Artificial Intelligence in Medical Practice: The Promise and the Challenges

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Artificial intelligence (AI) is rapidly transforming the field of medicine. AI-powered technologies are being used to diagnose diseases, develop new treatments, and improve patient care.[1] As Enrico Coiera wrote in the Lancet, this will change the way medicine is practiced.[2] There are lots of AI related tools now introduced which is capable of doing many important works in medical field. So, the result of AI in medicine will not be to replace the medical person, but to replace and enhance many of the medical person's roles, and create a new range of roles.[3]

The Promise of AI in Medicine

AI has the potential to revolutionize medicine in a number of ways. For example, AI can be used to:

• Diagnose diseases more accurately. AI-powered algorithms can analyze large amounts of medical data to identify patterns that would be difficult for human experts to see. This has led to significant improvements in the accuracy of disease diagnosis, particularly in areas such as radiology and pathology.

• Develop new treatments. AI can be used to screen large numbers of potential drug candidates to identify those that are most likely to be effective. This has accelerated the drug discovery process and led to the development of new treatments for a variety of diseases.

• Personalize patient care. AI can be used to analyze a patient's individual medical history and genetic data to develop personalized treatment plans. This has the potential to improve the effectiveness of treatment and reduce the risk of side effects.

Even different literature suggests that AI systems and tools can help to deliver precise, fast and effective medicine which is as accurate as human clinicians. Thus it helps to improve the delivery of healthcare.[4-7]

There are vast opportunities in the field of AI as mentioned by Turing "We can only see a short distance ahead, but we can see plenty there that needs to be done".[8]

The Challenges of AI in Medicine

While AI has the potential to revolutionize medicine, there are also plenty of challenges that need to be addressed. These challenges include:[9]

• **Accuracy**. AI algorithms are only as good as the data they are trained on. If the data is not accurate, the algorithms will not be accurate either. This is a major challenge, as medical data is often incomplete or inaccurate. So, there is necessity of creation of a robust AI algorithm.

• **Bias**. AI algorithms can be biased, reflecting the biases that are present in the data they are trained on. This could lead to discrimination against certain groups of patients.

• **Interpretability**. It can be difficult to understand how AI algorithms make decisions. This can make it difficult to trust the algorithms and to use them to make informed decisions about patient care.

• **Ethical**. Ethical consideration while implementing AI.

Despite these challenges, AI has the potential to significantly improve the quality of healthcare. As AI technology continues to develop, it is likely to play an increasingly important role in the field of medicine.

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