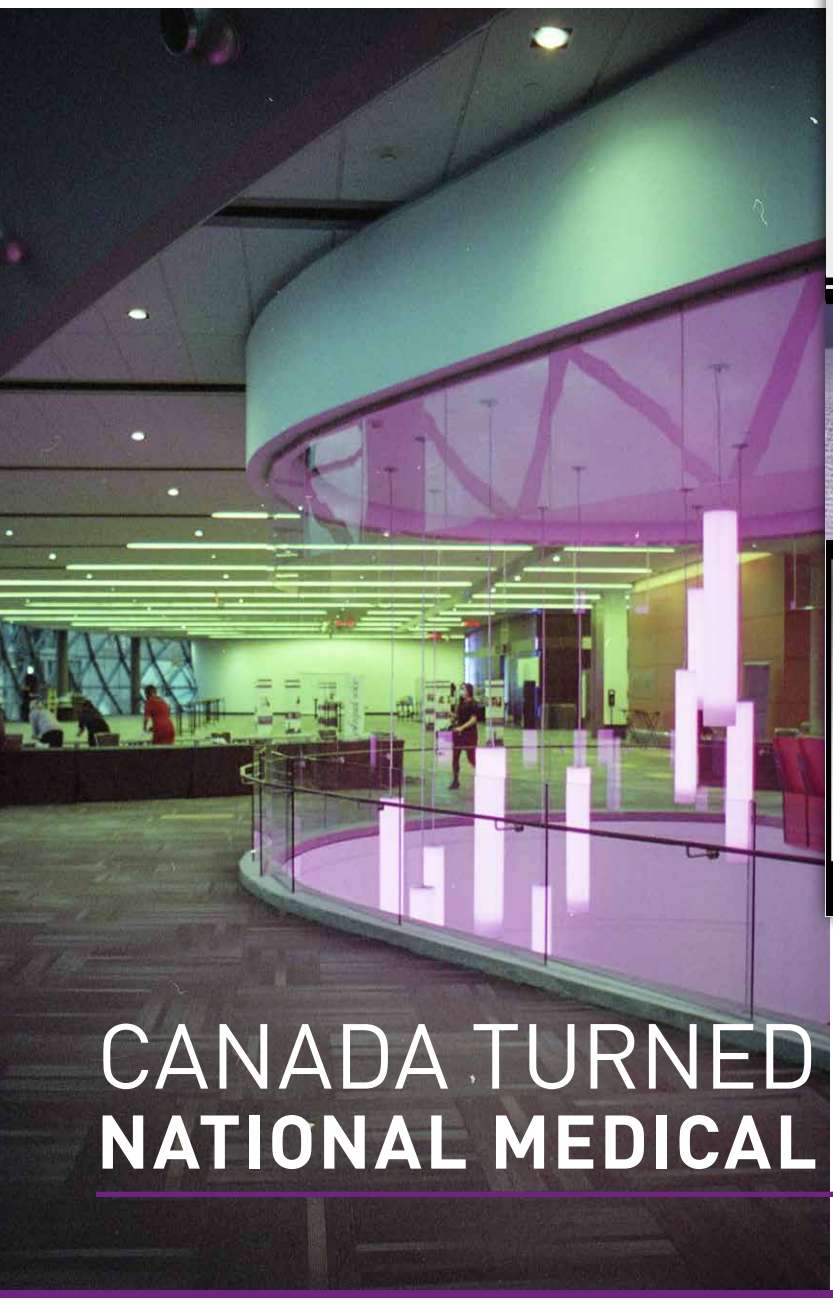
The Michener Institute of Education at UHN – Program Advisory Committee Meeting
VIRTUAL MEETING

Canadian Institute of Health Research (CIHR) Minimum Data Set Standard for Health Care Practitioners – Partners Meeting
VIRTUAL MEETING

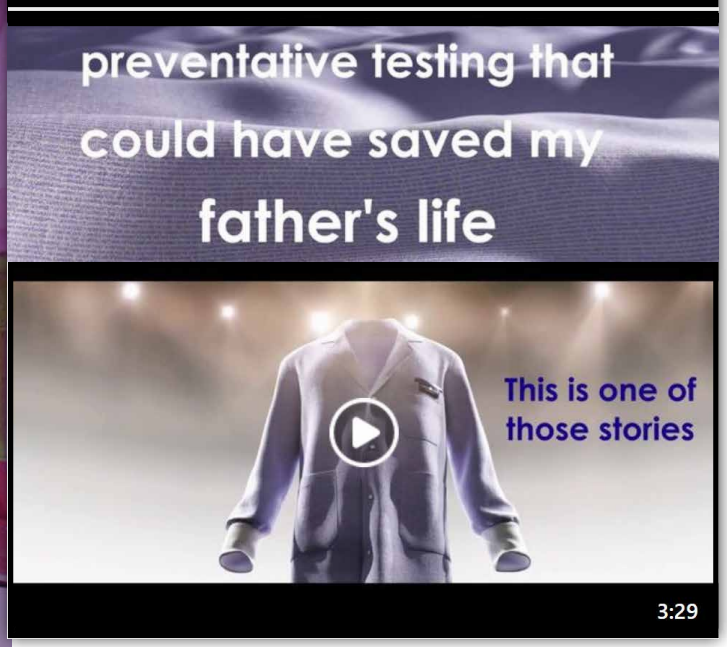
HEAL HHR Taskforce Meeting
VIRTUAL MEETING

Educational programs are key in contributing to the steady growth of the medical laboratory professional workforce; however, the limited number of course seats continues to impact the bottleneck, contributing to the MLT shortage.

As part of our Call to Action campaign, a long-term solution to the MLT shortage, CSMLS fosters relations with educational institutes offering MLS programs. A large part of this process includes meeting with deans and top faculty members to confirm the value of these programs, encourage their growth, and ultimately help more MLTs enter the workforce.



Watch each of the member stories at **medlabprofessionals.ca** – and don't forget to share them throughout the year to raise awareness of your incredible dedication to patient care.



CANADA TURNED INDIGO FOR NATIONAL MEDICAL LABORATORY WEEK

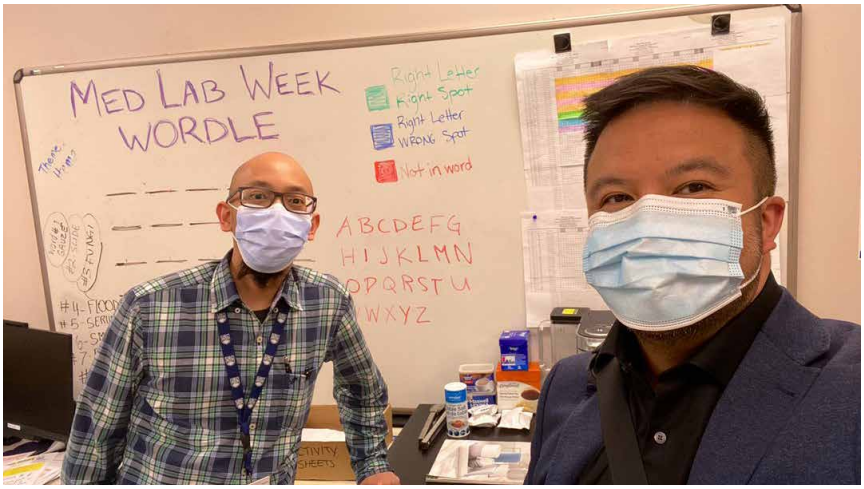
April 10 – 16, 2022

Ottawa's Shaw Centre hosted indigo light displays inside and outside the convention centre all week long. Photo courtesy Shaw Centre.

Canada was ready to celebrate and recognize all that you do this National Medical Laboratory Week, and you helped keep the public's attention on the lab with new advocacy tools, all branded with the much-loved Indigo Lab Coat.

A five-part video series was the newest element of this year's campaign. Throughout Lab Week, we shared true stories from your colleagues about how their work has directly impacted patients' lives. These personal, and often emotional stories, told in each member's voice, helped patients, families and friends truly understand your role in patient care. Thank you to Andrew, Deb, Hilary, Jamie, and Tina for working with us to create the videos, which were collectively seen more than 60 thousand times and continue to be viewed on our Facebook and YouTube channels.

Thanks to custom illustrations provided by CSMLS member, MLA and artist Noemi Divino (@stuffomatic), the Indigo Lab Coat once again took on the role of ambassador to the profession. Indigo Lab Coat-themed word games, colouring pages, fact sheet and more turned the Lab Week Celebration Toolkit into a fun and effective trove to help you advocate for the profession.



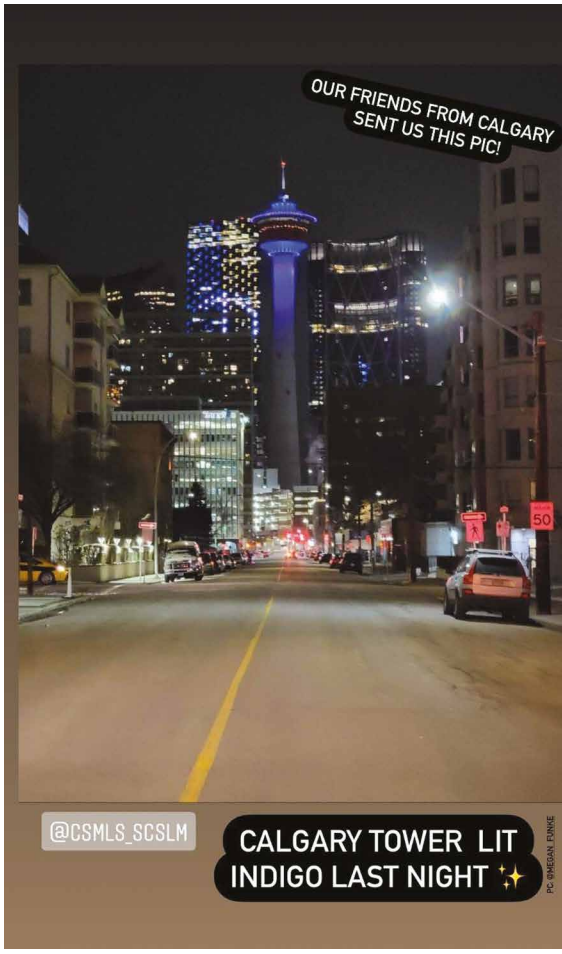
CSMLS Past President Joël Rivero (right) and CSMLS member Ivan Aditya created a festive word game for Lab Week. Photo courtesy Joël Rivero

You can find a selection of member celebration posts in the **"Lab Week 2022"** highlight reel on our Instagram page: **@csmls_scslm**

We saw more health care organizations and partners than ever mark the week, and a record number of landmarks joined the celebration. 19 locations hosted a Lab Week light display, including Toronto's CN Tower, Edmonton's High Level Bridge, SAIT'S Centennial Art Installation, Halifax City Hall and many more.

Thank you to everyone who tagged us in your social media celebration posts. From agar art to sweet treats, your creative celebrations inspired members across Canada. You can find a selection of member celebration posts in the "Lab Week 2022" highlight reel on our Instagram page (@csmls_scslm).

Lab Week 2022 was one to remember. Thank you to everyone who used our advocacy tools and celebrated throughout the week. We can't wait to celebrate with you again next year!

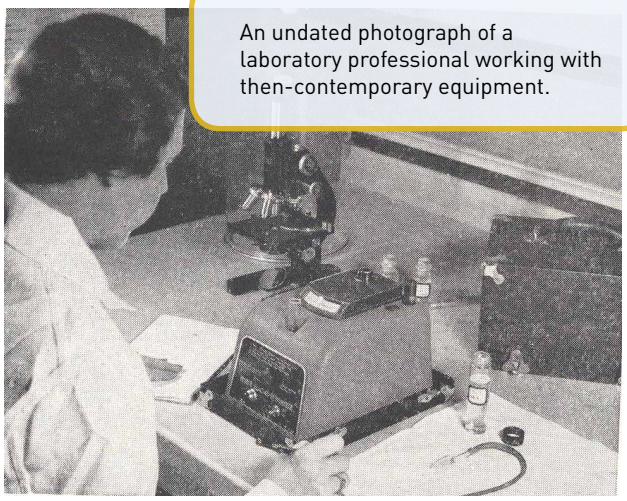


The Medical Laboratory Students Association (@mlsassociation) shared a photo of the Calgary Tower via Instagram.

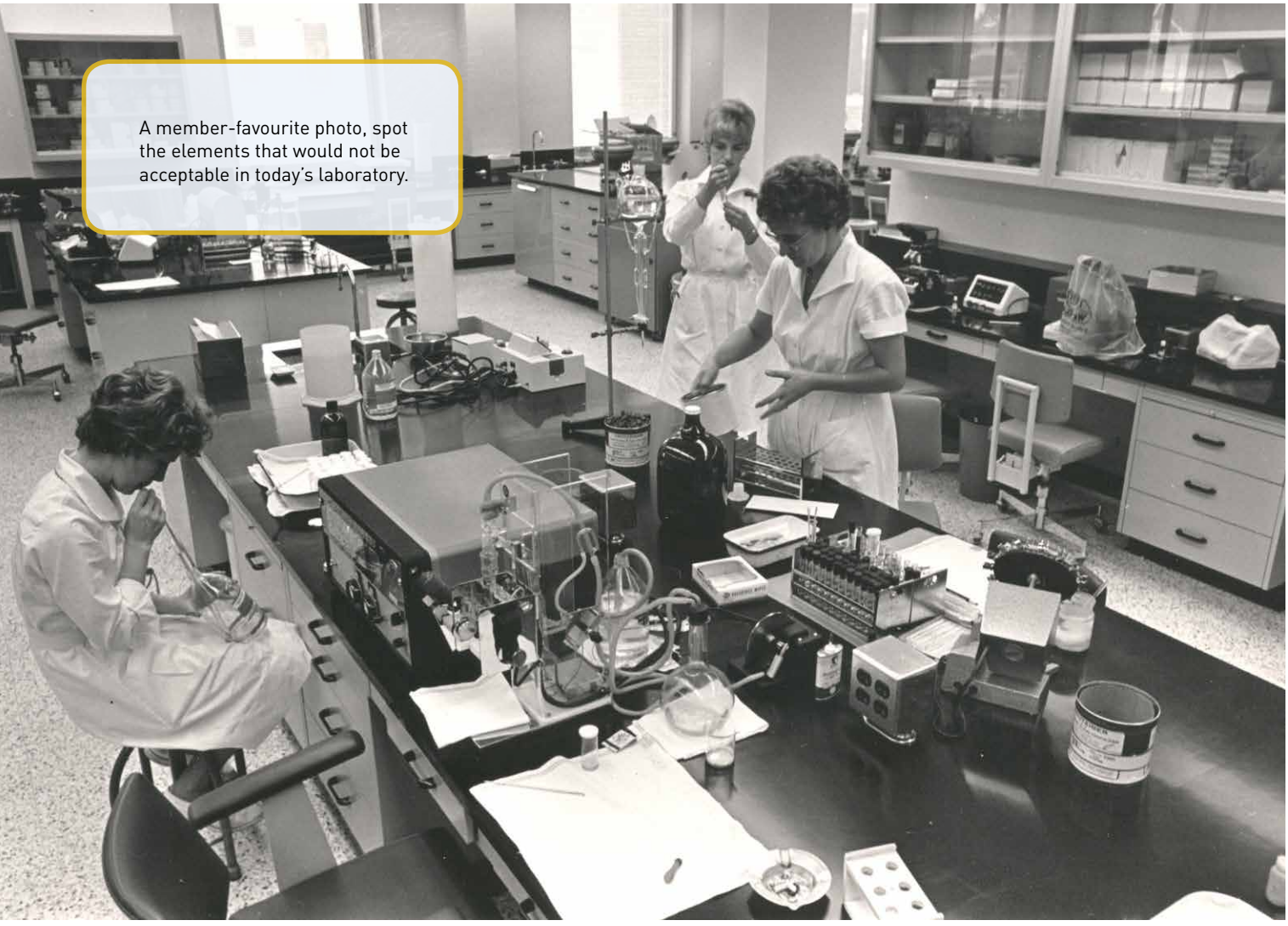
The CN Tower was lit in indigo for Lab Week. Photo courtesy CSMLS member Wendy Nip.

85TH ANNIVERSARY: **OPENING THE VAULT**

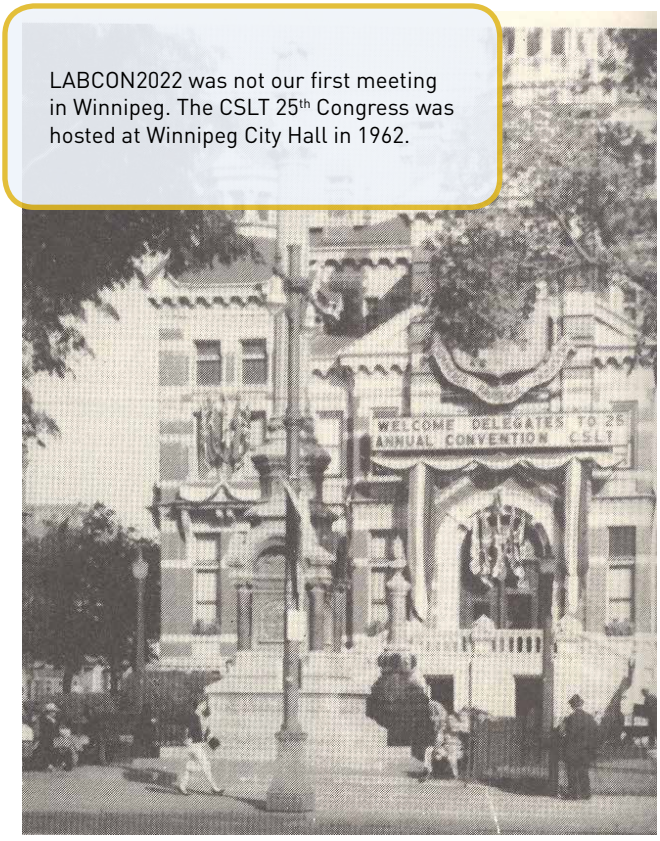
There's no better time to take a trip down memory lane than an anniversary. Photos from decades past help us reminisce about the very different protocols and safety procedures and show us just how much laboratory technology has changed – not to mention hair and clothing styles, too.



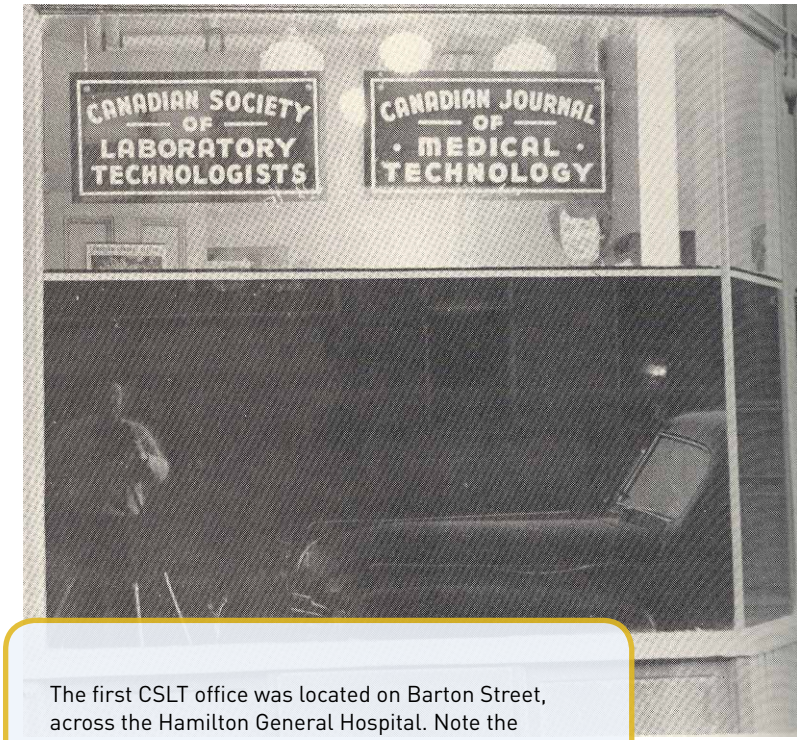
An undated photograph of a laboratory professional working with then-contemporary equipment.



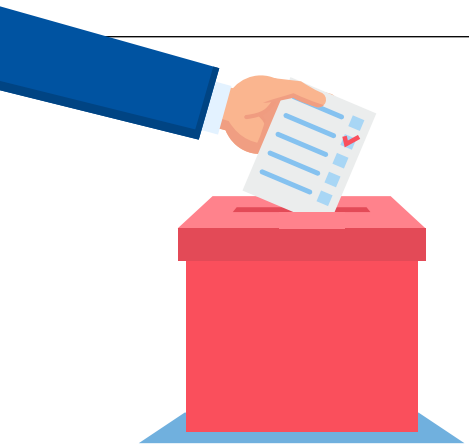
A member-favourite photo, spot the elements that would not be acceptable in today's laboratory.



LABCON2022 was not our first meeting in Winnipeg. The CSLT 25th Congress was hosted at Winnipeg City Hall in 1962.



The first CSLT office was located on Barton Street, across the Hamilton General Hospital. Note the reflection of the car model in the window.



BOARD OF DIRECTORS **ELECTION RESULTS**

Stemming from the 2022 Board of Directors election held this spring, four new faces will be joining the CSMLS Board to represent the profession at the national level. Thank you to each of our members who took the time to vote and exercise your membership right. This year, voting was exclusively online, and the results of the election were confirmed by an auditor.

Two new members of the Board were announced and two members were officially welcomed into acclaimed positions. Congratulations to Tiffany Clouston, Director, Atlantic, and Allie Shields, Director, Medical Laboratory Assistant, both elected to their respective roles. And congratulations to the incoming directors, filling the acclaimed positions, Valentin Villatoro, Director, Alberta, Northwest Territories and Nunavut, and Marie-France Jémus, Director, Bilingual.

The incoming vice president was elected by the current Board of Directors, at their June meeting. Congratulations to Kim Alkalay, who will serve as vice president in 2023 and advance to president for the 2024 term.

Each of the incoming directors and the new vice president will begin their terms in January, 2023. Congratulations to the incoming directors, and thank you to each nominee who ran for office.

Kim Alkalay, incoming Vice President

Allie Shields, incoming Director, Medical Laboratory Assistant

Marie-France Jémus, incoming Director, Bilingual

Tiffany Clouston, incoming Director, Atlantic

Valentin Villatoro, incoming Director, Alberta, Northwest Territories and Nunavut

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