

THE DATA EFFECT

HEALTH CARE'S AI REVOLUTION

NOVEMBER 15, 2023 | TORONTO, ONTARIO

presented by

Google Cloud

with support from



Deloitte.

CITYAGE



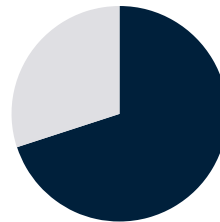
INTRODUCTION

The Data Effect Toronto: Health Care’s AI Revolution was a pivotal event that harnessed the synergies of AI research, advanced medical discovery, and digital governance to position Ontario as a global leader in utilizing artificial intelligence for the betterment of society.

The event, presented by Google Cloud and supported by Industry Partners OCI and Deloitte, explored the critical nexus of AI and health, outlining a roadmap for targeted investments in technology, fostering strategic partnerships, and attracting top-tier talent.

ATTENDEES

SOME ORGANIZATIONS IN ATTENDANCE



70%

Senior Level Professionals
(*mid-level and above)

36%

of attendees work in healthcare and pharma

23%

of attendees work in technology

13%

of attendees work in non-profit

EVENT THEMES:



Data platforms: how to drive timely access to high-quality health data that fuels innovation and improved services



Advanced research and discovery: how to integrate insights from across vertical data silos through federated models



Building data governance and privacy models: so that AI/ML can be applied to accelerate research, and that data can be shared among research and clinical use cases



Data Partnerships: How to build effective data partnerships across major research institutions and government



PARTICIPANTS INCLUDED:



EVDOKIA ANAGNOSTOU

Vice President of Research, Holland Bloorview Institute



MARC FIUME

Co-Founder and CEO, DNASTack



NASIR KENEA, PHD

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Former General Counsel, Chief Data Governance and Privacy Officer, Vancouver Coastal Health



PETER AP ZAKAROW

President, Alexynn Group



JOYCE DROHAN

Chief Technology Officer, Government of Ontario



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Dean of Law, Queen's University



MARA LEDERMAN

Co-Founder and COO, Signal 1



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Vice President - Data Science and Advanced Analytics, Unity Health Toronto



KARL MARTIN

Chief Technology Officer, integrate.ai



MOHAMED NOFAL

Customer Engineer - Public Sector & Healthcare, Google Cloud



DEVIN SINGH

CEO, Hero AI and Clinical Lead for Artificial Intelligence in Medicine, SickKids



ROXANA SULTAN

Chief Data Officer and Vice President, Health, Vector Institute



CARLY WEEKS

Health Reporter, The Globe and Mail

BREAKOUT SESSION: KEY FINDINGS

CityAge went beyond traditional presentations and panels by hosting engaging breakout sessions conducted under the Chatham House Rule to foster non-attributed in-depth conversations.

Participants delved into Ontario's strengths in AI research, advanced medical discovery, and digital government, with the overarching goal of positioning the region as a global leader in using artificial intelligence to enhance lives.

The questions posed during these sessions covered key ethical considerations, guiding principles, collaborative strategies, the need to involve patients and the public in the conversation, and best practices at the intersection of AI and healthcare.

These discussions encompassed critical topics such as scaling projects, ensuring data privacy, and fostering effective partnerships for meaningful data sharing.

Here are the biggest takeaways:



What key ethical considerations arise in the integration of AI in healthcare, and how can healthcare professionals and AI developers collaboratively establish ethical guidelines to strike a balance between innovation and patient safety in patient care?

Ethical Considerations: Address bias, discrimination, and promote equity and accessibility. Emphasize transparency, patient data use, and consider risks, utility, and informed consent.

Guiding Information Principles: Adopt a risk-based approach, prioritize informed consent, acknowledge uncertainties, and promote transparency. Conduct thorough risk assessments and employ effective communication strategies.

Shared Governance: Involve healthcare professionals and AI developers in identifying and addressing ethical concerns. Establish mechanisms for open communication and collaboration between stakeholders.

Education and Adoption: Recognize the rapid pace of AI advancement, address job impact concerns, and secure funding. Emphasize ongoing education and awareness.

Patient and Public Engagement: Engage the public, ensure understanding of patient data use, foster transparency, and involve patients in decision-making regarding AI use in healthcare.

“From an ethical considerations perspective, one of the key comments highlighted was bias. We want to ensure that bias is limited and, in addition to that limitation, detailing why decisions are taken.”

2.

How can healthcare organizations effectively scale AI projects from pilot stages to widespread implementation, and what role does collaboration among tech companies, healthcare providers, and investors play in boosting the scalability and success of AI projects in healthcare?

Scaling AI Projects in Healthcare: Engage healthcare providers early, shift to achievable milestones, explore new business models, address knowledge gaps, and involve patients in AI evolution.

AI Impact on Healthcare Outcomes: Integrate AI for data-driven care processes and outcomes, prioritize data governance, involve end-users, and regularly assess tool effectiveness.

Collaborative Approaches and Tools: Emphasize collaboration for scaling, involve clinicians, support AI education, and continually assess AI tools' impact on patient care.

“In terms of scaling AI projects, we need to focus on challenges and the need for thorough testing and low-stakes in the initial stages. Evaluation is key, and we really need funding around all of those things to show a return on investment.”



3.

How can healthcare organizations strike a balance between the imperative for data privacy and the potential benefits of AI and ML applications in research and clinical use cases? Additionally, what best practices or frameworks can be established to ensure robust data governance and privacy without hindering innovation and impeding data sharing?

Balancing Data Privacy and AI/ML Benefits:

Consider the “do no harm” principle, mitigate risks, assess ethical/benefit balances case by case, and address cultural risk aversion.

Best Practices and Frameworks: Adopt a user-first approach, conduct thorough testing, use Data Trust frameworks, and establish deployment and monitoring terms.

Challenges and Solutions in Data Governance:

Address communication gaps by building early relationships, standardize data sharing models, and prevent delays and inconsistencies.

“The ‘do no harm’ principle is central to our work, but currently, it’s the opposite. We’re doing harm by our restriction and risk aversion towards these technologies. We need to balance between mitigating risks and managing the outcomes of our AI technologies.”



4.

How can we promote the establishment of data partnerships among major research institutions, government agencies, and private healthcare organizations? What strategies can startups and smaller healthcare organizations employ to effectively collaborate with larger, established institutions for meaningful data sharing?

Promoting Data Partnerships: Encourage partnerships, address misalignments, evaluate incentives, and explore enabling regulations while considering public health benefits.

Building Trust in Collaborations: Involve a trustee, thoroughly research partnerships, clarify benefits and challenges, understand long-term needs, and establish standards for risk categorization in data sharing agreements.

“In fostering data partnerships, there’s a need for transparency. Everyone needs to come to the table with a clear need, and a third party could act as a matchmaker to manage what organizations are doing and suggest potential partnerships.”

Strategies for Effective Collaboration: Start with identified needs, quantify partnership value, establish transparent relationships, gain broad approval, involve third-party mediation, align incentives, involve the public, and standardize risk categorization.



CONCLUSION

Guided by leaders from both private and public sectors, the discussions at The Data Effect Toronto identified three calls to action focused on ethical standards, scalability and data privacy:

Ignite Ethical Excellence:

Rally healthcare professionals and AI developers to champion ethical considerations in AI healthcare deployment. Address bias, discrimination, and champion transparency, patient data use, and informed consent. Act collaboratively in shared governance to identify and rectify ethical concerns. Drive ongoing education and awareness initiatives to navigate the accelerating pace of AI advancement.

Pioneer Scalability Through Collaboration:

Mobilize healthcare organizations to engage stakeholders early, set achievable milestones, and involve end-users in scaling AI projects. Emphasize collaborative approaches involving tech companies, healthcare providers, and investors to boost success. Encourage ongoing AI education and perpetual assessment of tools' impact on patient care outcomes.

Harmonize Data Privacy and AI Potential:

Prompt action in achieving a delicate equilibrium between data privacy and AI benefits. Apply the "do no harm" principle, assess ethical and benefit balances case by case, and adopt user-first approaches. Implement best practices and frameworks such as thorough testing and Data Trust frameworks. Overcome data governance challenges by addressing communication gaps, standardizing models, and preventing delays without impeding innovation.

These imperatives underscore a commitment to ethical AI deployment, collaborative scalability, and balanced data privacy. They also form a roadmap for advancing a health care ecosystem into a future where progress is actively pursued on a city, provincial and federal level.

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