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## CLINICAL INSIGHTS

# Unveiling the Future: AI's Impact on Healthcare

Artificial intelligence (AI) has been around for decades but burst to the forefront of our minds after ChatGPT was released to the public in late 2022. The sudden appearance of such an interactive and convincing use of AI in chatbot form resulted in it being the fastest application to reach one hundred million users in history.<sup>1-2</sup> Numerous other large technology players and smaller startups have developed their own AI chatbots and other applications based on these AI platforms. Already, AI impacts nearly all industries in some way, and healthcare is certainly no exception.

Overall, AI encompasses programs that perform functions traditionally performed by humans. In a narrower scope, healthcare AI programs operate within many aspects of day-to-day services including<sup>3-6</sup>:

- Imaging evaluation and interpretation
- Clinical diagnostics, both subjectively and objectively
- Providing clinical insights and decision support
- Documentation efficiency
- Treatment response prediction
- Administrative functions, including scheduling and written responses to emails and messages

As AI programs evolve and expand, additional AI use cases in healthcare are expected. Some early stage and future expected applications include<sup>6-7</sup>:

- Mining large datasets to identify difficult-to-detect trends and patterns
- Helping clinicians apply clinical evidence more accurately to patient cases
- Targeted drug discovery and development
- Predict treatment response via disease markers

- Integrate personalized medicine factors like genomics into treatment decisions
- Help overcome barriers to healthcare management including social determinants of health, cost, and access challenges
- Better prepare for a population's healthcare utilization needs
- Reduce administrative burdens like writing chart notes, summarizing medical information, purchasing and inventory management, billing, and completing routine administrative tasks

As we move into this new age of AI integration within healthcare and all aspects of business and life, questions remain. What are the ethical implications? Who vets AI-generated information, confirms validity and accuracy, and holds these programs accountable? What role do humans and professionals play in this new era? We'll explore these topics more throughout this series as we venture into an exciting and nerve-wracking ecosystem of technology applications in arguably the most human of businesses: healthcare.

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