AI Tool Boosts Enrollment in Clinical Trials

An artificial intelligence model showed promise in slashing the time needed to determine clinical trial eligibility.

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Recruiting and screening individuals for clinical trials is time-consuming and can account for to up to one third of trial costs. But researchers have found that artificial intelligence (AI) could improve the process, resulting in enhanced screening methods and speedier enrollment, according to a recent research letter published in JAMA.

In recent years, AI has revolutionized health care. AI can help health care professionals analyze colonoscopies, match individuals with appropriate cancer treatments, identify missed cases of liver disease and more.

While AI can support health care professionals and improve efficiency in several areas, many tasks still require a manual review of data. Indeed, traditional clinical trial screening requires health care professionals to manually sift through a pool of potentially eligible individuals and manually review charts to verify eligibility.

To speed up the process, Alexander Blood, MD, MSc, associate director of the accelerator for clinical transformation at Mass General Brigham, and colleagues developed a large language model (LLM) called Retrieval Augmented Generation Enabled Clinical Trial Infrastructure for Inclusion Exclusion Review (RECTIFIER).

According to the study, the AI-assisted screening tool yielded a much more rapid and comprehensive prereview of a person's chart. It also significantly reduced the time needed to determine eligibility and boosted enrollment rates.

"Implementing AI-assisted screening tools like RECTIFIER enhances clinical trial efficiency and expedites the screening and recruitment process," the study authors wrote, "which may lead to

faster trial completion and earlier access to novel therapies for patients."

RECTIFIER is considered a prescreening tool because patients were also screened by real people before being deemed eligible for the trial.

Although the study focused on recruiting individuals for an ongoing heart failure clinical trial, Blood told JAMA that there are "no specifications, fine-tuning or special tuning to the model that made this a heart failure study–specific tool."

When asked whether RECTIFIER could be used immediately for clinical trial recruitment, Blood said:

"There's always ways you can make a system or a tool better, and we're in the process of doing that every day here at Mass General Brigham. In our system, [we're] starting to beta test this to additional researchers and research groups across our institution, with the hope and intent that this will scale broadly across our enterprise. We're excited to talk to friends, colleagues, partners and to also externally validate this research to demonstrate in additional centers and other disease areas that we continue to see really promising results that can actually accelerate research both for clinicians and for patients, and really for the health care community more broadly."

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