



INTRODUCTION

- Dementia is a progressive neurodegenerative condition characterized by declining memory, cognition, and functional ability [1].
- Alzheimer's disease (AD) accounts for most dementia cases worldwide [1,2].
- Older adults with dementia commonly experience multimorbidity and polypharmacy, increasing their vulnerability to potentially inappropriate medication (PIM) use [3,4].
- Although prescribing guidelines such as the Beers Criteria identify medications that should generally be avoided in dementia, inappropriate prescribing remains common in clinical practice [5,6].
- Contemporary evidence describing current PIM patterns, contributing factors, and medication safety concerns in dementia populations remains limited.
- This systematic review examined recent evidence on the prevalence, risk factors, commonly reported PIM classes, and safety implications of PIM use among older adults with dementia.

OBJECTIVE

- To systematically review recent evidence on the prevalence, risk factors, commonly prescribed medication classes, and safety implications of potentially inappropriate medication (PIM) use among older adults with dementia.

METHODS

- Systematic review conducted according to the PRISMA guidelines.
- PubMed and EMBASE were searched for English-language observational studies published between January 2020 and June 2025.
- Studies involving older adults with dementia that evaluated potentially inappropriate medication (PIM) use, prevalence, medication patterns, or associated outcomes were included.
- Data extracted included study characteristics, PIM criteria used (e.g., Beers Criteria, STOPP), medication classes, prevalence estimates, and reported clinical outcomes.
- Reviews, editorials, protocols, and abstracts were excluded.

RESULTS

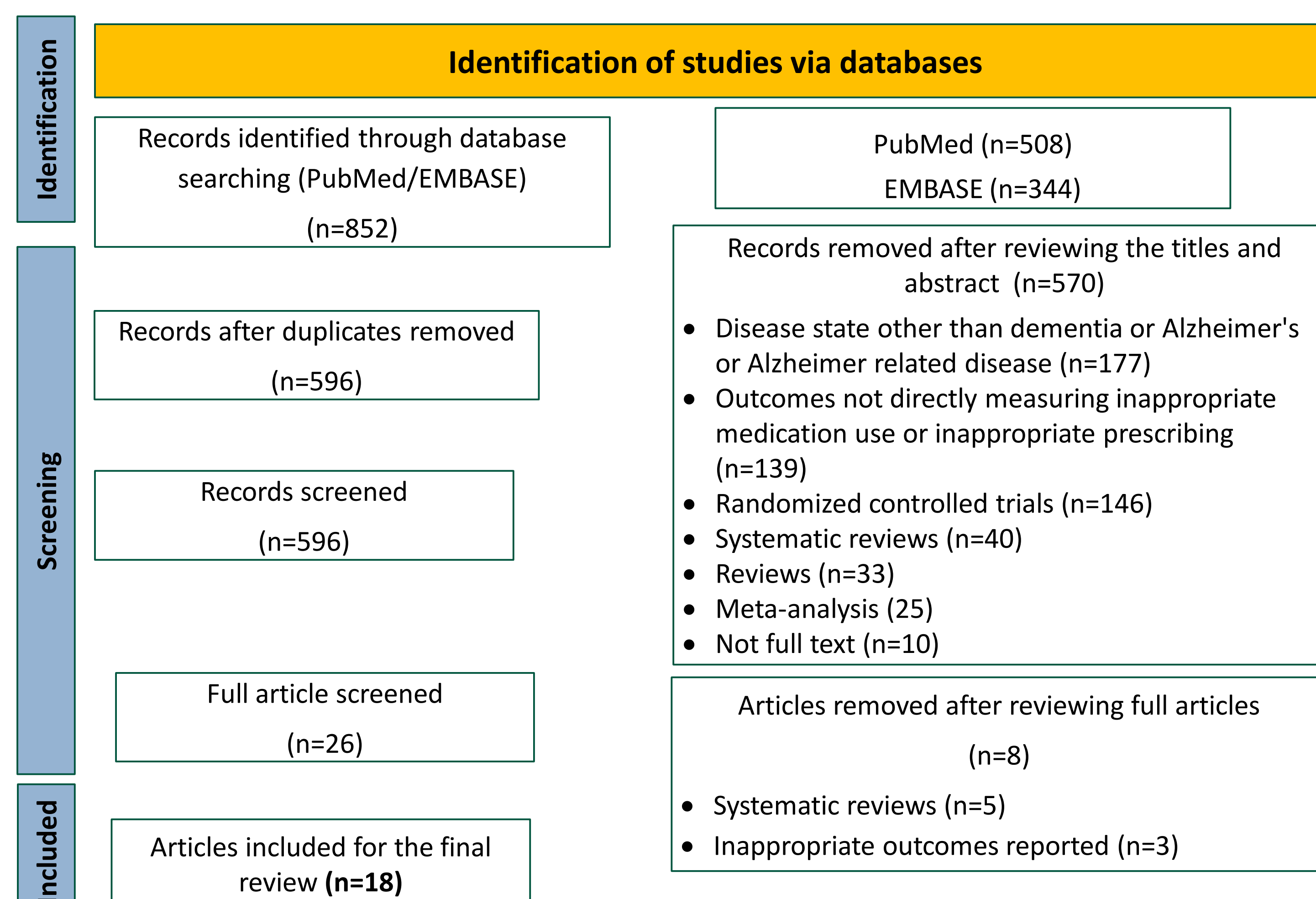


Figure 1: PRISMA Guideline

Study Characteristics

- These studies were conducted in various countries.
- Two studies in South Korea, one was a secondary analysis of clinical trial data conducted across nine European countries, two in Australia, two in Saudi Arabia, one in Brazil, one in China, one in Spain, one in the Netherlands, one in Italy, one in England, and five in the USA.
- Mean age across studies ranged from approximately 72 to 89 years.
- Females represented the majority of participants across most studies, often exceeding 60% of study populations.
- Medication burden was high, with patients commonly using 4–12 medications.
- Studies included community-dwelling, outpatient, residential care, and hospital populations.

Frequently Reported PIMs and Their Associated Adverse Outcomes

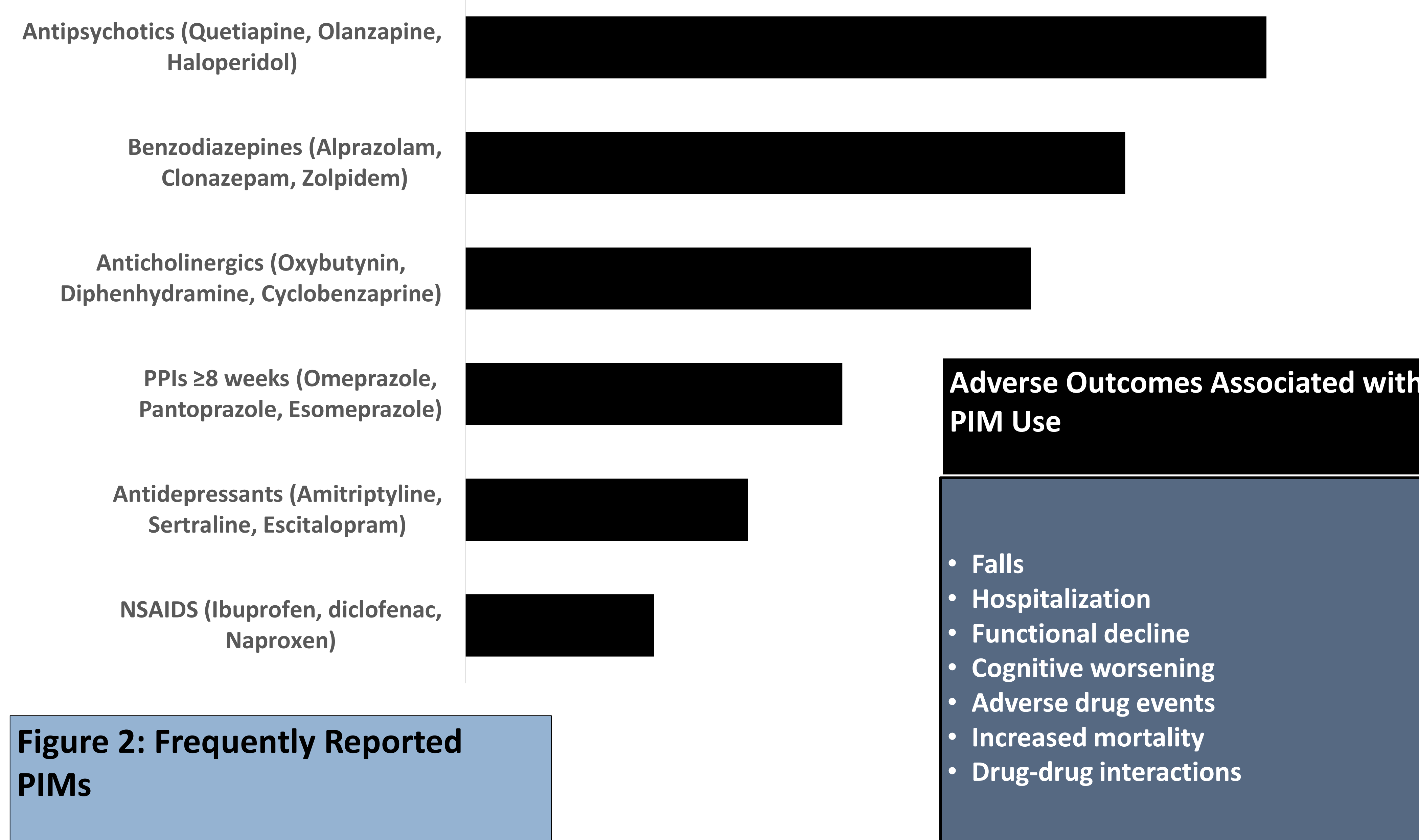


Figure 2: Frequently Reported PIMs

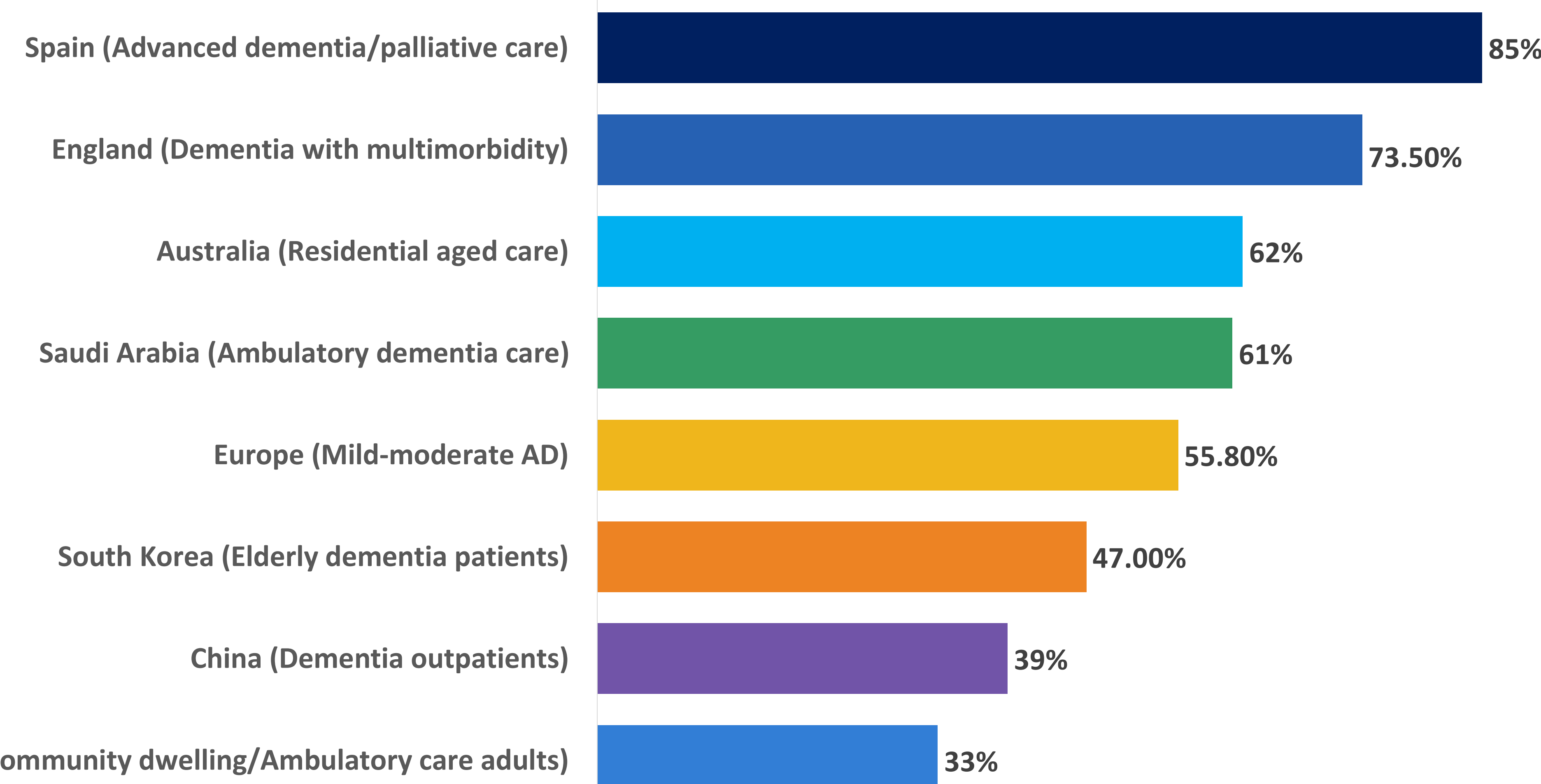


Figure 3: Prevalence of PIMs

DISCUSSION

- PIM use remains highly prevalent among older adults with dementia across multiple healthcare settings, ranging from 33% in the community-based population to over 80% in residential care settings.
- Antipsychotics, benzodiazepines, and anticholinergics were the most frequently reported PIMs.
- Polypharmacy and multimorbidity were identified as major drivers of PIM use. One study also identified females as a significant predictor of use.
- PIM exposure was consistently associated with falls, hospitalization, functional decline, and increased mortality.
- A notable gap across the reviewed literature was the **limited evaluation of caregiver involvement** in dementia medication management and deprescribing practices.
- Findings highlight the need for caregiver integration, targeted education, multidisciplinary collaboration, and structured deprescribing interventions to improve medication safety in dementia care.

CONCLUSION

- PIM use is common and clinically significant among individuals with dementia, highlighting the need for routine medication review, deprescribing, and safer prescribing practices.
- Integrating caregivers into medication management and expanding non-pharmacologic approaches may improve medication safety and overall outcomes in dementia care.

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