

Effects of Antidepressant Drug Classes on Dementia Risk: A 23-year Cohort Study using Akria Health Secondary Mental Health 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

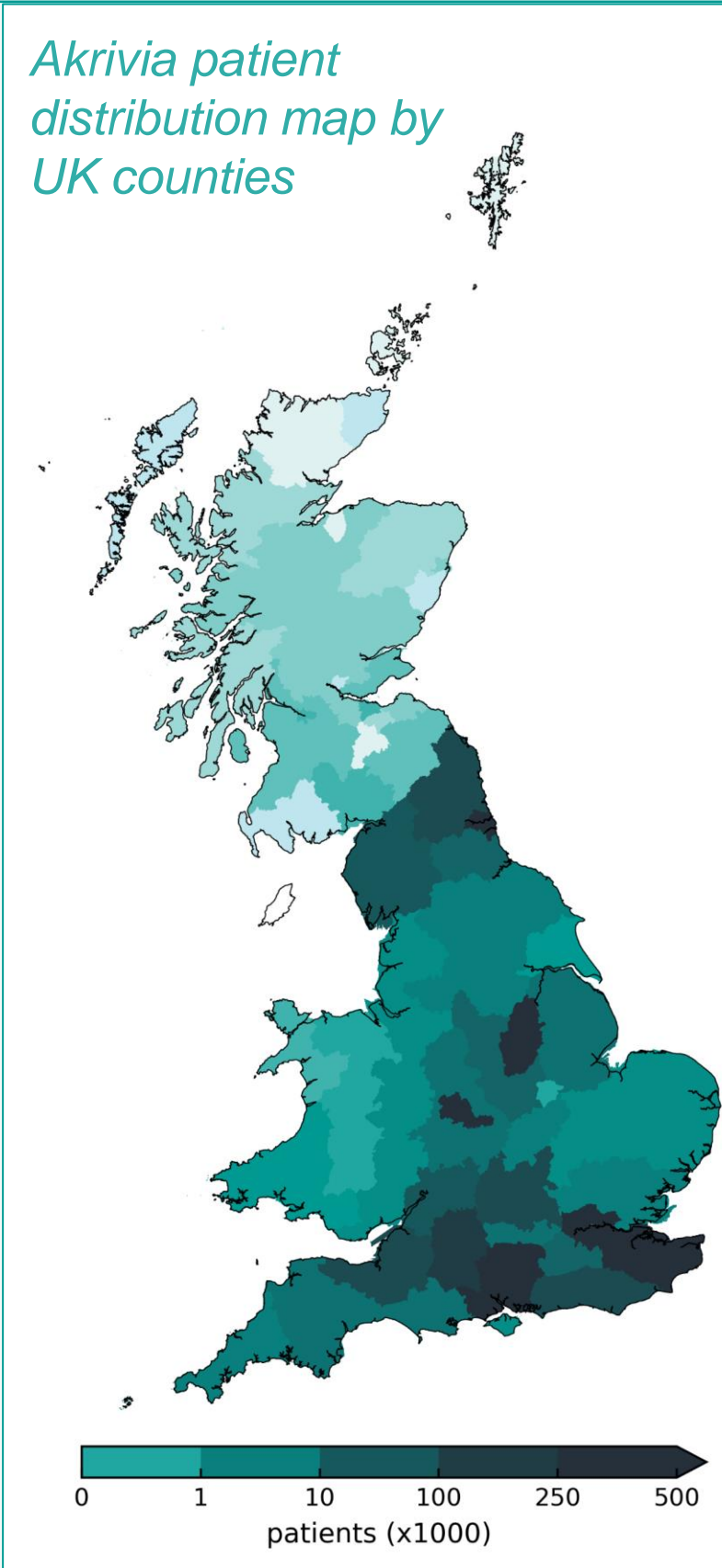
Akria Health curates anonymised electronic secondary mental health care records (EHR) for 6.3+ million patients in the UK.

Sample

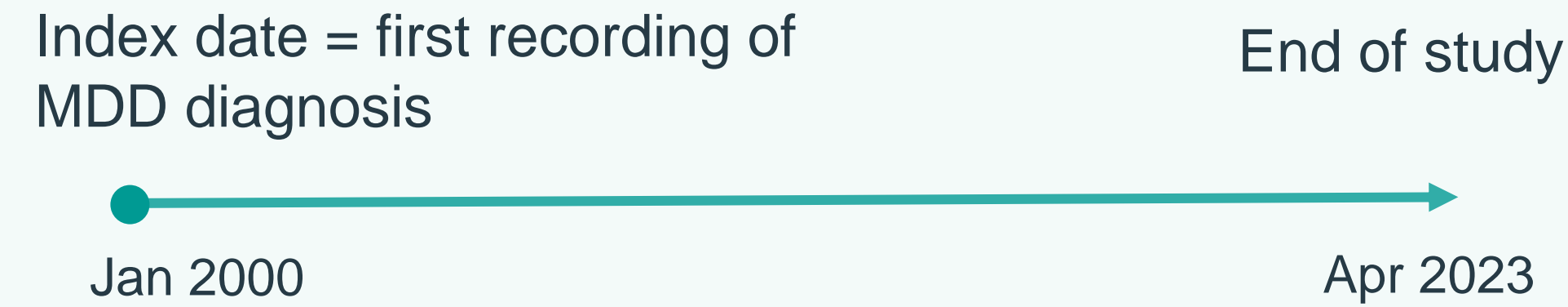
58,762 patients with a major depressive disorder (MDD) diagnosis (59% female, mean [SD] age at diagnosis 67.8 [10.7]).

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



Predictor: Treatment Groups

within 2 years of first depression diagnosis

- 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

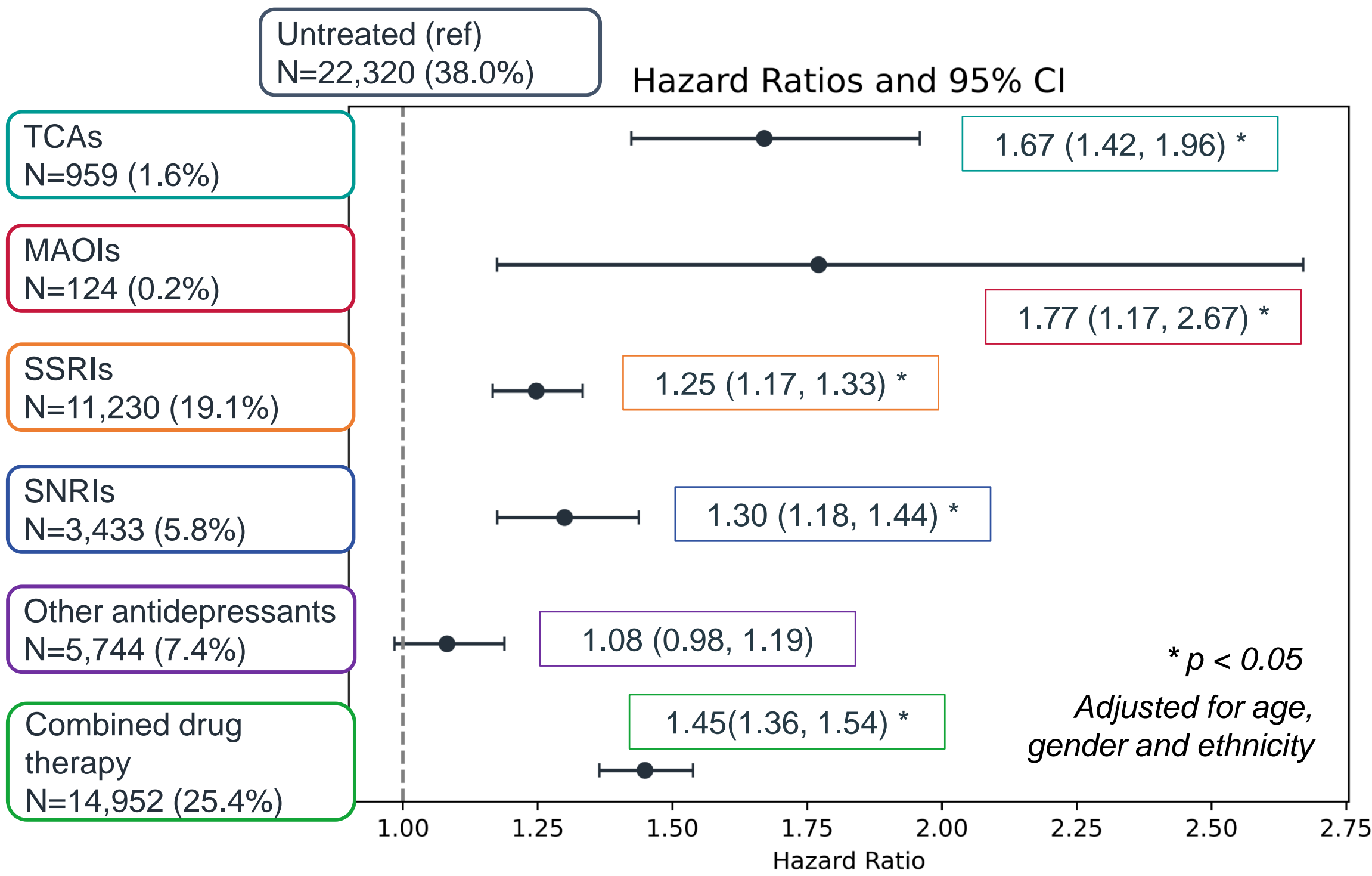
- Survival analysis with Cox Proportional Hazards Model

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

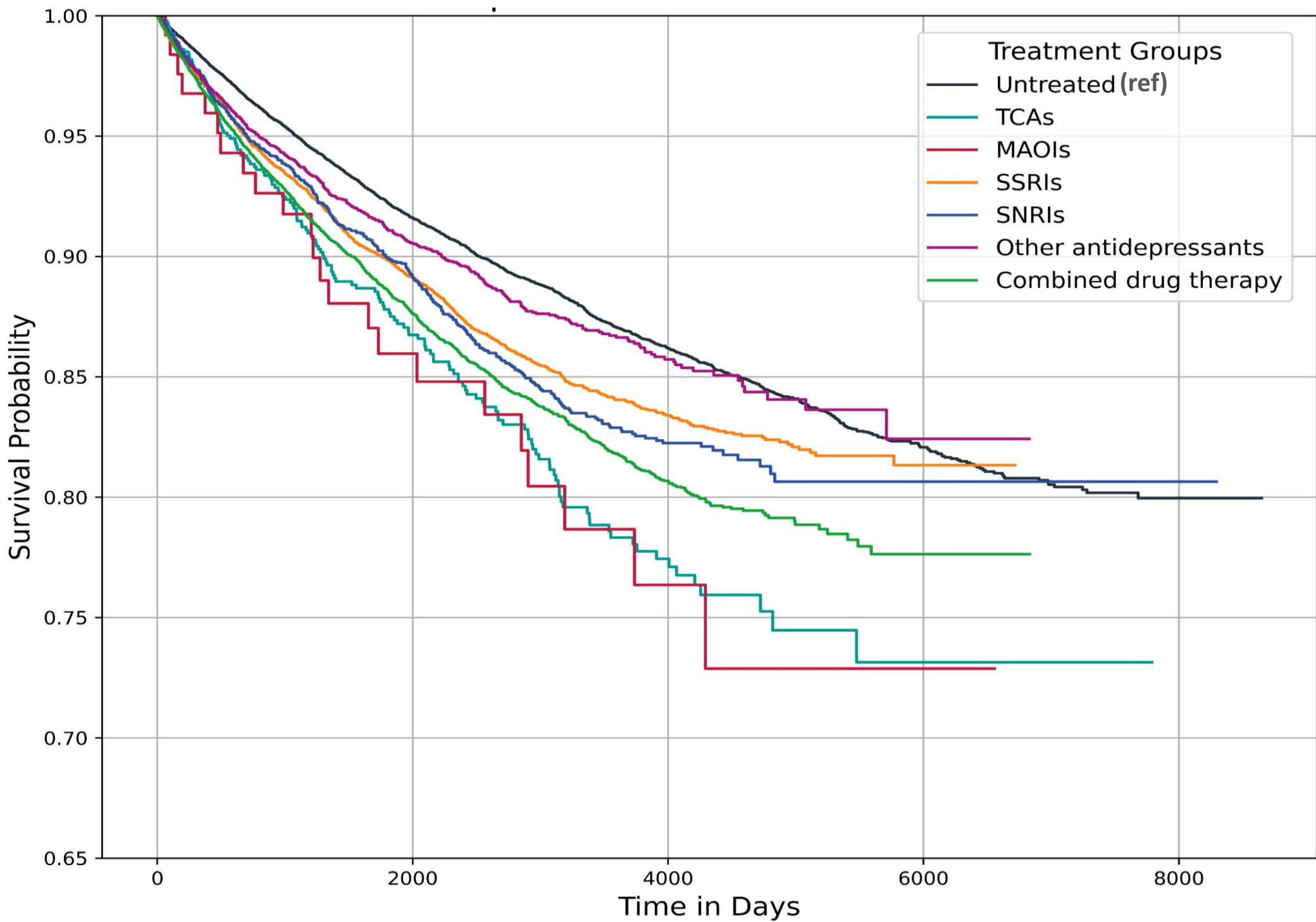
RESULTS

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

- Antidepressant use**, particularly **MAOIs** and **TCAs**, is associated with a **higher risk of dementia** compared to untreated depression.
- This risk may be linked to **anticholinergic effects** of these drugs and unmeasured confounding related to **depression severity**.
- Further research using **linked primary and secondary care EHRs** is needed to clarify drug-specific pathways, co-medication effects, and the role of depression severity and physical health.
- Clinicians should exercise caution when prescribing drugs** with strong anticholinergic properties, weighing the benefits of depression treatment against possible long-term cognitive risks.

