

# PHARMACIST INTERVENTION TO REDUCE POTENTIALLY INAPPROPRIATE MEDICATION USE IN HOSPITALIZED ELDERLY PATIENTS USING THE BEERS CRITERIA



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## Background and importance

- Global Aging: Increasing concern for medication safety in the elderly.
- PIM Risks: Potentially Inappropriate Medication (PIM) use significantly increases adverse drug events (ADEs).
- The Goal: Implementing a pharmacist-led intervention to systematically identify and correct PIM.

## Aim and objectives

1. Assess the prevalence of PIM use among hospitalized patients aged 65 years and older.
2. Evaluate the effectiveness and feasibility of the pharmacist intervention in optimizing prescriptions using the American Geriatrics Society's Beers Criteria.

## Materials and methods

- Study Design: Retrospective review (January 2024 – June 2025).
- Population: Hospitalized patients aged  $\geq 65$  years.
- Data Source: Systematic access via hospital's Pharmacy-Note system.
- Assessment Tool: Form structured based on the AGS Beers Criteria.
- Pharmacist Intervention:
  - 1) Identify PIM issues by pharmacists.
  - 2) Conduct targeted consultations with attending physicians.
  - 3) Provide recommendations for prescription adjustments.
- Outcome Measures:
  - Types of PIMs identified.
  - Categories of consultation issues.
  - Physician acceptance rates of recommendations.

## Conclusion and relevance

Pharmacist intervention based on the Beers Criteria is highly effective and practical in improving medication safety for hospitalized elderly patients, confirmed by the **high acceptance rate (93.16%)**. The findings highlight the critical need to address prevalent PIMs (PPIs, Benzodiazepines) and medication duplication. Formal integration of this structured review into clinical workflow is recommended to enhance patient safety and guide future efforts to assess long-term outcomes and cost-effectiveness.

## Results

- The review included 2,018 hospitalized elderly patients, identifying a total of 3,306 PIM instances. On average, patients were prescribed 8.8 medications and had 1.1 PIMs.
- The most frequent PIM drug classes were Proton Pump Inhibitors (28%), Benzodiazepines (16%), and Antipsychotics (11%).

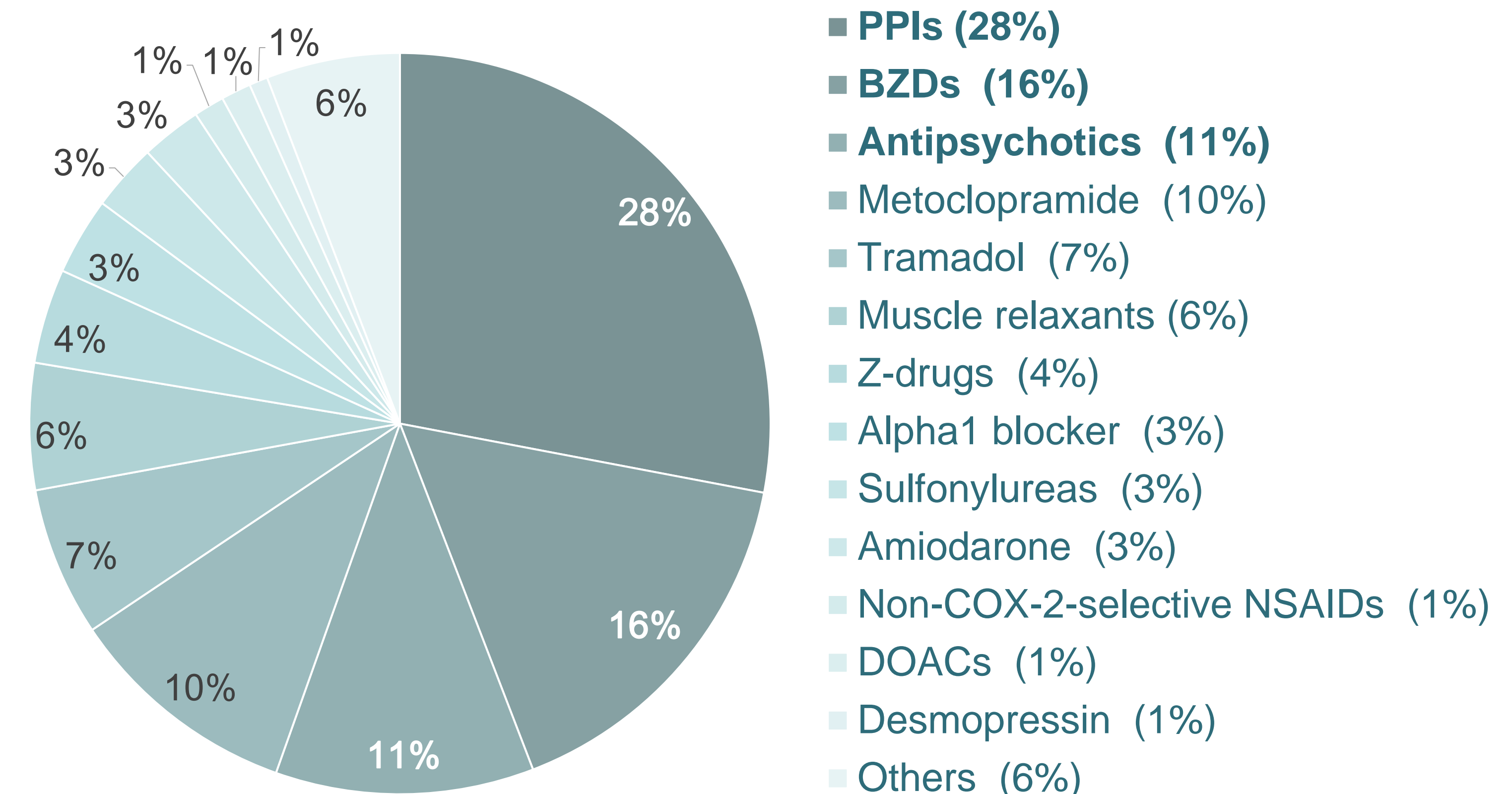


Figure 1. PIM Drug Classes

- Among the 117 consultations, medication duplication was the most common issue (42%), followed by inappropriate indications (14%), formulations (11%), and dosages (11%).
- The physician acceptance rate for the recommendations was **93.16%**.

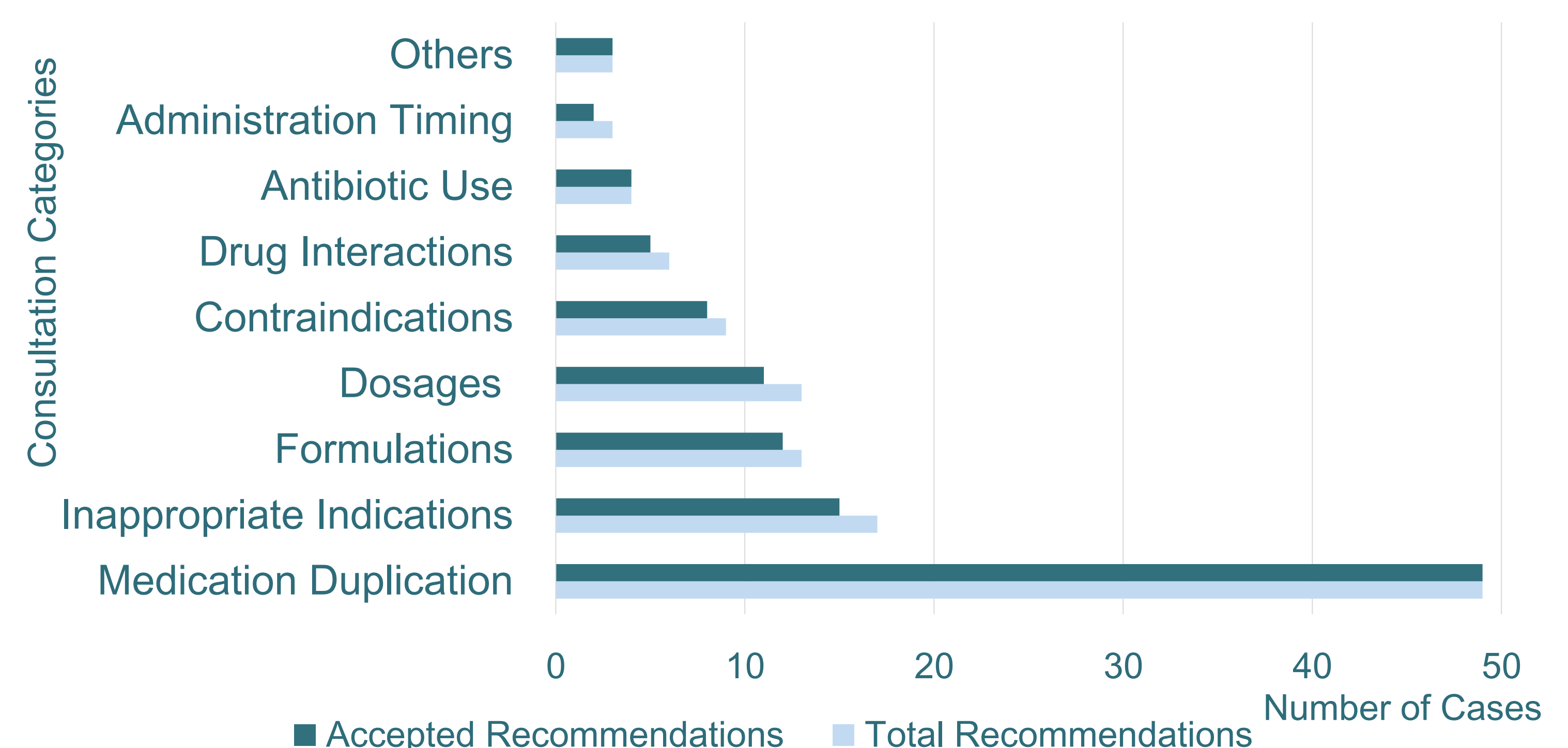


Figure 2. Physician Acceptance of Pharmacist Recommendations

