

## BACKGROUND

- Clinical trials have risks for trial participants due to the experimental nature.
- Currently, clinicians have no empirically effective mechanisms to quantify the risk of adverse events in clinical trials.
- In this study, we leveraged a data-driven approach to predict adverse outcomes by using clinical reports.

## OBJECTIVE

- Predicting adverse events using previous clinical records to predict the upcoming clinical trials.
- Extracting Clinical information as key features of the machine learning model.
- Machine Learning – Computers learn potential patterns from the clinical reports.

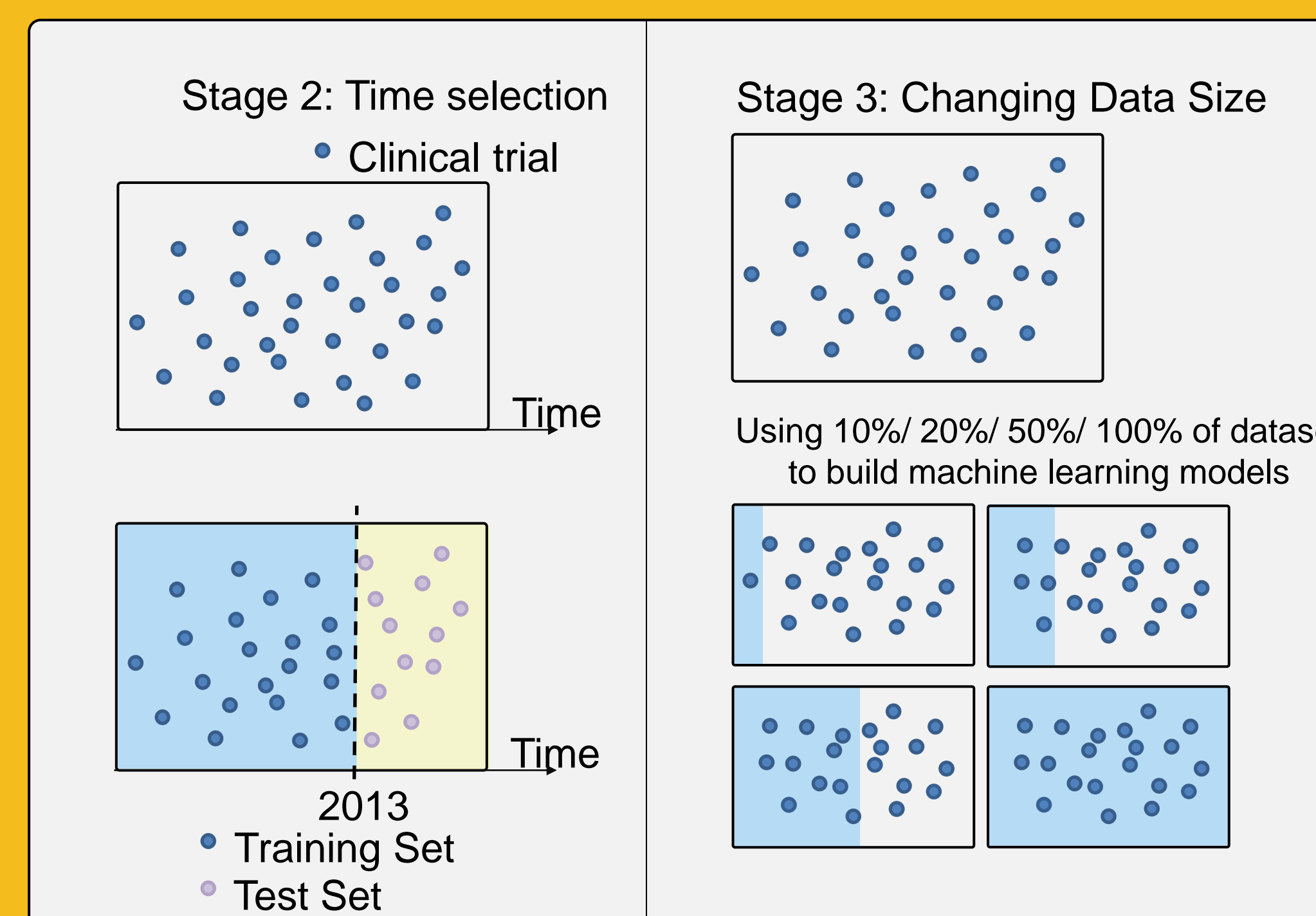
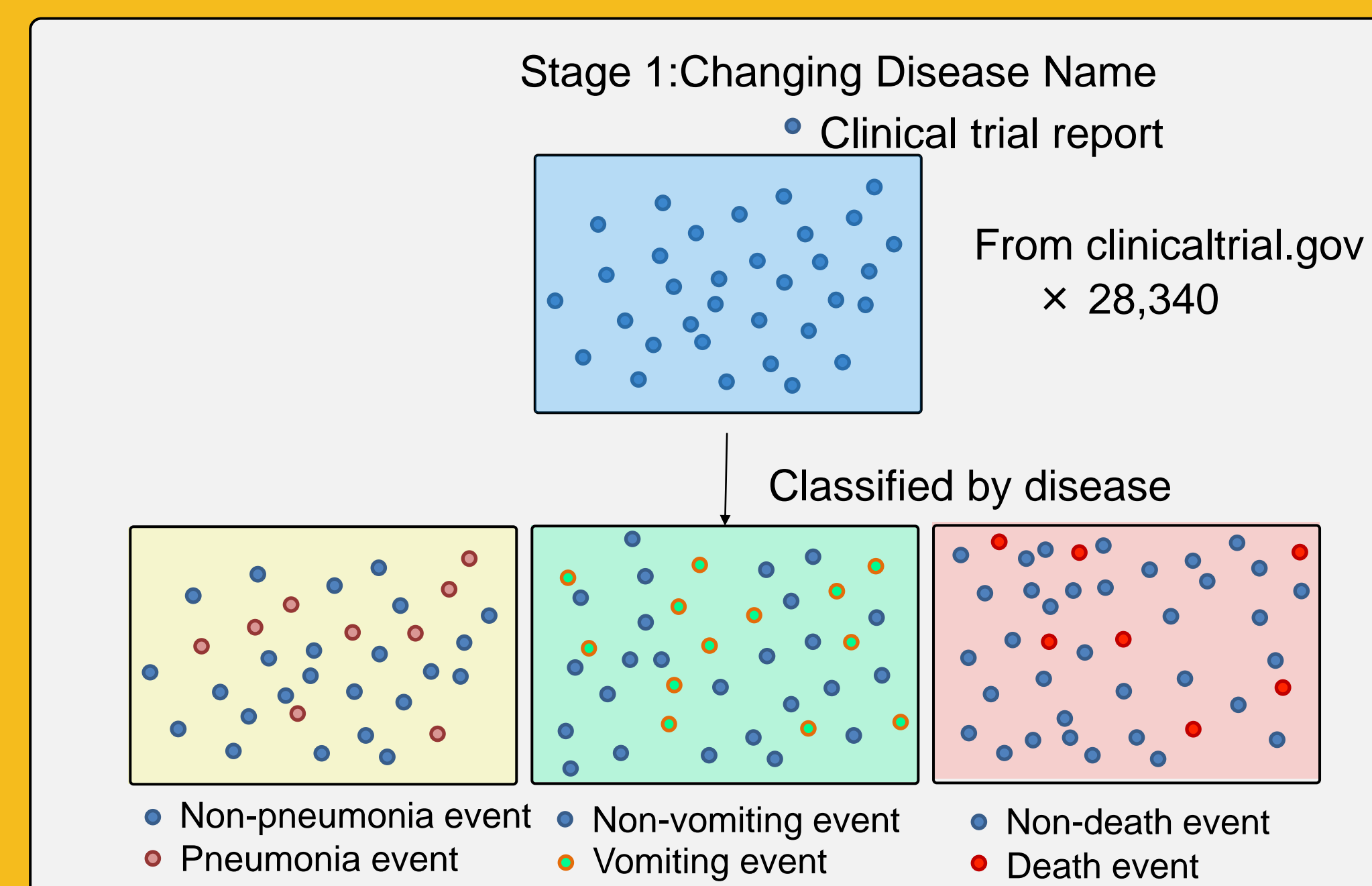
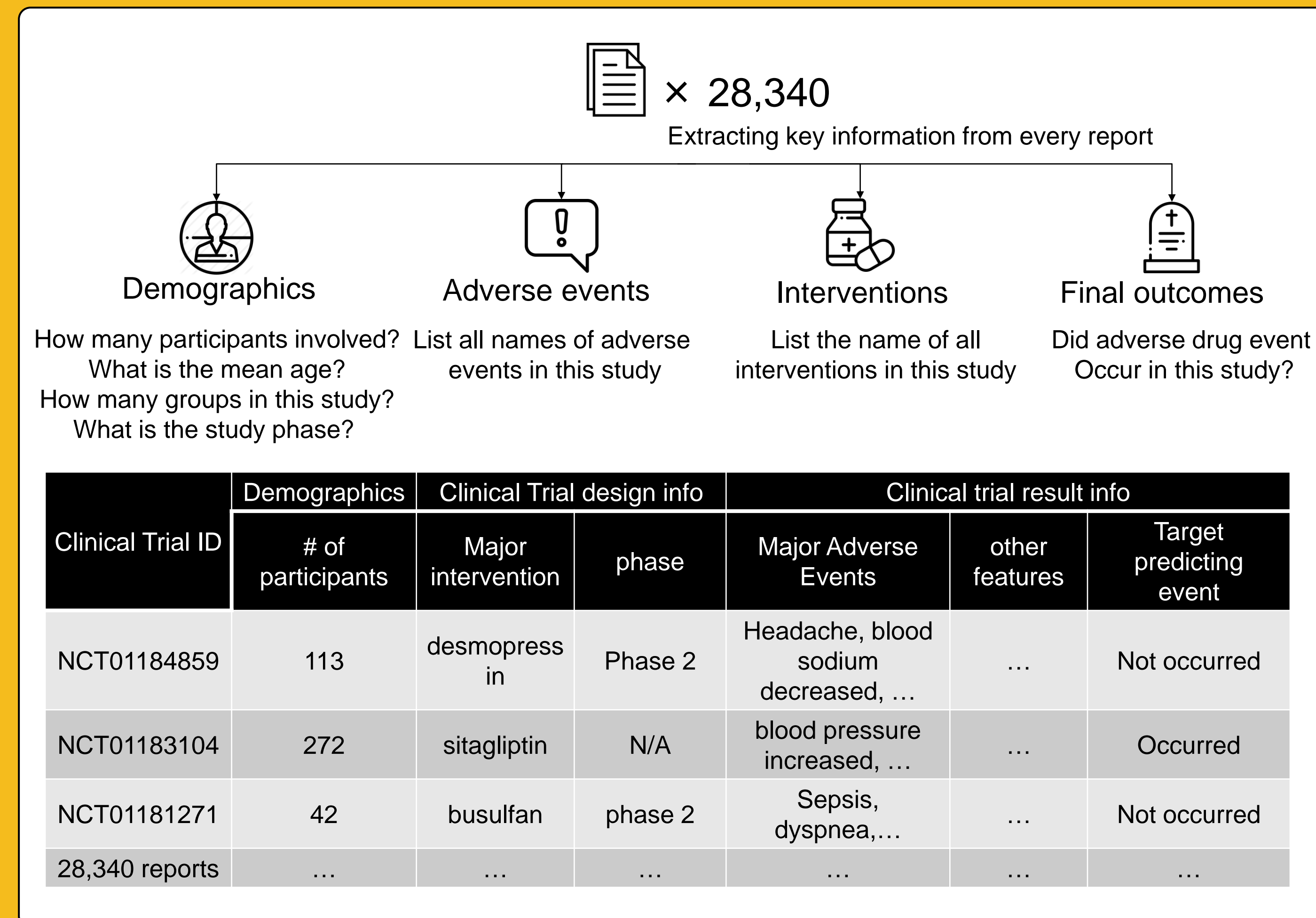
Table 1: Clinical trial feature summary

Feature Type	Type Name	Feature Example	Value Example	Value Type
Type 1	Participants' information	Mean Age	45.8	Numeral
		Number of Participants	543	Numeral
Type 2	Phase	Phase number	3 (phase 3)	1,2,3,4
Type 3	Medical Conditions	renal failure	1 (occurrence)	Binary
Type 4	Trial Interventions	Prograf (tacrolimus)	0 (no occurrence)	Binary
Type 5	Serious Adverse Events	Anaemia	1	Binary
Type 6	Other Adverse Events	Cough	0	Binary
Target	Target adverse event	Pneumonia	to be predicted	Binary

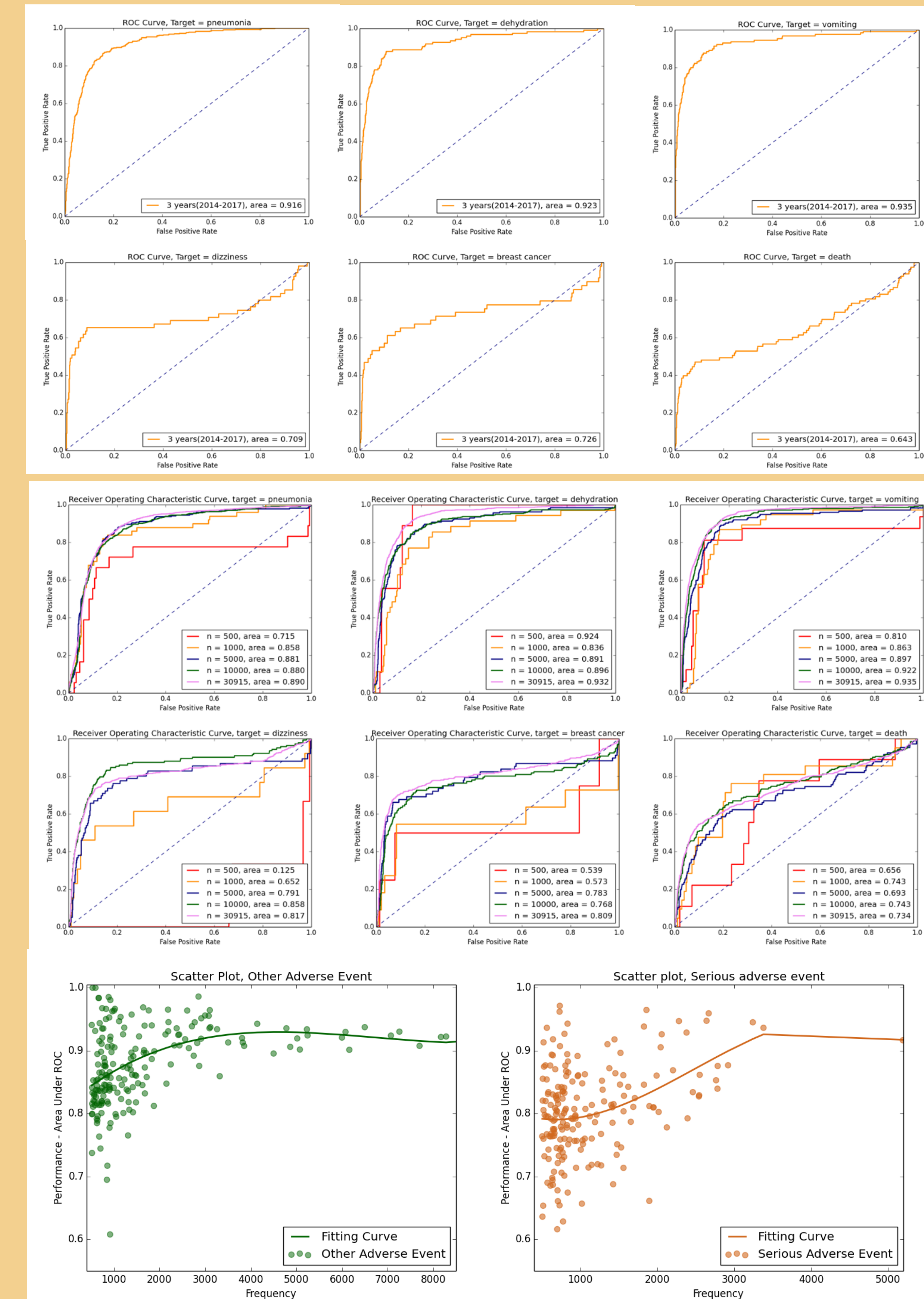
## CONTACT INFORMATION

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## METHODOLOGY



## RESULTS



## CONCLUSIONS

- Predicting adverse outcomes could help clinicians estimate harmful risks and design mechanism to protect clinical participants.
- This exploratory study demonstrated that building data-driven models enable prediction of adverse events from clinical reports.
- The type of disease, clinical report volume, and timeliness of reports play essential roles in providing a more accurate prediction.