Drug expenditure and characteristics of high-cost GMS patients in Ireland

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Background

- Pharmaceutical expenditure grew rapidly until 2009

- Spending on pharmaceuticals in ambulatory care still accounts for almost 20% of all health expenditure on average across European Union (EU) member states[1]

- Ireland in 2012
  - ➢ prescription items under the General Medical Services (GMS) scheme cost **€1.2bn+** or 9% of total public expenditure on health (€14.137bn)[2]

  - ➢ spending per capita on pharmaceuticals was the **third highest** in the EU at €500[1]

Background

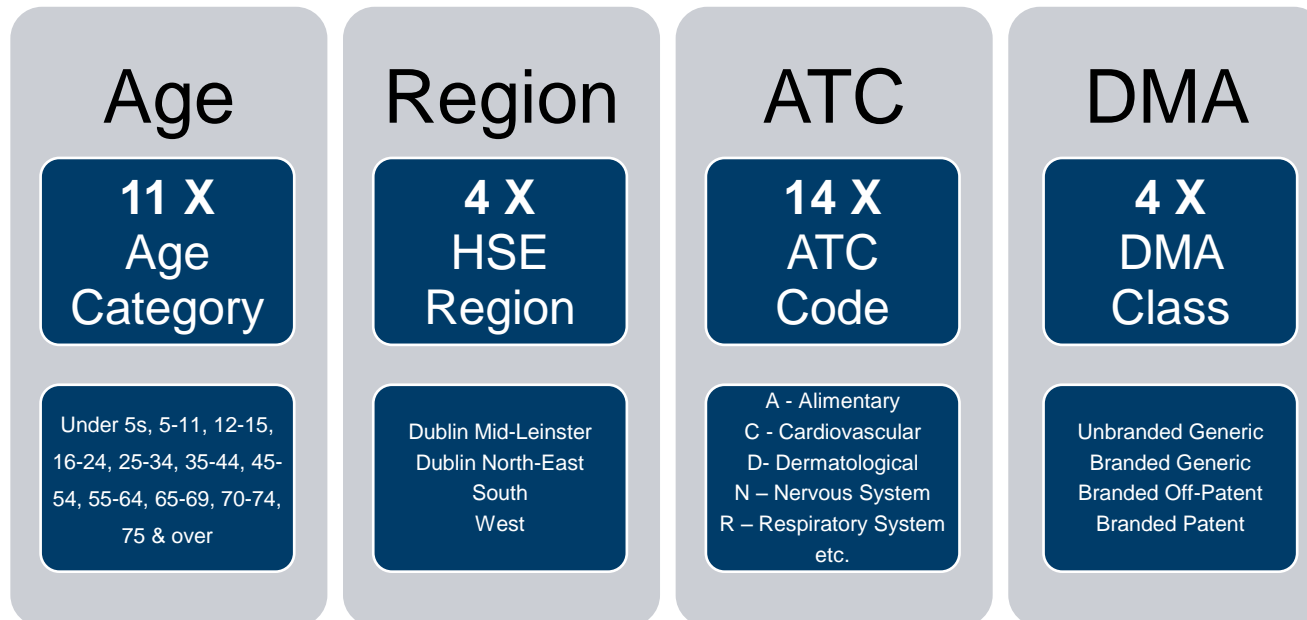Expenditure on pharmaceuticals per capita €, 2012 or nearest year
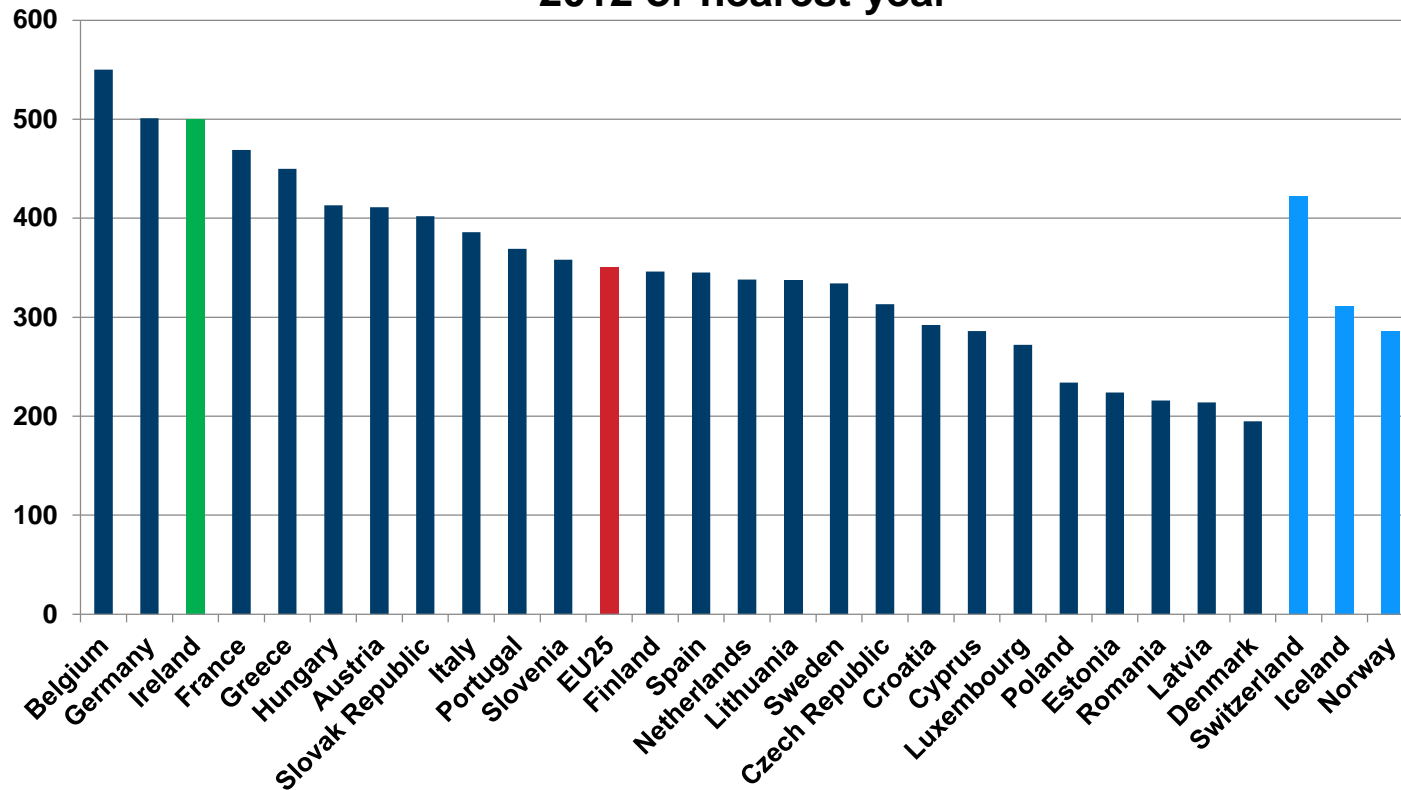
Research Aims

- Grave concerns over the sustainability of public expenditure on pharmaceuticals under the GMS scheme

- Several cost containment measures have been introduced

- But little detailed information regarding the distribution of the GMS scheme's expenditure

- This study
  - analyses the expenditure distribution
  - explores the characteristics of high-cost users
  - provides comparative analysis of high and low-cost users

Data & Methods

- HSE-PCRS 2012 population database
  - ➢ 60 million prescription items
 - ➢ 1.6 million claimants

- Variables

| Age	Region	ATC	DMA
11 X Age Category	**4 X** HSE Region	**14 X** ATC Code	**4 X** DMA Class
Under 5s, 5-11, 12-15, 16-24, 25-34, 35-44, 45-54, 55-64, 65-69, 70-74, 75 & over	Dublin Mid-Leinster Dublin North-East South West	A - Alimentary C - Cardiovascular D- Dermatological N – Nervous System R – Respiratory System etc.	Unbranded Generic Branded Generic Branded Off-Patent Branded Patent

GMS Prescription Costs

Percentile by cost	N	Average cost per claimant, €	% of total cost
Top 1	16,297	8,085	10.8
Top 5	81,764	4,955	33.1
Top 10 (high-cost users)	**163,407**	**3,782**	**50.4**
Top 25	411,391	2,363	79.4
Top 50	815,382	1,438	95.7
Bottom 50	815,393	64	4.3
Bottom 90 (low-cost users)	**1,467,368**	**414**	**49.6**
All claimants	1,630,775	751	100.0

- Distribution of GMS costs is strongly positively skewed
- 10% of GMS claimants account for 50% of costs
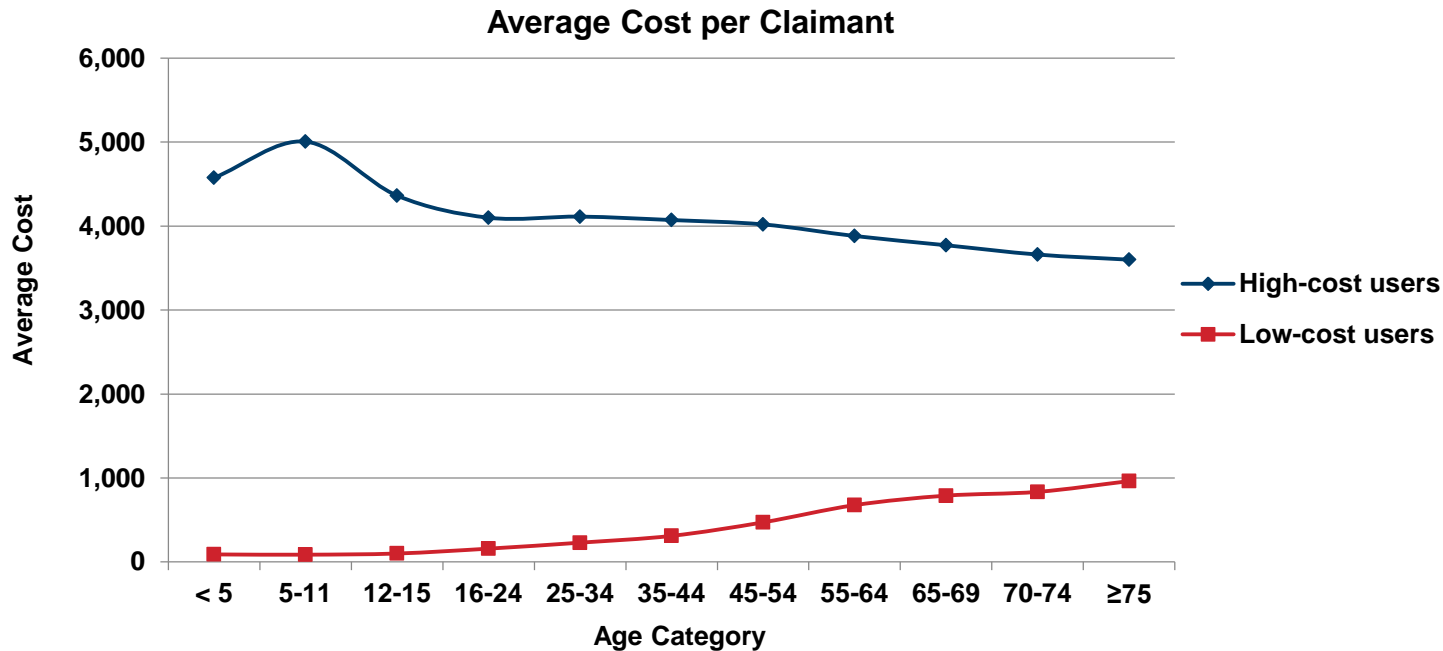- **High-cost users** defined as those with annual prescribing costs in excess of €2,150
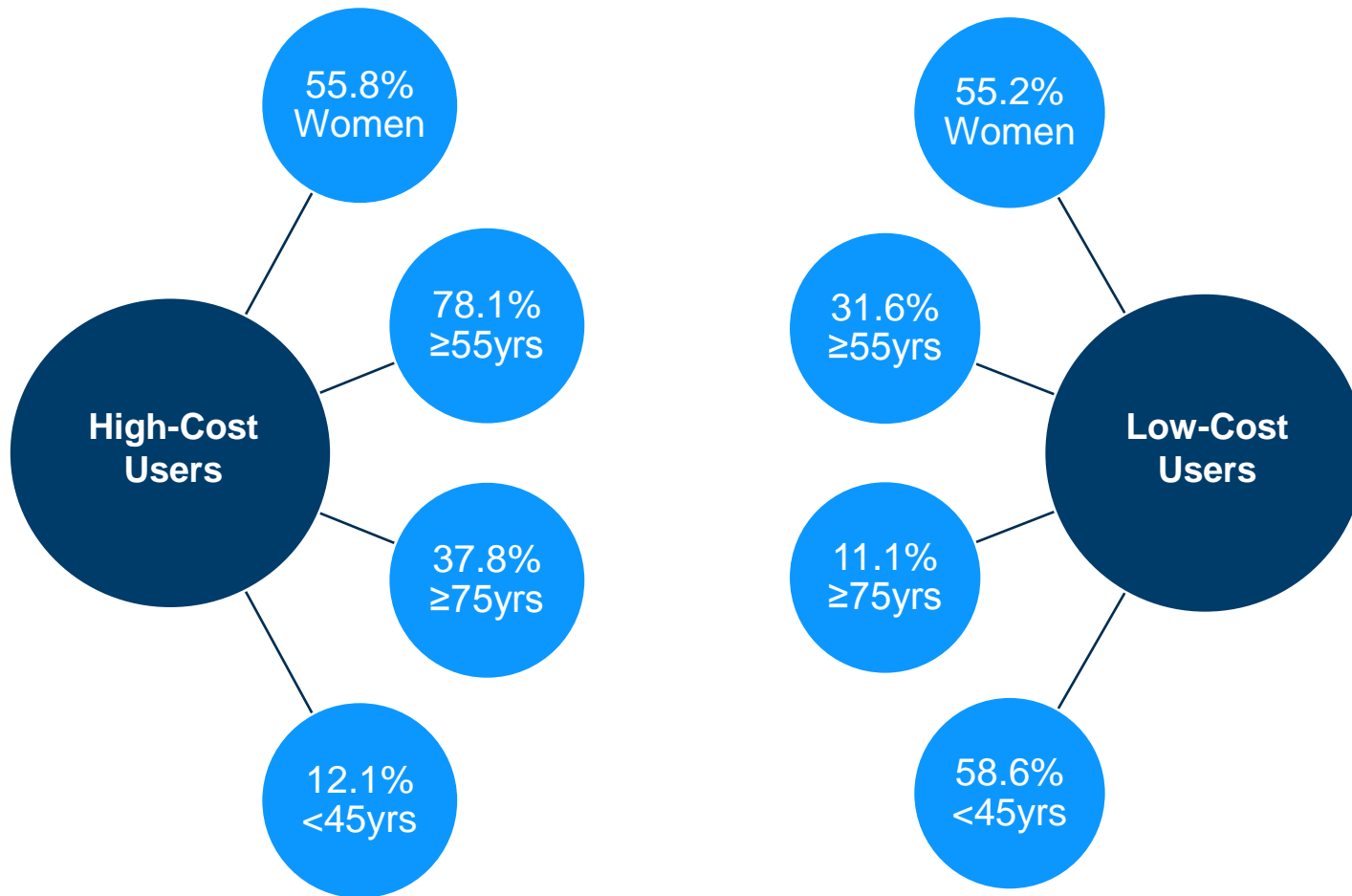
Who are the high-cost users?

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Claimants by Age Category

Total Cost by Age Category
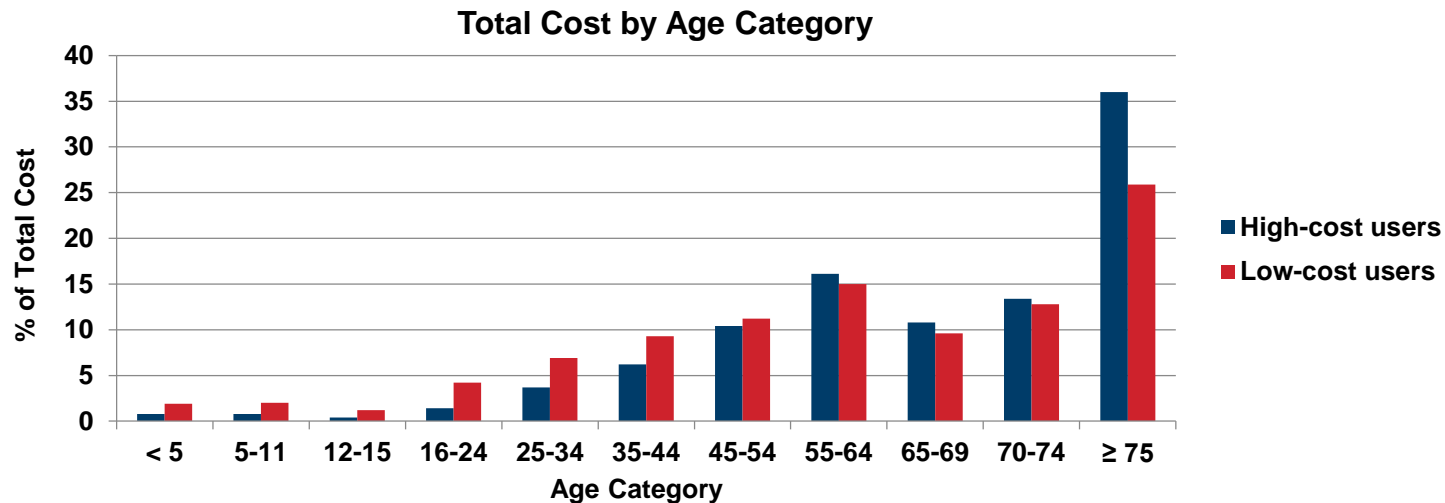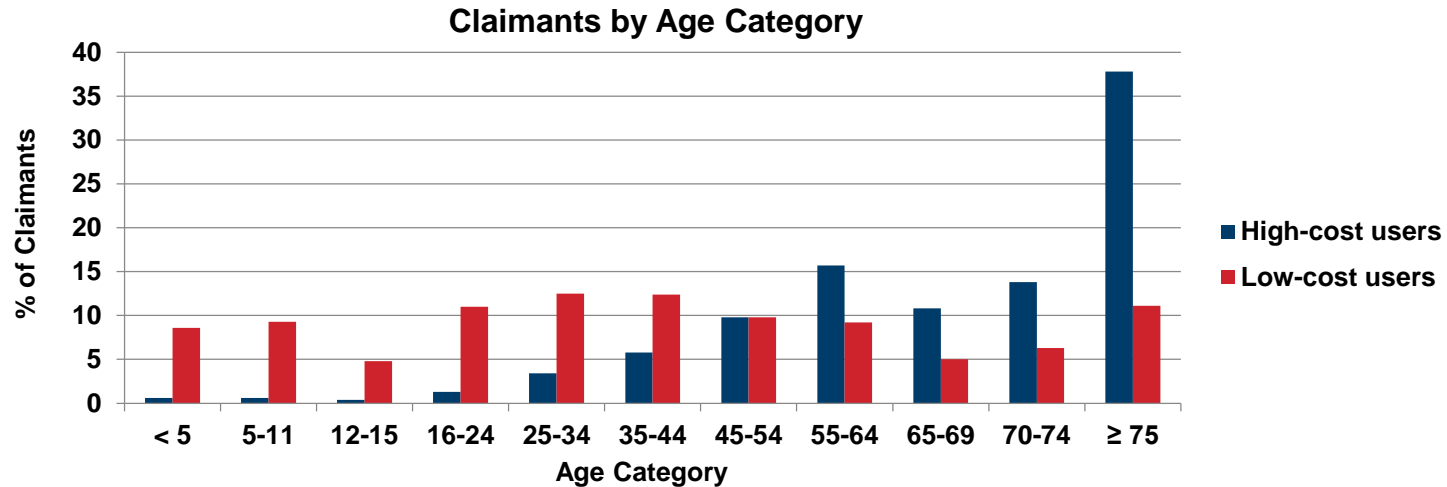
Who are the high-cost users?

Average Cost per Claimant

- Average cost in the high-cost group ranges from €3,600 in the 75s & over to €5,006 in the 5-11 age cohort

- Average cost per claimant in the low-cost group ranges from €87 in the 5-11 age cohort to €963 in the 75s & over

Where are the high-cost users?

West
- 25% of high-cost claimants
- 27% of low-cost claimants

Dublin North East
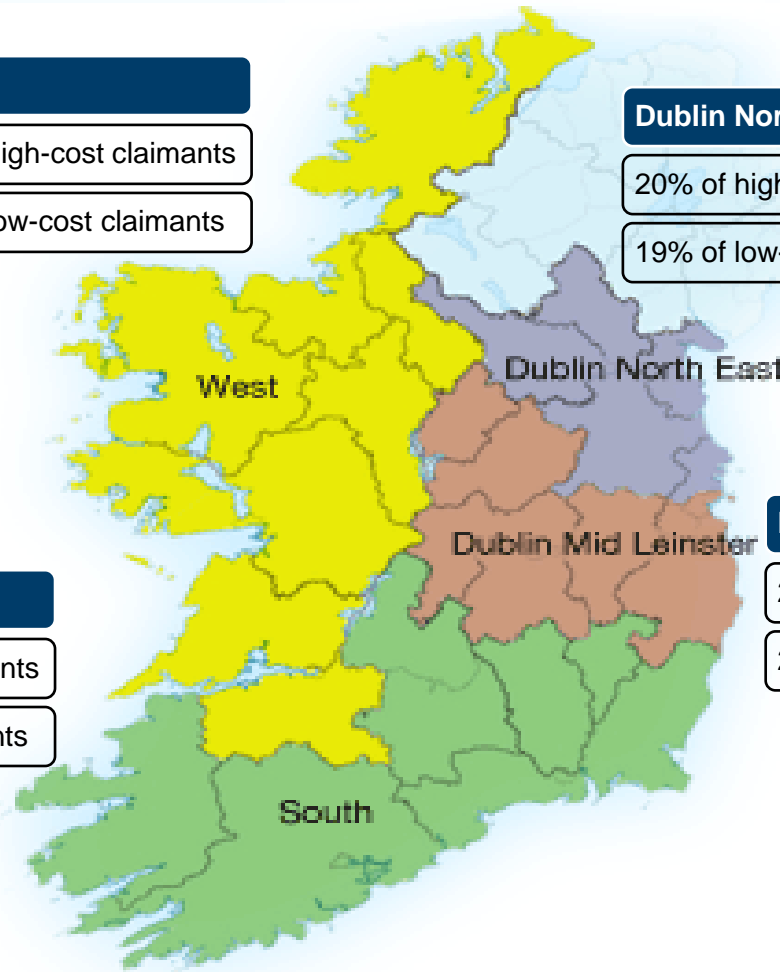- 20% of high-cost claimants
- 19% of low-cost claimants

South
- 28% of high-cost claimants
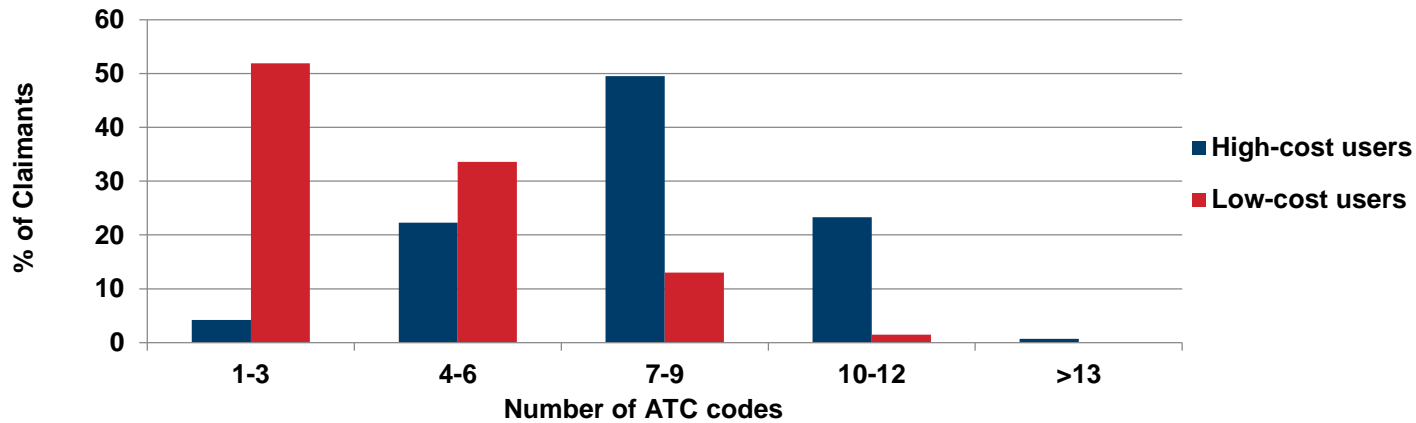- 28% of low-cost claimants

Dublin Mid Leinster
- 27% of high-cost claimants
- 26% of low-cost claimants

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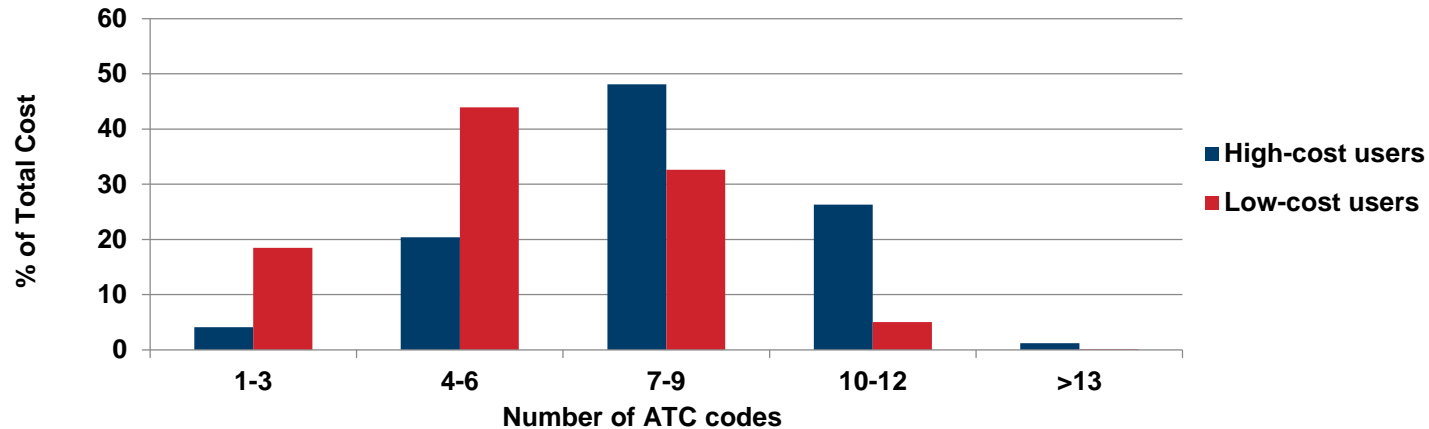Coláiste na hOllscoile Corcaigh

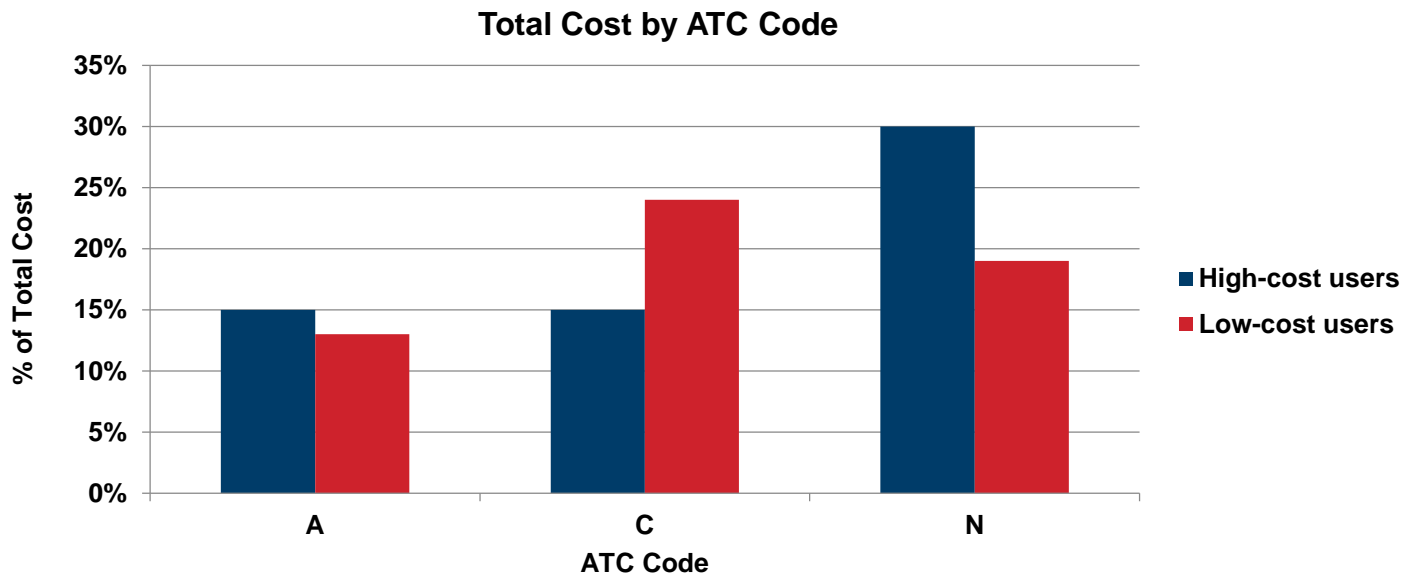# Prescribing Patterns - ATC

Claimants by ATC Count

Total Cost by ATC Count

Prescribing Patterns - ATC

- 3 most costly ATC codes for both groups
  - **A**limentary Tract & Metabolism
 - **C**ardiovascular System
  - **N**ervous System

Total Cost by ATC Code

High-cost users
Low-cost users

Most Costly Drugs

ATC N			
High-cost users		**Low-cost users**	
Level 3	**Level 5**	**Level 3**	**Level 5**
Antiepileptics	Pregabalin	Antidepressants	Escitalopram
Antipsychotics	Olanzapine	Antiepileptics	Pregabalin
Antipsychotics	Quetiapine	Antipsychotics	Olanzapine
Opiods	Fentanyl	Addictive Disorders	Nicotine
Anti-Dementia	Memantine	Opiods	Codeine, excl. psycholeptics

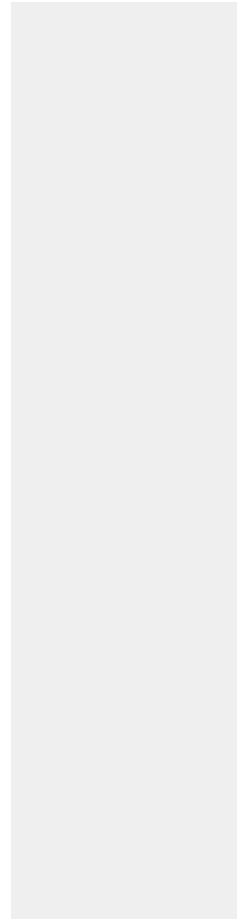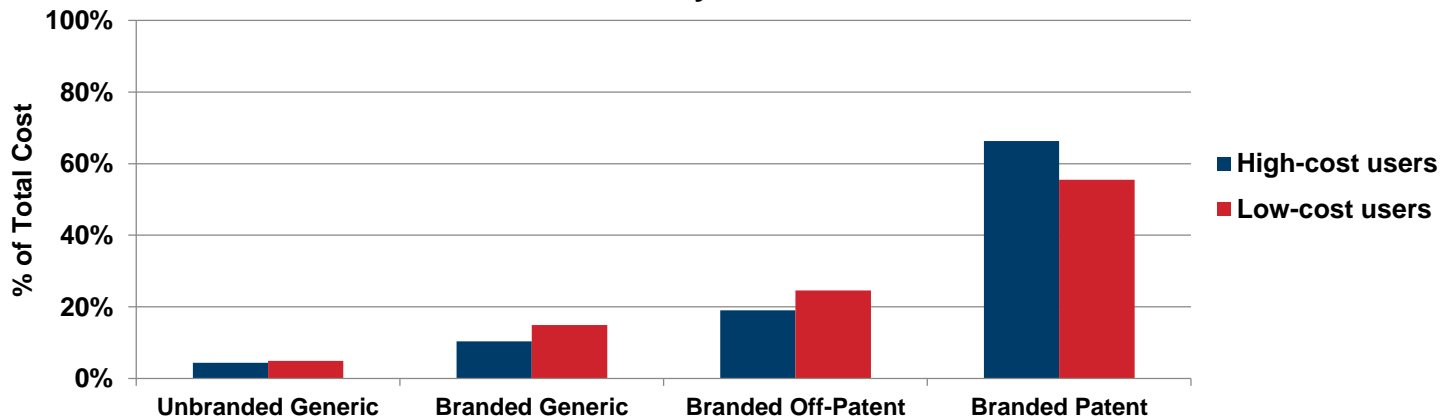| ATC C			
High-cost users		**Low-cost users**	
Level 3	**Level 5**	**Level 3**	**Level 5**
Lipid modifying agents, plain	Atorvastatin	Lipid modifying agents, plain	Atorvastatin
Lipid modifying agents, plain	Rosuvastatin	Lipid modifying agents, plain	Rosuvastatin
Beta blocking agents	Bisoprolol	Selective calcium channel blockers	Amlodipine
Antiadrenergic agents	Doxazosin	Beta blocking agents	Bisoprolol
Selective calcium channel blockers	Amlodipine	ACE inhibitors, plain	Ramipril

Prescribing Patterns - DMA

Claimants by DMA
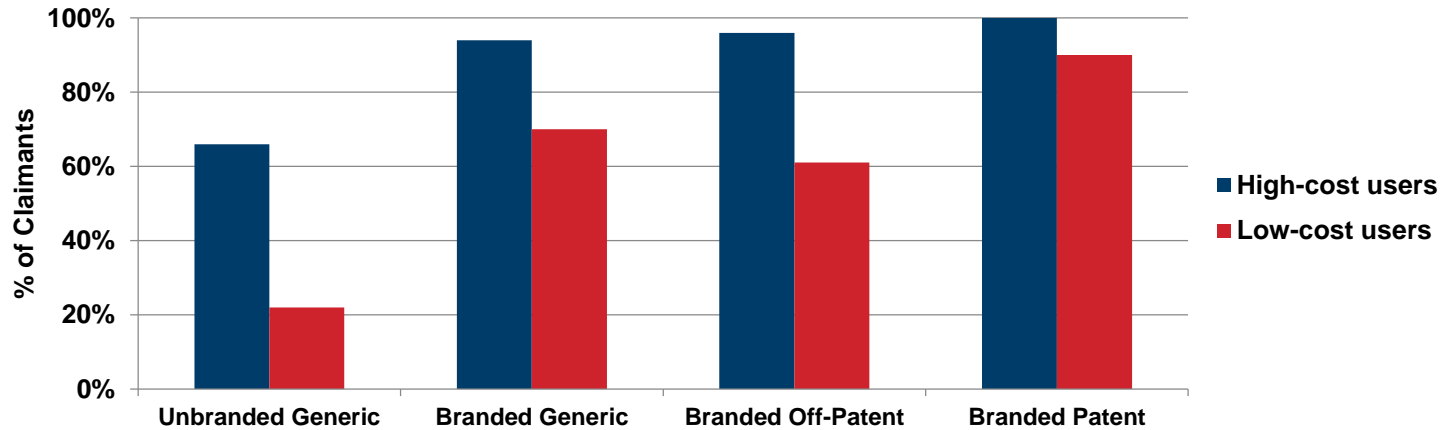
Total Cost by DMA

Discussion

- This concentration of expenditure is not unusual

- Average cost per claimant decreases with age in the high-cost group

- Share of claimants with prescription items with at least 7 different ATC codes is much larger in the high-cost group – 73.5% v 14.5%

- Are cost containment policies that affect a broad population optimal when expenditure distribution is strongly skewed?

Conclusion

- The distribution of the GMS scheme's prescription expenditure is strongly positively skewed

- 10% of claimants account for >50% of costs

- High-cost users are older than low-cost users

- High-cost users are prescribed items from more ATC codes than low-cost users

- Further research required to explore the possibility of patient-specific cost containment measures

Thank You

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INDEPENDENT
THINKING

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References

1. OECD. Pharmaceutical expenditure in OECD/European Union, Health at a Glance: Europe 2014. OECD Publishing 2014.

2. Department of Health . Health in Ireland Key Trends 2013. Dublin 2013.

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