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When is a carer's employment at risk? Longitudinal analysis of unpaid care and employment in midlife in England

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What is known about this topic

- Provision of unpaid care for 20 or more hours a week has negative consequences for employment participation in Britain.
- The international literature suggests a lower threshold.
- However, the identification of a lower threshold is not based on recent data.

What this paper adds

- In England, recent longitudinal data show that provision of unpaid care by people in midlife for only 10 or more hours a week can have negative consequences for employment.
- Local authorities are not in contact with large numbers of carers whose employment is at risk.
- To fulfil their duty to provide services to carers whose employment is at risk, councils need to provide more support for employed carers.

Abstract

This article examines the thresholds at which provision of unpaid care affects employment in England. Previous research has shown that providing care for 20 or more hours a week has a negative effect on employment. The present article explores the impact of a lower threshold and asks whether provision of care for 10 or more hours a week has a negative effect on employment. The article focuses on women and men aged between 50 and State Pension Age (60 for women, 65 for men). The study uses data from the first four waves of the English Longitudinal Study of Ageing (ELSA), collected in 2002/2003, 2004/2005, 2006/2007 and 2008/2009. Across these waves, there are 17 123 people aged 50–59/64 years, of whom 9% provide unpaid care to an adult. Using logistic regression analysis of the longitudinal data, the study finds that employed women in their fifties who start providing care for <10 hours a week are significantly *more* likely to remain in employment one wave later than similar women who have not started to provide care. In contrast, employed women in their fifties who start providing care for 10 or more hours a week are significantly *less* likely to remain in employment one wave later than similar women who have not started to provide care. Employed men aged between 50 and State Pension Age, who provide care for 10 or more hours a week at the beginning of the period have a significantly reduced employment rate one wave later than those who do not provide care. The study therefore suggests that carers' employment may be negatively affected when care is provided at a lower intensity than is generally estimated in England. This has important implications for local authorities, who have a duty to provide services to carers whose employment is at risk.

Keywords: employment, England, gender, informal carers, midlife

Introduction

There has been increasing emphasis in social policy in England on supporting people who provide unpaid care to remain in employment (Her Majesty's Government 2008, 2010, Commission on Funding of Care and Support 2011). The current Carers' Strategy states that 'it is crucial that we place a much higher priority on supporting people of working age with caring responsibilities to *remain in work*, if they wish to do so' (Her Majesty's Government 2010, p. 15, emphasis added).

People in midlife are a key group in relation to policies to support carers in employment. People in their fifties and early sixties have relatively low labour market participation rates and also play a key part in the provision of unpaid care in England (Pickard 2007, Department for Work and Pensions 2011). Policies to raise the employment rates of older workers are central to 'labour

supply' responses to population ageing in many countries in Europe and other developed countries, as a mechanism to 'mobilise all available labour' (Organisation for Economic Co-operation and Development 2006, Austen & Ong 2010, p. 207).

There is a legal imperative for local authorities in England to support unpaid carers in employment. The Law Commission's consultation paper on adult social care states that, based on community care legislation passed in 1986, 1995 and 2000, 'local authorities … have a duty to meet the critical needs of carers, at least in some circumstances' (The Law Commission 2010, p. 69). One of the circumstances in which local authorities have a duty to meet the critical needs of carers is when their *involvement in employment or other responsibilities is, or will be, at risk* (The Law Commission 2010, p. 65, emphasis added, The Law Commission 2011, pp. 81–82). Following the Law Commission's consultation paper, the Department of Health revised its guidance for local authorities on eligibility criteria for adult social care, *Fair Access to Care Services* (Brand *et al.* 2010), with the revised guidance essentially restating the Law Commission's conclusions (Department of Health 2010, pp. 32–34).

However, although local authorities in England have a duty to support unpaid carers whose employment is at risk, there is little evidence that they do so to any great extent. The (former) Commission for Social Care Inspection found that there was 'a lack of adherence to legislation and guidance on supporting carers' by local authorities in England (Commission for Social Care Inspection 2008, p. 66). The Law Commission found that local authorities do not seem aware of their existing obligations and the situations in which they should be meeting carers' needs (The Law Commission 2011).

If local authorities are to meet carers' needs in relation to their employment, it would be helpful if they had a clear understanding of when a carer's employment is likely to be at risk. Research in Britain shows that there is a negative relationship between provision of unpaid care and employment (Carmichael & Charles 2003a,b, Heitmueller 2007, Carmichael *et al*. 2008, 2010). Although the direction of causation can flow both ways, recent longitudinal studies show that providing care for 20 or more hours a week has a negative effect on employment (Heitmueller 2007, Carmichael *et al.* 2010). Indeed, it seems to be accepted in the policy literature that there is a *threshold* effect of caring on employment when care is provided at this intensity. The Carers' Strategy, for example, states that, 'caring for 20 hours a week or more starts to have a substantial effect on employment' (Her Majesty's Government 2010, p. 43).

However, recent British studies that identify a threshold effect of 20 or more hours a week do not explore alternatives (Heitmueller 2007, Carmichael *et al.* 2010). Earlier studies in Britain and elsewhere have tested for other thresholds and found that caring for 10 hours or more a week has a negative effect on employment (Arber & Ginn 1995, Ettner 1995, Carmichael & Charles 2003a,b). However, none of the studies identifying a threshold of 10 or more hours a week is recent. The British studies, for example, use the 1985 and 1990 General Household Surveys (Arber & Ginn 1995, Carmichael & Charles 2003a,b). Moreover, these British studies use cross-sectional, rather than longitudinal data and are therefore unable to establish causal direction in the relationship between unpaid care and employment.

It is therefore important to re-examine the thresholds at which unpaid care affects employment. The objective of this study is to examine whether provision of unpaid care for 10 or more hours a week has a negative effect on employment in England. The focus is on 'older workers', about whom, as already indicated, there are particular issues around labour force participation. The study uses data from the ELSA, which contains recent information on a sample of the population aged 50 and over. ELSA includes questions on employment and open-ended questions on the time spent providing unpaid care, and therefore allows for an examination of the potential threshold effects of caring on employment.

Methods

This analysis uses the first four waves of ELSA, which is a longitudinal survey of people in private households in England. Data are recorded at 2-yearly intervals. Wave 1 was carried out in 2002/2003, Wave 2 in 2004/2005, Wave 3 in 2006/2007 and Wave 4 in 2008/2009. The analysis focuses on 'working age' adults aged between 50 and State Pension Age, which, at the time the data were collected, was 60 for women and 65 for men. There are over 5000 respondents in the sample of 'working age' adults in ELSA at Wave 1 (Table 1).

As with all longitudinal data, there are issues associated with attrition using ELSA, with potential implications for the representativeness of the sample over time. However, the initial ELSA sample is refreshed at each wave, to make it representative of the youngest people who have aged since the previous wave. This refreshment of the sample partly addresses the potential loss of representativeness (Vlachantoni 2010), particularly where the focus is on younger respondents in the ELSA sample, as is the case here.

Definition of unpaid care in ELSA

There are two important issues relating to the use of information on unpaid care over time using ELSA. The first is that, although the key question on unpaid care

Table 1 Estimated unpaid care provision to adults in English Longitudinal Study of Ageing (ELSA) Waves 1–4, by gender, England, from 2002/3 to 2008/9

	Number and percentage		
	Overall – *n* (%)	Females – *n* (%)	Males – *n* (%)
Wave 1 (*n* = 5088)	395 (7.8)	228 (9.8)[a]	167 (6.1)[b]
Wave 2 (*n* = 3607)	372 (10.3)	236 (14.5)[c]	136 (6.9)[d]
Wave 3 (*n* = 4146)	394 (9.5)	241 (12.7)[e]	153 (6.8)[f]
Wave 4 (*n* = 4282)	374 (8.7)	223 (11.8)[g]	151 (6.3)[h]
All waves (*n* = 17 123)	1535 (9.0)	928 (12.0)	607 (6.5)

Sources: Waves 1–4 of ELSA (authors' analysis).
Notes: Wave 1 interviews conducted in 2002/3; Wave 2 in 2004/5; Wave 3 in 2006/7; Wave 4 in 2008/9. Women aged 50–59 years; men aged 50–64 years.
The denominators are [a]2326, [b]2762, [c]1631, [d]1976, [e]1891, [f]2255, [g]1888 and [h]2395.

remains the same across all waves, a filter on the questions on unpaid care is introduced at Wave 2 (King *et al.* 2010). Thus, at Waves 2–4, questions on unpaid care are only asked of respondents who report that they 'cared for someone' at an earlier stage of the questionnaire, when respondents are asked about their recent 'activity' (Vlachantoni 2010). To control for this, this analysis applies a filter to Wave 1 that replicates, as far as possible, the questionnaire routing in Waves 2–4.

The second issue is that ELSA asks respondents a very general question about unpaid care, namely 'Did you look after anyone in the past week (including your partner or other people in your household)?' Pre-coded options for subsequent replies include, for example, grandchildren. Other surveys in the United Kingdom, and internationally, define unpaid care in terms of care for people with an illness and/or disability or who are older (Lilly *et al.* 2007). It is on this latter type of unpaid care that this analysis also aims to concentrate. To do so, the definition of unpaid care in ELSA is here confined to care for adults, so that, for example, care for grandchildren is excluded. A check was carried out, where possible, to determine the characteristics of the cared-for adults. It was possible to estimate the characteristics of cared-for adults where care was provided either for a parent/parent-in-law or spouse. It was found that, among the 1535 people in the sample caring for an adult at Waves 1–4 (Table 1), for whom relevant data were available, 60% were caring for a parent/parent-in-law and 25% for a spouse. It was assumed that all care for parents/parents-in-law is care for an older person, as ELSA only includes people aged 50 years and over, and their parents are almost certainly aged 65 years and over. The characteristics of spouses could be determined because they were almost always co-resident with carers, and so they were included in the sample themselves, and among cared-for spouses, 87% had a longstanding illness/disability. Overall, at least 81% of carers were caring for someone with a longstanding illness/disability or for an older person. The definition of unpaid care, utilised here, is therefore care for adults, the overwhelming majority of whom are sick, disabled or older people.

Analysis of unpaid care and employment

There are two main strands to the analysis of unpaid care and employment. The analysis begins with cross-sectional analysis of the employment rates of the sample of people providing unpaid care at different levels of intensity, using data from each wave separately. The employment variable measures the labour force participation rate, that is, whether or not the respondent is employed. Although the distinction between full-time and part-time employment is also important, the focus of much of the international literature on caring and employment is on labour force participation *per se*, and this is clearly of importance in its own right (Lilly *et al.* 2007). The cross-sectional analysis is confined to individuals below State Pension Age, that is, men aged 50–64 years and women aged 50–59 years. Given the importance of gender in relationships around unpaid care and employment (Evandrou & Glaser 2002), men and women are examined separately.

The second strand of the analysis is longitudinal analysis that examines changes over time in employment rates among employed people by their provision of unpaid care. For reasons that will emerge, the threshold of 10 hours or more hours a week is the focus of the longitudinal analysis. The data across all four waves of ELSA are pooled into observations made at Time 1 and Time 2. Initially, Wave 1 is regarded as Time 1 and Wave 2 is regarded as Time 2. The data set then adds responses for individuals interviewed at Waves 2 and 3, with Wave 2 regarded as Time 1 and Wave 3 as Time 2. Finally, this is repeated for Waves 3 and 4, with Wave 3 regarded as Time 1 and Wave 4 regarded as Time 2.

The analysis of the longitudinal data is confined to people who are initially employed and looks at their employment status one wave later. The longitudinal analysis is concerned with people who remain under State Pension Age and is therefore confined to women aged 50–57 years and men aged 50–62 years. Based on analysis by Carmichael *et al.* (2010), the longitudinal analysis distinguishes three main subgroups of people by their provision of unpaid care. 'Carers' are those pro-

viding care at Time 1; 'new carers' are those who do not provide care at Time 1, but are providing care at Time 2; and 'continuing non-carers' are employed people who are not providing care at either Time 1 or Time 2. The longitudinal analysis examines the employment status of these subgroups over time, exploring whether there are significant differences one wave later in the employment rates of 'carers' versus 'non-carers' and of 'new carers' versus 'non-carers'. It should be noted that 'carers' are those providing care at Time 1, who may not be providing care one wave later. Defining 'carers' in this way maximises sample size and is consistent with the literature, which shows that the effects of caring on employment can continue even after caring stops (Hutton 1998, Spiess & Schneider 2003). 'Carers' and 'new carers' are further sub-divided according to whether they provide care above or below 10 hours a week.

Multivariate analysis

The analysis takes into account key variables that may affect provision of unpaid care and employment, including age, marital status, health, education and the presence of children in the home. The British literature suggests that carers are more likely to leave the labour market if they are older or nearing retirement; married/cohabiting; in poor health; have less education; or have children at home (Henz 2004, 2006, Heitmueller 2007, Carmichael *et al.* 2010). Ethnicity is also important, as there is variation in the extent to which people from different ethnic backgrounds provide intense care (Young *et al.* 2005).

In the analysis presented below, bivariate analyses are initially made, comparing 'carers' and 'new carers' with 'non-carers' in terms of their socio-demographic characteristics. Age is measured by average age. Education is measured in terms of those with no qualifications; with qualifications below degree-level; and with a degree. Marital status distinguishes those who are married/cohabiting from those who are *de facto* single. Health is measured in terms of the presence or absence of longstanding illness, disability or infirmity. The presence of children in the home distinguishes children aged under 11 years and aged 11–18 years. Ethnicity distinguishes those with and without a Black and Minority Ethnic background.

Four multivariate logistic regression models are then constructed. All the models include individuals in employment at Time 1 and the outcome of interest is employment status at Time 2. The first two models examine, for men and women respectively, the employment status one wave later of 'carers' and 'non-carers, with the independent variables being provision of unpaid care above or below 10 hours a week at Time 1, plus key socio-demographic variables. The third and fourth models examine, for men and women respectively, the employment status one wave later of 'new carers' and 'non-carers', with the independent variables being provision of unpaid care above or below 10 hours a week at Time 2, plus key socio-demographic variables.

All analyses are performed using the Stata 10.1 software package (StataCorp 2009). The conventional interpretation that significance levels below 0.05 are statistically significant is applied.

Results

Provision of unpaid care

Across the four waves of ELSA, there are 17 123 respondents below State Pension Age. Of these, 1535 reports providing unpaid care to an adult in the week prior to their interview (Table 1). In the first four waves of ELSA, 9% of the sample of people aged 50 years to 59/64 provides unpaid care to an adult. Women are more likely to provide care than men, with 12% of women providing care, compared to 6.5% of men. The percentage of people providing unpaid care in ELSA seems low compared to other surveys. For example, 17% of the population provide unpaid care in the British Household Panel Survey (BHPS) and the percentage for those in midlife is likely to be higher (King *et al.* 2010). The relatively low percentage of people providing unpaid care in ELSA is likely to be due primarily to the filtering of the unpaid care questions in ELSA, described earlier.

Over half of both men and women providing unpaid care in ELSA do so for ten or more hours a week and over a third do so for 20 or more hours a week (Table 2). Overall 590 people in the first four waves of ELSA provide unpaid care for 20 hours a week or more to an adult, which represents 3.4% of the total sample (Tables 1 and 2). This percentage is comparable to that identified in other surveys in England, where between 3.5% and 4.1% of the population provides unpaid care for 20 or more hours a week (King *et al.* 2010).

Unpaid care and employment: cross-sectional analysis

Table 3 shows the employment rates of carers in all four waves of ELSA by intensity of provision of care, with non-carers included for comparison. The table shows that, taking all waves together, the employment rates of women and men are lower for carers who provide care for 10–19 hours a week or more than they are for non-carers. Particularly for women, there is a sharp step down in the employment rate of carers from those caring for <10 hours a week to those caring for 10–19 hours a

Table 2 Distribution of intensity of provision of unpaid care to adults, by gender, England, from 2002/3 to 2008/9

	Number and (in brackets) percentage within category of hours					
	Hours of care per week	Wave 1	Wave 2	Wave 3	Wave 4	All Waves
Women	0–10	75 (33.3)	107 (46.3)	104 (43.7)	105 (47.5)	391 (42.7)
	10–19	44 (19.6)	34 (14.7)	46 (19.3)	36 (16.3)	160 (17.5)
	20–34	22 (9.8)	33 (14.3)	27 (11.3)	22 (10.0)	104 (11.4)
	35–49	17 (7.6)	17 (7.4)	13 (5.5)	13 (5.9)	60 (6.6)
	50 or more	67 (29.8)	40 (17.3)	48 (20.2)	45 (20.4)	200 (21.9)
	All carers	225 (100)	231 (100)	238 (100)	221 (100)	915 (100)
	Non-carers	2101	1400	1650	1664	6815
Men	0–10	64 (38.6)	58 (43.9)	78 (51.7)	76 (51.0)	276 (46.2)
	10–19	26 (15.7)	17 (12.9)	28 (18.5)	25 (16.8)	96 (16.1)
	20–34	17 (10.2)	14 (10.6)	11 (7.3)	12 (8.1)	54 (9.0)
	35–49	12 (7.2)	11 (8.3)	5 (3.3)	6 (4.0)	34 (5.7)
	50 or more	47 (28.3)	32 (24.2)	29 (19.2)	30 (20.1)	138 (23.1)
	All carers	166 (100)	132 (100)	151 (100)	149 (100)	598 (100)
	Non-carers	2596	1976	2102	2244	8918

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Notes: Women aged 50–59 years; men aged 50–64 years. Carers who did not know, or could not say, how many hours of care they provided are excluded, with 13 women and 10 men being excluded for this reason across 'all waves'.

Table 3 Employment rate by intensity of provision of unpaid care to adults, by gender, England, from 2002/3 to 2008/9

	Percentage within category and (in brackets) 95% CI					
	Hours of care per week	Wave 1	Wave 2	Wave 3	Wave 4	All Waves
Women	0–10	77.0 (66.2–85.1)	80.2 (71.6–86.6)	85.4 (77.3–90.9)	79.4 (70.5–86.1)	80.8 (76.5–84.4)
	10–19	62.8 (47.8–75.6)	79.4 (63.1–89.6)	65.2 (50.7–77.3)	68.6 (52.0–81.4)	68.4 (60.7–75.1)
	20–34	50.0 (30.6–69.4)	54.6 (37.9–70.2)	59.3 (40.6–75.5)	61.9 (40.7–79.3)	56.3 (46.7–65.5)
	35–49	68.8 (44.0–85.8)	52.9 (30.8–74.0)	61.5 (35.1–82.3)	53.9 (28.9–77.0)	59.3 (46.5–70.9)
	50 or more	44.8 (33.5–56.7)	36.8 (23.4–52.8)	48.9 (35.2–62.8)	48.9 (34.9–63.1)	45.2 (38.4–52.2)
	Non-carers	68.7 (66.7–70.6)	70.2 (67.7–72.6)	72.4 (70.2–74.5)	71.5 (69.3–73.7)	70.6 (69.5–71.6)
Men	0–10	77.1 (65.0–85.8)	60.3 (47.4–71.9)	72.7 (61.8–81.4)	78.1 (67.3–86.0)	72.5 (66.9–77.5)
	10–19	50.0 (31.9–68.1)	62.5 (38.3–81.6)	67.9 (49.2–82.1)	88.0 (69.8–95.6)	67.4 (57.4–76.0)
	20–34	70.6 (46.5–86.7)	50.0 (26.6–73.4)	27.3 (9.9–57.2)	54.6 (27.7–78.9)	52.8 (39.6–65.7)
	35–49	50.0 (25.1–74.9)	45.5 (21.1–72.3)	0.0 (0.0–45.9)	66.7 (29.0–90.1)	44.1 (28.8–60.6)
	50 or more	30.4 (19.1–44.9)	21.9 (11.1–38.9)	27.6 (14.7–45.9)	33.3 (19.2–51.4)	28.5 (21.6–36.5)
	Non-carers	69.7 (67.9–71.4)	69.7 (67.6–71.8)	74.7 (72.8–76.5)	71.5 (69.6–73.4)	71.4 (70.4–72.3)

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Note: Women aged 50–59 years; men aged 50–64 years. The underlying numbers associated with the percentages are given in Table 2.

week. Indeed, particularly for women, the employment rate of carers who care for <10 hours a week is higher than the employment rate of non-carers. For women in particular, the provision of care for 10–19 hours a week appears to be a threshold in employment terms, with carers providing care for under 10 hours a week being more likely than non-carers to be in employment and carers providing care for 10–19 hours a week or more being less likely to be in employment than non-carers. These results are consistent with earlier studies using cross-sectional British data (Carmichael & Charles 2003a,b).

Table 4 shows the employment rates of non-carers and carers providing care for under and over 10 hours a week. Taking all waves together, women providing care for <10 hours a week are significantly more likely than non-carers to be in employment, although this is not the case for men. In contrast, women and men providing care for 10 or more hours a week are significantly less likely than non-carers to be in employment.

Based on these results, a threshold of 10 or more hours a week of caring was chosen for further longitudinal analysis. A threshold of 10 or more hours a week

Table 4 Employment rate of non-carers and carers providing unpaid care for under 10 hours a week and for 10 hours or more hours a week, by gender, England, from 2002/3 to 2008/9

	Percentage within category and (in brackets) 95% CI					
	Hours of care per week	Wave 1	Wave 2	Wave 3	Wave 4	All Waves
Women	Non-carers	68.7 (66.7–70.6)	70.2 (67.7–72.6)	72.4 (70.2–74.5)	71.5 (69.3–73.7)	70.6 (69.5–71.6)
	0–10 hours a week	77.0 (66.2–85.1)	80.2 (71.6–86.6)	85.4 (77.3–90.9)	79.4 (70.5–86.1)	80.8 (76.5–84.4)
	P-value	0.114	0.031	0.004	0.086	0.001
	Non-carers	68.7 (66.7–70.6)	70.2 (67.7–72.6)	72.4 (70.2–74.5)	71.5 (69.3–73.7)	70.6 (69.5–71.6)
	≥10 hours a week	53.4 (45.3–61.2)	55.7 (46.9–64.3)	57.9 (49.4–66.0)	57.9 (48.7–66.6)	56.1 (51.8–60.3)
	P-value	0.001	0.001	0.001	0.002	0.001
Men	Non-carers	69.7 (67.9–71.4)	69.7 (67.6–71.8)	74.7 (72.8–76.5)	71.5 (69.6–73.4)	71.4 (70.4–72.3)
	0–10 hours a week	77.1 (65.0–85.8)	60.3 (47.4–71.9)	72.7 (61.8–81.4)	78.1 (67.3–86.0)	72.5 (66.9–77.5)
	P-value	0.215	0.127	0.698	0.219	0.683
	Non-carers	69.7 (67.9–71.4)	69.7 (67.6–71.8)	74.7 (72.8–76.5)	71.5 (69.6–73.4)	71.4 (70.4–72.3)
	≥10 hours a week	44.6 (35.2–54.3)	39.7 (29.3–51.2)	41.1 (30.5–52.6)	58.3 (46.8–69.0)	45.8 (40.4–51.3)
	P-value	0.001	0.001	0.001	0.015	0.001

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Note: Women aged 50–59 years; men aged 50–64 years. The underlying numbers associated with the percentages are given in Table 2.

identifies over 50% of individuals providing unpaid care to an adult, and there is a clear difference in employment rates between those caring for 10 or more hours a week and non-carers.

Unpaid care and employment: longitudinal analysis

As described earlier, the longitudinal analysis of unpaid care and employment classifies people who are initially employed (at Time 1) into different groups by their provision of care for 10 or more hours a week (Table 5). Approximately 80% of women and nearly 90% of men in the longitudinal sample are 'continuing non-carers', who are not providing unpaid care at either Time 1 or Time 2. Approximately 5% of women and 3% of men are 'carers' caring for <10 hours a week at Time 1, while approximately 7% of women and 3% of men are 'carers' caring for 10 or more hours a week at Time 1. Approximately, 4% of women and 2% of men are 'new carers' who are not caring at Time 1, but are caring for under 10 hours week at Time 2, whereas approximately 4% of women and 2% of men are 'new carers' caring for 10 or more hours a week at Time 2. Becoming a carer, therefore, affects a sizable minority of employed people in midlife, particularly women.

Figure 1 shows the employment rates one wave later of people, who were initially employed, by their caring status and gender. The figure shows that, for women and men, the employment rates of 'carers' and 'new

Table 5 Women and men who are employed at Time 1: distribution of English Longitudinal Study of Ageing (ELSA) longitudinal sample by caring status, England, from 2002/3 to 2008/9

	Number and (in brackets) percentage of total	
	Women	Men
Continuing non-carers (not caring at Times 1 or 2)	2991 (80.3)	4395 (89.3)
Carers providing care for 0–10 hours at Time 1	181 (4.9)	159 (3.2)
Carers providing care for 10 or more hours at Time 1	254 (6.8)	161 (3.3)
New carers, not caring at Time 1 but caring at Time 2 for 0–10 hours	157 (4.2)	101 (2.1)
New carers, not caring at Time 1 but caring at Time 2 for 10 or more hours	140 (3.8)	106 (2.2)
Total	3723	4922

Sources: Waves 1–4 of ELSA (authors' analysis).
Notes: Women aged 50–57 years; men aged 50–62 years. The analysis only includes those respondents for whom data were available at both Time 1 and Time 2. Time 1 refers to a given year (2002, 2004 or 2006) and Time 2 refers to one wave (2 years) later (2004, 2006 or 2008).

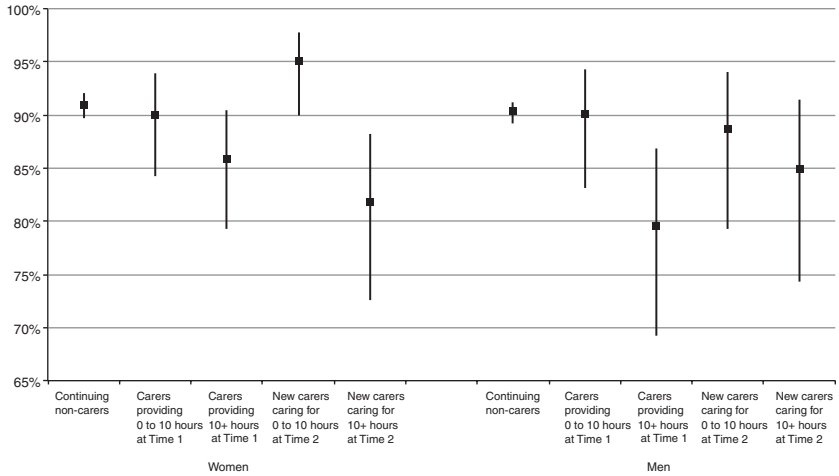

Figure 1 Employment rates one wave later of 'carers', 'continuing non-carers' and 'new carers', by gender, England, 2002/3–2008/9. Percentage (95% CI). Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis). Notes: Women aged 50–57 years; men aged 50–62 years. The difference between the upper and lower CIs is small for continuing non-carers because of the large underlying sample base (see Table 5). Time 1 refers to a given year (2002, 2004 or 2006) and Time 2 refers to one wave (2 years) later (2004, 2006 or 2008). Chi-squared *P*-values (where statistically significant below 0.05): women continuing non-carers versus women carers providing 10 + hours at Time 1, $P = 0.036$; women continuing non-carers versus women new carers caring for 10 + hours at Time 2, $P = 0.003$; men continuing non-carers versus men carers providing 10 + hours at Time 1, $P = 0.002$.

carers' vary one wave later depending on their provision of care below and above 10 hours a week. For women and men, the employment rates one wave later of 'carers' and 'new carers' providing care for under 10 hours a week are not significantly different from the employment rates of 'non-carers'. However, the employment rates of 'carers' and 'new carers' providing care for 10 or more hours a week are generally significantly lower after 2 years than the employment rates of 'non-carers', the only exception being that the employment rates of men 'new carers' are not significantly different from men 'non-carers'.

The characteristics of women and men who are initially employed by their caring status are shown in Table 6. Bivariate analysis shows that, among women, a significantly greater percentage of 'new carers' are *de facto* married, compared to 'non-carers'. Among men, a significantly higher percentage of 'carers' caring for under 10 hours a week have a degree/higher degree compared to 'non-carers', whereas a significantly lower percentage of 'carers' caring for 10 or more hours a week have a degree/higher degree compared to 'non-carers'. Only small percentages of the sample have children in the home or are from Black and Minority Ethnic backgrounds. These two variables are therefore not included in the subsequent multivariate analysis.

Table 7 shows the results of multivariate analysis to determine the factors associated with employment status one wave later among those in employment at Time 1, controlling for socio-demographic variables, and including as independent variables whether the respondent was a 'carer' providing care below or above 10 hours a week at Time 1. For women, providing care either below or above the threshold at the beginning of the period is not significantly associated with leaving employment one wave later. Factors significantly associated with leaving employment for women are age, education and health. Increased age, having no academic qualifications and being in poor health are all associated with lower odds of being in employment. For men, providing care for <10 hours a week at Time 1 is not significantly associated with leaving employment one wave later, but providing care for 10 or more hours a week at Time 1 is significantly associated with leaving employment before Time 2. Employed men who are providing unpaid care for 10 or more hours a week at the beginning of the period have significantly lower odds (0.45, 95% CI 0.25–0.79) of being in employment one wave later compared to similar men who are not providing unpaid care, controlling for other factors. Increased age and poor health are also associated with leaving employment for men.

Table 8 shows the results of the multivariate analysis to determine the factors associated with employment status one wave later among those in employment at Time 1, controlling for key socio-demographic variables, and including as independent variables whether the respondent was a 'new carer' who had started providing care below or above 10 hours a week at Time 2. Among women, starting caring for <10 hours a week during the period is significantly associated with *remaining in*

Table 6 Women and men who are employed at Time 1: socio-demographic characteristics of 'carers', 'non-carers' and 'new carers', England, from 2002/3 to 2008/9

	Mean age and percentage of sample				
	'Caring 0–10 hours'	'Caring 10 or more hours'	'Non-carers'	'New carers, caring 0–10 hours'	'New carers, caring 10 or more hours'
Women	*n* = 151	*n* = 154	*n* = 2206	*n* = 126	*n* = 93
Age: mean (SD)	53.7 (2.2)	53.7 (2.1)	53.7 (2.2)	53.5 (2.1)	53.6 (2.2)
Education					
% With degree or higher degree	23.2	16.2	18.9	23.0	14.0
% With no qualification	14.6	23.4	22.3	15.9	26.9
Marital status					
% Married or cohabiting	72.9	73.4	67.6	73.8*	79.6*
Health					
% With some health problems‡	43.1	46.8	39.7	52.4	37.6
Ethnicity					
% From BME background	0.0	1.7	3.0	0.0	1.4
Children					
% With children aged under 11 years	0.0	0.7	0.1	0.0	0.0
% With children aged 11–18 years	0.0	0.0	0.0	0.0	0.0
Men	*n* = 111	*n* = 79	*n* = 3299	*n* = 74	*n* = 66
Age: mean (SD)	55.5 (3.1)	56.3 (3.3)	55.8 (3.3)	55.9 (3.1)	55.5 (3.2)
Education					
% With degree or higher degree	35.5*	15.2*	26.1	33.3	16.7
% With no qualification	13.6	25.3	20.6	13.9	27.3
Marital status					
% Married or cohabiting	83.6	74.7	75.7	84.7	72.7
Health					
% With some health problems‡	49.6	46.8	40.1	44.4	47.0
Ethnicity					
% From BME background	2.2	0.0	3.0	0.0	5.9
Children					
% With children aged under 11 years	0.0	0.0	0.1	0.0	0.0
% With children aged 11–18 years	0.0	0.0	0.2	0.0	1.5

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Notes: Women aged 50–57 years; men aged 50–62 years.
*$P < 0.05$ (based on comparison of 'carers' with 'non-carers' and 'new carers with 'non-carers'). Time 1 refers to a given year (2002, 2004 or 2006) and Time 2 refers to one wave (2 years) later (2004, 2006 or 2008).
‡Based on the question: do you have any longstanding illness, disability or infirmity?

employment by Time 2. Becoming an unpaid carer for <10 hours a week means that women have significantly higher odds of being employed one wave later than non-carers (2.29, 95% CI 1.05–5.01). However, for women, starting caring for 10 or more hours a week during the period is significantly associated with *leaving employment* by Time 2. Becoming an unpaid carer for 10 hours or more a week means that women have significantly lower odds of being employed one wave later than non-carers (0.51, 95% CI 0.30–0.87). Increased age, lacking education qualifications and poor health are also associated with leaving employment for women. For men employed at Time 1 and not providing unpaid care at that time, taking on unpaid caring responsibilities during the period, whether below or above the 10-hours-a-week threshold, is not significantly associated with leaving employment. The factors associated with leaving employment for men are increased age and poor health.

Discussion

This article suggests that the employment of people who provide unpaid care may be negatively affected when care is provided at a lower intensity than is generally estimated in England. It is generally estimated that providing care for 20 or more hours a week has a negative effect on employment in Britain (Heitmueller 2007, Carmichael *et al.* 2010, Her Majesty's Government 2010). However, using ELSA panel data, this article has found that provision of unpaid care for only 10 or more hours a week can have a negative effect on labour force participation among people in midlife in England. This result is

Table 7 Logistic regression on factors associated with employment status at Time 2 among those in employment at Time 1, by gender, England, from 2002/3 to 2008/9

	Odds ratios and (in brackets) 95% CI	
	Women (n = 2681)	Men (n = 3573)
Dependent variable: employment status at Time 2 (among those in employment at Time 1)		
Provision of 0–10 hours of unpaid care at Time 1	0.90 (0.51, 1.56)	0.95 (0.51, 1.79)
Provision of 10 or more hours of unpaid care at Time 1	0.63 (0.39, 1.03)	0.45 (0.25, 0.79)**
Age	0.90 (0.84,0.96)**	0.87 (0.84, 0.90)***
Education		
No qualifications…	0.56 (0.37, 0.86)**	0.83 (0.61, 1.14)
Less than degree….	0.89 (0.61, 1.30)	1.06 (0.80, 1.40)
… relative to degree or equivalent		
Married	0.82 (0.61, 1.09)	1.14 (0.88, 1.48)
With longstanding illness, disability or infirmity	0.58 (0.45, 0.76)***	0.66 (0.53, 0.82)***

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Notes: Women aged 50–57 years; men aged 50–62 years. Ethnicity and the effect of having children in the household were not considered in the multivariate analysis due to the relatively small number of respondents with these characteristics on which to assess these factors. Time 1 refers to a given year (2002, 2004 or 2006) and Time 2 refers to one wave (2 years) later (2004, 2006 or 2008). The independent variables relating to care provision in this table refer to 'carers', that is, those caring at Time 1 (who may not be caring at Time 2).
**$0.001 < P < 0.01$.
***$P < 0.001$.

Table 8 Logistic regression on factors associated with employment status at Time 2 among those in employment at Time 1 and not providing care at Time 1, by gender, England, from 2002/3 to 2008/9

	Odds ratios and (in brackets) 95% CI	
	Women (n = 2533)	Men (n = 3495)
Dependent variable: Employment status at Time 2 (among those in employment at Time 1 and not providing care at Time 1)		
Provision of 0–10 hours of unpaid care at Time 2	2.29 (1.05, 5.01)*	1.08 (0.51, 2.32)
Provision of 10 or more hours of unpaid care at Time 2	0.51 (0.30, 0.87)*	0.68 (0.33, 1.39)
Age	0.90 (0.84, 0.96)**	0.86 (0.83, 0.89)***
Education		
No qualifications…	0.58 (0.37, 0.89)*	0.89 (0.65, 1.23)
Less than degree….	0.90 (0.61, 1.35)	1.04 (0.79, 1.38)
… relative to degree or equivalent		
Married	0.77 (0.57, 1.05)	1.14 (0.87, 1.48)
With longstanding illness, disability or infirmity	0.58 (0.44, 0.76)***	0.68 (0.54, 0.86)**

Sources: Waves 1–4 of English Longitudinal Study of Ageing (authors' analysis).
Notes: Women aged 50–57 years; men aged 50–62 years. Ethnicity and the effect of having children in the household were not considered in the multivariate analysis due to the relatively small number of respondents with these characteristics on which to assess these factors. Time 1 refers to a given year (2002, 2004 or 2006) and Time 2 refers to one wave (2 years) later (2004, 2006 or 2008). The independent variables relating to care provision in this table refer to 'new carers', that is, those not caring at Time 1, but caring at Time 2.
*$0.01 < P < 0.05$.
**$0.001 < P < 0.01$.
***$P < 0.001$.

consistent with the international literature on unpaid care and employment (Lilly *et al.* 2007), but it is the first time that the negative impact of providing care for 10 or more hours a week on employment has been identified using longitudinal data in Britain.

The article suggests that provision of unpaid care for 10 or more hours a week is a threshold in employment terms and that, consistent with the wider literature on unpaid care and employment (Evandrou & Glaser 2002), the effects vary by gender. In this article, employed

women aged between 50 and State Pension Age who start providing care for under 10 hours a week are significantly *more* likely to remain in employment one wave (2 years) later than similar women who have not started to provide care. In contrast, employed women in their fifties who start providing care for 10 or more hours a week are significantly *less* likely to remain in employment one wave later than similar women who have not started to provide care. Employed men aged between 50 and State Pension Age, who provide care for 10 or more hours a week initially, have a significantly reduced employment rate one wave later than similar men who do not provide care.

These gender differences in the effects of unpaid care provision on employment are likely to be attributable to various factors. On the one hand, men who provide care for long hours may be particularly likely to leave the labour market because men are more likely to work full-time than women, and unpaid care provision is more compatible with part-time employment (Evandrou 1995). On the other hand, midlife women who start providing care for long hours may be particularly likely to take early retirement, as the State Retirement Age for women, in the period considered here, was at age 60, whereas the State Retirement Age for men was 5 years later, so that women in their fifties would experience less impact on their future pension rights than men of equivalent age (Evandrou & Glaser 2003, Henz 2004). It is less clear why employed women who start providing low intensities of care are more likely to stay in employment, but one factor could be that their employment itself offers protection against gendered expectations of increasing care commitments, particularly if they are not the sole carer (Dautzenberg *et al.* 2000, Pillemer & Suitor 2006).

It is important to note that the impact of caring on employment, reported here, is evident even when allowing for key socio-demographic factors. The results show that a number of factors, in addition to provision of intense care, affect whether people leave the labour market, including increased age, fewer educational qualifications and poor health. These results are consistent with other studies (Henz 2004, Heitmueller 2007, Carmichael *et al.* 2010). Other factors, notably marital status, have been shown elsewhere (Henz 2006) to affect whether carers leave the labour market, but were not significant in the multivariate analysis reported here, although this may be due to the present focus on older workers, a very high proportion of whom are married/cohabiting. The key implication of the multivariate analysis, presented here, is that the employment outcomes of women and men in midlife are likely not only to be negatively affected not just by such factors as their age and health but also by their provision of unpaid care for 10 or more hours a week.

There are limitations in using secondary data for the analysis of unpaid care. Responses to questions on unpaid care are influenced by survey design, how concepts are defined, the nature of the caring relationship and the prevailing socio-economic environment (Fine 2007, Corden & Hirst 2011, Molyneaux *et al.* 2011). The present results show that ELSA underrepresents the prevalence of caring compared to other surveys. However, the article also shows that the prevalence of care for 20 or more hours a week is not under-represented in ELSA, suggesting that it is lower intensity carers that are under-represented. Less is known about the prevalence of caring for 10 or more hours a week, as British studies tend to focus on care provision at 20 or 50 hours a week or more (Hirst 2001, Young & Grundy 2008) and it is therefore less clear how ELSA compares with other surveys in this respect.

There are other limitations to this study, which point to the need for further analysis and improved data collection. It would be useful to determine whether or not the threshold effect, identified here, also applies to younger people of working age, as well as to those aged 50 years and over. Moreover, the ELSA data utilised here do not include key variables affecting care and employment, such as whether care is co-resident or extra-resident. In addition, the period of time between waves in ELSA is 2 years and this may obscure somewhat the link between providing care and leaving employment. The BHPS and its successor, Understanding Society, could potentially offer opportunities for further analysis of the threshold effect of care on employment. However, analysts who use the BHPS to examine caring and employment longitudinally state that 'only two categories of care intensity in terms of hours cared per week can be definitively distinguished in the BHPS, individuals caring for more or <20 hours a week' (Heitmueller 2007, pp. 539–540, also Carmichael *et al.* 2010). It would therefore be useful if Understanding Society were to ask questions allowing for other categories of care intensity to be definitively examined, so that the threshold of 10 or more hours a week could be further analysed.

The findings reported in this article nevertheless have important implications for policy and practice. As already indicated, the findings show that midlife carers are at risk of leaving employment when unpaid care is provided for only 10 or more hours a week. However, the *2009/10 Personal Social Services Survey of Adult Carers in England*, which includes both assessed carers and others known to local authorities, shows that the majority of carers known to councils provide care for 35 or more hours a week (Information Centre 2010). It follows that councils are not currently in contact with large numbers of carers whose employment is at risk. This is consistent with many recent surveys showing unmet need for

social care support among employed carers (Phillips *et al*. 2002, Yeandle *et al*. 2007, Employers for Carers 2011).

To address the issue of people leaving employment to provide unpaid care, more support for working carers is needed. As described earlier, the Law Commission's reports make clear that, since 2000, there has in effect been a legal duty on councils in England to provide services to unpaid carers whose employment is at risk, and this is now embodied in the revised guidance on eligibility criteria for adult social care (Department of Health 2010, The Law Commission 2010, 2011). If councils are to fulfil this duty, they need to better address the service needs of working carers and are therefore likely to require additional funding. The funding of social care is currently under debate in England (Commission on Funding of Care and Support 2011, Her Majesty's Government 2012). It is important that the issue of support for unpaid carers in employment is considered as an integral part of the debate on the funding of the social care system in England.

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