

The Growing Demand For AI in Clinical Medicine

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Healthcare delivery in the United States is at an important juncture. On the one hand, research into human biology is rapidly discovering novel disease pathways, unlocking new diagnostic and therapeutic potential. Yet health outcomes, particularly in the US, are not keeping up: life expectancy is actually decreasing. Additionally, care in the US is comparatively expensive—we are paying more for less. Artificial intelligence—broadly defined as the development of intelligent machines (computer systems) that perform functions such as thinking and problem-solving that normally require human intelligence—holds tremendous promise for improving healthcare delivery. Yet there is a gap between what is possible and what has been realized.

In this presentation, I will focus on applications of artificial intelligence and machine learning in the health care delivery setting, i.e. for clinicians and provider organizations. AI offers compelling opportunities to improve efficiency, reduce errors, and incorporate increased evidence-based decision support. However, challenges abound in areas such as data security, patient privacy, legal liability, and the challenges of applying AI tools in new contexts. Despite the abundance of challenges in this space, the application of secure, well-validated AI systems holds great potential for improving healthcare delivery, both now and into the future.