

## Change on the way to Clinical Data Sciences

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DATA DRIVEN

### INTRODUCTION

Data Science is changing post pandemic. Consequently, CDS industry cannot continue to function in the same manner. It must determine novel trial approaches and assess the significance of decentralized clinical trials, that can make trials more effective at producing the trustworthy evidence needed to evaluate a product's safety and effectiveness.

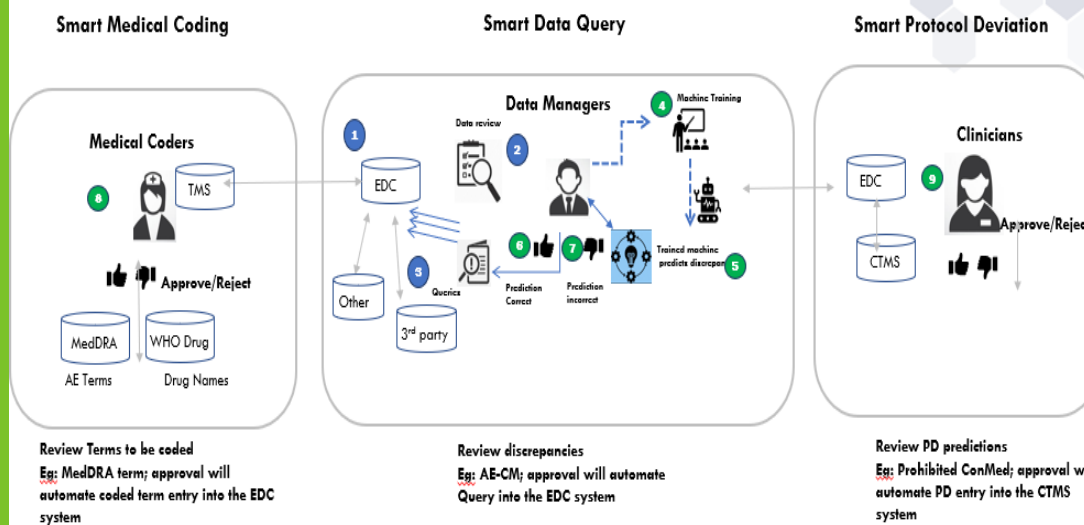
### AIM



Fig: CDS RBQM Framework

- Unleash the data potential by generating valuable insights from raw data
- Use RPA and IPA solutions to automate simple and repetitive tasks
- Use of AI and ML for faster and better result
- Data Structuring

### Smart Data Quality



**Review Terms to be coded**  
Eg: MedDRA term; approval will automate coded term entry into the EDC system

**Review discrepancies**  
Eg: AE-CM; approval will automate Query into the EDC system

**Review PD predictions**  
Eg: Prohibited ConMed; approval will automate PD entry into the CTMS system

### METHODS

#### Artificial Intelligence (AI) based applications

- ✓ Natural Language Processing (NLP)
- ✓ Blockchain
- ✓ Sensors and wearables
- ✓ Chatbots

#### Reduction of EDC centricity moving forward

Decentralized Clinical Trials

Adaptive Design & Master Protocols

### RESULTS

RPA	No/Simple Decision Making
IPA	Some Decision Making and Problem Solving
NLP	Knowledge Gathering
NLG	Knowledge Sharing
ML	Prescriptive and Predictive Analysis
AI	Deductive Analysis

### CONCLUSION

In summary, there are many possibilities for technology enabled intelligence that combines humans and machines. The mission is to set a roadmap toward Clinical Data Science which requires the evolution of our skillsets, processes, technologies and best practices. Consequently, this is a special chance to change our identity for the future.

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