



## AI-Augmented Patient Care: Pros and Cons



In healthcare, artificial intelligence (AI) has shown promise in both clinical and administrative applications. Increasing use of AI algorithms and tools, therefore, could provide a wide range of benefits particularly in improving patient care, reducing burden on providers and increasing resource efficiency at hospitals, says a new report.

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Moreover, healthcare AI technology is also poised to help augment patient care outside traditional clinical settings. AI-enabled tools can also be deployed for health monitoring, intervention and promoting overall well-being beyond the walls of the hospital and clinic (i.e. the home), according to the report *Artificial Intelligence in Health Care: Benefits and Challenges of Technologies to Augment Patient Care* issued jointly by the U.S. Government Accountability Office (GAO) and National Academy of Medicine (NAM).

Clinical applications of AI that could enhance delivery of care include predicting health trajectories, recommending treatments, guiding surgical care, monitoring patients and supporting population health management. The report cites sepsis prediction tools as a good example, adding that AI-enabled surgical robots are already in the early stages of development.

As regards administrative applications of AI, the report has identified three areas where AI-powered algorithms and tools could help reduce provider burden and increase the efficiency of patient care: recording digital clinical notes, optimising operational processes, and automating laborious tasks. The report notes that currently there is already widespread adoption of speech-recognition software, while AI-powered robots have only been minimally deployed to hospitals.

Meanwhile, wearable devices and medical sensors are some examples of AI-enabled tools being used in 'health settings outside the hospital and clinic' (HSOHC). AI algorithms related to diabetic and cardiac care have been found to be effective in [helping patients](#) manage their blood glucose levels in

their day-to-day lives and in detecting cases of [atrial fibrillation](#).

Another good example is telehealth, which has seen a remarkable increase in usage especially during the COVID-19 pandemic amidst stay-at-home orders. Some telehealth services, according to the report, use AI software focussed on natural language processing, which enables efficient triaging of patients based on urgency and type of illness.

## **Barriers and Challenges to Wider Applications**

However, as noted in the report, there are significant challenges that hinder the widespread adoption of healthcare AI; for instance, issues pertaining to data interoperability, privacy, algorithm development (systemic biases), integration of AI tools into provider workflows, and reimbursement of AI-assisted services.

Large amounts of high-quality data are often needed in the development of AI algorithms and tools. Difficulties in accessing such data may hamper innovation in this space, says the report, adding that some available data may be biased – which can impact on the quality and accuracy of AI tools for some people. However, addressing bias can be difficult because the electronic health data are currently not representative of the general population. There is also this problem of scaling tools up to multiple locations and integrating them into new settings – this is because of differences in institutions and the patient populations they serve.

In addition to technical and logistical hurdles, use of AI tools – with such huge potential impact on patient health and safety – also raises legal, ethical, economic and social questions. Some legal considerations include the appropriate designation of accountability and liability of medical errors resulting from AI-assisted decisions, while key ethical concerns include upholding the privacy of patients and their data.

Overcoming these issues and challenges will involve engaging diverse stakeholders. In this regard, the report lists some recommendations:

- Government, healthcare and industry collaboration to establish best practices (such as standards) for development, implementation and use of AI technologies.
- Developing policy initiatives that push for greater data interoperability and device integration standards with hospital clinical systems, so as to enhance stress-free provider and consumer/patient usability.
- Advocating for insurance and healthcare payment reform that incentivises adoption of AI tools into physicians' workflow.
- Establishing clarity in regard to liability for applications of health AI, with an eye to supporting rather than hindering innovation in this field.

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