

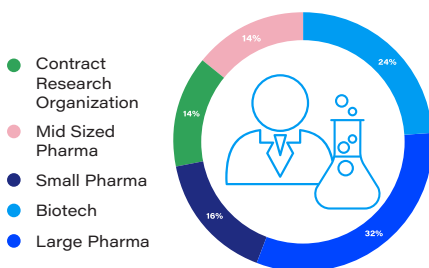
Industry Insights AI & Machine Learning in Clinical Research

Perceptive eClinical Survey 2025 supported by Citeline

With so many benefits to using Artificial Intelligence (AI) and Machine Learning (ML) in clinical research, it's tough to say which ones matter most. To get a clearer picture of how these technologies are actually shaping the eClinical space, and what hurdles still remain, we ran an online survey as part of our eClinical Trends & Innovations series.

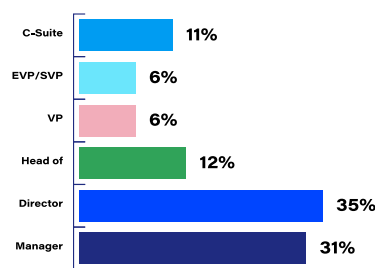
Sample Size: 110

Organization Type



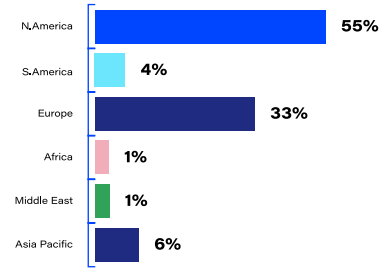
Question: What type of organization do you work for? Base: All respondents (n=110).

Level of Seniority



Question: Which of the following best describes your level of seniority? Base: All respondents (n=110).

Geographical Distribution



Question: In which region are you primarily based? Base: All respondents (n=110).

Main Benefits of AI/ML in Clinical Operations

Among the many potential advantages AI and ML offer in clinical operations, respondents identified data analytics as the area most likely to see immediate impact. However, when looking at overall gains, other parts of the clinical operations ecosystem are expected to benefit even more. Improved supply logistics, through better-predicting supply needs, is also expected to gain high-level benefits from AI and ML.



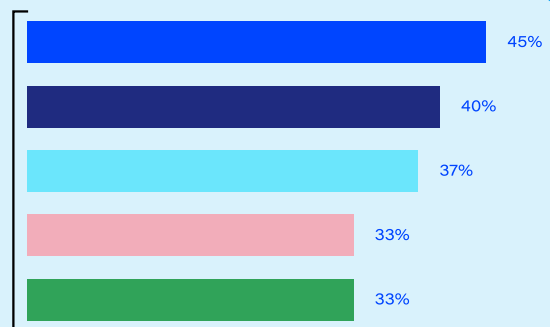
Predictive data analytics, real time insights into participant data, trends and predicting potential issues in advance of them occurring

Predicting supply needs, forecasting supply requirements, and preventing medication shortages and overage

AI-driven translation systems to improve the efficiency and accuracy of translations in clinical trial management systems

Detection of data anomalies in participant or site data versus the protocol

Optimizing randomization strategies using historical data and ongoing trial trends

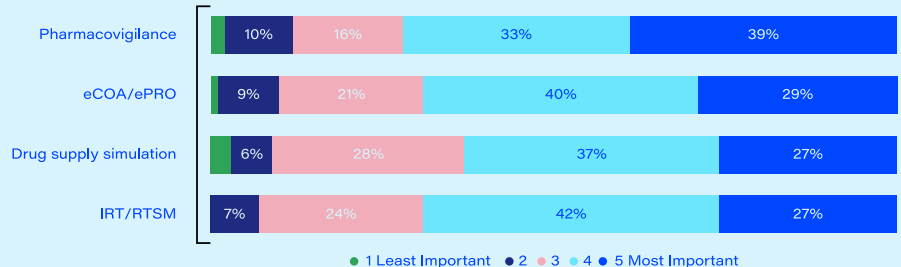


Which clinical operations areas will benefit your business the most when considering artificial intelligence (AI) and machine learning (ML)? (Please select all that apply) Base: All respondents; multiple answers permitted (n=110).

Research Technology and Trial Management

With clinical research technology ever advancing and expanding, we thought it valuable to know which technologies experts believe to be the most important in their clinical research. Respondents rate pharmacovigilance, eCOA/ePRO, and interactive response technology (IRT) / randomization and trial supply management (RTSM) technologies as the most important in their clinical research.

Question: Thinking about the importance for your clinical research, rate the below technology options from most to least important? Base: All respondents; multiple answers permitted (n=107).



Patient Safety Applications

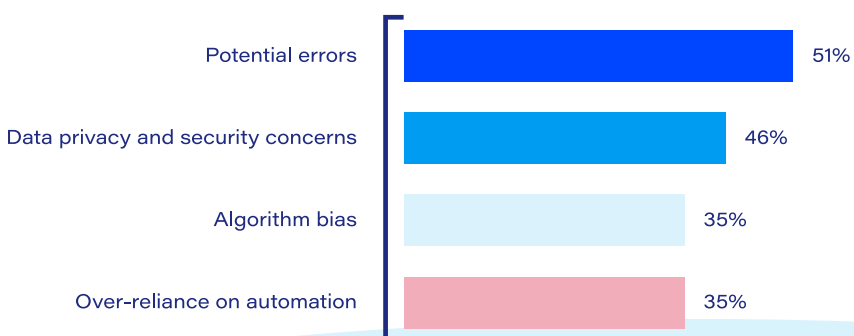
On the patient safety front, early detection of adverse events emerged as the most valued advantage of using AI and ML in clinical operations. Coming in second is the improved ability to gather data from electronic health records, wearable devices, and participant-reported outcomes, which enhances real-time monitoring and decision-making



Question: What specific elements of participant safety do you think AI, ML and Natural Learning Process (NLP) technologies can positively impact? (Please select all that apply) Base: All respondents; multiple answers permitted (n=110).

The Risks AI And ML Brings To Clinical Trial Operations

While AI and ML offer broad benefits across clinical trial operations, they also bring a set of challenges that need careful consideration. Addressing these concerns is essential to ensure that AI is integrated in a way that supports ethical, tailored, and effective clinical research.



At Perceptive, we're fully aware of these challenges and are actively working to address them. Our team is focused on developing practical, forward-thinking solutions that allow us to continue evolving the Perceptive eClinical platform while staying grounded in quality, compliance, and innovation.

Perceptive Ensures Cutting Edge Adoption of eClinical

At Perceptive, we see ourselves as thought leaders in advanced eClinical adoption for research, and we see AI and ML as key players in where things are headed. As you work on the next wave of breakthroughs, you can lean on our team for focused support and real-world expertise in AI and ML. We're here to help you navigate what's next with confidence and clarity.