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Marital status of people aged 75 and over in nine EU countries in the period 2000–2030

Published online: 1 June 2006
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Abstract The marital status of older people has a number of socio-economic impacts. This paper presents key findings from a set of population projections for older people by age, sex and marital status for nine European countries. We use original data for national sources but we adjust the mortality and nuptiality rates for older ages by modelling existing cohort data. We then use robust assumptions for improvements in life expectancy at birth and we use these to constrain projection models. The projections refer to the period 2000–2030 and the following countries: Belgium, Czech Republic, Finland, France, Germany, Italy, The Netherlands, Portugal and The United Kingdom. Similar trends will occur in all countries; married people will account for most of the increase among those aged 75 and older by 2030, followed by divorced men and women, who exhibit the highest proportional increase.

Keywords Population projection · Mortality and nuptiality trends

Introduction

Over the past several decades a number of major changes in people's life courses have occurred in all western developed societies (Van de Kaa 1987) which have a continuing impact on their marital status. Important examples include greater longevity, more marital breakdown and a move away from marriage (Murphy and Wang 1999; Pinnelli 2001). These experiences have not been uniform across cohorts; while much discussion is based around the decline in partnership, those now reaching 75 years experienced an unprecedented

marriage boom around the 1960s having reached the prime marriage ages in that period, and they have a very different generational history compared with younger people who have experienced much lower marriage rates.

Older married people have a number of social, economic and physical advantages compared with formerly-married people (and also with never-married people, apart from women, where the evidence is more mixed). Recognition of the disadvantage of the non-married relative to the married is of long standing: William Farr, one and a half centuries ago, concluded from his analysis of French vital statistics that 'Marriage is a healthy estate' (Farr 1858). Married people have more income and wealth (Arber and Ginn 1991; Hauser 1997; Disney and Johnson 2001; Waite and Lehrer 2003); they have lower mortality (Goldman et al. 1995; Vallin et al. 2001); report higher levels of life satisfaction (Glenn 1975; Glenn and Weaver 1979; Diener et al. 2000) and are major providers of informal care. Therefore, understanding of trends in the marital status of the population is important for both social and economic reasons. While such advantages cannot be assumed to hold forever into the future, they are such long standing that it would be implausible that substantial differences between different marital status groups did not continue for some decades to come. This paper discusses a set of projections for the population aged 75 and over by sex, age and marital status for the period 2000–2030 for nine European Union countries: Belgium, Czech Republic, Finland, France, Germany, Italy, The Netherlands, Portugal and The United Kingdom (England and Wales only)—the eight EU-15 countries include 80% of the EU-15 population.

Projections of overall population numbers by age and sex are available at national, European and international level from a number of agencies such as Statistics Finland (Tilastokeskuks 2005), the Federal Statistical Office Germany (DeStat 2005) and the National Institute of Statistics in Italy (ISTAT 2005). Two of the most comprehensive sets of national level population

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projections in Europe are produced by Statistics Netherlands (CBS 2005) and the British Office for National Statistics (2004). Eurostat produces population projections for the EU countries intermittently (Eurostat 2005a), and international organisations such as the UN produce projections for all countries (UN 2005). However, these agencies do not usually make projections by marital status, with the exception of Britain (Office for National Statistics 2005) and The Netherlands (CBS 2005).

In order to set the main cross-national context, marriage has been in steady decline since the early 1970s. Overall, the crude marriage rate (per 1,000) in EU-25 declined by 40%, from 7.81 to 4.76 per 1,000, between 1973 and 2003 (Eurostat 2005b), indicating major changes in marriage patterns: for example in England and Wales, compared with 1971, there were only about half as many people marrying for the first time in 2001, 350,000 compared with 690,000. Over the period, the median age at first marriage increased substantially from 23.4 to 29.7 years for men, and from 21.4 to 27.7 years for women; the proportion of first marriages to women under age 20 decreased from nearly one-third to just 4% (Office for National Statistics 2003). This decline in marriage is due to a lower propensity to marry, associated with a move towards later age at marriage and some substitution of cohabitation for formal marriage, shifts in behaviour which would not necessarily mean that fewer people would ultimately marry, but it seems implausible that people who have not been marrying at young ages will do so at older ages in sufficient numbers to make up the short-fall. Thus it is likely that considerably higher proportions of people who will be in their 70s around 2031 (those now in their mid-40s) will never marry than was the case for the same age group today. We do not foresee any changes in the next one or two decades or so which would lead to a reversal of these long-standing marriage trends and given the lack of any observed tendency for the decline in marriage to be arrested, it is likely that *overall* marriage rates will continue to fall, at least in the short and medium term.

Marriage rates at older ages are rarely analysed, especially when compared with those at younger ages; indeed it is difficult to do so since data are not readily available: for example, Eurostat publishes first marriage rates by single year of age up to age 49, but no rates above this age (Eurostat 2005b), so we therefore briefly review the main trends. While marriage rates at young ages are declining almost everywhere, first marriage rates at older ages are generally increasing rather than falling in part because of past delays in marriage and also by couples converting their informal status to a formal one later in life. These trends are likely to continue into the future.

Re-marriage rates are even less readily available (e.g. little or no information from the main cross-national databases such as those of Eurostat, Council of Europe, INED or UNECE), but these have also tended to fall over the recent decades even among older people (e.g. CBS 2005; Office for National Statistics 2003; Prioux

2002) and the trend is still downwards or stable, even though re-marriage occurs at older ages on average. The great majority of re-marriages now involve divorced people, but re-marriage rates for both divorced people (many of whom would have divorced in the past precisely so that they could re-marry) and widowed people have fallen. On the other hand, divorce rates have been and continue to increase at all ages. Once more, we see no factors which would tend to reverse these re-marriage or divorce trends.

While we can trace the behaviour of these older groups, we cannot yet fully predict what will be the experiences in the 21st century of those who entered the marriage market from the 1950s to the 1980s, but we can make an estimate of what is likely to happen if full information about their actual experiences is combined with plausible and agreed assumptions about the future used in a consistent demographic model. The married, divorced, single (i.e. never married) and widowed populations in years to come will be determined by the number of people now married, divorced, single and widowed and by the events they will experience in years to come. Associated trends such as declines in re-marriage and the longer average length of time that divorced people spend in that state will also influence marital status distributions. However, sensitivity analyses show that forecasts of the numbers aged 75 and over who are in the married state in the next 30 years depend largely on two factors; the numbers now married (since relatively few will marry or divorce at older ages) and on their own and their spouses' mortality, rather than on future trends in marriage and divorce (at younger ages, nuptiality rates are, of course, the dominant determinants).

This paper focuses on the results of the projections exercise. It presents changes in total number of surviving people aged 75 and over by sex and marital status. It also discusses the basis for the assumptions used in projections, especially for cases where these assumptions were not in line with those of the corresponding official national projection.

Data and methods

We use a multistate demographic model for these projections, the LIPRO Model (Van Imhoff and Keilman 1991), which starts with a base population and applies appropriate assumed future transition rates to this population. A particular advantage of the model is that it permits the calculation of rates that are subject to constraints, such as to national control totals, and consistency requirements, such as the two-sex model, e.g. the number of men who marry must equal the number of women who do so and, of particular relevance for this application, the number of new widows equals the number of married men who die, in order to produce internally consistent results.

Since we concentrate on projections up to 2030 of those aged 75 and over, the base population consists of

those aged 45 and over in 2000. We do not need to consider younger ages in detail, since they are not members of the cohorts of interest, but they have a small residual effects in that, for example, the possibility of an older non-married person marrying depends on the total number of non-married people of the opposite sex or the death of a married person under age 45 may lead to the former spouse who may be over age 45 changing marital status (although in practice such effects are trivial for our analyses). Thus for projecting the future population aged 75 and over by marital status, the following base data are required for the nine European countries, population numbers broken down by: sex (males, females), age (in single years, 45, 46, ..., 99, 100 +) and de jure marital status (never married, married, divorced, widowed). The second requirement for making projections is data on transitions between marital statuses and mortality by marital status and how these evolve. LIPRO estimates transitions (jump intensities) by marital status, sex and age using base populations as denominators and vital registration data as numerators.

Country partners of the FELICIE project provided data by age, sex and marital status for the base population by de jure marital status and demographic events (marriage, divorce, widowhood, death) usually obtained from the corresponding national statistics office. The preferred date for the base year population was 1 January 2000, although mid-year or 2001 populations were used in some cases.

Base data by marital status up to high ages are available, but preliminary investigation suggested that data on events at older ages (especially at ages 90 and over) were unreliable and/or missing in almost all countries, and so we had to correct for this fact (we concluded that comprehensive accurate data were available only for The Netherlands). In order to address the problem of inaccuracy and missing data on mortality and nuptiality, we undertook a modelling exercise using the historical data, to calculate rates for all countries and ages 40 and over (insufficient data were available for including Portugal in this exercise, Murphy and Kalogirou 2004).

Statistical modelling procedures

We use a flexible regression modelling approach to estimate the main trends and levels in mortality and nuptiality rates, which uses the available data efficiently and treats all transitions consistently within a single framework. We therefore fitted a series of Generalised Additive Models (GAMs) (Hastie and Tibsharani 1990) to the mortality and nuptiality data for those aged 40 and over for each sex and country population. The GAM model is based on an iterative scatterplot smoothing algorithm, which obtains a preliminary smoothed value and uses this value to fit the model to obtain a better value, until the model converges to a smooth value with optimal statistical properties, taking

into account that the process is a binomial generalised linear model (GLM), rather than a standard linear model. Therefore, the model is an extension of a standard GLM, but with the added flexibility of not pre-specifying the form of the dependence with age or time, it has been used in a number of different areas in epidemiology (e.g. Bacchetti and Quale 2002; Katsouyanni et al. 2002; Lumley and Sheppard 2003).

The GAM logistic regression model is:

$$\text{logit}(m_{at}) = S(a) + S(t) + e_{at}$$

where m_{at} is the transition rate at age a in year t ; $s(a)$ and $s(t)$ are smooth non-parametric curves with no pre-specified form so that the data can 'speak for themselves', and e_{at} is a random error term. The transition rates can refer to either mortality or nuptiality rates (first marriage, re-marriage of the divorced and widowed, divorce and widowhood). Separate models are fitted in each country to each sex for mortality (separately for each of the four marital statuses) and nuptiality in the period 1980–2000 (or for the subset for which data are available, Table 1). Thus a common framework for nuptiality and mortality is employed, and it is possible to both estimate values in cases where data are missing (such as above 85 years in Germany or over 90 in Britain) and to minimise the issue of data errors in a particular country. These derived rates do not have the problems of the original data and therefore provide a better basis for forecasting.

As noted earlier, first marriage rates among older people are generally increasing, in contrast to ages below 40, where they are still declining over recent decades. In addition, re-marriage rates are generally declining, while divorce rates continue to increase over the whole period from 1980. We should emphasise that some results are fitted outside the observation period, and the number of countries and their relative contribution of explanation between different periods vary: such results should always be treated with caution, but data are more complete in the years preceding 2000, which is the primary focus of this study. These data do show the main contours of nuptiality and mortality among older populations in a number of European countries, and the models on which they are based produce values that are flexible and realistic, which we use in our analyses.

Results

For making projections, a scenario must be specified for how trends in nuptiality and mortality will evolve over the next three decades. We extrapolated the average rates of change over the period 1995–2000 after discussions with our FELICIE partners. We adjusted the rates to be consistent with the total number of deaths of the original event data (Murphy and Kalogirou 2004). These rates, which are shown in Table 2, were used as the basis of actual projection process which will now be described.

Table 1 Summary of data availability for modelling marital status

Country	Initial population base date for projections	Data included in modelling	Open ended age group for modelling
Belgium	1 January 1999	1993–1999	99 +
Czech Republic	1 January 2000	1986–2000	99 +
England and Wales	Mid-2001	1986–2000	89 (maximum age available)
Finland	1 January 2000	2000	99 +
France	1 January 2000	1986–2000	99 +
Germany	31 December 1999	1990–2000	85 (maximum age available)
Italy	1 January 2001	1995–1998	100 +
The Netherlands	1 January 2001	1986–2001	98 +
Portugal	1 January 2001	NA	NA

Country assumptions: mortality

During the period of this study, the latest available Eurostat projections were made in 1999, and are now obsolete (although revised ones are available since April 2005, Eurostat 2005a). We therefore obtained the latest national values for *overall* mortality and constrained our overall projections (all marital statuses combined) to match these trends. Almost all countries foresee life expectancy at birth around 2030 for men to be about 80 and 85 for women. There are, however, some variations in the anticipated level of improvement: France expects that e_0 for females in 2030 will be 88.3 years, whereas The Netherlands expects a value of 81.7. It seems unlikely that such a difference will exist in two such similar Western European countries, since this difference is similar in magnitude to that of e_0 for females currently

found between Denmark and Kazakhstan (WHO Europe 2005). We have, therefore, used rather higher rates of improvement than in the Dutch national projections and rather lower ones than in the French projections. Thus we retain the rankings between countries and the average overall level of mortality, but reduce the implausibly wide range on the independent national projections.

Our estimated trends in rates of mortality change suggest that the mortality of the married group, which is the lowest of all groups, has been improving faster than other groups (Table 2, note that the Italian data for divorced people reflect the very small number of such people in Italy, and we have amended these values).

Since there appears to be a generally similar underlying pattern across countries, and because we do not find compelling evidence that differentials of up to 2% in

Table 2 Assumed annual percentage rates of change of mortality rates and nuptiality rates after adjustment

Country	Decline in mortality rates by marital status							
	Females				Males			
	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed
Belgium	0.9	1.7	1.3	1.2	1.0	1.8	1.5	1.3
Czech Republic	1.3	2.1	1.9	1.6	1.4	2.2	1.8	1.4
England and Wales	0.8	1.6	1.4	0.9	1.2	2.1	1.9	1.4
Finland	1.4	2.2	1.9	1.7	1.6	2.5	2.3	1.6
France	1.2	2.0	1.7	1.4	1.5	2.1	2.0	1.4
Germany	1.7	2.5	2.2	1.8	2.0	2.6	2.6	1.9
Italy	1.4	2.2	1.5	1.7	1.8	2.5	2.0	2.2
The Netherlands	0.3	1.1	1.0	0.4	0.8	1.5	1.5	0.7
	Increase in nuptiality rates							
	Females				Males			
	First marriage	Re-marriage of divorced	Re-marriage of widowed		First marriage	Re-marriage of divorced	Re-marriage of widowed	
Belgium	0.4	−3.8	−2.0		0.9	−4.5	−0.9	
Czech Republic	−1.0	−2.1	−1.6		0.8	−3.0	−3.9	
England and Wales	1.2	−1.9	−0.2		2.2	−3.5	−1.8	
Finland	6.4	4.6	3.4		6.6	3.3	1.1	
France	3.5	1.0	2.5		4.9	0.1	1.3	
Germany	3.4	1.8	0.7		2.3	−0.3	−1.1	
The Netherlands	3.0	1.1	6.3		5.1	0.0	1.9	

annual changes in mortality rates between marital status groups are likely to continue for the next 30 years (which would lead to a difference of 100% after 30 years), we have maintained the observed pattern of differentials, but shrunk them towards an average value. We therefore assume that the observed trend in mortality differences by marital status will continue to increase with the married group reinforcing its advantage, but a lower rate than in recent years. We have set the maximum annual difference in rates of improvement in mortality by marital status at 0.8% within each sex and country group. These values are then proportionately adjusted in order to match with the overall assumed level of mortality, so retaining the rankings by marital status within each country, but reducing excessively wide ranges in some cases.

Country assumptions: nuptiality

In recent years, divorce rates have been increasing everywhere and first marriage rates among older people in countries such as Finland, France and The Netherlands (Table 2) but since levels of marriage and divorce are low among the groups we are concerned with, those aged 45 and over in 2000, the projections are therefore relatively insensitive to such developments. We have therefore continued the main trends in nuptiality observed over the period 1995–2000 (Table 2), but we have capped annual rates of change greater than 2% in absolute terms by assuming that these would move to an absolute value of 2% in 10 years time and then stay at that value for the remaining time period (Murphy and Kalogirou 2004).

Country assumptions: net migration

While there is a case for including migration in projections, few countries have reliable data for migration by marital status. The Dutch data are the only consistent set available, and for the year 2000, net migration of the age 45 and over group was estimated as 1,341 people out of a population of over 6 million. The England and Wales assumption in the recent 2002-based projections is that annual net migration of the 45 and over group will be about –1,000 people or 1 in 21,000 of this population for the next 50 years (Office for National Statistics 2004). The magnitude of such figures is well below the accuracy with which population size is measured and would be lost in the rounding of results presented later. Bearing in mind that many countries do not have reliable figures or defensible assumptions for older age marital-specific migration and that, in any case, the effect on number of older people is trivial, we therefore exclude migration from the analysis.

We have made our projections consistent with national official agencies' assumptions about overall mortality trends as of early 2004. The potential

variability of such national projections is shown by, for example, the fact that in December 2003, the official projection for the 75 and over population in England and Wales for 2031 was increased from the previous value of 6.27 million to 6.90 million, or an increase over the 2001 figure of 73% compared with the earlier figure of 57% (Office for National Statistics 2004). However, our main interest is in the likely marital status distribution of older people, so we compare the periods 2001 and 2031. These results are based on assumptions about future trends in mortality and nuptiality by sex, age, country and marital status. Changing either the absolute levels of these variables or their relativities (for example, decreasing sex or marital status mortality differentials) will alter the results. The results are more sensitive to mortality than to nuptiality assumptions since marriage and divorce rates at older ages are low, but in order to assess the sensitivity of our results to a range of mortality assumptions, we made a number of alternative projections of the French population over the period 2000–2030 (Kalogirou and Murphy 2005) in which we amended our principal projection assumptions as follows:

1. Reduced the initial mortality rates by 10%, but assumed that trends in all rate changes were the same, i.e. uniformly lower mortality levels over the projection period.
2. Mortality was assumed to be 0.5% lower cumulatively each year than in our principal results (thus lower by 14% by 2030), i.e. a gradually improving mortality pattern.
3. As with case 2, but this reduction applied to males only with female mortality as in the principal projection, so decreasing the sex differential in mortality.
4. Assume that mortality of all marital status groups improve at the same rate of 1.5% p.a., rather than the different ones used in the principal projection.

These assumptions produce different absolute numbers, of course, but the marital status distributions of the older population are very similar: for example, the proportion of French woman who will be widowed in 2031 varied between 37.5 and 43.7%, compared with the principal projection value of 39.7% and the base value of 62.7% in 2001. These alternatives represent a substantial range of possible variations in future trends, and we conclude that the marital status distribution of older people in Europe values presented here are robust to a range of assumptions about future mortality and nuptiality values.

The breakdown by marital status in absolute and proportionate terms in 2001 and 2031 is shown in Table 3. The number of those aged 75 and over will increase from 22.5 to 38.5 million in the nine Felicie countries, a total of 16 million people or a 70% increase. The largest proportionate changes are found among the divorced population, a fivefold increase for women and an eightfold increase for men. Since divorce rates are low at older

Table 3 Population aged 75 and over in 2001 and 2031, individual countries and all countries combined

Country	Year	Females					Males				
		Single	Married	Widowed	Divorced	All marital statuses	Single	Married	Widowed	Divorced	All marital statuses
<i>Numbers (000s)</i>											
All countries	2001	1,261	3,467	9,561	486	14,776	430	5,266	1,864	171	7,731
	2031	1,400	8,981	9,972	2,617	22,970	1,039	10,386	2,732	1,390	15,547
Belgium	2001	36	124	316	15	491	15	180	66	7	269
	2031	39	294	316	107	755	32	334	91	61	518
Czech Republic	2001	13	71	280	22	386	6	131	46	6	189
	2031	20	259	326	108	713	19	298	81	50	447
England and Wales	2001	187	638	1,595	81	2,501	98	907	406	44	1,456
	2031	197	1,521	1,405	588	3,711	182	1,660	547	322	2,711
Finland	2001	27	47	145	16	235	7	68	26	5	107
	2031	40	141	148	81	410	32	162	37	42	274
France	2001	220	724	1,765	104	2,814	111	1,088	316	40	1,555
	2031	370	1,866	1,919	677	4,831	241	2,179	412	317	3,148
Germany	2001	349	875	2,838	190	4,253	57	1,271	488	45	1,861
	2031	300	2,256	2,685	602	5,843	255	2,629	770	320	3,974
Italy	2001	329	693	1,946	23	2,991	106	1,184	362	10	1,661
	2031	334	2,037	2,382	274	5,028	213	2,334	573	187	3,307
The Netherlands	2001	53	154	398	28	633	17	228	82	12	339
	2031	58	398	407	129	993	49	502	129	66	746
Portugal	2001	47	140	278	8	473	13	209	70	3	295
	2031	41	209	384	51	686	16	288	92	25	422
<i>Distribution (%)</i>											
All countries	2001	9	23	65	3	100	6	68	24	2	100
	2031	6	39	43	11	100	7	67	18	9	100
Belgium	2001	7	25	64	3	100	6	67	25	3	100
	2031	5	39	42	14	100	6	64	17	12	100
Czech Republic	2001	3	18	73	6	100	3	69	25	3	100
	2031	3	36	46	15	100	4	67	18	11	100
England and Wales	2001	7	25	64	3	100	7	62	28	3	100
	2031	5	41	38	16	100	7	61	20	12	100
Finland	2001	11	20	62	7	100	7	64	25	5	100
	2031	10	34	36	20	100	12	59	14	15	100
France	2001	8	26	63	4	100	7	70	20	3	100
	2031	8	39	40	14	100	8	69	13	10	100
Germany	2001	8	21	67	4	100	3	68	26	2	100
	2031	5	39	46	10	100	6	66	19	8	100
Italy	2001	11	23	65	1	100	6	71	22	1	100
	2031	7	41	47	5	100	6	71	17	6	100
The Netherlands	2001	8	24	63	4	100	5	67	24	4	100
	2031	6	40	41	13	100	7	67	17	9	100
Portugal	2001	10	30	59	2	100	5	71	24	1	100
	2031	6	31	56	7	100	4	68	22	6	100

ages, this increase largely reflects the past experience of people now aged 75 and over compared with those now aged 45 and over who will be 75 and over in 30 years time. The smallest proportionate increases are found among widowed and single women, with little change in numbers expected, although the overall population in this age group will increase substantially, so they will form a smaller proportion of the total. The first part of Table 3 shows absolute values: while the numbers of older divorced people, especially women, will increase, married people account for the great majority of the increase, i.e. 11 million of the overall increase of 16 million. This is because of the higher levels of nuptiality experienced by these cohorts, which is more than sufficient to offset their higher divorce rates and because improved longevity leads to more time spent in married state at older ages, especially since reduced sex differentials in

mortality mean that more men will be alive so increasing the proportion of women who are married (of the 16 million increase, about half will be men and half women, although there were twice as many women as men in 2001). The next largest increase is among divorced people, over 3 million, with the numbers of widowed and never-married people showing much smaller increases. The numerical importance of the never-married and the divorced will reverse, with the latter group being considerably larger by 2031. The shift from being widowed to married will be particularly important for women. In 2001, 23% were married and 65% widowed; by 2031 we expect the figures to be 39 and 43%, respectively, whereas the proportion of men who are married will remain at about two-thirds.

Turning now to how these trends are likely to impact at national level, Table 3 also shows changes at individ-

ual country level, which are based on application of largely independently-estimated trends in mortality and nuptiality. The numbers involved vary according to country size, but the patterns, which are based on country-specific information, are broadly similar. For example, in all countries (apart from Portugal for which trend data were very sparse, Table 1) the proportion of women who are widowed will decline between 20 and 30% points, but with little or no change for men. Although the proportion of women divorced in 2031 is likely to vary considerably across countries, reflecting the different experiences of countries such as Finland and Italy in 2001, all countries might expect the proportion of women who are divorced to at least double, and the numbers to at least quadruple over the 30-year period. However, the increase in the population aged 75 and over in these countries is likely to be made up mainly of married people, with divorced people—especially women—forming the next largest group. We therefore conclude that these trends are pervasive across Europe.

Conclusions

This paper presents a summary of the key results of population projections of those aged 75 and over by marital status, age and sex for the nine Felicie countries over the next three decades.

We operationalised the above assumptions in order to produce the projections using a dynamic multi-state model approach. We note that even such basic data such as the population by age, sex and marital status, or the number of events experienced by those aged 75 and over were frequently not available. To overcome these limitations, we have checked, estimated and modelled data, which will inevitably lead to some potential inaccuracy in the projections, but are clearly better than using the raw data.

These results suggest that most of the increase among those aged 75 and older will be of married people by 2030 as well as a high proportionate increase of both divorced men and women. It is expected that similar trends will occur in all European countries.

The implications of these findings are that the proportion of older people with a spouse (who are, of course, primary care-givers in this age group) will increase much more quickly than those without a spouse for the next 30 years or so, although the numbers in both cases will increase. However, among those formerly married, the divorced will come to form an increasing proportion, rising from about 5% in 2001 to about 25% in 2031, and these people may have specific care needs, especially men who are much more likely to lose contact with their children. Studies from a number of societies show that divorced parents, particularly divorced fathers, have less contact with their adult children than parents of other marital statuses (Furstenberg et al. 1995; Dykstra 1998; Barrett and Lynch 1999; Tomassini et al. 2004). Adult children may feel less commitment to

a parent such as a father who was absent during their childhood.

The higher rates of marriage that were experienced by those who will be aged 75 and over in 2031 when they were young adults mean that the proportions never-married are particularly low compared with both those who went before and those who will come after them. For assessing care needs in decades to come, marital status projections which show that there will be much smaller increase among those without a spouse than those with a spouse, may suggest some shift in the proportion of care-giving towards that given by spouses and away from formal provision.

Associated with higher levels of marriage are higher levels of childbearing, and more of those aged 75 and over in the next 25 years or so will have children alive than earlier and later cohorts (for a detailed analysis of three of these countries, Britain, Finland and France, see Murphy et al. 2006). Thus these cohorts are likely to be doubly advantaged in terms of availability of close kin.

These trends are likely to have substantial implications for public provision, married people are much less likely to enter institutions than non-married people and spouses also are major caregivers in the community, so shifting the burden from public to private provision. A main finding is the substantial increase in the probability of a woman being married, there is likely to be relatively little change in the proportion of men who do so. While this might seem to suggest that women will benefit from these trends, there are also potential disadvantages to being an older married woman, and the numbers of both men and women who are married will increase by almost identical numbers, just over 5 million each. A number of investigations of differentials in health, rather than mortality, have found that at older ages never-married women have as good or better health than their married counterparts (Goldman et al. 1995; Murphy et al. 1997; Grundy and Sloggett 2003; Gardner and Oswald 2004). Thus the number of older women who will have a spouse in need of care will also increase and this can also be damaging for the health of the elderly spouse (Vitaliano et al. 2003). While on balance, the benefits of being married outweigh those of not being so, for many individuals, and disproportionately among women, the reverse is likely to be the case, and the state rather than the individual may well be the major beneficiary of these trends.

Acknowledgements This work is part of an European Commission project about the Future Elderly Living Conditions in Europe (FELICIE 2005). We thank the member of the FELICIE team for providing data and comments, and the Journal referees for their comments.

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