Getting Practical: Implementing AI in Healthcare

Invitational Conference ♥ **Tuesday, April 8, 2025 · Globe & Mail Centre**
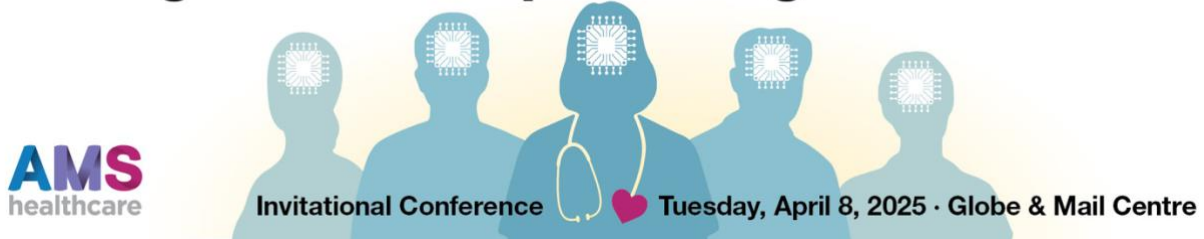
AMS Healthcare Invitational Conference – Review of Main Themes and Ideas

Executive Summary:

The AMS Healthcare Invitational Conference on April 8, 2025, focused on the practical implementation of Artificial Intelligence (AI) in healthcare. The discussions spanned the possibilities of AI, its application in population health and clinical care, understanding its impact, and the leadership required for successful large-scale adoption. Key themes emerged around the **rapid pace of AI development, the need for a systems-level approach (beyond individual tools), the critical importance of ethics and equity, the necessity of adapting infrastructure and governance, and the evolving roles of healthcare professionals.** There was a strong sense of urgency for Canada to strategically position itself as a leader in this field, addressing both the opportunities for improved health outcomes and economic growth, while proactively mitigating potential risks and inequities.

Main Themes and Important Ideas:
1. The Exponential and Transformative Nature of AI:

- **Rapid Advancement:** Speakers highlighted the unprecedented speed of AI development, with examples like AlphaGeometry outperforming humans in mathematics and AI exceeding PhD-level capabilities in some scientific domains. Mark Daley stated, **"You will wake up in five years in a world where your toaster has an IQ of 200."**
- **Commoditization of Intelligence:** Daley argued that intelligence is becoming a commodity, prompting critical questions about ownership, shaping, and who AI will ultimately serve.
- **Re-evaluation of Research:** The traditional academic model of "publish more and get more grants" is being challenged by AI's ability to rapidly produce research. The focus needs to shift towards learning new things and solving real-world problems.

2. Systems-Level Thinking vs. Individual Tools:

- **Beyond Replacing Individuals:** The conference emphasized leveraging AI to augment collective intelligence rather than solely focusing on replacing individual healthcare professionals. Zayna Khayat noted, **"Most of the discourse has been AI to commoditize individual intelligence of doctors, nurses and other health workers."**
- **Population Health Focus:** A significant portion of the discussion centred on AI applications in public health, such as automated customized communication for vaccination programs and using Natural Language Processing (NLP) to extract insights from unstructured data for disease prediction and food safety monitoring.

- **Fragmented Public Health Landscape:** The challenges of 29 independent public health units in Ontario with disparate tech stacks and governance were highlighted as a barrier to effectively leveraging AI at scale.

3. Ethics, Equity, and Patient-Centricity:

- **Design for Access and Trust:** The importance of designing AI systems with access, trust, and patient-centricity at the forefront was stressed. Concerns were raised that early tech adoption tends to favour complex and privileged patients.
- **Ethical Imperatives:** Fundamental ethical questions regarding the ownership, shaping, and beneficiaries of AI-driven intelligence were repeatedly raised.
- **Fairness and Inclusion:** Ensuring AI makes healthcare "fairer, kinder, and more human—not just for people like me, but for those who've never truly been seen by the system?" was posed as a critical question from a Canadian citizen.

4. Infrastructure, Governance, and Policy Gaps:

- **Data Access Barriers:** Significant barriers exist in Canada to accessing clinical data for innovation, with research and delivery often being separate enterprises and a lack of data infrastructure.
- **Regulatory Landscape:** The need for AI algorithms in clinical practice to undergo rigorous evidence and regulatory scrutiny, similar to medical devices and pharmaceuticals (including post-market surveillance), was discussed.
- **Legislative Framework:** Calls were made for Canada to take bold legislative steps to support AI adoption in healthcare, potentially linking it to transfer payments to provinces and incentivizing adoption. The outdated Public Hospitals Act (from the 1930s) was mentioned as an example of outdated legislation.
- **Need for a Pan-Canadian Approach:** The lack of national-level data interoperability and a "Pan-Canadian AI Health Data Commons" were identified as significant gaps hindering Canada's ability to lead.

5. The Evolving Role of Healthcare Professionals:

- **Shifting Focus:** With AI potentially handling administrative and diagnostic tasks, the role of clinicians is expected to shift towards compassion, complex judgment, and being present and empathetic. The question "**What are we good for?**" was echoed in leadership and closing panels.
- **Importance of Real-Time Experiential Learning:** Education reform is crucial, focusing on real-time experiential learning across all health sciences, including continuous learning and patient/family education. Embracing learning from errors like AI "hallucinations" is also important.
- **From Knowledge Holder to Guide:** In an era of readily available AI-driven information, clinicians will increasingly become "interpreters," "navigators," "trust builders," and "co-creators of value." As one summary noted, **"You are no longer the encyclopedia. You are the guide."**

6. Canada's Opportunity for Leadership:

- **Unique Advantages:** Canada possesses world-class data, ethnic diversity, and leading scientists, presenting a significant opportunity for leadership in health AI.

- **Urgency to Act:** There is a strong sense that Canada needs to act decisively and quickly to capitalize on this opportunity, especially given developments in other countries like the US and China (where patent applications involving AI are rapidly increasing).
- **Strategic Imperative:** Leading in health AI is seen not only as a way to improve healthcare but also as a matter of economic sovereignty and avoiding reliance on foreign technologies and potentially misaligned priorities.

Notable Quotes:

- **Mark Daley:** "You will wake up in five years in a world where your toaster has an IQ of 200."
- **Zayna Khayat:** "Most of the discourse has been AI to commoditize individual intelligence of doctors, nurses and other health workers."
- **Panelist:** "Stop bickering about the horse and buggy—think about the driverless car."
- **Panelist:** "Our citizens are using these tools. We need to keep up. They will trust us less if we are dinosaurs."
- **Panelist:** "Canada could be the quickest jurisdiction in the world to lead a clinical trial – we could commit to that today with hard deliverables and accountabilities."
- **Panelist:** "This is the moment to seize on Canada's economic sovereignty issues – this is our window to argue on a larger ground instead of only relying on old arguments of saving costs and increasing access."
- **Panelist:** "It's either population health or die as a system."
- **Panelist:** "If intelligence is cheap, then empathy is the new currency."

Call to Action (Implied):
The conference implicitly calls for:

- **Bold and decisive leadership** at all levels (government, healthcare organizations, academia).
- **Strategic investment** in data infrastructure, AI education, and ethical research.
- **A national vision and collaborative governance framework** for AI in healthcare.
- **A fundamental re-evaluation** of healthcare processes, professional roles, and regulatory structures in light of AI capabilities.
- **Prioritization of equity and trust** in the design and implementation of AI solutions.

Overall Impression:
The AMS Healthcare Invitational Conference provided a timely and critical discussion on the practical realities of implementing AI in healthcare. It moved beyond theoretical hype to address concrete challenges and opportunities, emphasizing the need for a strategic, ethical, and systems-oriented approach for Canada to become a true leader in this transformative field. The strong emphasis on population health and the evolving role of human caregivers offered unique perspectives compared to more technology-centric AI conferences. However, the identified gaps in data infrastructure, governance, and the inclusion of key stakeholders need to be urgently addressed to realize Canada's full potential.

Sources:
Prepared by AMS Healthcare with support from AI-powered content summarization tools.."1-AGENDA-onepager.pdf" (Conference Agenda)

- Notebook LM
- "Chat GPT + Zayna summary - AMS Healthcare Conference 8April 2025 v2.pdf" (Conference Summary by Zayna Khayat with ChatGPT contributions)