



# Responding to the needs of medical laboratory professionals: The CSMLS Mental Health Toolkit

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## ABSTRACT

Canadian Society for Medical Laboratory Science (CSMLS) is Canada's national certifying body and professional society for medical laboratory professionals. Their research revealed increasing levels of workplace stress among their membership and concerns regarding burnout. The implications of ignoring this trend could have led to significant workplace issues and concerns with medical laboratory testing and analysis. Consequently, CSMLS developed the Mental Health Toolkit, a dynamic website featuring mental health concepts, self-assessment tools, coping skills, and strategies to better manage stress. The Mental Health Toolkit is available free to CSMLS members. It was used as a resource for mental health by medical laboratory professionals during the height of the COVID pandemic. CSMLS continues to embrace education and awareness regarding mental health to help address stigma among medical laboratory professionals.

**Key Words** Medical laboratory; healthcare; mental health; stress; burnout.

## INTRODUCTION

The Canadian Society for Medical Laboratory Science (CSMLS) is the national certifying body for medical laboratory technologists and medical laboratory assistants, and the national professional society for Canada's medical laboratory professionals. Medical laboratory technologists "scope of practice involves procuring and testing patient samples while employing and interpreting appropriate quality control measures" (VanSpronsen et al., 2022, p.480). Medical laboratory assistants' roles feature "collection, labelling, and sorting along with preparing blood, tissue and other patient samples" (Government of Canada, 2021, para. 2).

CSMLS has over 14,000 members in Canada and worldwide. Their website's purpose includes "to promote, maintain and protect the professional identity and interests of the medical laboratory professional and of the profession" (CSMLS, n.d.). As a result, CSMLS engages in advocacy and research regarding the medical laboratory profession. Information was provided anecdotally from their members who reported increased stress levels and difficulty managing stress within the workplace. Consequently, a research project to examine stress, mental health, and burnout within medical laboratory professionals was developed, the first of its kind in Canada. The 2016 research project, approved by the CSMLS

Research Ethics Board, examined stress levels of medical laboratory professionals with a representative focus group and determined that over 30% of the participants experience "high levels of stress on a daily basis" (Grant et al., 2016, p.3). Additionally, 76% of participants noted they "felt burnt out at least weekly; if not daily, because of work stressors" (Grant et al., 2016, p.4). The research outlined significant concerns with managing stress and experiencing burnout with the people on the front lines of healthcare. The implications of ignoring this trend could have led to significant workplace issues and concerns with medical laboratory testing and analysis.

Consequently, due to their national position, CSMLS engaged in further research to develop an innovative platform to address mental health concerns among its members: the CSMLS Mental Health Toolkit. The following article will outline the CSMLS Mental Health Toolkit as the first of its kind for a regulated national profession to provide awareness and education regarding mental health and wellbeing, encourage an empowering stance for mental health engagement, and provide resources and strategies to address mental health and wellbeing.

The article's three authors are employees with CSMLS or hired as a mental health consultant with the organization.

CSMLS (2017) is a forward-thinking organization which designed its own Mental Health Initiative and includes

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the Mental Health Toolkit. They also continue to develop evidence-based initiatives for their members (Mete et al., 2024). Furthermore, their commitment to promoting mental health in the workplace is evident in their participation in the *By Health for Health Collaborative of Canada*. It is a commitment developed with the Mental Health Commission and features a Declaration of Commitment to Psychological Safety and Healthcare.

## MENTAL HEALTH OF MEDICAL LABORATORY PROFESSIONALS

Medical laboratory professionals are on the frontlines of healthcare, and their duties require strong skills in critical thinking, time management, attention to detail, and problem-solving, along with specific laboratory skills such as specimen handling. The demands of their workload have grown, especially with recent events such as COVID-19, which can impact their mental health.

While CSMLS focuses on information, advocacy, and support for Canadian medical laboratory professionals, globally individuals within the field also encountered similar stressors before and during the COVID-19 pandemic. Medical laboratory professionals' traits may lead them to more perfectionist tendencies which can lead to burnout. This phenomenon was described in a Polish study by Robakowska et al. (2018), where participants with higher levels of specific perfectionist tendencies experienced more significant levels of exhaustion and disengagement from their work. Post-pandemic studies by Ouyang et al. (2023) revealed that medical laboratory professionals who dealt with the COVID-19 pandemic in China experienced increased psychological symptoms. Their research noted participants over 40 were more likely to report symptoms of anger, worry, and sleep issues. The authors hypothesized that "older participants have poorer physical fitness than younger colleagues and are prone to some psychiatric discomfort under continuous high-intensity coronavirus nucleic acid detection work" (Ouyang et al., 2023, p.8). Swaray et al. (2021) found similar results among a Ghanaian population of medical laboratory professionals. Medical laboratory professionals involved in addressing the COVID-19 pandemic reported levels of psychological distress, specifically symptoms of depression. It is evident from the literature that medical laboratory professionals worldwide have experienced similar stressors as those within Canada.

## IMPLEMENTATION AND DEVELOPMENT OF THE CSMLS MENTAL HEALTH TOOLKIT

In 2016, CSMLS designed and launched a mental health study using both a survey (the National Mental Health Survey) questionnaire and focus groups. Individuals also submitted their "mental health stories" and how it impacted their work. The individuals who shared their stories were board members who helped reduce perceived stigma and encouraged participation. Analysis of this mental health data collected allowed CSMLS to form the basis of future action. CSMLS then engaged its board of directors to implement policy changes throughout the organization. These changes supported a positive culture, internally and externally, for healthy work environments and resulted in formal recognition of mental

health awareness campaigns by the society, a Whistle Blower position statement and an updated Quality of Work-life position statement. Consequently, the Mental Health Toolkit website was then designed and built based on the mental health study findings. Additional information subsections, tools, and interactive components such as videos and online surveys or written information can be found within each section of the website. This multimedia format was used to help break down complex concepts into digestible pieces in ways that would suit different learning styles.

Within its initial promotion from 2016 to 2017, roughly 2,200 unique users visited the toolkit. Seventy-three percent of the traffic was directed through internal communications, the CSMLS website, or our biweekly e-mail news (e-News). The external promotion began in 2017 to CSMLS' partners and other associations, including the Canadian Mental Health Association, Canadian Society of Association Executives, Organizations for Health Action, Sonography Canada, and The Canadian Association of Medical Radiation Technologists. Since its inception, the Mental Health Toolkit has been promoted and discussed at each of CSMLS's annual conferences, Labcon, and periodically at seminars, symposiums, and open forum events to remind members that it is available for them.

## MENTAL HEALTH TOOLKIT

The CSMLS Mental Health Toolkit is a dynamic website that provides various information and resources in English and French to medical laboratory professionals. While CSMLS requires paid membership for certification and access to free learning opportunities, their journal as well as other benefits, the Toolkit is accessible for free to allow for full open access at <https://mentalhealth.csmls.org>.

Six current pathways are accessible via the website which are outlined for individuals, students, managers, employees, educators, and organizations. Each section begins with relevant information regarding mental health and the current field. For an individual, it describes the difference between mental wellbeing, mental health, and mental illness. For an employee, it outlines the CSMLS Standards of Practice, Code of Ethics, and Code of Professional Conduct. Relevant videos are included within each section to further explain concepts as applicable. Resource videos feature concepts like workplace wellbeing, reducing mental health stigma, coping strategies, and relevant workplace legislation concepts for Canadians.

Each section was created with specific resources for medical laboratory professionals. There are tailored videos from medical laboratory professionals who articulate their experiences with mental health in the field and their challenges. CSMLS continued to develop the initial Mental Health Toolkit in 2016 and in 2018, the website included the Faces of Mental Health where four CSMLS members outline their story with mental health, mental illness, and the importance of addressing mental health concerns as a medical laboratory professional.

To further enhance the visitor experience and enhance browsing, the CSMLS Mental Health Toolkit has four tabs at the top of the website. From left to right, visitors can select Take Charge and review the outline of the entire site (individual, student, employee, manager, organization, and educator). This

ability allows them to choose sections if they are looking for a specific term or resource. The second tab is Learn and features information and resources such as definitions and relevant legislation. Additionally, there is a featured section entitled Your Voice which contains videos from members regarding their mental health, advice for students and new graduates, and a mental health awareness gallery. The third tab is Search, allowing visitors to search for specific terms or phrases within the website. The final tab is Emergency Help and provides information on contacting 911 or their local distress line if the visitor is in crisis or experiencing an emergency. The four tabs of the Mental Health Toolkit provide a great overview of the site, further relevant resources, the ability to search, and crisis resources as required.

## OUTCOMES AND IMPACT

CSMLS members have provided various feedback on the Mental Health Toolkit and its impact. Qualitative feedback and testimonials are outlined below which highlight the toolkit's impact especially in providing accessible resources and reducing mental health stigma:

- “I am proud that you are addressing workplace mental wellness. Very stressful occupation riddled with potential for anxiety and even PTSD.”
- “I am discovering that stopping to think about the stressors in my workplace in a constructive manner like this survey is helping to lessen the stress.”
- “I am finding this discussion very helpful. As much as each of us feels we work in our environment – reading the same responses from across the country reinforces that this is a national issue...”

CSMLS maintained statistics on the use of the Mental Health Toolkit and noted increased visits during the COVID-19 pandemic. Table I outlines the total page visits per year from 2017 to July 2024 and contrasts this with the number of unique visitors to the site. Unique visitors were identified through their internet protocol (IP) addresses. Each distinct IP address was counted as a “unique visitor.” To help us compare the total and unique visitors the “return visitor ratio” was calculated by dividing the total page visits by the number of unique visitors.

Our preliminary data from 2017 showed that 86% of website visitors found the toolkit by either first visiting the CSMLS homepage or clicking on a link in an e-mail or e-News publication. This statistic supports that the use was likely member-driven due to their familiarity with CSMLS.

For subsequent years, CSMLS did not track website access to that same capacity, being content in providing the information to whoever may benefit from it. The 2018 access and usage patterns were very similar to those in 2017, though a slight increase in return visitors was found. In 2019, a rise in visitors over the previous 2 years was noted, but they were also less likely to be returning toolkit users. We attribute this rise and use pattern to our external promotion efforts, in combination with sustained CSMLS member use. In 2020, a sharp spike in site visits occurred, far surpassing the numbers expected from CSMLS members' past use and any promotional efforts when compared to 2019. We attribute this spike

**TABLE I** Total page visits per year from 2017 to July 2024

Year	Page Visits	Unique Visitors	Return Visitor Ratio
2017	6,214	2,200	2.8
2018	6,497	1,910	3.4
2019	20,438	12,427	1.6
2020	78,101	43,779	1.8
2021	14,941	7,437	2.0
2022	11,032	8,193	1.3
2023	5,689	2,114	2.7
2024	1,996	1,023	2.0

and the lingering tail into 2022 as a COVID-19-related artifact. The returning visitor ratio was also a little lower than what we observed in 2017–2018, with single-use visits becoming more common. By 2023 the usage patterns appeared to be most similar to what they were in 2017, suggesting a baseline demand level. We also note that it is likely at least some users may visit the toolkit for several consecutive years; however, we are limited by our analytics in defining unique visitors as per annum.

The current year, 2024, is still ongoing but we expect the total visits, unique visitors, and returning visitors will continue to rise for the remainder of the year. We have also examined the traffic in a similar way to our preliminary analysis from 2017. We found that direct access to the toolkit, rather than through the CSMLS homepage, has now become the most common access method (52%). This is followed by inputting “<https://mentalhealth.csmls.org>” into a search engine (36%). Referral links such as e-News, e-mail, or social media make up an additional 12% of the traffic to the toolkit.

After reviewing the access data, it is evident that the Mental Health Toolkit supported medical laboratory professionals before and throughout the COVID-19 pandemic. The decrease in access may be related to familiarization with the tool, integration of strategies, or perhaps a return to a demand that is more representative of the CSMLS members' regular needs. However, it remains apparent that medical laboratory professionals regularly access the Mental Health Toolkit.

## IMPLICATIONS AND FUTURE DIRECTIONS

There are many implications of the Mental Health Toolkit and its preliminary data findings. Content focused on specific relationship and financial stressors along with mental health videos provide further information on topics which may be helpful for medical laboratory professionals. The Mental Health Toolkit is an excellent example of a readily available resource for healthcare professionals to address mental health stigma, promote awareness and education, and develop strategies. As for future directions, CSMLS has conducted further research on stress and coping levels of new graduates in the field. Additionally, CSMLS regularly features mental health topics within their research journal, the Canadian Journal for Medical Laboratory Science and at their annual conference for members, Labcon. In 2022,

CSMLS conducted a pilot project regarding peer support among medical laboratory professionals and will be providing further initiatives to their members. In 2023, CSMLS partnered with *Beyond Silence*, which is a specific app to support healthcare workers and their mental health. *Beyond Silence* was developed by McMaster University and the School of Rehabilitation Science. CSMLS is completing a pilot test with *Beyond Silence* to gauge its utility with its members and the medical laboratory profession.

## CONCLUSIONS

To conclude, the Mental Health Toolkit is an innovative and dynamic web-based tool that empowers medical laboratory professionals to take charge of their mental health. It was developed due to increasing trends in stress levels and burnout among medical laboratory professionals in Canada. The website is bilingual, easily accessible, and free. The website also has led to further mental health initiatives and research by CSMLS, the national association for medical laboratory professionals (Mete et al., 2024). CSMLS remains committed to understanding the stress and burnout situation with members. This initiative ensures continued prioritization of medical laboratory professionals' mental wellbeing and will further prepare them to face the challenges of a dynamic, ever-changing profession.

## FUNDING

CSMLS (n.d.) is a not-for-profit organization funded entirely by membership dues and revenues from goods and services. They do not receive operational funding from governments or other organizations.

## CONFLICT OF INTEREST DISCLOSURES

Christine Nielsen is the CEO and Brandon Djukic is the Research Manager at CSMLS. Rosina Mete worked as a mental health consultant with CSMLS and completed a review of the toolkit before it was published.

## AUTHOR AFFILIATION

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