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Logistic regression models for patient-level prediction based on massive observational data: Do we need all data?

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Presenter: Henrik John

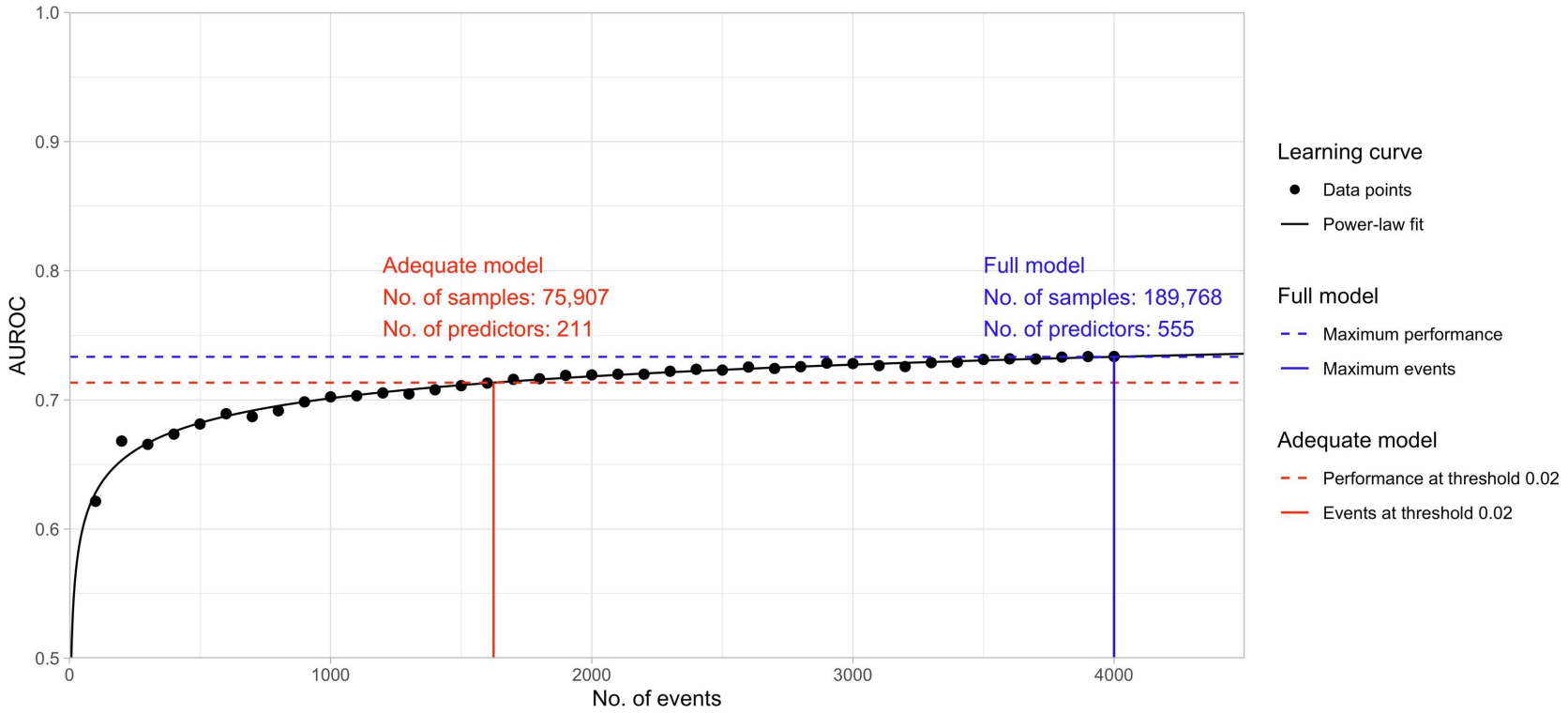
BACKGROUND

- Clinical Prediction Modelling: Is more data always better?

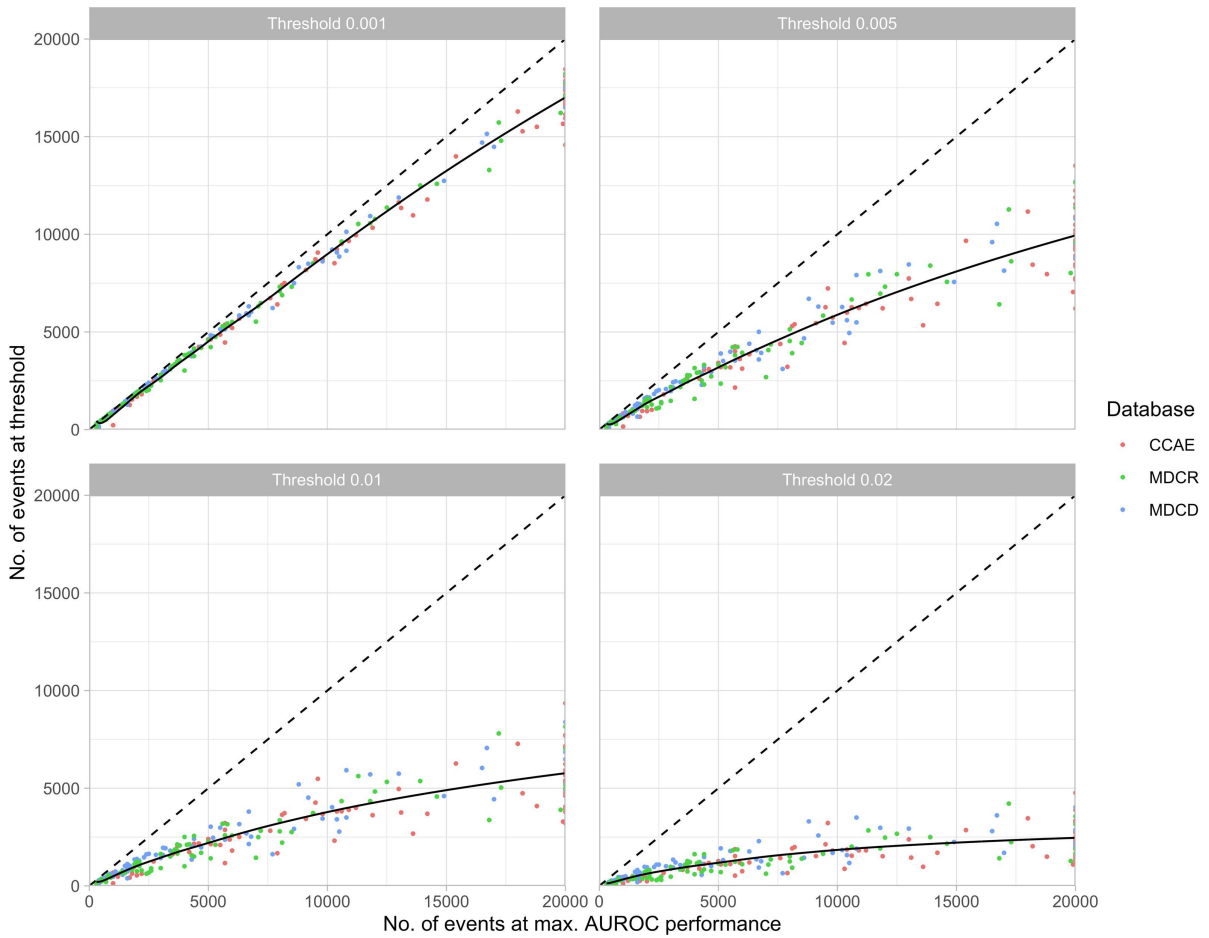
- Large datasets can put strong demands on computing resources.
- Large prediction analyses with the scale of LEGEND can have prohibitive computation times.

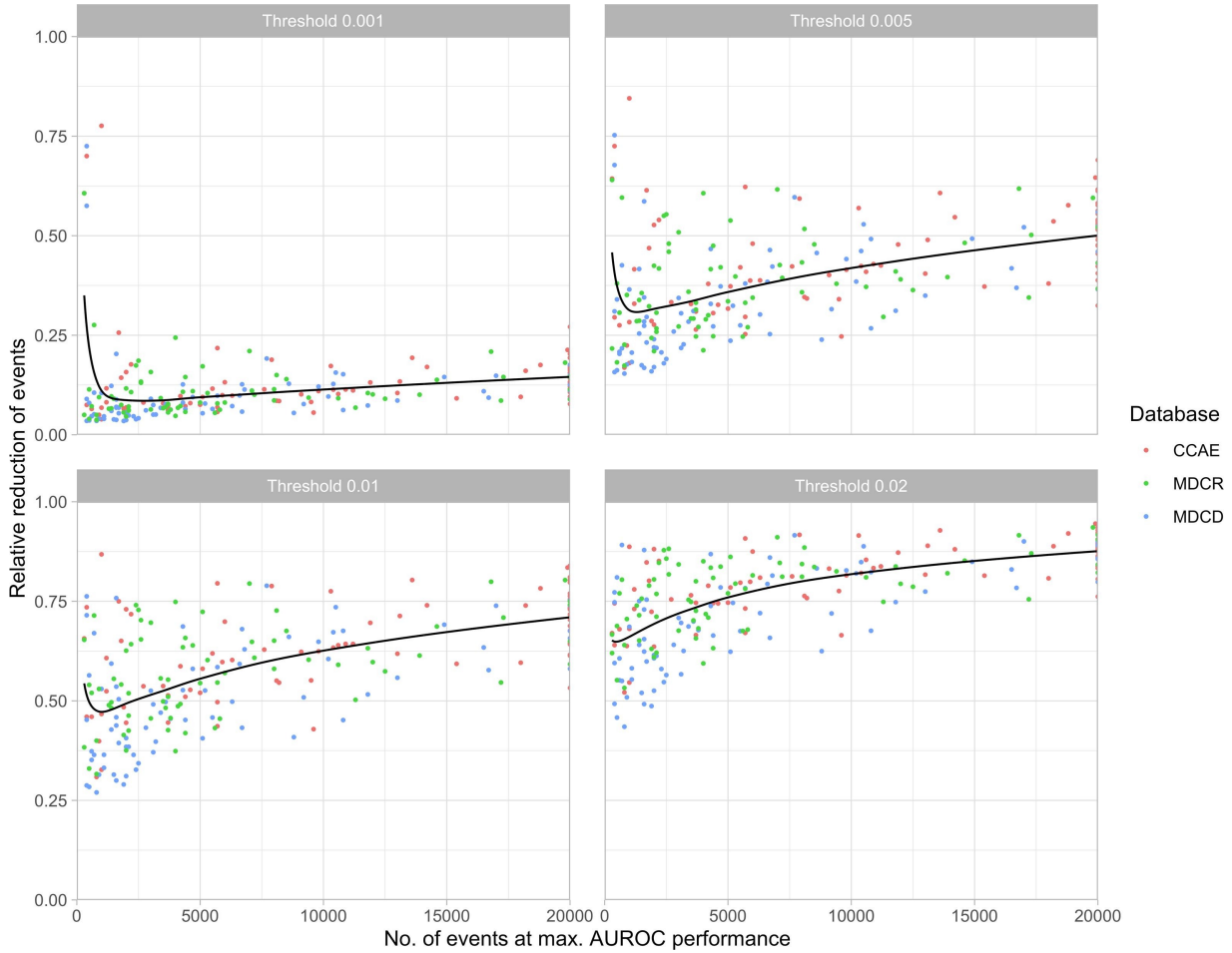
METHODS

- Generate learning curves for 81 prediction problems, across three claims databases (CCAE, MDCD, MDCR).
- Apply threshold criterion.

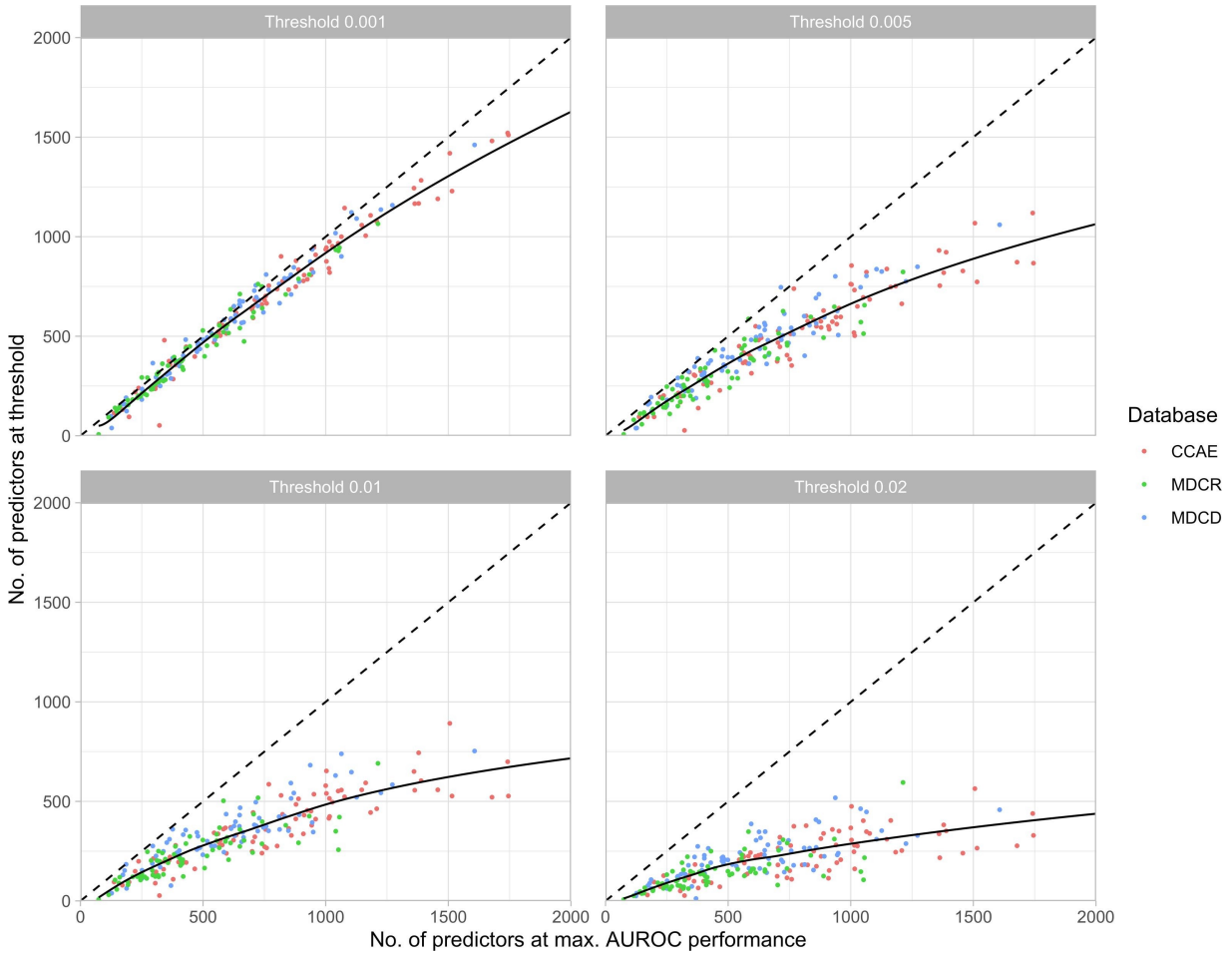


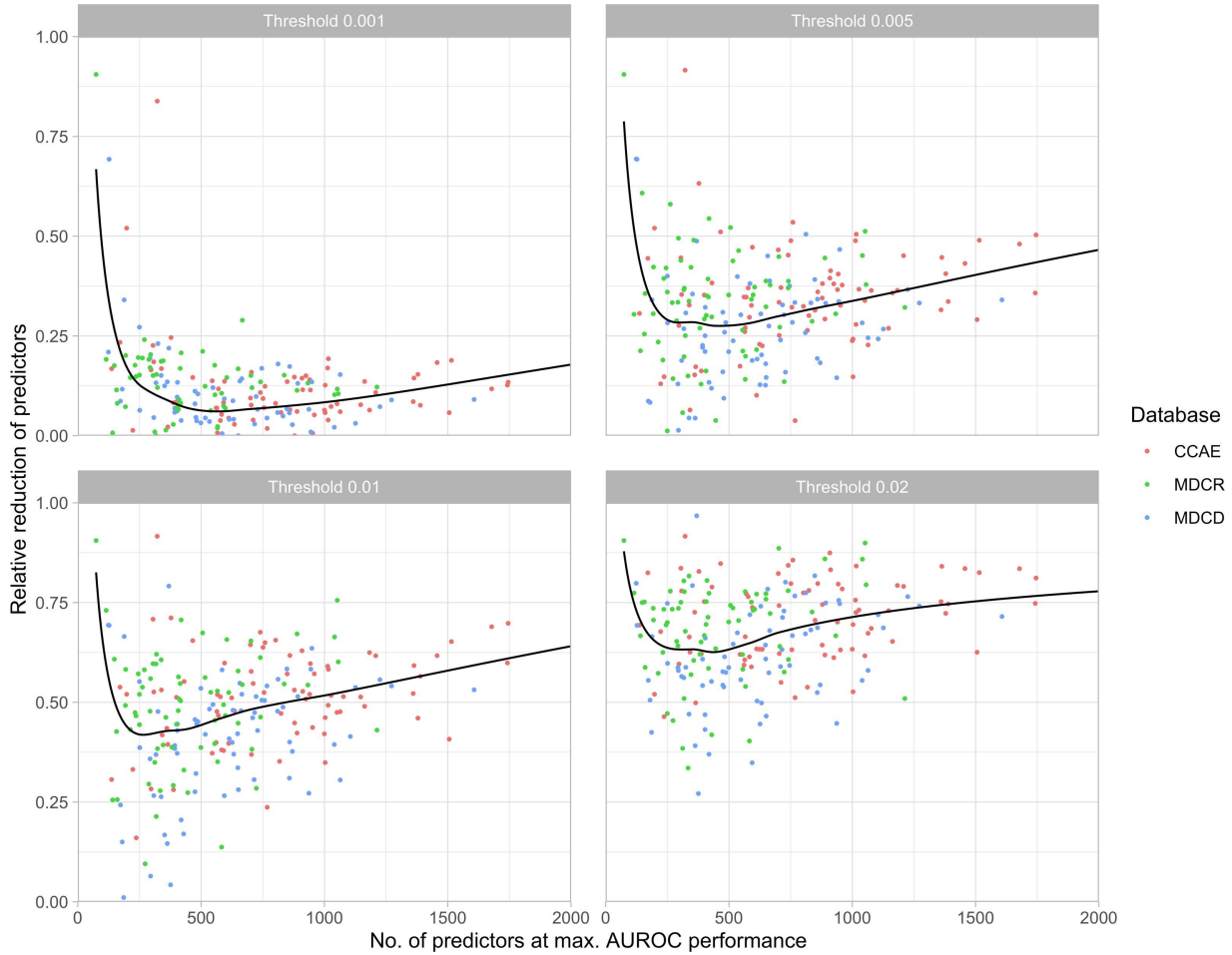
RESULTS: SAMPLE SIZE





RESULTS: NO. OF PREDICTORS





CONCLUSION

- A considerable reduction in sample size and model complexity paired with a minimal loss of performance is possible.

- Paper: https://doi.org/10.1016/j.ijmedinf.2022.104762
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