CMPA Empowering better healthcare

# CMPA's AI Webinar—Important takeaways

The proliferation of artificial intelligence (AI) and the emergence of generative AI is expected to significantly impact how physicians practise medicine and how patients receive care.

AI encompasses a range of technologies with diverse applications that attempt to mimic human thought processes and learn new information.

AI applications like predictive modeling are designed for specific tasks ("narrow AI" systems), such as analyzing radiological images to detect anomalies or predicting patient outcomes.

Generative AI is a landmark technological evolution that creates entirely new outputs from given inputs.

Large Language Models (LLMs) are a recent breakthrough in generative AI, which excels at language-related tasks including understanding context, answering questions, summarizing texts, and creating content. LLMs now handle a variety of inputs beyond text, including audio, video and data files.]

## Ways in which AI can be used in medicine

AI systems can be deployed to achieve various objectives in many settings (e.g. clinical, administrative, knowledge translation, research & development, and public health). Consideration of these different uses is helpful to understand regulatory requirements, impacts, risks, and whether AI works for you and your practice.

## Framework for consideration of using an AI tool

**A) Common to any new tool or service**

- What is the stated purpose and objective of the AI technology, and is its use appropriate for my practice?
- How will it improve care?

**B) What are my regulatory obligations?**

- The establishment of a comprehensive regulatory framework, aimed at safeguarding patient safety and privacy, continues to evolve.
- Federal legislation, the *AI and Data Act*, has been tabled which, if passed, will introduce a regulatory framework for AI tools.
- Health Canada has undertaken efforts in recent years to regulate AI by licensing software as a medical device (SaMD). However, some products are not required to be licensed, including those that serve only an administrative purpose.
- Some Colleges have issued preliminary guidance urging consideration of accountability, privacy, transparency, and accuracy.

**C) Specific AI considerations**

Consider what information you will require to determine the validity of the tool for your patients:

1. **Privacy and data protection**

   If you are involved in the purchasing decision or are the custodian of the data, look at the terms of use and privacy policy of the vendor. Consider the following:

   - Are there appropriate privacy safeguards, including contractual obligations with the vendor?
   - Where does the data go?
   - Is the data retained?
   - Is the product compliant with privacy legislation?
   - Has a professional organization or health agency endorsed the product?

2. **Bias**

   - Is the tool appropriate for your patient population?
   - Has the vendor provided necessary information, including about the product's intended use, performance, and limitations, and whether the training data is representative of your patient population?

3. **Reliability**

   - What is the efficacy and safety of the tool? Regulatory approval can help mitigate risks associated with the use of AI by helping to establish its safety and effectiveness.
   - Have other organizations endorsed the tool?
   - What measures are in place for oversight, including maintaining a human in the loop?
   - Given some products may learn and change over time, what measures are in place for ongoing monitoring?

4. **Consent**

   - How will consent be obtained from patients, including communication of the risks and benefits of using the technology?
   - If the data may be de-identified and used to improve the algorithm by learning from one patient to the next, this should also be explained to the patient.

## Future considerations

In the area of clinical decision-making, for the foreseeable future AI will be an aid for clinicians to support and complement other relevant and reliable information and tools. From a risk management perspective, it is still important to apply sound clinical judgment, even when automated decision support is available.

The pace of change presents challenges for regulators, AI developers, and healthcare providers. It contributes to medico-legal risks, and so a cautious and measured approach for the adoption of AI is required.

Members are encouraged to contact CMPA to obtain case-specific medico-legal advice.