

AI in Healthcare: What are the prospects?



Firebrand Training
18 January, 2022

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Google, IBM, ICADL, Moorfields Eye Hospital, and Bay Labs are creating AI technologies that are disrupting healthcare. What are the implications of widespread AI adoption in the healthcare sector, and how can providers prepare staff for their new roles?

AI is getting closer to doing what humans do - and in many ways doing things more efficiently, at a lower cost. This is becoming increasingly apparent in healthcare. So much so that AI techniques are even fuelling active discussions as to whether AI doctors could eventually replace human physicians in future.

This scenario is not likely to happen any time soon, but AI can definitely assist physicians when it comes to making better clinical decisions. It can even replace human judgment in certain areas e.g. radiology.

What is AI?: [According to IBM](#)

“AI intelligence leverages computers and machines to mimic the problem solving and decision making capabilities of the human mind”.

AI in healthcare generally refers to the application of machine learning algorithms and other cognitive technologies in medical settings. In its simplest sense it involves computers mimicking human learning and thinking - making decisions or even taking actions.

Benefits of AI in healthcare

AI can improve outcomes and the productivity and efficiency of healthcare delivery, and improve the lives of healthcare practitioners. It can also get lifesaving medicines to market quicker.

AI Robots can help people stay independent for longer reducing the need for them to go into hospital or care homes. AI can also be used in care homes - to mimic social interactions and improve the mental health of residents.

- AI can help uncover early disease risks and help clinicians make more informed decisions
- AI algorithms can save time and costs, reducing the time to e.g. identify biomarkers
- AI robotics can assist in surgery - Antibacterial Nanorobots can clear patients' blood from infections

Healthcare providers can benefit from AI

Predictive analytics can support clinicians when making decisions and help to prioritise back end administration tasks. AI can help providers identify chronically ill people earlier and develop comprehensive, tailored approaches to their disease management as well as help patients self-manage their conditions.

Use cases of AI in healthcare

Medical devices equipped with AI can monitor and protect early stage heart disease. [IBM's Watson for Health](#) helps healthcare organisations use cognitive technology to unlock health data and make diagnoses. It can store and receive data far more quickly than any human can, helping to optimize the clinical, financial and operational performance of healthcare providers.

Google's [DeepMind Health](#) uses tech that combines machine-learning and systems neuroscience to build algorithms into neural networks that mimic the brain. The AI has learned to diagnose eye diseases as effectively as the world's top doctors.

AI can detect diseases like cancer at earlier stages, for example AI can help doctors find [breast cancer on mammograms](#).

Outlook for AI in the healthcare sector

As life expectancy increases healthcare systems are facing growing demand for their services along with rising costs and workforce shortages. By 2050 an estimated [one in four people](#) in Europe will be over the age of 65, and healthcare providers will need to cope with a lot of patients with complex needs.

Care needs to be focused on the longer term and be more proactive. When it comes to health sector jobs the focus needs to be not just on recruitment, but on training existing staff in the right skills.

Rethinking education and skills in the healthcare sector

AI could help to alleviate the shortfall in workers in healthcare, while removing time spent on administrative tasks. There will be a need to embed digital and AI skills within healthcare, not just for physicians to change how they consult with patients, but for frontline staff to integrate AI into their workflows.

New roles will emerge, combining medical and data science expertise. Staff will need to be involved in designing human-machine interactions, for example, to help record store, and analyse data.

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