

# **Transitions from Independent Households to Supported Environments over Three Decades in England and Wales: Changing Roles of Family and State?**

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## **Introduction**

### ***Changes in the living arrangements of older people***

Post World War II Europe, and North America, has seen substantial changes in family related behaviours and household composition patterns including large changes in the living arrangements of older people. Living alone or just with a spouse has become increasingly prevalent and living with relatives increasingly unusual (Keilman 1987; Wall 1989; Grundy 1992a; Pampel 1992, Sundström 1994; Kramarow 1995; Elman & Uhlenberg, 1995; Weinick 1995; Wolf 1995; Tomassini et al 2004). This trend has been particularly noticeable among older, including very old, women. In England and Wales, for example, only 13% of women aged 85 and over lived in a multigenerational household in 2001 compared with 42% in 1971 (Grundy 2007).

Explanations for these trends encompass developments that may be perceived as either positive or negative. Economists, for example, have tended to emphasise the role of improvements in the incomes of older people which have enabled more to meet desired preferences for privacy and residential independence (Michael, Fuchs, & Scott, 1980; Rendall and Speare 1995; McGarry and Schoeni 2000). Improvements in the health status of the older population; in housing standards and adaptations; and in transport and communications systems, may have also reduced the proportion of older people needing assistance with everyday tasks and made it easier to provide extra-household assistance to those who cannot manage unaided (Freedman et al 2006; Hoenig et al 2003). Other interpretations have placed greater emphasis on various losses, rather than gains, such as declines in kin availability consequent on fertility decline (Kobrin 1976). However, as a result of historic changes in nuptiality and more recent improvements in mortality, the proportions of older people who are still married and who have at least one child have recently been increasing in most European populations, and are projected to continue doing so for the next two decades (Grundy 1995; Murphy and Grundy 2003; Murphy et al 2006), so this explanation cannot account for recent changes in living arrangements (or large international variations in the extent of co-residence). Increases in the proportion of women working full time have also been frequently cited as a driver of reduced family support for older people in need of assistance (Doty et al 1998; Johnson and Sasso 2004) as have increases in individualism and declines in feelings of family responsibility (European Commission 1995).

The role of policy is undoubtedly important too. Policies on pension and income support schemes for older people clearly have a major effect on their resources, and thus on their ability to maintain separate households. For those older old people with serious disabilities who need substantial amounts of help remaining in their own household may cease to be viable, or become very difficult, and numerous studies have shown that deteriorating health and widowhood are strongly associated with changes in both residence and household composition (Longino, Jackson, Zimmerman, & Bradsher, 1991; Speare & McNally, 1992; Al-Hamad, Flowerdew, & Hayes, 1997). For this group

long-term care policies are likely to have an important influence on residential choices, and constraints, and an interactive effect on provision of family support, including co-residence (Soldo and Freedman 1994; Ogawa and Retherford 1997; Sundstrom et al 2006).

In this paper I examine changes in the household patterns, and household transitions, of older people in England and Wales in the context of changes in long-term care policy. A brief description of these, and of the evolution of long-term care policy in England and Wales, is thus given below.

### ***Long-term care policy and provision in England and Wales*<sup>1</sup>**

Arguably the origins of English long-term care policy can be traced to the Poor Relief Act of 1601 which established the responsibility of the local community to provide support for the poor, the chronic sick and the aged and enabled the levying of local property taxes for this purpose. Long-term care policy has its more recent origins in the legislation following World War II which established the modern welfare state. This included the establishment of ‘Part 111’ residential homes which were intended to provide “for persons who by reasons of age, infirmity or any other circumstances are in need of care and attention not otherwise available to them”. This resource was provided by local authorities, who were also enabled to pay to support residents in homes provided in the private and voluntary sector, and had responsibility for providing other long-term care services, notably home help and meals delivered to people’s homes. Older people who needed nursing and medical care were provided for in long-stay wards in National Health Service geriatric or psychiatric hospitals where care was provided free of charge. Nursing home care was not available in the public sector. Part III accommodation was from its inception means tested. The inherent contradiction of having free care in the NHS sector and means tested care in the local authority sector was initially unimportant as most residents had wealth and incomes well below the threshold level for payments and the small numbers with larger resources tended to pay for care in private residential or nursing homes. More recently, however, this contradiction has become the source of a major political debate (Royal Commission on Long-Term Care 1999; Murphy 2004).

This overall sectoral balance persisted to a large degree until the later 1970s when various changes in policy, practice and politics coincided to set in motion a transformation of the system. Firstly, restrictions on government expenditures meant that during the later 1970s and early 1980s the provision of local authority paid for residential care and domiciliary long-term care services failed to keep pace with increases in the size of the older old population (Grundy and Arie 1982; Grundy 1987). The number of geriatric beds also remained virtually unchanged throughout the 1970s and early 1980s and from 1985 reduced substantially (in large part associated with great reductions in lengths of stay) (Brocklehurst 1998). Secondly an administrative change in regulations relating to payment of supplements (supplementary benefits) to those on low incomes introduced in 1980 had the apparently unintended consequence of making ‘board and

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<sup>1</sup> There are a number of differences in long-term care policies in the constituent countries of the UK (England & Wales, Scotland, Northern Ireland) which are not discussed here.

lodging' payments available to older people on low incomes entering private (for profit) and voluntary (independent not-for-profit) residential or nursing home care. By 1985 a third of residents in private sector care homes were dependent on supplementary benefits and the total scale of (Central) Government expenditure on these supplements increased by a factor of ten during the 1980s (Laing 1996). While this transformation was in keeping with the then Conservative Government's privatization policies (Brocklehurst 1998; Glendinning 1998), such escalating costs were not, and a comprehensive review of the system led to the introduction of the NHS and Community Care Act in 1990 (implemented in 1993). This returned to local authorities the responsibility for arranging and funding (on a means tested basis) long-term care in residential and nursing homes-increasingly provided in the private sector although paid for by local authorities. Additionally the legislation introduced a requirement for an assessment of all older people moving into residential or nursing home care (apart from those paying themselves) and the targeting of home care resources on those most at risk of such a move. Analysis of admissions undertaken using other sources has shown that these policies appear to have had some success in that admission rates levelled off during the 1990s (Laing 1993; Laing and Buisson, 2005).

## **Aims of current study**

In this paper I use cross-sequential analyses of data from a national census based record linkage study, the Office for National Statistics Longitudinal Study (ONS LS) to analyse changes in transitions between various types of household among the older population during the decades 1971-81, 1981-91 and 1991-2001. In particular I focus on differences in the relative balance of residence with relatives and residence in institutional settings at the end of each decade. The analysis builds on previous work using the same data source including work which showed that, after controlling for age, marital status and housing tenure, the risk of transition from a private household to an institution was some 33-52% higher in 1981-91 than in 1971-81 (Grundy 1992; 1993; Grundy & Glaser, 1997), a shift which was associated with reduced rates of transition to live with relatives (Glaser, Grundy and Lynch, 2003). Other relevant recent work based on the LS showed that transitions from living in private households in 1991 to institutions in 2001 were, among women, strongly associated with parity, as well as with housing tenure and marital status (Grundy and Jitlal 2007).

In this paper I extend earlier analyses to include data for the 1991-2001 decade. The aims of the study were to see whether there were differences between household changes 1991-2001 and earlier decades which might be associated with the implementation of the NHS and Community Care Act and subsequent reforms. I additionally examine mortality differentials for five years subsequent to each end of decade census point with the aim of seeing whether there have been changes in the relative mortality of those living with relatives, living in institutions or living alone or in a couple. This was undertaken to test the hypothesis that more stringent criteria for admission to state funded institutional care introduced in 1993 would result in greater excess mortality among residents of institutions post 2001 than observed post 1991 or post 1981.

## Data and Methods

The ONS Longitudinal Study (ONS LS), is a record linkage study of approximately 1% of the population initially based on those enumerated in the 1971 Census of England and Wales and now including linked information from subsequent censuses in 1981, 1991 and 2001, and from vital registration. The LS is a moving sample; some members are lost through emigration and death, and others are ‘recruited’ through the addition of 1% of immigrants and new births. The data set thus remains nationally representative. Strengths of the data set include large sample size, low non-response and attrition bias (as census coverage is good and rates of linkage high); and crucially for this study, inclusion of the institutional population. Additionally information from the census records of people in LS members’ households is also available, although these co-residents are not followed over time. Limitations include the long interval (ten years) between census data capture points and the relatively limited range of information collected in the census. In this study a further restriction was that only co-variables included in all the relevant censuses considered could be included in the analysis because of the wish to make comparisons between decades. Thus, for example, it was not possible to include in the analyses measures of educational attainment (as in 1981 and 1991 the only measures available were of high level qualifications applying to only a very small proportion of the older population) or of parity, which, for older age groups, could only be derived for the 1991 population. Full details of the study have been reported elsewhere (Blackwell et al 2003).

## Measures

Private (non institutional) households in the census, and so in the LS, are defined as groups of co-residents who share a dwelling and have common housekeeping. In common with most statistical offices, until recently ONS categorised families in strictly nuclear terms to include married couples with or without their never-married children (of any age); lone parents with never-married children; and grandparents living with never-married grandchildren where the intervening generation is absent. In 2001 this definition was changed and those living with ever-married children were also classified as living in families, provided that the child’s own partner or child was not also resident in the household. In these analyses, however, we have reclassified 2001 families and households to fit with the previous definition. People living in establishments where meals and services are communally provided are identified as living in institutions (Blackwell et al 2003). Sheltered (warden assisted) housing for elderly people is not classed as institutional unless individual cooking facilities are available to fewer than half the residents (Blackwell et al 2003).

In the analyses reported here, we excluded people who at the start of each decade were resident in institutions (as the intention was to analyse variations in moves to institutions); visitors and non-usual residents at the address of enumeration (either at start or end of decade) were also excluded.

After preliminary analyses, two classifications of household/family type were derived referring respectively to living arrangements at the start and end of each decade. Start of decade living arrangements were grouped into four categories comprising

- 1) Those living alone, denoted solitary;
- 2) Those living with a spouse (or partner) and no one else, denoted Couple alone;

- 3) Those living in any type of family other than a couple only family (denoted ‘other family’). This group comprised people living with a spouse and others (usually children) and lone parents (people without a partner living with a never-married child);
- 4) People living in two family households or, more usually, with relatives and friends not classified as being part of the same family (in census office terms), common examples would include widows living with a married child. This grouping was denoted ‘complex household).

End of decade living arrangements were grouped into three categories comprising:

- 1) Those living alone or just with a spouse/partner
- 2) Those living in ‘other family’ or ‘complex households’
- 3) Those living in institutions.

As marital status at end of decade was included as a co-variate, those living alone are in fact distinguished from those living just with a spouse, as the unmarried could not be classified as living in a couple (a category including cohabitees) and only very few people recorded as married were living alone (<1%). Other covariates used in the analysis include age (single years) and housing tenure (distinguishing home owners from others) at start of the relevant decade. Housing tenure was included as an indicator of socio-economic status; there may also be a more direct relationship between housing wealth and entry to institutional care as means testing procedures mean that home owners (and their heirs) have particular disincentives to enter state funded residential care (Hancock et al. 2002). Marital status is clearly an important indicator of availability of potential care from a spouse and also indirectly of likelihood of availability of a child (as in the cohorts we consider very few never-married people have children). The 1991 and 2001 Censuses included a question asking whether people had ‘any long-term illness, health problem or handicap [1991]/disability [2001] which limits his/her daily activities or the work he/she can do’. Completion notes instructed that problems due to old age should be included. This has been used as an end of decade co-variate in analyses, of necessity, restricted to the 1981-91 and 1991-2001 decades. End of decade indicators for marital status and long-term illness were chosen as being closer temporally to end of decade living arrangements and also to avoid problems with collinearity between initial household family type and marital status. Finally, a dummy variable indicating decade of observation was derived.

## **Methods**

The sample groups included in the analysis were:

- 1) Those aged 65 and over in 1971 still alive and in the sample in 1981
- 2) Those aged 65 and over in 1981 still alive and in the sample in 1991 and
- 3) Those aged 65 and over in 1991 still alive and in the sample in 2001.

These samples were appended together with a variable indicating decade of observation. After initial descriptive analysis, the three end of decade outcomes were contrasted using multinomial logistic regression. Initial modelling was undertaken separately for each decade but results reported here are for the pooled sample with decade as a co-variate; with the middle decade (1981-91) being used as the reference category. Models including

the limiting long-term illness variable were run just for the latter two decades, as this information was not collected in 1981.

Finally, Poisson regression was used to model differentials in mortality for each decade-specific sample during the five years subsequent to relevant end of decade. Thus, the mortality of those included in the 1971-81 sub sample was analysed 1981-5; that of the 1981-91 sample was analysed 1991-95 and that of the 1991-2001 sample was analysed for the period 2001-05. Very small proportions with missing information on relevant variables were excluded from the analyses which were undertaken separately for men and women.

## Results

Table 1 shows the distribution of the three samples by variables used in the analysis. The 1971-81 sample of people aged 65 and over in 1971 (and still alive and in the sample in 1981) comprised 8,482 men and 17,259 women with a mean age (in 1971) of 70 and 71 respectively. As would be expected, a much higher proportion of men than women were married. The increase in the size of the older population is reflected in larger sample sizes for the two subsequent decades and slight increases in mean age. Cohort differences in nuptiality are reflected in the progressively lower proportion of never-married women in each of the three samples and this, and declines in mortality, is also reflected in the increasing proportions married. A large increase, particularly between the 1981-91 and 1991-2001 decades, in the proportion of home owners reflects the long term contraction of the privately rented sector as a source of permanent housing and a more recent contraction in the publicly rented sector, including the consequences of 'right to buy' legislation introduced in 1980 which enabled public sector tenants to buy their homes at discounted prices.

Table 2 shows the distribution of the three samples by household/family type at the start and end of the relevant decade. Row totals show outcome living arrangement for each baseline family/household type. Thus among men in the 1971-81 sample, 82% of those who lived alone in 1971 were still living alone or were in a couple in 1981; 10% were living with relatives or friends (other family/complex) and 8% were resident in institutional care; equivalent proportions in the 1981-91 sample were 82%, 7% and 10% and in 1991-2001 85%, 4% and 10%.

In all three decades about half of men who at the start lived in the 'other family' group were by the end living alone or just with a spouse; among women this proportion was lower and showed more variation by decade. This reflects to some extent gender differences in the composition of this grouping; more of the men were living with a spouse and children (at the start of the decade) while relatively more of the women were lone parents (living with a never-married child). The ratio of people in family/complex households to those in institutions at the end of each decade shows, as would be expected, large variation by initial household type being much higher for those initially living in 'other family' households. Considerable variation by gender and period is also apparent. Among men living alone in 1971, for example, more were living with relatives

or friends in 1981 than were in institutional care in marked contrast to the ratio evident in the 1991-2001 decade.

Table 3 shows results of the multinomial regression models fitted to data for men. Living in an institution at the end of decade, rather than alone or in a couple, was positively associated with older age; living in the other family or complex household types at start of decade; being a tenant at start of decade and with being unmarried, particularly never-married, at end of decade. Living in a family/complex household at end of decade rather than alone or in a couple was positively – and very strongly- associated with being in one of these types of living arrangement at the start of the decade, with older age and with being unmarried (although this association was not as great as in the institution versus solitary/couple contrast) and negatively associated with being a tenant. The third, and perhaps most interesting contrast, between living in an institution versus with relatives or friends showed positive associations with older age, being a tenant and being unmarried and strong negative associations with initially living in a complex or other family household and, to a lesser extent, with initially living with a spouse. Results for the latter two decades including the limiting long-term illness variable (Model 2) showed, as would be expected, that reporting long-term illness was associated with a substantially increased chance of end of decade residence in an institution and a higher probability of living in a family/complex household rather than alone or just with a spouse. Of particular interest are the effects of decade. These show that in 1971-81, and to a lesser extent 1991-2001, odds of being in an institution at the end of the period, rather than in the alone/couple category group, were lower than in 1981-91. In 1971-81 odds of being in an institution rather than a family/complex household were also significantly lower than in 1981-91; odds were also below 1 for the 1991-2001 decade, but not significantly so. Finally odds of being in a family/complex household rather than solitary/couple were significantly higher in 1971-81 than in the 1981-91 reference period.

Results for women, shown in Table 4, were broadly similar with the addition that the probability of living in a family/complex household at end of decade rather than alone or in a couple was significantly lower for 1991-2001 than for 1981-91 (and, as for men, higher for 1971-81 than 1981-91).

## **Mortality analysis**

Table 5 shows the results from fully adjusted Poisson regression models of mortality for the five years following each decade of interest. Mortality of both men and women in all periods considered was significantly positively associated with age. Differentials by marital status showed higher risk ratios for widowed and divorced men in the 1981-85 and 2001-05 periods; in the latter period widowed and divorced women also had significantly higher risks of death than married women; associations between marital status in 1991 and mortality 1991-95 were not statistically significant (recall that these results are from models also including information on household type at two time points). Non home owners (in 1991) had higher risks of mortality 2001-5 than owner occupiers, but association between housing tenure and mortality were not significant in the other two periods considered. This difference may reflect the fact that tenants were a smaller, and so more selected, group in 1991 than in previous decades (Table 1). In all periods, and for both men and women, residence in an institution at end of decade was associated



with elevated mortality risks in the subsequent five years; this excess mortality was greatest for those in institutions in 2001. For women, those in family/complex households also had higher mortality than the reference category of those living alone or in a couple at end of decade, but differentials were much less than for the institutional group suggesting differences in the health status of older people living with relatives and those living in institutions. Family/household type at start of the relevant decade had no association with mortality 10-15 years later. Analysis of models including interaction terms did, however, indicate particularly high risks for people changing from living in a couple or other family in 1991 to an institution in 2001; interaction terms included in models for earlier decades were not statistically significant.

## **Discussion and conclusions**

There are a number of limitations to the data used in this study, including the relatively long intervals between census data capture points and lack of detailed information on health, family support from outside the household, and socio-economic circumstances. However the samples used are large, nationally representative, are minimally affected by issues to do with non-response bias and allow us to look at changes over three decades of time. These decades, as outlined in the introduction, were ones encompassing quite substantial changes in policies affecting access to long-term care.

The variations by decade shown here are consistent with the hypothesis that the expansion of access to state funded long-term institutional care in the 1980s led to an increase in likelihood of moving to an institutional setting, including an increase in moving to an institution rather than to live with relatives. Changes after 1991, consistent with the hypothesis of an effect of the post 1991 reforms, seem to have reduced again probabilities of moving to institutional care (although not to 1971-81 levels). The higher mortality risk ratios associated with institutional residence in 2001 also suggest that more rigorous assessment of older people entering state supported care resulted in an increase in the levels of frailty in the institutional group.

However, chances of living with relatives, rather than alone or in an institution, were lower in 1991-2001 than in the previous decade suggesting that such policy changes cannot reverse other influences driving a continued trend towards increased residential independence among older people. International comparisons would greatly improve our ability to identify these differing drives, and perhaps identify more clearly the effects of policy.

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**Table 1. Distribution of 1971-81, 1981-91 and 1991-2001 samples by socio-demographic characteristics.**

	1971-81		1981-91		1991-2001	
	M	F	M	F	M	F
Mean age <sup>1</sup> (SD)	69.54 (4.14)	70.56 (4.72)	69.98 (4.30)	71.16 (4.95)	70.00 (4.38)	71.17 (5.04)
Home owner <sup>1</sup> (%)	58.36	52.73	61.31	56.04	72.61	65.81
Tenant <sup>1</sup> (%)	41.64	47.27	38.69	43.96	27.39	34.19
Married <sup>2</sup>	61.21	20.22	63.84	23.79	63.62	25.90
Never-married <sup>2</sup>	6.12	13.01	5.37	10.05	5.49	6.98
Wid./div <sup>2</sup>	32.67	66.77	30.79	66.16	30.88	67.12
N	8,482	17,259	10,971	20,978	13,587	23,107

<sup>1</sup> At start of decade; <sup>2</sup> at end of decade.

Source: Analysis of ONS Longitudinal Study data.

**Table 2. Distribution by household/family type at start and end of decade, England & Wales 1971-81; 1981-91 and 1991-2001.**

Household/family type at start of decade	Men					Women				
	Sol./couple only	Other family /complex (b)	Institution (c)	Ratio b/c	N(=100%)	Sol./couple only	Other family /complex (b)	Institution (c)	Ratio b/c	N(=100%)
<b>1971-81</b>										
Solitary	81.74	10.26	8.00	1.3	887	81.78	8.34	9.88	0.8	5,899
Couple alone	90.84	6.47	2.69	2.4	5,175	86.75	8.53	4.72	1.8	6,081
Other family	47.67	50.75	1.57	32.3	1,590	27.84	69.15	3.01	23.0	2,295
Complex	27.99	63.93	8.08	7.9	829	27.84	63.92	8.24	7.8	2,974
N (%)	6,416 (75.65)	1,763 (20.79)	302 (3.56)	5.8	8,481	11,566 (67.05)	4,499 (26.08)	1,184 (6.86)	3.8	17,249
<b>1981-91</b>										
Solitary	82.83	7.07	10.10	0.7	1,386	79.67	5.62	14.71	0.4	8,117
Couple alone	92.36	4.03	3.60	1.1	7,163	88.19	4.84	6.97	0.7	8,182
Other family	50.30	47.36	2.34	20.2	1,664	32.03	62.94	5.03	12.5	2,345
Complex	37.19	50.83	11.98	4.2	726	34.39	53.25	12.37	4.3	2,280
N (%)	8,871 (81.10)	1,544 (14.11)	524 (4.79)	3.0	10,939	15,218 (72.73)	3,542 (16.93)	2,164 (10.34)	1.6	20,924
<b>1991-2001</b>										
Solitary	85.28	4.33	10.40	0.4	1,895	81.53	4.86	13.61	0.4	9,237
Couple alone	92.86	3.82	3.32	1.2	9,116	89.64	4.41	5.95	0.7	9,937
Other family	48.68	49.26	2.07	23.8	1,888	31.51	63.70	4.79	13.3	2,317
Complex	39.44	52.90	7.67	6.9	639	33.09	55.08	11.83	4.7	1,674
N (%)	11,252 (83.11)	1,698 (12.54)	588 (4.34)	2.9	13,538	17,723 (76.51)	3,285 (14.18)	2,157 (9.31)	1.5	23,165

Source: Analysis of ONS Longitudinal Study data.

**Table 3. Results from multinomial regression models of transitions between household/family types 1971-81; 1981-91 and 1991-2001, men, England & Wales.**

Men	Institution vs. solitary/couple only			Family/complex vs. solitary/couple only			Institution vs. Family/complex			
	Model 1 RRR	95% C.I	Model 2 RRR	Model 1 RRR	95% C.I	Model 2 RRR	Model 1 RRR	95% C.I	Model 2 RRR	95% C.I
<b>Age</b>	1.160***	1.148- 1.173	1.143***	1.280- 1.157	1.043- 1.061	1.047***	1.102***	1.089- 1.116	1.092***	1.076- 1.108
<b>Couple alone</b>	0.944	0.814- 1.096	0.885	0.741- 1.058	1.016- 1.370	1.073	0.800*	0.656- 0.977	0.825	0.647- 1.053
<b>Other family</b>	1.465***	1.151- 1.865	1.527**	1.147- 2.031	23.203- 31.464	26.725***	0.054***	0.042- 0.071	0.057***	0.042- 0.078
<b>Complex</b>	3.720***	3.044- 4.546	3.436***	2.675- 4.414	22.373- 30.767	25.468***	0.142***	0.113- 0.177	0.135***	0.102- 0.178
<b>Tenant</b>	1.437***	1.273- 1.601	1.369***	1.192- 1.572	0.811- 0.950	0.907	1.627***	1.429- 1.852	1.509***	1.287- 1.770
<b>Never- married</b>	5.863***	4.638- 7.411	6.410***	4.816- 8.533	1.962- 2.744	2.006***	2.527***	1.952- 3.271	3.195***	2.319- 4.404
<b>Wid./divorced</b>	4.749***	4.110- 5.488	4.623***	3.886- 5.500	2.512- 2.990	2.178***	1.733***	1.475- 2.035	2.123***	1.747- 2.580
<b>With long- term illness</b>			12.292***	9.435- 16.015		1.168**			10.522***	8.000- 13.844
<b>1971-81</b>	0.791**	0.680- 0.921	--	1.381***	1.259- 1.515	--	0.573***	0.485- 0.676	--	--
<b>1981-91 (Ref).</b>	1.00		1.00	1.00		1.00	1.00		1.00	
<b>1991-2001</b>	0.842**	0.740- 0.957	0.650***	0.566- 0.745	0.857- 1.025	0.935	0.898	0.776- 1.040	0.695***	0.595- 0.811
<b>N</b>	32,915		23,693	32,915		23,693	32,915		23,693	

Source: Analysis of ONS Longitudinal Study data.



**Table 4. Results from multinomial regression models of transitions between household/family types 1971-81; 1981-91 and 1991-2001, women, England & Wales.**

Women	Institution vs. solitary/couple only			Family/complex vs. solitary/couple only			Institution vs. Family/complex		
	Model 1 RRR	Model 2 RRR	95% C.I	Model 1 RRR	Model 2 RRR	95% C.I	Model 1 RRR	Model 2 RRR	95% C.I
<b>Age</b>	1.180***	1.174- 1.188	1.155***	1.147- 1.163	1.059***	1.053- 1.065	1.115***	1.046***	1.107- 1.123
<b>Couple alone</b>	1.065	0.986- 1.150	1.096	0.999- 1.203	1.344***	1.238- 1.459	0.792***	1.234***	0.713- 0.881
<b>Other family</b>	1.963***	1.714- 2.248	2.041***	1.728- 2.409	42.297***	38.943- 45.940	0.046***	45.135***	0.040- 0.053
<b>Complex</b>	2.487***	2.248- 2.752	2.375***	2.083- 2.708	25.879***	23.907- 28.012	0.096***	26.529***	0.086- 0.107
<b>Tenant</b>	1.200***	1.126- 1.272	1.117***	1.038- 1.203	0.850***	0.804- 0.890	1.409***	0.824***	1.308- 1.517
<b>Never-married</b>	4.580***	3.943- 5.320	5.179***	4.325- 6.202	2.284***	2.011- 2.526	2.032***	2.182***	1.708- 2.417
<b>Wid./divorced</b>	3.289***	2.912- 3.710	3.124***	2.714- 3.595	2.588***	2.394- 2.79	1.271***	2.446***	1.107- 1.458
<b>With long-term illness</b>									
<b>1971-81</b>	0.753***	0.695- 0.815	--	11.521- 15.644	1.478***	1.385- 1.577	0.509***	1.284***	0.465- 0.558
<b>1981-91 (Ref).</b>	1.00		1.00		1.00		1.00		
<b>1991-2001</b>	0.781***	0.729- 0.836	0.608***	0.565- 0.655	0.899**	0.842- 0.960	0.869**	0.906**	0.797- 0.947
<b>N</b>	61,237		42162						

Source: Analysis of ONS Longitudinal Study data.

Table 5. Results from Poisson regression analysis of mortality by household type at start and end of relevant decade, 1981-85; 1991-95 and 2001-05, men and women, England and Wales.

	1981-85			1991-95			2001-05			
	Men	Women		Men	Women		Men	Women		
Age	IRR	95% C.I.	IRR	95% C.I.	IRR	95% C.I.	IRR	95% C.I.	IRR	95% C.I.
Tenant	1.04	1.04-1.05	1.04	1.04-1.08	1.03-1.04	1.03-1.04	1.04	1.04-1.04	1.08-1.09	1.08-1.09
<b>Household type at start of decade</b>										
Couple alone	1.04	0.99-1.10	0.99	1.00-1.08	1.03-1.14	1.03-1.14	0.97	1.00-1.08	1.18-1.33	1.15-1.26
Other family	1.04	0.94-1.15	0.99	0.93-1.04	0.93-1.11	0.93-1.11	0.96	0.93-1.02	0.90-1.08	0.97-1.10
Complex	1.02	0.92-1.17	0.93	0.87-1.01	0.87-1.09	0.87-1.09	0.96	0.89-1.04	0.88-1.13	0.90-1.08
<b>Household type at end of decade</b>										
Family/complex	1.08	0.90-1.16	0.98	0.91-1.05	0.86-1.10	0.86-1.10	1.01	0.95-1.09	0.81-1.09	0.94-1.13
Institution	1.91***	1.68-2.18	1.85***	1.72-1.99	1.98-2.29	1.98-2.29	2.80***	1.86-2.09	2.53-3.09	2.68-3.03
<b>Marital status</b>										
Single	1.04	0.99-1.17	0.98	1.08-1.22	0.98-1.16	0.98-1.16	1.10**	1.04-1.17	1.00-1.21	1.15-1.35
Widowed/divorced	1.10**	1.03-1.18	0.99	0.93-1.05	0.96-1.08	0.96-1.08	1.34**	1.09-1.66	1.09-1.66	1.00-1.15
<b>Number of deaths</b>	1162			1596			1705			
				1230			1204			

Source: Analysis of ONS Longitudinal Study data.