

***Assessment of factors which influence
decision-making regarding medication
use in patients with dementia at the end
of life***

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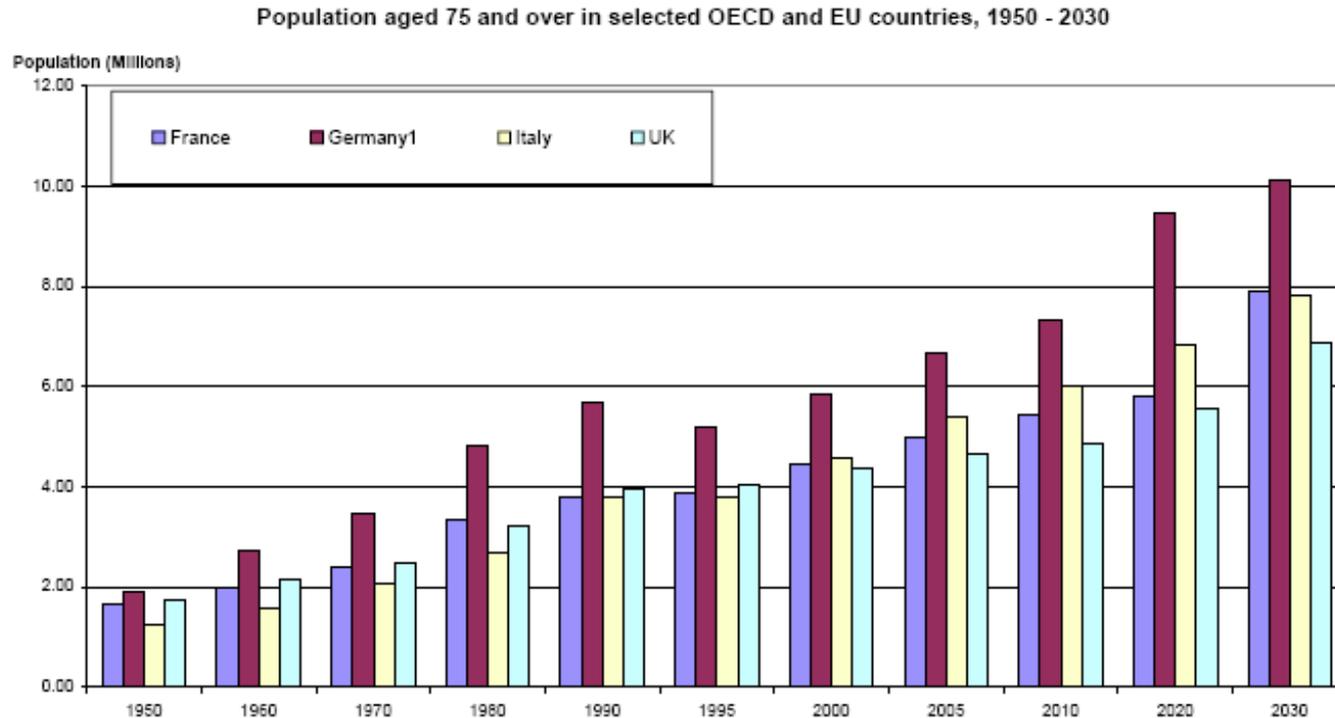


Outline of presentation



- **Background**
 - **Why is this important**
 - **Main findings**
 - **Implications for research and practice**
- 

Changing demographics



Notes: Figures for 2005 are UN estimates.
Figures for the years 2010, 2020 and 2030 are UN projections.
1 Including former East Germany.
Source: World Population Prospects (United Nations).

People aged 75+ will be 10.4% of the UK population in 2030 compared with 7.7% in 2005

Changing demographics with respect to dementia

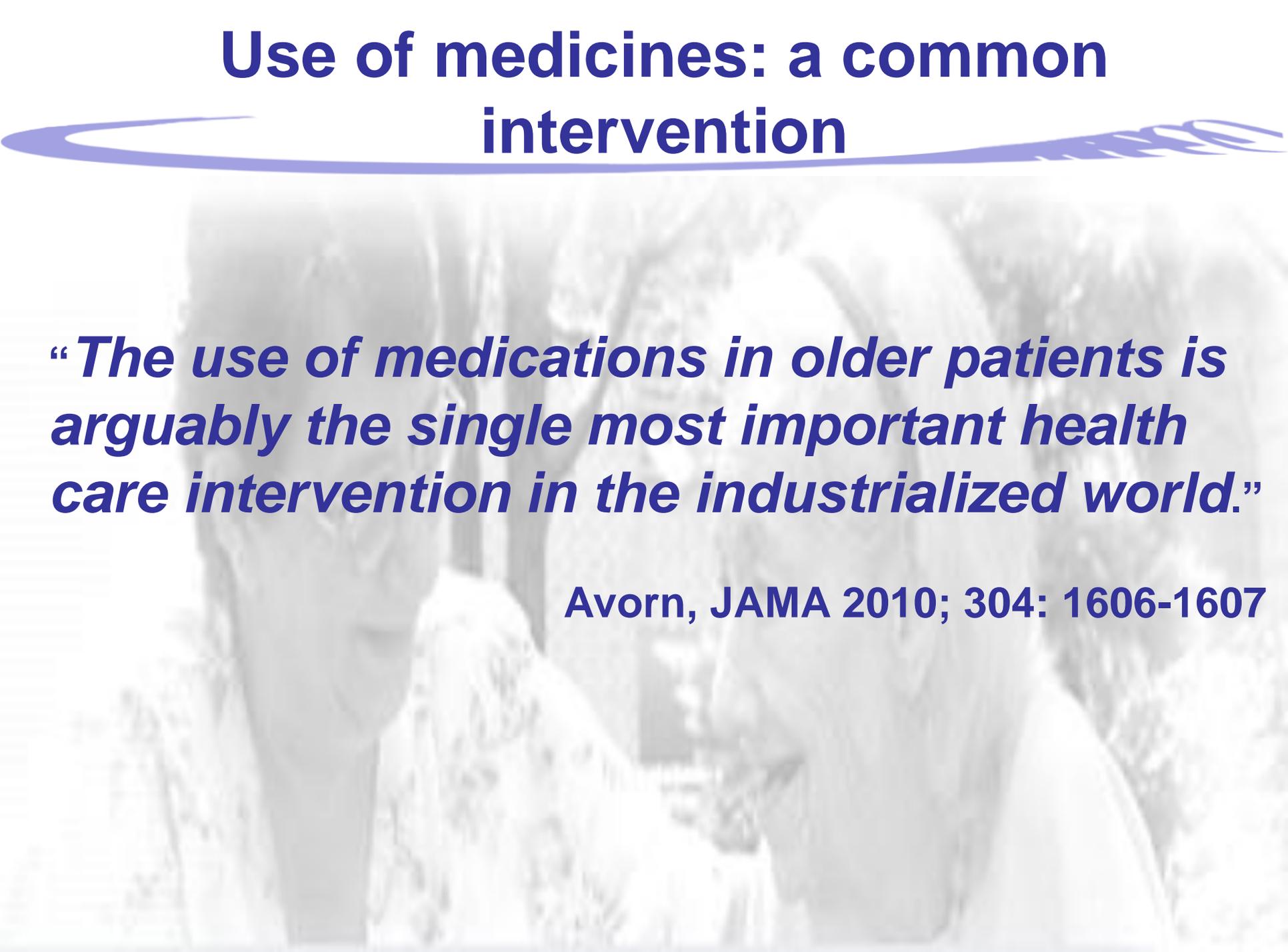
- **2012: 35.6 million living with dementia**
- **2030: 65.7 million living with dementia**
- **2050: 115.4 million living with dementia**

Use of medicines: a common intervention



“The use of medications in older patients is arguably the single most important health care intervention in the industrialized world.”

Avorn, JAMA 2010; 304: 1606-1607

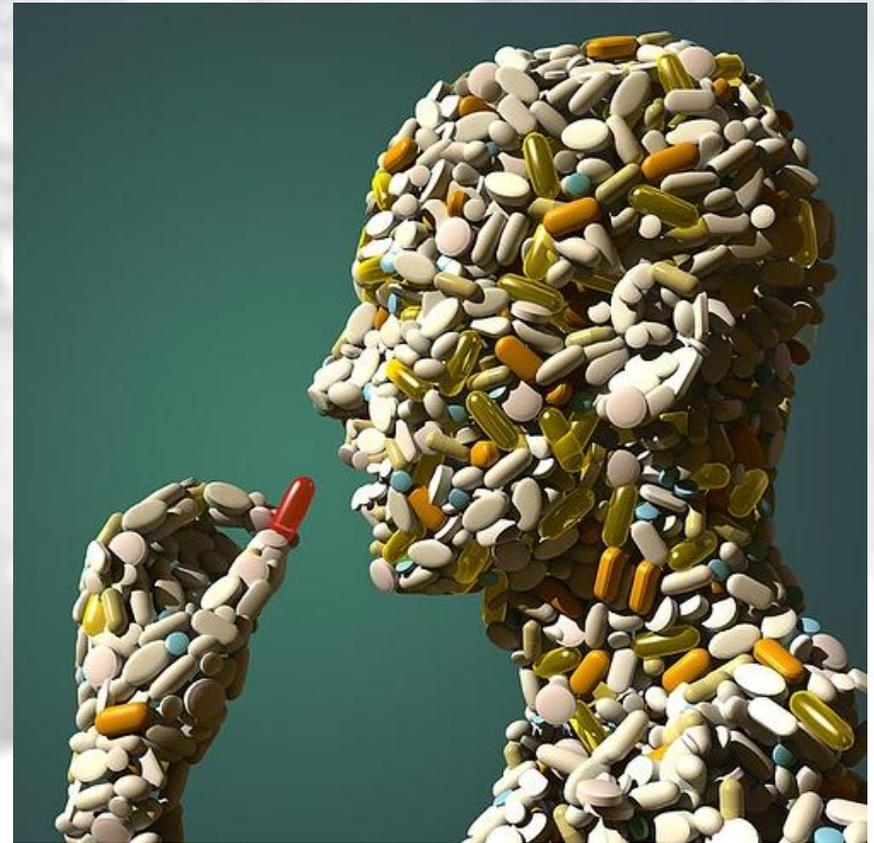


A key demographic

Resident characteristics	N=334 residents across 22 nursing homes in NI
Age (SD)	82.7 (8.4)
Female (%)	73
Top three diagnoses	Stroke, osteoarthritis, dementia
Mean no. of diagnoses	4.1
Mean no. of meds (regular and prn)	10.78

What do we need to think about?

- **Too much**
 - Overtreatment e.g. antipsychotics
- **Too little**
 - Undertreatment e.g. depression
- **Too late**
 - End of life e.g. withdrawal of treatment



The disadvantaged dying

CURRENT OPINION

Drugs Aging 2010; 27 (6): 435-449
1170-229X/10/0006-0435/\$49.95/0

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Withholding, Discontinuing and Withdrawing Medications in Dementia Patients at the End of Life

A Neglected Problem in the Disadvantaged Dying?

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- **Growing recognition that dementia is a terminal illness**
- **Inadequate palliative/end of life care**
- **Little consideration of medication use**

Aims of study

- **To evaluate in Northern Ireland (NI) and the Republic of Ireland (ROI), the extent to which patient-related factors influenced decision-making with respect to medication use in patients with end stage dementia**
- **And to evaluate if physician specialty and country of residence modified these associations**

Method

- **Factorial questionnaire developed, with vignettes, and piloted**
- **Each vignette prefaced with statement indicating doctor is caring for a patient with advanced dementia nearing the end of life**
- **Drug regimen for patient outlined**
- **Final questionnaire consisting of 4 vignettes was mailed to all GPs and hospital geriatricians in NI and RoI**
 - **Asked additional questions on physician and practice characteristics**

Outline of vignettes

Vignette	Medical Issues
Vignette 1: patient with pneumonia and fever	How to manage? Start or withhold antibiotic? Change any of patient's other medications?
Vignette 2: patient taking acetylcholinesterase inhibitor and memantine	Continue or discontinue acetylcholinesterase inhibitor and/or memantine? Change any of patient's other medications?
Vignette 3: patient taking statin	Continue or discontinue statin? Change any of patient's other medications?
Vignette 4: patient taking atypical antipsychotic	Continue or discontinue antipsychotic? Change any of patient's other medications?

Method *cont'd*

- **Patient-related factors were systematically manipulated in each vignette**
 - **Place of residence of patient (own home or nursing home)**
 - **Presence of signed advance directive indicating that patient had expressed preference for supportive rather than aggressive treatment measures at the end of life**
 - **Level of family involvement (desire for active treatment measures, desire for supportive treatment measures or no family involvement)**

Method *cont'd*

Suppose that you are seeing Mrs. Mary Jones today. Mrs Jones is an 82 year-old retired seamstress who is <RANDOM ASSIGNMENT: “resident in a nursing home” OR “cared for in her own home.” She has **developed pneumonia with severe respiratory failure** and has a fever of 38.9°C. She was diagnosed with Alzheimer’s Disease seven years ago. RANDOM ASSIGNMENT: “She has a signed advance directive expressing a preference for supportive care, rather than for more aggressive treatment measures, at the end-of-life”. OR “There is no advance directive concerning treatment.” Recently her mental condition has declined. Although she is alert, she is no longer orientated in terms of time, place and situation. She displays little spontaneous speech and when she does speak, her speech is unintelligible with the exception of single random words. She is totally dependent on her caregiver for all activities of daily living. She can no longer walk since suffering a series of falls three months ago and refuses food and fluids often, slapping at the hand of the person attempting to feed her. She has lost 7% of her body weight in the last two months. RANDOM ASSIGNMENT: “Mrs. Jones’ family desires active treatment measures be taken to save her life in the event of a life-threatening condition.” OR “Mrs. Jones’ family desires supportive treatment measures be taken to provide symptomatic relief only and make her comfortable.” OR “There is no family involvement.”

Outline of a vignette *cont'd*

- **Respondents asked to review Mrs. Jones's current medication**
 - **Asked if they would continue/discontinue**
 - **Would they prescribe any other medications**
 - **Asked to explain decisions**
 - **Free text responses**

Analysis

- **Relationships between patient-related and physician-related factors and prescribing decisions were examined in a series of logistic regression models**
 - **Patient-related factors**
 - **Place of residence, presence or absence of an advance directive, level of family involvement**
 - **Physician-related factors**
 - **Physician's country of practice**

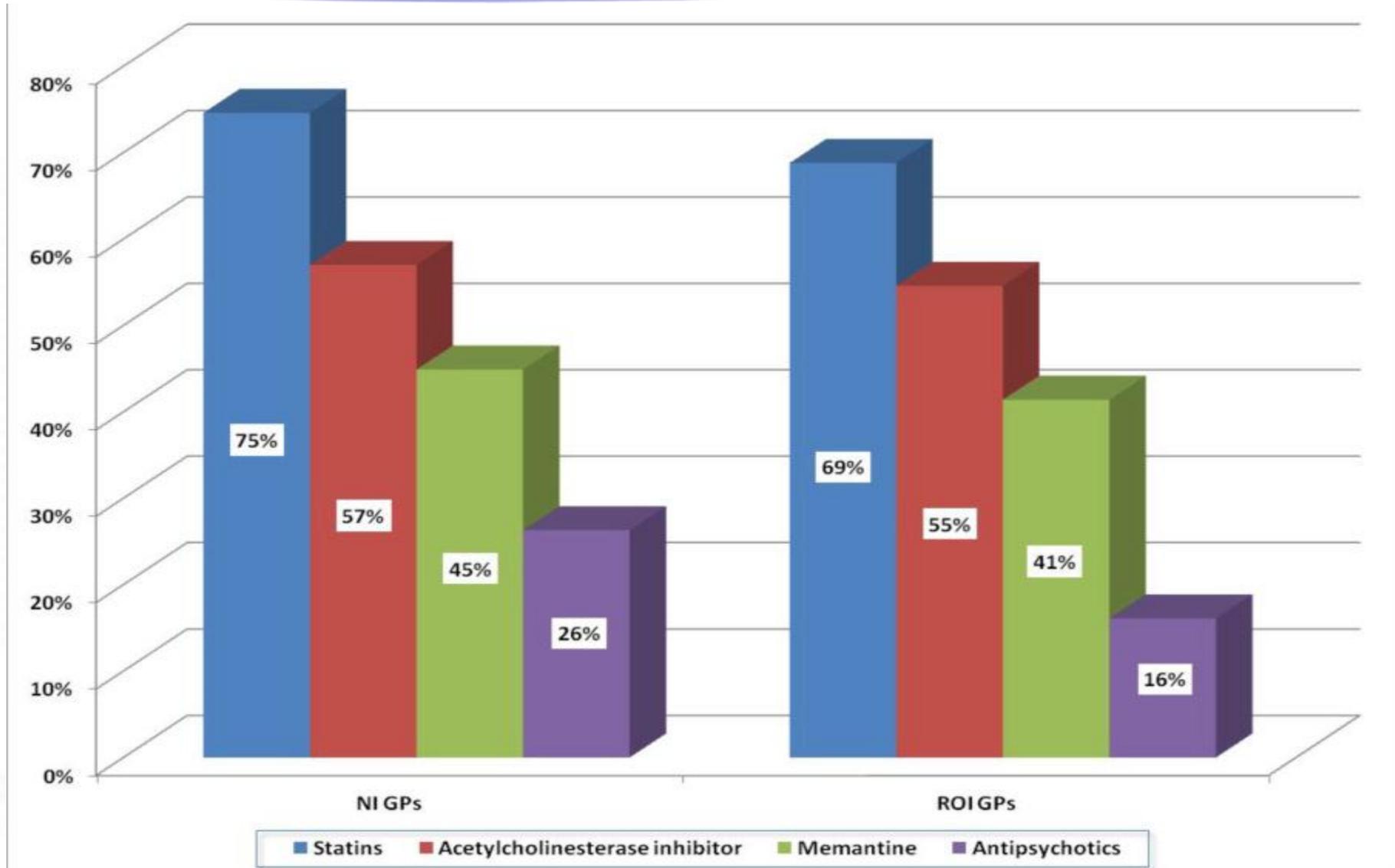
Results

	Sample	No. returned	Response rate %
NI GPs	1161	245	21.10
NI hospital physicians	73	38	52.05
RoI GPs	1900	348	18.32
RoI hospital physicians	86	31	36.05

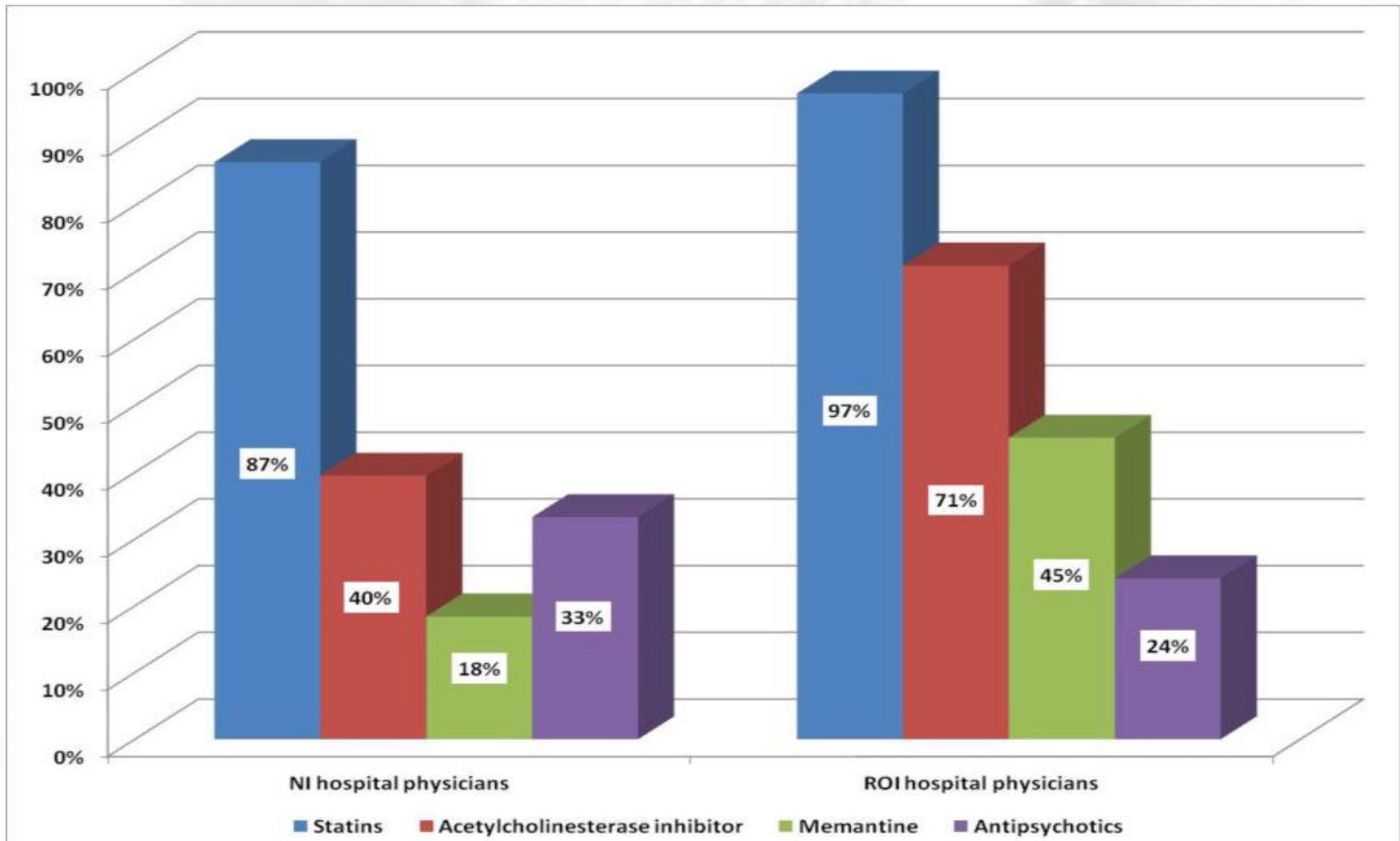
Initiating antibiotics

- **53% of GPs in NI would prescribe vs. 57% in RoI**
- **42% of hospital physicians in NI would prescribe vs. 40% in RoI**

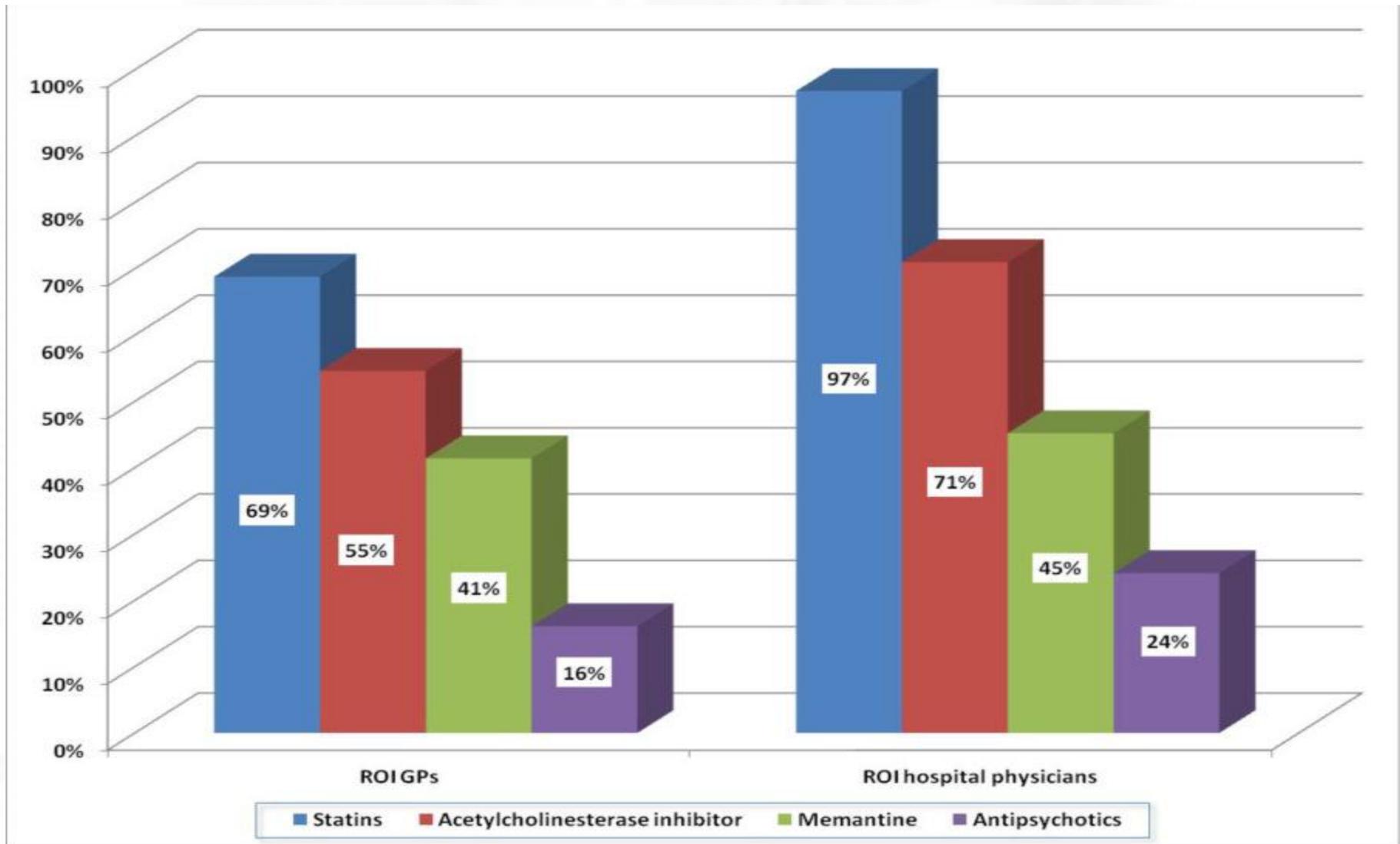
Decision to discontinue (1)



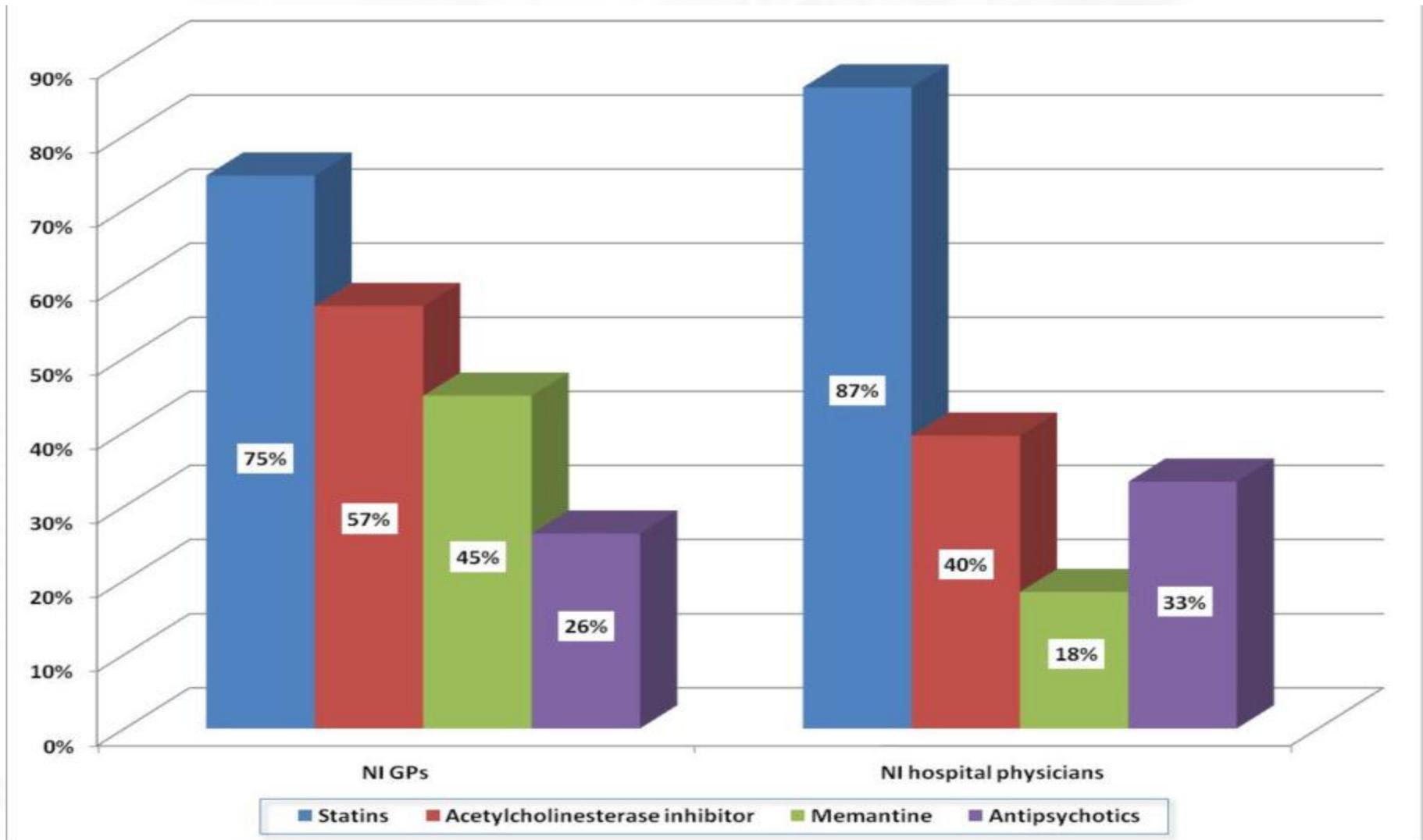
Decision to discontinue (2)



Decision to discontinue (3)



Decision to discontinue (4)



Commentary and context

- *“Donepezil and memantine - pointless at this stage of the dementia course” (NI GP 152)*
- *“I would discontinue any medication used for longer term secondary prevention because of advanced stage of dementia” (RoI hospital physician 352)*
- *“Stop all preventative treatment as not necessary for providing comfort or support and may increase distress” (NI GP 169)*

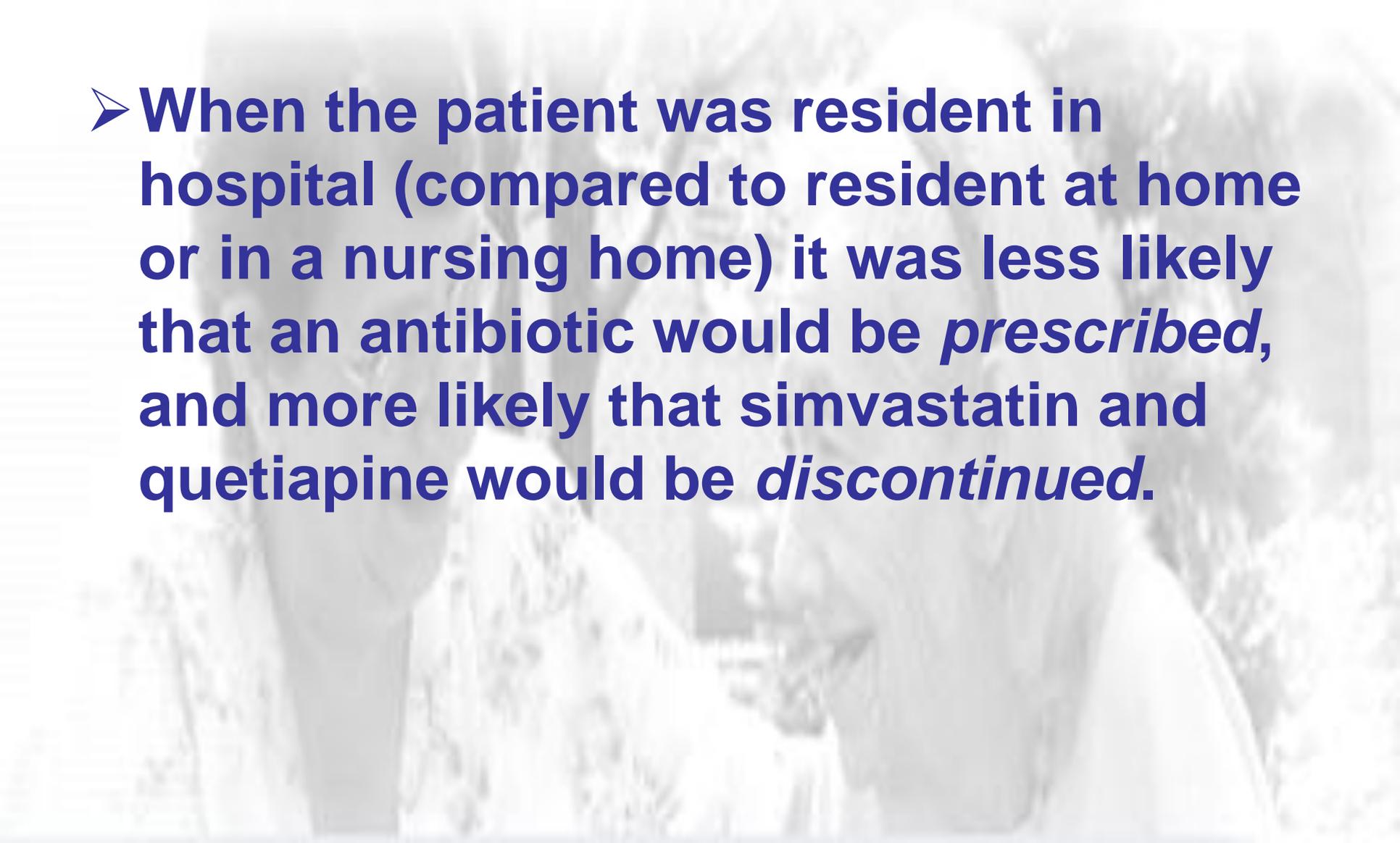
Factors which influenced decisions



- **Patient place of residence**
 - **Physician's country of residence**
 - **Caveat-effect size was small**
- 

Patient place of residence



- **When the patient was resident in hospital (compared to resident at home or in a nursing home) it was less likely that an antibiotic would be *prescribed*, and more likely that simvastatin and quetiapine would be *discontinued*.**
- 

Physician's country of residence

- If the physician practised in hospital in the RoI (compared to hospital in NI), it was more likely that donepezil hydrochloride and memantine hydrochloride would be *discontinued*.
- If the physician practised in RoI (compared to NI), it was less likely that quetiapine would be *discontinued*.

Overview of findings

- **Considerable variation in decision-making among NI and RoI doctors about continuation and discontinuation of medications**
- **Some factors require further consideration**
 - **Place of residence**
 - **Country of practice**

Limitations

- **Complex questionnaire**
- **Low response rate**
- **Difference between responses and real practice?**
 - **Respondents were asked to complete the questionnaire in the context of a typical day in their practice**
- **Influence of other factors not included?**

Implications for research

- **Further consideration of other factors**
- **Other research designs**
 - **Qualitative work**
- **Practice guidelines**
 - **What's appropriate and what is not**
 - **Ongoing work in the USA and UK**

Implications for practice

- **Education strategies**
 - Undergraduate through to postgraduate health care professionals
- **Increasing awareness of dementia as a terminal illness**
- **Implementation of palliative frameworks**
- **Involvement of families in decision-making**