

# AI in Healthcare the Gift of Time and Peace of Mind



The proliferation of artificial intelligence (AI)/ChatGPT resources over the first part of 2023 has raised several questions in the pharmaceutical industry around its use and misuse. In March 2023, commentary around its effectiveness or potential was circulating online. In December 2022, Sam Altman, CEO of OpenAI, stated, "ChatGPT is incredibly limited but good enough at some things to create a misleading impression of greatness." Was it just an impression of greatness, or was there something here that, if used correctly, could change industries? Not eliminating jobs, as the fearmongers would want you to think, but instead, could this bring about favorable change that could potentially enhance the human experience?

ChatGPT and other AI tools have the potential to play a positive role in healthcare. Although Google's Generative AI makes it easier for developers to build on

their platform and pulls answers from medically approved content, there are still limitations around AI and compliance with HIPAA. A recent cross-sectional study of 195 randomly drawn patient questions from a social media forum has allowed us to understand the implications of using AI and better understand its future use.

The study asked: "Can an artificial intelligence chatbot assistant, provide responses to patient questions that are of comparable quality and empathy to those written by physicians?" In light of the rise of virtual healthcare, there's been a rise in patient messages, putting more pressure on already burned-out healthcare professionals, and the idea that tools such as ChatGPT and Google's Bard could improve not only the patient experience but also the lives of healthcare professionals offers a glimmer of hope. What if AI is

the answer to better care for both patients and health-care providers (HCPs)?

### **Time Isn't Just Money, It's Care**

Physician burnout has become a growing concern in the healthcare industry, with limited time for patient interaction and information overload being key contributors. Post-pandemic studies, including one published in the Mayo Clinic Proceedings, found that satisfaction with work-life integration dropped from 46.1% in 2020 to 30.2% in 2021. Furthermore, depression scores rose from 49.5% in 2020 to 52.5% in 2021. Physicians are burned out, lack time with patients, and spend much of their time on documentation instead of directly with patients. A recent Wakefield Research survey noted that the vast majority of nurses spend more than half of their time with patients, helping to educate them and correct misinformation. Meanwhile, 50% of millennials said that going online for medical information also causes anxiety and fear. Both sides of the party are eager to save time for the sake of the stress of not only the patient but also the care provider. AI can be a credible partner. AI is not freedom of speech; it is programmed to deliver medically credible information, giving time back to the healthcare provider, which decreases stress and burnout. This inevitably leads to better care all around.

### **AI Can Level the Playing Field in Health Inequity**

The JAMA study aimed to assess whether an AI chat-

bot could provide responses to patient questions that are comparable in quality and empathy to those written by physicians. The results revealed that while the performance of chatbots in a clinical setting remains uncertain, they could be used to draft messages for clinicians or support staff to edit. This approach aligns with current message response strategies, in which canned responses or drafts by support staff are common. Imagine you have just been diagnosed with triple-negative invasive ductal carcinoma. Sitting in the doctor's office, you may be too in shock to understand or take in much, if any, information. You go home and jump onto a search engine. "What does this mean? How serious is it?" Faced with answers about treatment options and confusing medical terms, you may get overwhelmed.

AI has the power to quickly help patients and loved ones make sense of their diagnosis and what steps to take next. Additionally, it can quickly help interpret the meaning of confusing conditions and other clinician terminology so patients can learn from the comfort of their own homes. With properly trained AI and education around how to best use these tools, patients and their loved ones or caregivers are now holding a tool that can provide answers, and answers provide relief, lessening the stress of the situation.

For the HCP, utilizing AI-assisted messaging can save time and enhance productivity and focus on

more complex tasks, ultimately improving overall communication skills. Moreover, consistent responses and personalized AI-written drafts can aid in better patient understanding, leading to more efficient consultations and reduced workload for healthcare professionals.

However, some organizations remain cautious about the accuracy and vetting process of AI-generated messages, preferring medically reviewed sources such as the Cleveland Clinic website. Striking the right balance between AI assistance and trusted information sources is crucial to building trust and ensuring patient safety while alleviating some work of the HCP.

### **Repairing Broken Systems and Communication**

The JAMA study also found that "investments into AI assistant messaging could affect patient outcomes. If more patients' questions are answered quickly, with empathy, and to a high standard, it might reduce unnecessary clinical visits, freeing up resources for those who need them." This is solving one of the biggest challenges of healthcare customer services. When someone is diagnosed with a condition, they're in a high state of emotion, overwhelmed and understandably in need of attention and care. Traditional systems often fall short because physicians and administrators lack the time and knowledge to handle frequent patient queries. Web 1.0 and 2.0 platforms

are rife with inaccurate information, leaving patients frustrated and misinformed. Enter AI, which can very easily answer the most frequently asked questions, providing accurate answers with a soothing voice or, at the very least, in plain language. Even more importantly, AI answers are free and accessible. Much like the growth of using TikTok for medical advice, patients can access solutions without waiting hours or days to speak to a credible source.

### **Harnessing the Power of Data and Technology for Improved Personalization**

Based on established relationships, personalization in responses remains an unexplored aspect in academia. Additionally, the study did not evaluate the chatbot's ability to extract details from electronic health records, which can provide valuable context in healthcare consultations. To overcome these limitations, AI platforms such as Google are actively working on improving their systems. They are developing flexibility and openness, allowing businesses to set parameters for the AI's advice and continuously adjusting materials for accuracy. Moreover, investments in AI platforms that leverage patient data can enable precise recommendations tailored to individual needs, ultimately enhancing patient outcomes through data-driven insights. For example, we recently partnered with Google Looker to leverage key data points about many different patients affected

by Alzheimer's disease, and the platform was able to make treatment recommendations. So, what does this mean? The more data that AI platforms have and the more oversight to ensure accuracy, the more confidence we will have in AI's ability to make recommendations. It's really a matter of time.

For patients, rather than sifting through an ocean of generalized information on reputable cancer websites or reading lengthy and often wordy pamphlets, AI delivers the promise of answers that are based on knowledge of each individual's condition and needs.

### Limitations and Conclusions

There are still limitations to using AI in patient care. Statistically speaking, AI is outperforming doctors in accurately diagnosing patients. A peer-reviewed study showed the average diagnostic accuracy of doctors as 71.40%, whereas the counterfactual algorithm scored higher at 77.26%. This score placed AI in the top 25% of doctors that achieved "expert clinical accuracy." However, we aren't out of the dark yet for when an AI inevitably gets a few diagnoses wrong; society will easily lose faith in the system, even though it's proven that AI is already outperforming doctors. Although trust is growing, we will need to identify ways to build and sustain this trust in AI. Further, AI hallucinations can run the risk of providing rogue answers that are not accurate. This is an unresolved issue that can hinder the potential mass

adoption of AI for regulated organizations.

In an industry that often struggles to deliver hope, there's a glimmer of light breaking through in medicine in the form of AI. What will happen to patient outcomes and addressing physician burnout when AI is used to help bridge the messaging gap? How quickly will we see physicians leveraging these tools? How quickly can we demonstrate improved patient outcomes as a result of getting a more accurate diagnosis faster? The future is bright, and the way we utilize these tools is the key to how helpful they become.

Health literacy is a health crisis in America and around the globe. It is estimated that people's lack of understanding about their health adds up to a cost of \$238 billion to the healthcare system, representing upward of 17% of all personal healthcare expenditures. Where other educational programs have historically failed, AI's accessibility and personalized answers bring a real fighting chance to finally addressing this global crisis.

What happens when AI is widely accepted by healthcare professionals, and how much will their patient care improve when they have more time to spend helping their patients rather than being tied to administrative work? How much will patient outcomes improve when physicians widely accept and adopt AI as an assistant to diagnosing, explaining and supporting management of chronic conditions and diseases? I hope we find out soon.