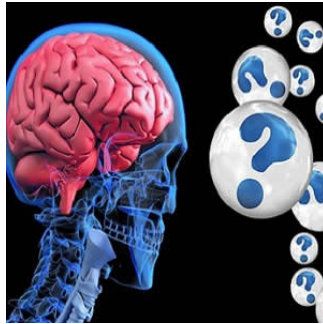


Financial and practical road blocks fail to stop rise and rise of healthcare AI



The growing impact of artificial intelligence on healthcare is already being felt, even if opportunities for using AI technology are just beginning to be explored, according to a new report from JASON, an independent scientific advisory group.

Some AI and machine learning programs can match human competence in image recognition and, in some studies, can make diagnostic decisions on medical images that match or even exceed the ability of clinicians, notes the report commissioned by the U.S. Department of Health and Human Services and the Robert Wood Johnson Foundation. JASON provides consultation services to the federal government on matters of science and technology.

In particular, the report authors are optimistic about two uses of AI to support medical imaging: detection of diabetic retinopathy in retinal fundus images and dermatological classification of skin cancer.

Technology is also getting better at speech recognition and natural language processing. In fact, the report says, AI-based tools are already appearing in health-oriented apps that can be employed on handheld, networked devices such as smart phones. Wearables, smart phones, sensors and similar devices are helping more and more consumers to be more active in looking after their health and wellness.

"These devices empower individuals to monitor and understand their own health, create large corpuses of data that can, in theory, be used for AI applications, and capture health data that can be shared with clinicians and researchers," the report explains. "AI algorithms drive the performance of many of these devices and, reciprocally, these devices are capturing data that could be used to develop or improve AI algorithms."

Examples of such apps include a personal EKG to detect atrial fibrillation, an app called CloudUPDRS to assess Parkinson's symptoms including tremors, patterns in gait and a finger-tapping test; and asthma tracking and control via a hand-held flow meter.

"These sorts of technologies can collect information of clear and vital importance to patients and use by clinicians, but we must again emphasise that each new data stream must be evaluated, collected and curated to formats consistent with clinical needs and AI applications," the scientists caution.

While the report highlights the huge amount of data collected and kept by the healthcare sector, the authors say the quality and accessibility to pertinent data at an affordable cost remains a challenge, as does the protection and sharing of data.

"Further, the lack of interoperability of electronic health record systems impedes even the simplest of computational methods and the inability to capture relevant social and environmental information in existing systems leaves a key set of variables out of data streams for individual health," the scientists wrote.

However, these issues and problems have not slowed the work being done on healthcare artificial intelligence. About 106 start-up companies are already transforming the industry, the JASON study revealed, noting three key factors driving the use of artificial intelligence:

- Frustration with legacy medical systems
- The ubiquity of networked smart devices in society
- Acclimation to convenience and at-home services such as those provided by Amazon and other companies

Source: [Health Data Management](#)

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