Heterogeneity in Childhood Residential Mobility Trajectories: Implications for Adult Preventative Healthcare Use

Justė Lekštytė (UAB/CED)

Introduction

- **Preventative healthcare** is key to well-being, reducing costs, and improving lifespan.
- **Life-course factors** (e.g., poverty, parental separation, **residential instability**) shape preventative health behaviours (Abel & Frohlich, 2012; Kuh & Ben-Shlomo, 2004).
- Moves **disrupt relationships with healthcare providers**, reducing access to care (Busacker & Kasehagen, 2012; Hutchings et al., 2016; Nathan et al., 2022).

Introduction

LIFE LONG MOVE

- Limitations in research:
  - Mobility is treated as a uniform experience
  - **Long-term effects** on preventative healthcare utilization remain underexplored.
- Research questions:
  - RQ1: How do residential mobility trajectories in childhood vary among individuals?
  - RQ2: Do residential mobility trajectories in childhood influence patterns of preventative healthcare use in adulthood?

Theoretical background

Frequency

- Frequent moves disrupt continuity of care and relationships with providers (Hutchings et al., 2016).
- Harder to maintain regular check-ups or consistent health monitoring (Busacker & Kasehagen, 2012).
- Repeated disruptions create long-term instability, shaping how individuals engage with healthcare in adulthood (Bures, 2003; Mollborn et al., 2018; Vogel et al., 2017).

Timing of moves

- Moves during adolescence may be especially disruptive.
  - Adolescence = stage of identity formation and growing autonomy (Li et al., 2019; Steinberg & Morris, 2001).
- Moving can break social networks and peer support → higher risks of mental health challenges and school dropout (Li et al., 2019; Tønnessen et al., 2016).

Theoretical background

Distance of moves

- Long-distance moves often cause major disruptions: families must re-register with new providers and adapt to unfamiliar systems.
- These transitions can delay or reduce engagement with preventive care (Fowler et al., 1993; Jatrana et al., 2013).

Socioeconomic context of moves

- Moving into disadvantaged areas limits access to quality care and health-promoting resources (Kirby & Kaneda, 2005).
- Lower local access → lower preventive care use.
- Early exposure to disadvantage can shape health literacy and ability to navigate healthcare systems in adulthood.

Swedish context

Primary care organisation (pre-2010)

- Locations planned by counties based on population health needs
- No provider choice → patients assigned to nearest centre

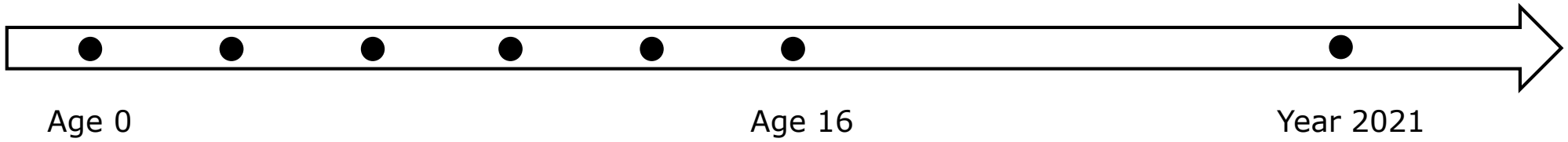
Implications of moving

- Switching primary care centre
- Disrupted continuity of care, especially for children

Data

Swedish register data

- 1990-1993 cohorts
  - N = 417,850



- Mobility → change in DeSO

Variables

Usual preventive care measures:

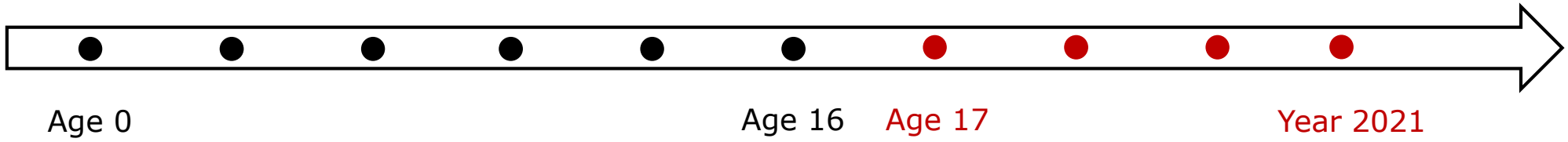
- Primary prevention (e.g. vaccinations)
- Secondary prevention (e.g. cancer screenings)
- Tertiary prevention

- Another important aspect is whether healthcare is accessed in a *timely manner* to prevent serious health issues.

Variables

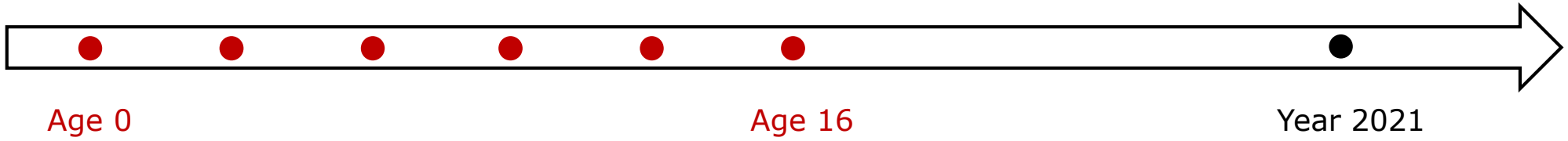
Preventative healthcare:

- potentially avoidable hospitalization
  - Measures both chronic and acute conditions
  - Binary outcome



Variables

Residential mobility:

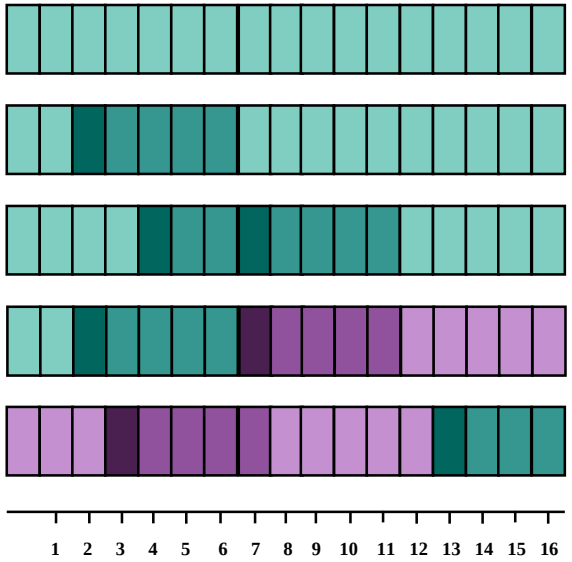


- Stability/move → time since move
- Socio-spatial context of the area → deprivation index
  - individuals aged 25–64 years:
    - low educational status;
    - low income, defined as <50% of the median individual income;
    - unemployment;
    - receipt of social welfare.
  - Each indicator is standardised (converted to z-scores) and summed.
  - Top 20% → disadvantaged.

Variables

Residential mobility:

- Stable in non-disadvantaged area
- Stable in disadvantaged area
- 0-1 years since move to non-disadvantaged area
- 0-1 years since move to disadvantaged area
- 2-5 years since move to non-disadvantaged area
- 2-5 years since move to disadvantaged area



Variables

Controls:

- gender
- parental migration background
- cohort
- parental education at the age of 5

Method

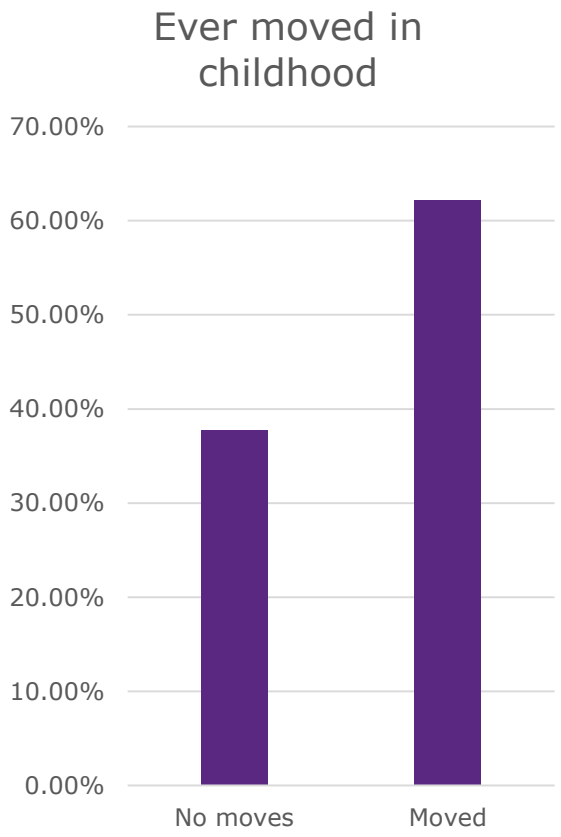
Step 1:

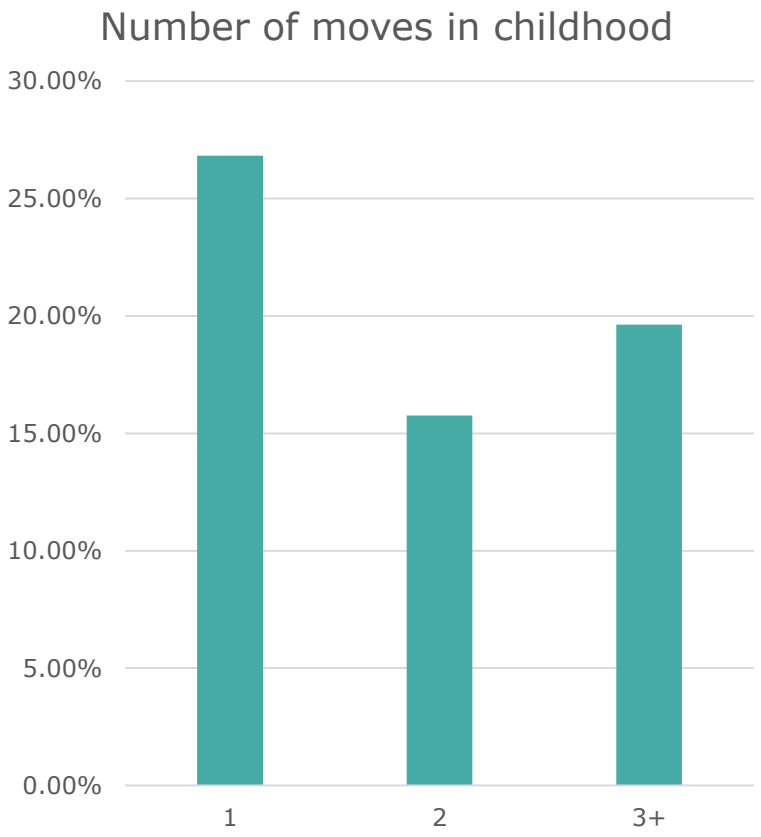
- Sequence analysis
  - Dynamic Hamming Distance (DHD) algorithm,
- Clustering
  - CLARA (clustering in large applications).

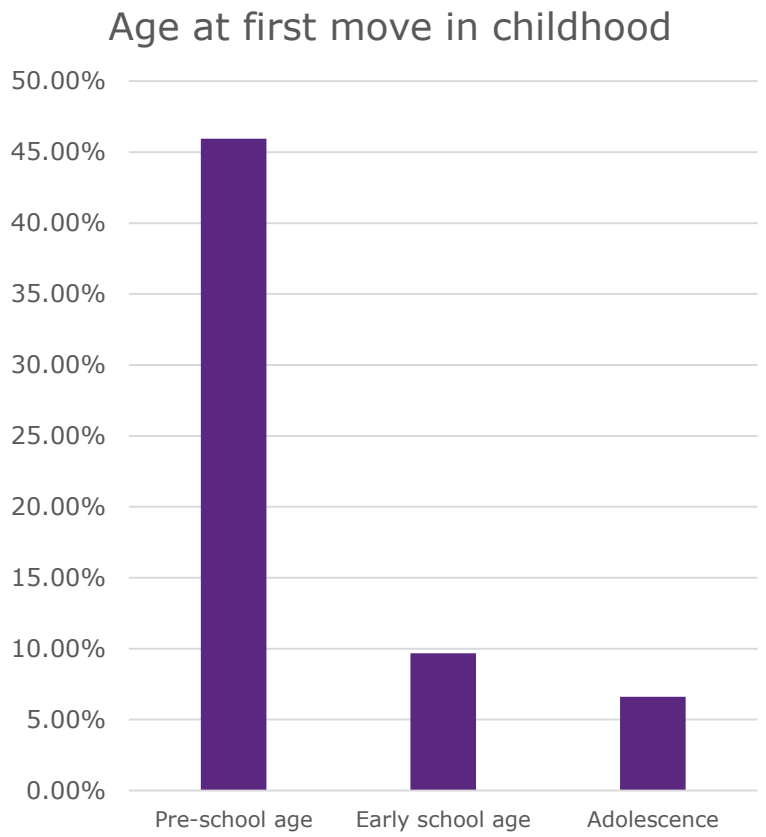
Step 2:

- Regression on key indicators—ever moved, frequency, age of move.
- Logistic regression to predict preventative healthcare use with typology.

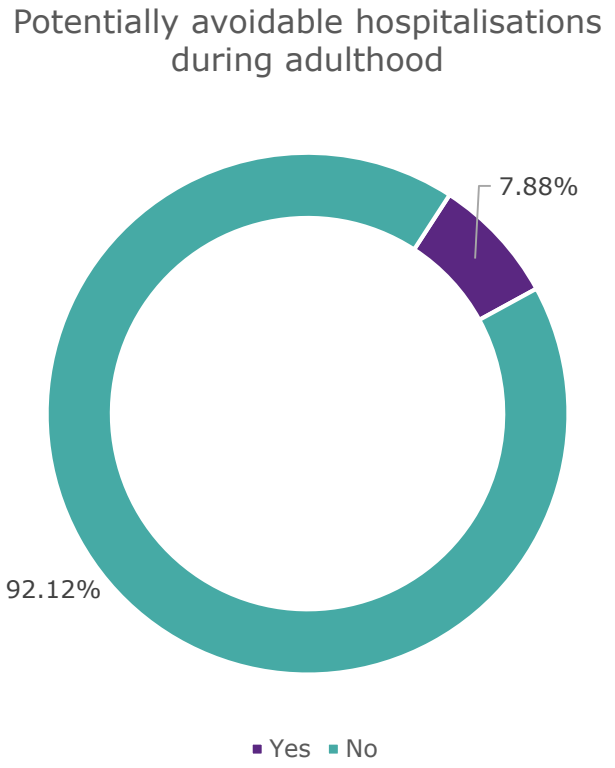
Results

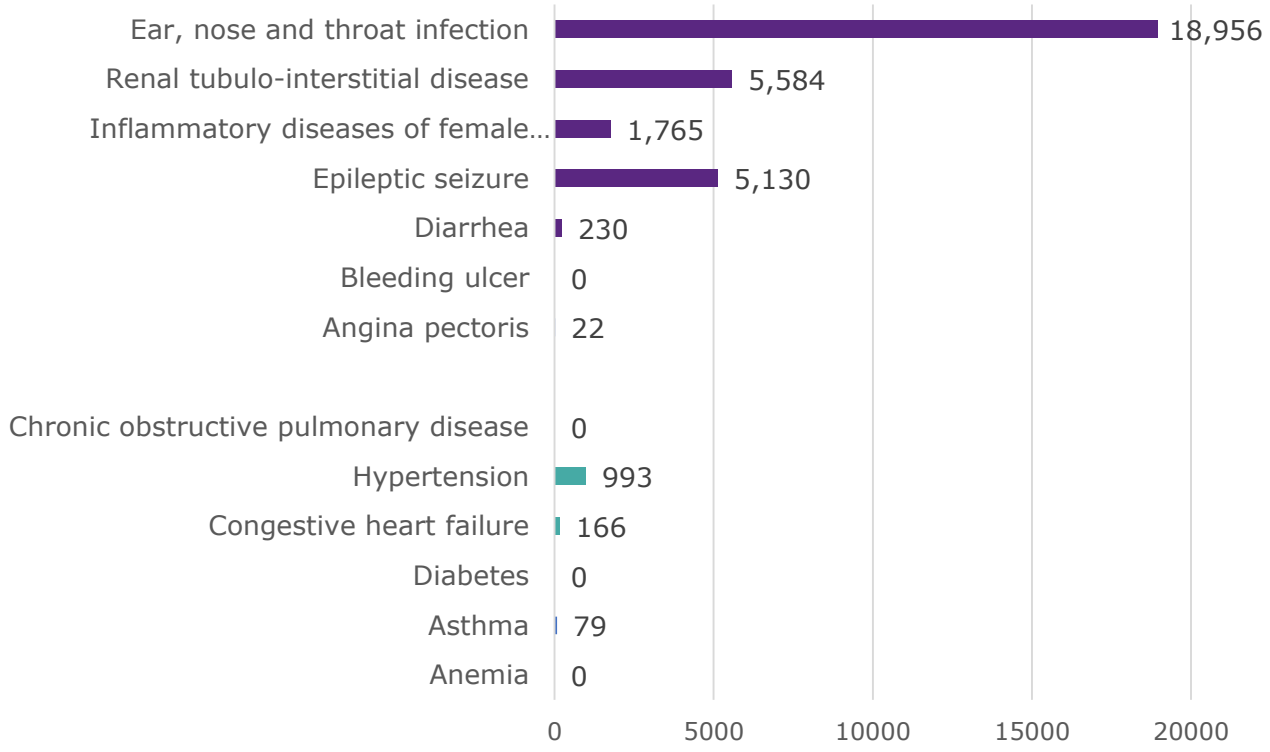

Ever moved in childhood
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
No moves
Moved


Number of moves in childhood
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
1
2
3+

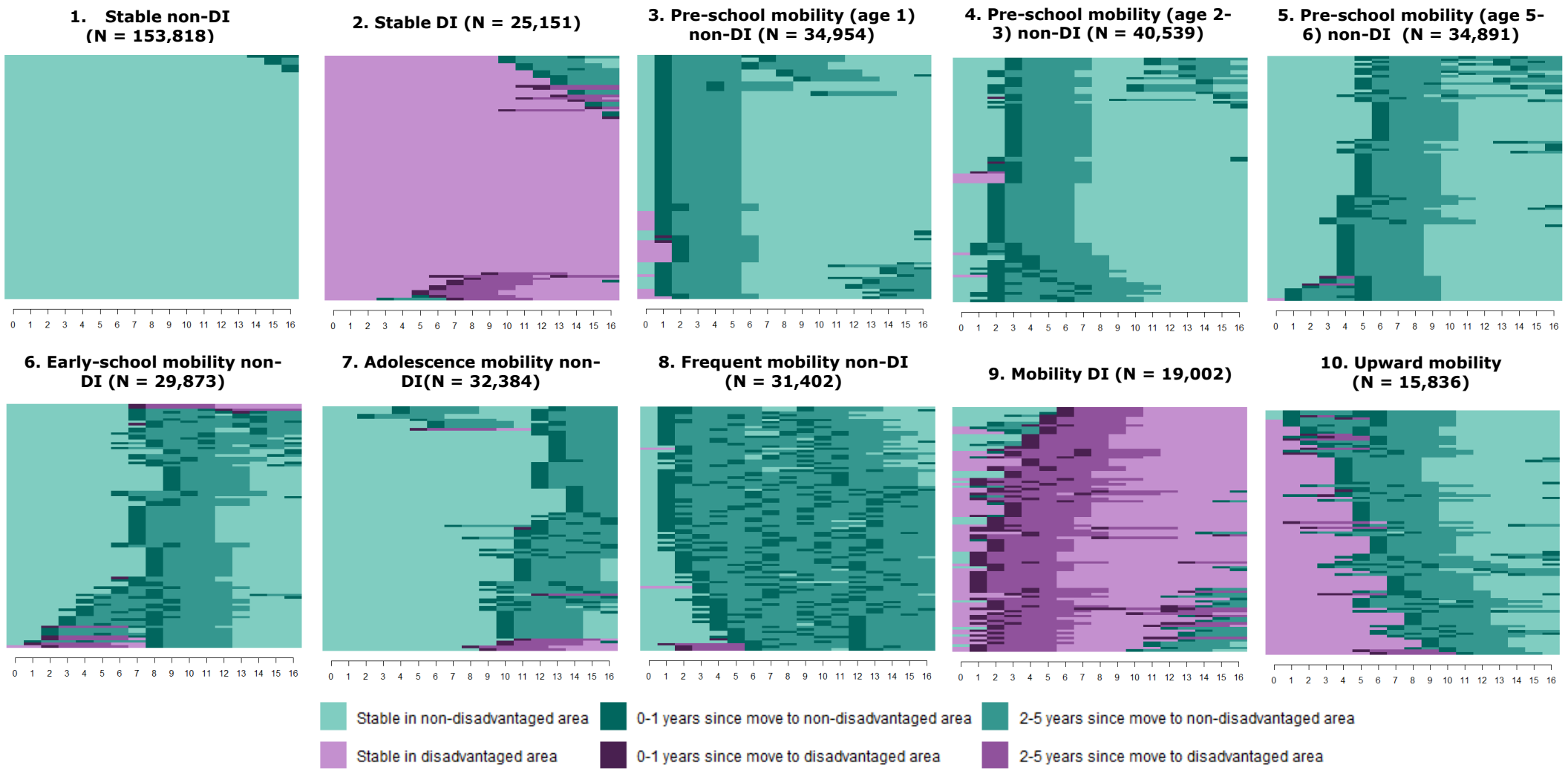

Age at first move in childhood
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Pre-school age
Early school age
Adolescence

Results


Potentially avoidable hospitalisations during adulthood
7.88%
92.12%
Yes
No


Ear, nose and throat infection
18,956
Renal tubulo-interstitial disease
5,584
Inflammatory diseases of female…
1,765
Epileptic seizure
5,130
Diarrhea
230
Bleeding ulcer
0
Angina pectoris
22
Chronic obstructive pulmonary disease
0
Hypertension
993
Congestive heart failure
166
Diabetes
0
Asthma
79
Anemia
0
0
5000
10000
15000
20000

Results


1. Stable non-DI (N = 153,818)
2. Stable DI (N = 25,151)
3. Pre-school mobility (age 1) non-DI (N = 34,954)
4. Pre-school mobility (age 2-3) non-DI (N = 40,539)
5. Pre-school mobility (age 5-6) non-DI (N = 34,891)
6. Early-school mobility non-DI (N = 29,873)
7. Adolescence mobility non-DI(N = 32,384)
8. Frequent mobility non-DI (N = 31,402)
9. Mobility DI (N = 19,002)
10. Upward mobility (N = 15,836)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Stable in non-disadvantaged area
0-1 years since move to non-disadvantaged area
2-5 years since move to non-disadvantaged area
Stable in disadvantaged area
0-1 years since move to disadvantaged area
2-5 years since move to disadvantaged area

Results

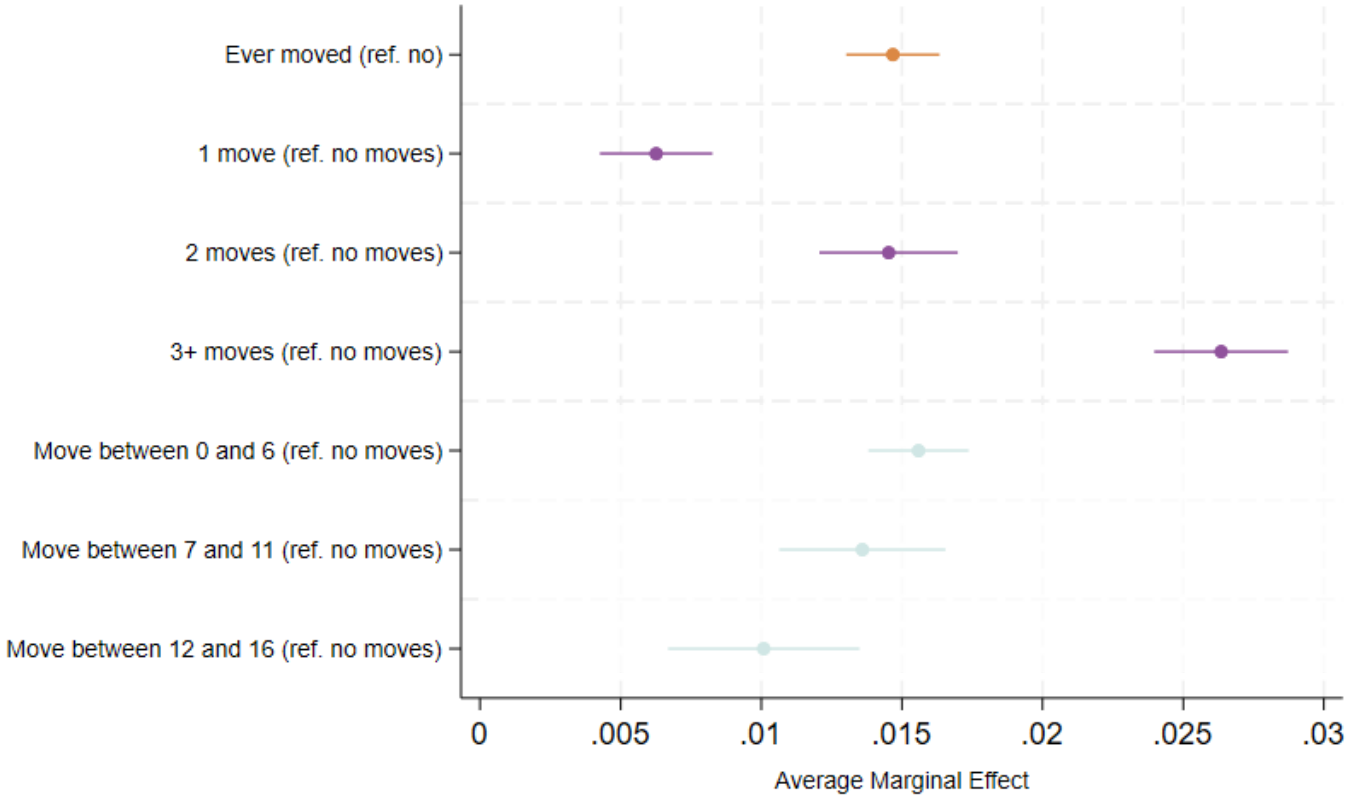


Figure 1. Average marginal effects (AMEs) coefficients for basic indicators of mobility trajectories across logistic models predicting PAH

Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

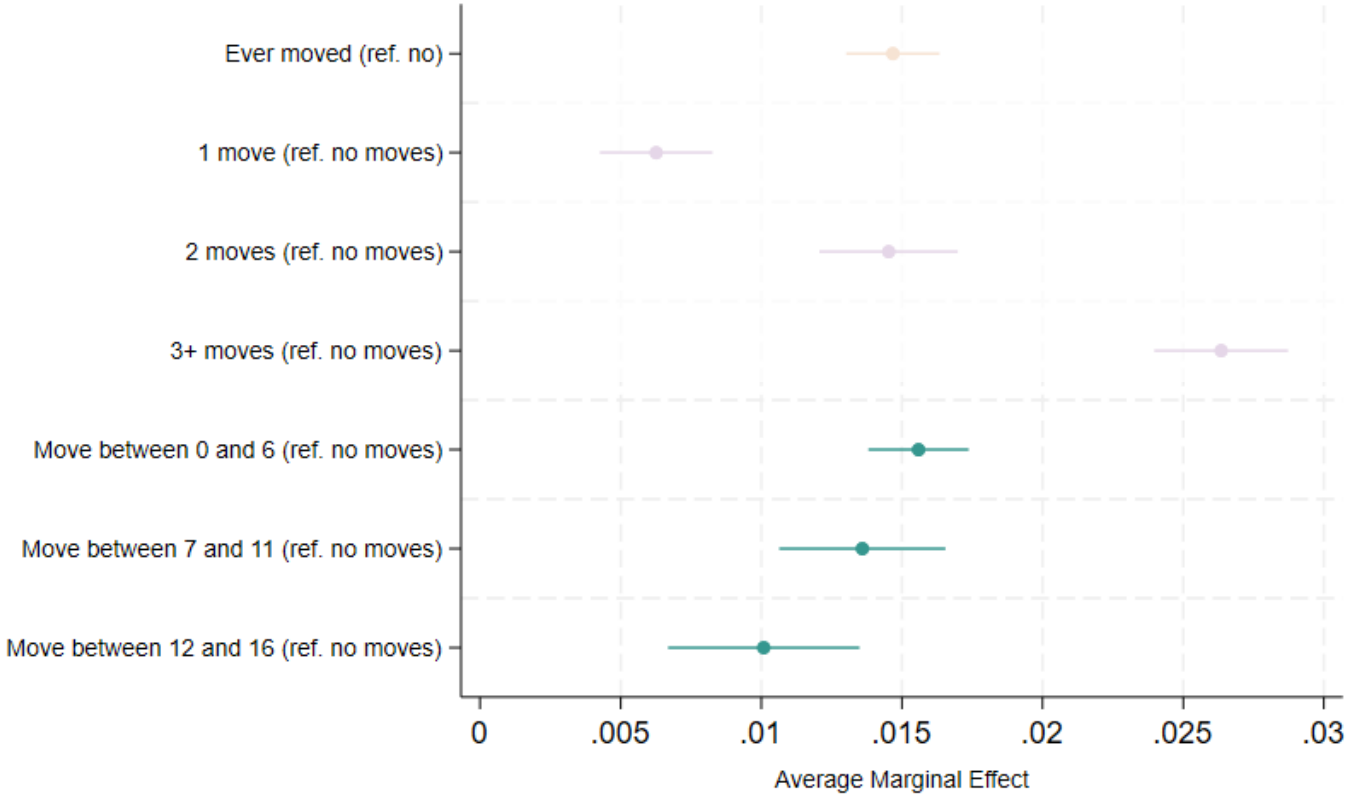


Figure 1. Average marginal effects (AMEs) coefficients for basic indicators of mobility trajectories across logistic models predicting PAH

Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

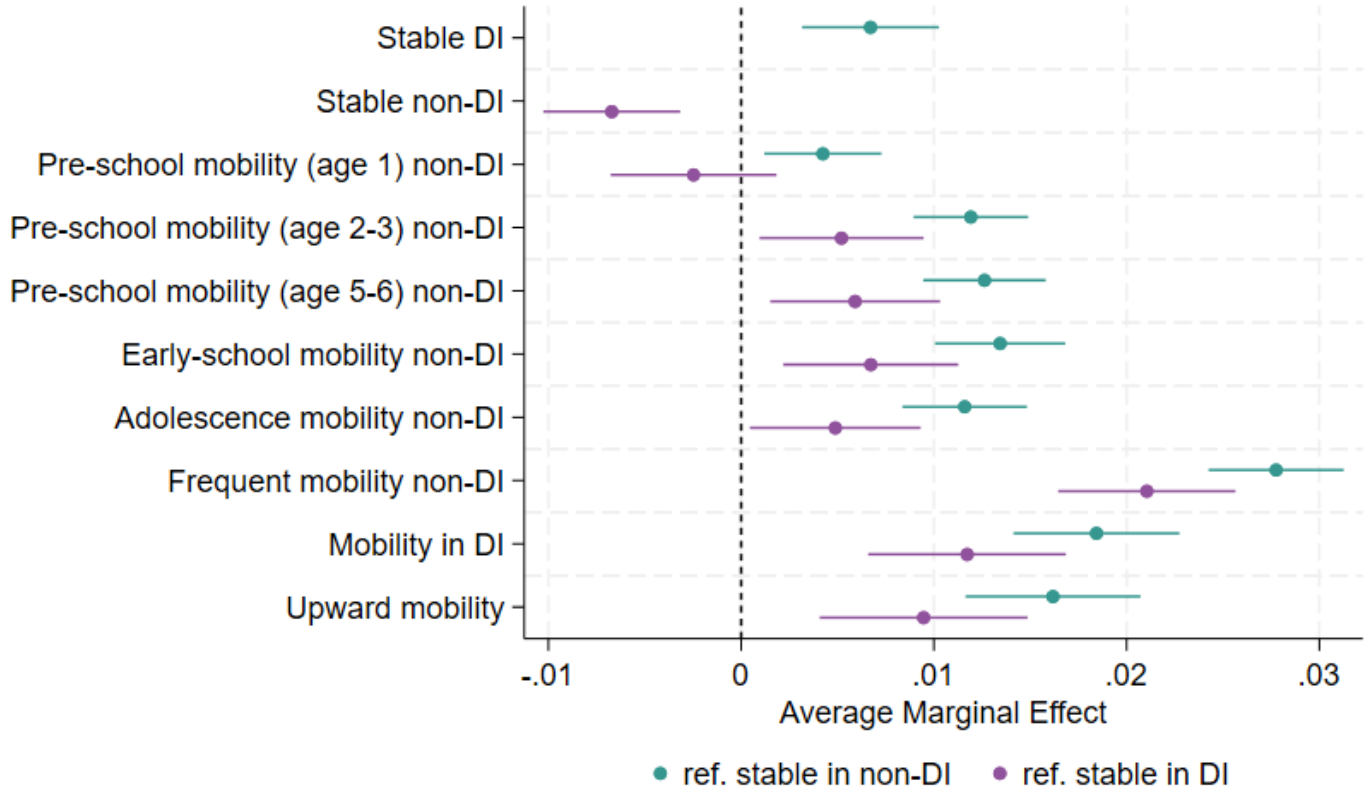


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

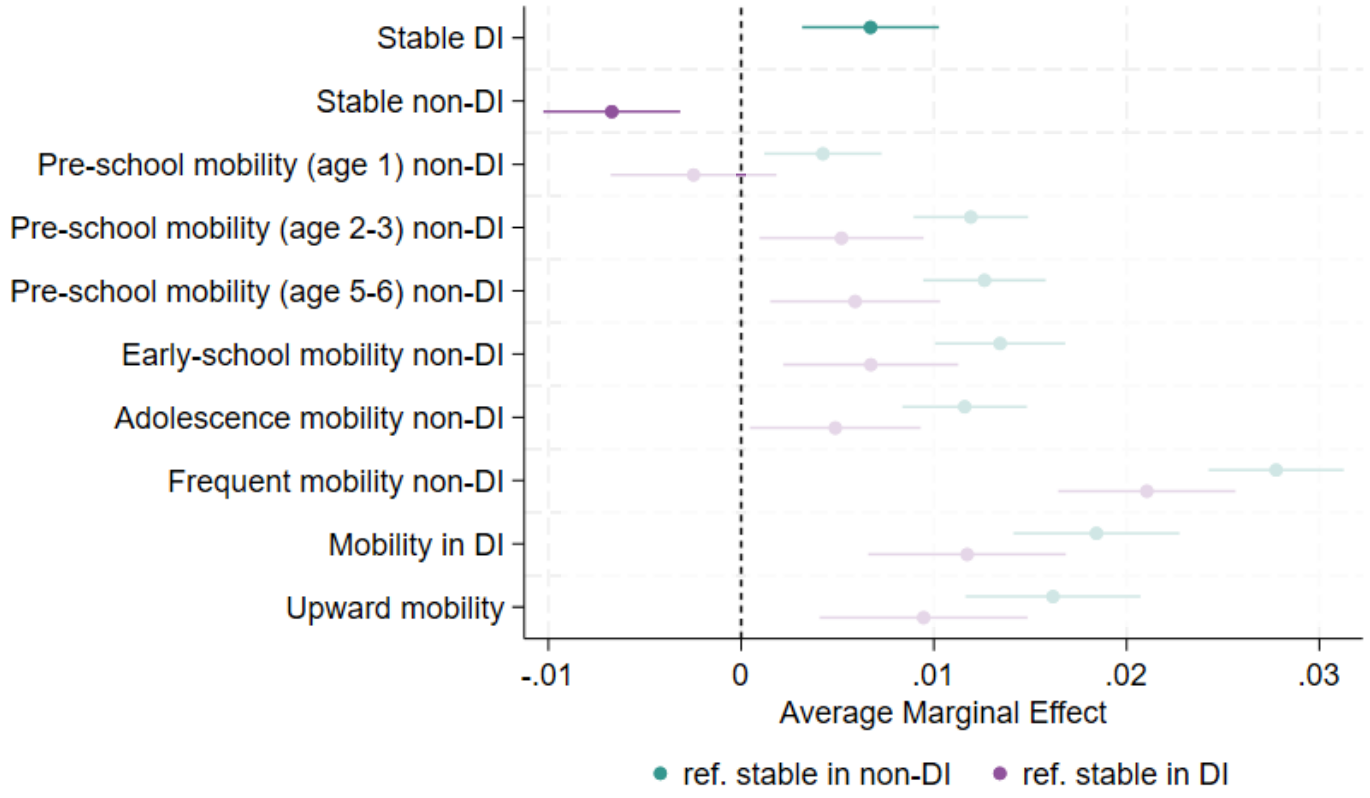


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

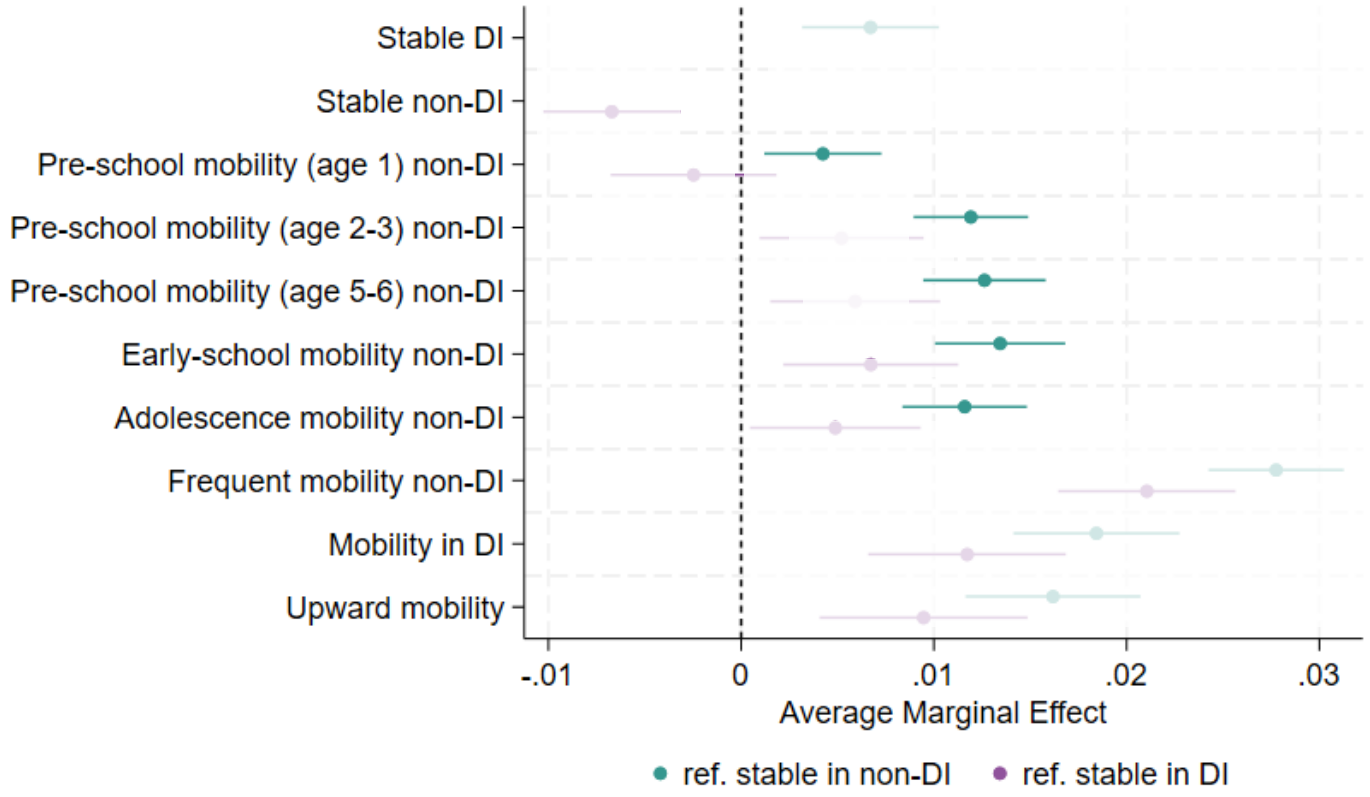


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

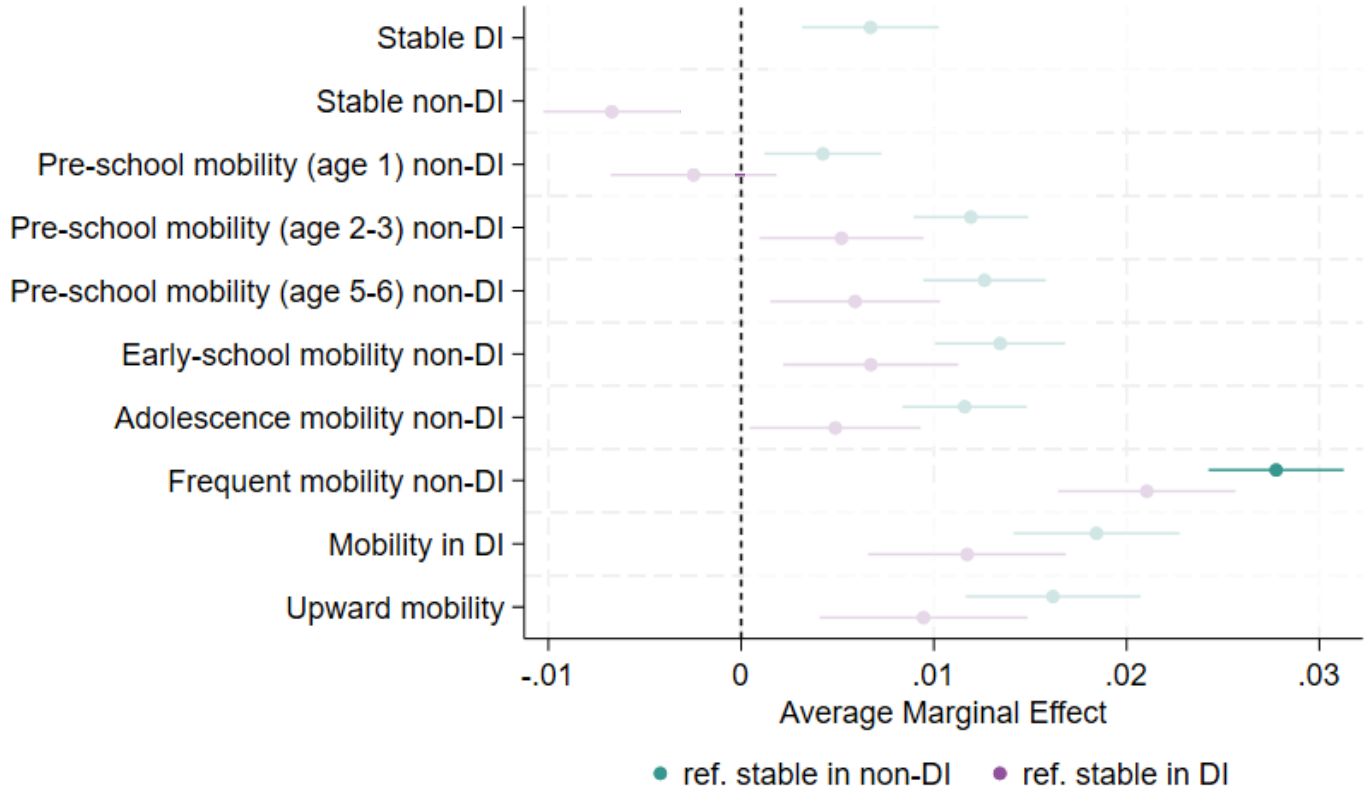


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

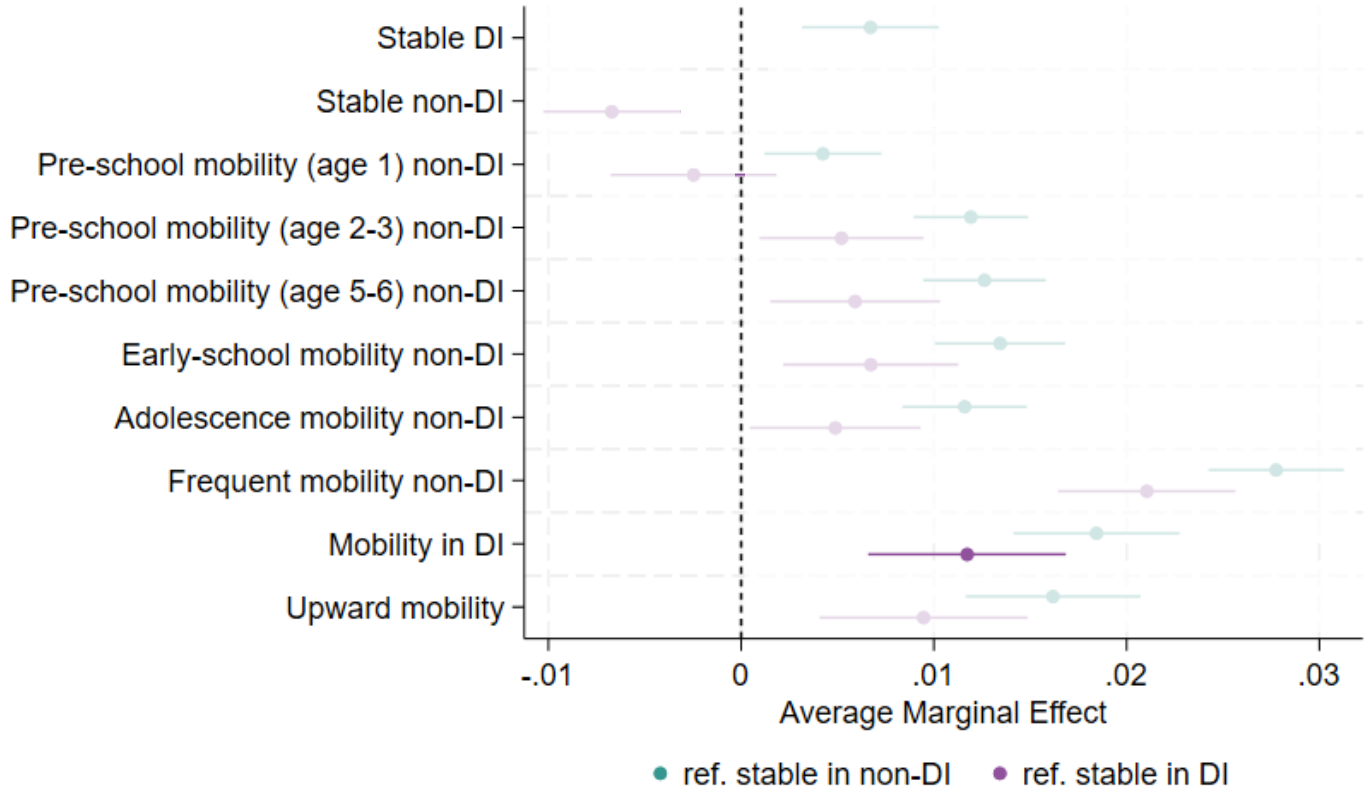


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

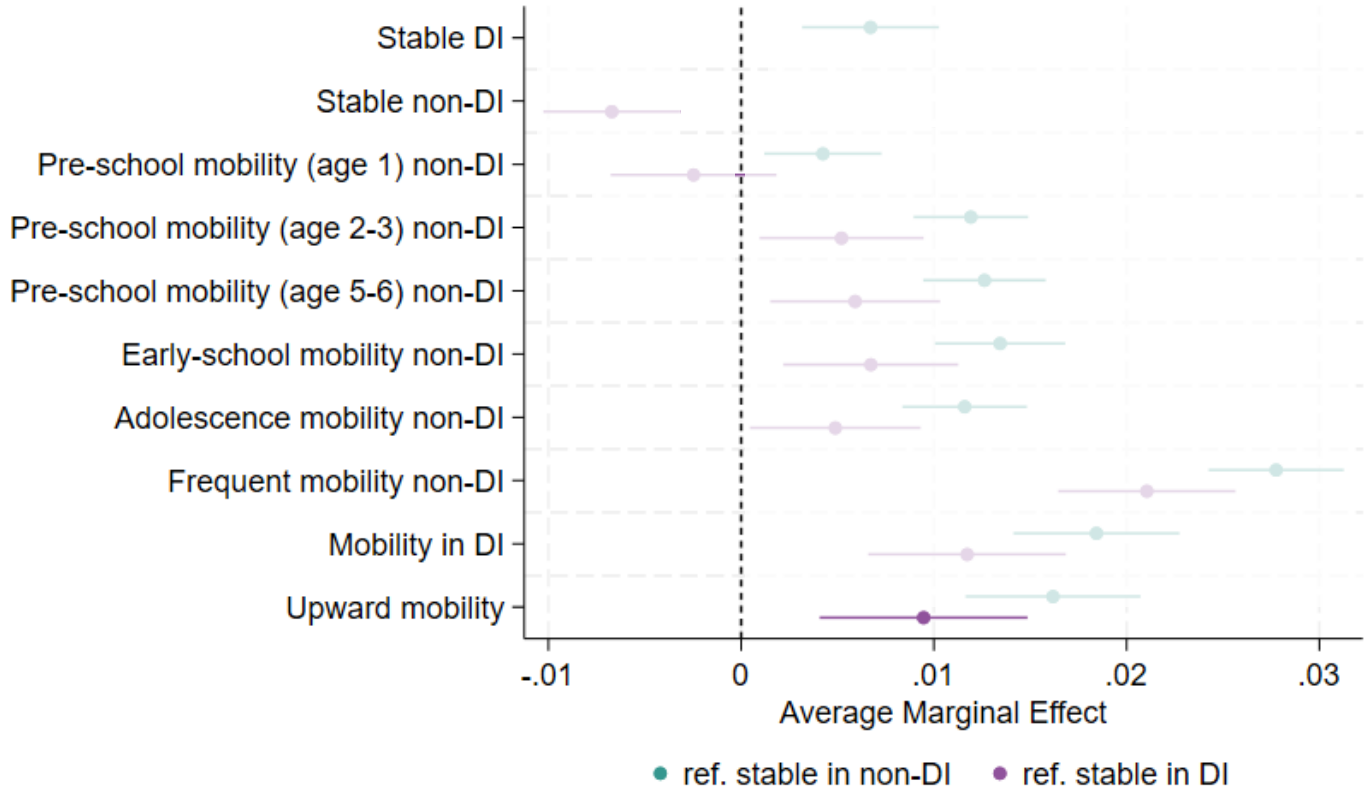


Figure 2. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Different thresholds

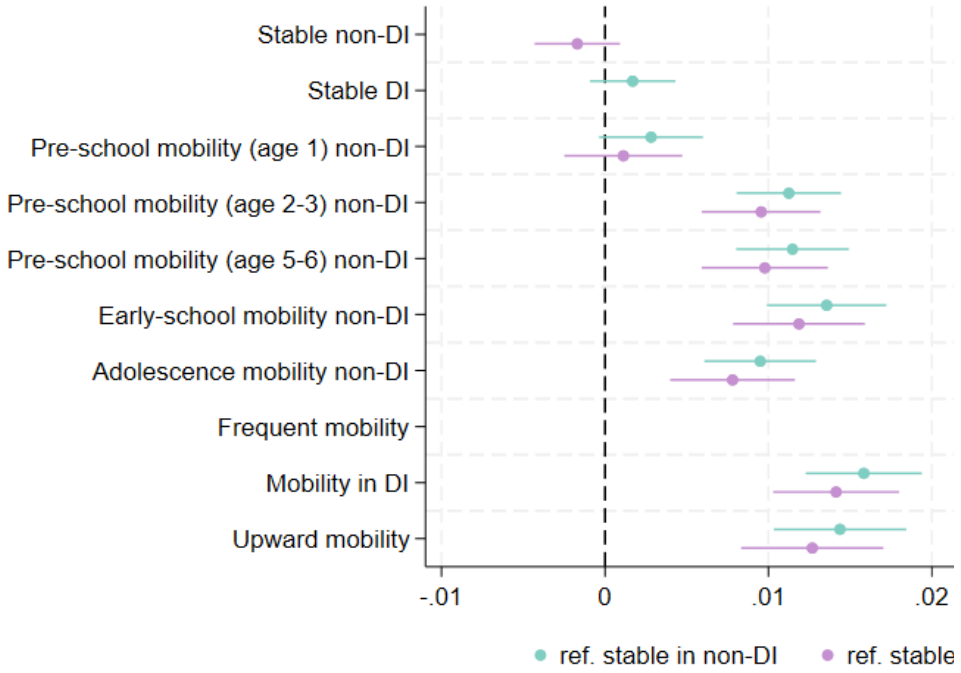


Figure 3. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH with 30% threshold
Notes: gender, parental migration background, parental education, cohorts are added as controls.

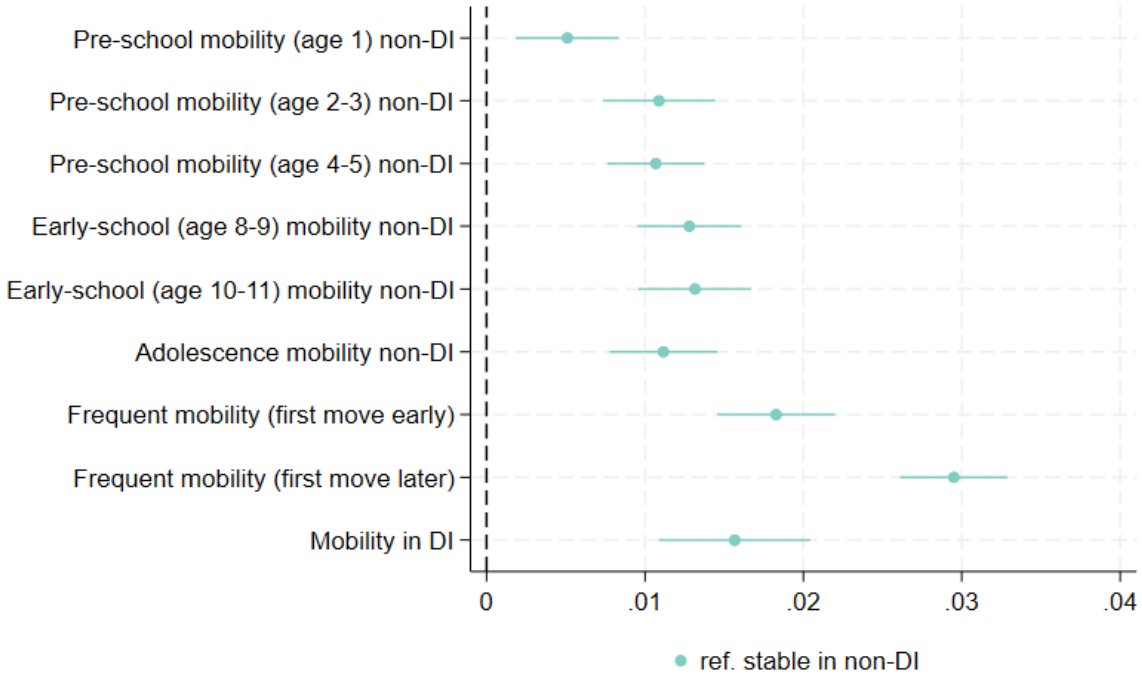


Figure 4. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH with 10% threshold
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Limitations

- PAH may capture hospitalisations that would have occurred regardless of primary care access or prevention efforts.
  - Future research should examine broader preventive measures (e.g., screenings, dental care, GP visits).
- Cohort still relatively young (early 30s) → chronic PAHs (e.g., diabetes, COPD) not yet prevalent.
  - Current results reflect acute care responsiveness more than chronic prevention.
  - Residential mobility might have more effect on chronic conditions as individuals age.

Future steps

- Childhood health
- Mobility in adulthood
- Basic mobility indicators vs trajectories

Main takeaways

- Childhood residential mobility is linked to lower engagement with preventative healthcare in adulthood.
  - Nature of moves is key:
    - Frequent movers
    - Moves in disadvantaged context
- Basic indicators vs. sequence analysis
- Magnitude of effects
  - Comparable to or greater than parental education

Thank you for your attention!

Justė Lekštytė

Universitat Autònoma de Barcelona, Centro de Estudios Demográficos

jlekstyte@ced.uab.es

LIFELONGMOVE

Understanding spatial mobility from early life into adulthood

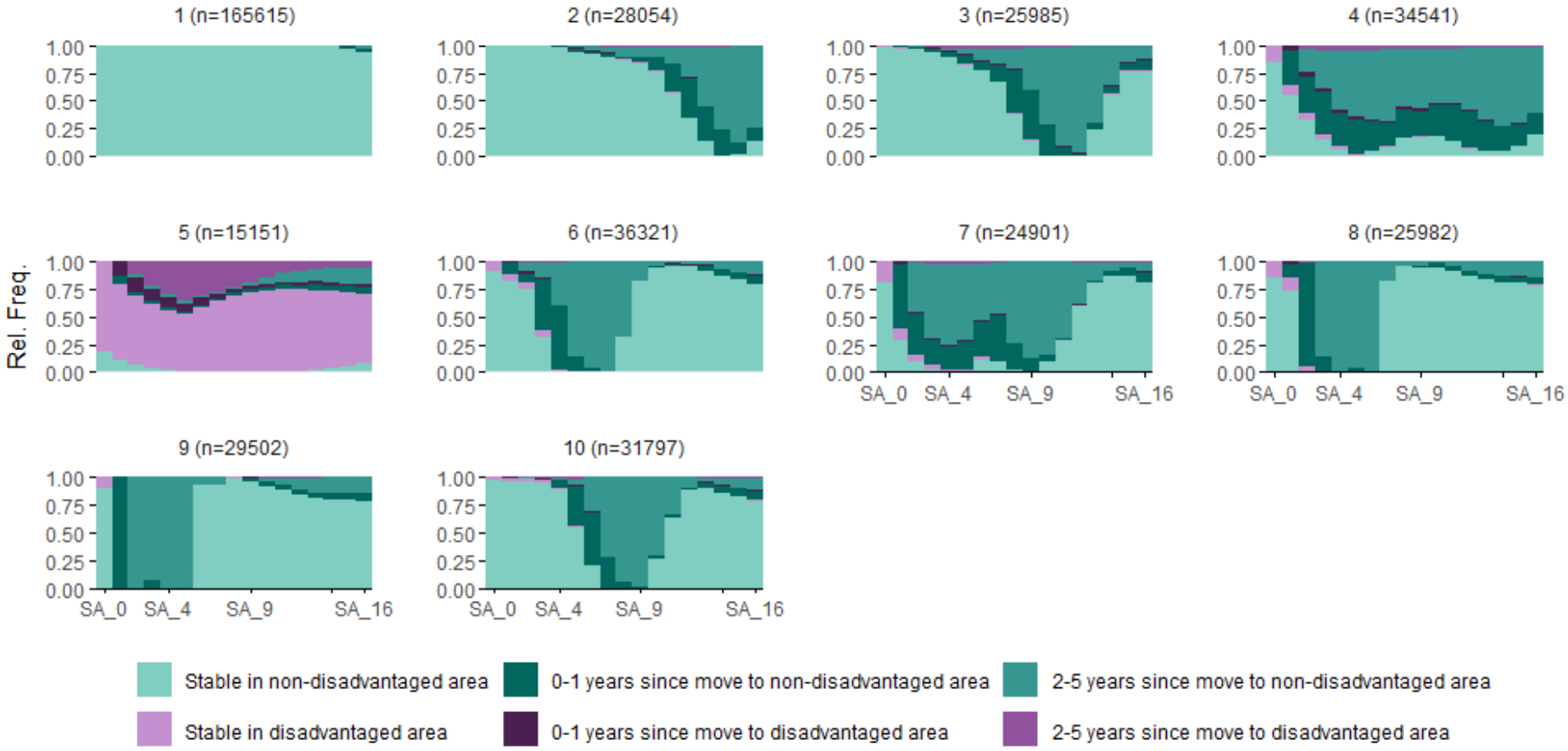
European Research Council
Consolidator Grant (CoG)

Ref: 101043981
Period: Jan 2023 – Dec 2027

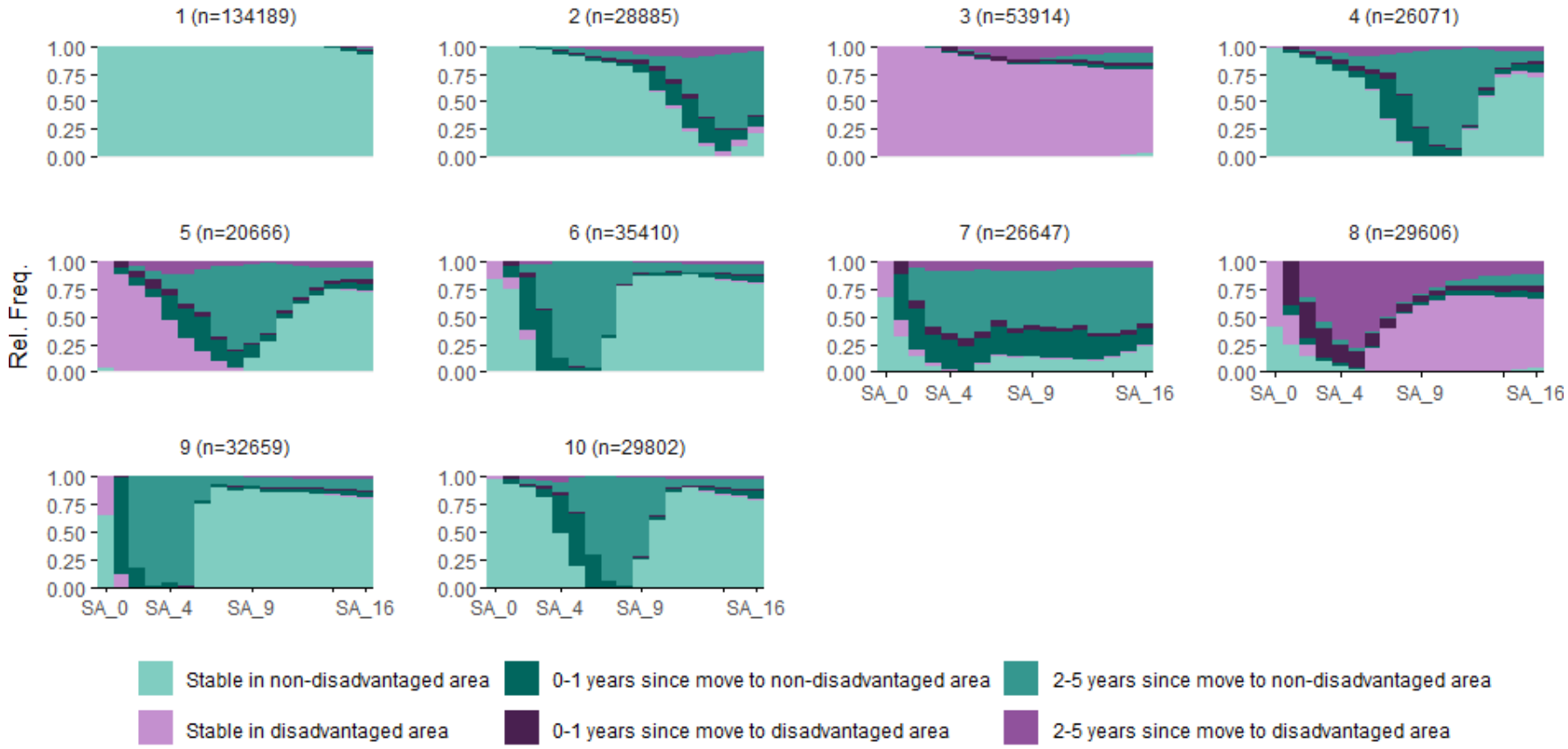
Appendix

Condition	ICD-10 coding	N
Chronic conditions		
Anemia	D501, D508, D509	0
Asthma	J45, J46	79
Diabetes	E101–E108, E110–E118, E130–E138, E140–E148	0
Congestive heart failure	I50, I110, J81	166
Hypertension	I10, I119	993
Chronic obstructive pulmonary disease	J41, J42, J43, J44, J47 J20 if secondary diagnosis J41, J42, J43, J44 or J47	0
Angina pectoris	I20, I240, I248, I249	22
Acute conditions		
Bleeding ulcer	K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286	0
Diarrhea	E86, K522, K528, K529	230
Epileptic seizure	O15, G40, G41, R56	5,130
Inflammatory diseases of female pelvic organs	N70, N73, N74	1,765
Renal tubulo-interstitial disease	N390, N10, N11, N12, N136	5,584
Ear, nose and throat infection	H66, H67, J02, J03, J06, J312	18,956

10%


1 (n=165615)
2 (n=28054)
3 (n=25985)
4 (n=34541)
5 (n=15151)
6 (n=36321)
7 (n=24901)
8 (n=25982)
9 (n=29502)
10 (n=31797)
Rel. Freq.
1.00
0.75
0.50
0.25
0.00
SA_0
SA_4
SA_9
SA_16
Stable in non-disadvantaged area
0-1 years since move to non-disadvantaged area
2-5 years since move to non-disadvantaged area
Stable in disadvantaged area
0-1 years since move to disadvantaged area
2-5 years since move to disadvantaged area

30%


1 (n=134189)
2 (n=28885)
3 (n=53914)
4 (n=26071)
5 (n=20666)
6 (n=35410)
7 (n=26647)
8 (n=29606)
9 (n=32659)
10 (n=29802)
Rel. Freq.
1.00
0.75
0.50
0.25
0.00
SA_0
SA_4
SA_9
SA_16
Stable in non-disadvantaged area
0-1 years since move to non-disadvantaged area
2-5 years since move to non-disadvantaged area
Stable in disadvantaged area
0-1 years since move to disadvantaged area
2-5 years since move to disadvantaged area