

ROLE OF AI IN RESHAPING CONSUMER EXPERIENCES IN HEALTH CARE

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ABSTRACT:

Healthcare is one of the foremost success stories in recent years. The increasing longevity of the global population, coupled with advancements in medical science, has certainly placed a significant strain on healthcare systems worldwide. As life expectancy rises, the demand for healthcare services continues to grow, while the costs of delivering those services increase and the healthcare workforce struggles to meet the ever-expanding needs. However, the transformative potential of Artificial Intelligence (AI) in healthcare presents a promising solution to many of these challenges. AI helps quick Diagnosis & Proactive Health Management by analyzing the diagnostic images, test results, and patient histories faster than traditional methods, leading to quicker diagnoses and timely interventions. Moreover, AI can support predictive analytics for population health, helping to identify at-risk individuals and enabling healthcare systems to allocate resources effectively. AI has the potential to improve Work Conditions for Healthcare Providers by handling routine tasks and offering decision-support tools. It allows healthcare professionals to concentrate on complex, high-impact activities, such as direct patient care. This could reduce burnout and improve job satisfaction, leading to better patient care. This paper attempts to study the transformative potential of AI in healthcare as it has the capacity to revolutionize various aspects of care delivery, with benefits spanning across patient outcomes, healthcare access, provider experiences, and system efficiency.

Key words : *HealthCare, Proactive Care, Predictive analysis, Medical intervention, Triage*

INTRODUCTION - AI CAN REORGANIZE THE ENTIRE HEALTHCARE JOURNEY:

AI has the potential to revamp the entire healthcare journey for consumers. Consumers would experience healthcare across several core journeys, and while these steps need not be chronological, discrete, or the same for each individual, each stage offers ample prospect for AI to improve the experience.

First milestone of the journey is to enhance the patient engagement in proactive care and wellness:

People often grapple to make healthy lifestyle choices that could reduce the risk of preventable health issues. Health care providers and consumers can adopt AI to facilitate a very personalized preventative care experience. For instance, clinical and behavioral risks for individuals could be predicted by machine learning (ML) models and the recommended wellness programs and personalize messages could be handled by gen AI. This will enhance the consumer engagement. Also, the well incorporated delivery networks that have a 360 degree view of an individual can identify care gaps and use AI-powered models to suggest subsequent steps. Beyond the service adopters and providers, the wellness companies that are dealing direct-to-consumers are progressively serving the wellness market as health guides. A good example of this is the AI-powered *Whoop Coach* which uses biometric data from a user's Whoop wearable device and then uses ML on consumer-shared journey entries to generate individualized responses to health questions and to coach individuals to reach pinnacle performance .

Second mile stone is creating a healthcare service easier to find and schedule timely delivery:

When consumers discovers a health care need, then finding a care service that meets their immediate requirements and preferences can be very exasperating and time-consuming. In this case AI can serve as a 24/7 front office facility to process the available information and give preliminary suggestions. In doing so, it has the capability to speed up the process of guiding consumers to the right care, at the right place and time. The AI can link patients' preferences with provider-specific data to create a more updated search experience. Furthermore, gen AI can fuse information to

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prepare consumers for hospital visits and increase engagement by personalizing appointment reminders.

AI may also help reduce the appointment no-shows. Delayed treatment can lead to the worsening of the a patient's condition. By analyzing the patient's past behaviour, AI can help providers and insurance payers identify patients who are more likely to miss appointments and send them reminders well ahead of time, and if appointments are missed, offer facility to reschedule. For instance *Total Health Care*, a federally qualified health center in Baltimore, had reported that by using eClinicalWorks' Healow AI model to identify high-risk no-show patients, it reduced missed appointments by 34 percent.

Third milestone is creating treatment and cost information more comprehensible:

It has been observed that before and after hospital visits, patients often struggle to understand their insurance coverage and how much they owe. Healthcare institutions may be able to use AI to provide an easy-to-understand outline of expected costs and insurance coverage adjusted to each individual in their language preferences. Health care service providers can use gen AI tools to assist patients in understanding and resolving healthcare bills.

Fourth milestone is Improving quality of medical treatment and health care services:

The Quality of health care is one of the most important influencers of patient's satisfaction. Those patients who perceive that they received poor care are almost three times likely to switch hospitals. One observed reason for patient dissatisfaction is too-short appointment time of doctor of around 15 minutes, which patients view as insufficient to receive high-quality care. While there are many ways to work on this problem, AI offers intriguing solutions. For example, one brilliant way to improve this kind of experience and to prioritize quality time is to use AI-powered ambient listening technology. "Ambient listening" refers to using AI-powered technology to automatically capture and document conversations between healthcare providers and patients during appointments, creating clinical notes in real-time. By doing this doctors can focus wholly on their patients worries and doubts, while the technology can takes notes which the doctor can review for accuracy after the visit. Another good practise could be for AI to assist doctors with in-patient care; this might appear to be like a natural-language-processing model that identifies specific words uttered by bedridden patients and then notifies the nurses' station to address their specific needs.

Fifth milestone is by Increasing consumer loyalty with follow-up care:

It is very regular for patients to leave the hospital services in an unclear or confused state of mind about future line of action with regards to their treatment. Gen AI can talk the walk with patients, refer the hospital notes and clear treatment summaries with insurance coverage information and patient preferences. This could provide easy-to-understand takeaways from the visit, resources to manage stress, and tailored information on what's needed next in a manner that's free of medical jargon and shows empathy and understanding. This would not only make it easier for patients to navigate the healthcare system but also free up the health care workers time. For example, Kaiser Permanente reported that its AI-powered patient messaging system saw 32 percent of messages triaged i.e the patients or casualties are assessed by paramedics to determine the urgency of their need for treatment and the nature of treatment required before sending them to the hospitals

Applications of AI in organisation - Healthcare professional responses:

Applications	In Percent
Diagnostics (imaging, pathology, sequencing)	21.5
Clinical decision making	18.1
Data Management	15.3
Education	8.3
Prescribing	6.3

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Triage and diagnosis	5.6
Operational Management	5.6
Self Care/Prevention/Wellness	4.2
After Care(Follow-up and Monitoring)	4.2
Care Delivery	3.5
Pharma(drug development and clinical trials)	3.5
Others	2.5
Prosthetics	1.4

The pace of change in healthcare AI has accelerated significantly over the past few years due to advances in algorithms, computing power and the increasing breadth and depth of data that can be used. In response, countries, health systems, investors and innovators are all now sharply focused on the topic. Countries as diverse as the US, Finland, Israel, China, and Qatar, to name a few, have developed AI strategies that directly or indirectly affect healthcare. Global VC funding for AI in healthcare has reached \$8.5 billion for the 50 best-funded healthcare AI companies, while clinical trials for AI-augmented healthcare applications are multiplying.

The acceleration of AI in healthcare has been nothing short of transformative. The combination of better algorithms (especially deep learning and generative models), stronger computing infrastructure (thanks to GPUs, TPUs, and cloud platforms), and a deluge of structured and unstructured health data (EHRs, wearables, imaging, genomics, etc.) has created a perfect storm for innovation.

A few trends and developments that really highlight this shift:

Global Strategy and Policy: Countries like **Finland and Israel** are leaning heavily into AI as part of national healthcare innovation strategies, often leveraging their strong data ecosystems and digitized health systems. Meanwhile, **China and the US** are pushing both public and private sector innovation at scale, with China focusing on scale and infrastructure, and the US fostering a rich VC-backed startup ecosystem.

Venture Capital & Market Dynamics: That \$8.5 billion figure for the top 50 AI healthcare companies is a huge signal of market confidence. Investors are especially keen on startups tackling diagnostics, predictive analytics, drug discovery, and personalized medicine.

Clinical Trials & Real-World Validation: The spike in **AI-related clinical trials** shows a growing emphasis on moving beyond proof-of-concept to actual validation in real-world clinical settings. Regulatory bodies like the FDA are starting to adapt, issuing new guidance around AI/ML in medical devices.

Emergence of Foundation Models in Healthcare: Models like Med-PaLM and BioGPT are showing that large language models can be fine-tuned for clinical tasks — from summarizing patient notes to assisting in diagnosis or even medical education.

CONCLUSION:

The integration of AI in healthcare is not merely a technological advancement but a paradigm shift that holds the potential to transform patient care, improve healthcare access, and enhance provider experiences. By addressing both operational inefficiencies and clinical challenges, AI has the power to deliver better health outcomes while simultaneously easing the burden on healthcare systems and providers. As AI continues to evolve, it could play a central role in shaping the future of healthcare, providing scalable solutions to the growing demand for quality care in an aging world. The ongoing research and adoption of AI technologies in healthcare are poised to continue reshaping the landscape, offering solutions to problems that have long been barriers to efficient and effective healthcare delivery.

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