

# Accelerating the Appropriate Adoption of Artificial Intelligence in Healthcare



## PARTNERS

The Michener Institute of Education at UHN



## LOCATIONS

Across Canada



## INVESTMENT

1,590,398



## PUBLISHED

March 2024

## Executive Summary

Despite its ability to positively transform healthcare, there is some reluctance among healthcare providers to adopt artificial intelligence within their practice. This project set out to tackle these challenges and capitalize on the potential of AI in healthcare.

The project developed a set of AI competencies and designed, in collaboration with healthcare providers and leaders from diverse backgrounds, a series of educational and training interventions. In doing so, the project ensured that healthcare professionals were well-equipped to leverage AI in their work. This highlighted the importance of AI as a collaborative effort between healthcare professionals and technology experts.

The approach, by recognizing healthcare professionals' diverse and complex needs across various fields, ensured the approach to AI adoption was adaptable, responsible and practical.

The results of the project were overwhelmingly positive and included: (i) improved attitudes among healthcare professionals towards adopting AI, (ii) improved patient care and outcomes as well as workflows, (iii) increased confidence in AI systems and an enhanced patient-centric approach, and (iv) improved readiness among the healthcare sector to embrace and leverage AI technologies. These outcomes demonstrate the transformative influence of AI programs on the broader healthcare system, leading to policy changes, network development, and an overall shift towards embracing AI for better patient outcomes.

Overall, the project played a crucial role in preparing healthcare providers for the future workforce, equipping them with the necessary skills and knowledge to navigate the evolving landscape of healthcare AI. These insights will guide future program development and governance across multiple levels. However, achieving sustained transformation in institutions requires longer-term effort, requiring further investment in time and effort.

### KEY INSIGHTS

- 1 By leveraging AI technologies, healthcare organizations have enhanced diagnostic accuracy, streamlined workflows, and improved treatment plans, ultimately improving patient care and outcomes.
- 2 Carefully designed education and training can help build user trust – a necessary ingredient to the successful implementation of AI technology.
- 3 Inclusive and active engagement of equity-seeking populations in the co-creation of educational interventions fosters a culture of trust and transparency and nurtures a patient-centric approach and confidence in AI systems.

## ▶ The Issue

The adoption and deployment of artificial intelligence within the healthcare sector has potential to significantly improve patient care, quality, and cost-effectiveness. The potential advancements AI can offer to the sector are wide ranging, with successful applications across many fields including medical imaging, pharmacy, personalized medicine, and early disease detection.

However, despite the growing interest and potential benefits of AI, healthcare providers have been hesitant to adopt this technology within their workplaces. In today's rapidly changing healthcare environment, it is crucial to address any barriers and challenges to embracing AI that healthcare professionals have. Their adoption of AI technologies and tools is pivotal for enhancing patient care and healthcare outcomes, ultimately leading to more efficient and effective healthcare systems.



## 🔧 What We Investigated

his three-year project assessed the effectiveness of AI educational interventions on individuals, institutions, and the broader healthcare system. It aimed to gain insights into emerging learning needs and gather evidence on the educational interventions needed to enhance the adoption of AI in the healthcare sector.

First, the project set out to shed light on the barriers to increasing adoption of AI among healthcare professionals via needs assessments, scoping reviews, and environmental scans.

Second, based on these insights, the project tested a series of knowledge translation interventions to facilitate the successful adoption of AI technologies in order to drive improved patient care and healthcare outcomes. These interventions included educational certificate programs and symposiums, and the creation of an innovation hub that served as a mentoring and coaching program for clinicians. The educational certificates included:

- Healthcare Leaders Certificate Program
- Clinician Champions Certificate Program
- Medical Imaging and Radiation Therapy Certificate Program Mental Health and Addiction Care Certificate Program

The goal of the interventions was to transform the mindset, toolset, and skillset of healthcare providers and their leaders regarding AI technologies in healthcare.

## What We're Learning

The initial phase of the project that included needs assessments, scoping reviews, and environmental scans shed light on the gaps and challenges in AI education for healthcare professionals, especially on the reasons behind healthcare professionals' reluctance to adopt AI: the lack of trust in unfamiliar and complex technology and limited experience in using AI. These foundational elements enabled the project to design a series of interventions and tailor the curriculum, content, and resources to effectively address these gaps and enhance the impact of AI educational initiatives.

The findings of these interventions can be structured in terms of their impacts on individuals, institutions and systems:

### **Individuals:**

- An increased number of healthcare providers and leaders were exposed to AI programs with potential for further education and continuous professional learning about AI.
- AI knowledge has significantly increased, fostering a better understanding of its capabilities and implications in healthcare.
- Enhanced knowledge has increased motivation and confidence among healthcare providers, empowering them to use AI technologies effectively.
- Attitudes towards adopting AI in healthcare have shifted positively, with individuals recognizing the benefits and embracing its integration into their practices.

### **Institutions:**

- Engagement of a broad set of stakeholders fostered a collaborative environment for the successful integration of AI.

- Increased confidence in AI systems and an enhanced patient-centric approach.
- By leveraging AI technologies, healthcare organizations have enhanced diagnostic accuracy, streamlined workflows, and improved treatment plans, ultimately improving patient care and outcomes.

### Systems:

- More healthcare providers and leaders across Canada have been exposed to AI programs, ensuring widespread knowledge and understanding of AI's potential benefits.
- Improved readiness within the healthcare sector to embrace and leverage AI technologies.

## ★ Why It Matters

AI, like many technologies before it, brings a range of opportunities and challenges. In terms of benefits, AI has improved patient outcomes and work processes.

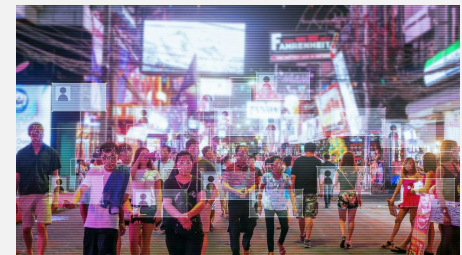
However, similar to other sectors, AI's adoption is often being held back due to a range of factors, including workers' reluctance to embrace new technologies. That reticence is often due to a lack of understanding as well as fear and uncertainty about potential impacts of unfamiliar and complex technologies.

This project has demonstrated that if technological adoption is a collaborative effort that engages workers, backed by sound and effective education and training, it can bring forth the promised benefits to individuals, institutions, and systems while mitigating future risks. Large employers and institutions in a range of industries and sectors can use this project as an example of how to develop and implement successful education and training related to AI adoption.

## ▶ What's Next

The Michener Institute continues to offer a range of educational certificate programs on AI in healthcare. The program's valuable insights have underscored the need to extend AI-related training beyond the initial target audience to other health professionals.

To that end, the project has provided crucial guidance in refining and optimizing future educational interventions to promote the integration of AI in healthcare practice. In particular, the project has set in motion efforts for continued collaboration with partners to establish a pathway to seamlessly integrate program elements into various projects, thereby expanding its reach and adoption.



### State of Skills: Unleashing AI into the skills development ecosystem

AI's impact on employment is complex. It can automate routine tasks, potentially enhancing productivity and safety but may also disrupt job roles.

[Read Our Report](#)

Have questions about this report? Contact us [communications@fsc-ccf.ca](mailto:communications@fsc-ccf.ca).

### How to Cite This Report

Chan, G., McDonough, L. (2024) Project Insights Report: Accelerating the Appropriate Adoption of Artificial Intelligence in Healthcare. Toronto: Future Skills Centre. <https://fsc-ccf.ca/projects/a-program-for-young-moms-in-northern-manitoba/>

Funded by the  
Government of Canada's  
Future Skills Program



Accelerating the Appropriate Adoption of Artificial Intelligence in Healthcare is funded by the Government of Canada's Future Skills Program. The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada.

© Copyright 2024 – Future Skills Centre / Centre des Compétences futures