

Developing a strengths and vulnerability index for older people using routine data in Adult Social Care

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Background

Most older people want to stay independent for as long as they can. Adult Social Care departments of local authorities are mandated to assist with this. They look at potential threats to well-being and consider the abilities and resources people already have to tackle these risks. They then arrange services to fit in with older people's wishes and choices. They also gather data during their contact with older people such as age, housing situation, daily living activities, and level of support needed.

We aimed to discover if this data could be used to identify older people's current needs and any future threats to their well-being, such as if they were likely to enter care homes. We harnessed the routine data in Manchester City Adult Social Care and built predictive models detailing outcomes two years after older people's initial assessments.

We wanted to test if an electronic index could be created that analysed this data on a person-to-person basis. Using this could make it easier for local authorities and social care professionals to understand older people's needs and plan care. This could maintain older people's well-being and enhance the judgements of professionals and service planners.

Research Questions

- **Is the right data, to potentially predict older people's vulnerability to adverse outcomes or evidence their strengths in lessening these, present in council systems?**
- **Can accurate, individual-level, datasets for large numbers of older people, representative of those receiving social care, be constructed to allow robust statistical modelling?**
- **Can robust predictive models, statistically predicting outcomes and tested for assumptions, missing data and model fit, be developed and validated?**
- **Can findings be used to enable a prediction algorithm to be made available, as an index for social care, that local authorities could use in planning more appropriate care around older people's circumstances, resources and strengths?**

Methods

- Identified a cohort of older people, ≥ 60 years from routine data who had assessments from the council during 2021/22 to 2022/23.
- Tested availability of data to feed into predictive modelling.
- Modelled outcomes of whether older people remained at home, entered care homes, and time-to-care home admission.
- With our public engagement partner, **MADE BY MORTALS** we deliberated on what an index could look like and its potential use and acceptability to stakeholders.

Findings



- Some items useful to model outcomes for older people were not available from routine social care data systems but many were, including linked health data, such as dementia diagnoses.
- Data on **20,128** older people were used for modelling, a sample allowing a range of candidate predictors to be employed.
- *Well-calibrated* models so far reveal significant predictors as:

More likely to remain at home	Less likely to remain at home
Black/Black British ethnicity	<i>Primary Support Reason:</i> Personal care, Mental Health, or Memory and Cognition
No difficulties with personal hygiene	No access to carer
	Private tenant

- From an immersive, interactive workshop with older social care users, researchers and service managers/professionals an index was felt broadly acceptable, with some caveats. Basing it on the right data, with well validated analysis and assurances of data security were viewed as important.

Next Steps

- Meetings with the council to work out how best to use a potential index; this could be to aid professional judgement in individual cases and/or support service planning at a population level. It could also put the older person in control of their care in conversations with professionals.
- Build an interactive tool as an example, using R and a Shiny package, to share with the council and other local authorities; freely accessible on <https://figshare.com/>

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