

## Artificial Intelligence

Technology has transformed healthcare in significant ways, and artificial intelligence (AI) is poised as the next big game changer for the industry. The expansion of AI in healthcare is projected to occur at an astounding rate – from a \$2.1 billion market in 2018 to more than \$27 billion by 2025.<sup>1</sup>

AI's potential seems almost infinite, with promises across the healthcare spectrum – such as sophisticated diagnostic and treatment tools, data analysis and management capabilities, automated administrative and workflow functions, expanded telehealth applications, new approaches to training and education, and enhanced cybersecurity solutions.

Although AI offers exciting opportunities for healthcare leaders, providers, staff members, researchers, etc., it should be approached with measured enthusiasm. Like any technology, AI programs and systems are not infallible and can have unanticipated and unintended consequences.

As AI becomes more ubiquitous in healthcare, organizations will need to address potential risks and develop proactive strategies for managing these technologies. Although regulations, standards, and best practices are still evolving, the following risk strategies offer high-level recommendations to consider when implementing AI.

1

Perform due diligence of AI vendors and developers when evaluating programs and systems. Consider whether they are transparent about how their technology works, its capabilities, its limitations, and the data sources on which the technology was trained.

2

Develop, implement, and monitor policies and procedures for using AI within your healthcare organization. Determine appropriate protocols and parameters for each AI program or system that healthcare providers and staff members are using.

3

Stay current on federal and state regulations associated with AI technologies (e.g., in relation to data privacy and security, informed consent, scope of practice, liability, etc.). Be aware that AI development might outpace regulations, requiring collaboration across experts and industries to determine appropriate protocols and safeguards.

4

Stay up to date on evolving guidance about standards of care and best practices related to AI from professional associations, advocacy groups, government agencies, and research studies.

5

Promote awareness among healthcare providers and staff members of potential barriers and risks associated with AI technology, such as biased data and algorithms, black-box reasoning, automation bias, data privacy and security, patient misperceptions, and training and education deficits.

6

Ensure that healthcare providers who are incorporating AI technology into practice have received training on the programs and systems they are using, are adhering to any guidelines provided by the AI vendor or developer, and can demonstrate competency.

7

Develop and implement patient selection criteria, standardized clinical protocols, and informed consent standards for care involving AI to ensure consistency, quality, ethical use, and efficiency of care.

8

Develop measures of robustness to assess and monitor AI performance over time (e.g., simultaneous diagnosis and cross-checking between clinicians and AI systems).

9

Determine protocols for assessing errors and unanticipated outcomes involving AI, and determine strategies to mitigate risks. Ensure that your organization's mechanism for incident reporting covers AI-related events.

10

Routinely monitor AI programs and systems for possible security vulnerabilities or breaches, and implement safeguards at identified points of risk exposure.

11

Audit provider and staff practices for compliance with AI-related policies and procedures and implement corrective actions as needed.

## Resources

- [Artificial Intelligence in Healthcare](#) (*AMA Journal of Ethics*)
- [Artificial Intelligence in Medicine](#) (American Medical Association)
- [Augmented Intelligence in Health Care](#) (American Medical Association)
- [Patient Safety Primer: Clinical Decision Support Systems](#) (Agency for Healthcare Research and Quality)
- [Perspectives on Safety: Emerging Safety Issues in Artificial Intelligence](#) (Agency for Healthcare Research and Quality)

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## Endnote

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<sup>1</sup> Spanu, A. (2019, May 30). Artificial intelligence market in healthcare to grow over \$27.60 billion by 2025. *Healthcare Weekly*. Retrieved from <https://healthcareweekly.com/artificial-intelligence-healthcare-market/>

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