



Mood Disorders Society of Canada
Société pour les troubles de l'humeur du Canada

Empowering Mental Health Navigation for Canadians

Our Vision:

MIRA's vision is to establish a **patient-centred, integrated, accessible, and efficient mental health navigation system** that supports all Canadians by providing the **right resources to the right person at the right time**.

The Critical Need for Accessible Mental Health Support

Many Canadians face significant hurdles in accessing mental healthcare. **One in three Canadians will experience a mental health or substance use disorder**, and **44% report unmet needs**, often due to long wait times and a complex, fragmented system that often does not provide meaningful assistance to underserved and marginalized communities. The internet, while offering information, is also **saturated with unreliable or low-quality mental health content**, which can be misleading.

MIRA's Intelligent Solution

MIRA (Mental Health Intelligent Information Resource Assistant) provides a **free, anonymous, and accessible AI-powered tool** for mental health informational support. It functions as a comprehensive system:

- **AI Chatbot:** MIRA is a friendly conversational agent that leverages advanced Artificial Intelligence (AI), including natural language processing and machine learning, to understand user needs and guide their search for support. It is designed to be highly customizable for future adaptations based on geographic and linguistic contexts.
- **Vetted Resource Library:** Crucially, MIRA draws exclusively from its **meticulously curated MIRA Resource Library**, not the open internet, which can contain outdated information and misinformation. Resources are rigorously vetted through a peer-review-like process by at least one professional team member and one volunteer with subject matter expertise, ensuring accuracy and quality. The library also monitors resources for changes and updates via automated web crawlers.

Key Design Principles

MIRA's development is grounded in core principles of safety, ethics, and user trust, reflecting a holistic understanding of user needs and societal implications:

- **Patient-Centred & Collaborative Design:** MIRA is a multidisciplinary initiative, co-designed and continually refined with **Persons with Lived Experience** (through Mood Disorders Society of Canada - MDSC staff and volunteers), Indigenous community members, clinicians, and computing science experts. This ensures patient-led and culturally sensitive insights are integrated.
- **Unwavering Privacy and Security:** MIRA is designed to be **completely anonymous and confidential**, fostering a safe and de-stigmatized space. The data collected is anonymous and used only for model training and effectiveness evaluation. All MIRA code is housed on a **secure server at the University of Alberta**, ensuring data remains secured in Canada under robust security protections.
- **Bias Mitigation & Transparency (Explainable AI - XAI):** The MIRA training data is **quality-controlled to prevent harmful biases** inherent in "big data". Its diverse team ensures culturally appropriate resource guidance. MIRA uses Explainable AI (XAI) to foster trust by demystifying complex AI decision-making processes, providing clear insights into how recommendations are generated. It explicitly

communicates its role and limitations, stating that it **does not provide medical advice, diagnoses, treatment recommendations, or act as a counsellor.**

- **Enhanced System Efficiency and Support:** MIRA offers immediate assistance, acting as an informational bridge for both direct users and various health system players (e.g., physicians, social workers, peer-support workers, community organizations). This simplifies mental health resource navigation and empowers users to seek support.

MIRA: Ongoing Development, Impact, and Future Growth

Robust Development and Significant Progress

In 2025, MIRA was substantially rebuilt using a Large Language Model (LLM)-based architecture designed to support more natural, responsive, and context-aware conversations, while maintaining strong safety protocols for mental health use. This redesign marked an important step forward in MIRA's evolution, moving the platform to a more scalable and flexible foundation with strengthened safeguards, including safety classifiers, grounded responses based on approved resources, enhanced encryption, and secure networking to protect user interactions.

Since then, development has continued through an iterative, evidence-informed process shaped by user feedback, volunteer testing, focus groups, and technical evaluation. Recent advances include the launch of MIRA 6.0, which introduced location-aware resource retrieval, integration with ConnexOntario data, a modular architecture that supports partner-specific deployments, an interactive resource map, and per-message feedback tools that give the team more precise insight into user experience and system performance.

MIRA's latest technical work has also focused on strengthening quality, safety, and usability. The platform now includes enhanced analytics and live feedback monitoring, a 122-test automated quality assurance suite covering relevance and safety scenarios, continued refinement of conversational flow to better balance supportive dialogue with resource navigation, and active development of a smarter resource pipeline to improve the quality and efficiency of content curation.

Extensive Collaborations and Partnerships

MIRA is a highly collaborative initiative, involving a diverse network of partners crucial to its success and national scaling:

- **Co-Leadership: Mood Disorders Society of Canada (MDSC)**, a patient-led, non-profit organization, co-leads the project, ensuring patient-led development and coordinating national expansion efforts.
- **Academic Partners:** Key academic contributors include the University of Alberta (housing the secure server and primary investigator, Dr. Osmar Zaiane), University of Saskatchewan (leading Indigenous expansion, Dr. Robert Henry), Dalhousie University (Co-PI Dr. Vincent Agyapong), and Western University's Dr. Elizabeth Osuch.
- **Ecosystem & Data Integration:** Collaborators like AI4Society, Alberta Machine Intelligence Institute, and **Connex Ontario** (for data sharing and expanded resource database) further strengthen MIRA's reach and interoperability within the broader mental health ecosystem.

Ethical Framework and Impact

The project adheres to stringent ethical and regulatory standards. It holds **Research Ethics Board (REB) approvals** through the University of Alberta (Pro:00109148) and Nova Scotia Health Authority (REB File No: 1027474), covering nationwide implementation and data collection for evaluation. An Ethics team is planned for regular audits to ensure ongoing confidentiality and unbiased support. As an information broker, MIRA is

not a medical device and does not provide medical advice or diagnoses; thus, it is not subject to Health Canada approvals.

Scaling MIRA nationally is expected to yield significant positive impacts:

- **Improved Health Outcomes & Efficiency:** Enhancing access to quality mental health resources, potentially reducing the burden on traditional healthcare services (e.g., emergency rooms) by supporting proactive and early intervention.
- **AI Leadership:** Positioning Canada as a leader in the ethical integration of AI solutions in mental healthcare.

Knowledge Mobilization and Future Directions

MIRA is built for steady growth, and the work ahead is focused on improving reach, relevance, and long-term sustainability. The next phase includes continued rollout of upgraded versions of MIRA, with refinements shaped by user feedback, stronger safety protocols, and partner-specific deployments that support different communities and use cases. Ongoing development will also continue to strengthen tailored pathways for groups such as children and youth, Veterans, Public Safety Personnel, and French-speaking Canadians, while preserving the flexibility to expand more broadly across Canada.

At the same time, knowledge translation remains a core part of the project. MIRA's team continues to share findings through publications, conference presentations, webinars, newsletters, and social media, while building partnerships that support longer-term sustainability and practical real-world use. The goal is not just to build a strong tool, but to make sure it's useful, trusted, and available where people need it most.

MIRA is positioned to make a meaningful contribution to mental health navigation in Canada, and we welcome partners who want to be part of that work.

MIRA Partners



MIRA Supporting Partners



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