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The determinants of transitions into residential care in later life in England and Wales

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Abstract

Understanding the dynamics of living arrangements in later life is critical to ensuring that the housing and care needs of older people are met. This paper focuses on a particular type of living arrangement by investigating the transitions into residential care amongst people aged 65 years old and over in England and Wales between 1991 and 2008. The empirical research examines the transition rates and the determinants of moving into residential care, using all 18 waves of the British Household Panel Survey (BHPS) data and a discrete-time logistic regression model in order to model the probability of entering into this type of accommodation. The paper shows that key factors associated with older people's transition into residential care in later life include age, health and marital status. More specifically, such results indicate that the transition into residential care is more prevalent at older-old ages, and is associated with being widowed or single, reporting not good health and having spent time in the hospital during the previous year. The results also show the role of the social worker is critical in facilitating transitions into residential care, raising key questions about the policy context in which such transitions take place and changes in the eligibility criteria underpinning such transitions.

Keywords

Long-term care; older people; residential care

Editorial Note

Olga Maslovskaya is based at the Southampton Statistical Sciences Research Institute at the University of Southampton. Maria Evandrou, Jane Falkingham and Athina Vlachantoni are members of the EPSRC Care Life Cycle Project, based at the University of Southampton.

The Care Life Cycle

The Care Life Cycle Project (CLC) is a multidisciplinary research project funded by the EPSRC (Engineering and Physical Sciences Research Council), grant number EP/H021698/1, under its 'Complexity Science in the Real World' initiative. The project is researching the supply and demand of health and social care within an ageing society, bringing together researchers from complexity science, gerontology, operational research and demography.

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Introduction

Long-term care provision is a critical policy issue across the developed world (European Commission, 2008), and is being debated against the background of changing demographic structures and policy contexts. On the one hand, the ageing of the population has an impact on the absolute number of frail older people who may require long-term care in the future, but it can also affect the number of healthy older people who are in a position to provide informal care to others (Pickard *et al*, 2007). For example, people aged 65 and over in Britain in 2011 formed 17% of the total population (ONS, 2013), and by 2033 it is expected that this figure will rise to 23% (ONS, 2012a). Changing family structures and the increasing complexity of extended family networks are also part of the dynamics of demographic change, providing both challenges and opportunities regarding the availability of relatives who can provide informal support in the future. On the other hand, the social care sector is itself in a state of flux, faced with the dual challenge of financing and regulation, and more recently in the context of economic uncertainty for individuals and governments alike. Recent documents in the British policy landscape have emphasised the importance of appropriate housing to address the needs of older people, but also the need to develop further alternatives of long-term care for a growing number of home-owners whose resources and expectations are different to previous generations of individuals (Dilnot *et al*, 2011; Department of Health, 2012). Against this background, understanding the pathways into different types of long-term care accommodation in later life is important from the perspective of both policy-makers and individuals. This paper uses evidence from England and Wales in order to examine the determinants of moving into residential care in later life, drawing lessons which are relevant to modern societies beyond this context.

The historical debate on long-term care in Britain has followed the distinct phases of development of the sector. In 1998, both Scotland and Northern Ireland introduced Acts which transferred the decision-making of personal social services to the devolved administrations, thereby following policy trajectories which have since diverged significantly from that of England and Wales. Within England and Wales, the sector of long-term care witnessed a shift from the expansion of free long-term care services in the post-WWII period, to a period of financial austerity during the latter part of the 1970s and the 1980s. This period of financial constraint culminated with the introduction of the 1990 NHS and Community Care Act, which simultaneously decreased the availability of residential and paid-for domiciliary care provided by local authorities, and tightened the conditions attached to its receipt. The Act's principal aim was to reduce the number of older people in institutional care, and to develop community care provision in order to enable older people to live in their own homes for as long as possible.

However, although the growth in gross expenditure of Councils with Adult Social Services Responsibilities in England between 2003 and 2009 matched the proportional increase in the older population (aged 65 and over), the unit costs of providing residential care have increased by 14 per cent, and by 26 per cent for home care (NHS Information Centre, 2010), resulting in a fall in the available funding per capita. The result of this has been a greater focus of decreasing statutory resources on older people who are most in need, a trend described as intensification of long-term care services (Netten, 2005). The intensification of social care provision has itself resulted in increasingly stringent eligibility tests and council resources being targeted at those older people who are assessed as having 'substantial' or 'critical' need, receive support from local councils.

Alongside the decrease in the overall level of social care provided, British social policy literature has documented the changing landscape of long-term care provision since the early 1990s, highlighting the increasing participation of the private sector in the 'mix' of long-term care and the concomitant decrease in the level of care provided by local authorities (Lewis and Glennerster, 1996). Since the 1990s, different types of long-term care have been developed, responding to the policy aim of successive governments since the 1980s to provide greater choice to users of long-term care, resulting in a change in the balance of long-term care providers. These typically cater for different groups of the older population depending on individuals' health and social care needs, as well as key demographic and socio-economic characteristics, such as their partnership status and ability to purchase privately-provided care. For instance, in 1970, the majority of places in nursing and residential homes were provided by the public sector, but by 2007, it was the private sector which provided the majority of places (Johnson *et al*, 2010). A key part of the current system of long-term care is the assessment of an individual's care needs, living arrangements and their carer's circumstances by the local council, which can impact upon the package of care an individual is offered, the contribution they are expected to make and the proximity of local providers.

Residential care, which comprised the majority of long-term care provided until the early 1990s, is one type of living arrangement where older persons with physical and/or mental frailty move into a residential home providing board and personal care 24/7, following a needs assessment. Understanding the dynamics of transitioning into this type of living arrangements in later life is the focus of this paper.

The determinants of moving into long-term care

International research on pathways into long-term care in later life has emphasised a combination of factors as predictors, albeit within diverse policy contexts which can also impact on individual decisions to move into such care. For example, Luppa *et al*. (2010) conducted a review (36 articles) of the predictors of nursing home placement in later life in Canada, the United States, Europe, Australia and Hong Kong, and found that one's increased age, poor health, functional and cognitive impairment, prior placement in nursing care and a high number of medication prescriptions, were consistently strong predictors. The Luppa *et al* (2010) review also noted that not having one's own home was a strong predictor of entering nursing care, which was consistent with findings from the study of older men's pathways into institutional care in Finland (Martikainen *et al*, 2008) and the study of both men's and women's pathways into nursing or residential care in Northern Ireland (McCann *et al*, 2012). However, Luppa *et al* (2010) found that predictors with inconsistent results across the studies included being male, having low educational qualifications, low income and prior hospital use. Qualitative research outside the British context has been able to explore in greater detail the advantages and disadvantages of living in different accommodation in later life from the viewpoint of older people. For example, van Bilsen *et al* (2008) compared the wellbeing characteristics of older people living in private homes and in sheltered accommodation in the Netherlands, and found that, although both groups were similar in terms of demographic characteristics and functional status, older people in sheltered accommodation reported a higher level of perceived autonomy, sense of security and quality of life, compared to those living in private homes.

Within the context of England and Wales, research on the determinants of moving into long-term care has tended to focus on residential care, usually including nursing homes, residential homes and long-stay hospital accommodation, but not on sheltered accommodation. Such research has explored the impact of demographic, socio-economic and health factors on older people's likelihood of living in a long-term care institution. The literature focusing on demographic factors has emphasised characteristics such as living arrangements and having children, as key predictors of moving into residential care, which may operate in opposite directions for men and women. For example, Breeze *et al* (1999) used data from the Longitudinal Study (LS) in order to examine the effect of individuals' demographic characteristics in 1971 and 1981, on their probability of being in residential care in 1991, and found significant gender differences. Being single in 1971 and 1981 was a strong predictor for both women and men, however living alone was a strong predictor for men but not for women. Analysis of the BHPS 1991-1998 by Evandrou *et al* (2001) showed that age and health measures were important predictors of institutionalisation in later life. More recent data on individuals

aged 65 and over in 1991 who were still alive in 2001, analysed by Grundy and Jitlal (2007), indicated that women carried a higher risk of moving into residential care than men, and that for both sexes, living alone in 1991 and being unmarried in 2001, as well as reporting a long-term illness, increased the likelihood of being in residential care in 2001. Subsequent analysis of the LS confirmed the association between living in rented accommodation in 2001 and being unmarried at the end of that decade, with being in an institution at end of that decade (Grundy, 2011).

The impact of an individual's socio-economic status on their risk of moving into long-term care has also been explored in the context of England and Wales, drawing a strong link between such indicators as housing tenure, reflecting low socio-economic resources and the transition into residential care. For example, Glaser *et al* (2003) used data from the LS from 1971, 1981 and 1991 in order to analyse factors associated with older women's move into co-residential (or 'supported') private households or residential care, and found that owner-occupiers were more likely than tenants to move into co-residential private households. Socio-economic predictors have been found to be equally important for men and women, with living in rented accommodation and in a household without access to a car in 1971, resulting in a 35-45% higher risk of being in an institution in 1991 (Breeze *et al*, 1999). The 'protective' effect of owning one's home as opposed to renting accommodation with regard to moving into long-term care accommodation has also been highlighted elsewhere in the literature (Grundy and Glaser, 1997). Also drawing on the LS, Grundy and Jitlal (2007) also found that living in rented accommodation in 1991 increased an individual's risk of being in residential care ten years later. Finally, Evandrou *et al* (2001) found that having been a hospital in-patient for 15 days or more in the previous year, remained an important predictor of moving into residential care even after controlling for health and socio-demographic factors.

Our paper draws on existing research in order to conceptualise moves into residential care as being affected by a wide range of factors such as the demographic, health and socio-economic characteristics of the older person, as well as policy-related factors which include the receipt of state support.

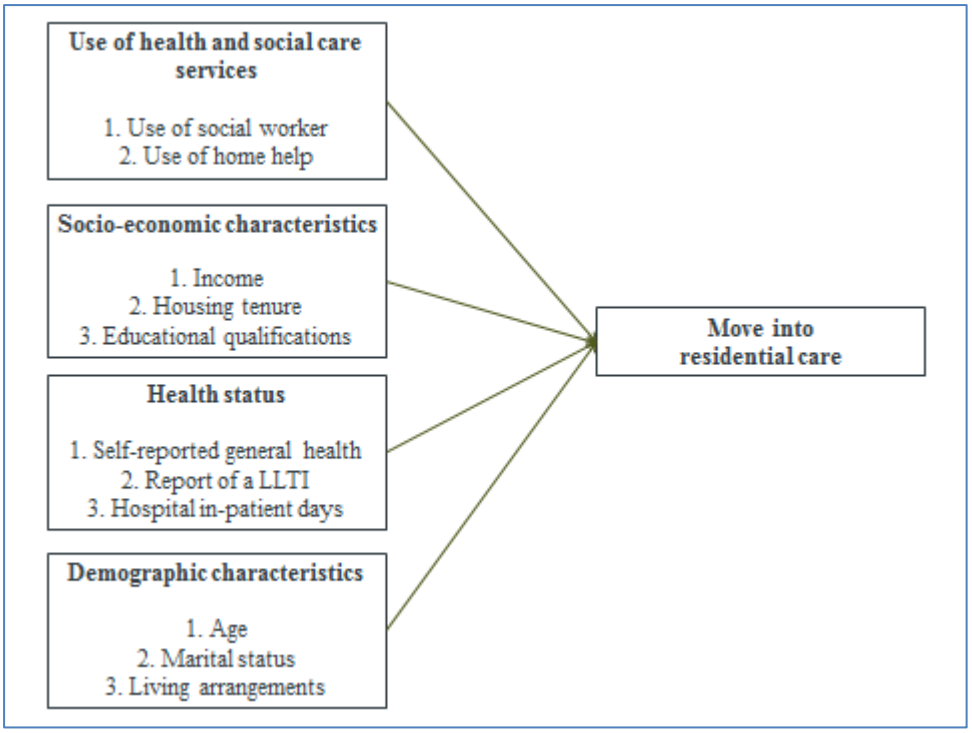

Figure 1: Conceptual model of the determinants of moving into long-term care
Source: Authors' own

Data and methodology

This paper employs all 18 waves of the British Household Panel Survey (BHPS) (1991-2008), in order to study transitions into residential care in England and Wales. The BHPS is a longitudinal survey of households in the UK. The survey is a large scale nationally representative survey which was conducted annually and interviewed every adult member who was interviewed in a previous wave as well as new household members. The first sample was collected in 1991 and consisted of around 5,000 households with 10,000 individuals from Great Britain included into it. Data were collected at both the individual and household levels and include questions on demographic and socio-economic characteristics, health, care and wellbeing characteristics, financial characteristics and other indicators (Taylor *et al*. 2010). An assessment of quality and analysis of attrition in the whole BHPS sample (waves 1-13) conducted by Lynn (2006) concluded that the BHPS data do not suffer from substantial bias resulting from attrition. The sample used for the analysis here focused on people aged 65 and over in England and Wales only. Both original sample members and new entrants in subsequent waves were included in the

analysis. Data from all 18 waves (waves 1-18) were used for the model. Derived annual net household income variables were obtained from separate BHPS Income data files. Observations without complete information for all variables of interest in the constructed datasets were excluded from the analytical samples by using list-wise deletion of incomplete records. A sample of 26,222 observations was used for the analysis.

The analytical dataset was constructed in the form of paired-years records by merging successive waves together. This enabled the investigation of the determinants for transitions into residential care. The response variables were collected at time 1 (t1), and all explanatory variables were collected at time 0 (t0). This approach allows investigation of an individual's circumstances prior to the transition. The outcome variable used for the analysis was transition into residential care (1= people who moved into an institution between two waves (t0 and t1) and 0= people who did not experience such a move).

The explanatory variables included indicators of a wide range of factors, and were grouped into four categories: *demographic characteristics* (sex, number of natural children, living arrangements, marital status, ethnicity, household size); *health status* (change between t0 and t1, General Health Questionnaire (GHQ) score at t0, change in GHQ score between t0 and t1, disability status at t0, change in disability status between t0 and t1, presence and number of health problems such as hearing or blood pressure between t0 and t1, number of visits to the GP within last 12 months, hospital inpatient days at t0); *the use of formal care services* (use of health visitor at t0, change in use of health visitor between t0 and t1, use of home help at t0, change in use of home help between t0 and t1, use of meals-on-wheels at t0, change in use of meals-on-wheels between t0 and t1, use of social worker at t0, change in use of social worker between t0 and t1); and *socio-economic and financial characteristics* (highest educational qualification at t0, occupational social class based on last occupation at t0, access to a car/ van at t0, housing tenure at t0, central heating at t0, overcrowding at t0, access to a washing machine, subjective financial status at t0, equivalised household income in quintiles, receipt of Attendance Allowance at t0, receipt of Income Support at t0, receipt of Disability Allowance at t0, receipt of a second pension at t0 which includes a pension from an ex-employer, spouse's ex-employer, private pension or annuity). Whether the respondent was interviewed in person, by proxy or by telephone, as well

as time, were also taken into account in the analysis. A number of indicators of change of status between t0 and t1 were constructed (e.g. change in use of social worker between t0 and t1 or change in disability status between t0 and t1), and included into the model selection process. Finally, interaction terms between the respondents' use of services such as home help and a social worker, and their age and number of days spent in the hospital as an in-patient, were also included.

The decision about the inclusion of the variables into the dataset used for the analysis was informed by the literature review, which indicated the factors which had been previously associated with such transitions, and by the availability of variables across all available waves. The analysis was conducted in two stages. Firstly, exploratory data analysis was performed in order to investigate the relationship between the response variables and the explanatory variables using Pearson's chi-squared tests. Secondly, a discrete-time binary logistic regression was used in order to model the probability of moving into residential care between t0 and t1, and to identify the factors associated with such transitions.

The model selection process relied on manual forward selection starting from a model with only an intercept term in it, and adding the explanatory variables in thematic groups of demographic variables; variables relating to one's health status and use of care services; and socio-economic variables, followed by the interaction terms. The model selection process stops when further significant improvement in fit cannot be reached. Likelihood ratio tests, using the change in the L^2 goodness-of-fit statistic, were used to test the significance of terms and interactions and to inform the decisions about their inclusion in the next stage of the model selection process. The modelling part of the analysis also included obtaining robust standard errors in order to control for the non-independence of observations due to the longitudinal nature of the data. SPSS version 20 and STATA version 12 were used for the construction of the datasets and for the analysis.

Results

Based on the analysis of the BHPS, between 1991 and 2008 in England and Wales, 113 individuals aged 65 and over moved into a residential care home. The proportion of individuals in the dataset making the moves decreased during this period, reflecting the changes in the policy context of long-term care (Figure 2).

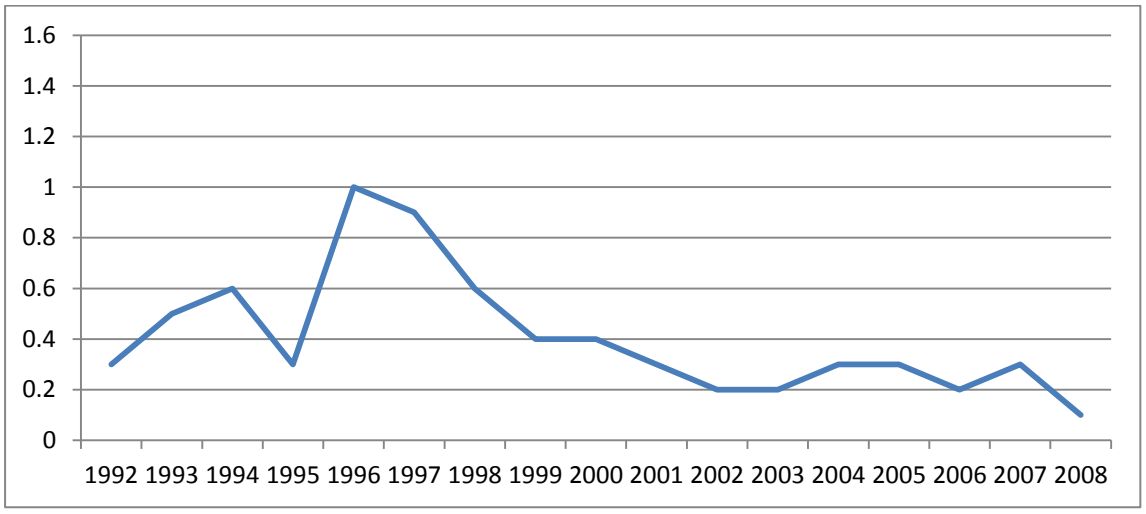

Figure 2: Percentage of older people moving into residential care, England and Wales, 1992–2008

Source: BHPS, waves 1–18.

The descriptive analysis showed significant relationships between the move into residential care and key demographic characteristics, such as age, gender, marital status and the number of children. For example, bivariate analysis (not shown here) highlighted a greater proportion of individuals in the 85+ age category moving into residential care, compared to younger age categories. In addition, women were more likely than men to make such a move, as were individuals without any children compared to those with one or more children, and those who were single never married compared to those who were married or living as a couple. The move into residential care was also associated with an individual's age, marital status, regional location and access to a washing machine, as well as with indicators of one's health status and their use of health and social care services, such as the use of a social worker (Table 1).

Table 1: Variables associated with an older person's move into residential care (bivariate analysis)

	Transitions into residential care
Variables	**Chi-square statistics (degrees of freedom)**
Age group at t0	352.996*** (4)
Marital status at t0	120.457*** (3)
Region at t0	8.141* (1)
Washing machine at t0	170.746*** (1)
Waves at t1	57.755*** (16)
Health status at t0	56.065*** (3)
Hospitals in–patient days at t0	139.424*** (3)
Use of social worker at t0	92.879*** (1)
Change in use of social worker between waves t0 and t1	83.955*** (1)
Hospital in-patient days * Use of social worker	92.306*** (3)
Home help at t0	Not significant
Education at t0	Not significant
Household type at t0	Not significant
Housing tenure at t0	Not significant
Access to car at t0	Not significant

Source: BHPS, Waves 1-18, ***p<0.001; **p<0.01; *p<0.05

The determinants of moving into residential care

Table 2 shows the results from the multivariate analysis. The outcome variable is transition into residential care. An older person's transition into residential care was most strongly associated with key demographic characteristics, such as their age and marital status, but also a range of factors related to their health and use of health and social care services. Among persons aged 85-89, the odds of moving into residential care were 2.6 times the odds among those aged 65-74 and among persons aged 90 and over, the equivalent odds were 24.3 times the odds among the 65-74 age group. Those who were married or living as a couple had the lowest risk of moving into residential care, when compared to those who were single never married, divorced, separated or widowed. Poor health status at baseline, or the deterioration of one's health status between t0-t1, were strong predictors of moving into residential care, and such characteristics were compatible with other predictors pointing towards declining health status, such as starting to use a social worker between the two waves. The interaction term between the number of days spent as an in-patient in the hospital and the use of a social worker was also found to be significantly associated

with the probability of transition into residential care. Finally, the odds of moving into residential accommodation among older persons living in a household without a washing machine were 2.4 times the odds of older persons in households with such a machine.

Table 2: Selected determinants of moving into residential accommodation

	Number of persons aged 65+	% transitions into res. care between t0 and t1	Odds ratios (Confidence Intervals at 95% level)
Transition into residential care between t0 and t1			
Yes	113		
No	26,109		
Age group at t0			
65 to 74 (ref)	15,240	0.1	1
75 to 79	5,536	0.2	2.29* (1.01-5.20)
80 to 84	3,537	1	7.75*** (3.83-15.68)
85 to 89	1,509	2.3	12.95*** (5.83-25.07)
90+	400	4.5	24.27*** (10.54-55.89)
Marital status at t0			
Married or living as a couple (ref)	14,689	0.1	1
Widowed	8,588	1	4.65*** (2.27-9.52)
Divorced or separated	1,335	0.3	3.68* (1.08-12.49)
Single never married	1,610	0.8	5.34*** (2.17-13.09)
Health status at t0			
Excellent (ref)	3,589	0.2	1
Good or very good	11,727	0.2	0.87 (0.37-2.08)
Fair	7,648	0.6	2.30* (1.01-5.23)
Poor or very poor	3,258	1	2.44* (1.02-5.85)
Hospitals in–patient days at t0			
None (ref)	22,358	0.3	1
Under a week to 2 weeks	2,677	0.4	0.59 (0.25-1.39)
2-5 weeks	854	1.5	1.52 (0.67-3.46)
5 weeks to a year	333	4.2	5.54*** (2.78-11.06)
Use of social worker at t0			
No (ref)	25,356	0.4	1
Yes	866	2.5	2.61** (1.22-5.57)
Change in use of social worker between waves t0 and t1			
Otherwise (ref)	25,501	0.4	1
Started using	721	2.6	3.89*** (2.25-6.71)
Washing machine at t0			
Yes (ref)	22,744	0.2	1
No	3,478	1.8	2.35*** (1.55-3.56)
Hospital in-patient days* Use of social worker			
Up to 2 weeks*Yes	161	3.7	5.45* (1.33-22.38)
2-5 weeks*Yes	138	4.3	1.81 (0.45-7.24)
5 weeks+*Yes	87	1.1	0.11 (0.12-1.14)
LLR			1024.478

Source: BHPS, 1992-2008, Authors' calculations, N=26,222, ***p<0.001; **p<0.01; *p<0.05

Drawing on the results for the move into residential accommodation, Figure 3 presents the predicted probabilities of moving into residential care by self-reported health status, current use of social worker and length of hospital stay in the last year. The figure shows that individuals who reported poor or very poor health, were currently using the services of a social worker and had spent up to 5 weeks in hospital during the previous year, had the highest probability of moving into residential care when compared to other groups. In addition to the importance of health status and the length of hospital stay as key predictors of moving into residential care, the figure highlights the centrality of using social care services in older persons' move into residential care, particularly for individuals who report fair, poor or very poor general health.

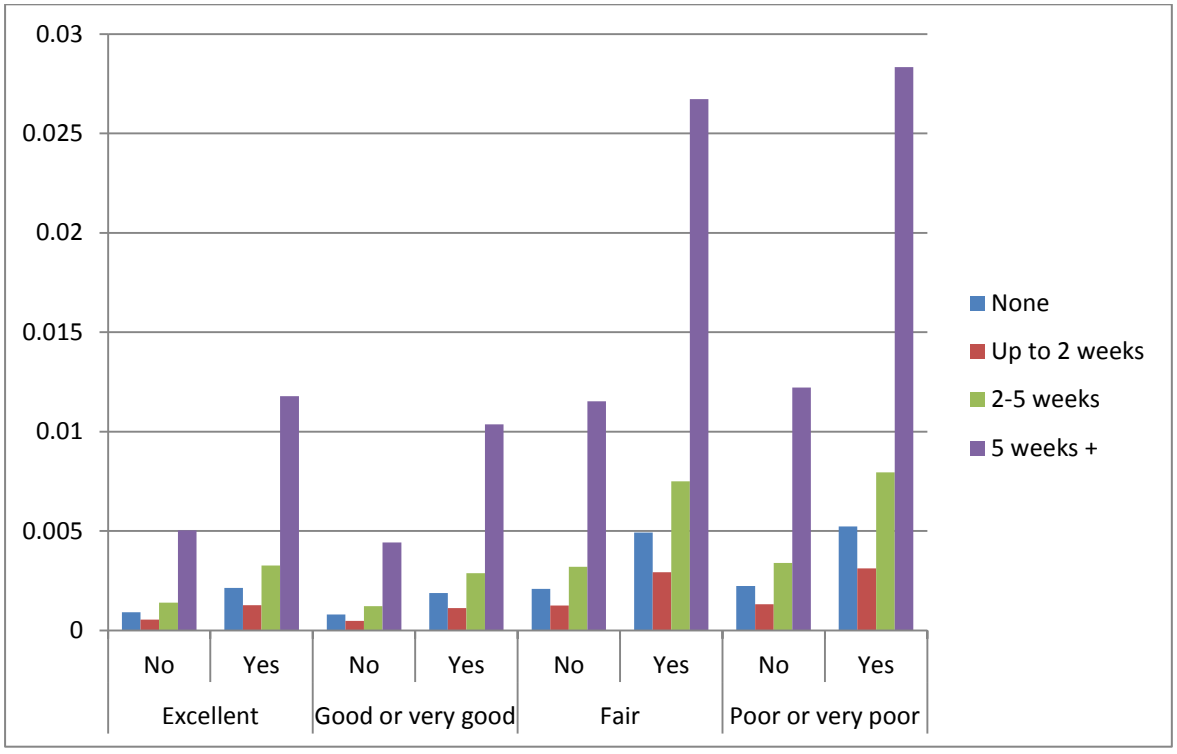

Figure 3: Predicted probabilities of moving into residential care for individuals by time spent in hospital during the previous year, use of social worker and self-reported health (England and Wales)

Source: BHPS, 1992-2008. Reference category: 2000, aged 80-84, married, no change in use of social worker, having access to washing machine.

Discussion and policy implications

The existing published literature has often discussed the characteristics associated with older persons' transitions into long-term care, focussing exclusively on transitions into residential care. Such literature has highlighted particular demographic (eg. being female), health (eg. reporting poor health) and socio-economic (eg. indicating lower socio-economic status) characteristics as predictors of moving into residential care. This paper contributes to this literature by investigating the transition into residential care, and identifying the nature of the risk associated with this type of move. Reflecting changes in the policy landscape of long-term care provision in England and Wales, the paper shows a decline in the proportion of older persons moving into either residential care after the mid-1990s (Figure 2). This declining proportion is most likely explained by policy change in the regulatory framework of long-term care, which commenced the decline in state-provided social care witnessed until today (Netten, 2005).

The results suggest that the moves into residential care are associated with a particular set of factors, indicating a 'pathway' into long-term care in later life. For the move into residential care, it seems that an older person's age and marital status, as well as variables associated with their health status and use of support services are the main predictors. In particular, the results highlight the important role of social workers as 'gatekeepers' in facilitating access to the residential care sector. Nevertheless, and in line with existing research (Glaser *et al*, 2003), indicators of lower socio-economic status (no access to washing machine) also seem to be associated with such moves. The set of factors associated with the risk of moving into residential care may be linked to the characteristics of this type of accommodation, as well as the likely relationship between age and health status of individuals at the time of making the transition. An older person's move into residential care may tend to take place towards the latter part of the life course, when the person's needs as a result of their health status are highest. This could explain the importance of health status in the final model for this kind of move, and the strong gradient in the variable of age (Table 2).

Finally, our analysis shows the 'protective' effect of being married or living as a couple for an individual's risk of moving into residential accommodation, compared to other categories of marital status, which is in line with existing findings (see for example Grundy and Jitlal 2007). Being widowed or divorced/ separated increased the risk of moving into residential accommodation relative to being married or living as a couple, indicating that the decision to move into residential care is more likely to be associated with an individual's (rather than a couple's) characteristics.

The paper has a number of limitations which should be taken into account when considering the findings of the analysis. Firstly, the BHPS dataset offers information about older people's move into 'long-term stay' institutions, however older people who were considered too frail to interview have been excluded from the sample, therefore the analysis is likely to be underestimating the proportion of older people moving into such institutions. Secondly, the BHPS dataset does not include any information on the receipt of informal care from relatives or friends, which is a key determinant of the 'residual' of an older person's need for long-term care. Variables indicating an individual's demographic characteristics and living arrangements, such as their de facto marital status and whether they have children or not, may partly contribute to our assumption of informal care *availability*, however informal care *receipt* remains an unknown factor in our analysis. Similarly, the analysis only focuses on individual moves, rather than the moves of couples. Finally, due to the nature of the data we cannot establish causal links but only associations between the response and the explanatory variables.

The results of this paper have implications both for the design of social care provision for older people and for the quality of life of older people towards the latter part of their life course. Recent policy debates in the context of England and Wales have stressed the importance of maintaining independence for older people for as long as possible, and for promoting greater choice among options of housing in later life, which both represent value for money and are adequate for their health and social care needs (Department of Health, 2012). The paper suggests that the move into residential care may be associated both with one's age and health status, and that socio-economic resources are at least as important as demographic characteristics and social resources in the form of available informal support. In particular, high proportions of older women living alone in later life, in addition to a rising proportion of individuals who are either never married or divorced (ONS, 2012b) and increasing numbers of individuals living alone in mid-life (Demey *et al*, 2013), can contribute to a changing demand for the type of long-term care accommodation in the future and new types of residential care arrangements. However, policies which target specific groups of the older population also need to take into account cohort differences in both financial and social resources, as well as the rise of different expectations of older people with regard to independence, consumption and the use technology. An equally important implication of this research refers to the role of health and social care professionals in facilitating the transition of older individuals in long-term care, and the importance of this role is likely to increase as eligibility criteria for the receipt of social care are tightened by local councils. Finally, a better understanding of pathways into different types of long-term care in the future will also depend on a greater understanding of filial negotiations for the provision of informal care, which can have an impact on an individual's health and care needs, and their options for long-term care.

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