Request for Proposal

Guidance for Artificial Intelligence (AI) Use with Mental Health and Substance Use Health Care
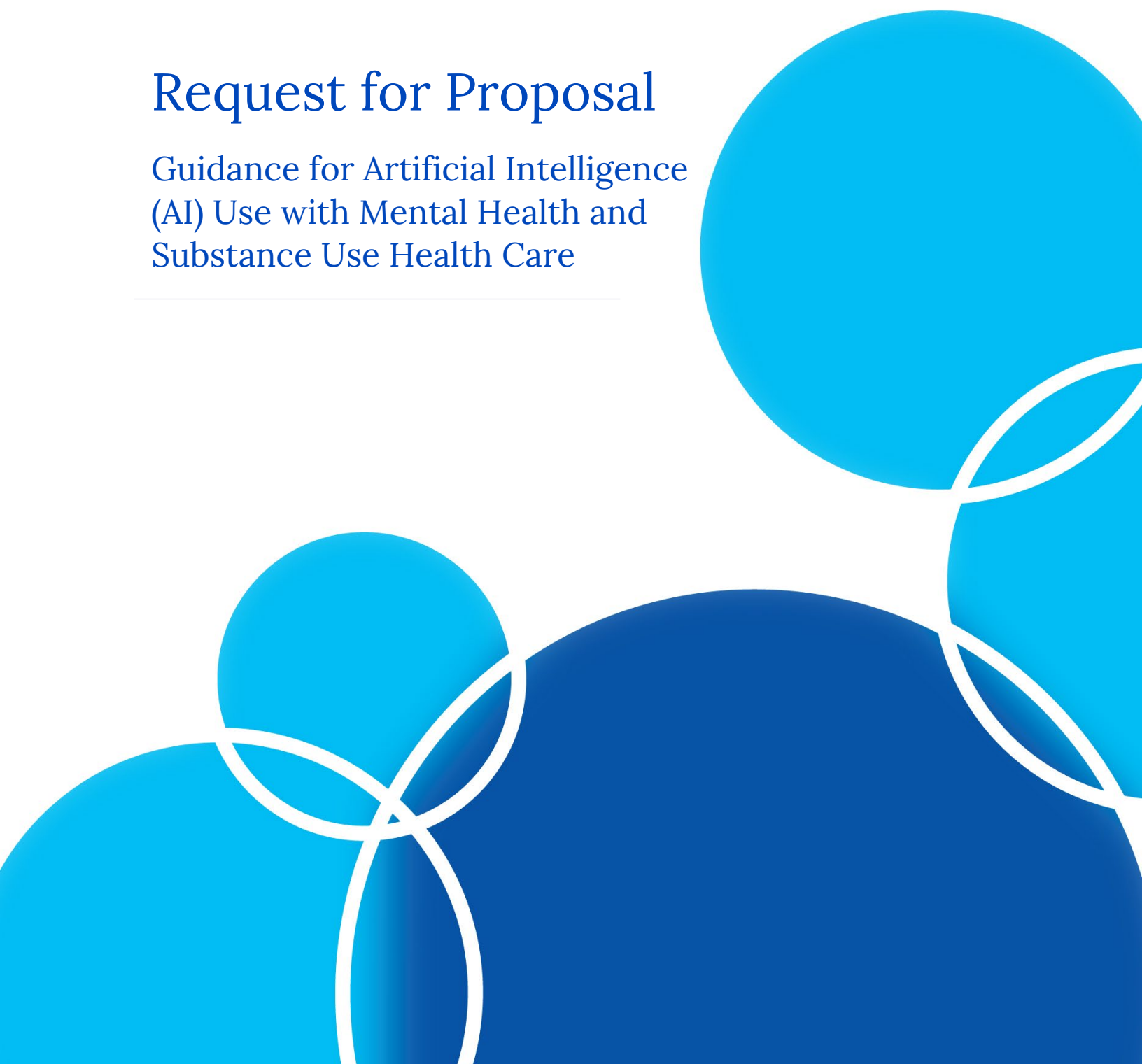
Issued: January 29, 2025

Proposal submission deadline: February 24, 2025

Submit proposals electronically only via email to:
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Background

Mental Health and Substance Use Health in Canada

In Canada, approximately one in five individuals will experience a mental health problem or illness each year, including issues related to substance use health. By the age of 40, 50 per cent of Canadians are likely to have experienced at least one mental health challenge. It is estimated that one in five people living in Canada will experience a substance use health challenge in their lifetime. Concurrent substance use health and mental health disorders are the rule rather than the exception.

Mental Health Commission of Canada (MHCC)

To support the mental health of people living in Canada, the [Mental Health Commission of Canada](#) was established in 2007. The MHCC's mandate is to develop and disseminate innovative programs and tools. It collaborates with federal, provincial, and territorial governments, along with a variety of organizations, to ensure that public policy is informed by the best available evidence through research and knowledge translation.

Canadian Centre on Substance Use and Addiction (CCSA)

The [Canadian Centre on Substance Use and Addiction](#) was created by Parliament to provide national leadership to address substance use in Canada. A trusted counsel, we provide national guidance to decision makers by harnessing the power of research, curating knowledge and bringing together diverse perspectives. CCSA activities and products are made possible through a financial contribution from Health Canada. The views of CCSA do not necessarily represent the views of Health Canada.

For this project, the MHCC and CCSA seek a qualified and innovative partner who shares their dedication to advancing health and safety and who can support the achievement of objectives effectively and efficiently.

MHCC and CCSA Initiatives

The MHCC's e-mental health team is dedicated to improving access to quality mental health services across Canada. A key focus of this team is the advancement of technology-enabled mental health service delivery. The recently published [E-Mental Health Strategy for Canada](#) highlights the need for safety concerning the application of artificial intelligence (AI) in mental health care for people living in Canada. Notably, AI is increasingly being leveraged for triage, service navigation, and communication.

Previous work the MHCC has completed in this area includes [reports](#) in collaboration with Canada's Drug Agency (CDA) on the uses of AI in mental health services and trends in AI research and development.

CCSA is committed to supporting safe, accessible, effective substance use health care through innovative solutions. CCSA's efforts in advancing digital innovations include supporting the implementation and evaluation of the Digital Front Door to Rapid Access Addiction Medicine Clinics to increase access to timely, effective substance use health care.

In addition, CCSA is continuing to advance access to data to support knowledge sharing and decision making. CCSA, working in collaboration with the [DaTALab](#) at York University, has developed a [social reporting tool](#) to identify posts made on X (formerly Twitter) related to emerging substance use trends, risks, and harms. The tool leverages AI to select and display relevant posts in real time across Canada. Through funding from the Public Health Agency of Canada, over the next three years CCSA and DaTALab will greatly expand this initiative across multiple social media platforms with the goal of developing a Canada-wide early warning system to address the toxic drug crisis.

Here are some current examples of AI in mental health and substance use health care:

- AI for mental health screening and diagnosis
  - Chung, J., & Teo, J. (2022). Mental health prediction using machine learning: Taxonomy, challenges and future research directions. *Applied Computational Intelligence and Soft Computing*, Article 970363. https://onlinelibrary.wiley.com/doi/epdf/10.1155/2022/9970363

- o Afshar, M., Sharma, B., Dligach, D., Oguss, M., Brown, R., Chhabra N., Thompson, H. M., Markossian, T., Joyce, C., Churpek M. M., & Karnik, N. S. (2022). Development and multimodal validation of a substance misuse algorithm for referral to treatment using artificial intelligence (SMART-AI): a retrospective deep learning study. *The Lancet Digital Health*, 4(6), e426-e435. https://www.thelancet.com/journals/landig/article/PIIS2589-7500(22)00041-3/fulltext

- AI for detecting drug trends and related harms on social media
  - o Fisher, A., Young, M.M., Payer, D., Pacheco., K., Dubeau, C., & Mago, V. (2023). Automating detection of drug-related harms on social media: Machine learning framework. *Journal of Medical Internet Research*, 25, e43630. https://www.jmir.org/2023/1/e43630

- Personalized treatment recommendations
  - o D'Alfonso, S. (2020). AI in mental health. *Current Opinion in Psychology*, 36, 112-117. https://www.sciencedirect.com/science/article/abs/pii/S2352250X2030049X?via%3Dihub

- AI-powered chatbots
  - o Fitzpatrick, K. K., Darcy, A., and Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): A randomized controlled trial. *JMIR Mental Health*, 4(2), e19. https://mental.jmir.org/2017/2/e19/

- Reducing mental health care gaps
  - o Torous, J., Myrick, K. J., Rauseo-Ricupero, N., & Firth, J. (2020). Digital mental health and COVID-19: Using technology today to accelerate the curve on access and quality tomorrow. *JMIR Mental Health*, 7(3), e18848. https://mental.jmir.org/2020/3/e18848/

- Bias and ethical concerns
  - Obermeyer, Z., & Emanuel, E. J. (2016). Predicting the future — Big data, machine learning, and clinical medicine. *New England Journal of Medicine*, 375(13), 1216-1219. https://www.nejm.org/doi/10.1056/nejmp1606181

- Early intervention and prevention
  - Reece, A. G., & Danforth, C. M. (2017). Instagram photos reveal predictive markers of depression. *EPJ Data Science*, 6, Article 15. https://epjdatascience.springeropen.com/articles/10.1140/epjds/s13688-017-0110-z

- Predicting treatment outcomes
  - Curtis, B., Giorgi, S., Ungar, L., Vu, H., Yaden, D., Liu, T., Yadeta, K., & Schwartz. H. A. (2023). AI-based analysis of social media language predicts addiction treatment dropout at 90 days. *Neuropsychopharmacology*, 48, 1579-1585. https://www.nature.com/articles/s41386-023-01585-5

- Language and behaviour analysis for early relapse detection
  - Liu, T., Giorgi, S., Yadeta, K., Schwartz, H. A., Ungar, L. H., & Curtis, B. (2022). Linguistic predictors from Facebook postings of substance use disorder treatment retention versus discontinuation. *American Journal of Drug and Alcohol Abuse*, 48(5), 573–585. https://www.tandfonline.com/doi/10.1080/00952990.2022.2091450

- Revolutionizing addiction medicine
  - Poudel, S., Choudhari, J., Panta, N., Kumar, H., Leszkowitz, D., & Ahmed, S. S. (2024). Revolutionizing addiction medicine: The role of artificial intelligence. *European Psychiatry*, 67(S1), S416-S417. https://www.cambridge.org/core/journals/european-psychiatry/article/revolutionizing-addiction-medicine-the-role-of-artificial-intelligence/5458F3F1D0925A05C65FB77E06B2723A

- Future prospects in AI and addiction treatment
  - Todorova, C. (2023). Future prospects of addiction treatment through the lens of AI. *Human-Centered AI Journal*. Retrieved from https://humancentered-ai.eu/future-prospects-of-addiction-treatment-through-the-lens-of-ai/?utm_source=chatgpt.com

Legislative Context

The *Artificial Intelligence and Data Act* (AIDA), introduced as Bill C-27 in June 2022, aims to establish federal regulations that could significantly affect the use of AI in Canada. However, its full implementation may take several years; in the meantime, there is an immediate need for oversight to ensure that digital mental health and substance use health products accessible to consumers are safe and that they follow ethical standards.

Additionally, the 2024 Fall Economic Statement announced the $2 billion Canadian Sovereign AI Compute Strategy, which will provide support to world-class researchers and AI firms.

Call for Regulations in E-Mental Health and Substance Use Health Care

While guidelines for the responsible use of AI are available in jurisdictions in Canada and around the world, most of the guidelines focus more generally on AI use and/or AI use in health care. The e-mental health and substance use health communities are calling for more specific regulations tailored to these fields. Key concerns include the following:

- **Programming bias and equity considerations:** Actions must be taken to ensure that biases are reduced in AI systems that could affect outcomes, and that development and programming include an inclusion, diversity, equity, and accessibility (IDEA) lens.

- **Involvement of clinicians and people with lived and living expertise:** It is essential for clinicians and individuals with lived and living expertise to be included in AI development and testing.

- **Data privacy and transparency:** Data privacy must be safeguarded, and efforts must be made to ensure transparency for consumers of digital mental health and substance use care.

- **The importance of a human-centred approach:** A human-centred approach is important for integrating principles of compassion and person-centred care into AI technologies. Therefore, it is essential to develop comprehensive guidance to prevent harms arising from bias, the misuse of information in mental health and substance use health services, and unforeseen risks, ultimately enhancing care delivery and outcomes.

Request For Proposals (RFP)

The MHCC and CCSA are seeking proposals for developing **a literature review, environmental scan, and stakeholder map** that will contribute to specific guidance for the ethical, safe, and effective and human centered use of AI in mental health and substance use healthcare delivery in Canada. The findings from the literature review, environmental scan, and stakeholder map will culminate with **recommended initial guidance and/or priorities for ethical, safe, quality, effective, and human-centred implementation of AI in mental health and substance use health care in Canada.** Every effort should be made to make recommended guidance as practical as possible and written in an accessible manner for the target reading audience. The project aims to address gaps and mitigate potential risks related to the use of AI in mental health and substance use health care.

This is an RFP only. By submitting a proposal, candidates agree that

- the proposed project is contingent on funding, and there is no guarantee that any candidate will be selected to perform the work
- the MHCC and CCSA reserve the right to reject any proposal for any reason and on the basis of the evaluation criteria
- the terms of their submission will remain in effect for 180 days after submission.

The MHCC and CCSA are committed to enhancing mental health and substance use health care in Canada through innovative, evidence-based approaches. We actively collaborate with a wide range of partners — including providers, organizations, policy makers, researchers, app developers, and people with lived and living experience — to ensure the responsible and effective integration of digital mental health and substance use health care in Canadian society.

Scope of Work

Project Summary

This project will involve conducting extensive research, engaging key collaborators, and, most importantly, developing **a literature review, environmental scan, and stakeholder map** that will culminate with **recommended initial guidance and/or priorities for safe, ethical, quality, effective, and human-centred implementation of AI in mental health and substance use health care in Canada.** Guidance should include ethical, culturally safe, and socially responsible uses of AI in mental health and substance use care.

Project Objectives

In this project, the consultant will investigate the specific guidance required for the use of AI in mental health and substance use health care by completing the following research:

1. Conduct an environmental scan.

2. Perform a literature review.

3. Create a stakeholder map.

4. Develop initial guidance and priorities for the safe, ethical, high-quality, effective, and human-centered implementation of AI in mental health and substance use health care in Canada. The term initial guidance is used, since an advisory committee will be established and will convene to validate the findings of this research, and further develop the initial guidance and priorities.

Key Activities

The consultant will be responsible for conducting the following key activities:

1. Develop an environmental scan of current AI guidance in Canada and worldwide, focusing on its implementation, as it would apply to the mental health and substance use fields.

2. Conduct a literature review on best practices for AI in mental health and substance use health care and delivery.

3. Create a stakeholder map identifying key players (regional, national, and international), including technology companies, and their roles in AI in mental health and substance use health care.

4. Evaluate the similarities and differences between guidance for AI in mental health and substance use health care and guidance for AI in physical health care.

5. Conduct a comparative analysis of the current AI guidance and approaches utilized by other countries in the delivery of mental health care and substance use services.

6. On the basis of the findings of the environmental scan, literature review and stakeholder map, recommend initial guidance and/or priorities for safe, ethical quality, effective, and human-centred implementation of AI in mental health and substance use health care in Canada.

Proposal Submission Requirements

Applicants are advised to limit their submissions to a maximum of eight pages, including any attachments or appendices.

The following is a checklist of items to include in your submission:

- ✓ Background of the individual, company, institution, or organization
- ✓ Proven expertise in researching or formulating guidance for digital health care services and delivery
- ✓ In-depth understanding of the application of AI in digital mental health care, substance use health care, and wellness
- ✓ Proven expertise and knowledge in mental health and substance use health care practices within Canada
- ✓ Experience in working with collaborators in the mental health and substance use health fields, including people with lived and living experience
- ✓ Biographies of the project team members
- ✓ References from previous projects

Timeline

- January 29, 2025: RFP issued

- February 24, 2025: Proposal submission deadline

- March 26, 2025: Selection of proposal

- April 1, 2025: Earliest potential project start date

- September 30, 2025: Completion and submission of project deliverables

Funding Available for this Work

$50,000

Evaluation Criteria

Proposals will be evaluated on the basis of the following criteria:

#	Evaluation criterion	Description	Weight (%)
1	Methodological Expertise in Literature Reviews, Systematic Reviews, and Environmental Scans	• Ability to apply rigorous methodologies (literature reviews, systematic reviews, environmental scans) to synthesize and analyze relevant data. • Demonstrates proficiency in producing reliable, valid, and structured research outcomes. • Thorough and objective approach to data collection and analysis, enhancing the quality and credibility of the research findings.	20%
2	Guidance development expertise	• Demonstrated experience and proficiency in formulating guidance for digital health care services and delivery	15%
3	AI application	• Expertise in the application of AI within digital mental health, substance use health, physical health, and wellness contexts	20%
4	Mental health and substance use health care practices	• In-depth knowledge and practical experience in mental health and substance use health-care practices within the Canadian landscape, including proven success in incorporating inclusion, diversity, equity, and accessibility into work • Experience working with collaborators in the field of mental health and substance use health and people with lived and living experience	20%
5	Affordability and proposed budget	• Clear justification of the proposed budget and overall affordability of the project	15%

6	Understanding of project requirements and objectives	• Comprehensive understanding of the project requirements and objectives, as well as alignment with the overall goals	10%

Additional Terms and Conditions

The MHCC and CCSA reserve the right to accept or reject any submissions received for any reason. The decision to engage the services of an applicant is at the sole discretion of the MHCC and CCSA.

This RFP and the applicant's responses shall be governed by the laws of the province of Ontario, Canada.

Thank you for your interest in the MHCC, CCSA, and this potential project. We look forward to reviewing the proposals submitted.