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How is AI growing in clinical research?

(BYLINE)

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As technology evolves and improves, so do our methods in medicine. When it comes to clinical research, we take every opportunity to streamline the process. Trials can be lengthy, costly, and uncertain; but a success may lead to the availability of life-changing treatments. This makes clinical research an especially vital field for optimization.

In recent years, many spheres of clinical research have begun to try out artificial intelligence (AI) and machine learning (ML) as tools for conducting trials. When utilized properly, AI can alleviate strain and pick up slack in several areas, allowing researchers to save on time and resources.

Patient Identification

A common challenge in clinical research is finding the right type of person to recruit. Determining the ideal patient is an arduous process, as investigators must consider the target of their research (a condition, disease, etc.), the drug being studied, and possible risks to participation based on medical background. There is potential for this identification process to be done automatically using AI tools. Given the right resources, algorithms may be capable of evaluating individuals' conditions, medical histories, and possible risk factors all at once to see who an ideal candidate for research may be. This information may influence how research sponsors and sites decide to develop and distribute their recruitment efforts.

Studies using AI and ML for patient identification have been [researched and referenced](#) by the National Institute of Health.

Risk Assessment

Trial participants are often required to attend lengthy site visits to undergo testing, procedures, and monitoring. The visit process could benefit from being shortened by AI applications, which have shown capability of monitoring patient health and wellness throughout a trial without the necessity of extra visits. With the right program, patients may be able to input health updates and be evaluated for general status and potential risk by an AI assistant. Handing off tasks to AI may be a time-saving alternative for both patients and trial site staff.

Several studies referenced in [this article](#) provide details and examples on the potential of AI in patient safety.

Data Analytics

Analyzing data is a meticulous, systematic process. This is where clinical research may reach a slower point in progress, because while trials produce a massive amount of useful data, researchers must read that data thoroughly in order to propose theories and draw conclusions. As an alternative, available AI models can analyze abundances of data and present findings in a fraction of the time it would take an investigator. This has the potential to move studies forward more quickly and produce a greater number of fully analyzed results.

An evaluation of algorithm versus traditional data analysis methods can be found in [this comparative study](#) on tuberculosis detection.

Right now, AI is propagating with a level of ubiquity we've never seen before and will only continue to grow. Investigators and journalists across the globe are doing research to monitor the ongoing development of artificial intelligence and machine learning in clinical fields, and as an advancement that may impact medical practice in all our lives, we'd best keep watching.

For more on the latest in the clinical research industry, [let's connect!](#)