Government of Canada / Gouvernement du Canada

Joint Federal Research Funding for Military Personnel and Veterans

Project Report Summary Template

Funding Opportunity
Evaluating Trauma-Informed Support for Military Personnel and Enhancing Access to Resources using AI

Brief Overview
This project evaluated the feasibility, safety, and effectiveness of a trauma-informed artificial intelligence (AI) chatbot designed to support military personnel and Veterans who have experienced sexual assault or harassment. The research explored how Large Language Model (LLM)-based conversational systems can provide confidential, ethical, and trauma-informed support while improving access to mental health resources and care pathways.

What is this Research About?

Many survivors of sexual assault and harassment face barriers to accessing traditional support services, including stigma, privacy concerns, and difficulties navigating available resources. This project investigated whether trauma-informed AI chatbots could serve as an accessible, non-judgmental support tool that complements existing mental health services. The research focused on ensuring that AI systems were designed according to counselling, social work, and trauma-informed care principles while maintaining strong ethical safeguards.

What did the Research Do?

Researchers:

- Designed and refined a trauma-informed AI chatbot using LLM technology and trauma-specific resources.
- Developed ethical and safety evaluation protocols, including safeguards to reduce harm and prevent re-traumatization.
- Conducted usability studies and comparative testing against traditional and existing digital support resources, including Mira 5.0 Gen AI.
- Collected qualitative and quantitative feedback from counsellors, social workers, and mental health professionals.
- Developed an evidence-based framework, known as Stepped Care 2.0, to support integration of AI chatbots within broader mental health care systems.
- Prepared knowledge mobilization outputs, including peer-reviewed manuscripts and conference submissions**.**

What did the Research Find?

The project demonstrated that trauma-informed AI chatbots can provide meaningful support when developed and evaluated with appropriate clinical and ethical oversight.

Key findings included:

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- A functional trauma-informed chatbot prototype was successfully developed and refined through expert feedback and usability testing. The chatbot demonstrated improved empathetic engagement, appropriate boundary setting, and alignment with trauma-informed care principles.
- Ethical safeguards, including harm-prevention measures, privacy protections, and re-traumatization risk mitigation strategies, were successfully incorporated into the system design.
- Comparative testing showed that expert-guided, trauma-informed chatbot design improved perceived safety, empathy, and relevance when compared with existing support resources. [V
- Mental health professionals identified potential value for early-stage emotional support, psychoeducation, and resource navigation, particularly for individuals who may face barriers to accessing traditional care.
- Findings supported the development of a proposed next phase of research focused on expanded evaluation, hallucination mitigation, ethical safeguards, and future implementation pathways.

What does this Research Mean?

The findings suggest that trauma-informed AI systems can enhance access to support services for military personnel and Veterans while serving as a complement to, rather than a replacement for, human care. AI chatbots may help promote early engagement, emotional validation, and navigation of available services in a confidential and accessible manner.

The study highlights several important considerations for future implementation:

- Trauma-informed AI tools should be developed in partnership with mental health professionals.
- Ethical evaluation and ongoing safety monitoring should be embedded throughout the system lifecycle.
- AI chatbots should be incorporated into stepped-care models alongside existing support services rather than deployed as standalone solutions.
- Future research should include larger, more diverse participant populations and longitudinal evaluations to better understand long-term effectiveness and impact.

These findings provide an important foundation for the responsible integration of AI-enabled support tools into military and Veteran mental health care systems**.**

Sources

VeteransAffairs_FinalReport. Final Report, December 31, 2025. Joint Federal Research Funding Program for Military Personnel and Veterans.

Knowledge Mobilization Outputs

- Draft manuscripts prepared for peer-reviewed journals and conference presentations.
- Technical paper in preparation for submission to IEEE Transactions on Affective Computing or a similar publication venue.
- Follow-on funding proposal developed to expand research on evaluation, hallucination safeguards, ethics, and implementation pathways.