

# Alberta Medical Association Principles and Policy Regarding the Use of Artificial Intelligence in the Provision of Health Care

## Preamble

The Alberta Medical Association (AMA) recognizes that Artificial Intelligence (AI) is a rapidly developing area which will possibly radically reshape how medicine is practiced over time. In the interests of ensuring that AI is used in ways that promote the positive potential of the technology and mitigate the risks of negative outcomes, the following Principles and Policies have been adopted by the AMA Board of Directors. These Principles and Policies will be considered as a subset of the AMA Informatics Policy and should be reviewed at a minimum every two years.

For the purposes of this document, Artificial Intelligence is defined as the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning, and natural language processing (NLP); (<https://www.coursera.org/articles/what-is-artificial-intelligence>). Within medicine, AI may encompass a variety of technologies. Some examples of AI medical technologies are: speech-to-text transcription, AI scribing, computer vision for reading radiology or pathology images, various types of decision support or data summarization tools, and technologies that interact directly with patients, such as medical chatbots.

## Ethics and Bias

- As with all clinical tools, AI tools should be used within the framework of the CMA code of ethics and the principles of the Canada Health Act.
- AI tools and their data will inherently have bias and limitations, and physicians should remain vigilant and appropriately assess and mitigate risks of harm or bias.

## Patient Care

- AI has the potential to alleviate administrative burden and help to address physician burnout.
- Physicians should not be expected to see additional patients with the introduction of AI as a clinical tool
- AI is a tool to enhance patient care and not a replacement of the physician's role in the care of their patients.
- The role of physicians is unparalleled in the health care system. Provision of AI to non-physician providers does not make them equivalent to physicians in skill or expertise.

## Education and Change Management

- Education for physicians is required, as well as ongoing guidance, support and best practice resources on approaching and implementing the use of AI in a clinical setting. AI literacy support and education will also be required for medical learners.
- Physicians will need both appropriate AI products, and the change management to use them safely so as not to add to administrative burden.

- Change management resources must also support appropriate secondary use of patient data.
- Patient and public education must be available as to the appropriate use of AI regarding health matters, and the risks and benefits associated.
- Separate guidance is required to support the unique opportunities and challenges to incorporate AI for medical learners.
- Medical learners must be trained in the ethical and safe use of AI and data, and must still be trained in contextual clinical decision-making, with extra care that AI is used to augment and not replace the development of their clinical competence.
- Medical learners should be aware if AI is being used to assess them and in what way, and there should be human appeal mechanisms for AI assessments.

### Medical Accountability

- Physicians must do their due diligence as they would before adopting any tool, including ensuring it meets regulatory requirements and clinical needs.
- End users of AI products including physicians should be involved in the selection of AI tools intended to be used by them, and the ongoing evaluation of these tools.
- Any medical decisions made by AI should be vetted by a currently licensed physician in that area of clinical expertise. That is, AI should not be making decisions that affect patient care alone.
- Team members using AI under the direction of a physician should follow the same principles as the physician, unless they are a member of a profession with their own AI guidance and medical accountability.
- Any insurance or other eligibility decisions made by automated algorithmic or AI means should be disclosed to patients and always have an appeal mechanism to a licensed clinician. Any such system must be rigorously evaluated, audited, and examined for bias. The results of these evaluations should be publicly available.

### Adoption and Access

- The availability of AI and its underlying data in the health care system in Alberta should not be limited by any political or other agenda that is not driven by the goal of improved patient care.
- Physicians require appropriate financial support to procure and use AI solutions in practice.
- Equitable availability of AI tools to physicians is required, regardless of place or type of practice.

### Governance, Regulations and Practice Guidelines

- Clear, current and aligned guidelines from legislators and regulators are critical to the adoption and appropriate use of AI for patient care.
- AI should be adopted and used in accordance with regulatory and legislative requirements and practice guidelines and policy, including those related to safety, privacy and mitigation of harm and bias.
- National guidelines and governance including physician and patient voices should be created to increase trust and facilitate adoption. Barring national governance, provincial governance should be introduced.

- The use of AI and AI generated data for research, quality improvement and patient care must align with the Health Information Act, CPSA Standards of Practice and Guidelines and any current and future provincial and national regulations. The AMA will work with regulators to align regulation with the realities of practice and the speed of change.
- Developers and vendors should provide clear information confirming AI systems' validation for safety, reliability, effectiveness, and risk mitigation, including performance, limitations, and guidance to support appropriate use.
- The use of AI tools and to what extent should be apparent in the medical record and an audit trail should be present.
- AI tools or systems cannot generate, augment, or change the content of medical records or communications without the physician's knowledge, consent and final review.
- AI should not be used to change historical visit records or documentation.
- AI should not be used to re-identify previously de-identified data.
- A risk-based approach should be taken to AI development, deployment and use, where the level of explainability (decision-making processes and data sources are made transparent to the user), evidence, scrutiny, and oversight is proportionate to the possible harm and consequences the AI system introduces, including on the basis of the AI system's level of autonomy.
- Physicians require understanding and clarification of the liability risks pertaining to use of AI in their practice, including for privacy-related risks.
- There must be appropriate allocation of liability towards AI system developers and vendors where the AI solution causes or contributes to patient harm, or involve other legal risks (e.g., privacy, human rights, etc.).

### Privacy and Data Governance

- Recognizing that AI is evolving quickly and is already integral to many technologies, disclosure of the material use and purpose of AI in a physician's office should be made to patients, in compliance with regulatory and legal requirements. For example, consent is currently generally required in the use of an AI scribe during a patient visit.
- Data generated from AI should be governed and used in ethical and responsible ways at all times.
- Privacy, security and confidentiality of patient data is critical. This includes the technical aspects of the AI environment. However, privacy concerns should not override the benefits of sharing and using the data. These considerations must be balanced.
- AI data governance should be provided by an independent multi-partner agency, including significant physician, patient, Indigenous and other minority voices.
- Regardless of the body providing data governance, it should incorporate the physician community and the patient voice in decision-making. Data used by AI under an individual or organization's control, such as medical repository contents, should also be governed in this manner.
- AI data governance should respect Indigenous data ownership, control, access and possession principles.

- Data sources must be made ethically, safely, and readily available for AI consumption at reasonable or no cost, across health care data repositories (including EMRs), health care agencies, and provinces. Such data sources should employ appropriate bias mitigation measures and privacy protective techniques (e.g., synthetic data, anonymized, de-identified, etc.).

### Research and Evaluation

- Research into and evaluation of the impact of AI is needed, with the lenses of quintuple AIM (population health, patient experience and outcomes, cost efficiency, provider well-being, and health equity) and health data-related harms.
- There is a need for improved understanding of, and ongoing investigation and research into the bias present in AI tools, mechanisms to mitigate bias, and explainability.
- An evidentiary basis for AI use should be developed, including clinical real-world evaluation and validation of AI solutions. Post-market performance monitoring should be undertaken by appropriate stakeholders to support and assist individual physicians in their practice.
- The economic implications of AI use, including costs to procure and use AI as well as effects on billing codes and physician compensation must be studied, understood, and mitigated where there are negative impacts to physicians. Benefits to the health system should be supported by the health system, not individual physicians.
- The impact of AI on overall health system costs should be monitored for significant positive or negative effect.

### Climate and Environmental Impact

- The AMA recognizes the potential impact of AI on energy consumption and climate change. Climate impact and relative AI model energy efficiency should be considerations in the procurement of AI technologies.