Department for Work and Pensions

Research Report No 461

Health, disability, caring and employment

Longitudinal analysis

Adele Atkinson, Andrea Finney and Stephen McKay

A report of research carried out by the Personal Finance Research Centre (University of Bristol) and the Institute of Applied Social Studies (University of Birmingham) on behalf of the Department for Work and Pensions

Corporate Document Services

First Published 2007.

ISBN 978 1 84712 278 0

Printed by Corporate Document Services.

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Acknowledgements

We would like to thank John Stafford at the Department for Work and Pensions (DWP) for expert advice and liaison, and participants at DWP seminars for their views.

Data from the Families and Children Study (FACS) was supplied by the DWP. Data from the British Household Panel Survey (BHPS), Millenium Cohort Study (MCS) and English Longitudinal Study of Ageing (ELSA) were supplied by the ESRC Data Archive at Essex University.

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Glossary

Some of the less familiar terms used in this report include the following:

BHPS	The British Household Panel Survey – a survey based at Essex University that has followed a group of 5,500 households each year since 1991.
Cohort	A group sharing a characteristic (e.g. born in the same year) and followed up over time.
FACS	Families and Children Study. A DWP-led survey that has followed groups of families each year since 1999, introducing new families each year to remain representative of all families with dependent children in Great Britain.
LHC	Limiting health condition.
LLSC	Limiting longstanding condition.
LSI	Longstanding illness.
MCS	Millennium Cohort Study. ESRC-sponsored study following up families with children born in 2000 at regular intervals.
Panel	A group of respondents selected in some way (e.g. a random sample of the population) and followed up over a number of years.

Regression	A statistical approach to try to establish which of a range of pieces of information are most associated with a particular outcome – e.g. to what extent family size, family type and disability are associated with having a lower income.
t, t+1	A shorthand way of referring to ‘this year’ and ‘the following year’, for data collected over a range of years (e.g. 2000 and 2001, 2001 and 2002, 2002 and 2003, etc.).

Summary

Introduction

In this report we consider how changes in health status through time are related to a variety of factors including changes in employment, caring, well-being and so on. We make full use of the longitudinal elements of two large surveys: the Families and Children Study (FACS) and the British Household Panel Survey (BHPS). We also report on the usefulness of recent birth cohort data from the Millennium Cohort Study (MCS) and conduct analyses where possible – particularly for smaller subgroups more difficult to capture in FACS or BHPS.

The aim of the research is to explore the relationships between health, disability, caring and employment in families with children in the context of the agenda to reduce child poverty, reduce worklessness within households and promote the employment and wider participation of disabled people.

The first three years of childhood

We begin this report by considering health changes during the first three years of a child's life using the first two waves of the MCS. The MCS asks about limiting longstanding health conditions (LLSC) among children, and longstanding illness, disability and infirmity among adults (LSI). It also has information about the main respondent (usually the mother) and the household.

Health of the cohort child and parents

The first wave of the MCS indicated that almost three in ten babies had suffered a chest infection in their first nine months, and six per cent had shown signs of wheezing or asthma. By the second wave, 16 per cent of the children had a longstanding health condition and one in five of these (19 per cent) were limited in normal activities by their illness.

Around one in five main respondents and the same proportion of partners had a longstanding health condition in the second wave of the MCS and 13 per cent had such a condition in both waves. Furthermore, respondents with LSI were more likely than other parents to report that their child had an LLSC. This may be due to the hereditary nature of some conditions or the shared environmental and economic factors.

Parental work and child health

Similar proportions of working and non-working parents reported longstanding health conditions among children but those who were not working were more likely to describe the condition as limiting.

Working hours varied little by the health status of children; the main choice appeared to be whether to work or not, rather than how many hours to work. Parents whose children had an LLSC were far more likely than average to comment that they could not find a job with the right hours (14 per cent compared with eight per cent).

Importantly, access to appropriate childcare and the cost of childcare were of greater concern to parents of children with long-term conditions (and in particular to those with children whose condition limited their activities) than to parents of children with no such health problems. Also of note are the nine per cent of parents with a child who had an LLSC who did not work because they were concerned that they would lose their entitlement to benefits.

The extent of disability

Frequency of suffering long-term health conditions

In this section of the report we consider the extent and longevity of disability, both in families with children and by other characteristics. We use all the 14 waves available (at the time of analysis) of the BHPS. It is important to note that the wording of the questions in the BHPS does not seek to identify 'long-term' or 'longstanding' health conditions. We have, therefore, labelled them limiting health condition (LHC). Two per cent reported an LHC in every wave but 11 per cent reported one in at least eight of the waves – this varied by gender, with women being one and a half times more likely than men to have an LHC at least eight times. We consider the family type of the respondent in the first wave, and the number of times that they subsequently report an LHC. We find that lone parents with dependent children were more likely to have subsequently reported some period of poor health than any other household with children – whether dependent or not.

Movements into and out of periods of poor health

Perhaps not surprisingly, those who were least likely to have good health in two consecutive years were either retired (42 per cent) or not working because of sickness or disability (28 per cent) at t. When looking at the labour force activity following health transitions, we found that 35 per cent of people who moved out of a period of ill-health were in paid employment by t+1, compared with 60 per cent of people who had suffered no LHC for at least two years.

The BHPS identifies adults (usually mothers) with responsibility for a dependent child. When considering adult women aged 50 or below we see that those with dependent children were more likely to switch between active employment and inactivity across two years than women without dependent children, irrespective of their health status.

Family poverty

The risk of poverty is considerably higher for lone parents than couples and represents a statistically more important factor than ill-health. This is based on FACS analysis. Where respondents became disabled over the course of the year their poverty rate was 23 per cent, rather higher than the 17 per cent where no such change took place (though the difference should not be exaggerated). Similarly, where the partner became disabled (in couples) the risk of poverty was 11 per cent, compared with seven per cent where the partner remained free of disability. There was little difference in the risk of poverty where a child became disabled in the course of a year (20 per cent rather than 18 per cent, not enough to be statistically significant).

Having a disabled family member was associated with a higher risk of poverty, for those in work, but a **lower** risk of poverty for non-workers.

In addition, transitions into ill-health are more likely to arise from situations of poverty – the directions of cause run in both directions.

Taking those families interviewed in every year 2001/05, in 61 per cent of cases respondents never said they had a longstanding illness (at least not between 2001 and 2005). By contrast, some ten per cent of respondents said each year that they had such a condition. Naturally there were a range of responses in between, with 12 per cent mentioning this just once.

Caring

The 2005 BHPS shows that eighteen per cent of women and 15 per cent of men, in total, were providing care to someone inside or outside the home or both. Caring for someone outside the home (11 per cent) was more common than caring for someone inside the home (six per cent). Only a small minority of women and men were providing care of 20 or more hours per week (three per cent).

Overall, in 2005, individuals in families with children were less likely to report caring for others than those without children (13 per cent compared with 18 per cent). However, focusing on families with dependent children, lone parents were slightly more likely to be providing care compared with people in couples (15 per cent compared with 12 per cent).

Although those in active employment were less likely than those who were inactive to have caring responsibilities, the difference is not substantial (15 per cent compared with 19 per cent). Although employed people make up a half of the population (49 per cent), they represent only one in five of the population of people caring for 20 or more hours per week, but they do make up half of people providing care for less than 20 hours a week (50 per cent).

Number of years caring

Over a half (54 per cent) of people interviewed in all 14 waves of BHPS reported caring for someone in one or more waves and eleven per cent reported caring for someone (not necessarily the same person or persons) in more than half of the interview years (eight or more years). Adults with children (either at wave 1 or wave 14 or both) were slightly less likely to have provided care to others for one or more and eight or more years (51 per cent and nine per cent).

People working part-time at wave 1 were more likely than those working full-time and, perhaps surprisingly, those not working at all to go on to provide eight or more years' care in the next 14 years. However, the differences were not substantial. People not working at wave 14 were much more likely to report caring in at least one interview (64 per cent) compared with those working part-time (52 per cent) and especially full-time in wave 14 (44 per cent). This pattern is repeated for reports of caring in at least eight years and points to a possible directional effect between the number of years of caring provided and **subsequent** working status.

Caring transitions

Across the 14-year period of BHPS six per cent of transitions in caring status from one interview to the next were from not providing care to providing care, a further six per cent were caring to not caring and ten per cent again involved caring in consecutive years.

Movements in and out of care from one year to the next were about average for people in couples with dependent children (five per cent moving in and five per cent moving out) and lone parents with dependent children (six and six per cent), but these groups both had relatively low proportions of instances of caring in both years (nine and eight per cent respectively).

People stopping caring were slightly less likely to be working at the beginning of the transitional period compared with those who started caring responsibilities in that time (50 per cent compared with 53 per cent). Perhaps surprisingly, the picture is very similar for work status at the end of the transition with 50 per cent of those stopping caring and 52 per cent of those starting caring in full- or part-time work.

When people moved into caring they were slightly more likely to move out of economic activity (five per cent) compared with all other caring transitions (four per cent). Surprisingly, a greater proportion of people moving into caring remained economically active (48 per cent) compared with those who either continued caring responsibilities (45 per cent) or stopped caring (47 per cent).

Half as many transitions into care of 20 or more hours per week corresponded with a move into full-time work (two per cent) as either moves out of full-time work (four per cent) or moves into full-time work on average (four per cent). People who stopped providing care of 20 or more hours per week were, however, also slightly less likely than the average to move into full-time work (three per cent compared with four per cent).

There is a particular propensity towards movement into full-time work during the same period that heavy caring responsibilities begin among adults with children. Among adults with children, nine per cent of transitions into heavy caring coincide with a movement into full-time work, compared with six per cent moving into full-time work and, among adults without children, six per cent moving into full-time work.

We are also interested in the interaction between health status and caring responsibilities. Those who had no caring responsibilities and no illness throughout two waves were most likely to be in paid employment or self-employment at t+1. Those with caring responsibilities outside the home tended to have a similar work status to people with no caring responsibilities, whatever their own health, whilst those with caring responsibilities for someone they lived with had lower levels of employment.

Regression analysis indicates that age, sex, family type, labour force status and income, among other factors, are independently related to providing any care and care of 20 or more hours per week in any one year, after the influence of other factors – including caring provision in the previous year – have been taken into account.

1 Introduction

In this report we consider how changes in health status through time are related to a variety of factors including changes in employment, caring, well-being and so on. We make full use of the longitudinal elements of two large surveys: the Families and Children Study (FACS) and the British Household Panel Survey (BHPS). We also report on the usefulness of recent birth cohort data from the Millennium Cohort Study (MCS) and conduct analyses where possible – particularly for smaller subgroups more difficult to capture in FACS or BHPS.

Disabled people appear to face a strong employment disadvantage. One that may have been increasing over time (Berthoud and Blekesaune 2007). The overall effects of disability have been characterised as taking three forms (Jenkins and Rigg 2003). First, a selection effect whereby more disadvantaged people are more likely to become disabled. This means there are often pre-existing lower levels of income and human capital. Second, the effect on circumstances at the point of transition[1]. Third, the continuing effects of remaining disabled. By using a longitudinal approach we have been able to investigate all three factors.

This level of enquiry is only possible if there are sufficient numbers of people undergoing relevant transitions. FACS is now the main and largest panel collecting details of children over time. Waves of data are now available covering 1999/2005 for low-income families and lone parents, and for families of all kinds from 2001/05. It is possible to explore the health dynamics of a large number of children using FACS, especially now that child-level data is more firmly established within the survey. This is in addition to looking at the situation of the parents/adults in the household. Health has been a key part of the questionnaire in each wave of FACS since 1999. The detailed survey coverage of health status within the FACS series was described in the first phase report.

The large-scale nature of the MCS means more precise estimates may be made of the effects of child health problems on parents' employment. However, they are restricted to the first few years of a child's life (at present). Even so, this may well

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[1] We need not, and should not, assume that there is a single point of transition from non-disabled to disabled. This is a transition that may occur over time.

be a particularly important stage at which decisions about returning to work are made.

Many health conditions are not static but change in their effects and severity over time. People may also become accustomed to managing chronic illness or disability and regain their confidence as time passes. With longitudinal data it is possible and valuable to find out more about the people out of the labour force – have they always been disabled or sick? Have they ever worked? Similarly, caring responsibilities can change considerably over time and it would be valuable to see the interaction between hours worked in paid employment and hours spent providing care.

We recognise that the effect of having a caring role is also likely to be strongly related to the level of commitment it involves. Simply being a carer – perhaps spending a few hours a week with someone living locally – may have little effect on economic activity. However, a role that is closer to full-time, or involving at least 20 hours a week, is more likely to affect rates of economic activity.

1.1 Aims

The aim of the research is to explore the relationships between health, disability, caring and employment in families with children. The policy context is that of commitments and aspirations to reduce child poverty; reduce overall worklessness within households; promote the employment and wider participation of disabled people; to encourage and enable carers to remain in work; to help carers return to work when their caring responsibilities cease or diminish (if they cannot combine the two).

Much recent work in this area has looked at individuals. By way of contrast, this research explores the circumstances within households. We consider variations in economic activity among those with poor health, disability or caring responsibilities, by characteristics such as family type (e.g. lone parent and couples, different family size); work status; income; qualifications; housing tenure and ethnic group.

1.1.1 Economic activity

Rates of economic activity among parents (and others) continue to rise yet health problems remain a key barrier to moving into paid work (Dorsett and Kasparova 2004; Evans *et al.* 2004; Casebourne and Britton 2004). But the picture is complex: for example in 2002, 19 per cent of those working 16+ hours said they had a long-term disability or health problem (and 34 per cent of those working fewer hours or not working). Clearly, disabilities and health problems **need not** prevent lone parents from working, even if they do appear to reduce rates of paid work.

An additional aim of the longitudinal analysis, therefore, is to investigate issues of timing and transitions. With this kind of analysis we can look at how and when employment transitions are affected after the onset of caring responsibilities or health problems. Conversely, we can ask whether lower rates of paid employment may actually **precede** caring activities or ill-health in some cases. In either case the longitudinal analysis will enable us to provide information about the kinds of groups most likely to exhibit these patterns.

In looking at economic activity, we are interested in hours of work as well as whether people are in work or not. The figures above suggest that part-time working is more common than usual among those with a long-term disability. The same **may** be true of those with caring responsibilities – that would be a plausible result.

1.1.2 Poverty

We aim to identify movements into and out of poverty, as well as changes of labour market status. This is possible since it is feasible using FACS to create the relative poverty measure in line with the Government's own measure used in Housing Below Average Income (HBAI).

1.2 Data

This research utilises data from a number of sources but paying particular attention to FACS and the BHPS. FACS is able to provide considerable detail about families with children, both in and out of paid work. It also contains a full five-year panel among a representative sample of all families with children, whether or not they are in employment. BHPS contains considerable data on health and caring but unlike FACS, includes those with and without children. In the next section we discuss the choice of datasets, their advantages and limitations and the types of methods to be used.

1.2.1 Families and Children Study

The FACS is able to provide detailed information about parents and their children. Since 2001, and up to a recent seventh wave that took place in 2005, a number of questions have covered health problems and caring responsibilities. Specific questions, in more recent waves, are also asked of each child. The information covered includes:

Children (asked of parent)

Health status, limiting long-term illness, type of health problem/disability, likely duration, age of onset, caring required, effect on employment, A&E admissions.

Parent (asked of responding partners, in addition)

Health status, limiting long-term illness, type of health problem/disability, depression, age of onset, likely duration, effect on amount/kind of work, caring responsibilities, benefits received.

FACS also contains a large range of questions that measure incomes, living standards and employment status. The survey is run by the Department for Work and Pensions (DWP) so questions reflect its interests very closely.

1.2.2 British Household Panel Survey

The BHPS is the main source of information about British households over time. It started in 1991 and reinterviews the same people each year – interviewing everyone aged 15 and over within the household.

The BHPS asks a large number of questions relating to both health and caring and has done so in most survey years. The coverage is relatively detailed, identifying particular types of health problem and their effects on daily life and employment. There are also standard question scales, such as the General Health Questionnaire (GHQ12). This source has been used in the Jenkins and Rigg (2003) analysis of disability dynamics and in work by Tania Burchardt (2003), among others. Unlike the other two surveys used for this analysis, the BHPS does not focus specifically on families with children. For our purposes the ability to compare parents with others is very helpful.

1.2.3 The Millennium Cohort Study

The second wave of data from the MCS was released in early 2007. The first wave interviews took place between June 2001 and January 2003. The second wave started in September 2003 and finished in April 2005. This means that data is available when the relevant children were aged around nine months, and at about three years.

In each wave a module covered health issues relating to the cohort child.

2 The first three years of childhood

2.1 Introduction

The first part of our research focuses on the first three years in the life of children. It uses the first two waves of the Millennium Cohort Study (MCS) – a relatively new longitudinal study of families with children born at the start of this millennium. In the vast majority of cases the main respondent is the mother of the cohort child. The MCS asks about limiting longstanding health conditions (LLSC) among children, and longstanding illness, disability and infirmity among adults (LSI).

2.2 Health problems

The first wave of the survey was conducted nine months after the birth of the cohort child. Unfortunatel,y it did not ask about children's **longstanding health** conditions at this time but it did ask questions about the health and development of the child by the time of interview. The proportions of children with some of the more common childhood complaints are shown in Figure 2.1. Clearly, some could lead to longer-term problems, whilst others would resolve themselves more quickly.

The second wave of the MCS, when children were about three years old, asked about longstanding health conditions and whether such conditions limited the child's normal activities. In all, 16 per cent of the young children had longstanding conditions, and almost one in five (19 per cent) of these were limiting – equal to three per cent of the cohort. There was little difference by gender (Figure 2.2).[2]

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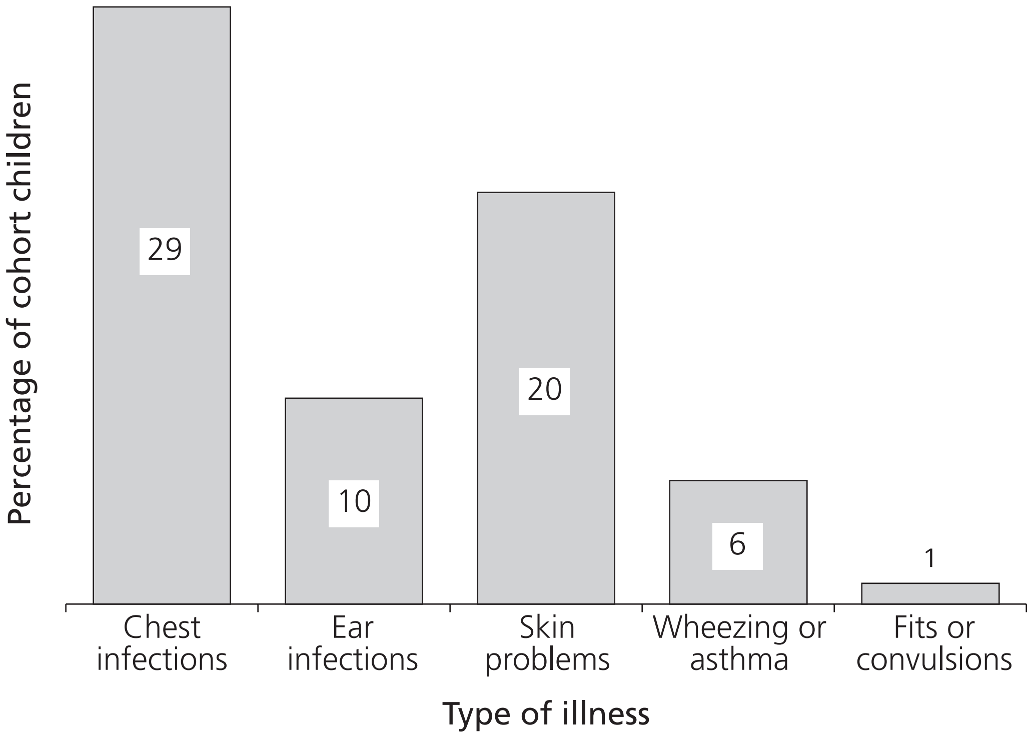
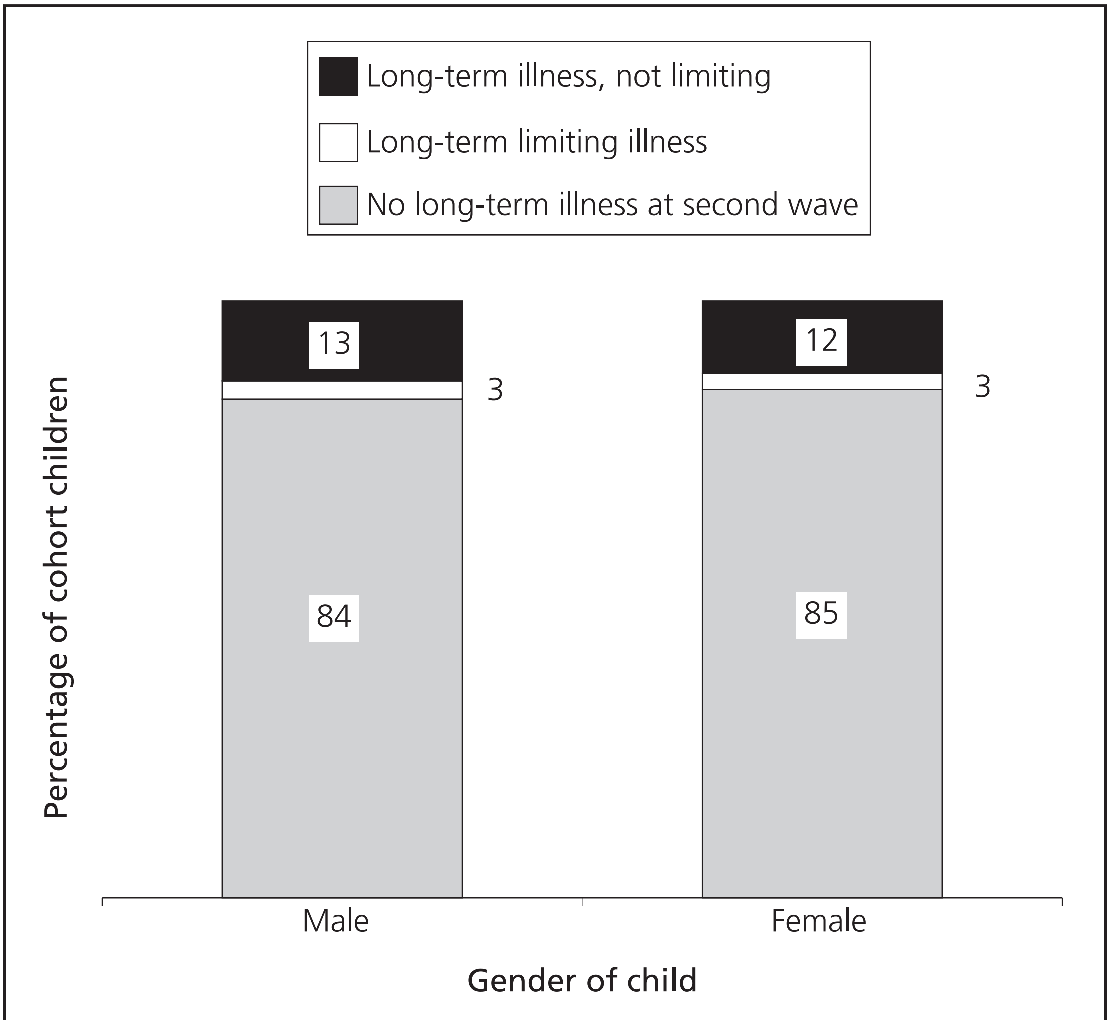
[2] This is in line with the results of our previous analysis of the 2001 Census of population (McKay and Atkinson 2007) where we found that three per cent of three year old girls and four per cent of their male peers were reported to have a longstanding illness.

Figure 2.1 Proportion of children with common childhood complaints (wave 1)



Source MCS: Base (unweighted) 14,898.

Figure 2.2 Health status of cohort child at wave 2: Any longstanding health conditions?



Source MCS: Base (unweighted) 14,898.

The parents were slightly more likely to have an LSI than the cohort child at the second wave. More than one in five of the main respondents and the same proportion of partners had such conditions (21 per cent).

Table 2.1 Health status of main respondent and partner at wave 2: Any longstanding health conditions?

Column percentages

Adult has LSI	Main respondent	Partner
Yes	21	21
No	79	79
Unweighted base	*14,898**	*10,113*

*Note that one per cent of the main respondents were coded as 'not applicable'.

There is some evidence of ‘clustering’ of disability in families. Parents who were themselves suffering from an LSI were also far more likely than those without such a condition to have children who had a longstanding condition (23 per cent compared with 14 per cent; Table 2.2). This may be due to the hereditary nature of some conditions, or could be a result of shared environmental and economic factors, such as poor housing.

Table 2.2 Health status of main respondent and health status of child at wave 2: Any longstanding health conditions?

Column percentages

	LSI of main respondent	
Longstanding health condition of child	**Yes**	**No**
Yes, limits normal activity	5	3
Yes, not limiting	18	11
No	77	86
Unweighted base	*3,244*	*11,532*

2.3 Changes in parents’ health status between birth and three

We had hoped to look at the duration of childhood illness but the first interview did not identify babies with **longstanding** conditions. However, we have been able to look at the illnesses of the main respondent and partner across two waves. We can see that there were a number of changes of health status for respondents and their partners, and that the same proportions of respondents and partners were ill in both waves (13 per cent).

Table 2.3 Health status of main respondent and partner at wave 1 and wave 2 (where data is available for two consecutive years)

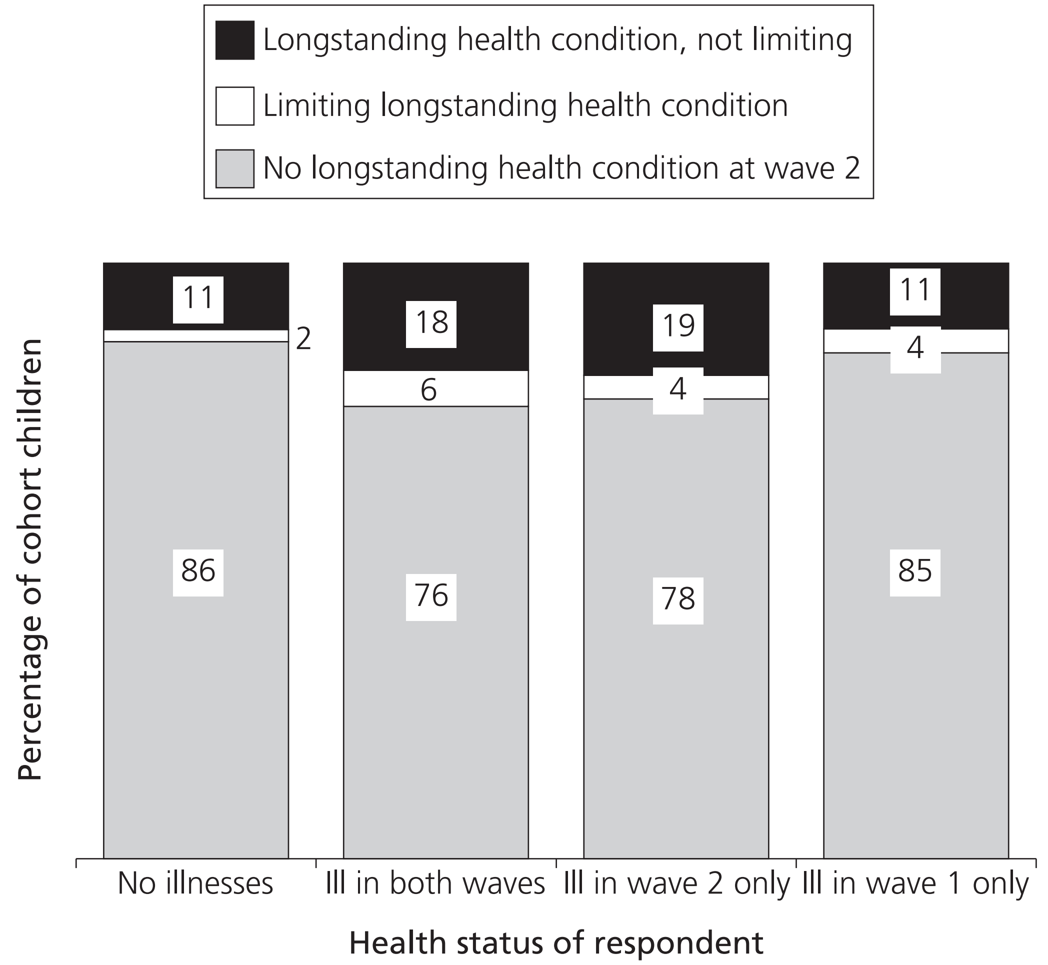
Column percentages

	LSI of main respondent	LSI of partner
No illnesses	70	71
Ill in both waves	13	13
Ill in wave 2 only	8	8
Ill in wave 1 only	9	8
Unweighted base	*14,580*	*8,786*

We have also been able to look at whether there was a relationship between the health of the main respondent and the child.

Parents who had an LSI that continued through both waves were only slightly more likely than other parents to report that their child had a longstanding condition by the time they were three (Figure 2.3), and no more likely than parents with an LSI in wave 2 to report that their child also had an LLSC.

Figure 2.3 Proportions of cohort children with LLSC at wave 2, by health status of respondent at wave 1 and wave 2



Source MCS: Base (unweighted) 14,580, Chi Square 0.000.

2.3.1 Lone parents and marital status

In wave 2, 19 per cent of respondents were lone parents. However, they were no more or less likely to have a child with a limiting illness than those respondents living as a couple. There was also no substantive difference in the proportions of children with long-term illnesses and the marital status of the main respondent.

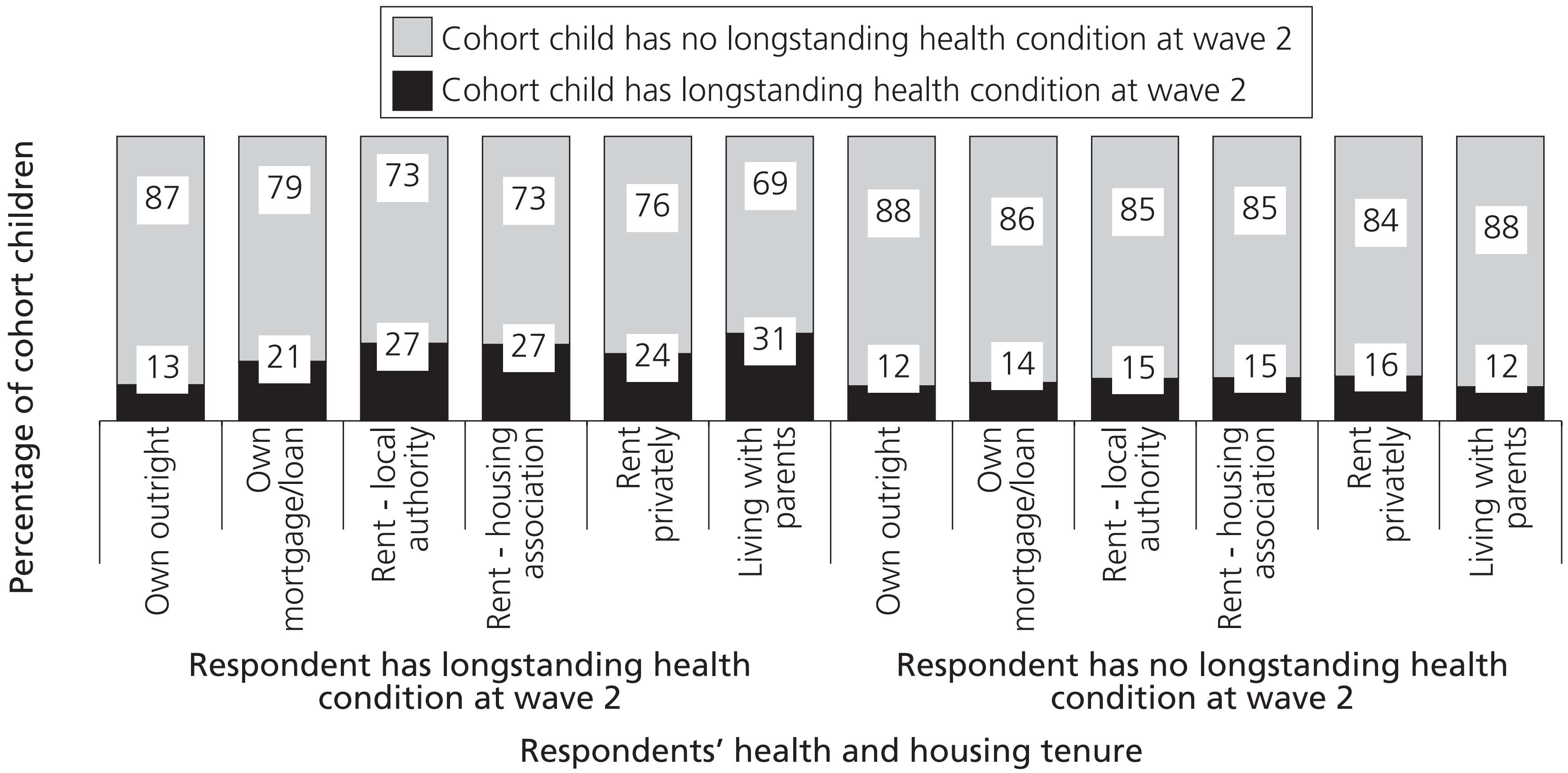
A small proportion (ten per cent) of respondents were lone parents throughout the period between the birth of the cohort child and the first interview. The data shows that these parents were not substantially more likely to have children with long-term limiting illnesses by the time they were three.

2.3.2 Housing tenure and health

Housing tenure tends not to change frequently and can be used as an indicator of longer-term financial position. In Figure 2.2 we have, therefore, looked at tenure in wave 1 to see whether it is associated with the health of either the respondent or the cohort child at wave 2. The high proportion of respondents with a health condition living in social housing whose child also had a health problem (27 per cent) is not reflected among parents who were not themselves suffering from longstanding health problems. This indicates quite clearly that housing tenure alone is not responsible for poor health among children – indeed, the proportions of children with limiting conditions vary little by type of housing.

Whilst parental health appears to be more strongly associated with child health than housing tenure, it is interesting that almost one-third of cohort children who had a parent with a limiting disability were living with grandparents when they were nine months old. This almost certainly reflects the additional demands of taking care of parent and child, rather than a lack of funds to move into independent accommodation.

Figure 2.4 Health of parent and child at wave 2, by housing tenure at wave 1



Excluding cells with very mall numbers - squatters, part-rent part-purchase and 'other'.

Source MCS: Base (unweighted) 11,507, Chi Square by respndent's health 0.008, 0.003.

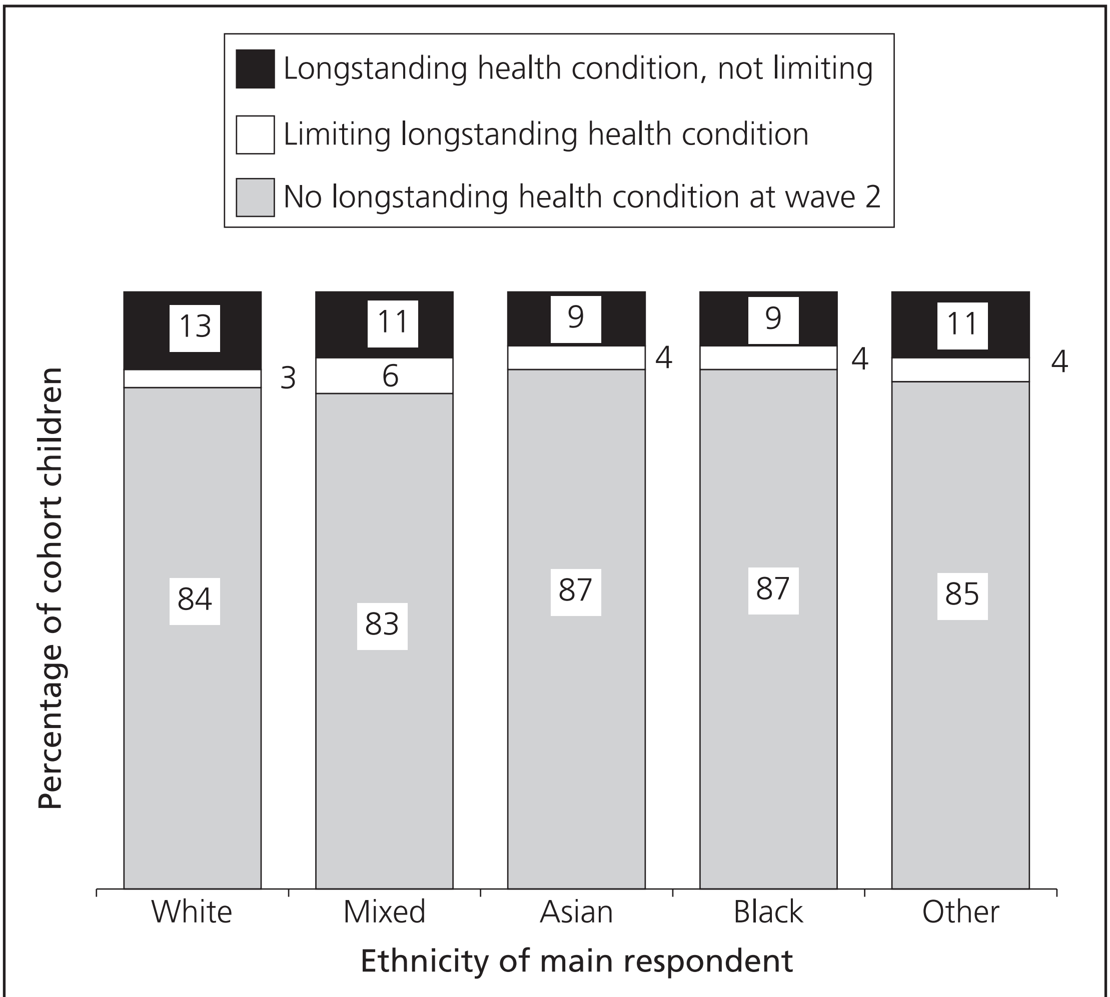
2.3.3 Other children

It appears that respondents who had at least one older child were more likely to report that the cohort child had an LLSC than those who had no other children (five per cent compared with three per cent). However, the likelihood did not appear to increase with additional numbers of children.

2.3.4 Ethnic groups

The substantial size of the MCS also allows us to undertake some analysis among minority ethnic groups. As shown in Figure 2.5 we found some small, but significant, differences in the proportions of children with an LLSC across broad ethnic groups. So whilst just three per cent of white respondents had a child with such a condition, the proportion increased to four per cent among 'black' and 'Asian' respondents and six per cent among respondents from a 'mixed' ethnic background.

Figure 2.5 Proportions of cohort children with LLSC at wave 2, by ethnicity of main respondent



Source MCS: Base (unweighted) 14,898, Chi Square 0.001.

2.4 Work status of respondent

We can see from Table 2.4 that of the respondents who had **never** worked, four per cent had children who were subsequently identified as having an LLSC, compared with two per cent of those who were working when the cohort child was around nine months old. However, the difference can be accounted for by the lower proportion reporting a non-limiting condition rather than an increase in overall likelihood of having a child with a long-term health condition.

Table 2.4 Health status of cohort child at wave 2, by work status of main respondent at wave 1

Column percentages

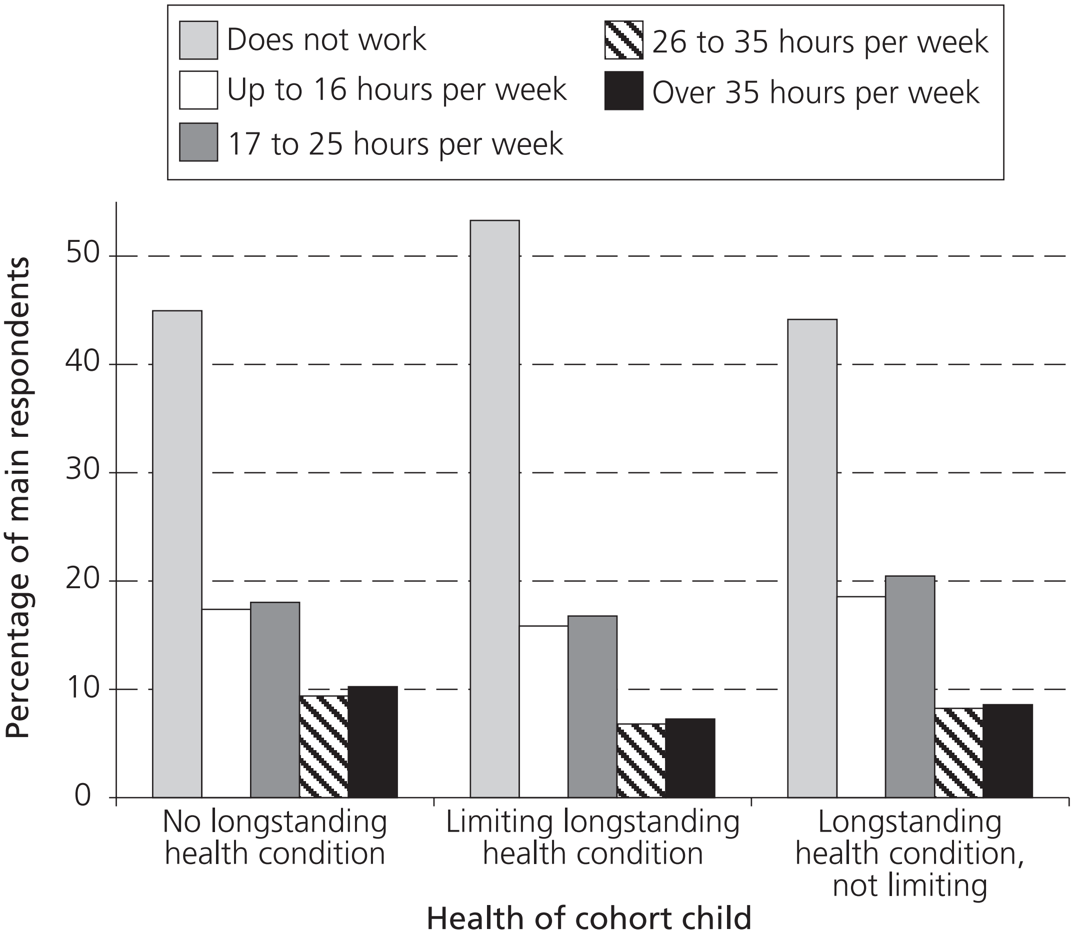
	Paid work status				
Health status of child	**Currently doing paid work**	**Has paid job but on leave**	**Has worked, but no current paid job**	**Never had a paid job**	**Total**
No longstanding health condition	85	86	83	86	84
Limiting longstanding health condition	2	3	3	4	3
Longstanding health condition, not limiting	13	11	13	11	13
Unweighted base	*6,998*	*370*	*6,120*	*1,384*	*14,872*

Chi Square 0.002.

It seems that respondents were more likely to choose **whether** to work or not than to opt for different working hours. The hours worked by respondents with a job did not vary noticeably by the health status of the cohort child (Figure 2.6). The pattern is very similar across the three health categories, showing a slight preference for part-time work over full-time.

Looking at that another way, by the second wave two per cent of those who had undertaken paid work in the previous week had children with long-term limiting illnesses compared with three per cent of those who had not undertaken paid work.

Figure 2.6 Number of hours worked at wave 2 (main respondent), by health status of cohort child at wave 2



Source MCS: Base (unweighted) 14,898, Chi Square 0.000.

2.4.1 Reasons for not working

Respondents who were neither working nor looking for work at the time of the second wave were asked why they were not looking for paid work. Few of them stated that they didn't look for work because they had caring responsibilities even if they had children with limiting conditions (three per cent). It was much more common for them to say that they preferred to be home with their family or to look after their child – whatever the health status of their child.

Table 2.5 Wave 2: Reason for respondent not looking for paid work, by health status of cohort child

Cell percentages

	Health status of child			
	No longstanding health condition	Limiting longstanding health condition	Longstanding health condition, not limiting	Total
Work related reasons				
No jobs in the right place	1	2	2	2
No jobs with the right hours*	8	14	12	9
No jobs available for me	1	2	1	1
Family related reasons				
Care for elderly or ill relative	2	3	2	2
Prefer to be home with family	65	60	62	64
Prefer to look after child	59	62	63	59
Partner disapproves	2	1	2	2
Have a new baby	9	7	9	9
Childcare issues				
Can't earn enough for childcare*	10	16	13	11
Can't find suitable childcare*	5	9	5	5
Other reasons				
I'm on a training course	4	4	3	4
Family would lose benefits*	3	9	5	4
Prefer not to work*	7	13	8	8
Unweighted base (Respondents not seeking work)	*5,248*	*239*	*752*	*6,239*

*Chi Square below 0.05.

Indeed, the proportions mentioning a particular reason for not working tended not to vary significantly by child health.

Parents whose children had an LLSC were far more likely than average to comment that they could not find a job with the right hours (14 per cent compared with nine per cent). This suggests that they did not want to work the standard 9am to 5pm working day. It is quite probable that they needed to share the care of their young child with their partner.

The cost of childcare was significantly more likely to be of concern to parents of children with long-term conditions (and in particular to those with children whose condition limited their activities) than it was to parents of children with no such health problems. This may be because of the additional cost of providing for specific needs or may indicate that they were less likely to anticipate earning enough to cover the costs.

Access to childcare also appeared to impact disproportionately on those with children with long-term limiting conditions. This suggests that there was a lack of childcare provision with suitable facilities.

Benefit entitlement was a particular area of concern for respondents with children who had a long-term limiting condition. They were more than twice as likely as parents with children who had no such condition, to indicate that they were not looking for work because their family would lose benefits (nine per cent compared with four per cent).

It is interesting that parents were more likely to comment that they preferred not to work if their child had an LLSC (13 per cent compared with eight per cent of all parents). There was very little difference between parents of healthy children, and those whose child's illness did not limit their activities.

Having a child with a long-term condition that was not limiting did not appear to make parents any more or less likely to feel that there were no jobs available. If the child's condition limited their activities, the parent was twice as likely to believe that there were not jobs available but the proportions are still very small (an increase from one per cent to two per cent).

2.4.2 Work patterns within households

The analysis above focused on the main respondent of the MCS, which was the primary carer of the cohort child, usually the mother. But it is reasonable to assume that childhood disability may also have an impact on the employment of the respondent's partner. The following table looks at all respondents who had a live-in partner at wave 2. The analysis indicates that the differences in work status by health status of the child are only weakly significant and so the findings should be treated with caution. However, it appears that children with an LLSC were more likely than other children to be in a household where nobody worked (11 per cent compared with an average of seven per cent). They were also correspondingly less likely to live with two working adults – suggesting that one or the other adult took on the additional caring at the expense of working.

Table 2.6 Health status of cohort child at wave 2, by work status of respondent and partner at wave 2

Cell percentages

	Health status			
	No longstanding health condition	**Limiting longstanding health condition**	**Longstanding health condition, not limiting**	**Total**
Nobody	7	11	6	7
Respondent only	3	3	3	3
Partner only	40	42	40	40
Respondent and partner	49	45	51	49
Unweighted base	*8,587*	*275*	*1,251*	*10,113*

Chi Square 0.06 (weakly significant – at ten per cent level).

2.4.3 Motivation for working

A large number of respondents were working and so it has been possible to consider the motivation for working and whether this varied by the health status of the cohort child. The most striking (if not surprising) finding is that respondents were more likely to be working for enjoyment or for time to themselves if they had a child with an LLSC than if their child had no illness. So, whilst 34 per cent of respondents with children with no illnesses worked to get time to themselves, this increased to 42 per cent of those with children who had an LLSC.

Table 2.7 Wave 2: Reasons for respondent working, by health status of cohort child

Cell percentages

	Health status of child			
	No long-term limiting illness at second wave	**Long-term limiting illness**	**Long-term illness, not limiting**	**Total**
Financial, breadwinner	17	20	16	17
To contribute to family finances	45	41	47	45
Financial, for family extras	46	44	46	46
Career	35	30	34	34
Enjoyment*	40	43	37	40
To give time for myself	34	42	35	34
Unweighted base (Respondents who worked)	*6,554*	*184*	*969*	*7,707*

* Chi Square <0.05.

3 The extent of disability over time

3.1 Introduction

In the following two sections of the report we focus on results from analysis of the British Household Panel Survey (BHPS). The BHPS has been running since 1991; the most recent year available is 2004. Some 5,076 individuals have been successfully interviewed in every wave. However, there are many more individuals available for analysis across two or more consecutive years.

There is no ‘standard’ definition of disability. The BHPS asks about health conditions that limit day-to-day activities. The questions have not been identical across the 14 years of the survey but we have identified broadly comparable questions. This is noted in more detail in Appendix A. It is also important to note that the wording of the questions in the BHPS does not seek to identify ‘long-term’ or ‘longstanding’ conditions. We have therefore labelled them as limiting health conditions (LHCs).

We have reported previously (McKay and Atkinson 2007) that the 2001 Census indicated that 15 per cent of all men and women in the general population had a long-term illness that limited their activities or work. But such a snapshot is only part of the story. Evidence suggests that a much larger proportion of people are limited by illness or disability at some point in their life. For example, among BHPS respondents who have been interviewed every year since 1991, almost half (48 per cent) have been limited by a health condition in at least one of those 14 years (Table 3.1).

One in ten of those respondents who have been tracked continuously for 14 years have reported an LHC for eight or more of those years (though not necessarily the same illness, nor continuously).

Table 3.1 Number of waves respondent has been limited by a health condition

Column percentages

Number of waves respondent has reported a LHC	Per cent	*Unweighted base*
0	52	*2,640*
1	15	*776*
2	8	*370*
3	5	*238*
4	3	*176*
5	3	*150*
6	2	*104*
7	2	*81*
8	2	*84*
9	2	78
10	1	66
11	1	*74*
12	1	*68*
13	1	*88*
14	2	*83*
Total	**100**	*5,076*

Women were slightly more likely than men to have reported an LHC at least once during the 14 years of the survey and they were one and half times more likely to have reported LHCs at least eight times (Table 3.2). This may be explained by the larger proportions of women in the older age categories of the survey (weighted analysis shows that 64 per cent of those aged 70 or over were female) as older people were far more likely to report LHCs than their younger counterparts.

Table 3.2 Respondent has been regularly limited by illness, by gender (at wave 1)

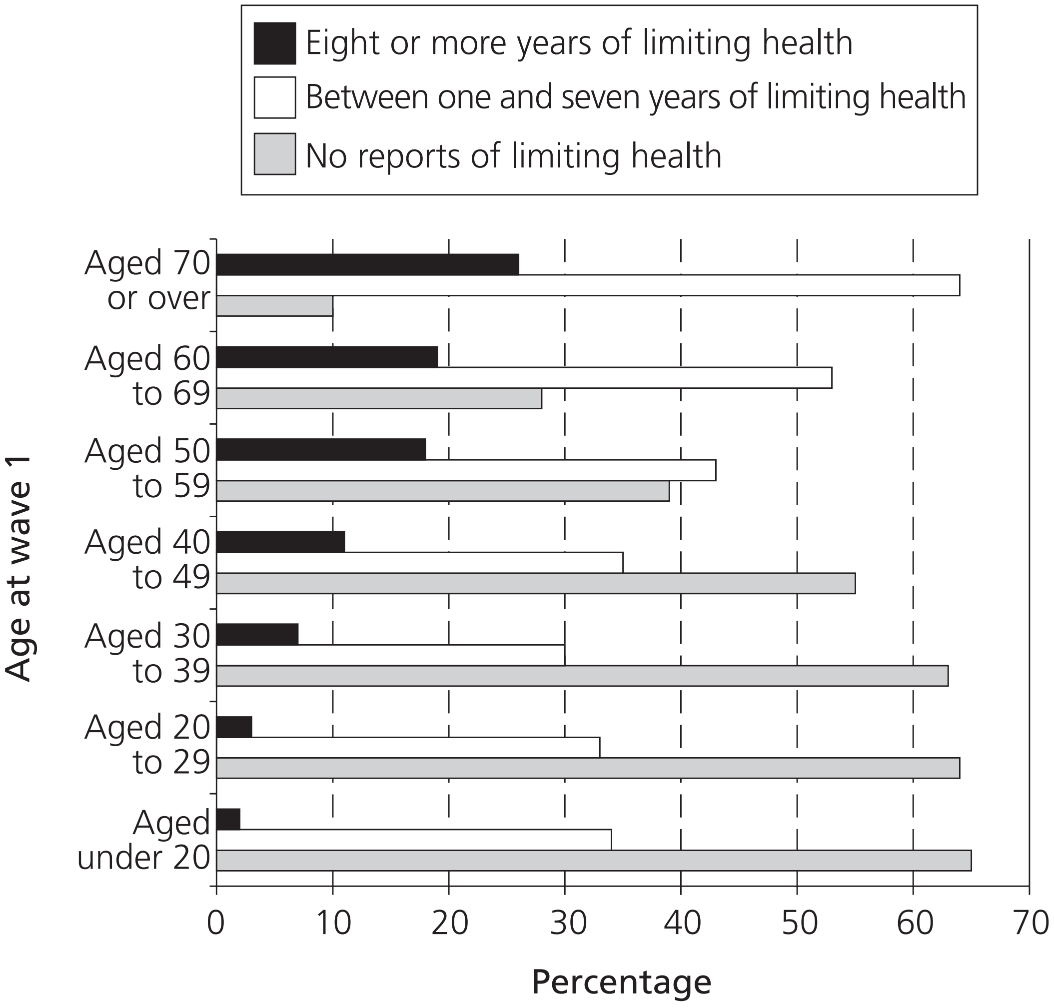
Column percentages

	Gender		
	Male	**Female**	**Total**
No reports of LHC	58	46	52
Between one and seven years of LHC	34	41	38
Eight or more years of LHC	8	12	11
Unweighted base	*2,257*	*2,819*	*5,076*

Chi Square 0.000.

We would perhaps expect older people to be more likely than average to be limited by their health. What is perhaps more interesting is that the question quite clearly asks people for their opinion of their health compared with that of people who are a similar age. So what we are seeing is not only an increased likelihood of very long-term health problems but an increased recognition among some people that they are faring less well than others. Furthermore, it should be remembered that we are only looking at people who have been interviewed in each successive wave of the survey. Clearly, some of those who were ill in early waves will have subsequently died and so this illustration is not reflecting the extent of serious illness, only the persistence.

Figure 3.1 Percentage regularly limited by illness, by age group at wave 1



Source BHPS: Base (unweighted) 5,076, Chi Square 0.000.

3.2 Families with children

In this report, we are particularly interested in the situation of families with children. We have, therefore, looked to see whether parents with responsibility for a dependent child[3] (aged 16 or under) were more or less likely to have extended periods of limiting health problems than the rest of the population. We also consider differences across family types in more detail, below.

Table 3.3 shows that parents who were responsible for a dependent child in wave 1 were less likely to have reported any subsequent limiting illness than other adults. Indeed, we can see from Figure 3.2 that those who were single and elderly at wave 1 were least likely to remain healthy for the following 14 years, whilst respondents who had been living as a couple with dependent children at wave 1 were most likely to do so. Importantly, however, it appears that lone parents with dependent children were more likely to have subsequently reported some period of poor health than any other household with children – whether dependent or not.

Table 3.3 Percentage regularly limited by illness, by responsibility for child at wave 1

Column percentages

	Responsible for dependent child		
	Yes	**No**	**Total**
No reports of limiting health	57	50	52
Between one and seven years of limiting health	35	39	38
Eight or more years of limiting health	8	11	11
Base	*1,013*	*3,992*	*5,076*

Chi Square 0.000 (Unweighted base includes 71 proxy respondents for whom dependent child data is missing).

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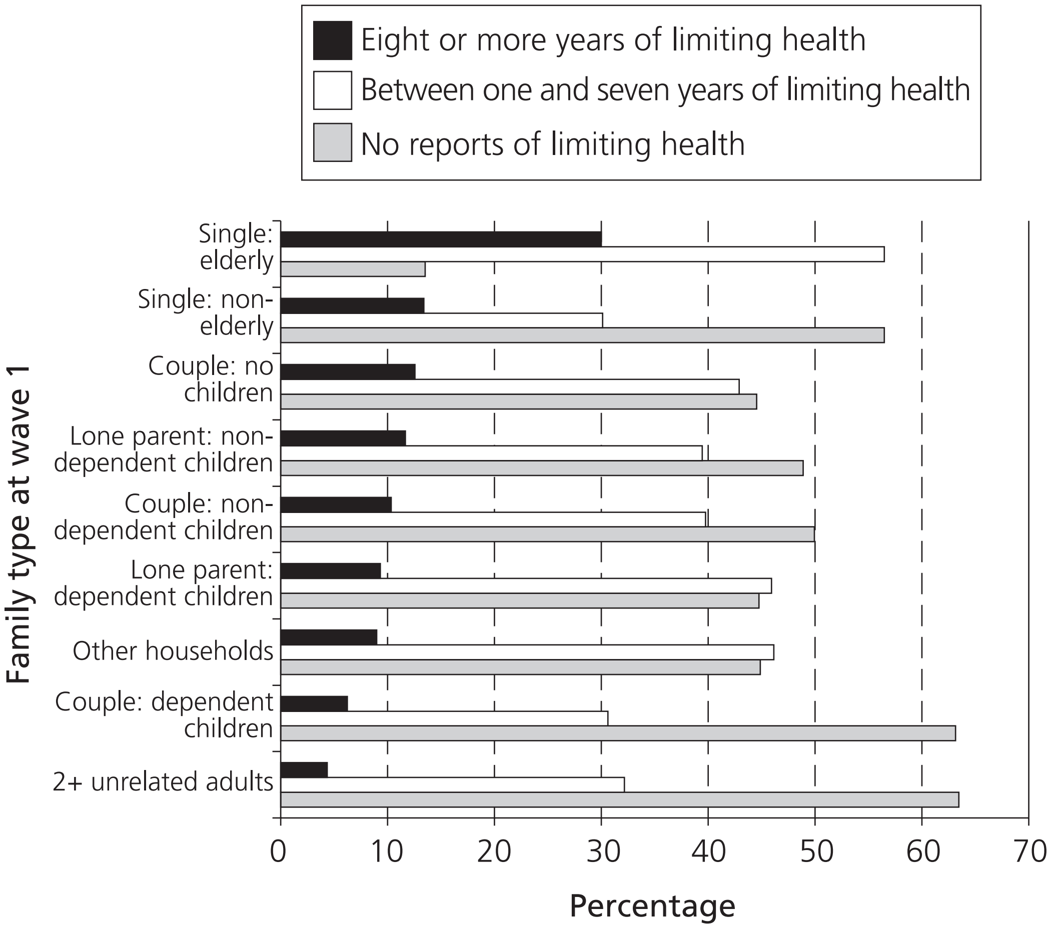
[3] As in the Millenium Cohort Study (MCS), this BHPS variable identifies just one adult as being 'responsible' even in couple households; this is usually the mother.

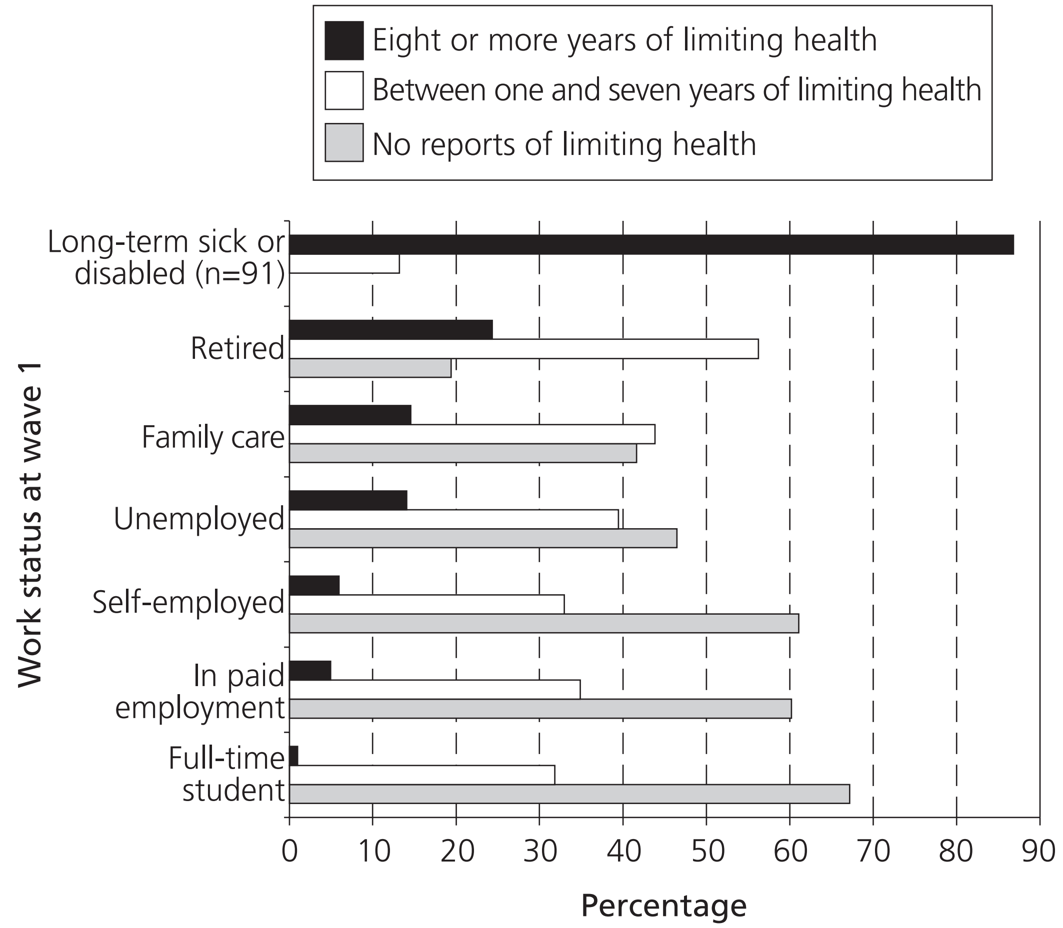
Figure 3.2 Percentage regularly limited by illness, by household type at wave 1 (sorted to reflect incidence of frequent reporting)



Source BHPS: Base (unweighted) 5,076, Chi Square 0.000.

Figure 3.3 shows the proportion of respondents who regularly reported LHCs, by their employment status at wave 1. Some of the bases are very small and so should be treated with caution but one important finding is that the self-employed and employed showed very similar patterns of reporting LHC, as did those who were unemployed or caring for family.

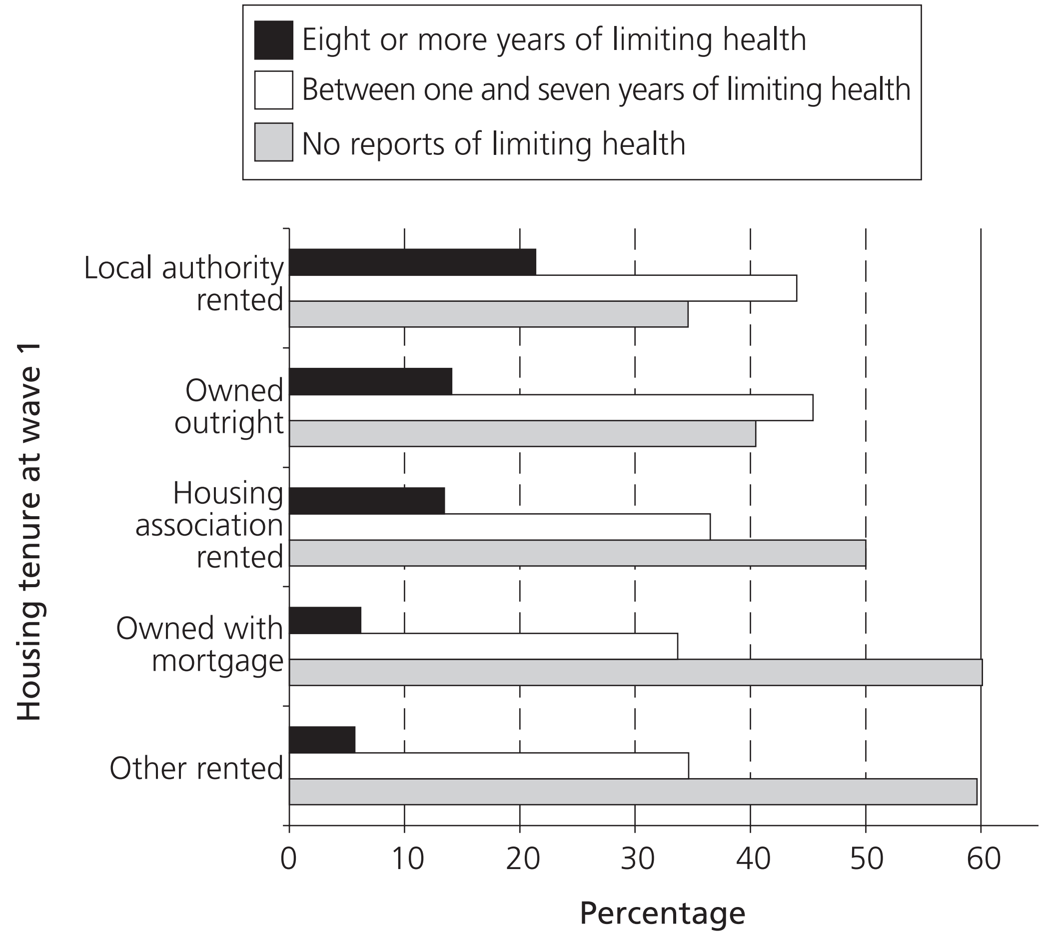
Figure 3.3 Percentage regularly limited by illness, by work status at wave 1 (sorted to reflect incidence of frequent reporting)



Source BHPS: Base (unweighted) 5,076 (not reporting cells with small counts), Chi Square 0.000.

It is also valuable to consider the housing tenure of people at the beginning of the survey, since this gives us some indication of their socio-economic situation. We can see from Figure 3.4 that those in local authority housing were most likely to go on to report multiple incidences of LHC, followed by those who owned their homes outright (who would almost certainly be older than average). Interestingly, those renting from a housing association were far more likely to have reported no periods of LHC (50 per cent) than those in local authority housing (35 per cent). Those in private rented accommodation were very similar to those with a mortgage in terms of their future health.

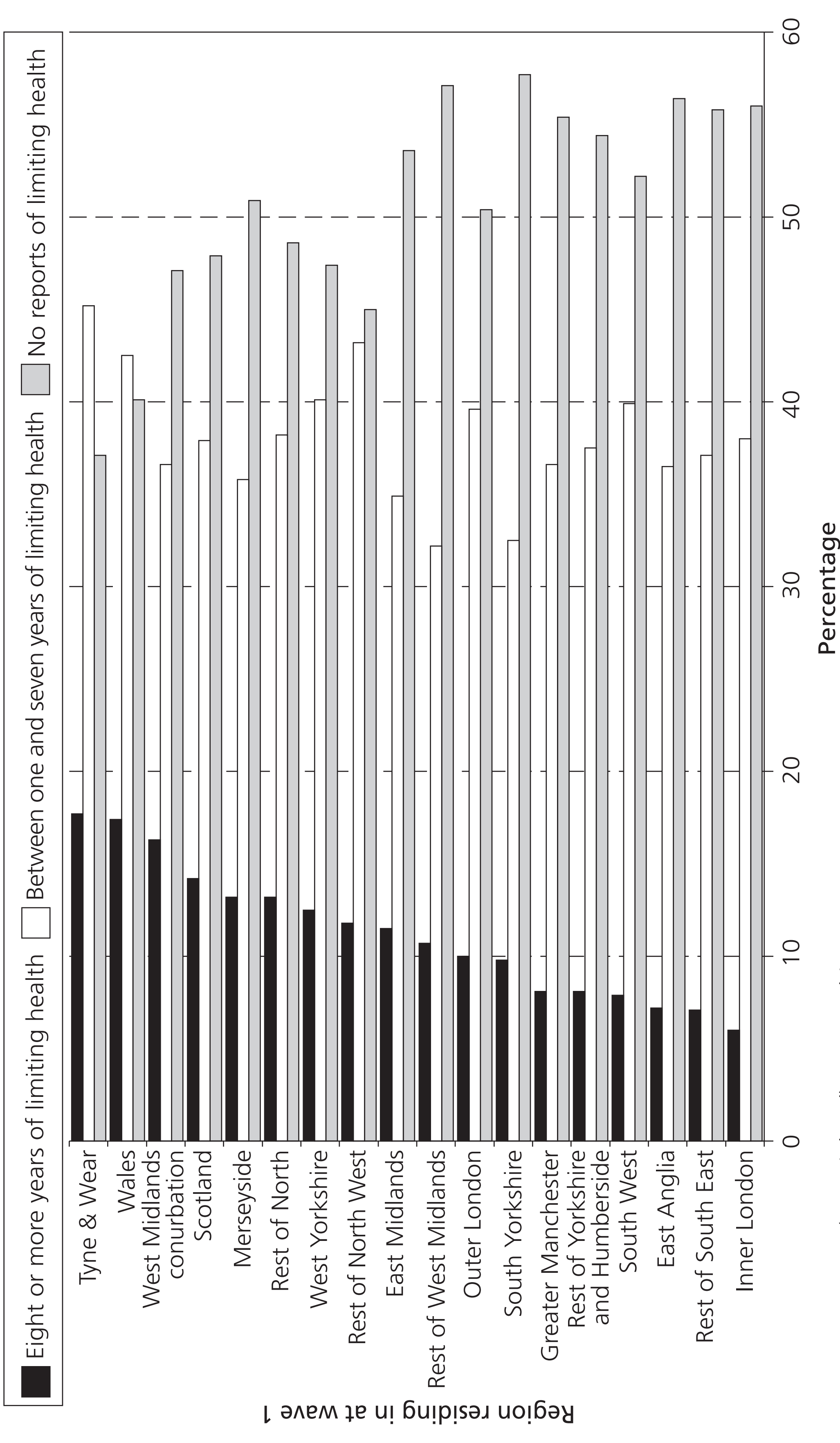
Figure 3.4 Percentage regularly limited by illness, by housing tenure at wave 1 (sorted to reflect incidence of frequent reporting)



Source BHPS: Base (unweighted) 5,076, Chi Square 0.000.

There were some noticeable differences in the regularity with which people reported having an LHC and the region they lived in at wave 1 (Figure 3.5). Those in Tyne and Wear or Wales were most likely to have regularly reported that they had such an illness, whilst those in London and the South East were least likely to have reported so eight times or more. However, it was the people of South Yorkshire and the West Midlands who were least likely to have ever reported having an LHC.

Figure 3.5 Percentage regularly limited by illness, by region at wave 1 (sorted to reflect incidence of frequent reporting)



Source BHPS: Base (unweighted) 5,076, Chi Square 0.000.

4 Changes in disability and work

4.1 Introduction

In the analysis above we have considered the number of times each person has reported having a limiting health condition. This is a useful indicator of the duration of such conditions and an important way of identifying characteristics which might predict or even explain differences in health status.

We now consider the extent to which people moved in and out of states of health and how this was linked to employment status and other characteristics. For this part of the analysis we use data from all respondents who were present in the longitudinal data in at least two consecutive years, rather than limiting analysis to those people who were interviewed in every wave. The data is unweighted and the sample appears large but it should be remembered that the sample is made up of many of the same people observed at different times. This type of analysis allows us to look at characteristics immediately before or after the transition event, providing us with evidence that may help us to draw robust conclusions about the relationship between health and certain socioeconomic characteristics.

In Table 4.1 we consider each person's health transitions by their work status at t. Perhaps not surprisingly, those who were least likely to have good health in two consecutive years were either retired (42 per cent) or not working because of sickness or disability (28 per cent) at t. However, a third of those who had been ill but did not report a limiting health condition (LHC) at t+1 were also retired. Similar proportions of those who became ill in the course of the year and those whose condition improved had been in paid employment at t.

Table 4.1 Labour force status at t and subsequent health status transitions

Column percentages

	Ill > ill	Not ill > ill	Ill > not ill	Not ill > not ill	Total
Self-employed	3	5	5	8	7
In paid employment	13	35	34	58	51
Unemployed	3	5	5	4	4
Retired	42	37	33	14	20
Maternity leave	0	0	0	0	0
Family care	10	10	11	8	9
Full-time student	1	2	3	6	5
Long-term sick or disabled	28	5	9	0	4
Government training scheme	0	0	0	0	0
Something else	0	0	0	0	0
Base	*16,141*	*8,886*	*7,414*	*112,071*	*144,512*

Source British Household Panel Survey (BHPS). Base: Number of observations with no relevant missing data. Chi Square 0.000.

We have also considered individuals' work status at the end of a two-year period (Table 4.2). This helps us to look at the situation of people who have developed an LHC or whose health has improved. We can see, for example, that of those people who had been limited by an illness at t but were no longer limited a year later, just 35 per cent were in paid employment, compared with 60 per cent of people who had suffered no LHC for at least two years.

Table 4.2 Labour force status at t+1 and health status transitions

Column percentages

	Ill > ill	Not ill > ill	Ill > not ill	Not ill > not ill	Total
Self-employed	2	5	5	8	7
In paid employment	12	31	35	60	51
Unemployed	3	4	4	4	4
Retired	44	39	35	15	21
Maternity leave	0	0	0	0	0
Family care	9	10	11	8	8
Full-time student	1	2	2	5	4
Long-term sick or disabled	28	8	6	0	4
Government training scheme	0	0	0	0	0
Something else	0	1	0	0	0
Base	*16,187*	*8,900*	*7,433*	*112,256*	*144,776*

Source BHPS. Base: Number of observations with no relevant missing data. Chi Square 0.000.

We have used the work status variable to create a marker to identify people who were actively employed[4] (this is different from being actively in the labour market as that would include those who are registered unemployed). This shows that just four per cent moved into work activity each year. Whilst six per cent of those who moved from a state of ill-health to one of health became actively employed, seven per cent of those in active work who developed an LHC moved out of the labour force.

Table 4.3 Employment status transitions and health status transitions

Column percentages

	Ill > ill	Not ill > ill	Ill > not ill	Not ill > not ill	Total
Active > active	13	33	34	62	53
Inactive > active	2	3	6	5	5
Active > inactive	3	7	4	4	4
Inactive > Inactive	82	57	56	29	38
Base	*16,201*	*8,902*	*7,434*	*112,296*	*144,833*

Source BHPS. Base: Number of observations with no relevant missing data. Chi Square 0.000.

There are some notable differences in work activity by gender and Figure 4.1 indicates that these were more not specifically linked to health. For example, men were more likely than women to have been working across a two-year period (61 per cent compared with 46 per cent) but men who had an LHC across two years were only slightly more likely to remain active than women. Men were no more likely than women to return to work after a period of LHC (six per cent).

The BHPS identifies adults with responsibility for a dependent child; in households with two adults, this is generally considered to be the mother. We have, therefore, considered whether women with responsibility for a child were as likely to be in active employment throughout two periods as those who were not. In order to be able to compare two similar groups, we have limited this analysis to those aged 50 and below (if we did not do this, the average age of those without dependents would be considerably older, making comparisons difficult).

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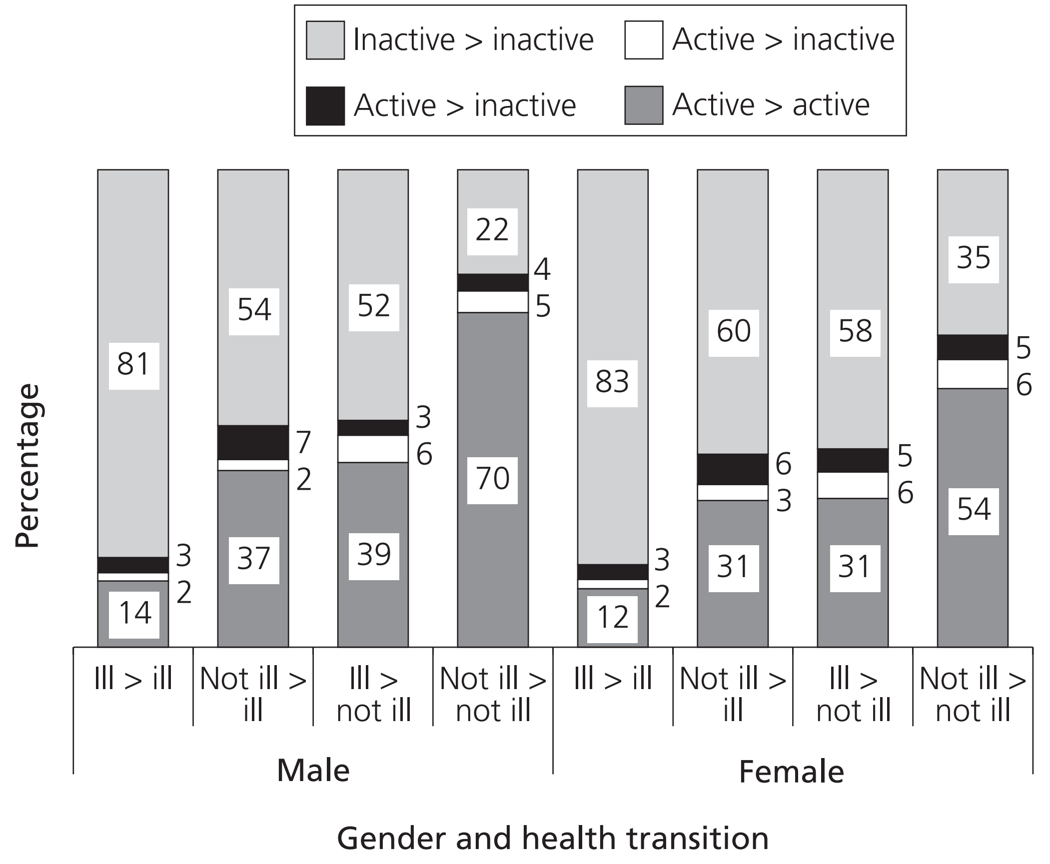
[4] Not including those on maternity leave as this was self-reported and may have included women without regular employment.

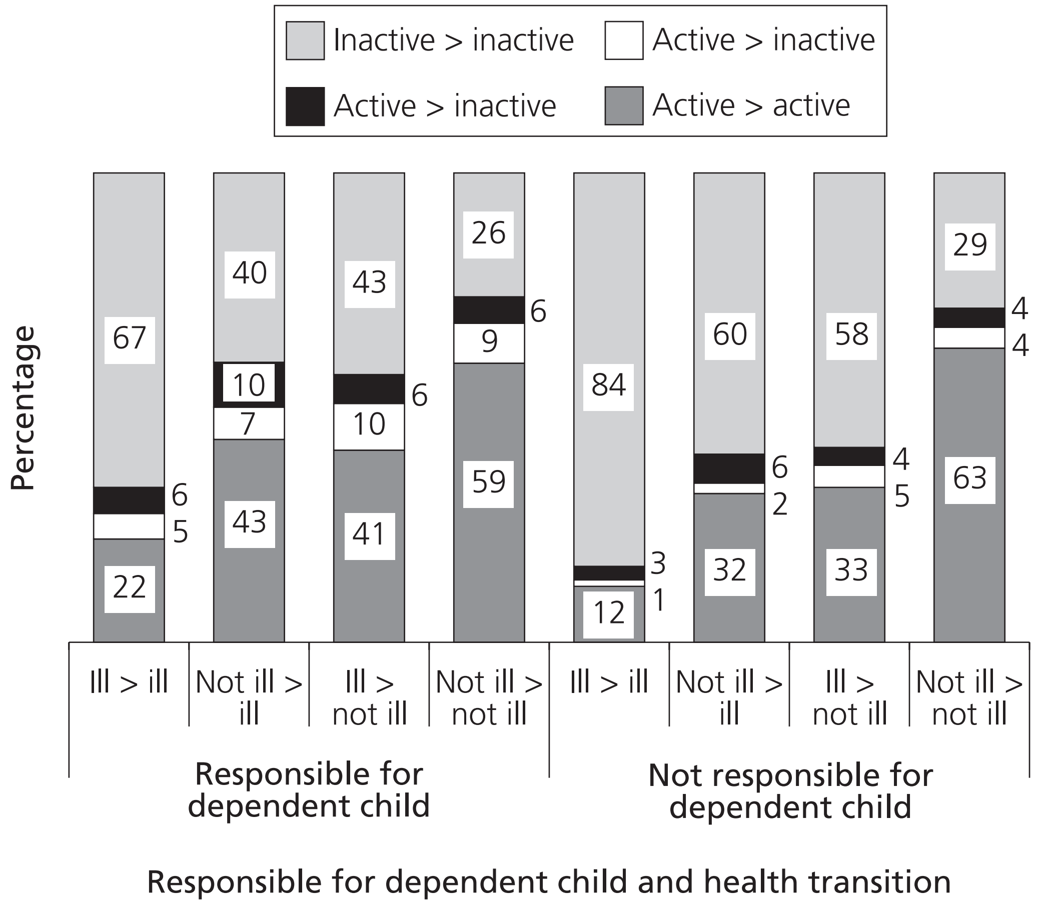
Figure 4.1 Employment status transitions and health status transitions, by gender



Source BHPS: Base 144,833. Number of observations with no relevant missing data. Chi Square 0.000.

We see that women with a dependent child were slightly more likely to switch between active employment and inactivity across two years than women without dependent children (Figure 4.2). Indeed, whilst ten per cent of those who developed an LHC in the course of the year became inactive, another seven per cent became actively employed during that period. A similar pattern is evident amongst those who were ill in both periods.

Figure 4.2 Employment status transitions and health status transitions, by whether responsible for a dependent child at t women aged 50 and below

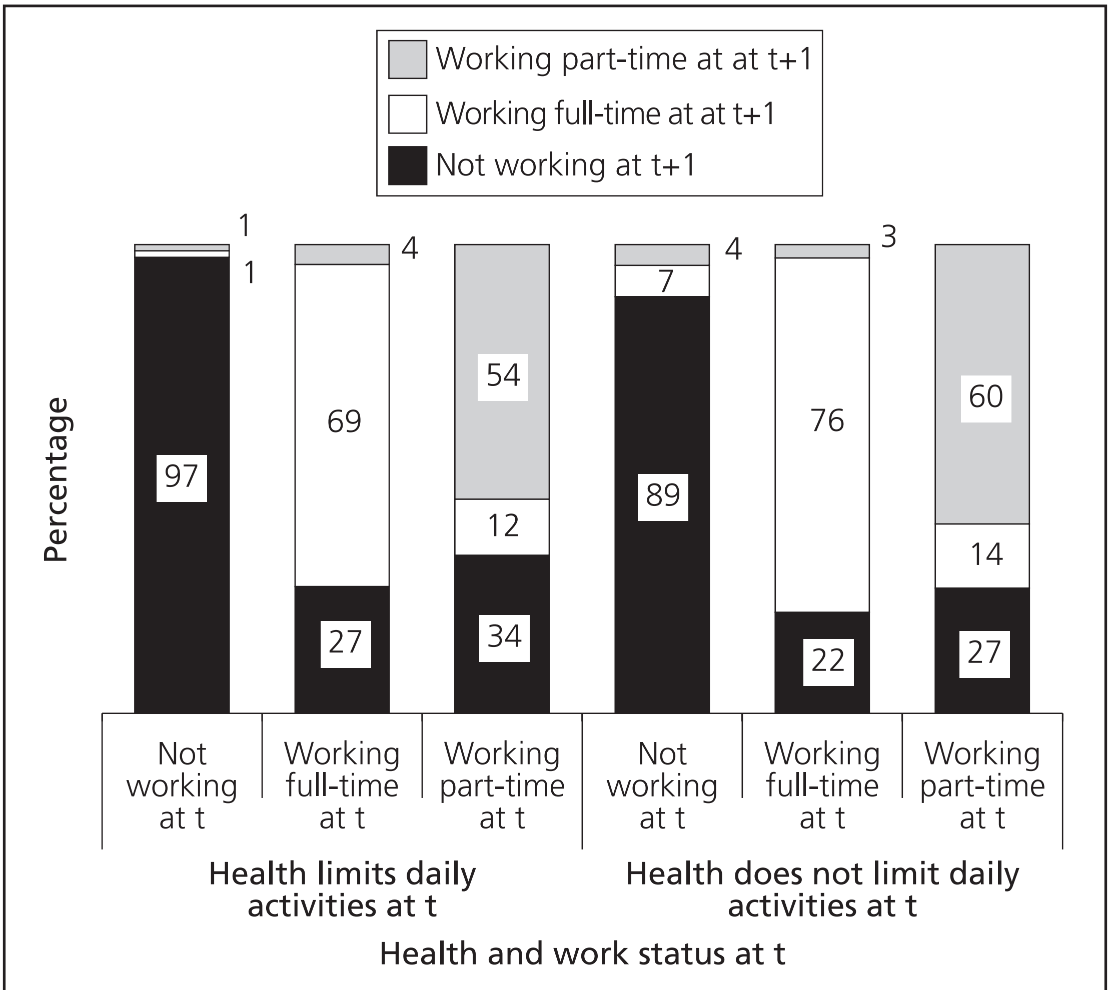


Source BHPS: Base 48,372. Number of observations with no relevant missing data. Chi Square 0.000.

4.2 Work status

In Figure 4.3 we consider the relationship between health and work status at '*t*' and subsequent working hours a year later ('*t+1*'). First of all we notice that most of those who were working full-time at t, were still working full-time by t+1 irrespective of initial health, and similarly, those not working at t were unlikely to be working a year later. However, LHCs did precede slightly increased levels of movement out of work for part-time and full-time workers. In particular seven per cent of those who had not had a health condition moved into full-time work, compared with just one per cent of those who had reported an LHC.

Figure 4.3 Changes in work status, by health at t



Source BHPS: Base 172,687. Number of observations with no relevant missing data. Chi Square 0.000.

It is worth noting that of those who were in employment at t there were very few variations in the proportions subsequently moving between LHC and good health, irrespective of whether they were self-employed or employed or whether they were working full or part-time (Table 4.4). Those in part-time work were very slightly more likely than full-time workers to report continuing LHC, irrespective of whether they were self-employed or employed and those in full-time employment were slightly more likely to remain in good health (almost 90 per cent did so).

Table 4.4 Work type and health transitions of those in employment at t

Column percentages

	Full-time/part-time at t		
Job status at t	**Full-time**	**Part-time**	**Total**
Self-employed			
Ill -> ill	4	6	4
Not ill -> ill	4	4	4
Ill -> not ill	3	4	3
Not ill ->not ill	89	85	88
Base	*6,860*	*1,319*	*8,179*
Employed			
Ill -> ill	3	5	3
Not ill -> ill	4	5	4
Ill -> not ill	3	4	3
Not ill ->not ill	90	86	89
Base	*57,040*	*14,749*	*71,789*

Source BHPS. Base: 81,056 Number of observations with no relevant missing data. Chi Square 0.000.

4.3 Regression analysis

We have found some indications that the both working and disability are associated with various characteristics, including age and income. Regression analysis is a useful tool for investigating, in more detail how certain characteristics are associated with particular outcomes. In this section of the report we consider the results of several logistic regressions looking at a) the likelihood of having a long-term illness at t+1 and b) the likelihood of being in active employment at t+1. In both cases we focus on the data relating to people who had dependent children in their household at t (that is household types identified as being couples or lone parents with dependent children). In this way we can pay particular attention to the variations within families with children that are associated with working or disability.

The first two regression models (Table B.1) investigate the predictors of reporting an LHC at t+1, using information from the previous wave. The analysis controls for illness in the previous year – that is it describes the additional impact of certain characteristics given the LHC status of the individual at t. It is not surprising that health at t is highly predictive of health a year later but even after controlling for an LHC other characteristics remain significant.

Age and housing tenure appear to be significant predictors of LHC; younger parents were less likely than older ones to report an LHC even after controlling for their health status the previous year and tenants were more likely than mortgage holders. Whilst housing tenure is often used as a proxy for income, it seems that in this case housing tenure is explaining more of the variation in health status than income, perhaps because it is associated with other factors that have not been controlled for, such as persistent poverty.

Parents in active employment at t were significantly less likely to have had an LHC at t+1. Looking at this another way, irrespective of their initial health status, parents who were not in work were more likely to report an LHC the following year.

The regression indicates that once we take other characteristics into account, and looking at families with dependent children, men are slightly more likely than women to have an LHC at t+1.

It seems that health conditions also vary by region: Parents in the West Midlands conurbation, and those in Northern Ireland were more likely to report an LHC than those in Inner London, even after taking into account other characteristics including income.

We have also considered whether caring responsibilities impact on having an LHC at t+1 (Model 2, Table B.1). To do this, we have included an additional three variables. The first identifies people who cared for someone within their home at t, the second identifies those who cared for someone outside the home at t and the last one picks up any caring responsibility that took 20 hours or more per week.

We find that the second model does not become more powerful at predicting who will report an LHC and that the characteristics that we found to be significant predictors show similar odds ratios in this new model. However, the small proportion of parents who care for someone else for more than 20 hours a week (this does not include their own children) are significantly more likely to report an LHC at t+1, irrespective of whether they had an LHC themselves at t.

In the following two regression models (Table B.2 Models 3 and 4) we consider whether work status at t+1 can be predicted by characteristics including LHC in the previous year – this is basically reversing the presumption of cause and effect in terms of employment and LHC. Again, we focus only on adults who live with dependent children, using the household type indicator. The independent variables remain the same as in the previous model and again, we introduce caring into the model in the second stage.

Not surprisingly, the most powerful predictor of employment at t+1 is being in active employment the previous year. Having said that, even after controlling for previous paid work we find that people with an LHC the previous year were less than half as likely to be working by t+1 than those who did not have such a condition.

Holding other characteristics constant, men were more likely to be actively employed at t+1 than women of the same age but lone parents were not significantly more or less likely to be in employment than couples with dependent children.

There are some significant regional differences in employment once other things are taken into account. Compared with those living in Inner London, those in the South West and the West Midlands region were more likely to be working. Conversely, those in Northern Ireland were less likely to be working.

Again, we have investigated the additional impact of having caring responsibilities. As before, we find that the addition of variables to identify various types of caring does not increase the predictive power of the model and does not make much difference to the likelihoods of the other significant variables. If caring was strongly associated with a small number of the other characteristics we would expect its inclusion to make noticeable changes to the outcomes.

We find that the inclusion of caring information in the model produces intuitive results. People who care for someone at home are less likely to be actively employed a year later, as are the small proportion who are caring for anyone for 20 hours or more, keeping other things constant. This is an important finding. It suggests, for example, that even people who were working full-time will be less likely to be working a year later if they are caring for someone who lives with them and particularly if they are caring for over 20 hours a week.

5 Disability and poverty

5.1 Introduction

In this chapter we consider the links between changes in disability and the effects on child poverty. The analysis is conducted using the Families and Children Study (FACS) for 2001/05. This is a representative sample of families with children each year, as well as enabling us to 'track' the same group of families over time.

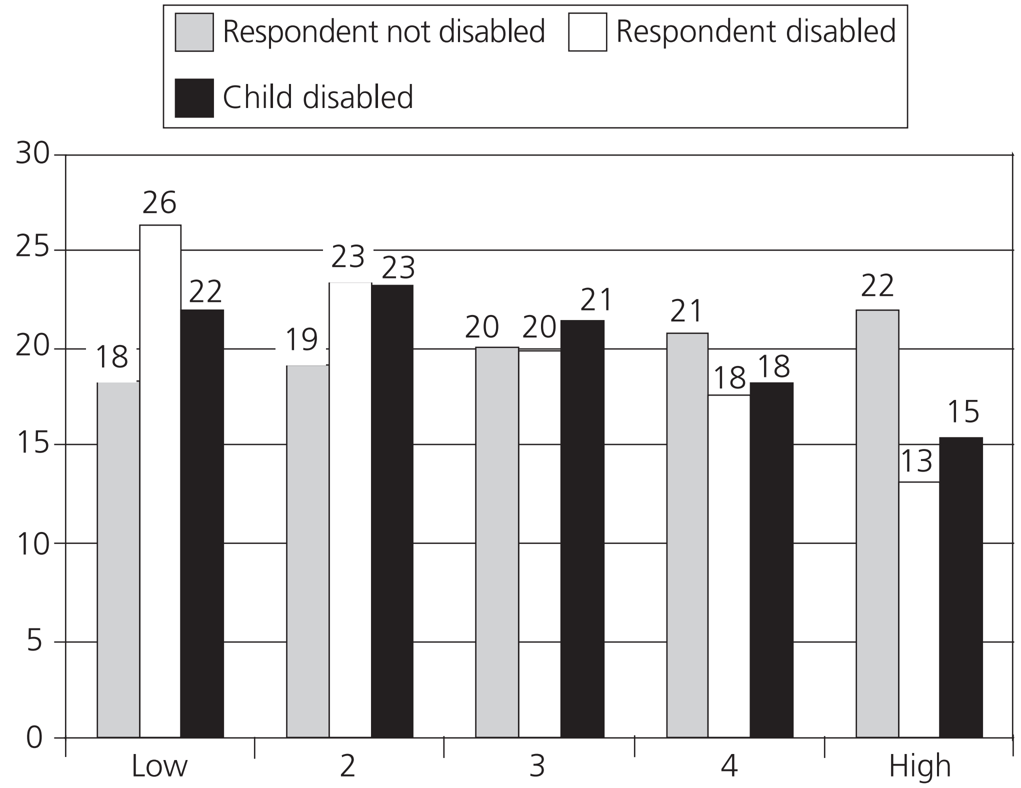
The data collected within FACS enables us to replicate the relative income element of the child poverty measure used in the Families Resources Survey (FRS) Households Below Average Income (HBAI) series and hence, those used within the Government target. Families are defined as 'poor' if their incomes before housing costs (equivalised using the Organisation for Economic Cooperation and Development (OECD) measure) are below 60 per cent of the median. The appropriate proportion is calculated from the FRS (HBAI series) and then applied to the FACS information. This is calculated for each of the years 2001/05.

In this chapter we consider how changes of health status (affecting the main respondent, her children and any partner) affect the risk of being poor. By tracking the same families over time it is also possible to consider how low incomes affect the likelihood of such transitions.

5.2 Incomes and disability in 2005

Among families with children, those with a disabled respondent or a disabled child were more likely than average to have lower incomes and not to reach the higher part of the income distribution (see Figure 5.1). Overall, 26 per cent of families with a disabled mother were in the bottom 20 per cent of family incomes, as were 22 per cent of families with a disabled child. Conversely, only 13 per cent of families with a disabled mother reached the top 20 per cent of incomes.

Figure 5.1 Income distribution among families with children (2005)



Note: Unweighted base is 7,657 families with dependent children.
Chi Square = 0.000 for links between both respondent and child disability, and income group).

In the following sections, we consider how far changes in health status over time are related to these lower incomes of disabled people.

5.3 Year-to-year: effects of health changes on the risk of poverty

Where respondents became disabled over the course of the year, their poverty rate was 23 per cent, rather higher than the 17 per cent where no such change took place (though the difference should not be exaggerated). Similarly, where the partner became disabled (in couples) the risk of poverty was 11 per cent, compared with seven per cent where the partner remained free of disability. These latter figures also indicate that the risk of poverty is considerably higher for lone parents than couples and represents a statistically more important factor than ill-health. In looking at the risk of a family being poor (on the relative income measure) then knowing the family situation is more informative than knowing the health situation. At the time of the analysis, being a lone parent, rather than having an illness, was more likely to dictate poverty.

There was little difference in the risk of poverty where a child became disabled in the course of a year (20 per cent rather than 18 per cent, not enough to be statistically significant).

Table 5.1 Annual change of health status and risk of poverty

Cell percentages

	Poverty rate this year	Unweighted number
Main respondent becomes disabled in current year	23	1355
Remains non-disabled	17	14,956
Difference	+6	
Partner becomes disabled in current year	11	401
Remains non-disabled	7	4,551
Difference	+4	
One or more children become disabled in current year	20	1,459
Remains non-disabled	18	14,148
Difference	+2	

Source: FACS 2001-2005.

The importance of whether the respondent was a lone parent or part of a couple prompts a further analysis looking separately at each group. As we show, separating out couples and lone parents tends to slightly reduce the effect of becoming disabled (as measured by the question about having a longstanding illness or disability) on the risk of poverty (Table 5.2). Whilst a long-term health problem increased the risk of poverty by six percentage points among families as a whole, in fact the risk of poverty increased by five percentage points among lone parents and by four percentage points among couples. To clarify, the risk of becoming poor was 39 per cent among lone parents who became disabled in the course of the year, compared with 34 per cent where no such change took place. Similarly, the poverty risk for couples with children was 15 per cent where the main respondent developed a longstanding health problem, compared to 11 per cent avoiding such a change.

These figures confirm that there are important differences in the rates of becoming disabled between couples and lone parents. Controlling for partnership status, the effect of a child becoming disabled on poverty rates was smaller (one percentage point higher, rather than two) – in any event the difference wasn’t statistically significant. We cannot even be sure that a child becoming disabled, in the year of that event, was associated with a higher poverty risk. It is worth noting, however, that this relates to a particular year (the immediate effect) and there could be changes taking place in later years if the effect on health persists.

Table 5.2 Annual change of health status and risk of poverty, by family type

Cell percentages

	Poverty rate this year	
	Lone parent	**Couple**
Main respondent becomes disabled in current year	39	15
Remains non-disabled	34	11
Difference	+5	+4
One or more children become disabled in current year	35	13
Remains non-disabled	34	12
Difference	+1	+1
Unweighted base	*6,554*	*14,202*

The effect of ill-health on the rate of poverty depended, to a great extent, on the employment status of the families in FACS, with some initially surprising results, particularly for couples with children.

As we show in Table 5.3, the rate of poverty was somewhat increased for lone parents when they began a longstanding health problem in the course of the year. For those in work, the risk of poverty was two percentage points higher than otherwise (not statistically significant) but five percentage point higher for those not in work of at least 16 hours a week. Conversely, when a child began a long-term disability the risk of poverty for working lone parents was no different to when no such health problem developed during the year – and the rate of poverty actually fell (by eight percentage points) for lone parents not working (or working for less than 16 hours weekly).

There were similar patterns among couples with children, in terms of the current risks of poverty for those commencing a health problem in the previous year. Among those in paid work, particularly for two-earner couples, the appearance of a long-term health problem for the respondent, partner or a child was associated with little difference in the risk of poverty – compared to where no such change took place. For instance, the risk that a two-earner couple (at least, in the previous year) would be poor this year was five per cent where a child became disabled, and five per cent where no such change took place. By contrast, the poverty risk was **lower** for a workless couple if a child began a health problem or the respondent did so.

Table 5.3 Annual change of health status and risk of poverty, by work status

Cell percentages

	Poverty rate this year, by employment status				
	Lone parent working 16+ hours	Other lone parents	Two-earner couple	One-earner couple	Workless couple
Main respondent becomes disabled in current year	16	59	7	18	48
Remains non-disabled	14	54	4	16	54
Difference	+2	+5	+3	+2	-6
Partner becomes disabled in current year	-	-	1	17	53
Remains non-disabled	-	-	2	12	56
Difference			-1	+5	-3
One or more children become disabled in current year	14	48	5	16	42
Remains non-disabled	14	56	5	10	54
Difference	0	-8	0	+6	-12
Unweighted base	*2,399*	*2,431*	*6,541*	*4,311*	*626*

What seems a likely explanation for these findings is the role played by the benefits system (and indeed tax credits) in responding to health problems and the way that higher benefits for ill-health are counted as additional income (within the measurement of incomes for estimating levels of poverty). The current main measure of poverty is based on income – being below 60 per cent of the median – and takes no account of any health difficulties[5]. However, benefits are typically higher where a disability is experienced – both through specific extra costs benefits (particular Disability Living Allowance, with components for mobility and care) and additions to Income Support through various premiums.

One way of confirming this is by comparing the incomes of families with children with and without a family member quoting a disability. Results are shown for lone parents in Figure 5.2 and for couples with dependent children in Figure 5.3. The results are somewhat surprising, and help to inform some of the results above.

Among lone parents not working 16 or more hours (most of whom do no work, some working a few hours) average incomes are, if anything, slightly higher among those with a disabled children or where the respondent was disabled. The same applies for lone parents in work. The result is that, overall, disabled

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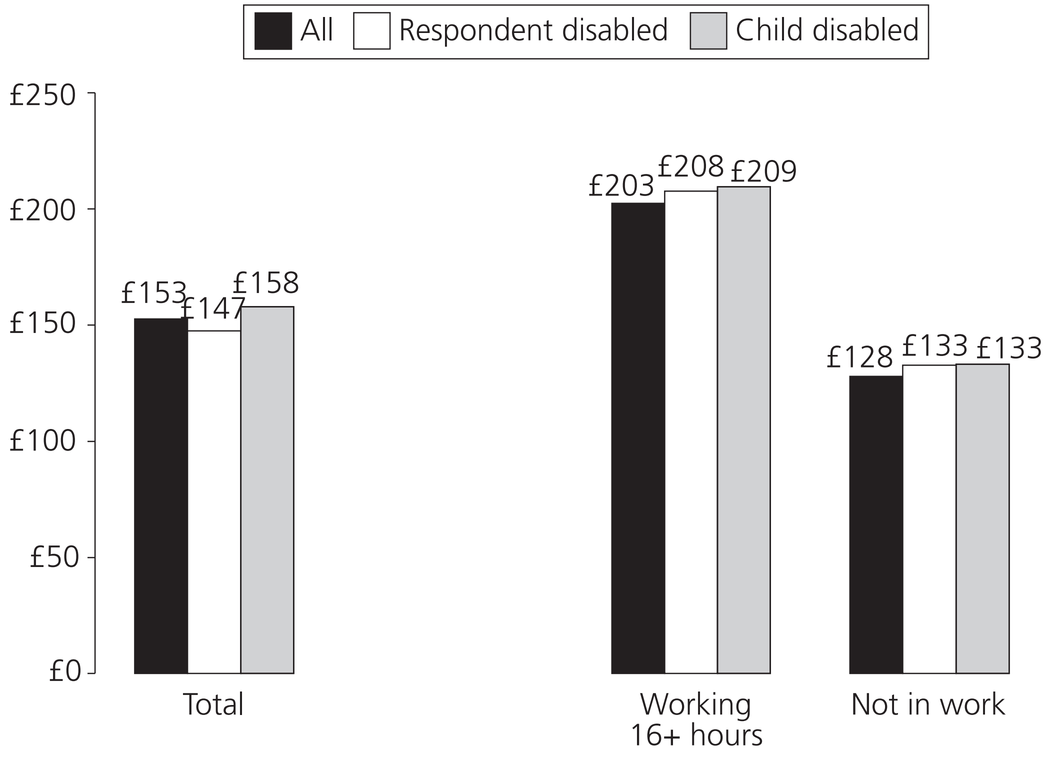
[5] Sometimes a broad adjustment to equivalence scales is made to try to capture the higher needs of families with disabled members.

lone parents have lower incomes than non-disabled lone parents arising through the lower propensity to being in paid work in the presence of health problems of these kinds.

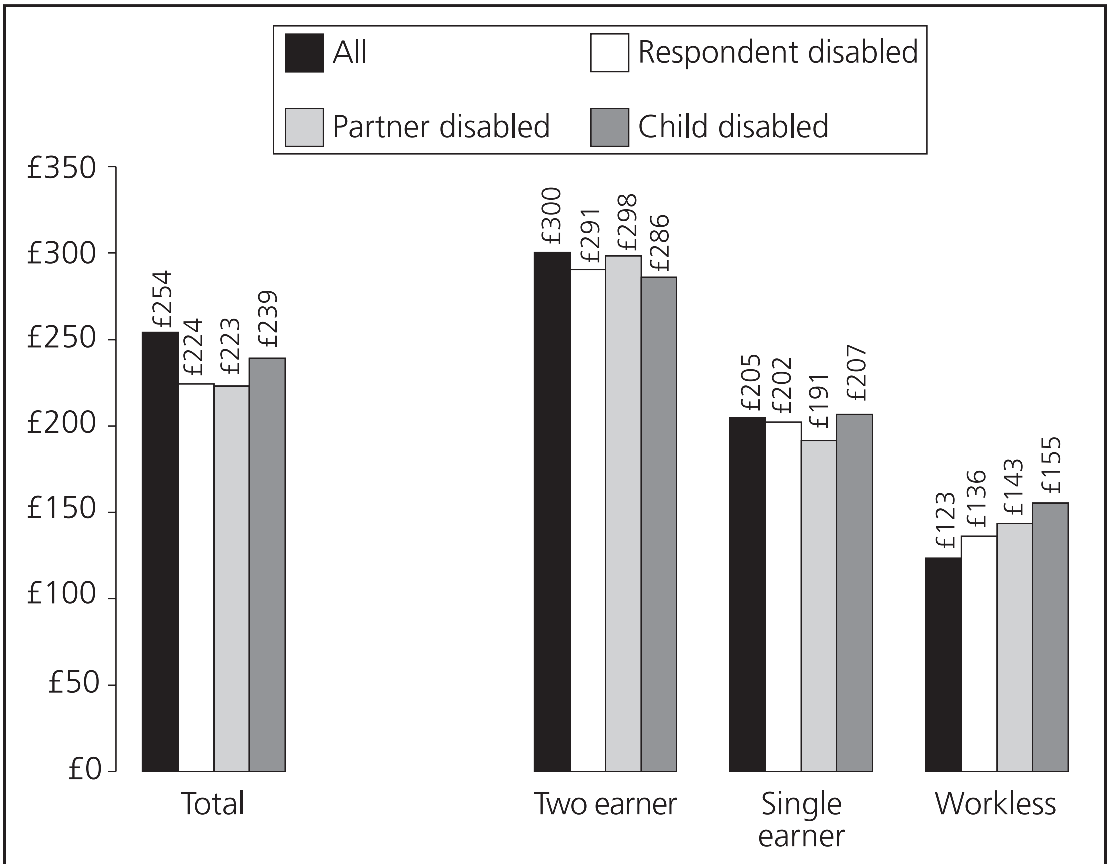
Figure 5.2 Median incomes (OECD basis) and work status among lone parents [2005]



Note: 'Not in work' includes those working 1-15 hours.
Unweighted bases: 965 lone parents not in work (or working 1-15 hours) and 886 lone parents working 16+ hours.

Among couples with dependent children, the key results are probably those for the workless couples (see Figure 5.3). Median incomes are highest where there is a disabled child (or children), followed by having a disabled partner and then the respondent herself (typically). Each had a higher average income than workless couples without any health problems of this kind.

Figure 5.3 Median incomes (OECD basis) and work status among couples with dependent children [2005]



Note: 'Not in work' includes those working 1-15 hours.
Unweighted bases: 2,249 two-earner, 1,562 single-earner, 316 workless couples.

The effect of disability on couples' income is clear but again reflects the effect of ill-health on employment status as well as effects on earnings or other sources of incomes. For instance, ill-health of the partner affected the proportion who were dual-earner couples, as well as the incomes of single-earner couples (where more likely to be a sole female earner).

5.3.1 Poverty and disability – effect or cause?

In the above results, there is something of an association or link between disability and poverty. Having a disabled family member was associated with a higher risk of poverty for those in work but a lower risk of poverty for non-workers. This latter reduced risk of poverty is likely to be related to the additional benefit and tax credit incomes available to families those with health problems of various kinds. Whilst this might seem initially surprising, in fact it is a positive policy result to the extent that ill-health is not inevitably linked to poverty level incomes. The caveat to that is whether some adjustment ought, additionally, to be made to the way that incomes are measured to capture some of the effects of ill-health.

It is also possible that low incomes contribute towards ill-health and the causal direction runs both ways. Some evidence for this 'reverse cause' approach is shown in Table 5.4.

Whilst those becoming disabled in the course of the year were more likely to be poor at the end of that year, they were equally likely to have been poor at the beginning of the year (at a time when they did not have a longstanding illness or disability – or at least not at a level where it was mentioned in the survey interview). Whilst in the year that the main respondent became disabled, they had a 23 per cent chance of becoming poor (compared to 17 per cent among those continuing to avoid this description), at the start of that year they had a similar 24 per cent chance of being poor. It seems equally plausible that the poverty preceded the ill-health and not just the reverse. The remainder of Table 5.4 shows further evidence on this point. The transition into ill-health did not really affect the risk of poverty (at least overall) – instead, it seems clear that transitions into ill-health were more likely to arise from situations of poverty.

Table 5.4 Annual change of health status and prior risk of poverty

Cell percentages

	Poverty rate previous year	Poverty rate this year	Unweighted number
Main respondent becomes disabled in current year	24	23	1,355
Remains non-disabled	18	17	14,956
Partner becomes disabled in current year	14	11	401
Remains non-disabled	7	7	4,551
One or more children become disabled in current year	23	20	1,459
Remains non-disabled	18	18	14,148

We may also break down the results, further, by lone parents and couples considered separately. The results (shown in Table 5.5) again show a higher risk of a transition into ill-health for those more likely to have been poor. Where a lone parent became disabled in the course of the year, some 45 per cent were poor. This compares with 38 per cent poor among those lone parents not making such a transition (i.e. they did not report a longstanding health problem either this year or in the year before that).

Table 5.5 Annual change of health status and prior risk of poverty, by family type

Cell percentages

	Poverty rate previous year	
	Lone parent	**Couple**
Main respondent becomes disabled in current year	45	13
Remains non-disabled	38	10
One or more children become disabled in current year	45	13
Remains non-disabled	39	10

It is possible that the rather frequent turnover of health status, described in the previous chapters, is contributing to findings of this nature. It is, therefore, worth considering how the duration of disability affects results relating to poverty and lower incomes. In the next section the time horizon is expanded to five years – rather than looking at year-to-year transitions.

5.4 A five year perspective: health status and the risk of poverty

5.4.1 Durations of ill-health and disability

Taking those families interviewed in every year 2001/05, we may consider how often they described themselves as having a longstanding illness or disability – and similarly for their partner (for those who were couples throughout this time) and their dependent children. In 61 per cent of cases, respondents never said they had a longstanding illness,or at least not between 2001 and 2005. By contrast, some ten per cent of respondents said each year that they had such a condition. Naturally there were a range of responses in between, with 12 per cent mentioning this just once[6].

The mix of responses was rather similar for children. In a small majority of cases (56 per cent), no longstanding health problem was reported. Then the next most common sets of responses were that there had been a health problem for precisely one year (14 per cent) or for each of the five years of answers. Ill-health appeared to be rather less common among partners.

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[6] The answers given to the health questions each year do show a high level of internal consistency, despite their long separation over time. This is measured by an alpha coefficient of 0.85 (for the main respondent), 0.86 for the partner and 0.86 for questions relating to having a child (or children) with a longstanding health problem.

Table 5.6 Frequency of disability and poverty over 2001/05

Cell percentages

How often (over five years)	Respondent disability	Partner disability (couples all years)	Any child disability	In poverty
Never	61	70	56	57
1	12	12	14	18
2	7	6	8	9
3	5	5	7	6
4	5	4	6	6
5	10	4	9	4
Unweighted base	*4,398*	*2,800*	*4,398*	*2,932*

The final column of Table 5.6 records how often families were poor (having an income below 60 per cent of the median, using the OECD approach). Whilst the rate of poverty **each year** was around one in five, only four per cent of families were poor in each of the five years, whilst 57 per cent avoided poverty every year. These figures indicate a degree of 'turnover' in the groups who are poor each year – just as they show quite frequent transitions between different kinds of health status.

In Table 5.7 we show one set of links between the health of the respondent and the chances of being poor. The analysis shows the likelihood of ever being poor and the average number of years in poverty, according to the five-year history of respondent disability. The risk of ever being poor was clearly lowest for those with no experience of disability (39 per cent) – this compared with 43 per cent among the sample as a whole. Where a person had once or twice mentioned a longstanding health problem, 47 per cent had ever been poor. However, there was more than an even chance of experiencing poverty for those disabled for three or more years.

Table 5.7 Respondent disability and family poverty status over five years

Cell percentages

Respondent disability over five years	**Per cent ever poor**	**Average number of years poor**	***Unweighted base***
Never	39	0.9	*1,795*
1	47	1.1	*353*
2	47	1.2	*206*
3	54	1.3	*138*
4	54	1.3	*157*
5	52	1.1	*283*
All	43	0.9	*2,932*

The results relating to partner ill-health are illustrated in Table 5.8. Again, it was clear that a single mention of a longstanding health problem had a detectable influence on experiencing poverty – 30 per cent were poor for one year (at least), compared with 23 per cent for those avoiding health problems. However, the likelihood of becoming poor was rather more elevated if disability was mentioned for at least three years out of the five interviewed[7].

Table 5.8 Partner disability and family poverty status over five years

Cell percentages

Partner disability over five years	**Per cent ever poor**	**Average number of years poor**	***Unweighted base***
Never	23	0.4	*1,227*
1	30	0.6	*193*
2	30	0.6	*102*
3	38	0.7	*81*
4	33	0.9	*69*
5	39	0.8	*75*
All	26	0.5	*1,747*

The equivalent figures for disabled children are presented in Table 5.9. Again, it was clear that avoiding health problems was associated with the lowest risk of poverty – 40 per cent, compared with a sample average of 43 per cent ever-poor during this five-year period. The risk of poverty was still higher if those health problems persisted for at least three of the five years, for whom the risk of at least one year in poverty was around 50 per cent.

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[7] This table is based on those couples intact for the whole five years, a smaller sample than those who were couples for only part of the time.

Table 5.9 Child disability and family poverty status over five years

Cell percentages

Child disability over five years	**Per cent ever poor**	**Average number of years poor**	***Unweighted base***
Never	40	0.9	*1,564*
1	46	1.1	*398*
2	44	1.2	*250*
3	47	1.0	*205*
4	47	1.1	*187*
5	52	1.2	*328*
All	43	1.0	*2,932*

6 Caring responsibilities

6.1 Introduction

In this section of the report the focus turns to links between caring responsibilities and employment. In each wave of the British Household Panel Survey (BHPS) (1991 to 2005) three key questions are asked about caring responsibilities: whether the respondent cares for anyone in their household; whether the respondent cares for anyone outside the household; and (if the respondent has such responsibilities) how many hours in total they spend caring each week[8].

This section provides a snapshot of caring responsibilities and employment according to the latest available wave of the BHPS (2004/05, wave 14). It also analyses the persistence of caring responsibilities over time and its relationship with employment status, using all waves of the BHPS (1991 to 2004). The following chapter looks at transitions.

6.2 Caring in 2004

This part begins by providing a snapshot of caring responsibilities according to the latest wave of the BHPS (2004) and how the proportion of people caring varies by different socio-demographic characteristics, including the presence of children in the household. The section then examines how employment status varies by caring responsibilities with a focus on families with children.

Previous analysis of the 2001 Census Samples of Anonymised Records (SARs) dataset has indicated that 11 per cent of men and 16 per cent of women report having caring responsibilities. However, the wording of the question used in the

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[8] *Is there anyone living with you who is sick, disabled or elderly whom you look after or give special help to (for example, a sick or handicapped (or elderly) relative/husband/wife/friend, etc.)? Do you provide some regular service or help for any sick, disabled or elderly person not living with you? In total, how many hours do you spend each week looking after or helping (him/her/them)?*

Census means old age and longer-term health problems are emphasised.[9] The wording of the BHPS questions is more general taking a wider definition that does not refer specifically to caring for people in their old age or those with long-term problems.

The 2004 BHPS shows that 13 per cent of people overall were providing care to someone inside or outside the household with women (18 per cent) being slightly more likely than men (15 per cent) to be providing any care (Table 6.1). Only a small minority of women and men were providing care of 20 or more hours per week (three per cent).

Table 6.1 Provision of any care of different weekly hours, by gender

	Cares for less than 20 hours per week	Cares for 20 or more hours per week	Total (any care)*	*Unweighted base*
Male	12	3	15	*3,661*
Female	14	3	18	*4,307*
Total	13	3	17	*7,968*

Source: BHPS 2004, weighted percentages.

* Row percentages may not sum to 100 per cent because a small number of people did not specify the hours each week they spent caring.

Men and women overall were much more likely to be caring for someone outside the home than they were inside the home (Table 6.2): 11 per cent and six per cent respectively. Only one per cent of people were providing care to others both inside and outside the home (not shown). Women (13 per cent) are more likely than men to provide care to someone outside the home than men (nine per cent); whereas men and women are about equally likely to be providing care to someone within the home.

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[9] The question in the Census SAR is *'Do you look after, or given any help or support to family members, friends, neighbours, or others because of: long-term physical or mental ill health or disability, or problems related to old age?'*.

Table 6.2 Provision of care to someone within the home or outside the home, by gender

	Caring for someone inside home	**Caring for someone outside the home**	***Unweighted Base***
Male	7	9	*3,661*
Female	6	13	*4,307*
Total	6	11	*7,968*

Source: BHPS 2004, weighted percentages.

As might be expected, the percentage of people with caring responsibilities varied considerably by age (Figure 6.1). Caring responsibilities were more common than the average among people in their 50s, 60s and 70s (27 per cent, 25 per cent and 21 per cent respectively). People in their 50s, 60s and 70s are disproportionately likely to have caring responsibilities occupying at least 20 hours per week (six, five and six per cent respectively).

About one in five people with non-dependent children, regardless of whether they were a lone parent (22 per cent) or part of a couple (20 per cent), and people in a couple with no children (22 per cent) reported that they cared for someone (Figure 6.2). Couples with dependent children were less likely than average to report caring for someone (12 per cent compared with the average of 17 per cent) although lone parents with children were not (15 per cent; the apparent difference is not statistically significant).[10] These findings may partly reflect age to the extent that parents with grown up children will tend towards middle-age and households with two or more unrelated adults are likely to be younger (e.g. young professionals in house-shares; 53 per cent of whom are in their 20s). Overall, individuals with children were less likely than those without to report caring for others (table not shown).[11] Thirteen per cent of people with children compared with 18 per cent of those without reported having caring responsibilities.

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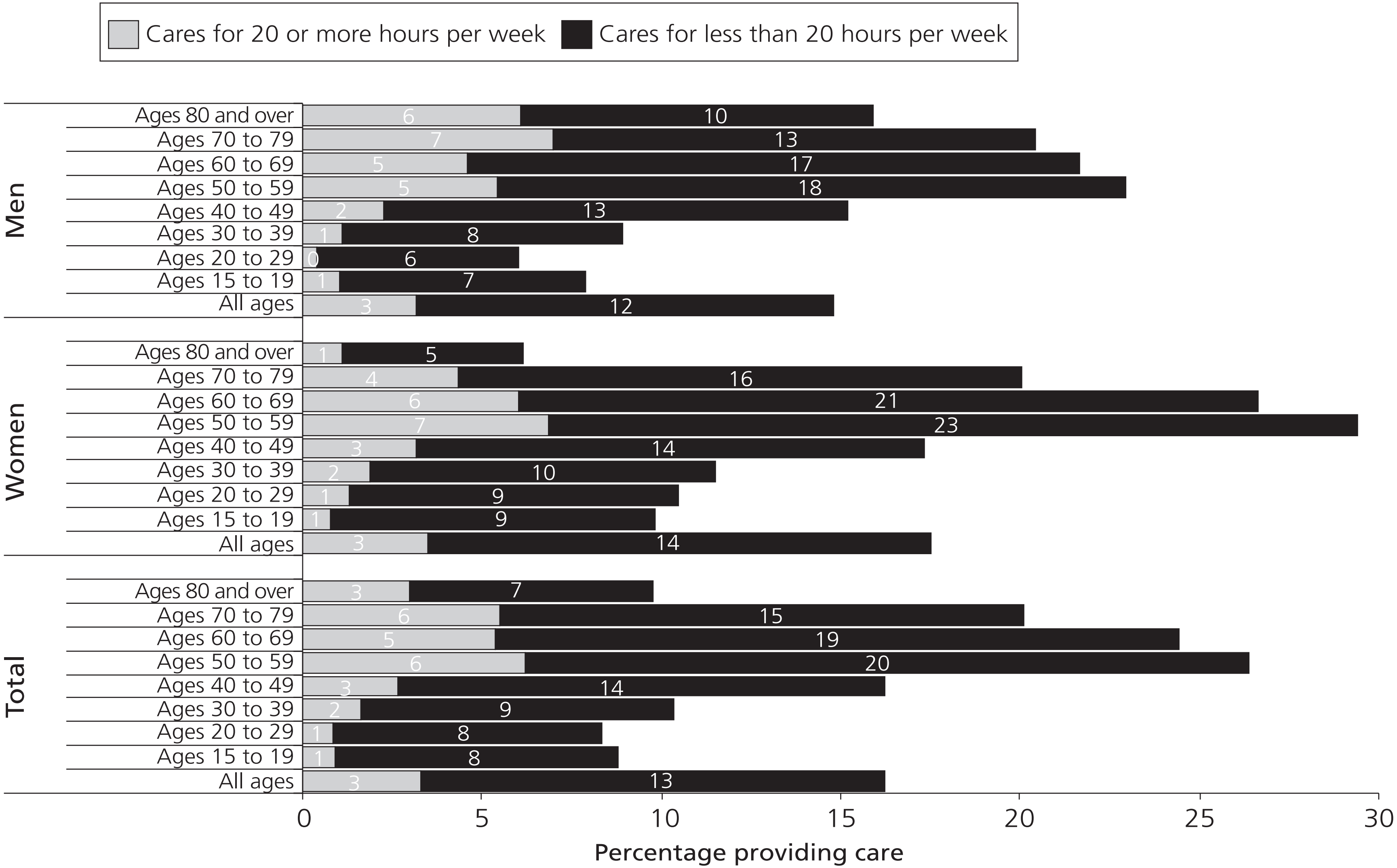
[10] Percentages in the figure may not sum to 100 per cent due to rounding.

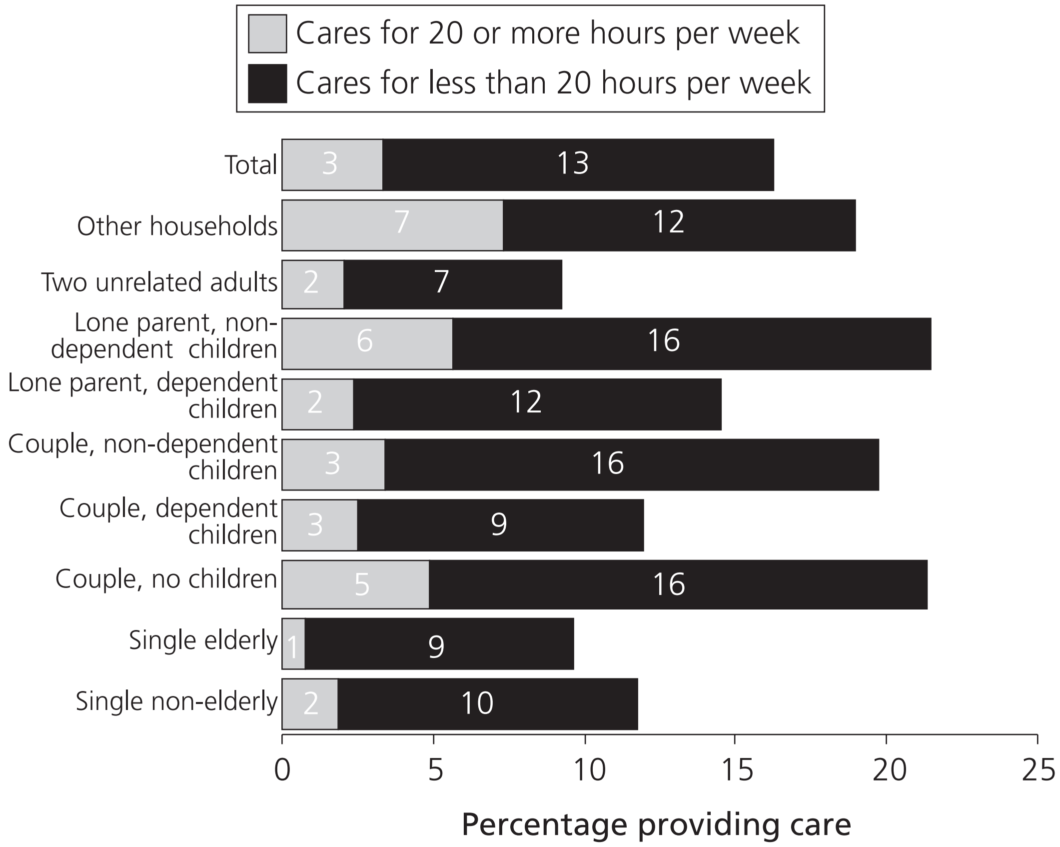
[11] Here, individuals with children are defined as adults aged 16 or over who have a natural, adopted or step child aged under 16 in the household.

Figure 6.1 Caring responsibilities by age and sex, all adults



Source BHPS 2004 weighted percentages. Unweighted base: 7,968

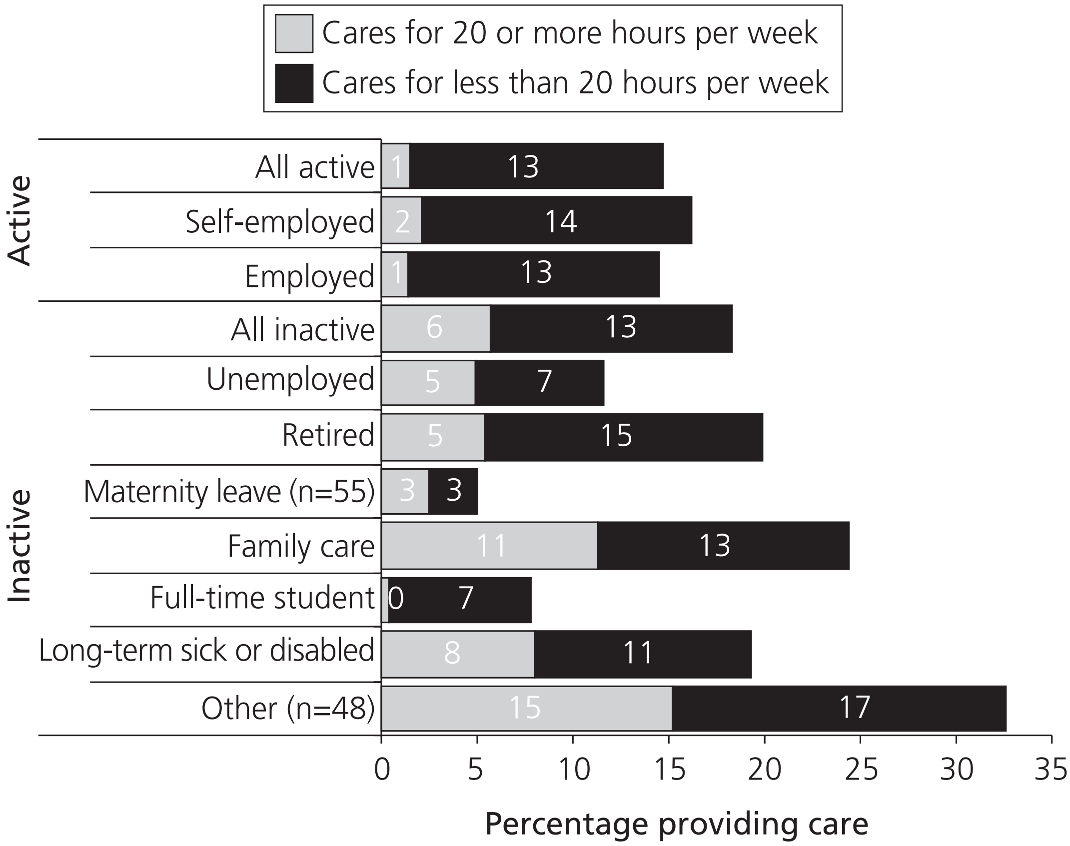
Figure 6.2 Caring responsibilities by household type, all adults



Source BHPS 2004 weighted percentages. Unweighted base: 7,968.

Turning to the relationship between caring and labour force status, those who say they are providing family care are at the higher end of the range in terms of the likelihood of providing care (25 per cent) and a fifth of those who are retired or long-term sick and disabled are also providing care (20 per cent; Figure 6.3). Caring responsibilities are less likely than the average among full-time students which may be expected given the age profile of students. More than one in ten (11 per cent) people who classed themselves as providing family care were caring for 20 or more hours per week, as were eight per cent of people describing their status as long-term sick or disabled. Quite high proportions of the self-employed and employees were providing care (17 and 15 per cent respectively), although only a small minority (two and one per cent respectively) were providing 20 or more hours care for someone else per week. In fact, although those active in the economic market were statistically significantly less likely than those who were inactive to have caring responsibilities, the difference is not substantial (15 per cent compared with 19 per cent). The difference is accounted for by a difference in the proportions caring for 20 or more hours per week; 13 per cent of both active and non-active adults provide less than 20 hours care per week.

Figure 6.3 Provision of care by labour force status



Source BHPS 2004 weighted percentages. Unweighted base: 7,968.
Note: Figures for those on Government training schemes are not shown due to insufficient numbers (n=8); findings for the categories of maternity leave and other are least reliable owing to the small bases shown.

When we introduce the presence or absence of children aged under 16 in the household we can see that the presence of children is associated with a much lower proportion of people in active employment reporting providing care (11 per cent, compared with 17 per cent of active people with children; Figure 6.4). There, difference between the proportions of inactive people providing care when there were children present, compared with when there were no children, was much smaller, (17 per cent and 19 per cent).[12]

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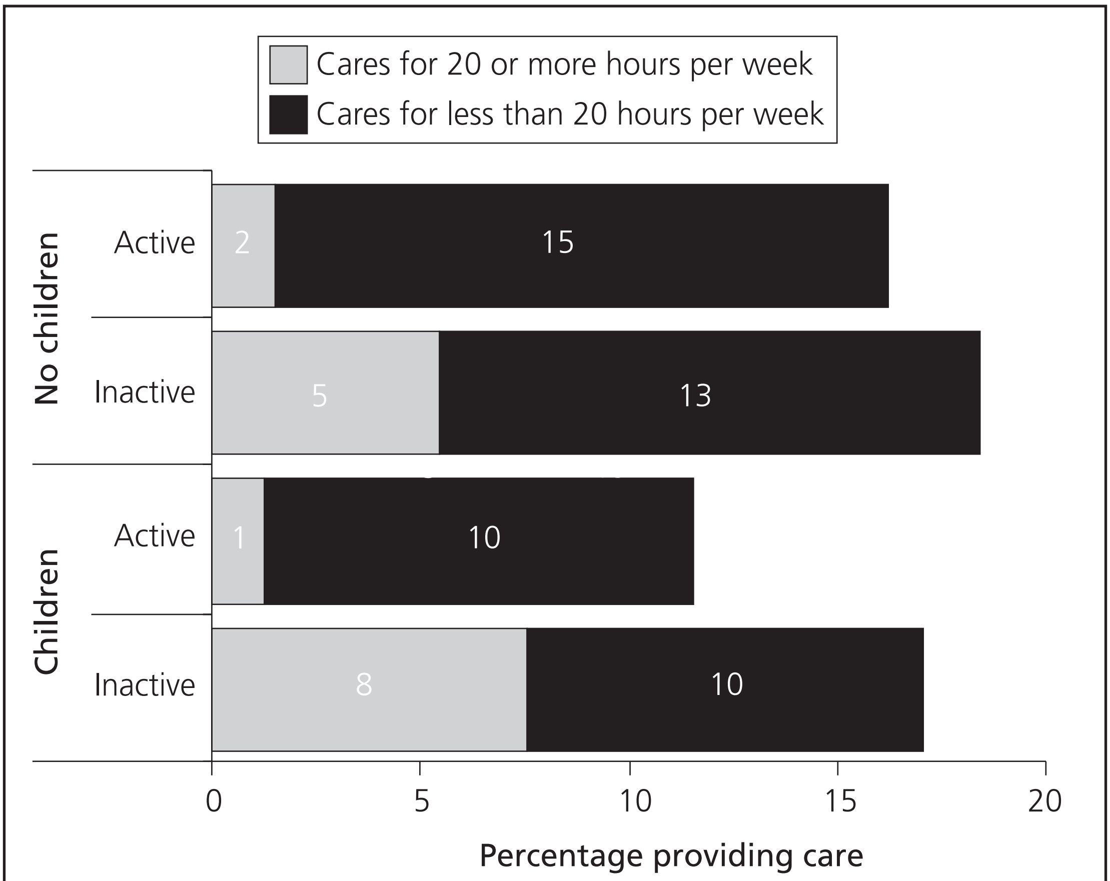
[12] Figures in the chart may not sum to 100 per cent due to rounding.

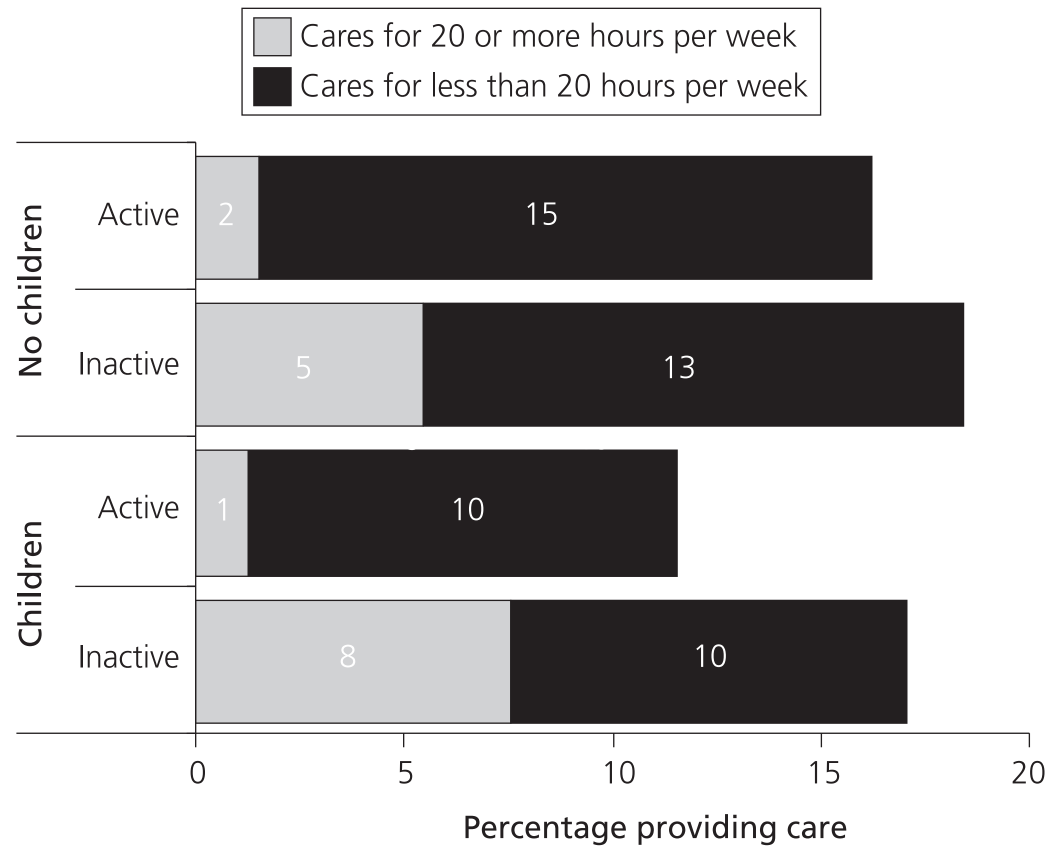
Figure 6.4 Provision of care, by employment status and children



Source BHPS 2004 weighted percentages. Unweighted base: 7,968.

Employment status can be broken down to see if there are further differences between people working full-time and part-time, where full-time is defined as working 30 or more hours per week, and not at all. Among all adults there is a directional effect with working part-time between working full-time and not working (Figure 6.5). The results are especially marked for those caring for more than 20 hours per week. Prevalence of caring does not vary greatly according to work status among women – a relatively high proportion of women who are working full-time are caring for others (which might not be expected; 17 per cent compared with 18 per cent of women overall) – except for where they are caring for 20 or more hours per week (which is more as we would expect). Among men there are clear differences in the proportions with caring responsibilities for those in work compared with those out of work, however, not between those working full-time and part-time. The differences are wholly accounted for by men caring for 20 or more hours per week.

Figure 6.5 Caring responsibilities by working status and sex



Source BHPS 2004 weighted percentages. Unweighted base: 7,968.

The differences observed above in relation to the proportions of active people caring for others when there are children present and absent in the household, are also evident across the full-, part-time and non-working breakdown (Figure 6.6). People with children who are working full-time are at the lower end of the range overall (11 per cent) and are less likely than people working full-time who do not have children, to have caring responsibilities (16 per cent).[13] The difference holds true for those working part-time (13 per cent of those with children; 19 per cent without children).

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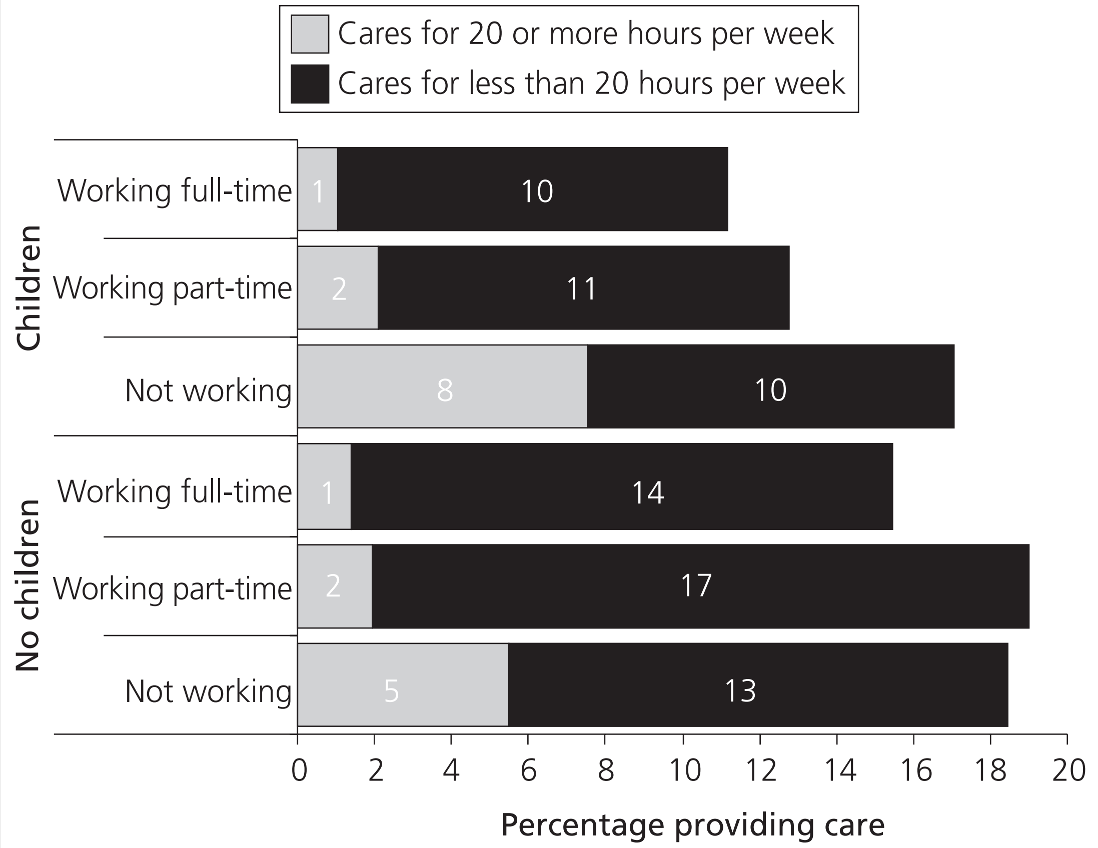
[13] Figures in the chart may not sum correctly due to rounding.

Figure 6.6 Caring responsibilities, by employment status and children in the household



Source BHPS 2004 weighted percentages. Unweighted base: 7,892.

Now we reverse the previous analysis by comparing employment status among those with and without caring responsibilities.

Despite making up only a quarter (25 per cent) of the population as a whole, retired people are over-represented as providers of any care (31 per cent) and especially providers of care for many hours per week (40 per cent; Table 6.3). People providing family care and the long-term sick or disabled are also over-represented as carers providing 20 or more hours care (19 and eight per cent), compared with their representation in the population as a whole (six and three per cent respectively) and those providing family care are also over-represented as carers of any hours per week (eight per cent). On the other hand, although people in paid employment make up a half of the population, they represent only one in five of the population of people caring for 20 or more hours per week. Nonetheless, this group does represent itself equally among carers of less than 20 hours: 50 per cent of such carers are in paid employment.

Table 6.3 Employment status by caring responsibility, all adults

Column percentages

	Cares for less than 20 hours per week	Cares for 20 or more hours per week	Any caring responsibilities	All
Self-employed	8	5	7	7
Employed	50	20	44	49
Unemployed	1	4	2	3
Retired	28	40	31	25
Maternity leave	<1	<1	<1	1
Family care	6	19	8	6
Full-time student	3	1	3	6
Long-term sick, or disabled	3	8	4	3
Government training scheme	-	-	-	<1
Other	1	3	1	1
Base	*1,017*	*260*	*1,301*	*7,968*

Source: BHPS 2004.

Note: Bases do not sum correctly due to some carers not specifying number of hours of care they provide. '-' indicates no cases in the sample. '<1' indicates a value greater than 0 but less than 0.5.

6.3 Number of years caring

We now turn to the subset of respondents who have been interviewed at all 14 waves in order to look at the caring over longer periods.[14] The findings of this section are based on 4,407 individuals (weighted base) and all percentages are weighted. There is a particular focus on adults with children.

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[14] Prevalence of caring is much higher in this group (probably because of their relatively higher age; by definition the sample excludes those under age 28 at wave 14) compared with all those interviewed in wave 14 (19 per cent versus 16 per cent).

Over a half (54 per cent) of those interviewed in all 14 waves reported caring for someone in or outside the household in one or more waves (Table 6.4). Eleven per cent reported caring for someone (not necessarily the same person or persons) in more than half of the interview years. Among adults with children (either at wave 1 or wave 14 or both) the equivalent figures are 51 per cent and nine per cent respectively.[15]

Table 6.4 Percentage of all adults and adults with children caring for number of years

	Any care		Caring for more than 20 hours per week	
Number of years	**All adults**	**Adults with children**	**All adults**	**Adults with children**
0	46	51	84	88
1	15	15	7	4
2	8	7	3	3
3	6	4	2	1
4	5	4	1	<1
5	4	3	1	1
6	3	3	1	1
7	3	2	<1	1
8	2	2	<1	<1
9	2	2	<1	<1
10	1	1	<1	<1
11	2	1	<1	<1
12	1	1	<1	<1
13	1	1	<1	<1
14	1	1	<1	<1
Unweighted base	*4,410*	*2,105*	*4,410*	*2,105*

Source: BHPS 1991 to 2004.

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[15] The profile of number of years reporting caring are different among adults with children depending on whether presence of children is determined by wave 1 data or by wave 14: 11 per cent of adults with children at wave 1 compared with six per cent of adults with children at wave 14 reported having cared for someone in eight or more waves. Therefore, in order to produce a more representative base of adults with children it is sensible to use a measure of presence of children **either** at wave 1 **or** wave 14; for this base, nine per cent of adults with children reported caring responsibilities in eight or more waves.

Sixteen per cent of all adults interviewed in the 14 waves reported caring for someone 20 or more hours per week in at least one interview. This percentage was slightly lower at 12 per cent among adults with children. Prevalence of caring for 20 or more hours in multiple waves was very low. Fewer than two per cent of all adults and adults with children reported caring for more than 20 hours per week in eight or more of the waves. Nine per cent of all adults and seven per cent of adults with children had these heavy caring responsibilities in two or more waves.

Consistent with findings reported above, women were more likely than men to report having had caring responsibilities in more than half of the waves (12 per cent of women compared with nine per cent of men; Table 6.5). Among adults with children in either wave 1 or 14 (table not shown) the corresponding figures are ten per cent and seven per cent.

Table 6.5 Number of years caring by sex

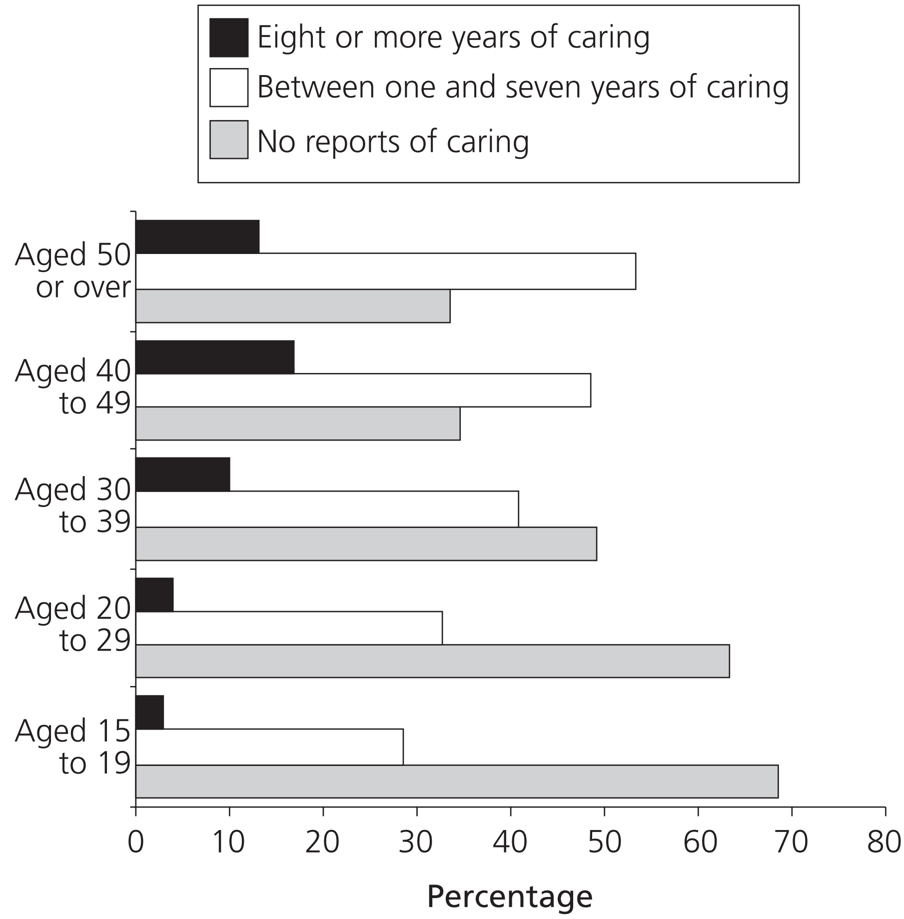
Column percentages

Percentages (%)	Men	Women	Total
No reports of caring	50	42	46
Between one and seven years of caring	41	46	44
Eight or more years of caring	9	12	11
Unweighted base	*1,927*	*2,483*	*4,410*

Source: BHPS 1991 to 2004.

The propensity to report having caring responsibilities for others in eight or more waves increased steadily with age (Figure 6.7) into the 40s before tailing away. Just under one-fifth (17 per cent) of people aged in their 40s at wave 1 had cared for others in over half the waves of the survey by 2005, compared with only four per cent aged in their 20s at wave 1. This compared with just four per cent of people in their 20s at wave 1. However, the increase in likelihood of caring for between one and seven years continued into the group who were in their 50s or older at wave 1.

Figure 6.7 Percentage of people caring in one to seven and eight or more waves, by age



Source BHPS 1991 to 2004. Base (unweighted) 4,410.

There is considerable variation in the proportions of people providing different numbers of years care depending on household type (Figure 6.8). Those with non-dependent children in 1991 were at the higher end of the range in terms of having provided eight or more years of care and typical of the average (14 per cent of lone parents with non-dependents and 13 per cent of people in couples with non-dependent children). However, it was only couples without children who were significantly more likely than the average to report having provided one to seven years, care (49 per cent compared with 44 per cent).[16]

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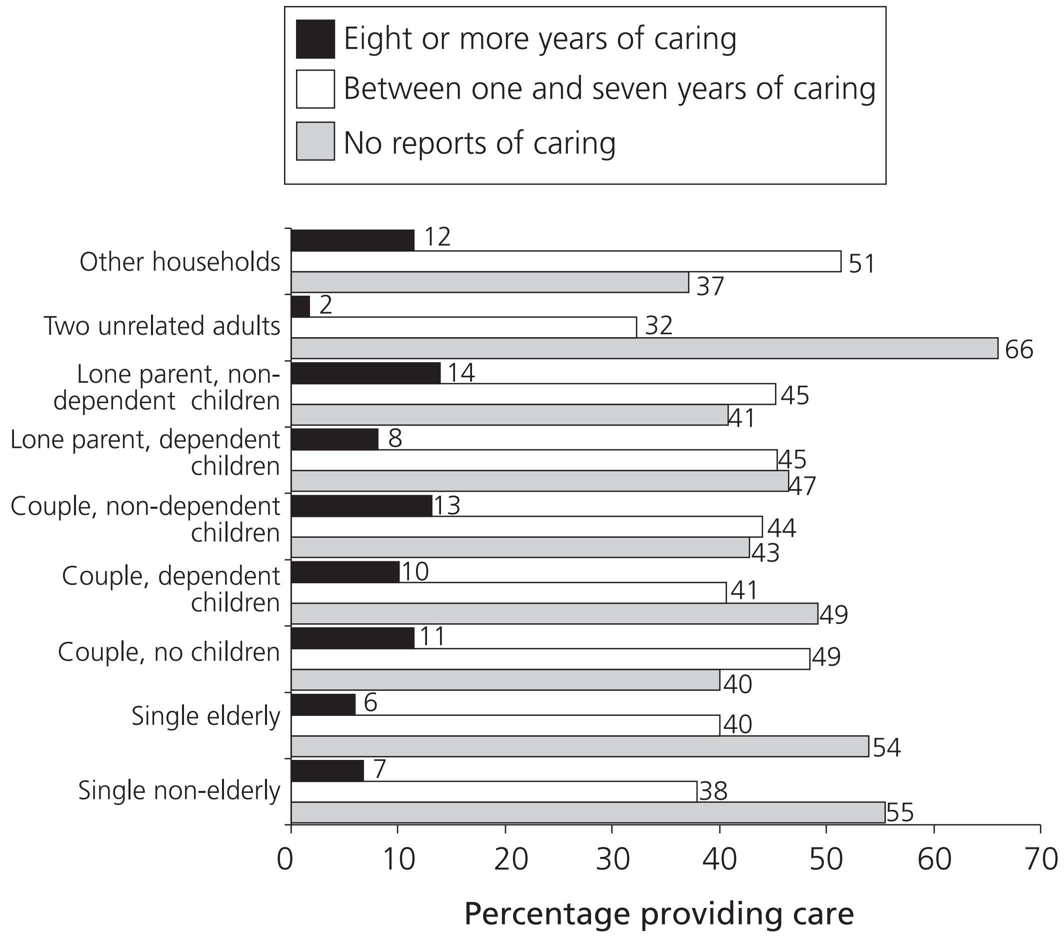
[16] Other apparent differences are not statistically significant.

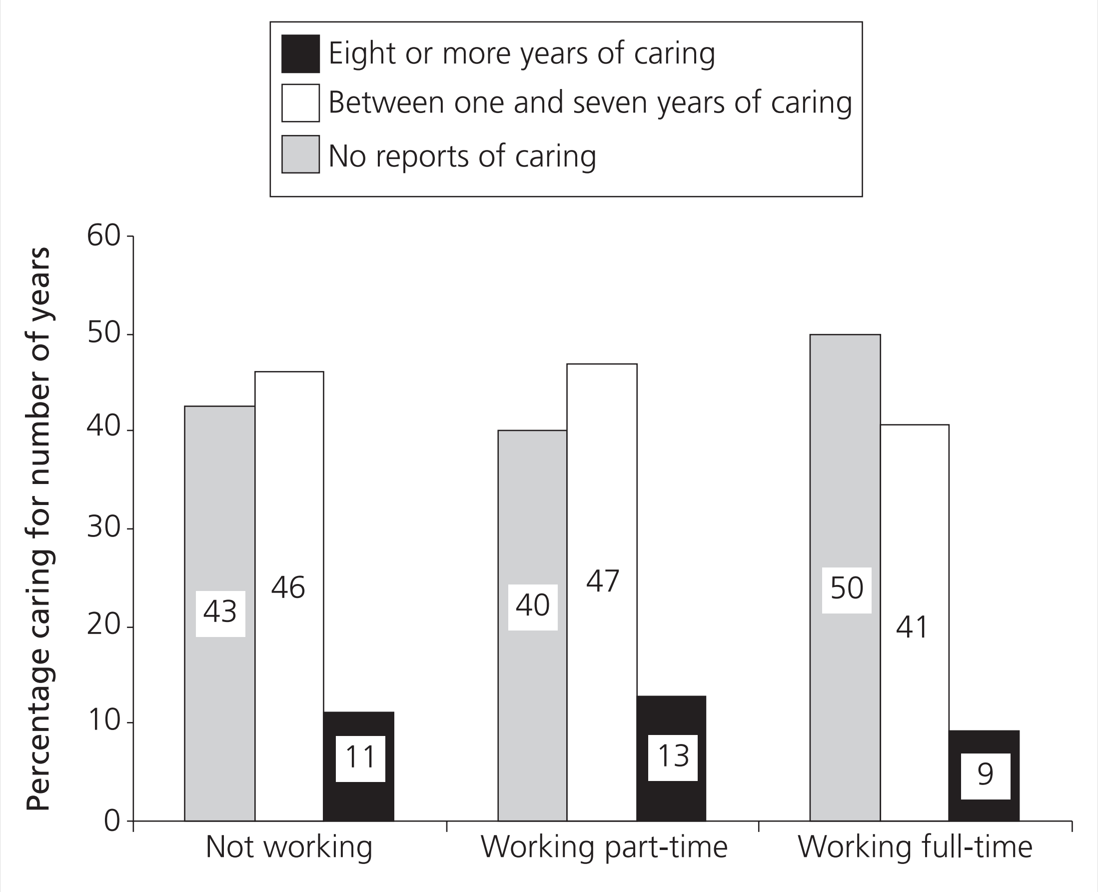
Figure 6.8 Number of years caring, by household type at wave 1



Source BHPS 1991 to 2004, weighted percentages. Base (unweighted) 4,410.

The number of years spent providing care varied significantly by working status. People working part-time at wave 1 were more likely (13 per cent) than those working full-time (nine per cent) to go on to provide eight or more years' care in the next 14 years with those not working at all in the middle of this range (11 per cent; Figure 6.9). Those working full-time were the least likely to have provided care in one to seven years (41 per cent).

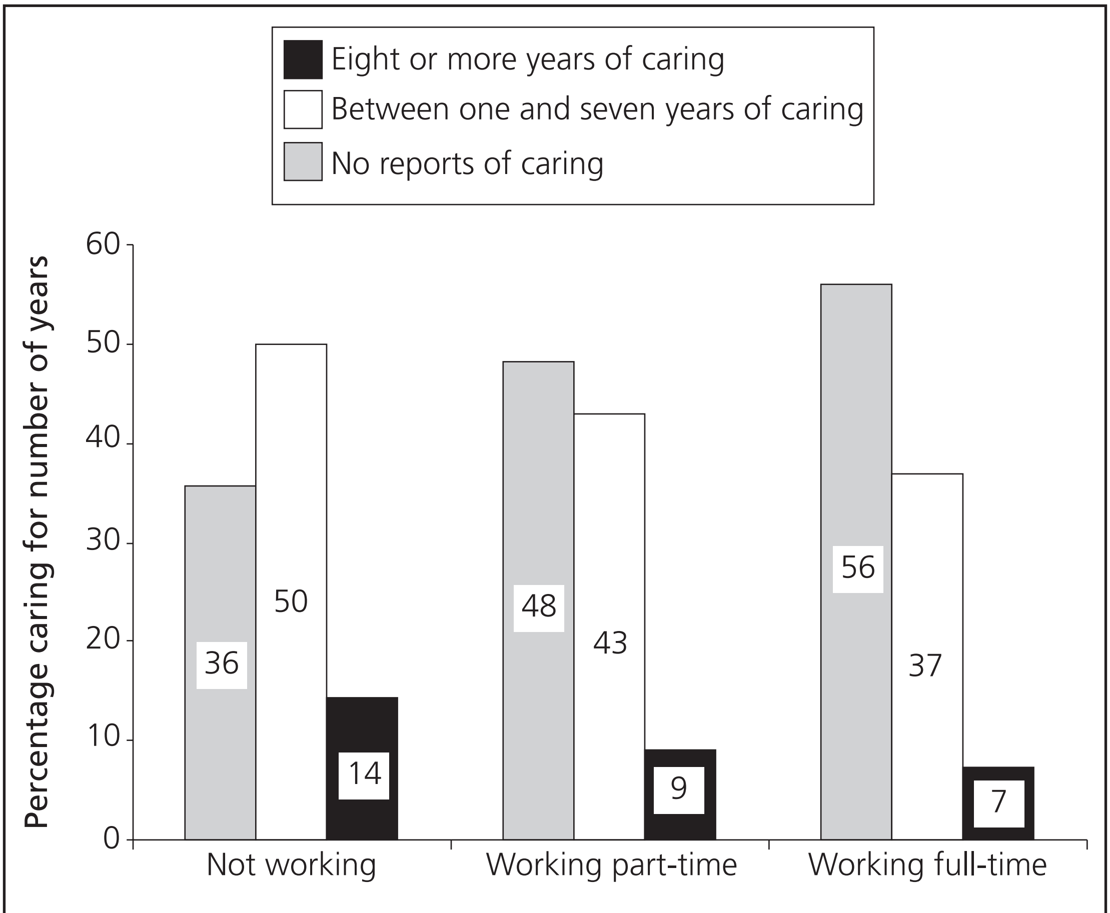
Figure 6.9 Number of years caring, by working status at wave 1



Source BHPS 1991 to 2004, weighted percentages. Base (unweighted) 4,361.

It is interesting to see how number of years of caring responsibilities relates to working status at wave 14 (Figure 6.10). This chart shows a subtly, but importantly different picture to the one above. It shows a clear relationship between longevity of caring and working status at the end of the 14-year period. Those who are not working (64 per cent) are much more likely to have had at least one report of caring responsibilities compared with those working part-time (52 per cent) and full-time (44 per cent); and almost one in six (14 per cent) of people not working had eight or more years of caring compared with an average of 11 per cent.

Figure 6.10 Number of years caring, by working status at wave 14



Source BHPS 1991 to 2004, weighted percentages. Base (unweighted) 4,370.

These findings point to a directional effect of caring responsibilities on working status, with increasing caring responsibilities decreasing the likelihood of working, and working full-time. However, this can be better examined by looking at the transitions between caring and working from one wave to the next, the subject of the next chapter.

7 Changes in care

7.1 Introduction

This section looks at transitions into and out of caring responsibilities and their relationship to employment, drawing on all available waves of the British Household Panel Survey (BHPS).

When analysing transitions between pairs of consecutive waves we include all respondents interviewed in each pair of waves, regardless of whether or not the respondent was present in any other waves.

7.2 Changes of carer status

Table 7.1 shows the percentages of people moving in and out of caring for all adults and for all adults with children, before and after each transition. Six per cent of transitions were from 'not caring' to 'caring' among all adults and a further six per cent were from caring to not caring. The table shows that the distributions of caring transitions show similar patterns for all adults and for adults with children, whether at time t or t+1.

Table 7.1 Percentage of adults making transition in caring status at time t and time t+1

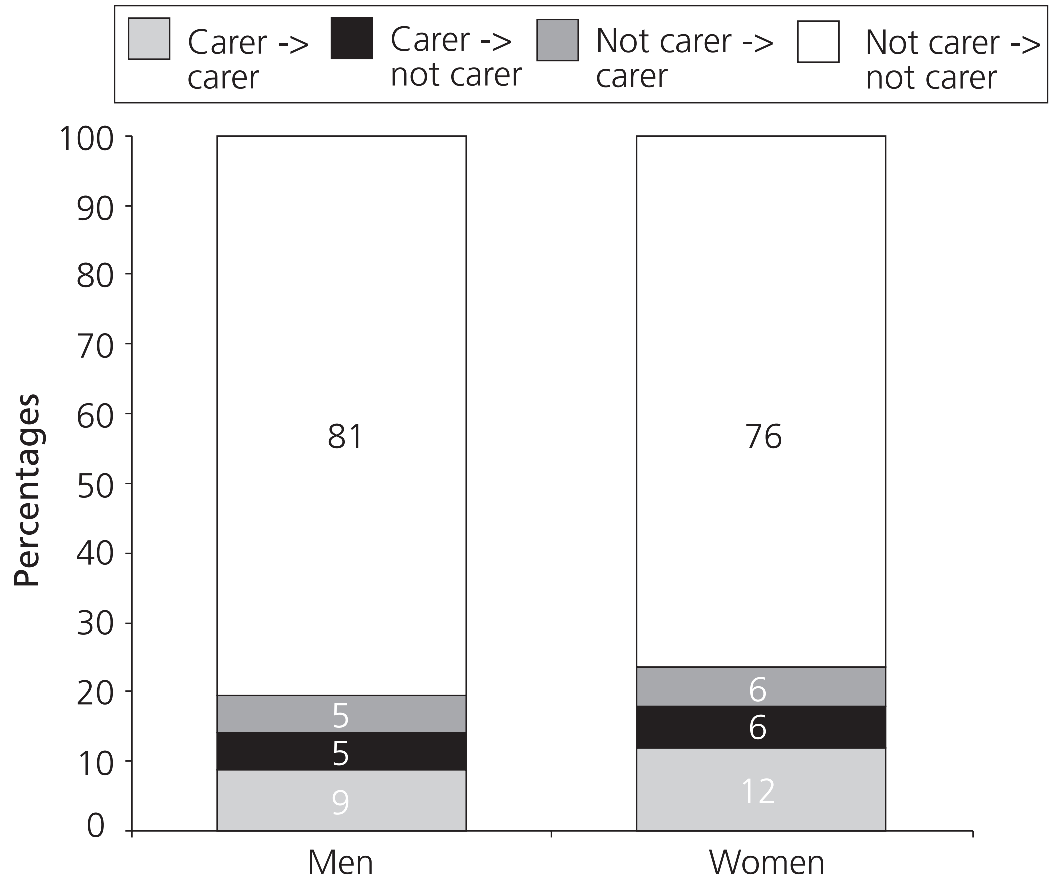
Percentage	All adults	All adults with children at t	All adults with children at t+1
Carer -> carer	10	9	8
Carer -> not carer	6	5	5
Not carer -> carer	6	6	5
Not carer -> not carer	78	81	81
Unweighted base	*138,850*	*41,255*	*41,233*

Source: BHPS 1991 to 2004.

Figures 7.1 to 7.4 consider the prevalence of the four different caring transitions by status across a variety of socio-demographic characteristics: gender, age, housing tenure and family type.

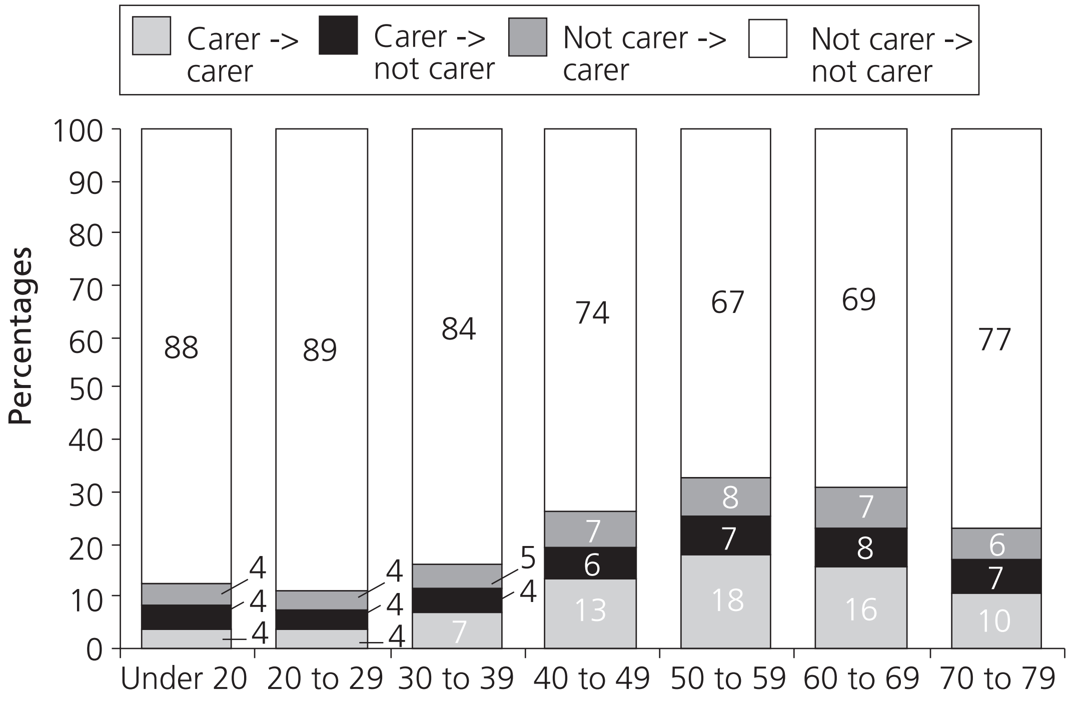
Women were more likely than men to be caring in two consecutive years (12 per cent compared with nine per cent) and were marginally more likely to begin (six per cent) and stop caring (six per cent) between interviews compared with men (five per cent; Figure 7.1). Figure 7.2 shows clearly the relationship between age and caring transitions, with people in their 50s and 60s most likely to be caring across two years (18 and 16 per cent). These age groups (eight and seven per cent respectively), along with those in their 40s (seven per cent) had a relatively high likelihood of moving into caring and those in their 60s were at the upper end of the range in terms of moving out of caring (eight per cent), perhaps reflecting that this group will tend to have the most elderly parents.

Figure 7.1 Caring transitions, by gender (all adults)



Source BHPS 1991 to 2004.
Base: 138,850.

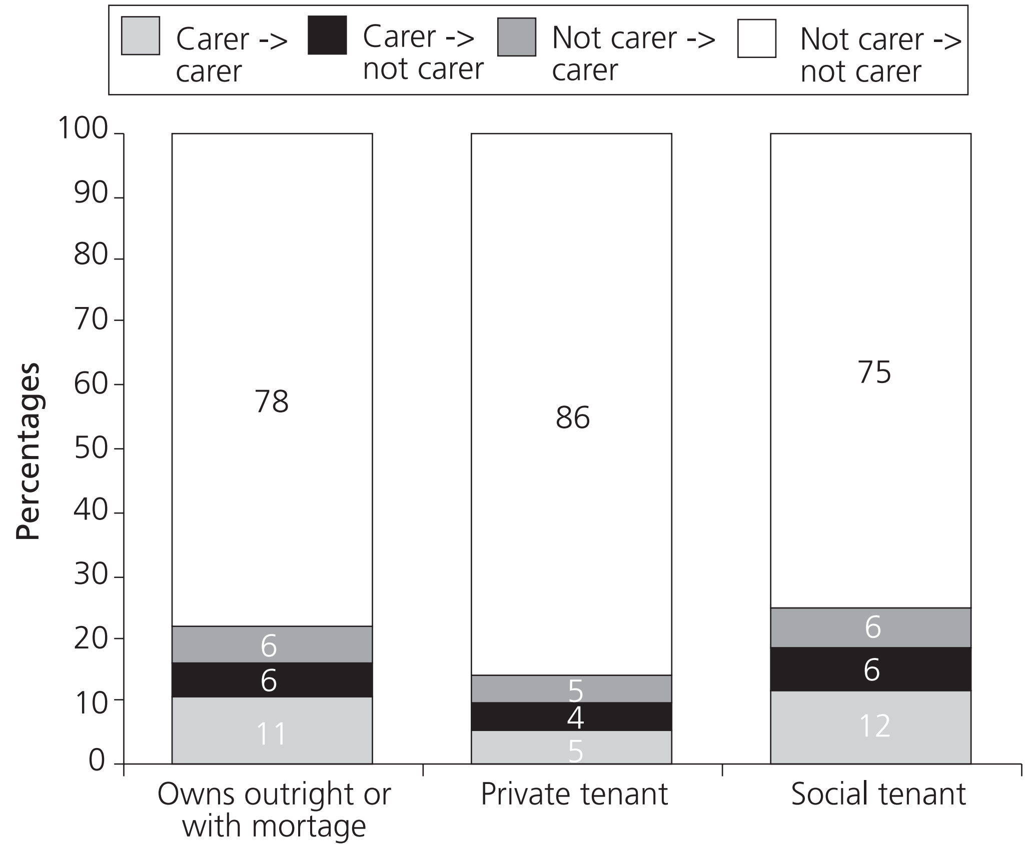
Figure 7.2 Caring transitions, by age (all adults)



Source BHPS 1991 to 2004.
Base: 138,850.

Twelve per cent of social tenants and 11 per cent of owner-occupiers reported caring in both years of the transition period. Private tenants were least likely overall to report caring in both or either year, perhaps reflecting the typically lower ages of private renters (Figure 7.3).

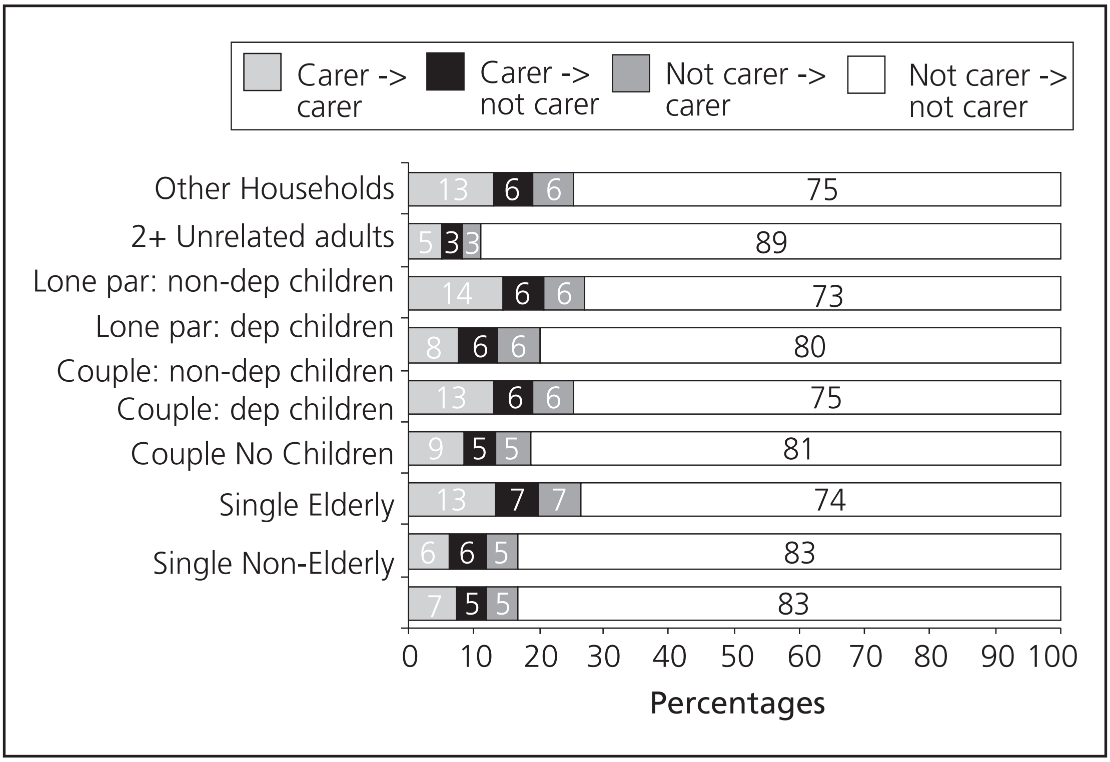
Figure 7.3 Caring transitions, by housing tenure (all adults)



Source BHPS 1991 to 2004.
Base: 138,202.

Households comprising single people and those with two or more unrelated adults, were at the lower end of the range in respect of caring in both years (five per cent) and moving into caring or out of caring (both at three per cent; Figure 7.4). At the other end of the range, people were most likely to report transitions involving caring if they were in a couple without children or with non-dependent children or if they were a lone parent with non-dependent children. For example, 13 per cent of people in couples with children were providing care in both years and a further seven per cent each moved into and out of caring between interviews. Levels of movements in and out of care were about average for people in couples with dependent children (five per cent moving in and five per cent moving out) and lone parents with dependent children (six and six per cent), but these groups both had relatively low proportions of instances of caring in both years (nine and eight per cent respectively.

Figure 7.4 Caring transitions, by household type (all adults)



In Table 7.2 we turn to consider each caring transition by labour force status prior to the transition (time t). Where people were caring at the beginning of the transition they were less likely than the average to be in paid employment, regardless of whether or not they were still caring a year later (43 per cent and 44 per cent respectively, compared with 51 per cent on average). People reporting doing family care at time t were more likely than the average to report caring in either year, but this was especially marked for people caring pre- and post-transition (14 per cent compared with nine per cent of carers on average). People who were caring at the time of either or both interviews were also more likely than the average (20 per cent) to describe themselves as retired.

Table 7.2 Labour force status at time t and caring status transitions (all adults)

	Carer -> carer	Carer -> not carer	Not carer -> carer	Not carer -> not carer	Total
Self-employed	6	7	7	7	7
In paid employment	43	44	46	52	51
Unemployed	4	4	4	4	4
Retired	25	26	23	18	20
Maternity leave	<1	<1	<1	<1	<1
Family care	14	10	10	8	9
Full-time student, school	2	4	3	6	5
Long-term sick or disabled	5	5	5	4	4
Government training scheme	<1	<1	<1	<1	<1
Something else	1	1	<1	<1	<1
Base	*14,512*	*7,758*	*8,043*	*108,510*	*138,823*

Source: BHPS 1991 to 2004.

Table 7.3 Labour force status at time t+1, by caring status transitions (all adults)

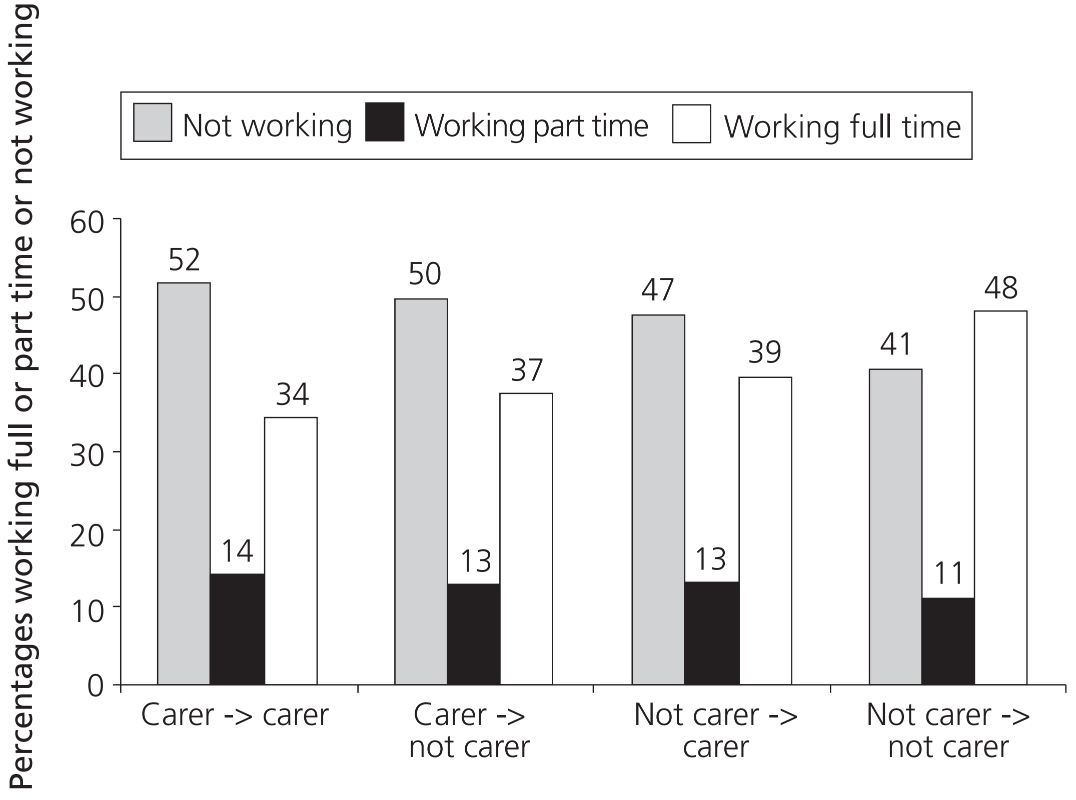
	Carer -> carer	Carer -> not carer	Not carer -> carer	Not carer -> not carer	Total
Self-employed	6	7	7	7	7
In paid employment	42	44	45	53	51
Unemployed	3	4	4	4	4
Retired	27	27	25	20	21
Maternity leave	<1	<1	<1	<1	<1
Family care	14	9	10	7	8
Full-time student, school	1	3	2	5	4
Long-term sick or disabled	5	5	5	4	4
Government training scheme	<1	<1	<1	<1	<1
Something else	1	<1	<1	<1	<1
Base	*14,512*	*7,758*	*8,043*	*108,510*	*138,823*

Source: BHPS 1991 to 2004.

We also considered individuals' work status at the end of the transition, by changes in caring status (Table 7.3). This helps us look at the situation of people who have begun or stopped caring responsibilities and the potential impact on subsequent employment status. A very similar pattern is found. We can see, for example, that the group least likely to describe themselves as being in paid employment were those who were caring at the time of both consecutive interviews (42 per cent). People who had become carers between consecutive interviews were slightly more likely to describe themselves as retired at time t+1 compared with time t (25 per cent compared with 23 per cent).

We can rationalise employment status by looking at those working full-time or part-time (whether that be on an employed or self-employed basis) and those not working (Figure 7.5). As might be expected, people stopping caring were slightly less likely to be working at the beginning of the transitional period compared with those who started caring responsibilities in that time (50 per cent compared with 53 per cent).

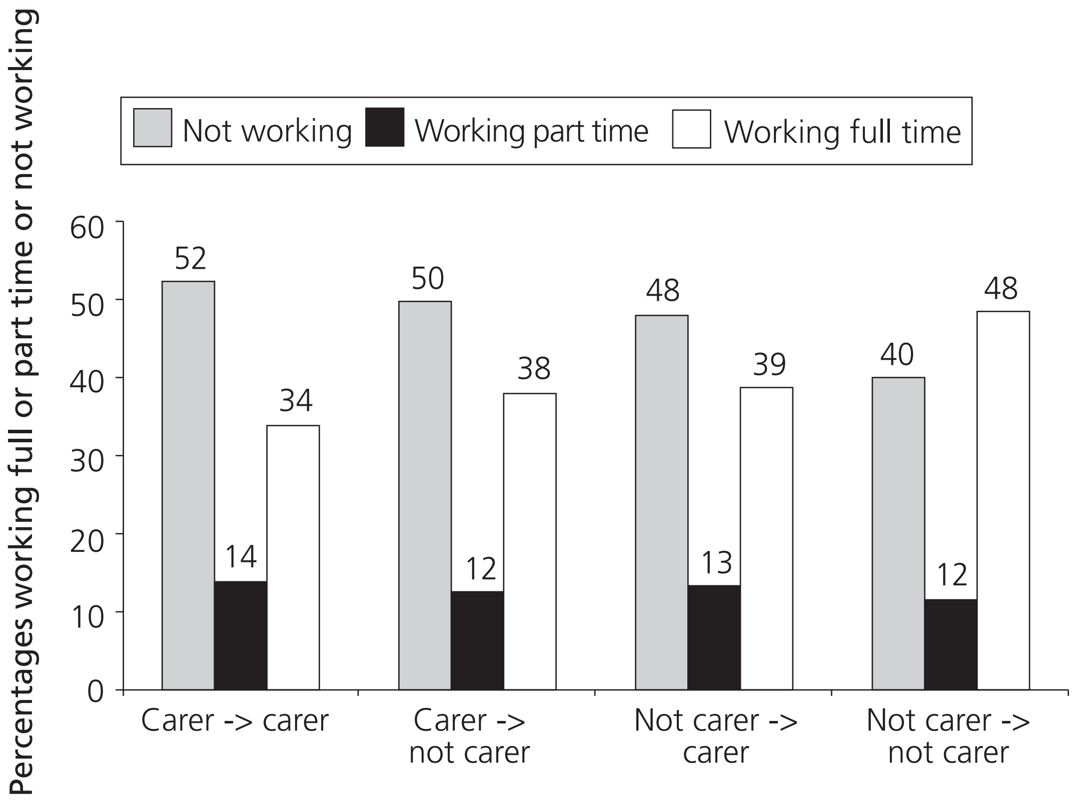
Figure 7.5 Work status at time t by caring transitions (all adults)



Source BHPS 1991 to 2004.
Base: 138,374.

We also looked at the same breakdown but with employment at t+1 (Figure 7.6). The findings are very similar to those of employment at time t, as would be expected from the two tables above. The gap between those not working in the group that have stopped caring and started caring has closed very slightly, accounted for by a slightly higher proportion of people who have started caring no longer being in work at the end of the transition. There is a slight shift in those who stopped caring during the transition to move from part-time into full-time work. However, these apparent changes are not substantial enough to generalise from. This may indicate a time lag between stopping caring and moving (back) into work.

Figure 7.6 Work status at time t+1, by caring transitions (all adults)



Source BHPS 1991 to 2004.
Base: 137,416.

7.3 Changes in employment

However, we can look more closely at the relationship between a transition in caring responsibilities and working status. Taking together those who described themselves as either in paid employment or self-employed, we are able to look at transitions in employment status (as being active or inactive in the labour market) against transitions in caring status (Table 7.4). Overall, four per cent of people moved into work and a further four per cent of people moved out of work from one year to the next.

Notably, there are few differences in working transitions according to the transitions in caring status. At times when people moved into caring they were slightly more likely to move from being active to inactive (five per cent) compared with all other caring transitions (four per cent). People moving out of caring were marginally more likely to remain inactive compared with those moving into caring (45 per cent compared with 43 per cent). What is perhaps a little surprising is that a greater proportion of people moving into caring remained economically active (48 per cent) compared with those who either continued caring responsibilities (45 per cent) or stopped caring (47 per cent). Again, there may be a time lag in the impact of new caring on work or there may be movements between full-time and part-time work that are not picked up in this analysis. Or it may simply be that the hours of care provided are sufficiently low not to impact on working hours.

Table 7.4 Employment transitions, by caring transitions (all adults)

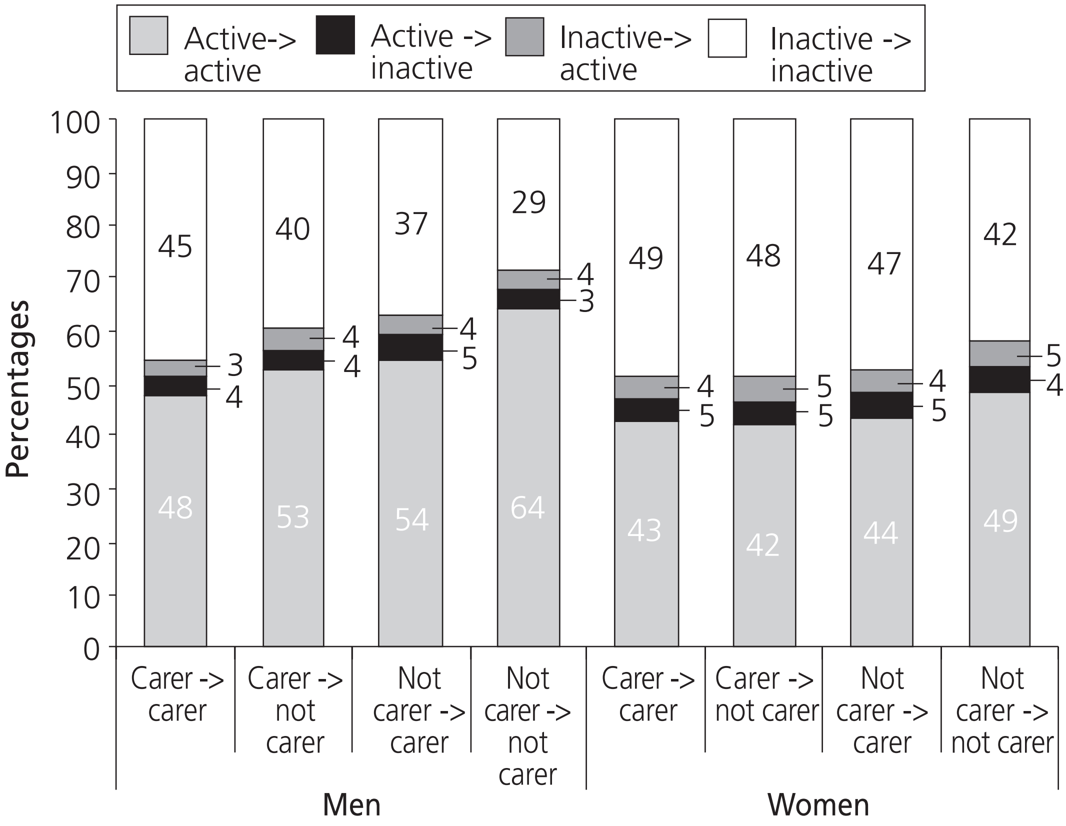
	Carer -> carer	Carer -> not carer	Not carer -> carer	Not carer -> not carer	Total
Active -> active	45	47	48	56	54
Active -> inactive	4	4	5	4	4
Inactive -> active	4	4	4	5	4
Inactive -> inactive	47	45	43	36	38
Base	*14,509*	*7,754*	*8,037*	*108,481*	*138,781*

Source: BHPS 1991 to 2004.

Differences in work activity by gender were not specifically linked to caring responsibilities (Figure 7.7). For example, five per cent of women with new caring responsibilities moved out of work and a further five per cent moved into work compared with four per cent of men, respectively. However, this appears to reflect marginally higher proportions of women without caring responsibilities in either year moving in and out of work (five per cent and four per cent), compared with men (four per cent and three per cent).

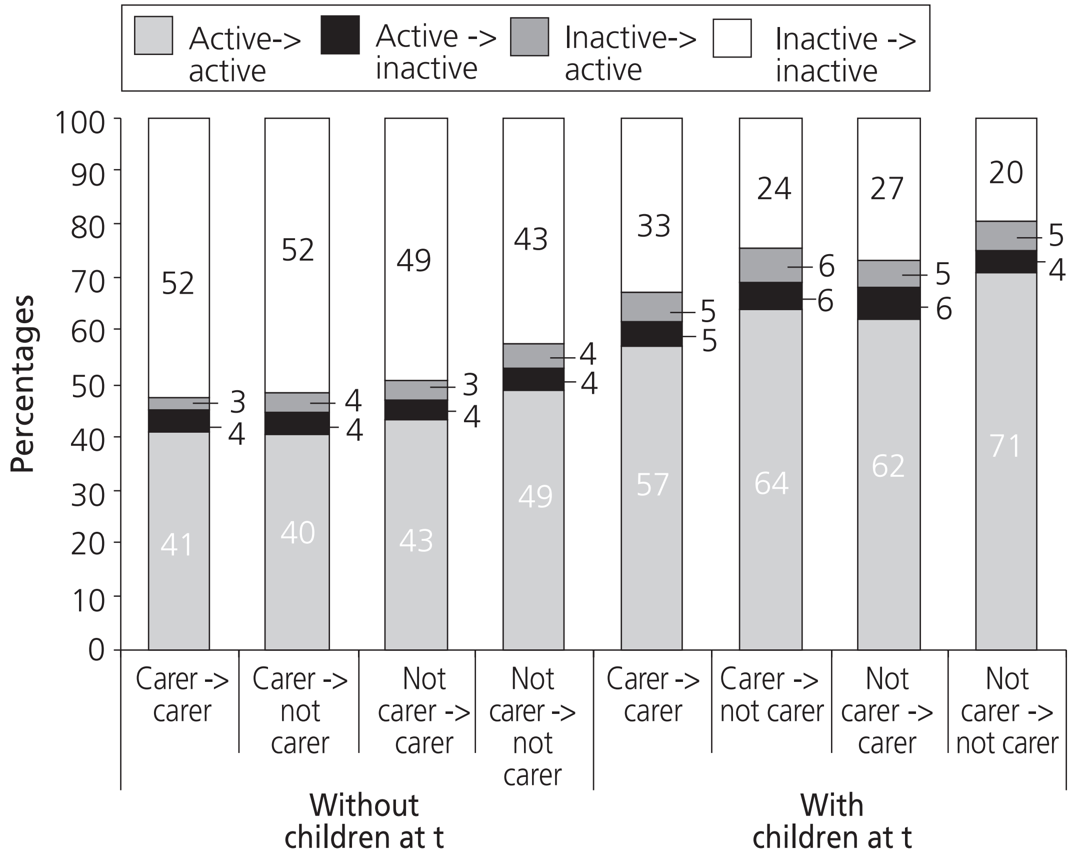
Adults with children were more likely to move out of work if they became a carer in the intervening year (six per cent) compared with adults without children (four per cent; Figure 7.8). However, they were also more likely than adults without children to move out of unemployment if caring in both years (five per cent compared with three per cent) as well as move into employment (five per cent compared with three per cent). The same can be said of instances in which there were no caring responsibilities in either year. This appears to reflect the greater propensity for adults with children to move in and out of work generally (ten per cent of work transitions among adults with children involved a move in or out of work compared with eight per cent of adults without children; figures not shown). It is, therefore, difficult to identify any discrete effects of caring responsibilities on working status among adults with children.

Figure 7.7 Employment transitions by caring transitions, by sex (all adults)



Source BHPS 1991 to 2004.
Base: 138,781.

Figure 7.8 Employment transitions by caring transitions, by children in the household at time t



Source BHPS 1991 to 2004.
Base: 138,781.

Where there are relationships between caring responsibilities and working status these should appear to be more marked where both the work responsibilities and caring responsibilities are heavier, in respect of time commitments. The analysis, therefore, turns to transitions between caring for 20 or more hours per week (against not providing care or providing care of less than 20 hours per week) and transitions between full-time work (defined as 30 or more hours per week) and not working or less than full-time working (Table 7.5). Half as many transitions into this level of care corresponded with a move into full-time work (two per cent) as either a move out of full-time work (four per cent) or moves into full-time work on average (four per cent). People who stopped providing care of 20 or more hours per week were, however, also slightly less likely than the average to move into full-time work (three per cent compared with four per cent).

However, this may simply reflect a time lag between cessation of heavy caring responsibilities and moving into work and it is possible that people in these circumstances will, in time, take up full-time work. It is interesting to see that in a high proportion of cases, people moving into providing care for many hours per week were not working full-time prior to the transition (72 per cent were not working full-time at the start and end of the period, compared with 50 per cent on average). This may partly reflect the earlier finding that people in their 50s, 60s, 70s and 80s are disproportionately more likely to be providing care for 20 or more hours per week than other age groups and so many such people will be retired from work. We can control for this by repeating this analysis with a sample of just those of working age at both ends of the transition (Table 7.6).

Table 7.5 Transitions in working full-time by transitions in caring for 20 or more hours per week (all adults)

	Carer 20 -> carer 20	Carer 20 -> not carer 20	Not carer 20 -> carer 20	Not carer 20 -> not carer 20	Total
Full-time -> full-time	14	21	21	43	42
Full-time -> not full-time	2	3	4	4	4
Not full-time -> full-time	1	3	2	5	4
Not full-time -> not full-time	83	73	72	48	50
Base	*2,769*	*2,002*	*2,128*	*127,763*	*134,662*

Source: BHPS 1991 to 2004.

Taking just those of working age as our base, it is evident that people with heavy caring responsibilities at either point of the transition and including those who start caring for 20 or more hours per week (60 per cent), are still much more likely than the average (36 per cent) to not be in full-time work at the start and end of the transition period (Table 7.6). Again, when people start this level of caring, they are more likely to move out of full-time work (six per cent) compared with moving into it (three per cent), whereas the likelihood of moving into work is slightly higher than moving out of full-time work for those whose heavy caring responsibilities have ceased during the period (five per cent compared with four per cent).

Table 7.6 **Transitions in working full-time, by transitions in caring for 20 or more hours per week (all adults of working age at time t and t+1)**

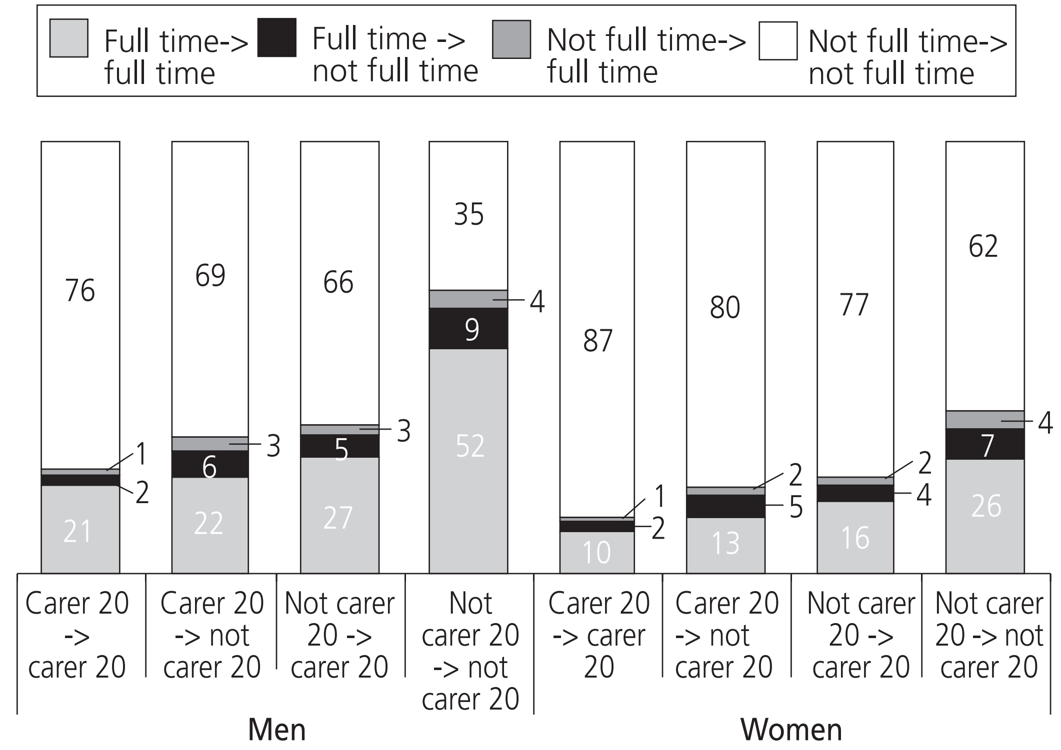
	Carer 20 -> carer 20	Carer 20 -> not carer 20	Not carer 20 -> carer 20	Not carer 20 -> not carer 20	Total
Full-time -> full-time	20	31	31	55	54
Full-time -> not full-time	3	4	6	5	5
Not full-time -> full-time	2	5	3	5	5
Not full-time -> not full-time	76	60	60	34	36
Base	*1,881*	*1,277*	*1,421*	*97,970*	*102,549*

Source: BHPS 1991 to 2004.

Returning to our analysis of all adults, men are more likely than women to move in and out of full-time work across the board and there are no particular differences that would appear to relate to the commencement or cessation of heavier caring responsibilities (Figure 7.9). For example, among men, whilst five per cent of movements into heavy caring responsibilities coincided with a move out of full-time work, six per cent of movements out of caring among men also coincided with movements out of full-time work. The corresponding figures for women are four per cent and five per cent respectively.

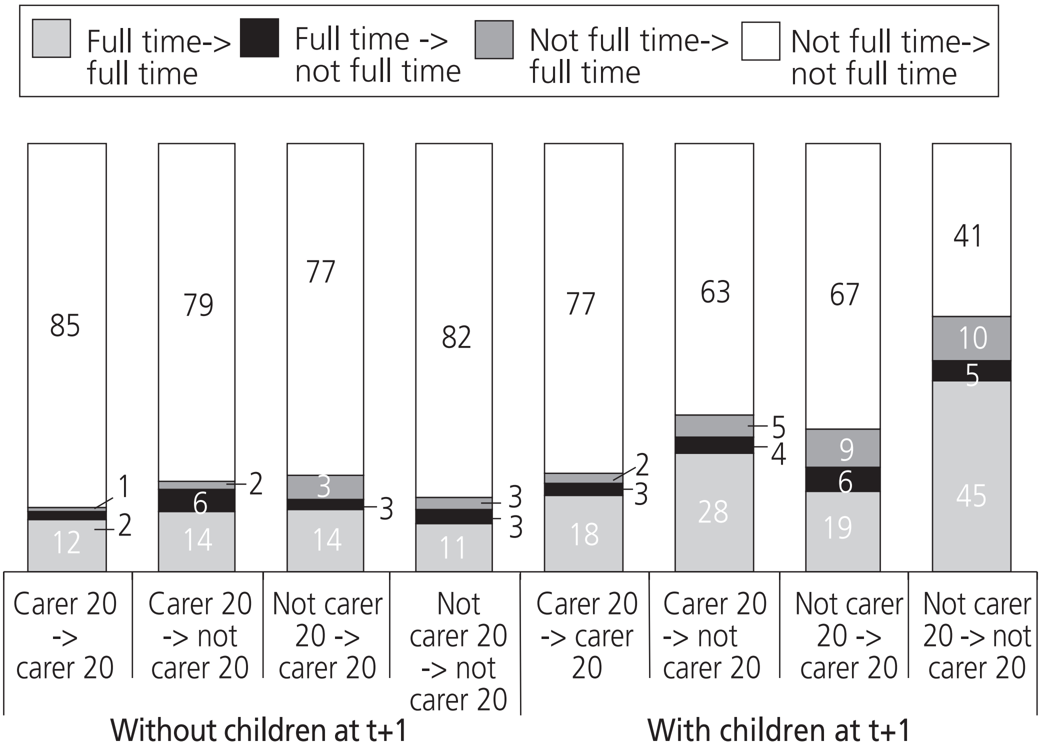
We also tend to see more movements in and out of full-time work, on average, among adults with children compared with those without children (as indicated by those without heavy caring responsibilities in either year of the transitional period; Figure 7.10). However, there is a particular propensity towards movement into full-time work during the same period that heavy caring responsibilities begin among adults with children. Among adults with children, nine per cent of transitions into heavy caring coincide with a movement into full-time work, compared with six per cent moving out of full-time work. This also compares to six per cent moving into full-time work among adults without children. There are further differences between adults with and without children among those who end heavy caring responsibilities. Among those with children, four per cent moved out of full-time work and five per cent moved into it. Among those without children, six per cent moved out and only two per cent moved into full-time work. This suggests that adults with children have a particular need to take up full-time work when there is also a need to care for others for several hours per week than in the population without children, perhaps because there is a loss of a main earner or because the financial demands are greater in the presence of children.

Figure 7.9 Transitions in working full-time and transitions in caring for 20 or more hours per week, by sex



Source BHPS 1991 to 2004.
Base: 134,662.

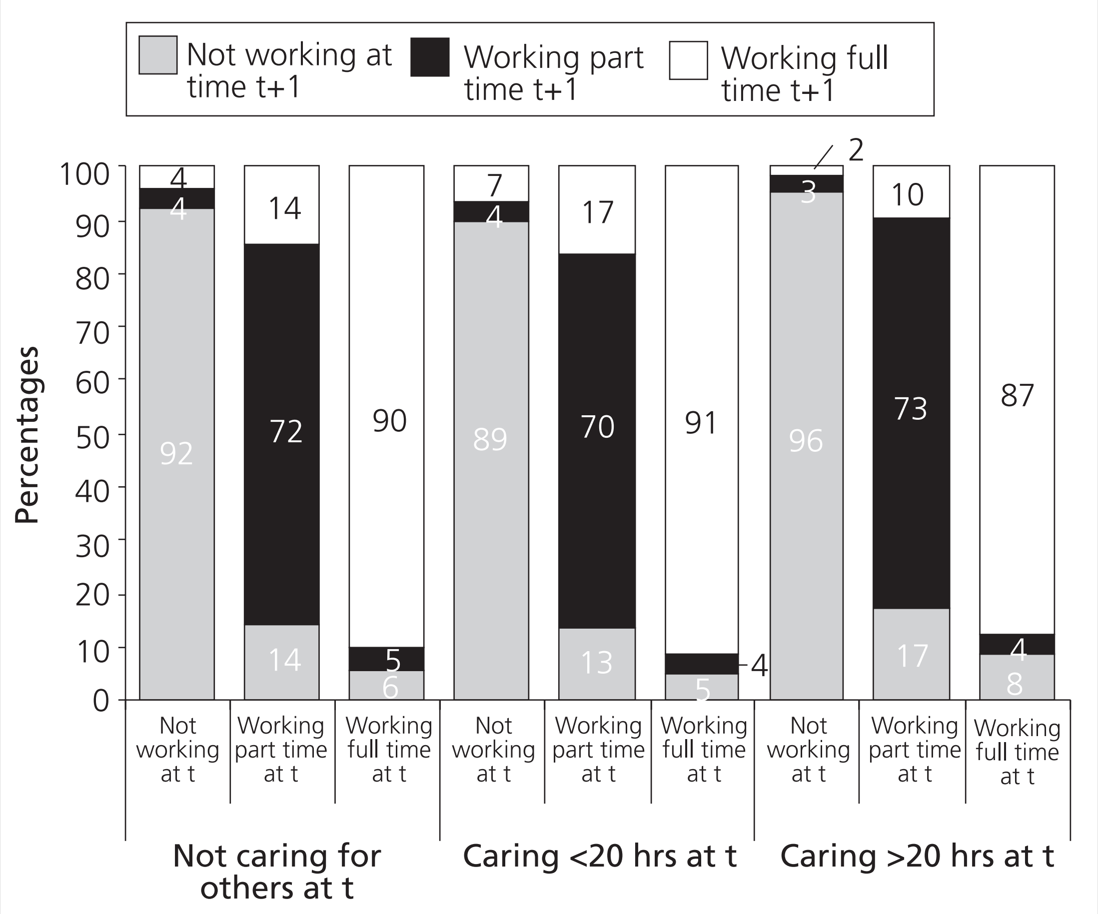
Figure 7.10 Transitions in working full-time and transitions in caring for 20 or more hours per week, by children in the household



Source BHPS 1991 to 2004.
Base: 134,662.

This section now considers the relationship between caring responsibilities and work status at time t and subsequent working hours at time t+1. In most cases working status had not changed regardless of caring responsibilities (Figure 7.11). However, people with heavy caring responsibilities at t (caring in excess of 20 hours per week) were more likely to move out of work between interviews (eight per cent) than those with less heavy or no caring responsibilities (four per cent). Similarly, fewer people with heavy caring responsibilities moved into full-time work – from either part-time (ten per cent) or no work (two per cent) – than people caring for less than 20 hours per week (17 per cent and seven per cent respectively) or providing no care (14 per cent and four per cent respectively). Of particular note is the finding that, relative to those without caring responsibilities, people with lower level caring responsibilities (less than 20 hours per week) were more likely to move into any work at t+1 if they were not working at t, and correspondingly into full-time work at t+1 if they were working part-time at t. For example, people working part-time at t are more likely to have moved into full-time work a year later if they have low level caring responsibilities compared with those without caring responsibilities (17 per cent compared with 14 per cent).

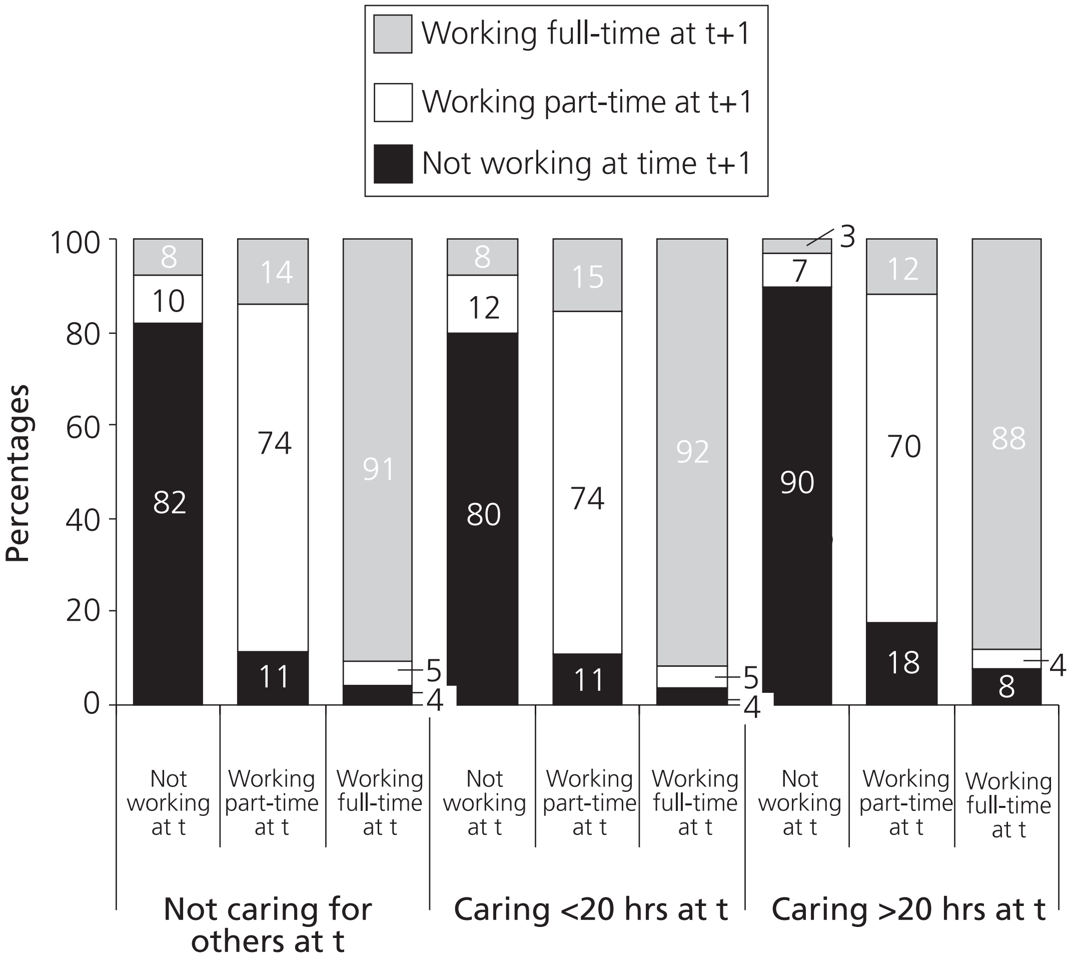
Figure 7.11 Changes in work status, by caring responsibilities at time t



Source BHPS 1991 to 2004.
Base: 138,336.

Compared with all adults with heavy caring responsibilities, those with children were more likely to move into work (ten per cent compared with five per cent in the full sample), especially part-time work, at time t+1 if they had been out of work at time t (Figure 7.12). However, as found earlier, this appears to relate to greater movement in and out of work among adults with children generally, since this is also the case for those with lower levels of, or no, caring responsibilities.

Figure 7.12 Changes in work status, by caring responsibilities at t, among adults with children at t



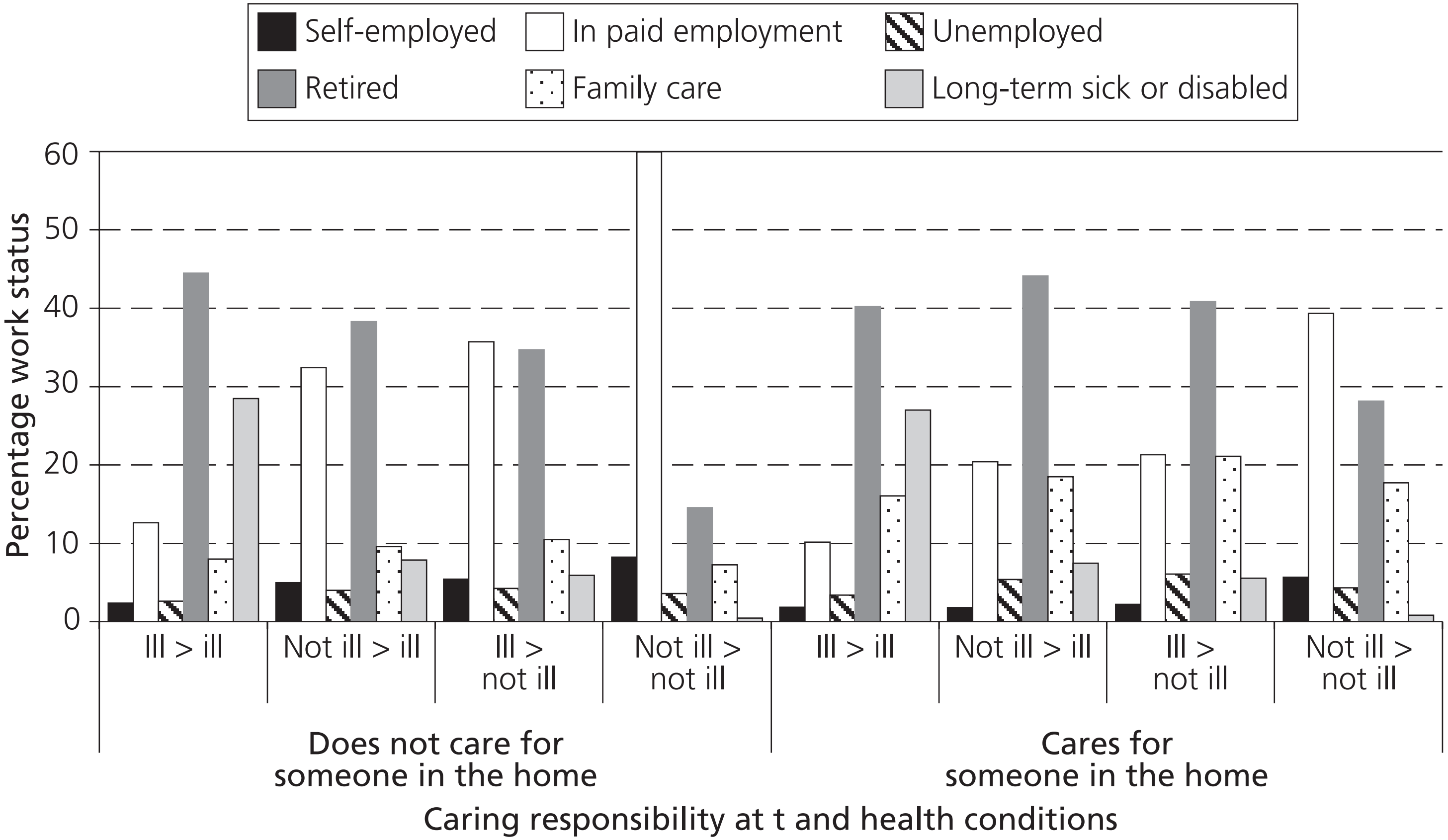
Source BHPS 1991 to 2004.
Base: 40,927.

7.4 Caring responsibility and ill-health

It is important to understand the interaction between caring responsibilities and disability. We begin looking at this in Figures 7.13 and 7.14. In Figure 7.13 we can see that people who were caring for someone at home and subsequently became ill themselves, were more likely than non-carers to describe themselves as not working due to family care by t+1. Those who had no caring responsibilities and no illness throughout two waves were most likely to be in paid employment or self-employment at t+1.

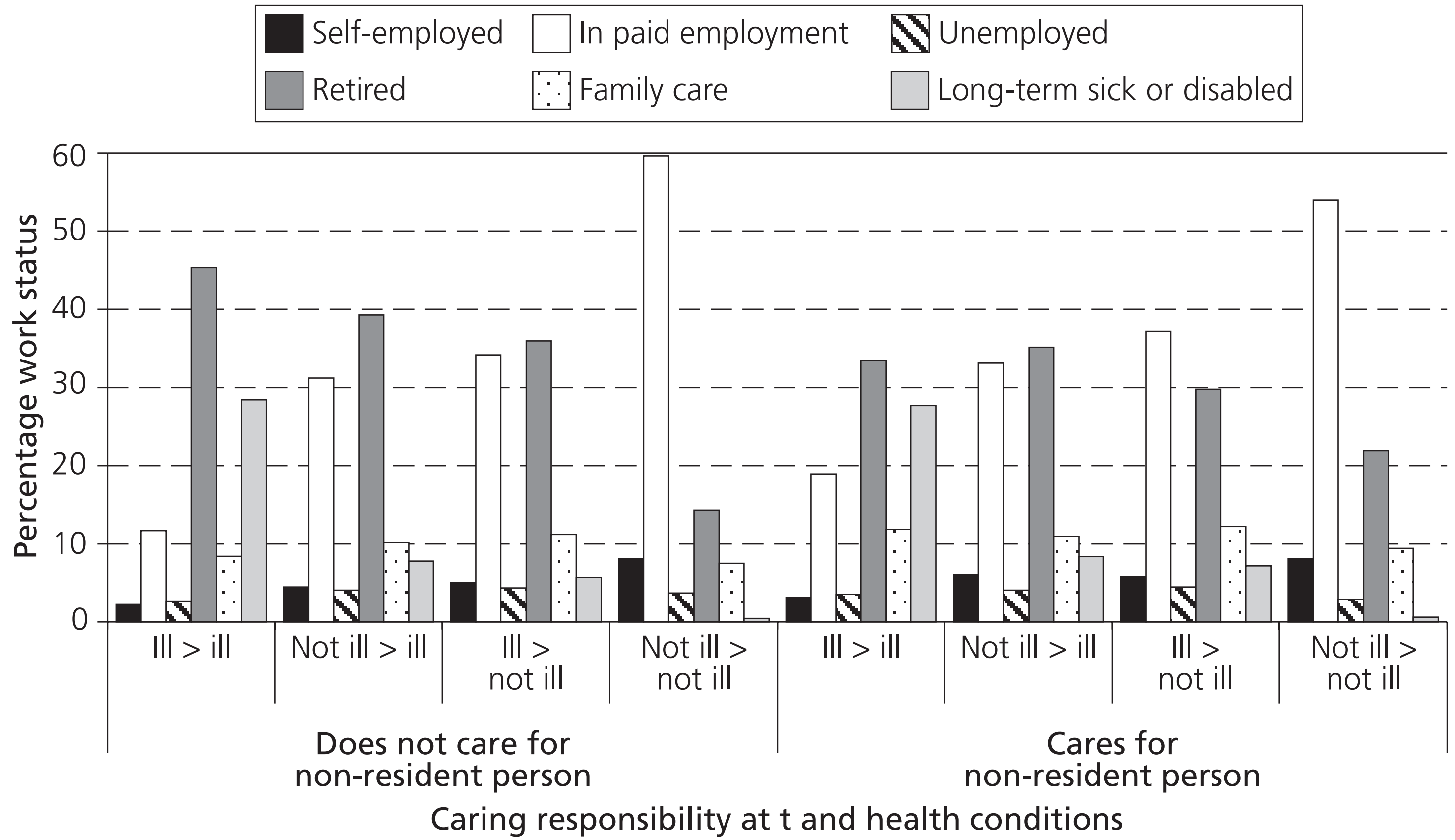
Turning now to carers looking after someone outside the home (Figure 7.14) we can see that the proportions in paid employment were higher than among those with resident caring responsibilities, regardless of their own health transitions. Indeed this group was very similar to those with no caring responsibilities across all categories of health transitions.

Figure 7.13 Work status at t+1, by health transitions between t and t+1 and caring responsibility (resident) at t



Source BHPS: Base 144,776 includes those on maternity leave, Government training schemes, in full-time study and 'others'.

Figure 7.14 Work status at t+1, by health transitions between t and t+1 and caring responsibility (non-resident) at t



Source BHPS: Base 144,776 includes those on maternity leave, Government training schemes, in full-time study and 'others'.

7.5 Regression analysis

Two regression models were run to examine the predictors of caring responsibilities, the first relating to any caring responsibilities at time t+1 and the second relating to caring responsibilities of 20 or more hours per week at time t+1. Each model includes the equivalent caring measure at time t in order that the additional impact of other characteristics can be established over and above that of previous caring responsibilities.

In both models the following variables were found to be independently significantly predictive of caring responsibilities: age, sex (with women being at significantly, but not substantially, higher odds in both models), region, family type, labour force status, income and housing tenure (Table B.3). Some of these are discussed in more detail below. Additionally, when predicting caring responsibilities of 20 or more hours per week, having a long-term limiting illness (LTLI) was significant, with people who report having an LTLI being more likely to provide this level of care at odds of 1.3 over those without an LTLI. As would be expected, the equivalent caring responsibilities at time t were also highly predictive of caring responsibilities a year later: people reporting 'any' caring responsibilities at time t had over 20 times the odds of those who did not of having 'any' caring responsibilities at time t+1; and reporting caring for 20 or more hours per week at time t increased the odds of doing so at time t+1 by a factor of almost 15.

Turning our attention first to the question of families with children, the analysis shows that household type is a significant independent predictor of caring responsibilities after controlling for the influence of other factors. The reference category for comparison was taken as couples with no children. Neither adults in couples with dependent children nor lone parents with dependent children were more or less likely than couples without children to have 'any' caring responsibilities once other characteristics were taken into account. However, adults in couples with children were more likely than those without children to be providing care of 20 or more hours per week: the odds were increased by a factor of 1.4 for this group over the reference group. Equally, people with non-dependent children were more likely to be providing heavier caring commitments: those in couples and lone parents with non-dependent children had 1.3 and 1.4 times the odds, respectively, of couples without children to be providing 20 or more hours of care.

In both models, all age groups from the 30s upwards were significantly more likely than the youngest age group (under 20s were set to be the reference category) to be providing care to others independently of the other characteristics tested. People in their 40s, 50s and 60s had more than twice the odds of the youngest group to be providing 'any' care, with odds for people in their 70s being slightly lower (1.7). People in their 40s, 50s and 60s also had about twice the odds of providing heavier caring responsibilities. However, those in their 70s were at the upper end of the range with odds of 3.8 compared with the reference group.

In respect of labour force status, the reference category was set for those in paid employment. People who described themselves as unemployed, retired or doing family care were more likely than those in paid employment to report caring responsibilities in both models. Additionally, people who described themselves as being long-term sick or disabled had twice the odds of caring for others 20 or more hours per week compared with those in employment.

Turning to income, although people in the lowest three income quintiles had significantly higher odds of providing 'any' care, compared with the highest quintile, the odds were not substantially higher. Odds for the second quintile group reached a factor of 1.3. However, differences in likelihood relating to income are much clearer in the model predicting caring for 20 or more hours per week. People in the two lowest income quintiles had odds at, or approaching, twice those of the highest quintile group.

Finally, although people who rented privately were less likely and those who rent socially were more likely than owner-occupiers to be providing 'any care' at time t+1 when other factors were held constant, the odds were not substantially different to this reference group: 0.9 and 1.1 respectively. However, in respect of caring for 20 or more hours per week we see a different pattern. Only people who were in the social rented sector were significantly different to owner-occupiers in their propensity to be providing this level of care: all other things being equal, the odds were substantially higher at a factor of 1.6.

8 Discussion

The Government has set out bold ambitions in the areas of child poverty, employment for disabled people, childcare, caring and the wider rights of disabled people. These commitments and ambitions drive the kinds of analysis presented in this report.

A commitment to end child poverty by 2020 was made in 1999 by the Prime Minister, a commitment affecting policy-making towards families with children in many areas. Intermediate milestones have been established and measures of success determined. Shorter-term targets include reducing the number of children in workless households during 2005/08. There are also targets to increase childcare provision and its take-up by lower-income families.

Late in 2005 the Office for Disability Issues (ODI) was launched, forming part of the recommendations of the report, *Improving the Life Chances of Disabled People* (Prime Minister's Strategy Unit 2005). A key aim is that, *'By 2025, disabled people in Britain should have full opportunities and choices to improve their quality of life, and will be respected and included as equal members of society'* (page 7). Four key areas are identified – independent living, support for families with young disabled children, a smooth transition into adulthood and support and incentives for getting and staying in employment. The first of these embraces a wide range of policy areas.

The Department for Work and Pensions (DWP) has a target to increase the employment of disabled people and reduce the differential in employment rates between disabled people and the wider population. It aspires to ensuring that carers are able to combine work and caring, where appropriate, or to assist a return to paid work when caring ceases.

This report has analysed the links between disability, and caring and employment. It has looked in some detail at incomes and poverty among different groups. The possibility of causes running in both directions (disabled people becoming poor; poorer people becoming disabled) has also been considered. By tracking people over time it is possible to look at shorter, and longer, run consequences and to analyse the different groups more likely to become carers or become disabled. A specific chapter looked at changes in the early years of a child's life.

A clear result is that movements into disability and becoming a carer, are more frequent than might be expected. Whilst spells of disability may often be prolonged (indeed, sometimes for life) there are many who describe themselves as disabled or 'limited' by health problems, who do not use this description a year later. This may mean that survey descriptions of disability may need to take into account data from more than a single year, to arrive at a group who are affected for longer periods. Similarly, many people provide care for only a limited period.

This extent of change enables us to analyse the factors associated with transitions into and out of work. Looking at the early years of a child's life, we found evidence of some mismatch between available hours of work the needs of those looking after disabled children. A lack of jobs with suitable hours was cited as a reason for not working – along with access to affordable or appropriate childcare. Indeed, these reasons may well overlap. They again place emphasis on a childcare strategy that is able to include the needs of disabled children, so that jobs of different hours are available. A further sizeable group mentioned concerns about losing their benefits if they went into work and this remains an area where advice about the mix of benefits and tax credits available may be needed.

The direction of cause ran quite strongly from poverty to disability. Those becoming disabled each year were more likely than average to have been poor the previous year. The immediate impact on living standards was often quite limited – but with greater risks of poverty appearing over the course of a few years. Shorter-term studies of changes in health may need to keep this point in mind.

The effect of disability on family incomes depended to a great deal on employment status. It was generally true that families in paid work avoided poverty (having an income below 60 per cent of the median from the Housing Below Average Income (HBAI), before housing costs, equivalised). By contrast, there was an evens chance of poverty for those not in work. To some extent disability did not affect this – workers avoided poverty, non-workers with a disability were actually less likely to be poor. This may be a positive effect of the benefits system, supporting such families. However, the poverty calculation takes no account of the additional costs of disability, so we must be cautious about how this finding is interpreted. It makes sense to next look in more detail at how ill-health (and caring responsibilities) affects the composition of family incomes. It is also important to supplement measures of incomes with those of deprivation and social inclusion more generally.

We also found that year-to-year transitions in caring responsibilities were only weakly associated with changes in economic activity. Annual transition, as with disability, did not have particularly sizeable effects, and instead the focus may need to be rather wider in considering longer-term implications. We should also consider the different groups more likely to become carers, as they are not a random selection of the population.

Appendix A
Questions about health

Millennium Cohort Study

CLSI
I'd now like to find out whether ^*Jack* has any longstanding health conditions and this **includes** those you have already told me about, as not all of these may be longstanding.
Does ^*Jack* have long-term conditions that have been diagnosed by a health professional? By long-term I mean anything that ^*Jack* has had for at least 3 months or is expected to continue for at least the next 3 months.
1 Yes
2 No

Question asked if CLSI=1:
CLSL
Does this limit him/her at play or from joining in any other activity normal for a child his/her age?
1 Yes
2 No

Question asked of respondent and partner:
Do you have a longstanding illness, disability or infirmity? By longstanding I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time?
1 Yes
2 No

BHPS

In all but two of the waves currently available, limiting health conditions can be identified from the following variable:

LHLLT Health limits daily activities Individual (32)
Does your health in any way limit your daily activities compared to most people of your age?
Question Route ALL RESPONDENTS
Variable Occurrence W1 W2 W3 W4 W5 W6 W7 W8 W10 W11 W12 W13 W15

However, in waves 9 and 14 the question was not asked in the same way. Instead, a range of activities were listed:

The following questions are about the activities you might do during a typical day. Does your health limit you in these activities? If so, how much? Please choose an answer from this card:
a) Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports
b) Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf
c) Lifting or carrying groceries
d) Climbing several flights of stairs
e) Climbing one flight of stairs
f) Bending, kneeling or stooping
g) Walking more than a mile
h) Walking half a mile
i) Walking 100 yards
j) Bathing and dressing yourself?
Question Route ALL RESPONDENTS
Variable Occurrence W9 W14

We have taken the decision that health which limits moderate activities is most closely related to LHLLT, but the important difference is that LHLLT has a comparative element ‘compared to most people of your age’. So it is likely that NHLSF3B will overestimate the number of people. Our variable identifies people who answered either yes a lot, or yes, a little (values 1 and 2).

Appendix B
Regression results

Table B.1 Logistic regression of having LHC at t+1 (couples and lone parents with dependent children only)

	Model 1 Cox & Snell R Square 0.332; Nagelkerke R Square 0.492 86.3 predicted correctly Sample size 60,748		Model 2 Cox & Snell R Square 0.332; Nagelkerke R Square 0.493 86.3 predicted correctly Sample size 60,748	
BHPS longitudinal analysis	**Sig**	**Odds ratio**	**Sig**	**Odds ratio**
Age: Reference category age 70+	0.000		0.000	
Aged under 20	0.000	0.390**	0.000	0.391**
Aged 20 to 29	0.000	0.379**	0.000	0.378**
Aged 30 to 39	0.000	0.404**	0.000	0.402**
Aged 40 to 49	0.000	0.455**	0.000	0.453**
Aged 50 to 59	0.000	0.511**	0.000	0.508**
Aged 60 to 69	0.012	0.594*	0.012	0.594*
Gender: Male Reference category Female	0.000	1.170**	0.000	1.169**
Region: Reference category Inner London	0.000		0.000	
Outer London	0.846	0.981	0.847	0.981
Rest of South East	0.215	0.899	0.222	0.901
South West	0.028	0.815*	0.030	0.816*
East Anglia	0.019	0.773*	0.019	0.774*
East Midlands	0.192	0.888	0.184	0.886
West Midlands Conurbation	0.003	1.359**	0.003	1.357**
Rest of West Midlands	0.180	0.875	0.181	0.875
Greater Manchester	0.105	0.830	0.105	0.831
Merseyside	0.509	0.923	0.513	0.924
Rest of North West	0.121	0.852	0.122	0.852

Continued

Table B.1 Continued

BHPS longitudinal analysis	Model 1 Cox & Snell R Square 0.332; Nagelkerke R Square 0.492 86.3 predicted correctly Sample size 60,748		Model 2 Cox & Snell R Square 0.332; Nagelkerke R Square 0.493 86.3 predicted correctly Sample size 60,748	
	Sig	Odds ratio	Sig	Odds ratio
South Yorkshire	0.109	0.821	0.111	0.822
West Yorkshire	0.225	1.139	0.215	1.143
Rest of Yorkshire and Humberside	0.216	0.869	0.215	0.869
Tyne & Wear	0.540	0.925	0.561	0.928
Rest of North	0.664	0.955	0.666	0.955
Wales	0.042	1.192*	0.046	1.189*
Scotland	0.796	1.022	0.792	1.023
Northern Ireland	0.000	1.625**	0.000	1.625**
Couple (compared with lone parent)	0.066	0.932	0.062	0.931
Active employment at t	0.000	0.644**	0.000	0.649**
LHC Reference category no LHC at t	0.000	9.698**	0.000	9.702**
Caring for someone in the home			0.814	0.983
Caring for a non-resident person			0.148	0.939
Caring for anyone for 20 hours+ per week			0.038	1.195*
Monthly household income (quintiles) Ref=4	0.030		0.036	
1	0.657	1.022	0.628	1.025
2	0.075	1.076	0.085	1.073
3	0.062	1.072	0.067	1.071
5	0.301	0.960	0.296	0.960
Tenure Reference category Owned with a mortgage	0.000		0.000	
Owned outright	0.029	1.109*	0.026	1.110*
Social tenant	0.000	1.765**	0.000	1.757**
Private tenant or rents from employer	0.000	1.538**	0.000	1.536**
Constant	0.000	0.346**	0.000	0.346**

Wave of survey also controlled for.

Table B.2 Logistic regression of being actively employed at t+1 (couples and lone parents with dependent children only)

	Model 3 Cox & Snell R Square 0.457 Nagelkerke R Square 0.616 60,748 observations in analysis 85.9% correct predictions		Model 4 Cox & Snell R Square 0.458; Nagelkerke R Square 0.617 60,748 observations in analysis 85.9% correct predictions	
BHPS longitudinal analysis	**Sig**	**Odds ratio**	**Sig**	**Odds ratio**
Age: Reference category age 70+	0.000		0.000	
Aged under 20	0.000	11.539**	0.000	11.578**
Aged 20 to 29	0.000	20.684**	0.000	20.849**
Aged 30 to 39	0.000	26.442**	0.000	26.955**
Aged 40 to 49	0.000	26.801**	0.000	27.601**
Aged 50 to 59	0.000	21.880**	0.000	22.561**
Aged 60 to 69	0.000	7.313**	0.000	7.469**
Gender: Male Reference category female	0.000	1.445**	0.000	1.443**
Region: Reference category Inner London	0.000		0.000	
Outer London	0.383	1.088	0.377	1.089
Rest of South East	0.026	1.205*	0.026	1.206*
South West	0.009	1.264**	0.011	1.259**
East Anglia	0.257	1.124	0.259	1.123
East Midlands	0.081	1.169	0.059	1.184
West Midlands Conurbation	0.434	0.922	0.478	0.929
Rest of West Midlands	0.000	1.404**	0.000	1.418**
Greater Manchester	0.041	1.251*	0.039	1.254*
Merseyside	0.955	1.007	0.876	1.019
Rest of North West	0.002	1.364**	0.002	1.365**
South Yorkshire	0.034	1.280*	0.030	1.288*
West Yorkshire	0.691	1.044	0.679	1.046
Rest of Yorkshire and Humberside	0.006	1.353**	0.004	1.369**
Tyne & Wear	0.180	1.182	0.184	1.180
Rest of North	0.015	1.287*	0.015	1.289*
Wales	0.199	1.118	0.134	1.139
Scotland	0.096	1.151	0.086	1.157
Northern Ireland	0.000	0.715**	0.000	0.722**
Couple (compared with lone parent)	0.360	1.036	0.262	1.044
Active employment at t	0.000	16.791**	0.000	16.480**
LHC Reference category no LHC at t	0.000	0.474**	0.000	0.475**
Caring for someone in the home			0.003	0.805

Continued

Table B.2 Continued

	Model 3 Cox & Snell R Square 0.457 Nagelkerke R Square 0.616 60,748 observations in analysis 85.9% correct predictions		Model 4 Cox & Snell R Square 0.458; Nagelkerke R Square 0.617 60,748 observations in analysis 85.9% correct predictions	
BHPS longitudinal analysis	**Sig**	**Odds ratio**	**Sig**	**Odds ratio**
Caring for a non-resident person			0.140	1.065
Caring for anyone for 20 hours+ per week			0.000	0.681
Monthly household income (quintiles) Ref=4	0.000		0.000	
Lowest	0.000	0.737**	0.000	0.732**
2	0.000	0.782**	0.000	0.788**
3	0.000	0.878**	0.000	0.881**
Highest	0.010	0.908*	0.009	0.907*
Tenure Reference category Owned with a mortgage	0.000		0.000	
Owned outright	0.000	0.815**	0.000	0.813**
Social tenant	0.000	0.528**	0.000	0.539**
Private tenant or rents from employer	0.000	0.655**	0.000	0.658**
Constant	0.000	0.018**	0.000	0.018**

Wave of survey also controlled for.

Table B.3 Logistic regressions to predict caring responsibilities at t+1

	Model 1 Predicting any caring at t+1		Model 2 Predicting caring for 20 or more hours per week at t+1	
	Sig	Exp(B)	Sig	Exp(B)
Caring responsibilities at t				
No (ref) *	0.000	21.6	0.000	14.1
Age				
Aged under 20 (Ref)	0.000		0.000	
Aged 20 to 29	0.729	1.0	0.016	1.6
Aged 30 to 39	0.000	1.5	0.001	1.9
Aged 40 to 49	0.000	2.2	0.000	2.0
Aged 50 to 59	0.000	2.5	0.000	2.4
Aged 60 to 69	0.000	2.1	0.000	2.5
Aged 70 or over	0.000	1.7	0.000	4.1
Gender				
Male (ref)	0.000	1.2	0.003	1.1
Region				
Rest of North West (Ref)	0.000		0.000	
Inner London	0.370	1.1	0.786	0.9
Outer London	0.157	1.1	0.454	1.1
Rest of South East	0.002	1.2	0.100	0.8
South West	0.246	1.1	0.145	0.8
East Anglia	0.972	1.0	0.014	0.6
East Midlands	0.001	1.2	0.545	0.9
West Midlands Conurbation	0.018	1.2	0.166	1.3
Rest of West Midlands	0.002	1.2	0.402	0.9
Greater Manchester	0.147	1.1	0.313	0.8
Merseyside	0.076	1.2	0.881	1.0
South Yorkshire	0.004	1.3	0.275	0.8
West Yorkshire	0.002	1.3	0.789	1.0
Rest of Yorkshire and Humberside	0.703	1.0	0.643	0.9
Tyne & Wear	0.005	1.3	0.619	0.9
Rest of North	0.000	1.3	0.247	1.2
Wales	0.000	1.4	0.060	1.3
Scotland	0.000	1.2	0.102	1.2
Northern Ireland	0.000	1.3	0.003	1.5

Continued

Table B.3 Continued

	Model 1 Predicting any caring at t+1		Model 2 Predicting caring for 20 or more hours per week at t+1	
	Sig	Exp(B)	Sig	Exp(B)
Household Type				
Couple without children (ref)	0.000		0.000	
Single non-elderly	0.000	0.8	0.000	0.6
Single elderly	0.000	0.6	0.000	0.2
Couple: dependent children	0.421	1.0	0.000	1.3
Couple: non-dependent children	0.001	1.1	0.007	1.2
Lone parent: dependent children	0.028	0.9	0.865	1.0
Lone parent: non-dependent children	0.280	1.1	0.000	1.4
2+ unrelated adults	0.006	0.8	0.178	1.3
Other households	0.285	1.1	0.000	2.0
Labour force status				
In paid employment (ref)	0.000		0.000	
Self-employed	0.536	1.0	0.115	1.2
Unemployed	0.000	1.2	0.000	1.7
Retired	0.000	1.3	0.000	1.5
Maternity leave**	0.678	1.1	0.014	2.6
Family care	0.000	1.4	0.000	2.1
Full-time student	0.771	1.0	0.355	0.8
Long-term sick or disabled	0.242	1.1	0.000	1.8
Government training scheme **	0.002	1.8	0.309	1.5
Other**	0.013	1.4	0.000	2.7
Long-term limiting illness				
No (ref)	0.088	1.0	0.000	1.2
Income quintiles				
Top quintile (Ref)	0.000		0.000	
Lowest quintile	0.039	1.1	0.000	1.7
Second	0.000	1.2	0.000	1.5
Third	0.000	1.1	0.000	1.4
Fourth	0.115	1.0	0.026	1.2

Continued

Table B.3 Continued

	Model 1 Predicting any caring at t+1		Model 2 Predicting caring for 20 or more hours per week at t+1	
	Sig	**Exp(B)**	**Sig**	**Exp(B)**
Tenure				
Owner occupied (Ref)	0.000		0.000	
Private rented	0.005	0.9	0.070	1.2
Social rented	0.000	1.1	0.000	1.6
Constant	0.000	0.0	0.000	0.0
	R2=0.408	Correctly classifies 89%	R2=0.415	Correctly classifies 85%

Notes:

* Any caring for first model, caring for 20 or more hours per week for second model.

** Treat with caution due to small bases.

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