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Social Research that works for society

Loneliness, social isolation and hospital admissions

A feasibility study linking the English Longitudinal Study of Ageing
with Hospital Episode Statistics

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Background



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Background

- Strong evidence around the social determinants of health
- Growing evidence on the impact of social network and social capital on health
- Evidence remains scarce, and is generally small scale, uses convenient samples, self-reported service-use and cross-sectional design.
- Need for a large-scale study using a representative sample

Aims

- Is linkage of HES and ELSA feasible?
- What proportion of the older (50 plus) population use different types of hospital admission?
- What types of hospital admission are most and least common, and for which diagnoses?
- What is the relationship between social isolation / loneliness and hospital admissions, diagnosis and treatment?

The datasets



2

The English Longitudinal Study of Ageing (ELSA)

- Household cohort survey
- Interviews around 10,000 people every two years
- Private household members aged over 50 years old
- Collects a wide range of information about demographics, health, social care, retirement, pension

The Hospital Episode Statistics

- Administrative dataset covering hospital attendances in England
 - Administrative Patient Care
 - Inpatient & day patients
 - Outpatient
 - A&E
- Contains information about diagnoses, operations, admissions, discharges and sociodemographic characteristics
- Recorded in financial years from 1st April to 31st March
- Concerns about quality

Linkage

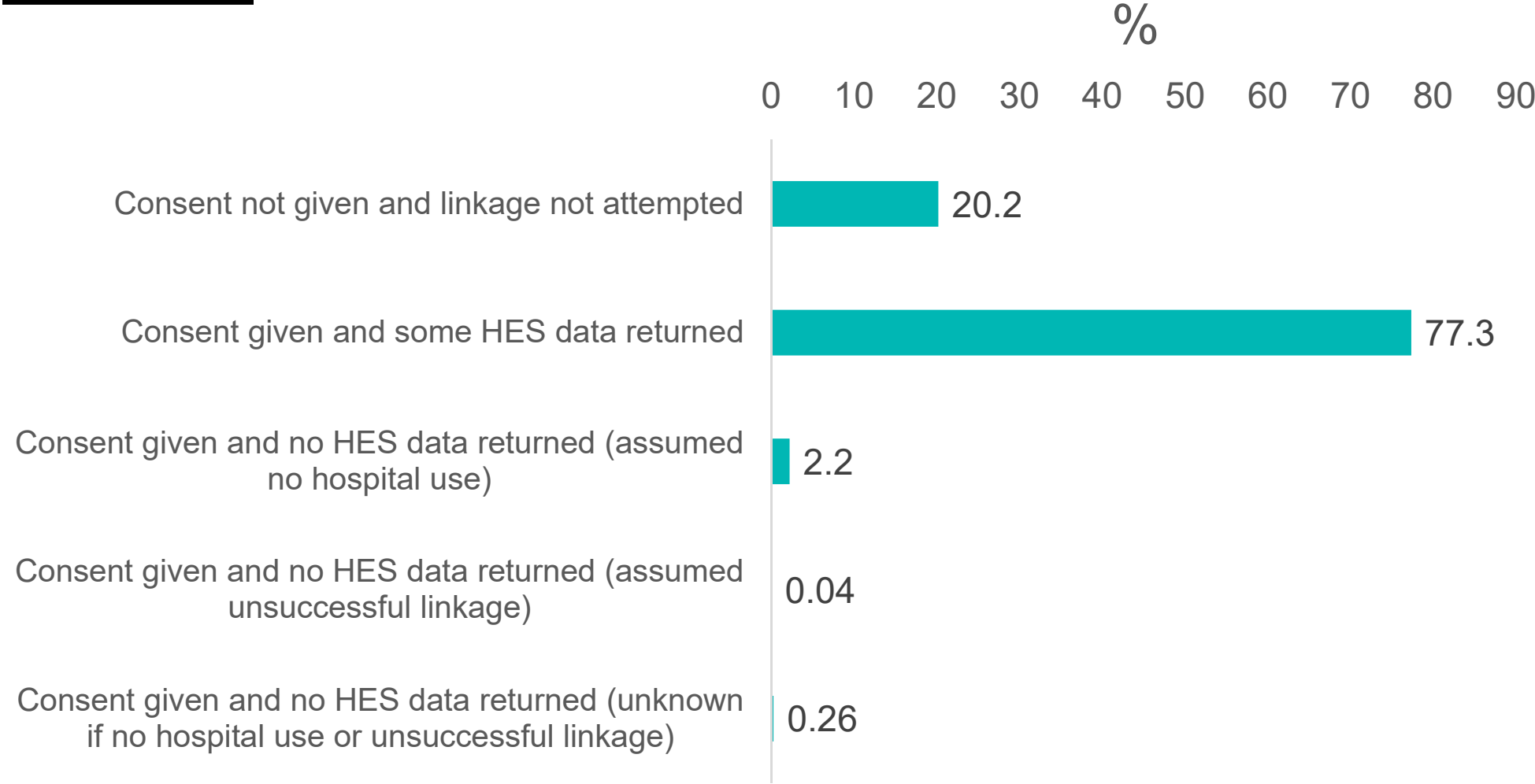


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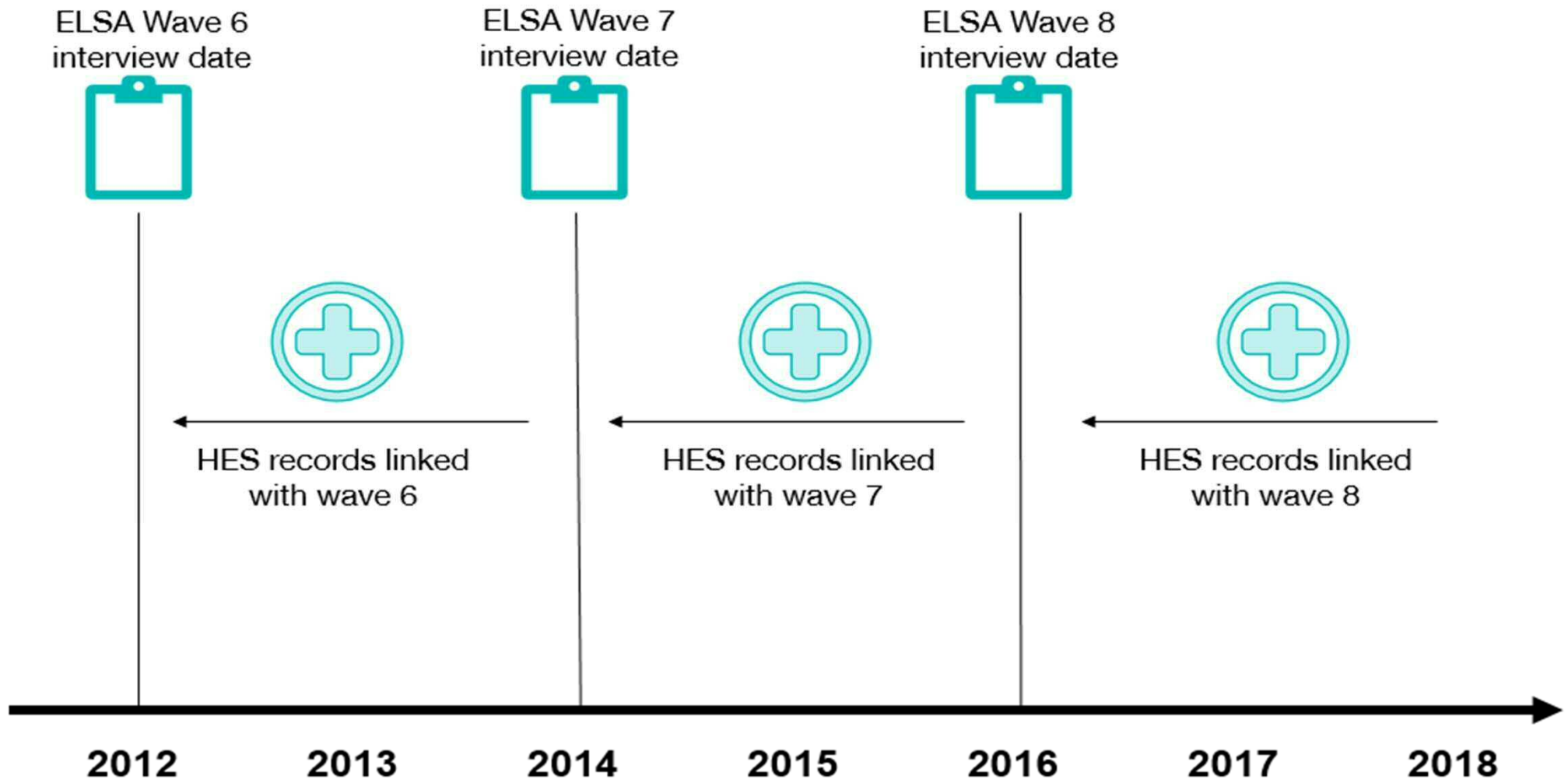
Matching ELSA participants to HES

Match Rank	NHS	DoB	Sex	Postcode	Matched (%)
1	✓	✓	✓	✓	89.3
2	✓	✓	✓		5.5
3	✓	±	✓	✓	0.2
4	✓	±	✓		0.0
5	✓			✓	0.0
6		✓	✓	✓	4.9
7	✓				0.0

Consent proportions



HES-ELSA linkage



Measures

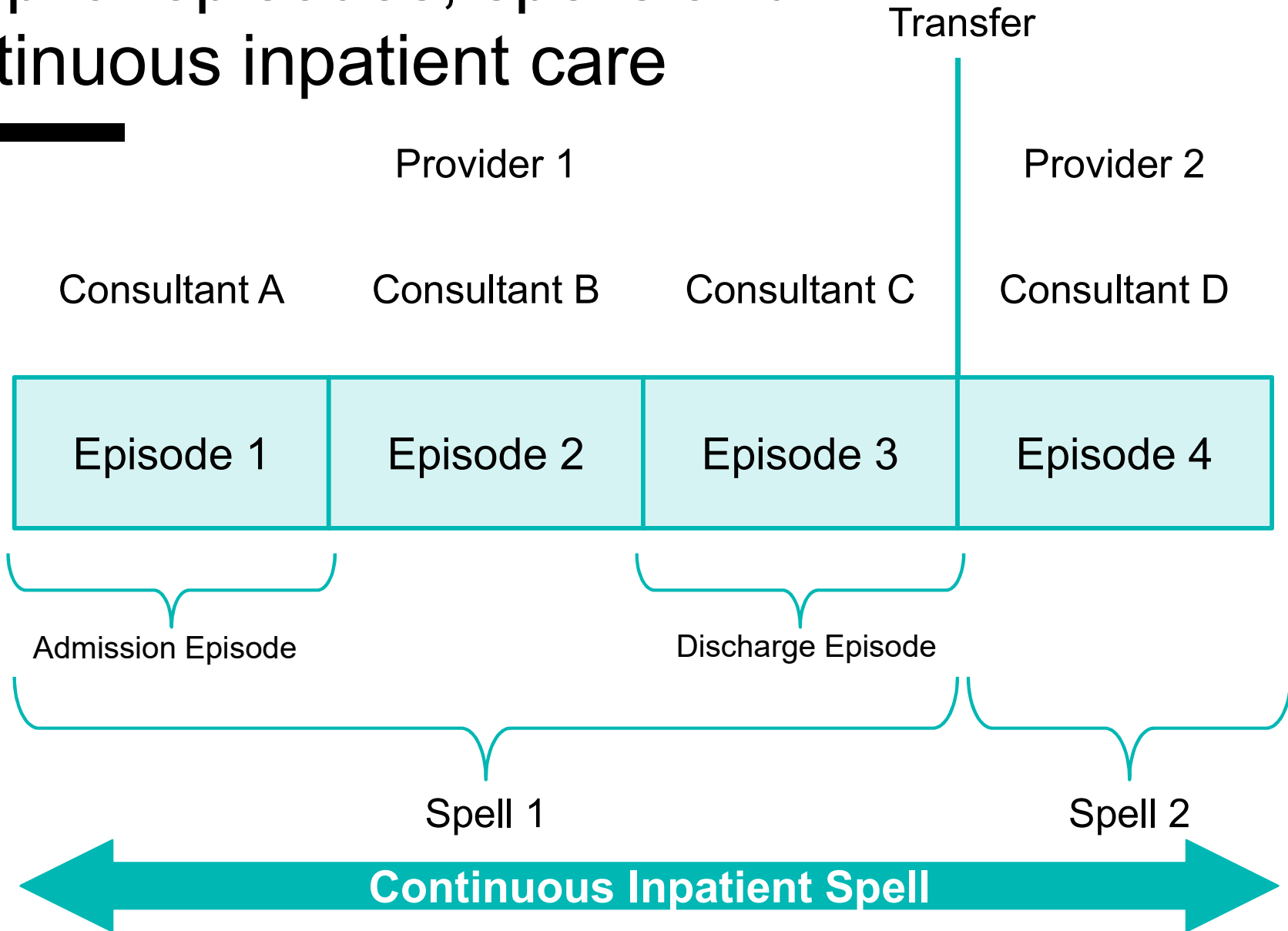


3

Social Isolation and Loneliness

Social Isolation	Loneliness
Objective measure	Subjective measure
Relates to aspects of social network and frequency of contact and participation in social activities	Relates to (dis)satisfaction with existing relationships
<ul style="list-style-type: none">- Marital status- At least monthly contact with family, friends and children (face-to-face, telephone or email)- Participation in religious activities, clubs, political groups, etc.	Frequency of feeling like they: <ul style="list-style-type: none">- Lack companionship- Are left out- Are isolated from others

Hospital episodes, spells and continuous inpatient care



Types of hospital admissions

UNPLANNED
Includes all emergency admissions, including rare ones

EMERGENCY
Subset of unplanned admissions excluding rare ones such as maternity admissions and transfers from psychiatric hospitals

A&E
Subset of emergency admission

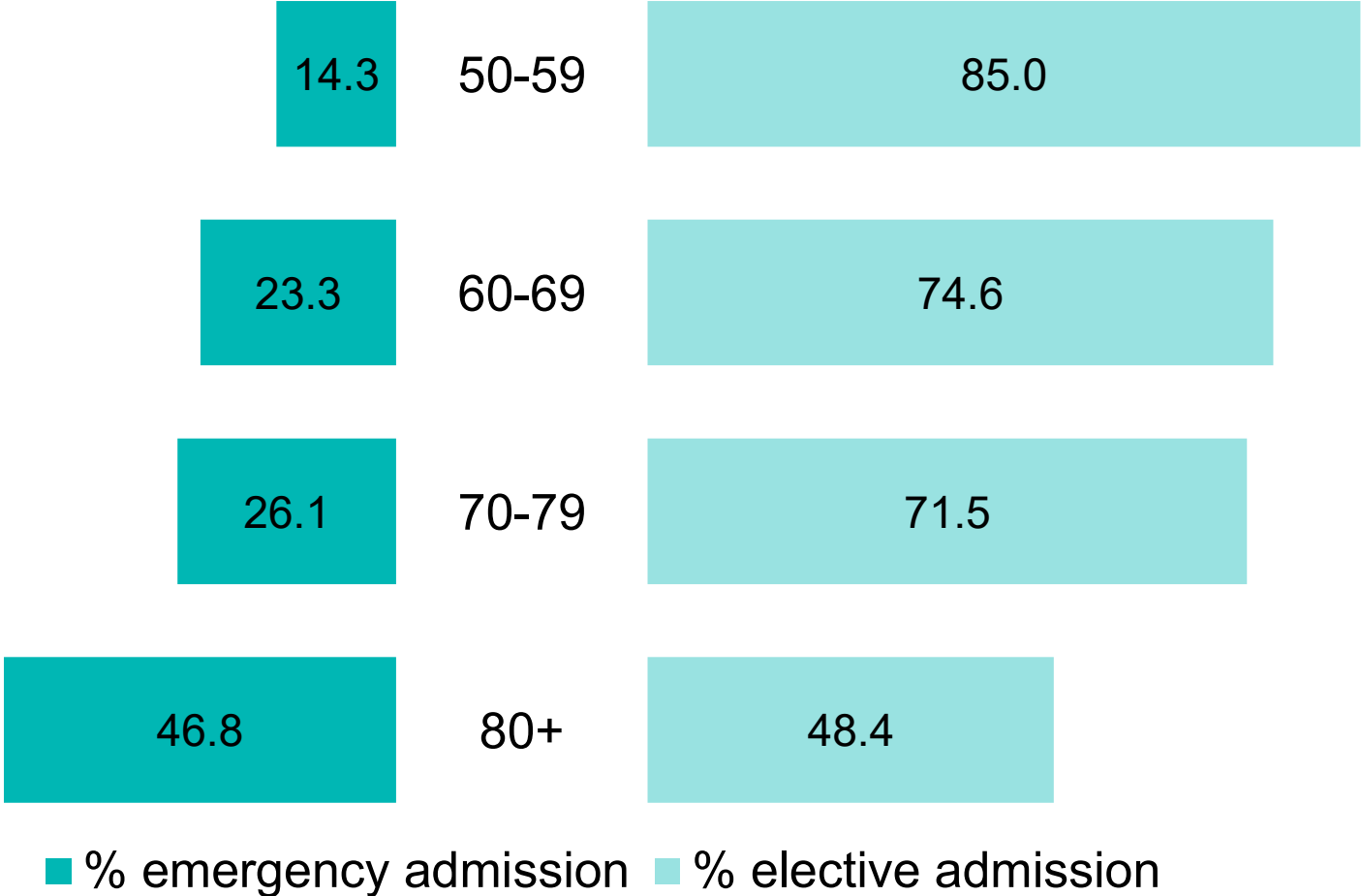
ELECTIVE
Include booked, planned and wait list appointments

Cross-sectional analysis

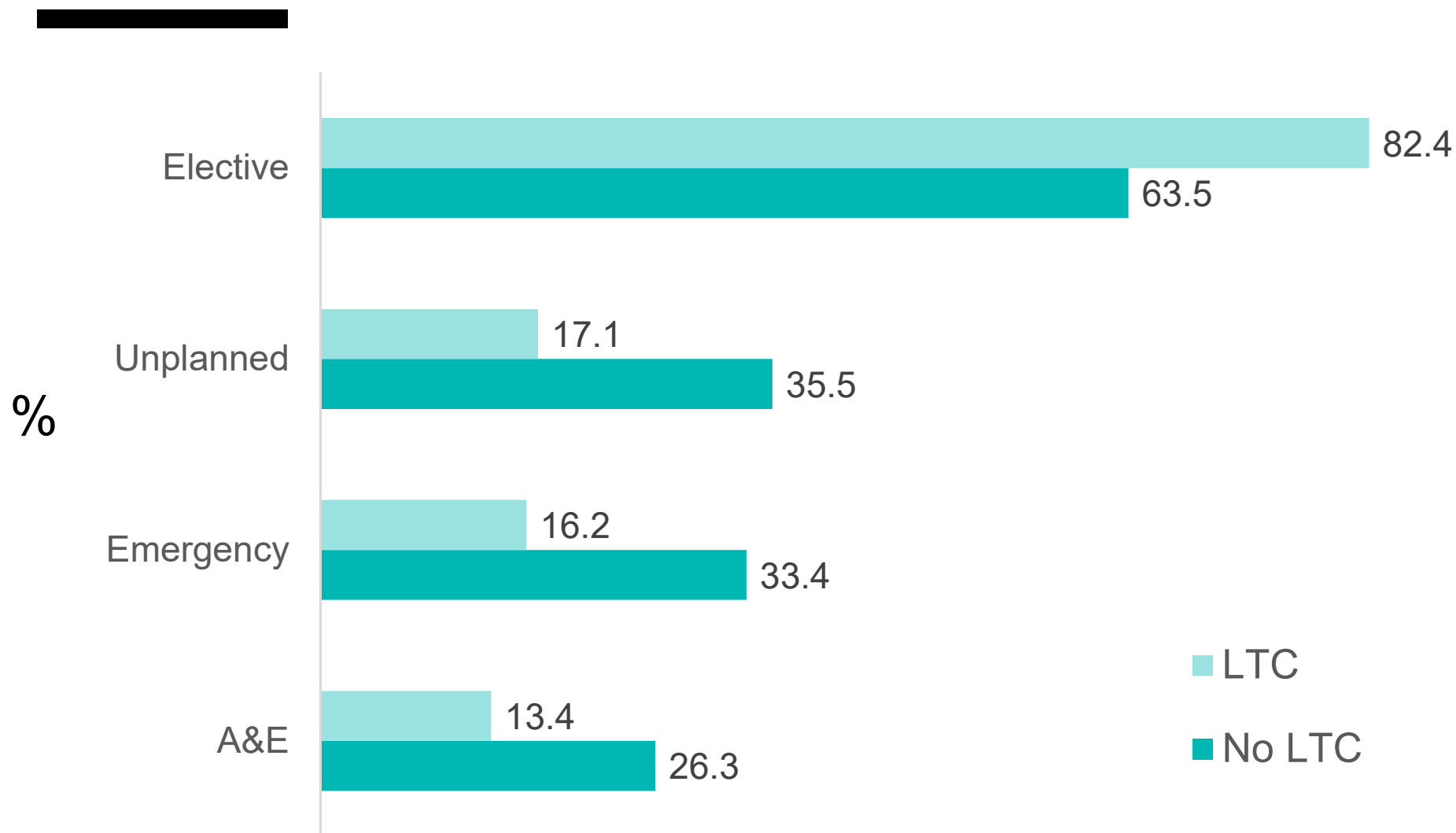


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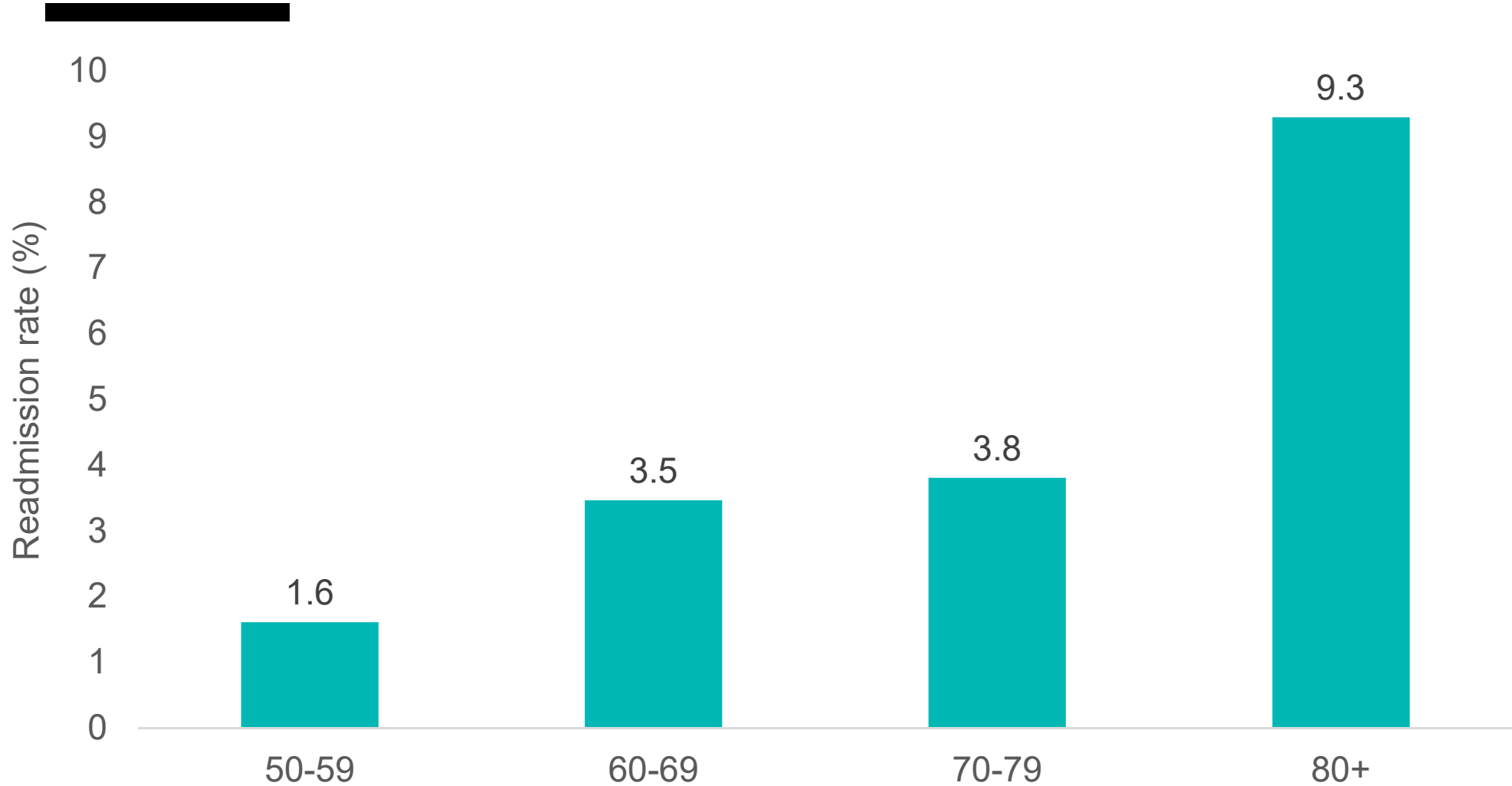
What proportion of the population use different types of hospital admission?



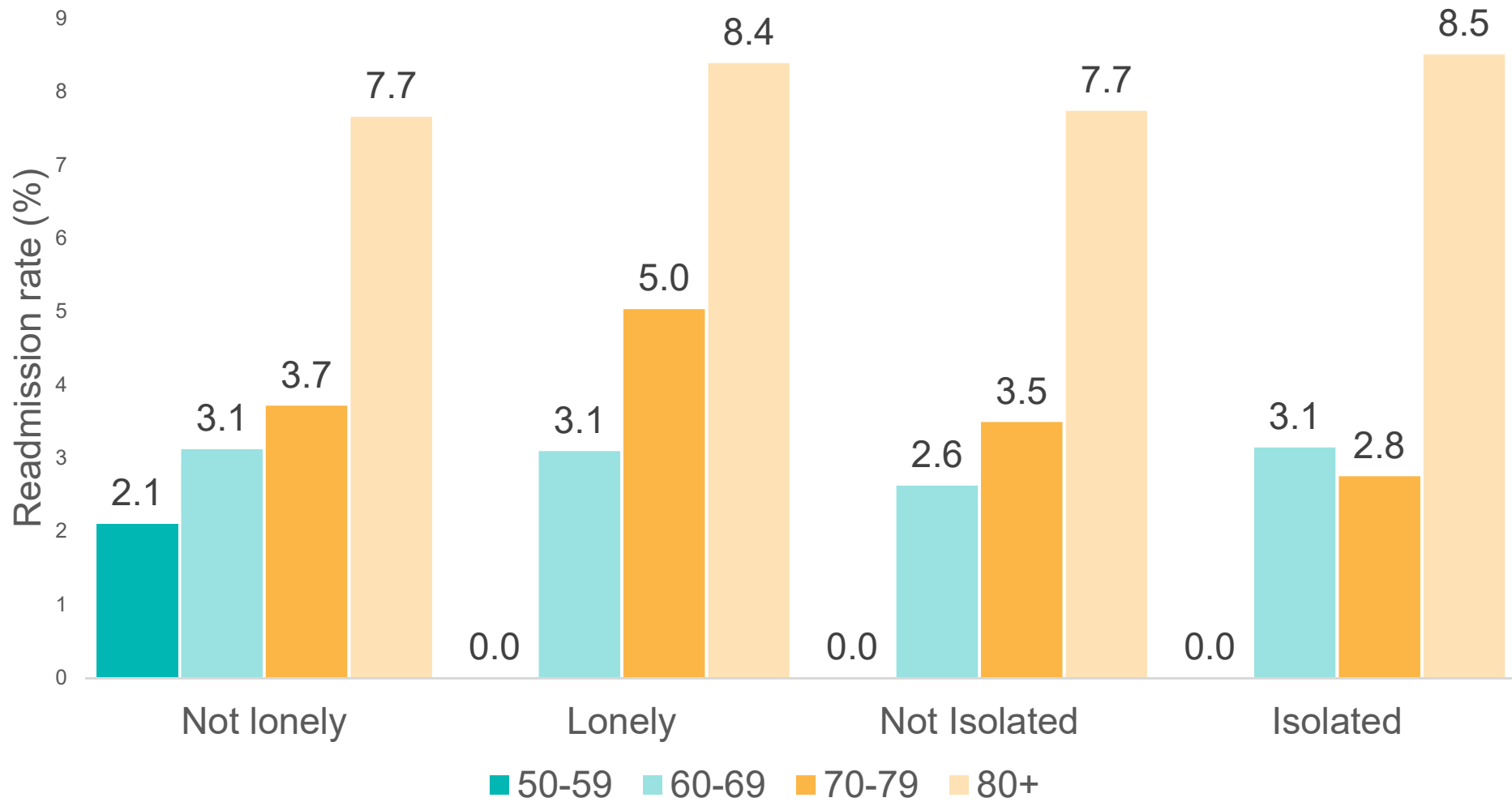
Long-term conditions (LTC) by hospital admissions



Age differences in readmission rates



Readmission by loneliness and social isolation



Longitudinal analysis



5.

Social isolation and loneliness are weakly associated with admissions

		Unadjusted	Social determinants	Health determinants
		IRR [95% confidence interval]	IRR [95% confidence interval]	IRR [95% confidence interval]
Social isolation	Isolated from friends	1.16 [0.89,1.52]	1.17 [0.89,1.54]	1.19 [0.91,1.54]
	Isolated from relatives	1.06 [0.90,1.24]	1.05 [0.90,1.24]	1.05 [0.89,1.23]
	Isolated from children	0.85 [0.57,1.26]	0.87 [0.59,1.29]	0.90 [0.62,1.29]
	Cohabiting	0.98 [0.59,1.63]	1.02 [0.61,1.71]	1.17 [0.68,2.02]
	Part of a social group	0.88 [0.70,1.12]	0.87 [0.69,1.10]	0.83 [0.66,1.05]
Loneliness	Lonely	1.02 [0.85,1.22]	1.02 [0.86,1.21]	1.03 [0.86,1.23]

Summary

Linkage between HES APC and ELSA is feasible and generates a large sample with moderate power for multivariate analysis (though more limited power for readmissions).

Older people are more likely to be admitted through emergency admissions rather than elective ones.

Overall there is no evidence of a significant relationship between loneliness and social isolation with subsequent hospital admissions, diagnoses or treatment.

Researchers should bear in mind that self-reported information from ELSA can more comprehensively cover health history than HES data which is more focused on health care use.

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