

How does unpaid caregiving affect health-related quality of life? Longitudinal analysis of SF-6D for carers in the UK.

Becky Pennington, Mónica Hernández Alava, Mark Strong
Sheffield Centre for Health and Related Research, School of Medicine and Population Health, University of Sheffield, Sheffield, England, S1 4DA
b.pennington@sheffield.ac.uk

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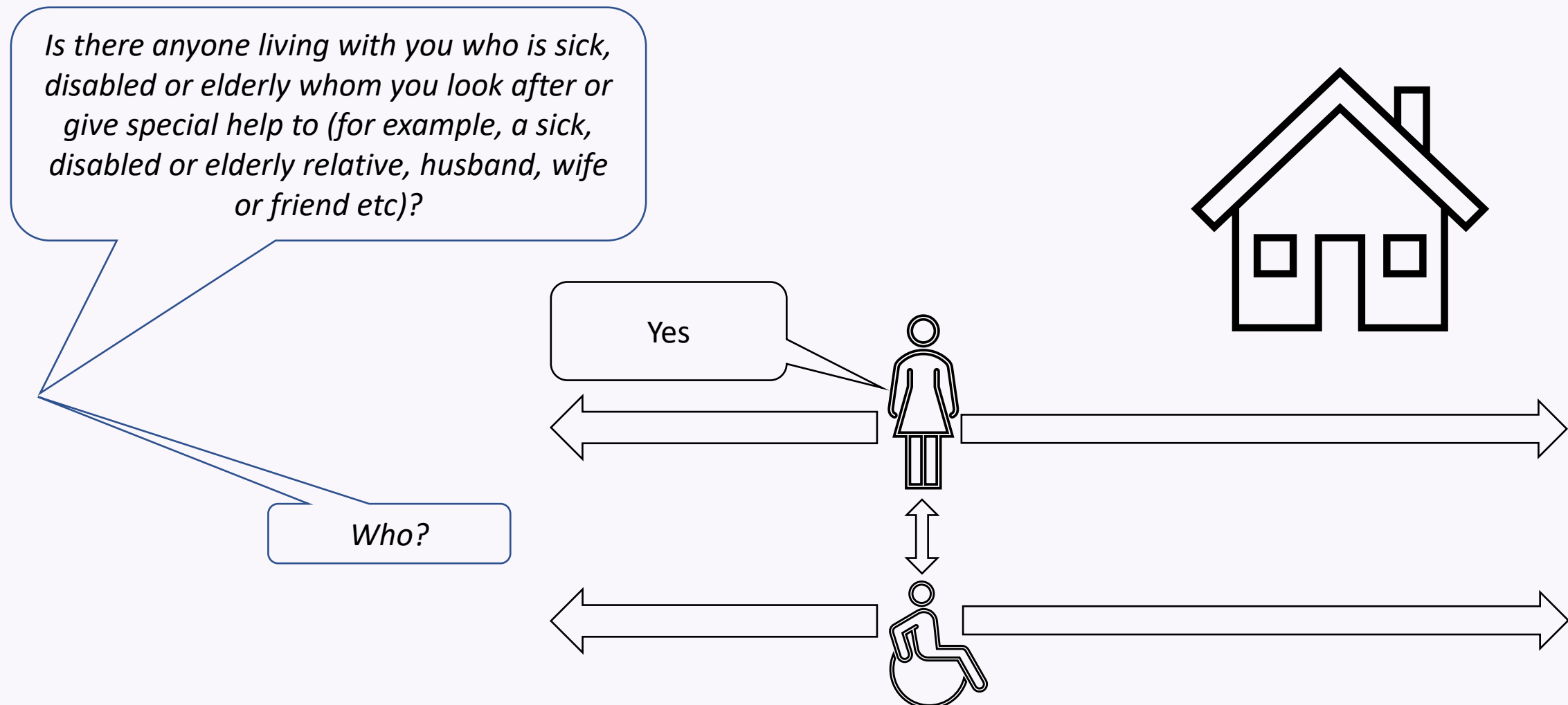
Introduction

Cross-sectional evidence suggests that unpaid carers have worse health-related quality of life (HRQoL) than non-carers. However, this may be due to selection bias (people with worse HRQoL may be more likely to become carers). We wanted to understand how people’s HRQoL changed when they became, continued, or stopped providing unpaid care by analysing longitudinal data.

Methods

Understanding Society (the UK Household Longitudinal Survey) is an annual survey of every member of selected households which includes modules related to health, education, employment, families and caring.

We defined as carers respondents who answered that they “look after or give special help to” household members in any wave, and the person they looked after as the care-recipient. We created dyads and included their data from up to thirteen waves, including before the carer started caring or after they stopped. This meant we could consider **within-person comparisons** and address selection into caregiving to identify the effect of caregiving on carers.



The survey includes the self-complete Short-Form 12 questionnaire which we converted into an **SF-6D for carers and care-recipients** (Brazier & Roberts 2004).

Our model specification was based on those considered by Bobinac et al (2010) (2011), with the caregiving effect (or “caring for”) measured by the weekly volume and yearly duration of care and the family effect (or “caring about”) measured by the care-recipient’s SF-6D.

We considered **fixed effects** transformations, with the original unobserved effects models for individuals $i=1,...,n$ in wave $t=1,...,13$:

$$H_{it} = \beta_0 + \beta_1 C_{it} + \beta_2 D_{it} + \beta_3 P_{it} + \beta_4 x_{it} + \mu_i + \epsilon_{it}$$

Carer's HRQoL

Weekly volume of care

Duration of caring (years)

Care-recipient's HRQoL

Other variables

Error term

Time-invariant individual-specific unobservables

We used a fixed effects ordered logit model to understand which domains of SF-6D were affected by caregiving duration, volume, and care-recipient’s SF-6D.

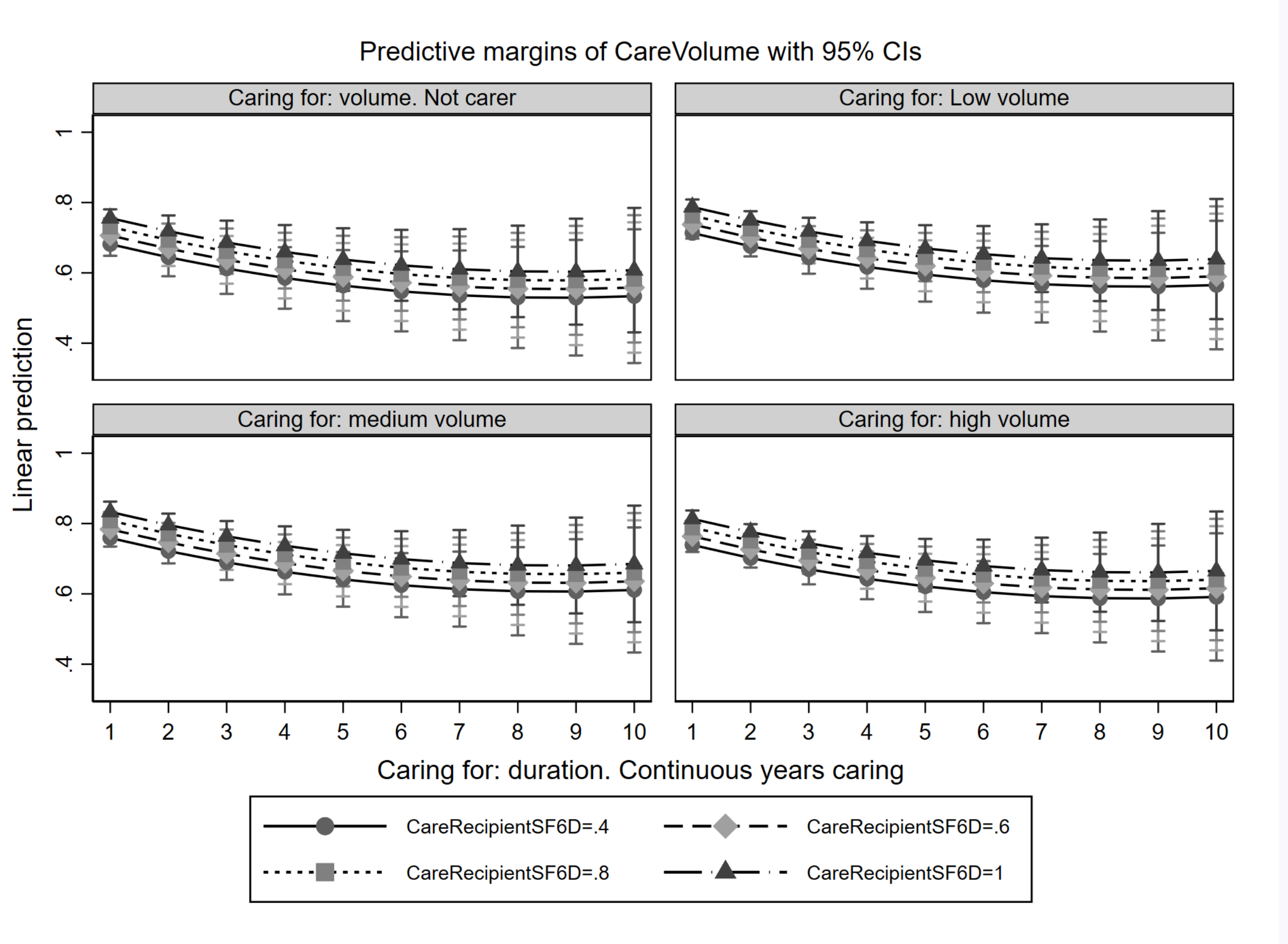
Results

A selection of summary characteristics are shown in the table below:

	Not caring (4,465)	Caring (1,072)	Total (5,537)	Test
Carer's SF-6D	0.763 (0.137)	0.747 (0.134)	0.760 (0.137)	0.009
Carer's age	56.5 (17.5)	52.5 (19.5)	55.7 (18.0)	<0.001
Proportion male carers	46.9% (0.499)	50.3% (0.500)	47.6% (0.499)	0.120
Duration of care	0	1.527 (1.316)	0.295 (0.836)	<0.001
Log of household income	7.189 (0.559)	7.151 (0.564)	7.182 (0.560)	0.089
Care recipient's SF-6D	0.739 (0.136)	0.669 (0.148)	0.726 (0.141)	<0.001
Care recipient's age	56.0 (18.2)	52.5 (20.9)	55.3 (18.8)	<0.001

- **An increased duration of caregiving led to a statistically significant decrease in carer’s SF-6D of 0.045 per year.**
- The relationship between care volume and carer’s SF-6D was unclear, with results for some volumes positive, not always statistically significant and quickly cancelled out by the duration of care.
- There was a positive relationship between carer and care-recipient’s SF-6D with a coefficient of 0.12. **A decline of 0.1 for the care-recipient would decrease the carer’s SF-6D by 0.012.**

The figure below shows how an increased duration of caregiving affects carers’ SF-6D at different care volumes and with different care-recipient’s SF-6D.



An increased duration of caregiving was statistically significantly associated with worsening physical health, mental health, and social functioning. Worse care-recipient HRQoL was statistically significant associated with worse carers’ mental health, pain, energy, feeling depressed/downhearted and social functioning.

Conclusion

Our analysis demonstrates that changes in carers' HRQoL are related to both the duration of providing informal care and the HRQoL of the care-recipient. An increased duration of caring, and worse patient HRQoL are associated with worse carer HRQoL. Our estimates can be used to predict the effect of changes in informal care provision and patient's HRQoL in economic evaluation, allowing disutilities to be estimated separately for the family and caregiving effect.

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University of
Sheffield

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