The journey to multimorbidity in an inner city community

Mark Ashworth, Hiten Dodhia, Maria Kordowicz, Stevo Durbaba

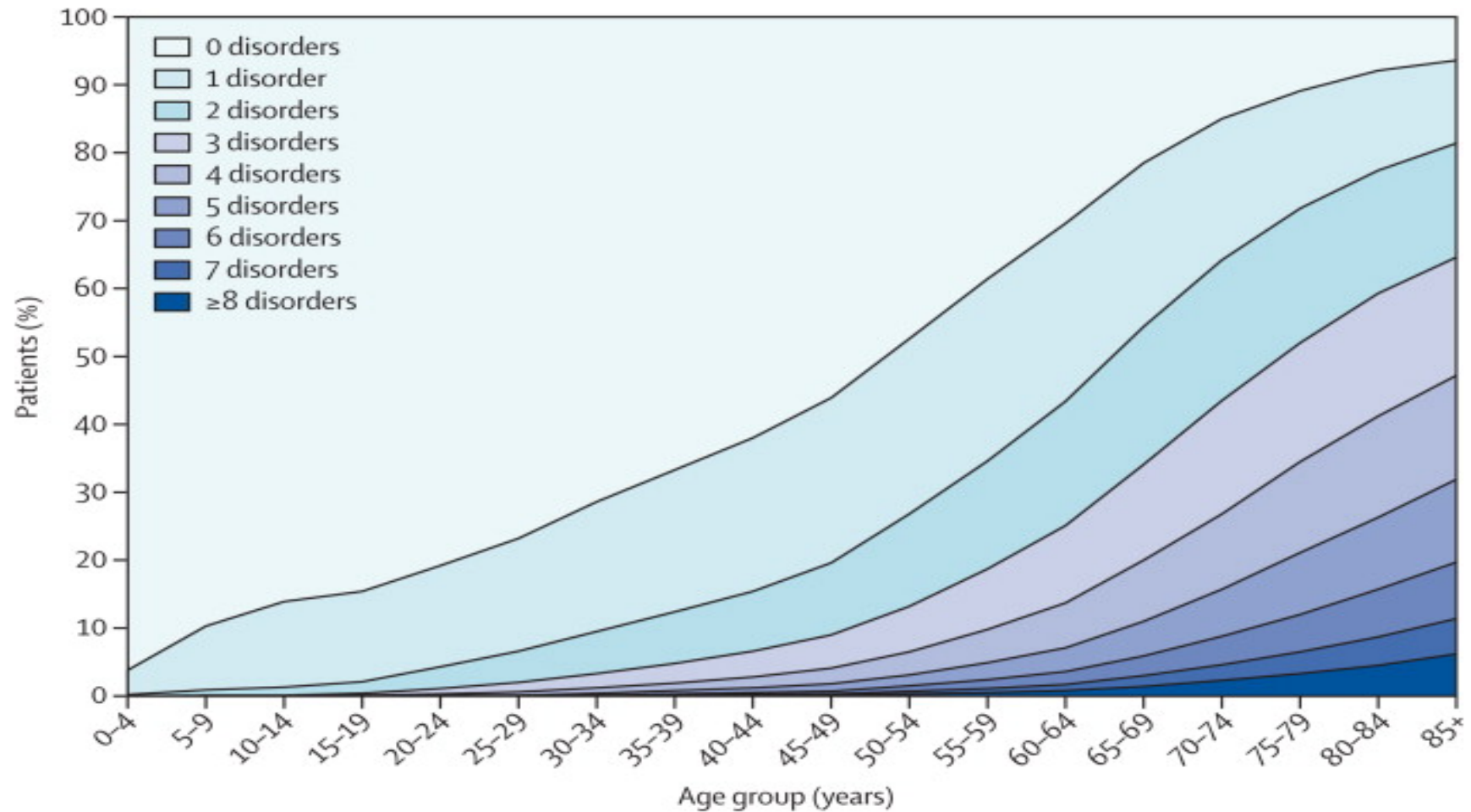# Multimorbidity: distribution

MM:

- 42% registered patients, ≥1 LTC

- 23% registered patients, ≥2 LTC

- Age related:
  - 65% (65-84 yrs)
  - 82% (85 yrs)

1. Barnett K, et al. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet 2012; 380:37–43

Multimorbidity: distribution

MM:

- 42% registered patients, ≥1 LTC

- 23% registered patients, ≥2 LTC

- Age related:
  - 65% (65-84 yrs)
  - 82% (85 yrs)

- Absolute nos: greater in under 65's (median age: 62 yrs)

1. Barnett K, et al. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet 2012; 380:37–43

Multimorbidity: age

Legend:
- 0 disorders
- 1 disorder
- 2 disorders
- 3 disorders
- 4 disorders
- 5 disorders
- 6 disorders
- 7 disorders
- ≥8 disorders

Y-axis: Patients (%)

X-axis: Age group (years) — 0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+

Multimorbidity: patterns

MM deprivation:
- 10-15 years earlier in most deprived decile

MM mental health + physical health:
- 11% (most deprived decile) vs 6% (least deprived decile)

MM mental health:
- more common in most deprived decile: OR 2.3
- more common if more physical LTCs: OR 6.7 (≥5 vs. 1)

Multimorbidity: patterns

MM deprivation:
- 10-15 years earlier in most deprived decile
- 8.5% (most deprived decile) vs 9.3% (least deprived decile)

MM mental health + physical health:
- 11% (most deprived decile) vs 6% (least deprived decile)

MM mental health:
- more common in most deprived decile: OR 2.3
- more common if more physical LTCs: OR 6.7 (≥5 vs. 1)

Multimorbidity: definition

- 40 LTCs: 23%, *Barnett et al*[1]

- 147 LTCs: 73%, *Prazeres et al*[2]

- 36 LTCs: 27%, *Cassell et al*[3]

- Consider BBVs; consider longitudinal analyses[4]

1. Barnett K, et al. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet 2012; 380:37–43
2. Prazeres F, et al. Measuring multimorbidity in family practice-a comparison of two methods. Fam Pract 2018;18:571-575.
3. Cassell A, et al. The epidemiology of multimorbidity in primary care: a retrospective cohort study. Br J Gen Pract 2018;68:e245-e251.
4. Multimorbidity: a priority for global health research. The Academy of Medical Sciences, 2018

Multimorbidity in Lambeth and Southwark

Multimorbidity in Lambeth

'Care Coordination' patients:

- ≥3 out of selection of 12 multimorbidities (mLTCs)

- QOF LTCs + morbid obesity + chronic pain

- Excluded LTCs: risk factors

- Definition: limited selection (CCGs)

- Focus: 'journey to mLTCs'

mLTC data

- Data source: anonymised patient-level data; Lambeth GP practices, n = 44 (Lambeth DataNet)

- Lambeth practice regd. popn. ≥18 yrs: 320,300

- Social deprivation data: IMD-2015

- Ethnicity data: Census 2011, '5+1; '18+1'

mLTC prevalence

mLTC prevalence

mLTCs: 1.7% (n=5596)

NB ≥2 LTCs: 6.7%

mLTCs in Lambeth

Design: David Whitney

The journey….

The journey….

mLTCs: acquisition sequence
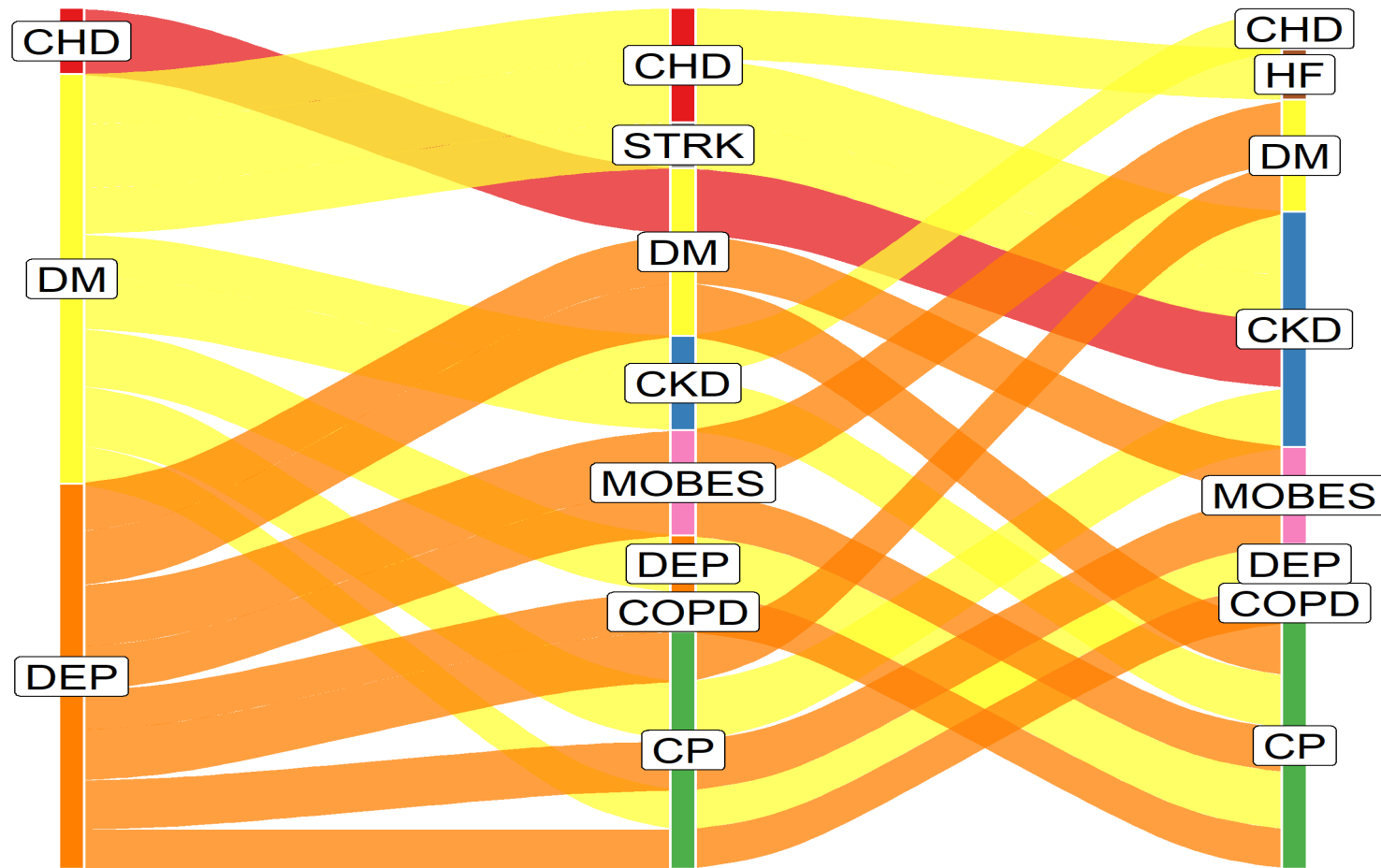
1st LTC Recorded   **2nd LTC Recorded**   **3rd LTC Recorded**

Design: Stevo Durbaba

mLTCs: most deprived
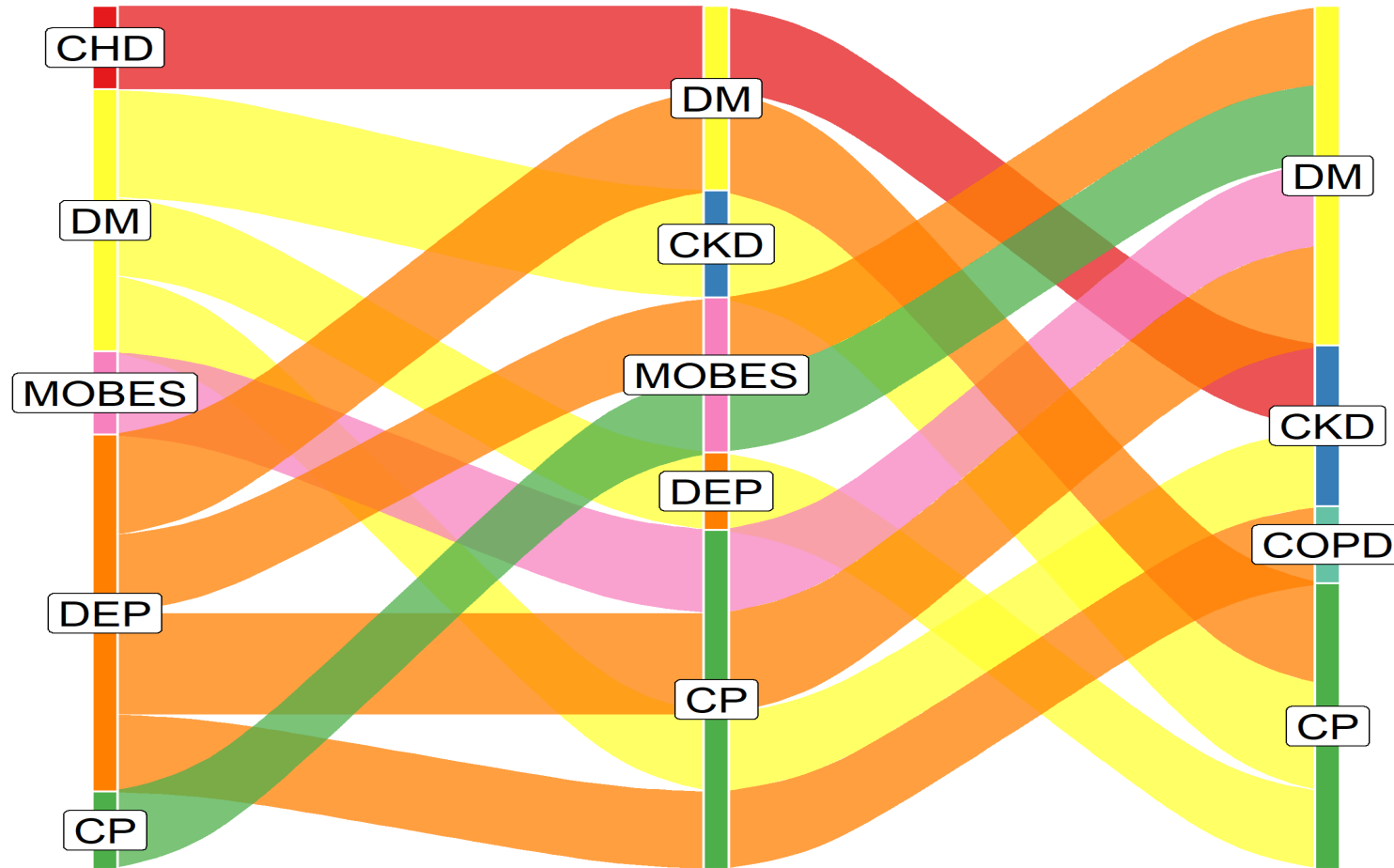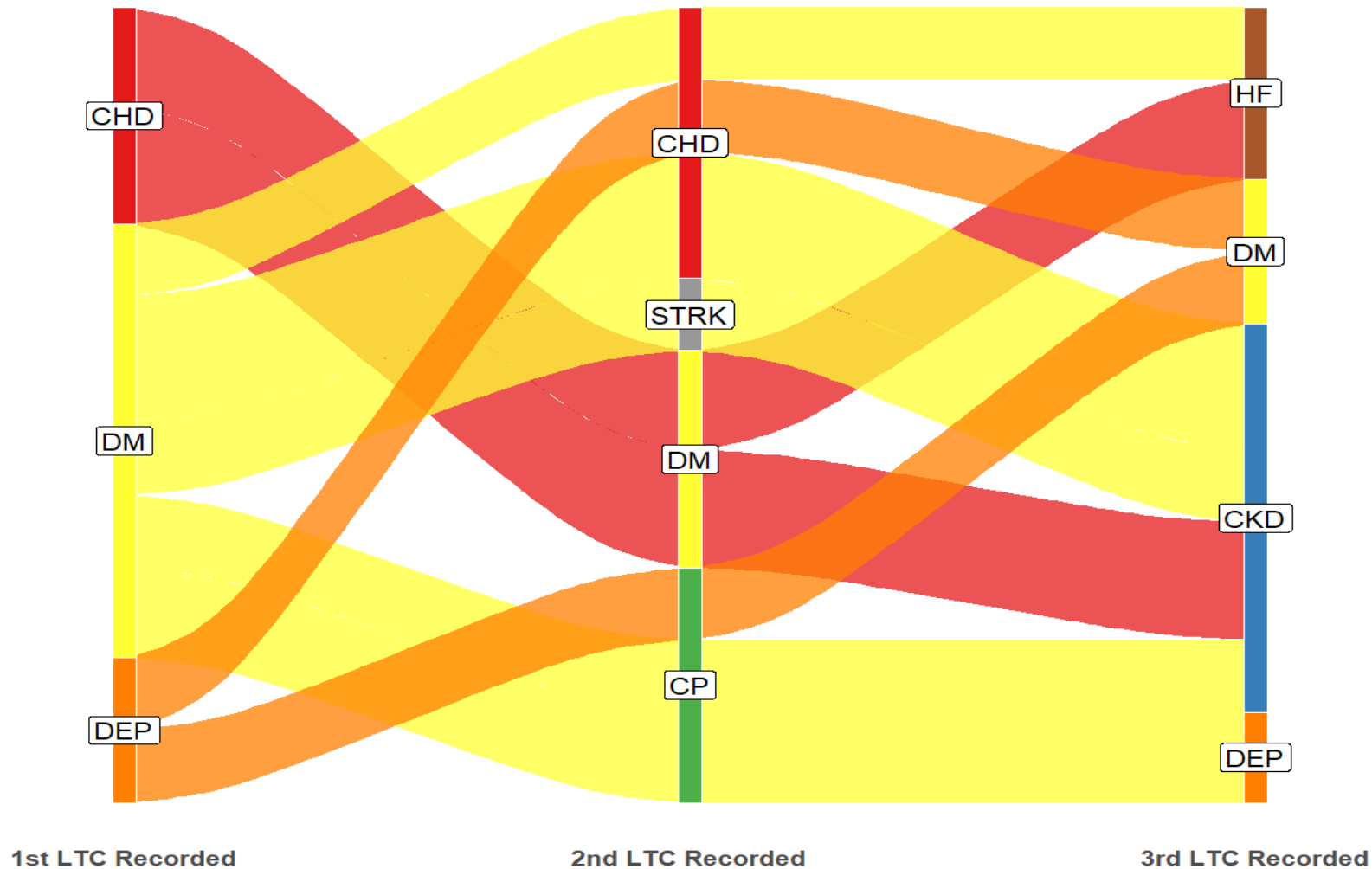

1st LTC Recorded **2nd LTC Recorded** **3rd LTC Recorded**

Design: Stevo Durbaba

mLTCs: least deprived

1st LTC Recorded   2nd LTC Recorded   3rd LTC Recorded

Design: Stevo Durbaba

mLTCs: white ethnicity

1st LTC Recorded   2nd LTC Recorded   3rd LTC Recorded

Design: Stevo Durbaba

mLTCs: black ethnicity

1st LTC Recorded   2nd LTC Recorded   3rd LTC Recorded

Design: Stevo Durbaba

mLTCs: age <65 yrs

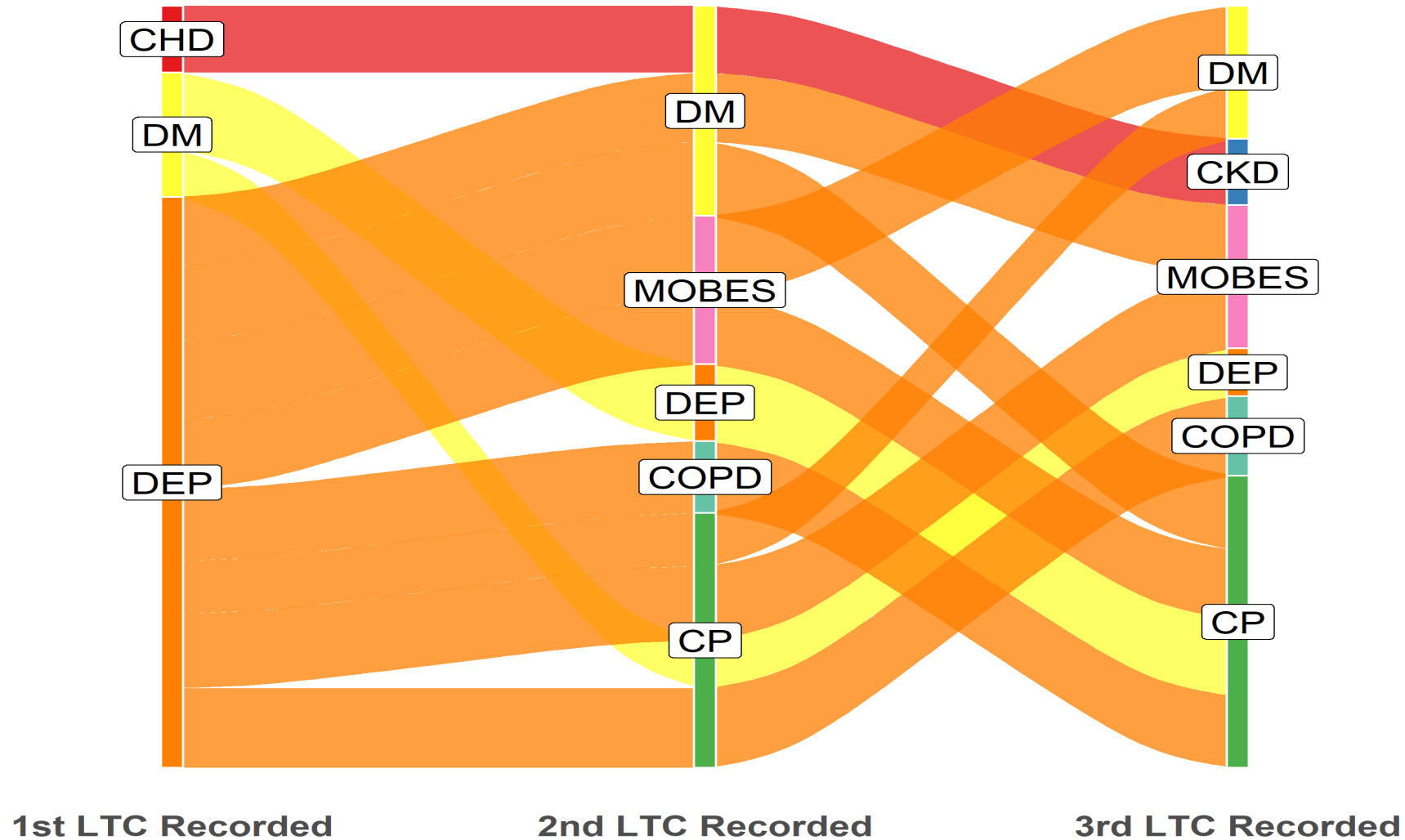1st LTC Recorded   2nd LTC Recorded   3rd LTC Recorded
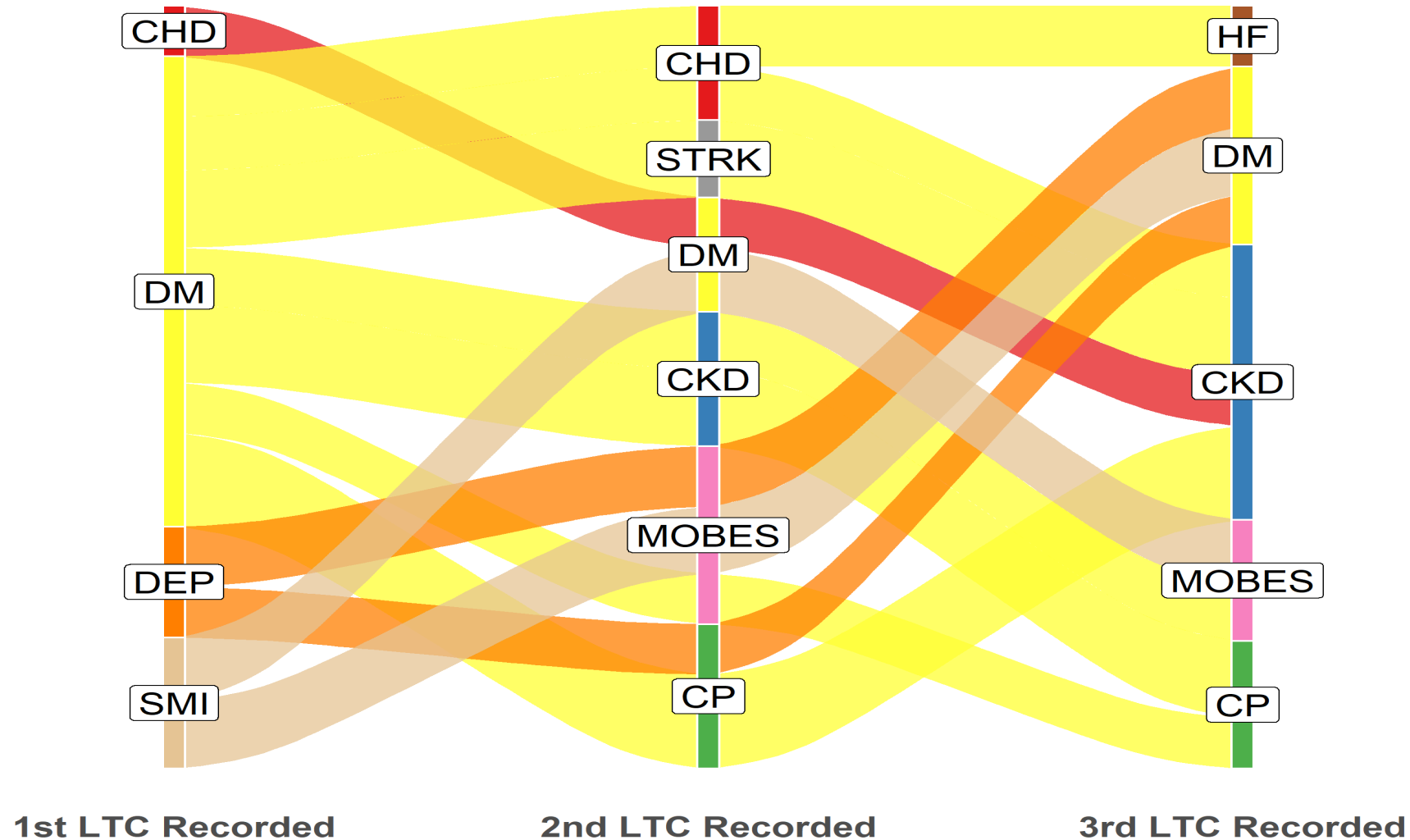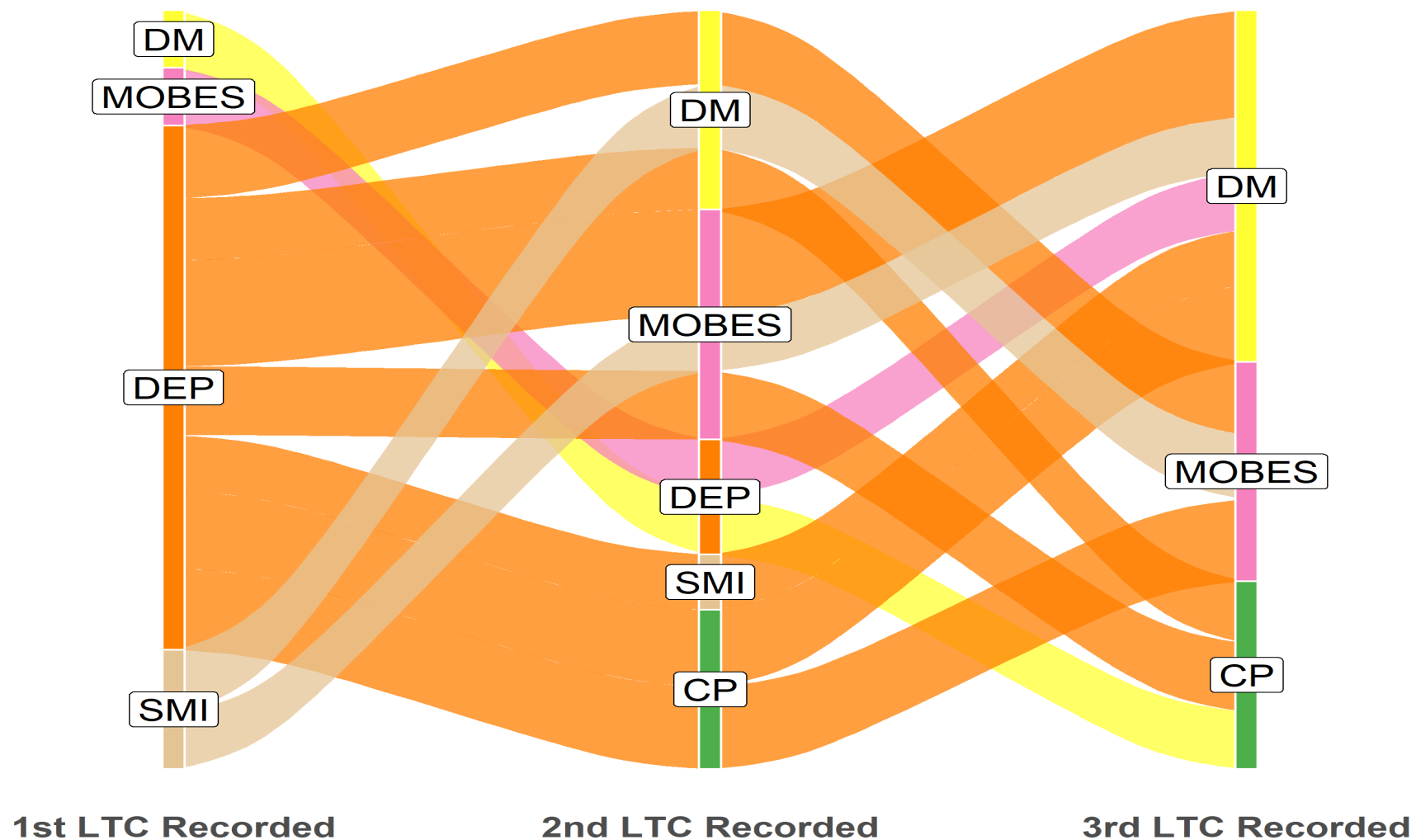
Design: Stevo Durbaba

mLTCs: age ≥65 yrs

Design: Stevo Durbaba
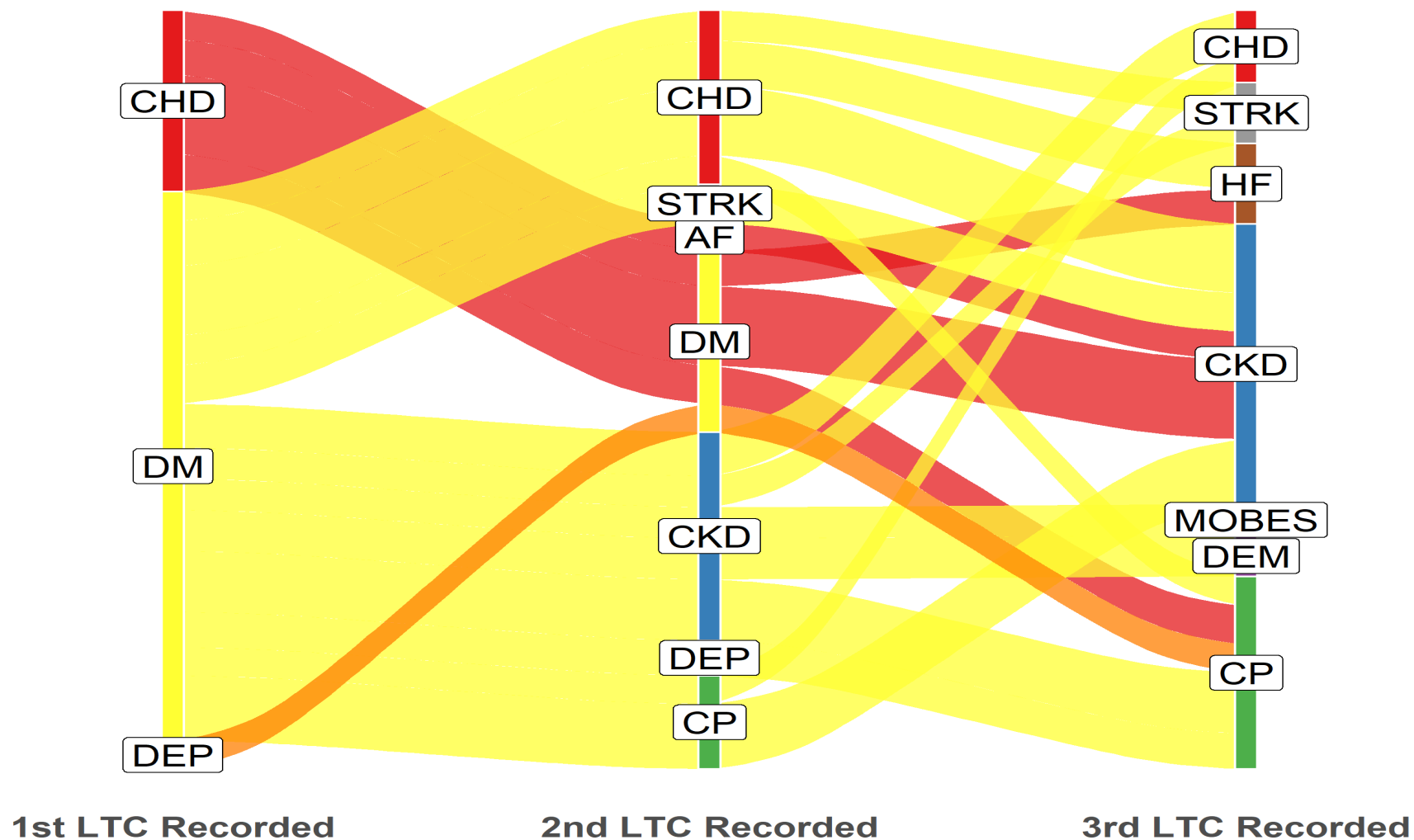
mLTCs: demographic predictors

mLTCs: demographic predictors

	Odds Ratio	95% CI's
Gender, female	1.05	0.99, 1.11
Age ≥65 yrs	11.8	11.0, 12.7
Black ethnicity	1.15	1.07, 1.23
South Asian ethnicity	1.19	1.07, 1.33
Most deprived	1.83	1.66, 2.02

'From one to many'

From one to many
Exploring people's progression
to multiple long-term conditions
in an urban environment

mLTC conclusion

- Inequalities in LTCs/mLTCs: ethnicity, deprivation

- Further work:
  - redefine mLTC's
  - journey to mLTC: acquisition rate; predictive coefficients
  - functional impairment: the burden of mLTCs
  - healthcare utilisation: primary care, secondary care, social care
  - life stories: rapid ethnography
  - prevention: mLTCs?

3D study*

Multimorbidity – international consensus:

- Patient centred

- Focus on quality of life

- Promote self management

* Salisbury C, et al. Management of multimorbidity using a patient-centred care model: a pragmatic cluster-randomised trial of the 3D approach. Lancet 2018;392:41-50.

3D study: intervention

3D approach:

- Dimensions of health

- Depression

- Drugs

3D study: method

- Pragmatic cluster randomised trial

- Usual care: 17 practices; 749 patients

- Intervention group: 16 practices; 797 patients
    - 6-monthly comprehensive reviews

3D study: outcome measure

- EQ5D:

- Self rated health: good/better:

- Illness burden (Bayliss measure):

- HADS anxiety:

- HADS depression:

- Self rated health: good/better:

- Multimorbidity Treatment Burden Q score:

- Morisky Medication Adherence Score:

3D study: outcome measure

- EQ5-DL: p = 0.93

- Self rated health: good/better: p = 0.84

- Illness burden (Bayliss measure): p = 0.17

- HADS anxiety: p = 0.15

- HADS depression: p = 0.94

- Self rated health: good/better: p = 0.84

- Multimorbidity Treatment Burden Q score: p = 0.49

- Morisky Medication Adherence Score: p = 0.27

3D study: patient centred care

- PACIC score: $p < 0.0001$*

- CARE doctor score: $p < 0.01$*

- CARE nurse score: $p\ 0.04$*

3D study: process of care

- Continuity of care index: $p = 0.005$*

- GP consultations: $p = 0.02$*

- Nurse consultations: $p = 0.0001$*

- QOF indicators met: $p = 0.82$

- Indicators high risk prescribing: $p = 0.68$

- Hospital admissions: $p = 0.71$

- OP attendances: $p = 0.72$

3D study: limitations

- intervention failure or implementation failure?
    - two 3D reviews: 49%
    - ≥1 3D review: 75%

- ? EQ5D: not sufficiently sensitive

- ? flawed hypothesis