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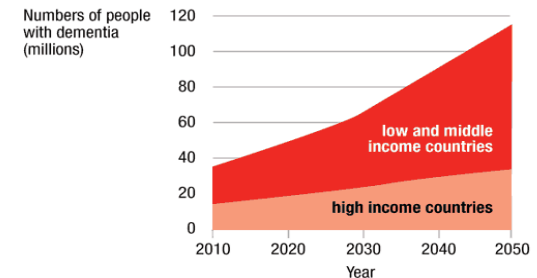
# Psychotropic Prescribing for Mental health Conditions and Behaviours in Residential Aged Care Homes



## INTRODUCTION

- Globally, aging population is significant and has considerable consequences for healthcare, social services and infrastructure.
- In developed countries the population of over 80's is expected to rise to 127.8 million by 2050, up from 59.1 million in 2015 (WHO, 2015)
- A shift towards person centred care is gaining traction in Residential Aged Care
- However management of mental health concerns is still inadequate
- Aged care residents typically have complex care needs: neuropsychiatric symptoms, care dependency and cognitive impairment
- Dementia is prevalent: 58% of aged care residents, with 78% of those experiencing behavioural and psychological symptoms of dementia (BPSD) (Seitz et al., 2010).

The growth in numbers of people with dementia in high income countries and low and middle income countries



Alzheimer Society of Bangladesh. Dementia statistics. Accessed from: <http://alzheimerbd.com/dementia-statistics/>

Due to the high rate of mental health problems (*depressive symptoms 1 in 3, anxiety 1 in 4, sleep difficulties 2 out of 3*), *dementia and BPSD* treatment with psychotropic drugs in aged care is prevalent (*Seitz et al., 2010; Creighton et al., 2016; Conn & Madan, 2006*).



## What are psychotropics?

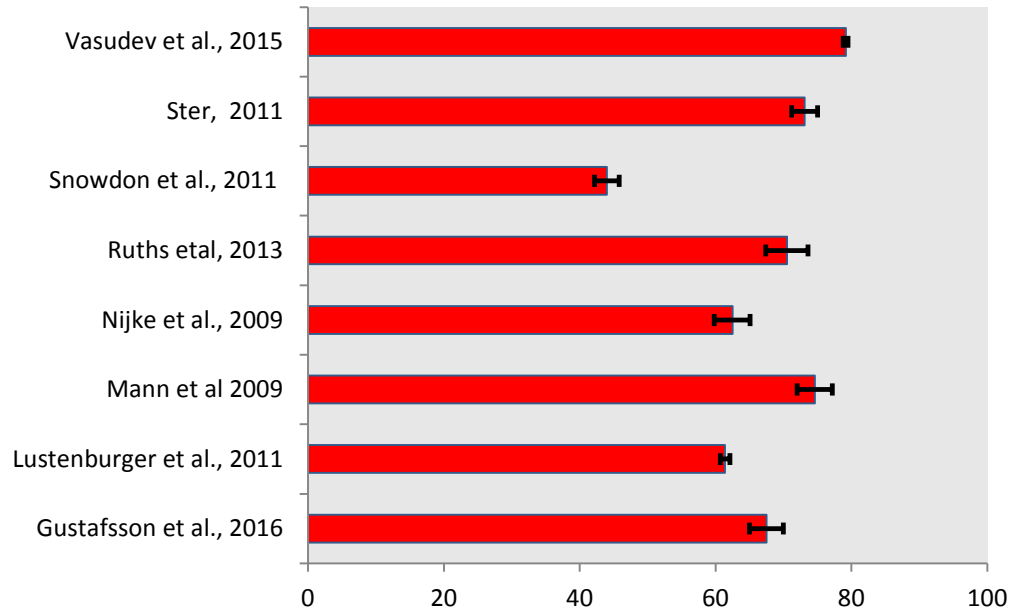
...a chemical substance that changes brain function and results in alterations in perception, mood, consciousness or behaviour

**Examples:** Antidepressants, anxiolytics, hypnotics, antipsychotics, mood stabilisers

Other examples: antihistamines, stimulants

**Psychotropics are highly prescribed in RAC - Estimates range from 44% to 79%**

## Psychotropic prevalence in the last 10 years (%)



## THE CONTORVERSY?!

- **Limited effectiveness** in residents with dementia
- **Inappropriate** - The frequent use is likely indicative of inappropriate use.
- Examples:
  - A Dutch study found that 10% of psychotropics were fully appropriate in Dementia specific RAC, using the Screening Tool of Older Persons' potentially inappropriate Prescriptions (STOPP) (van der Spek et al., 2016).
  - Quality of drug prescribing, as measured by drug-specific quality indicators published by the Swedish National Board of Health and Welfare, was low in both general RAC homes and dementia specific units (Bergman et al., 2007; Olsson et al., 2010)
- **Increased the risk of adverse drug events and interactions** - polypharmacy and multiple medical comorbidities, together with age-related changes in pharmacodynamics and pharmacokinetics

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<b>Psychotropic</b>	<b>Benefits</b>	<b>Risks</b>
<i>Psychotropics overall</i>	Improve indicated symptoms	Increased risk of drug-drug and drug-disease adverse events Moderate risk of falls and fractures Reduced quality of sleep
<i>Antipsychotics</i>	Modest efficacy treating psychosis, aggression and agitation Few other options	Increased risk of falls Moderate risk of fractures Cognitive decline and executive/attentional functioning Risk of cerebrovascular events Conventional antipsychotics have an increased risk of death compared to atypical antipsychotics
<i>Antidepressants</i>	Efficacious for severe depression of long duration May improve speed of processing (TCAs) Decreased morbidity due to depression Improved psychosocial wellbeing Prevention of recurrence	Mixed data on efficacy in mild to moderate depression of short duration Little evidence of efficacy in older people with dementia Moderate risk of fractures (particularly SSRIs) May impact physical function, such as balance Increased dementia severity and neuropsychiatric symptoms (SSRIs) Increased hospital admissions Increased risk of death
<i>Anxiolytics/Hypnotics</i>	Modestly effective for insomnia Modestly effective for anxiety in short term	Increased risk of falls Moderate risk of fractures Cognitive decline

## **The study**

**The starting point for a journey to improve mental health prescribing practices in aged care...**

**MHICare Project – developing a Blaanced Scorecard for Mental Health in RAC**



## OBJECTIVES:

- To assess the levels of psychotropic prescribing in residential aged care
- Identify potentially inappropriate prescriptions (PIPs) using Beers criteria
- Identify common mental health and behavioural symptoms indicated for prescribing
- Identify differences in indicators and prescribing rates between residents with and without dementia.

## METHODS

- A care plan analysis was conducted across 12 residential aged care (RAC) facilities in an urban Queensland area, Australia
- Beers Criteria for Potentially Inappropriate Medication Use in Older Adults was utilised (2012)
- Dementia was identified based on residents electronic health records, with dementia diagnosis recorded within the mandatory Aged Care Funding Instrument.
- Cornell Scale for depression (CSD) electronic records were analysed

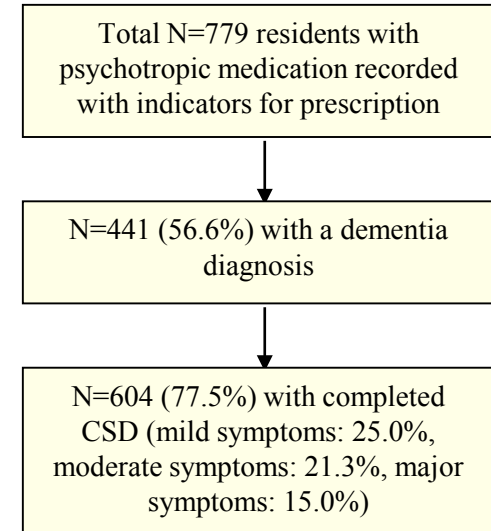


Figure 1: Cohort characteristics

## Data analysis

- Data analysis was performed using SPSSv24
- Descriptive statistics were used comparing frequencies and percentages.
- Binary logistic regression was performed to determine the odds ratios of prescribing medications and indicators
- To examine and account for differences in prescribing rates, Homes were divided into quartiles.
- An alpha level of 0.05 was set to determine significance.

## Ethics

- Ethics approval was obtained through the governing Human Research Ethics Committee at the participating sites and the University of Queensland Human Research Ethics Committees. Additional internal organisational approval was sort and given from the Research Advisory Group at the participating organisation.
- No identifying information was recorded.

## RESULTS

## Prescription Rates and Appropriateness

- A total of 574 prescriptions were made - over half potentially inappropriate (53.4%-54.9%) according to the Beers criteria
- Overall, half (48.1%) of the residents had a current prescription for a psychotropic medication
- Variations in prescribing medication was observed between residents with and without dementia: - antidepressants were significantly higher for residents with dementia, as were antipsychotics.
- Conversely, benzodiazepines were lower for residents with dementia.

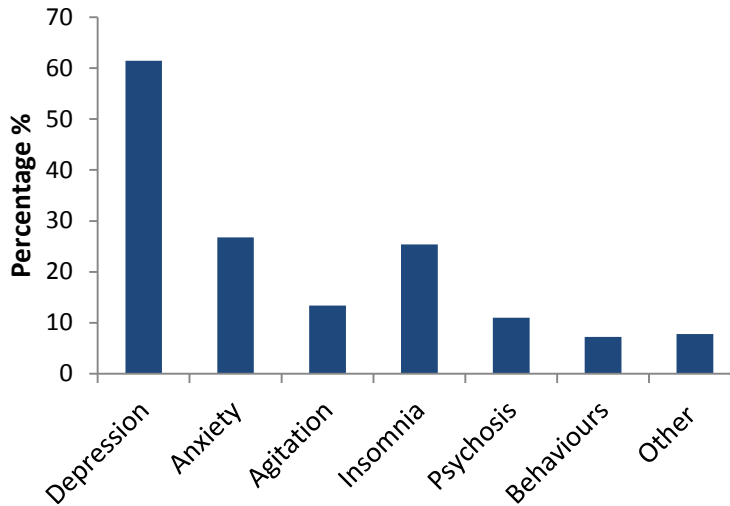
	No Dementia N=338	With dementia N=441	OR (CI)	P-value
Any psychotropic	154 (45.6%)	220 (49.9%)	1.257 (0.931-1.697)	0.135
Anti-depressants	92 (27.2%)	152 (34.5%)	1.504 (1.085-2.085)	0.014*
Benzodiazepines	82 (24.3)	74 (16.8)	0.631 (0.439-0.907)	0.013*
Mood stabilisers	5 (1.5)	6 (1.4)	1.067 (0.315-3.608)	0.917
Anti-psychotics	37 (10.9)	79 (17.9)	1.878 (1.228-2.872)	0.004*

## Reasons for Psychotropic Prescription

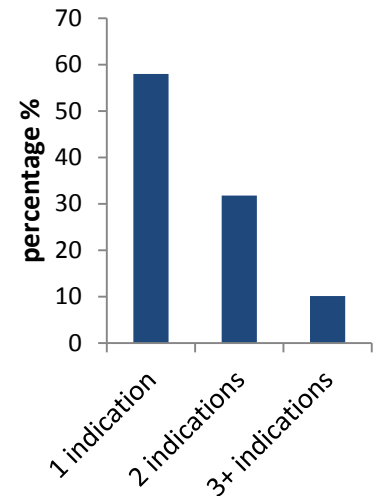
Reasons for prescription entered within the individual residents' care file revealed the most common psychiatric and behavioural characteristics as causes for prescription, as well as the number of indicators listed.

42% of residents had two or more different identified mental health issues being treated concurrently, highlighting the complexity of mental health in RAC

Indicators listed for prescribing



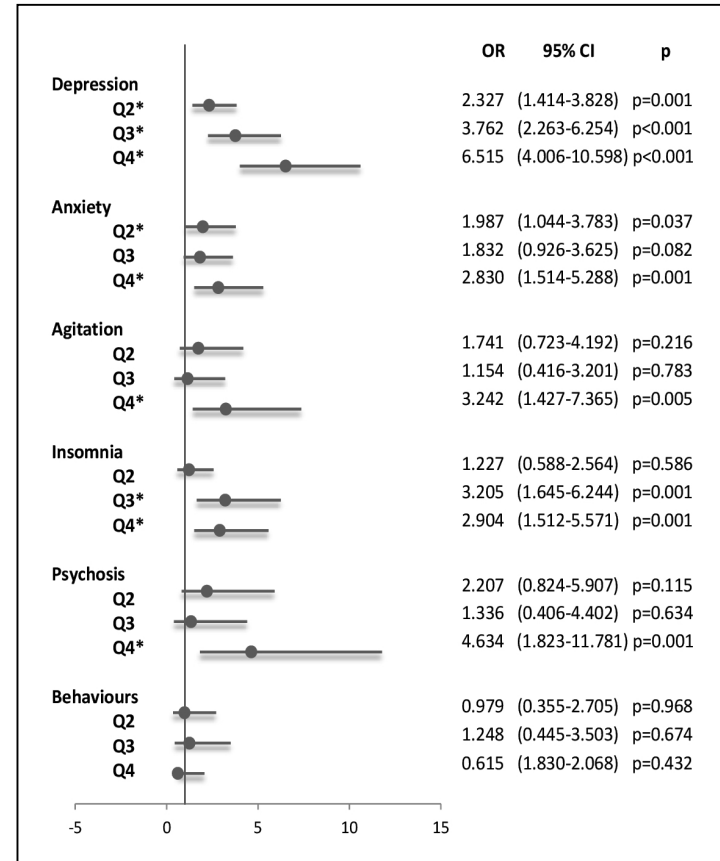
Number of indicators for prescribing



## Prescription Rates across Homes

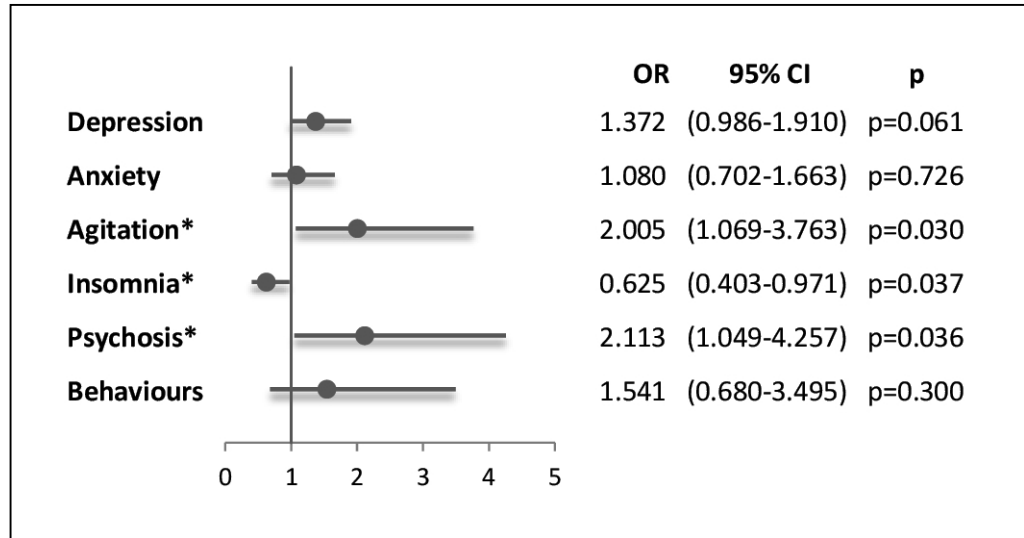
Prescription rates across 12 RAC homes varied between 25% and 75%. Homes were divided into quartiles based on their prescribing rates, with the highest prescribing rates observed in Quartile 4, and the lowest in Quartile 1.

Controlling for dementia diagnosis, age and gender, logistic regression revealed that high prescribing rates were associated with all indications but behaviour management.



## Reasons for Psychotropic Prescription in Dementia

Taking into account prescribing rates, age and gender, logistic regression revealed residents with dementia were twice as likely to be prescribed medication for agitation and psychosis. Conversely, prescribing for sleep problems/insomnia was significantly less in residents with dementia.





## Discussion

- Neuropsychiatric conditions are prevalent. Usual treatment often includes psychotropic drugs, with 1 in 2 aged care residents prescribed at least one psychotropic.
- Depression (61.5%), anxiety (26.7%), sleeping problems (25.4%), agitation (13.7%), psychosis (11.0%) and behaviours (7.2%) are the main indicators for prescribing
- There is evidence that a high proportion of these prescriptions may be clinically inappropriate (54%).
- A large unexplained variation in prescribing rates was observed across the homes, ranging from 25% to 75% - you are in a home with the highest prescribing rate (quartile 4) you have over five time higher odds of being prescribed a psychotropic (OR 5.58, 95%CI 3.67-8.56,  $p < 0.001$ ).

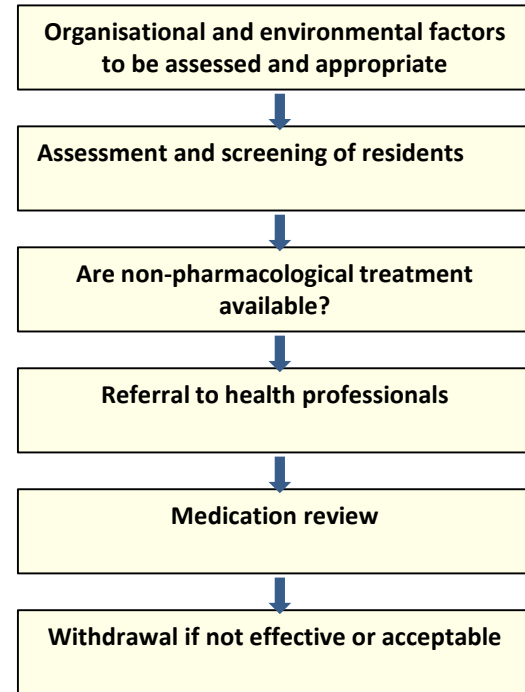
## Limitations

- Data collection was taken at a single time point, with all current medications recorded, whether regular or pro re nata (PRN) and information relating to medication reviews was not available.
- Assumptions relating to the regular use of medications is cautioned and the true appropriateness of prescriptions cannot be ascertained.
- Previous research has indicated that although, the CSD is regularly utilised, it is typically only administered upon resident admission to obtain supplementary funding, and that residents are unlikely to be followed up subsequently with the tool upon changes in presentation

## Moving forward

Recent efforts have been made to reduce the level of psychotropic prescribing. (references of stopp triales etc) Despite these efforts, global prescribing trends indicate that psychotropic use continues to rise.

A concerted holistic approach to tackle this complex issue is required. This is likely to include structural reform, improvements to the knowledge and attitudes of staff, effective monitoring strategies, and determination at individual, organisational and national levels, to improve the quality of prescribing practices in aged care facilities.



**Thank you.**

## **Acknowledgment**

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