

# Automation and the Future of Clinical Data Management

Automation in clinical data management (CDM) is becoming increasingly popular due to the increasing volume and complexity of data being generated by clinical trials, as well as the need to improve the efficiency and accuracy of CDM processes.



## What are the benefits of automating CDM?



Reduced risk of human errors



Additional time for CDM professionals to focus on more strategic tasks, such as data analysis and reporting



Improved data quality and consistency

## What technologies are available to automate CDM?



### Robotic process automation (RPA)

Automate repetitive and rule-based tasks



### Artificial intelligence (AI)




Automate higher-level tasks and perform more complex analyses, faster



### Machine learning (ML)

Allow software applications to become more accurate in predicting outcomes without being explicitly programmed to do so, by using historical data as input to predict new output values

## How can technologies benefit CDM?

	Role of technology			Benefit
	RPA 	AI 	ML 	
<b>Data entry</b>	Automatically enter data into clinical data systems			Free up human resources to focus on more complex tasks, increasing their efficiency
<b>Other manual tasks</b>		Automate tasks that are currently performed manually		
<b>Data validation and error detection</b>	Validate data for accuracy and completeness	Identify and correct errors in clinical data, and validate clinical data for accuracy and completeness		Ensure clinical data are accurate, complete, and of the highest quality
<b>Data analysis</b>	Identify trends and patterns in clinical data			Help better understand the safety and efficacy of new products, faster
<b>Document management</b>	Manage clinical documents, such as case reports and informed consent forms			Ensure documents are stored securely and are easily accessible
<b>Predictive modelling</b>			Predict the risk of adverse events or the likelihood of a person responding to a particular treatment	Improve the efficiency and effectiveness of a clinical trial

## The future of CDM

### MORE AUTOMATED AND INTELLIGENT TO:

- ✓ Aid decision-making
- ✓ Accelerate drug development
- ✓ Improve patient outcomes

Technologies such as AI, ML, and RPA can help improve the efficiency, quality, and speed of CDM by standardizing data, detecting trends, identifying risks, predicting outcomes, and generating insights from the data generated in clinical research for drugs and medical devices. These technologies can also help reduce human errors, costs, and time involved in data management processes.