



Published in final edited form as:

*Ageing Ment Health*. 2017 January ; 21(1): 104–112. doi:10.1080/13607863.2015.1088510.

## Informal Caregiving Transitions, Subjective Wellbeing and Depressed Mood: Findings from the English Longitudinal Study of Ageing

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### Abstract

**Objectives**—To prospectively investigate the impact of transitions in informal caregiving on emotional wellbeing over two years in a large population study of older people.

**Methods**—Information on provision of unpaid care in 2004/5 and 2006/7 was available for 6571 participants in the English Longitudinal Study of Ageing. Three wellbeing domains were also assessed on each occasion: Life satisfaction (measured with the Satisfaction With Life Scale); Quality of life (assessed with the CASP-19 scale); and depression symptoms (measured using the Centers for Epidemiologic Studies Depression Scale). Multivariable analyses of the impact on wellbeing of two-year caregiving transitions (caregiving entry and caregiving exit, or continued caring) were conducted separately for spousal/child carers and carers of other family/non-relatives.

**Results**—Compared to non-caregiving, entry into spousal/child caregiving was associated with decline in quality of life ( $B = -1.60, p < .01$ ) whereas entry into caregiving involving other kin relations increased life satisfaction ( $B = 1.02, p < .01$ ) and lowered depression symptoms ( $B = -0.26, p < .05$ ). Contrary to expectations, caregiving exit was related to increased depression in both spousal/child ( $B = 0.44, p < .01$ ) and non-spousal/child ( $B = 0.25, p < .05$ ) carers. Continued spousal/child caregiving was also related to decline in quality of life ( $B = -1.24, p < .05$ ). Other associations were suggestive but non-significant.

**Conclusion**—The emotional impact of different caregiving transitions in later life differs across kin relationships; notably, spousal and child carers' wellbeing was consistently compromised at every stage of their caregiving career over the two-year study period.

### Keywords

Caregivers; Depression; Quality of life; Older people; English Longitudinal Study of Ageing

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### Conflicts of interest

The authors declare no conflict of interest.

## INTRODUCTION

Around 1.2 million people aged 65 years and over in England provided informal (i.e. unpaid) care in 2011, denoting an increase of approximately 35% since 2001 (Smith, 2013). However, the fastest growing section of older caregivers are those aged 85 and above, whose numbers have increased by almost 130% during the past decade (Carers UK, 2015). In comparison, the number of all informal carers grew by just 11% over the same period (Carers UK, 2015). Informal caregiving has become more common predominantly due to population ageing and increased life expectancy of people living with disability (Colombo, Llena Nozal, Mercier, & Tjadens, 2011; Pickard, 2008). As a consequence of these trends, the need for informal caregiving is expected more than double during the first half of the 21<sup>st</sup> century (Pickard, 2008).

Informal caregiving frequently involves diverse responsibilities and duties without which the care recipient is unlikely to cope. While caregiving can bring satisfaction and reward to some individuals, for many carers it is an onerous and stressful experience (Adelman, Tmanova, Delgado, Dion, & Lachs, 2014; Lovell & Wetherell, 2011; Steele, Maruyama, & Galynker, 2010). Not surprisingly, current theoretical frameworks commonly view the burden associated with caregiving from the psychological perspective of stress and coping which has been widely applied in investigations of caregiver wellbeing (Carretero, Garces, Rodenas, & Sanjose, 2009; Pearlin, Mullan, Semple, & Skaff, 1990). Studies have consistently observed adverse physical (Pinquart & Sörensen, 2003; Vitaliano, Zhang, & Scanlan, 2003), mental (Pinquart & Sörensen, 2003), and psychosocial (Pinquart & Sörensen, 2006, 2011) outcomes in informal caregivers when compared with non-carers, although the impact of caregiving may also depend on specific caregiver and carer recipient characteristics, including kin relations. For example, spousal caregivers are more likely to be depressed and experience lower levels of psychological wellbeing than adult children providing parental care which may reflect differences in the type and amount of care that is provided (Pinquart & Sörensen, 2011).

There is growing appreciation of the highly dynamic nature of informal caregiving (Hirst, 2005), a view that integrates both stress theory and a life course perspective (Pearlin, 1992, 2010). Although the demands associated with informal caregiving change as individuals enter into, engage with, and exit from this role (Pearlin, 1992), the evidence regarding the impact of caregiving transitions on the emotional wellbeing of older carers is still limited in scope and quality. For example, few investigations have simultaneously modelled the impact of different care transitions or compared their effects on wellbeing in different caregiver-care recipient kinship groups. Based on the available data, entry into caregiving (Burton, Zdaniuk, Schulz, Jackson, & Hirsch, 2003; Kramer & Lambert, 1999; Seltzer & Li, 2000), and especially into a demanding caregiving role (Burton et al., 2003), may increase depression and lower happiness in older spousal carers. In contrast, becoming a parental caregiver may not adversely impact wellbeing (Lawton, Moss, Hoffman, & Perkinson, 2000); in some instances wellbeing may benefit from assuming this role (Seltzer & Li, 2000). Although giving up a demanding spousal caregiving role has also been related to improved wellbeing (Bond, Clark, & Davies, 2003; Seltzer & Li, 2000), it is unclear whether full recovery to pre-caregiving levels was achieved. Further evaluation of the above

associations is required using prospective population data with information on different care transitions and kinship relations, different aspects of psychological wellbeing, and important potential confounding variables.

The purpose of the present study was to investigate the influence of informal caregiving transitions on negative and positive emotional wellbeing among older adults, and to examine if these associations differed depending on the carer's relation with the recipient of care. We examined this using data from the English Longitudinal Study of Ageing (ELSA), a large nationally representative panel study of people aged 50 years and over. Based on previous work in this area (Seltzer & Li, 2000; Townsend, Noelker, Deimling, & Bass, 1989), we hypothesised that: 1) caregiving entry would negatively impact wellbeing; 2) recovery in wellbeing levels would occur following exit from caregiving; and 3) continued caregiving would negatively affect wellbeing levels. In general, we expected greater decreases and smaller improvements in wellbeing among spousal or child caregivers when compared with non-spousal/child caregivers (Seltzer & Li, 2000).

## METHODS

### Study sample

This investigation uses data from the ELSA study covering a two-year period. The sampling and data collection procedures in ELSA have been described before (Stephens, Breeze, Banks, & Nazroo, 2013). For the present study, baseline information on informal caregiving, covariates, and measures of subjective wellbeing were derived from wave 2 (2004/5) as this was the first time data on life satisfaction were collected in ELSA; identical 2-year follow-up data were obtained from wave 3 (2006/7). Wave 2 included 8780 core study members, of whom approximately 86% participated in wave 3. A total of 6784 participants had complete information on caregiving at both waves; we subsequently excluded respondents who cared for their grandchildren at either wave ( $n=213$ ) to arrive at our final analytical sample ( $n=6571$ ).

### Measures

**Caregiving characteristics**—Informal caregiving at baseline and follow-up was assessed using two basic questions. Study participants were first asked: *'Did you do any of the following activities in the last month (i.e. cared for someone)?'* Those who responded positively were asked a second question: *'Did you look after anyone in the last week (including your partner or other people in your household)? By 'look after' we mean the active provision of care.'* These questions were combined in order to identify carers (those providing a 'yes' answer to both questions) and non-carers (those replying 'no' to the first question only) at each time point in the study. Those who self-reported as caregivers were asked about their kin relationship with the care recipient. We used this information to construct two categories of caregivers: We combined respondents who cared for a spouse/partner or child as "Spousal/child caregivers" given the relative salience of these relations compared to other care-care recipient relations (Ghosh, Greenberg, & Seltzer, 2012; Pinquart & Sörensen, 2011), whereas those providing care to parents, parents-in-law, other relatives, friends or neighbours were grouped together under 'Other caregiving

relationships'. For each category, we subsequently derived a new 'caregiving role transition' variable reflecting the four different possible transitions in caregiving status between baseline and follow-up (e.g. non-carer at baseline and follow-up; entry into caregiving; exit from caregiving; and caregiver at both time points i.e. continuing caregiver).

### **Subjective wellbeing measures**

**Satisfaction with life:** The Satisfaction with Life Scale (SWLS) was used for assessing how satisfied a person is with his/her life (Diener, Emmons, Larsen, & Griffin, 1985). The SWLS contains five items with response options based on a seven-point scale (ranging from strongly disagree to strongly agree). A typical SWLS item would be 'In most ways my life is close to my ideal'. Responses were reversed and re-scaled, then summed for a total scale score ranging from 0 to 30, with higher scores indicating greater overall satisfaction with life (Cronbach's  $\alpha$  was 0.90 at each wave).

**Quality of life:** Quality of life was assessed using the CASP-19 scale, which is a summative scale of 19 items, tapping four main domains: control, autonomy, self-realization and pleasure (Hyde, Wiggins, Higgs, & Blane, 2003). The scale includes both positively and negatively worded items, and an example of a typical item would be 'I enjoy the things I do'. Each item is scored on a four-point scale: 'never', 'not often', 'sometimes' and 'often'. We added individual items to create a total score, ranging from 0 to 57; higher scores indicated greater life quality (Cronbach's alpha was 0.88 at each wave).

**Depression symptoms:** Self-reported depression symptoms were assessed using the eight-item Center for Epidemiologic Studies Depression Scale (CES-D) which, although not a clinical diagnostic tool, is widely used to identify persons at risk of depression (Radloff, 1977). We added responses to all eight dichotomous questions (a typical question being 'how much of the time during the past week did you feel sad?') to create a total scale score, ranging from 0 to 8, with higher scores indicating a greater degree of depression (Cronbach's  $\alpha$  ranged from 0.80 to 0.95 across waves). The eight-item version has good internal consistency and other psychometric properties comparable to the full 20-item CES-D scale (Steffick & the HRS Health Working Group, 2000).

### **Assessment of covariates**

The following baseline characteristics were considered as potential confounders of the associations under study: age and sex; relationship status (married/cohabiting versus neither i.e. single, divorced or widowed); highest education level completed (no qualification, intermediate or degree); current work participation (full-time/part-time versus neither); total non-pension wealth as an indicator of socioeconomic status (Banks, Karlsen, & Oldfield, 2003). Finally, study subjects provided information on any longstanding health issues and whether they had limiting effects on their lives. A variable indicating the presence (or not) of longstanding limiting illness was derived from these two questions (McMunn, Hyde, Janevic, & Kumari, 2003).

## Statistical analysis

Descriptive analyses were performed on data stratified by type of caregiving relationship and care role transition over the 2-year follow-up period. We divided non-pension wealth into quintiles because its distribution was positively skewed. Age was used as four-level (i.e. 50–59, 60–69, 70–79 and 80+) variable in bivariate analyses but as a continuous variable in multivariable analyses (see below). We used Pearson  $\chi^2$  (Chi-square) to test relationships between binary categorical variables; for assessment of trends for ordinal categorical variables, we used the  $\chi^2$  trend (Linear-by-Linear Association) test. An independent samples *t*-test (Student's *t*) was used for comparing mean subjective wellbeing levels at baseline and follow-up in each caregiving transition group and non-carers. We used multiple linear regression to separately investigate associations between follow-up subjective wellbeing levels and caregiving transition type amongst spousal/child carers and those involved in other types of caregiving relationships while adjusting for baseline wellbeing levels and covariates. In order to contrast the different types of caregiving transitions within each care relationship category, we created three dummy variables using non-carers as reference. For each subjective wellbeing measure, we fitted two regression models. Our basic model adjusted for age, sex and baseline value of each wellbeing measure. Using the baseline value on a particular measure as a covariable is considered superior to using raw change scores as it obviates the potential spurious correlation between baseline and change scores (Kenny, 2005). Our full model further adjusted for baseline relationship status, education level, non-pension wealth, work participation, and longstanding limiting illness. All statistical tests were two-tailed and *P* values <0.05 were considered to be statistically significant. All data analyses were performed using IBM SPSS Statistics version 22.

## RESULTS

Baseline comparisons of demographic and socioeconomic characteristics between non-carers and participants who entered into either spousal/child caregiving or other types of caregiving relationships are shown in Table 1. Thus, respondents who became spousal/child carers were significantly more likely than non-carers to be married,  $\chi^2(1, 5797) = 59.37$ ,  $p < .001$ , and to suffer from a limiting illness,  $\chi^2(1, 5793) = 4.35$ ,  $p = .01$ ; however, they were relatively less likely to be working,  $\chi^2(1, 5796) = 6.46$ ,  $p = .011$ . Similarly, those who entered into non-spousal/child caregiving were relatively younger on average,  $\chi^2$  trend (1, 5820) = 26.48,  $p < .001$ , and more likely to be female,  $\chi^2(1, 5820) = 8.04$ ,  $p = .005$ ; they were also more educated,  $\chi^2$  trend (1, 5816) = 13.80,  $p < .001$ , and more likely to be working,  $\chi^2(1, 5819) = 18.60$ ,  $p < .001$ .

In addition, those who exited from spousal/child caring were more likely to be married,  $\chi^2(1, 5801) = 56.17$ ,  $p < .001$ , at baseline compared to non-carers (Table 1). On the other hand, former non-spousal/child carers were younger on average,  $\chi^2$  trend (1, 5871) = 23.01,  $p < .001$ , included more women,  $\chi^2(1, 5871) = 29.19$ ,  $p < .001$ , were better educated,  $\chi^2$  trend (1, 5867) = 5.52,  $p = .019$ , enjoyed more wealth,  $\chi^2$  trend (1, 5791) = 7.16,  $p = .007$ , were more likely to be working,  $\chi^2(1, 5870) = 9.00$ ,  $p = .003$ , and had less limiting illness,  $\chi^2(1, 5867) = 5.86$ ,  $p = .015$ , than non-carers at baseline.

Furthermore, in comparison to non-carers, continuing spousal/child carers were more likely to be female,  $\chi^2(1, 5777) = 5.63, p = .018$ , enjoy greater wealth,  $\chi^2 \text{ trend}(1, 5701) = 8.35, p = .004$ , be married,  $\chi^2(1, 5777) = 49.01, p < .001$ , and be working,  $\chi^2(1, 5776) = 16.90, p < .001$ , at baseline (Table 1). Similarly, continuing providers of non-spousal/child care were younger on average,  $\chi^2 \text{ trend}(1, 5773) = 27.35, p < .001$ , and more likely to be female,  $\chi^2(1, 5773) = 15.08, p < .001$ , relative to non-carers. They were also relatively better educated,  $\chi^2 \text{ trend}(1, 5769) = 9.35, p = .002$ , and wealthier,  $\chi^2 \text{ trend}(1, 5695) = 3.99, p = .046$ .

Table 2 shows differences in wellbeing scores between the groups at baseline and at follow-up. At baseline, individuals who continued as carers for their spouse or child had significantly lower scores on life satisfaction,  $t(4935) = -2.45, p = .014$ , and higher scores on depression,  $t(5726) = 3.04, p = .002$ , when compared with non-caregivers. Spousal/child caregivers in all categories reported lower quality of life when compared with non-caregivers ( $p$  ranging from .003 to  $< .001$ ). In contrast, non-spousal caregivers did not show appreciably lower scores on any measure of wellbeing when compared with non-caregivers.

In general, well-being was lower at follow-up for all groups, although the pattern of means was slightly different (Table 2). At follow-up, significantly lower well-being levels persisted in continuing spousal/child carers compared to non-caregivers. Similar to baseline, quality of life was lower for spousal/child caregivers in all groups when compared with non-caregivers ( $p$  ranging from .027 to  $< .001$ ). In contrast, individuals who entered caregiving for other groups reported significantly higher levels of well-being when compared with non-caregivers ( $p$  varying from .032 to .003).

### **Do individuals who enter caregiving report lower well-being when compared with non-caregivers?**

As hypothesised, entry into spousal/child caregiving was associated with a significant deterioration in quality of life over the 2-year follow-up period after full adjustment for baseline covariates ( $B = -1.60, p < .01$ ) (see Table 3). On the other hand, entry into non-spousal/child caregiving was related to a significant improvement in both life satisfaction ( $B = 1.02, p < .01$ ) and depression levels ( $B = -0.26, p < .05$ ) in the fully-adjusted analysis.

### **Do those who exit caregiving report improved well-being, comparable with non-caregivers?**

Contrary to our expectations, participants who exited from spousal/child caregiving experienced a significant increase in depression levels over time compared to non-carers ( $B = 0.44, p < .01$ ) after full adjustment for baseline covariates (table 3). Similarly, giving up non-spousal/child caregiving was also associated with increased levels of depressive symptoms ( $B = 0.25, p < .05$ ) after controlling for baseline variables.

### **Is continued caregiving associated with sustained low well-being when compared with non-caregivers?**

In line with our predictions, continuing spousal/child caregivers experienced a significant decline in quality of life ( $B = -1.24, p < .05$ ), when compared with non-caregivers after

controlling for baseline covariates (Table 3). On the other hand, none of the associations between long-term non-spousal/child caregiving and each of the three wellbeing measures were significant.

## DISCUSSION

This study investigated the impact of transitions in informal caregiving over a two-year period on positive and negative aspects of wellbeing of older caregivers participating in the ELSA study. More specifically, we examined whether the effects of transitions differed across caregiver-care recipient kinship relations. Our findings show that entry into spousal or child caregiving is associated with deterioration in quality of life whereas non-spousal/child caregiving entry is related to increased satisfaction with life and reduced feelings of depression. On the other hand, we found that giving up caregiving was associated with increased depression levels in both kin relationship groups. Finally, we observed that continuing spousal/child caregivers experienced significantly steeper decline in quality of life compared with non-carers. All associations persisted after controlling for multiple demographic characteristics, socioeconomic factors, health and relationship status at baseline. These findings are discussed further below in the context of the limited number of published studies in this area although direct comparison with our results is challenging because of methodological differences.

As hypothesised, entry into spousal/child caregiving was associated with decline in wellbeing. These findings are in line with many previous studies showing high rates of burden and psychological morbidity in older spousal carers (Pinquart & Sörensen, 2003) and parents of adult children with disability (Ghosh et al., 2012). As an example, there are many aspects of spousal caregiving that make this role particularly challenging. First, social norms may dictate spouses to take on caregiving responsibilities before others (e.g. adult children) (Quinn, Clare, & Woods, 2010). Because spouses are most likely to live with the care recipient, they tend to provide more hours of care and find less respite (Pinquart & Sörensen, 2011). In particular, spouses are more likely to care for a person with dementia than adult children (Brodaty & Donkin, 2009); caring for a person with dementia may be more stressful than caring for a person with other disability. Moreover, hands-on care, dressing, and assisting with finances and other important everyday activities are more frequently performed by spouses than other carers but assuming these caregiving duties and responsibilities is related to higher stress levels (Brodaty & Donkin, 2009). Also, spousal carers tend to be older and may suffer from more health problems compared to other caregivers, leading to greater perceived stress when assuming the caregiving role (Pinquart & Sörensen, 2011). Although our analysis controlled for baseline differences in age and limiting illness, it is possible that other unmeasured factors might have contributed to our findings. For example, there is evidence that spousal carers may lack social contact and support (Brodaty & Donkin, 2009) which are related to wellbeing in older people (Rafnsson, Shankar, & Steptoe, 2015). Furthermore, the effects of spousal/child caregiving entry in our study were mainly limited to quality of life. Depression levels were also elevated albeit non-significantly. Other studies also reported significant relationships with increased depression levels in new spousal carers but after longer follow-up (Burton et al., 2003; Kramer & Lambert, 1999). Taken together, these results suggest that feelings of being in control and

deriving pleasure from each day may be eroded before significant changes in mood levels appear following entry into spousal/child caregiving.

In contrast, our study demonstrated that wellbeing levels actually increased following entry into non-spousal/child caregiving. Specifically, while depression levels decreased, life satisfaction levels increased. Greater life satisfaction, as an example, may result from setting and achieving goals that build on personal and family values, including the desire to benefit the care-recipient e.g. by reducing his or her distress (Quinn et al., 2010). However, other characteristics may also be important. For example, the timing of entry into non-spousal/child caregiving may occur at a relatively younger age and the caregiving tasks and duties they assume may be complementary to other important social roles (Pinquart & Sörensen, 2011). Also, compared to spousal carers, adult children and other relatives tend to provide less hands-on care such as bathing, lifting, and dressing; hence, the caregiving role is less burdensome (Brodaty & Donkin, 2009). In addition, they may possess more resources and social support to draw upon which also helps buffer caregiving stress (Pinquart & Sörensen, 2011). Our findings broadly corroborate some previous results showing non-significant improvement in depression levels following entry into parental caregiving (Seltzer & Li, 2000) although another study found no relationship between caregiving entry and wellbeing in adult daughters and daughters-in-law (Lawton et al., 2000). The very short follow-up might have explained these null results. Also, both studies were substantially smaller than the present one and comprised very different types of samples. In addition, our caregiver group was much broader since it also included other kinds of caregivers, including those caring for a friend or neighbour. Therefore, it is unclear whether differences across care groups in reasons for caring were present in our study. Also, it is unclear to what extent these might account for the discrepancy between our study and the two aforementioned investigations.

Contrary to expectations, both kin relationship groups experienced increased levels of depression following exit from caregiving when compared to non-carers. Other aspects of wellbeing were not affected. As discussed above, informal caregiving is frequently associated with feelings of stress, social isolation, financial hardship and psychological morbidity (Brodaty & Donkin, 2009; Pinquart & Sörensen, 2003). Therefore, one would expect recovery in wellbeing levels following cessation of caregiving, particularly following exit from a spousal or child caregiving role. However, several issues need clarifying. For example, it is unclear when during the two-year period caregiving responsibilities ceased. It is also not clear why caregiving stopped. It is possible that both the timing of giving up caregiving, and the underlying reason, may influence carer's reaction to this transition. Regarding the latter, two investigations compared wellbeing levels, including depression symptoms, in former and consistent spousal caregivers over two (Bond et al., 2003) and three (Seltzer & Li, 2000) years, respectively. Interestingly, wellbeing levels improved significantly and irrespectively of whether caregiving ceased because of the care recipient's death or institutionalisation. Similarly, adult caregiving daughters who placed their parent in a nursing home reported reduced sense of burden compared to those who continued to provide care; there was also a non-significant reduction in depression symptoms (Seltzer & Li, 2000). On the other hand, daughters whose parent had died experienced a (non-significant) increase in depression (Seltzer & Li, 2000). Since no comparison was made with

non-carers in these studies, it is difficult to say whether recovery to baseline (pre-caregiving) levels occurred within these relative short periods. Although more research is needed tracking both positive and negative aspects of wellbeing over longer time periods, our results suggest that giving up caregiving is related to significant acute or short-term negative effects on mood levels across different kinship groups of informal carers.

As discussed already, informal caregiving is frequently associated with increased stress and compromised psychological wellbeing (Pinquart & Sörensen, 2003). Spousal or child caregiving in particular is related to comparatively high levels of care burden (Pinquart & Sörensen, 2011). We hypothesized that continued caregiving would be related to progressive deterioration in wellbeing levels. As predicted, we observed lower baseline and follow-up levels across all wellbeing measures in this caregiver group. In addition, levels of quality of life declined significantly over time, reflecting the ongoing deterioration to these caregivers' sense of autonomy, control over their everyday lives, and general outlook on life. Our results corroborate cross-sectional findings from some small-scale longitudinal studies that also reported significantly lower wellbeing levels at different time points in continuing spousal carers (although longitudinal results showing greater decline in wellbeing among these carers were non-significant) (Seltzer & Li, 2000). In combination, these findings lend further support to the "wear-and-tear hypothesis" of caregiving which proposes that sustained caregiving gradually erodes caregiver wellbeing (Townsend et al., 1989). However, further research is needed to determine whether deterioration in wellbeing persists over longer time periods; an alternative model of the impact of caregiving suggests that recovery in wellbeing levels may be possible as carers adapt to caregiving demands (Brodsky & Donkin, 2009). In contrast, we did not find any effects of continuing non-spousal/child caregiving which is likely to reflect the different nature of this type of caregiving compared to caring for a spouse or child. These results are broadly in line with previous studies comparing wellbeing in non-carers and continuing parental carers (Seltzer & Li, 2000).

Among the methodological strengths of the current investigation is the prospective design of the ELSA study which allowed us to examine different transitions in caregiving. This contrasts with previous analyses that only studied caregiving entry (Kramer & Lambert, 1999) or exit (Bond et al., 2003) but not both simultaneously. Our study outcomes were based on widely used measures whereas previous studies have often been restricted by their focus on limited wellbeing domains (e.g. depression but not positive wellbeing) and by not having robust scales.

Several potential limitations of this investigation need to be discussed. First, sample attrition between waves in the ELSA study reduced the sample size available for the present study although we did not attempt to impute missing data. The use of multiple imputations for missing data in some previous ELSA-based analyses generated results that were similar to those based on the complete sample (Netuveli, Wiggins, Hildon, Montgomery, & Blane, 2006). Second, the present findings are based on a sample of survivors from the full ELSA baseline sample who provided complete information on participation in caregiving on two occasions. Although the underlying reasons for attrition in ELSA have been probed (Banks, Muriel, & Smith, 2011), it is unclear whether caregiving plays a role. If study drop-out was related to caregiving, the results reported would likely be an underestimate of the true

magnitude of the impact of caregiving on wellbeing. Third, caregiving status was based on questions concerning participation in caregiving activities in the month, and active provision of care in the week, prior to the baseline and follow-up interviews. More specific information on the duration of caregiving activities between data collection waves in the ELSA study is not available. One potential consequence is that it is currently unclear whether caregiving responsibilities were sustained over the 2-year interval among participants who we classified as continuing caregivers. Also, we can only speculate about the potential impact of such measurement uncertainty on our results: To the extent that our data fail to accurately reflect prolonged caregiving during follow-up, the findings reported here are likely to be conservative estimates of its true impact on wellbeing levels. We were also unable to determine at what point over the 2-year period participants entered and exited from their caregiving roles. Finally, we lacked information on specific caregiver (e.g. reason for caring) and care recipient (e.g. type of disability) characteristics, which may influence caregiver wellbeing (Brodaty & Donkin, 2009). More research is needed to explore the role of these aspects of caregiving in the context of the impact of care role transitions on wellbeing in later life.

In conclusion, although informal caregiving is highly dynamic in nature, the impact of different care transitions on older caregiver emotional wellbeing is still poorly understood. In this investigation, entry into spousal or child caregiving was associated with a decline in quality of life whereas giving up this role was related to increased depression. Continuing spousal and child caregivers had comparatively low wellbeing levels and experienced further decline over time. The impact of caregiving transitions on non-spousal/child caregiver wellbeing was more variable. For example, wellbeing levels improved following caregiving entry. This study adds further longitudinal evidence to a growing body of data on the health and wellbeing of older informal caregivers.

## Acknowledgments

### Funding

This study was supported by the UK's Economic and Social Research Council's Secondary Data Analysis Initiative (Grant ES/K003178/1). The English Longitudinal Study of Ageing is funded by the National Institute on Ageing (Grants 2RO1AG7644-01A1 and 2RO1AG017644) and by a consortium of UK government departments coordinated by the UK Economic and Social Research Council (ESRC). The data are lodged with the UK Data Archive. Professor Andrew Steptoe is supported by the British Heart Foundation. The sponsors played no role in the design, method, analysis, or preparation of the manuscript.

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**Table 1**

Baseline differences<sup>a</sup> in demographic, socioeconomic and health characteristics according to caregiving transition and kin relationship type.

Variables	No caring			Spousal/child caregiving			Other caregiving relationships <sup>b</sup>		
	Entry	Exit	Continuing	Entry	Exit	Continuing	Entry	Exit	Continuing
<i>Total number of participants</i>	5653	144	148	124	167	218	120		
<i>Ages, %</i>									
50–59	28.9	27.1	25.7	32.3	46.1	40.4	49.2		
60–69	32.5	30.6	31.8	32.3	30.5	33.9	28.3		
70–79	25.5	31.3	32.4	31.5	18.6	21.6	21.7		
80+	13.1	11.1	10.1	4.0	4.8	4.1	0.8		
<i>Women, %</i>									
	53.0	<i>p</i> = .67	<i>p</i> = .61	<i>p</i> = .09	<i>p</i> < .001	<i>p</i> < .001	<i>p</i> < .001		
<i>Education, %</i>									
No qualification	38.2	38.2	37.8	40.7	25.7	27.5	22.5		
Intermediate	49.0	50.0	49.3	45.5	54.5	59.6	61.7		
Degree or higher	12.8	11.8	12.8	13.8	19.8	12.8	15.8		
<i>Wealth quintile, %</i>									
Lowest	20.4	28.0	17.0	25.0	18.0	17.3	16.9		
Highest	19.5	17.5	17.7	11.3	20.5	25.7	28.8		
<i>Relationship status, %</i>									
Married/Cohabiting	65.0	95.9	94.6	95.1	70.7	69.7	69.2		
<i>Working full or part-time, %</i>									
	29.9	<i>p</i> < .001	<i>p</i> < .001	<i>p</i> < .001	<i>p</i> = .16	<i>p</i> = .21	<i>p</i> = .18		
<i>Has longstanding limiting illness, %</i>									
	36.0	<i>p</i> = .011	<i>p</i> = .26	<i>p</i> < .001	<i>p</i> < .001	<i>p</i> = .003	<i>p</i> = .56		
		<i>p</i> = .037	<i>p</i> = .83	<i>p</i> = .24	<i>p</i> = .15	<i>p</i> = .015	<i>p</i> = .84		

Note: The analytical sample comprises 6571 ELSA core members who provided complete information on participation in informal caregiving at baseline (wave 2 in 2004/5) and follow-up (wave 3 in 2006/7). Participants who reported caring for grandchildren at either baseline or follow-up were excluded (n=213).

<sup>‡</sup>Probability (P) values were derived using either a  $\chi^2$  test (test of difference between two proportions) or  $\chi^2$  trend test (test of trend for ordinal categories).

<sup>‡</sup>Caring for parent(s), parent(s)-in-law, other relatives, or friends/neighbors combined.

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Unadjusted comparisons<sup>†</sup> of baseline and follow-up subjective wellbeing levels by type of caregiving transition and kin relationship.

**Table 2**

	Baseline				Follow-up			
	Life satisfaction Mean (SD)	Quality of life Mean (SD)	Depressive symptoms Mean (SD)	Life satisfaction Mean (SD)	Quality of life Mean (SD)	Depressive symptoms Mean (SD)	Quality of life Mean (SD)	Depressive symptoms Mean (SD)
No caring (n=5653)	21.3 (6.1)	42.9 (8.6)	1.56 (1.95)	20.0 (6.4)	41.1 (8.6)	1.49 (1.95)		
<i>Spousal/child caregiving</i>								
Entry (n=144)	20.9 (6.6)	40.5 (8.6)	1.51 (1.91)	19.5 (7.0)	37.8 (8.9)	1.64 (1.99)		
	<i>p</i> = .46	<i>p</i> = .003	<i>p</i> = .72	<i>p</i> = .44	<i>p</i> < .001	<i>p</i> = .36		
Exit (n=148)	20.3 (6.3)	40.7 (9.3)	1.66 (1.99)	20.0 (6.0)	39.4 (8.7)	1.92 (2.05)		
	<i>p</i> = .07	<i>p</i> = .007	<i>p</i> = .58	<i>p</i> = .98	<i>p</i> = .027	<i>p</i> = .008		
Continuing (n=124)	19.8 (6.9)	38.1 (9.7)	2.10 (2.09)	18.5 (7.1)	36.9 (8.6)	2.06 (2.14)		
	<i>p</i> = .014	<i>p</i> < .001	<i>p</i> = .002	<i>p</i> = .020	<i>p</i> < .001	<i>p</i> = .004		
<i>Other kin relationships<sup>‡</sup></i>								
Entry (n=167)	21.5 (6.3)	44.3 (8.6)	1.35 (1.66)	21.2 (6.0)	42.9 (8.2)	1.11 (1.61)		
	<i>p</i> = .65	<i>p</i> = .057	<i>p</i> = .098	<i>p</i> = .032	<i>p</i> = .012	<i>p</i> = .003		
Exit (n=218)	21.1 (5.5)	44.3 (7.0)	1.46 (1.84)	19.6 (6.7)	41.8 (7.9)	1.62 (2.06)		
	<i>p</i> = .65	<i>p</i> = .008	<i>p</i> = .43	<i>p</i> = .32	<i>p</i> = .26	<i>p</i> = .34		
Continuing (n=120)	21.1 (6.8)	43.0 (8.2)	1.55 (1.94)	18.8 (7.5)	40.6 (9.5)	1.51 (2.26)		
	<i>p</i> = .76	<i>p</i> = .89	<i>p</i> = .93	<i>p</i> = .10	<i>p</i> = .54	<i>p</i> = .92		

Note: The analytical sample comprises 6571 ELSA core members who provided complete information on participation in informal caregiving at baseline (wave 2 in 2004/5) and follow-up (wave 3 in 2006/7). Participants who reported caring for grandchildren at either baseline or follow-up were excluded (n=213).

<sup>†</sup>Probability (P) values were derived using an independent samples *t*-test (test of difference between two means).

<sup>‡</sup>Caring for parent(s), parent(s)-in-law, other relatives, or friends/neighbours combined.

**Table 3**

Multivariable regression analyses of subjective wellbeing levels in relation to type of caregiving transition and kin relationship.

Caregiving variables	Life satisfaction		Quality of life		Depression symptoms	
	Basic model <sup>†</sup>	Full model <sup>‡</sup>	Basic model <sup>†</sup>	Full model <sup>‡</sup>	Basic model <sup>†</sup>	Full model <sup>‡</sup>
	B (95% CI)		B (95% CI)		B (95% CI)	
<i>Spousal/child caregiving</i>						
No caring	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Entry	-0.25 (-1.08, 0.58)	-0.14 (-0.97, 0.69)	-1.78 (-2.88, -0.67)**	-1.60 (-2.70, -0.48)**	0.19 (-0.08, 0.46)	0.14 (-0.13, 0.41)
Exit	0.19 (-0.64, 1.03)	0.04 (-0.80, 0.88)	0.62 (-0.44, 1.69)	0.34 (-0.73, 1.41)	0.36 (0.10, 0.63)**	0.44 (0.17, 0.70)**
Continuing	-0.60 (-1.51, 0.30)	-0.64 (-1.54, 0.27)	-1.14 (-0.23, 0.02)	-1.24 (-2.41, -0.08)*	0.24 (-0.05, 0.54)	0.21 (-0.08, 0.50)
Total R <sup>2</sup>	0.50***	0.50***	0.58***	0.59***	0.31***	0.35***
N	4988	4924	4565	4501	6367	6268
<i>Other kin relationships<sup>a</sup></i>						
No caring	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Entry	0.66 (-0.10, 1.41)	1.02 (0.25, 1.78)**	0.48 (-0.46, 1.43)	0.68 (-0.28, 1.64)	-0.28 (-0.53, -0.02)*	-0.26 (-0.51, -0.01)*
Exit	0.32 (-0.37, 1.01)	0.20 (-0.49, 0.90)	0.18 (-0.67, 1.05)	0.09 (-0.77, 0.94)	0.15 (-0.07, 0.37)	0.25 (0.03, 0.47)*
Continuing	-0.32 (-1.20, 0.55)	-0.33 (-1.22, 0.55)	-0.62 (-1.71, 0.47)	-0.78 (-1.87, 0.31)	0.01 (-0.29, 0.30)	0.05 (-0.24, 0.34)
Total R <sup>2</sup>	0.50***	0.50***	0.58***	0.59***	0.31***	0.35***
N	4988	4924	4565	4501	6367	6268

Note: The analytical sample comprises 6571 EL-SA core members who provided complete information on participation in informal caregiving at baseline (wave 2 in 2004/5) and follow-up (wave 3 in 2006/7). Participants who reported caring for grandchildren at either baseline or follow-up were excluded (n=213).

<sup>†</sup> Adjusted for baseline (wave 2) age, sex and subjective wellbeing levels.

<sup>‡</sup> Basic model plus baseline level of education, work participation, relationship status, non-pension wealth and presence of longstanding limiting illness.

<sup>a</sup> Caring for parent(s), parent(s)-in-law, other relatives, or friends/neighbours combined.

\* p < .05;

\*\* p < .01;

\*\*\* p < .001.