

The Role of Antidepressant Drug Classes in Dementia Risk: A 23-year cohort study using Akriveria Health secondary mental healthcare data

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INTRODUCTION

Depression has been suggested as a modifiable risk factor for dementia. However, the effects of different antidepressant classes on dementia risk remain unclear, with evidence suggesting both increased and reduced risks.

AIM

To assess the association between exposure to different antidepressant drug classes, and the risk of dementia in patients with depression.

METHOD

Data Source

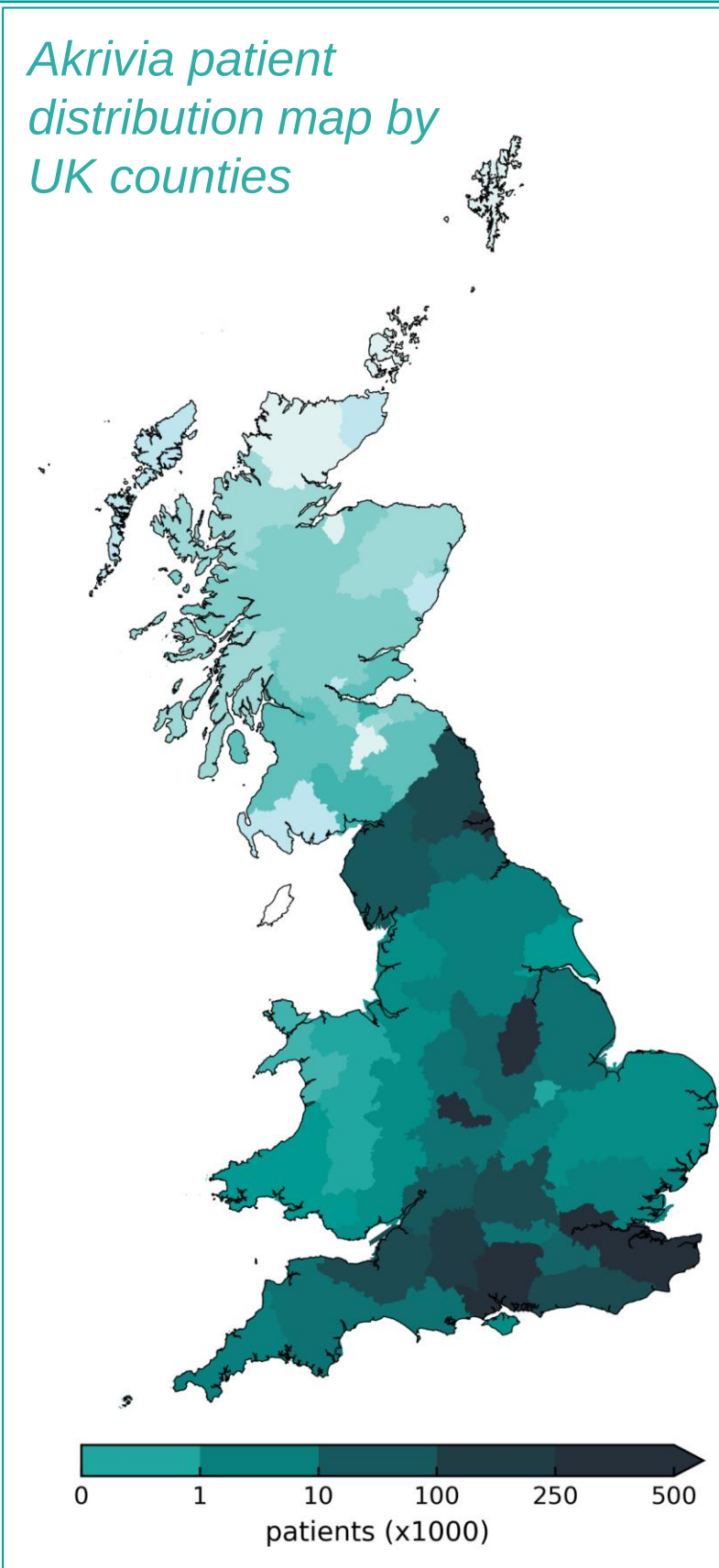
Akriveria Health curates anonymised electronic secondary mental health care records (EHR) for 6.3+ million patients in the UK.

Sample

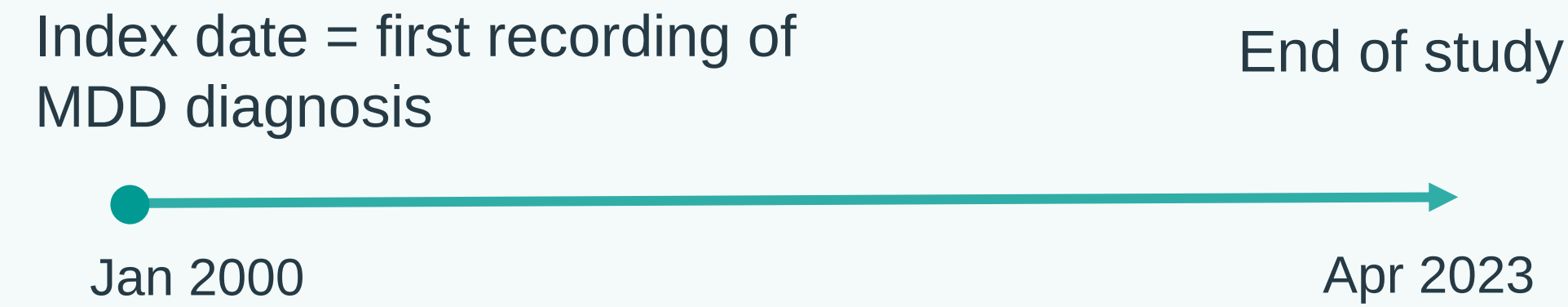
58,762 patients with a major depressive disorder (MDD) diagnosis (59% female, mean [SD] age at diagnosis 67.8 [10.7]).

Criteria

- aged 40 or older on first recording of MDD diagnosis (date of birth >1960)
- without comorbid bipolar disorder and/or schizophrenia
- dementia-free for two years post-diagnosis



Timeline



Predictors: Treatment Groups

- Untreated (ref)
- Tricyclic antidepressants (TCAs)
- Monoamine oxidase inhibitors (MAOIs)
- Selective serotonin reuptake inhibitors (SSRIs)
- Serotonin and noradrenaline reuptake inhibitors (SNRIs)
- Other antidepressants
- Combined drug therapy (≥ 2 antidepressants)

Outcome

- Dementia incidence

Statistical Analysis

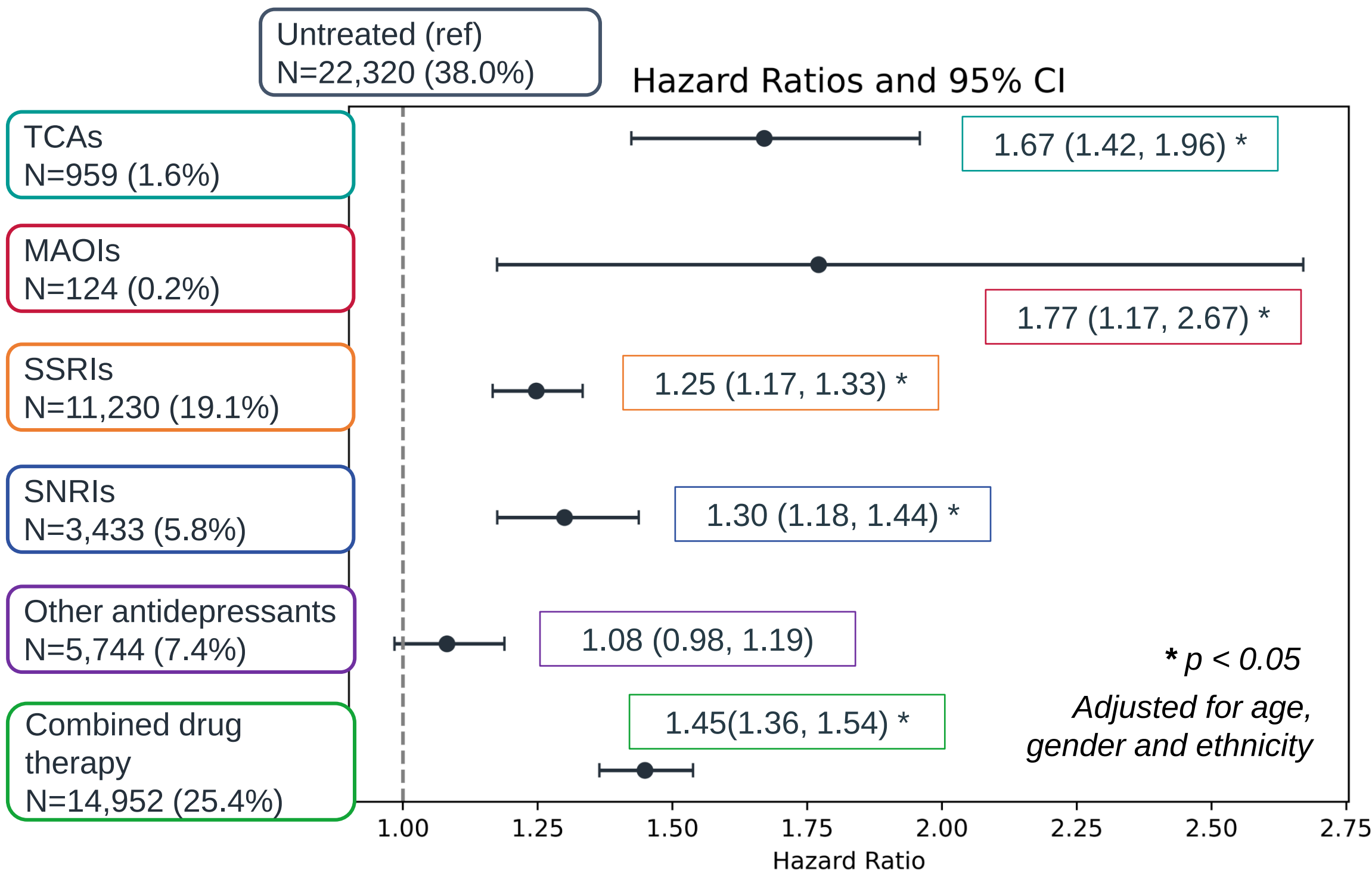
- Survival analysis with Cox Proportional Hazards Model

Structured-at-source & Natural Language Processing (NLP) derived data

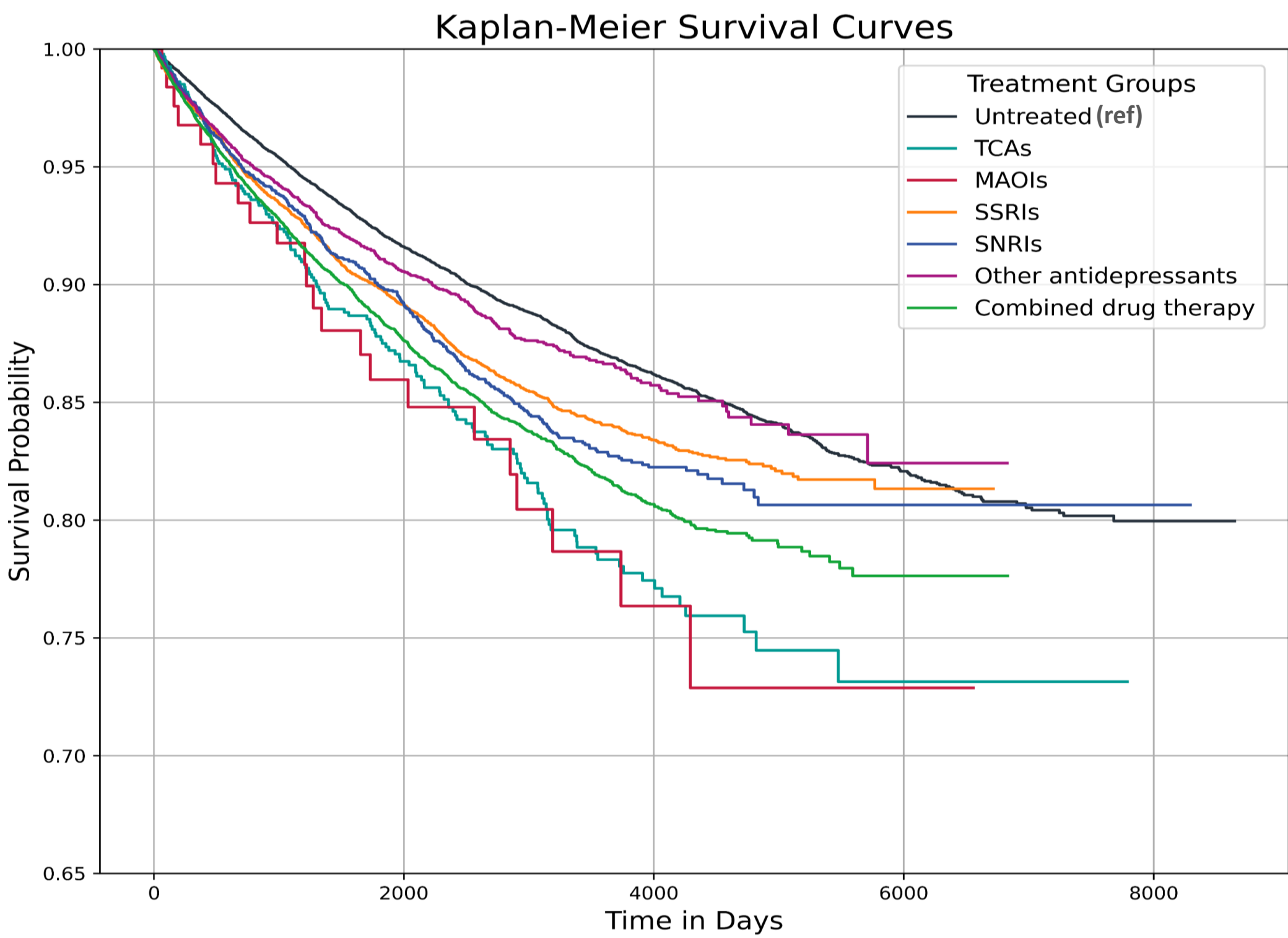
RESULTS

6,904 (12%) patients developed dementia over a median of 8 years of follow-up (13.1 incidence rate per 1000 person-years).

Cox Proportional Hazards Regression for Dementia



Kaplan Meier Survival Curves



CONCLUSIONS

- Using psychiatric EHR data, this study suggests that patients treated with **MAOIs and TCAs** are associated with a significantly higher dementia risk compared to untreated MDD patients.
- This risk may be linked to **anticholinergic effects** and residual confounding related to **depression severity**.
- Further research is needed to disentangle drug-specific pathways, co-medication effects, and the role of depression severity and anticholinergic burden.

ACKNOWLEDGEMENTS

The Akriveria Health Dataset is derived from patient data collected by the NHS organisations in our network. The NHS is not responsible for the analyses or interpretations. We thank the NHS staff and patients for their contributions.

CONTACT INFORMATION

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CONFLICT OF INTEREST

The authors are employed by Akriveria Health, which curates the dataset used in this research. The company had no role in the study design, analysis, interpretation of the findings.

REFERENCES

