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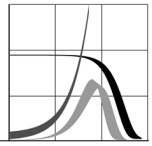

Health Status and Life Expectancy

A cross-country comparison based on the European Community Household Panel

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ABSTRACT

This study explores health profiles by marital status in six European countries with regard to self-perceived severe disability and addresses the theories of compression and expansion of morbidity. The Sullivan method is applied to age-specific death rates and age-specific prevalences of health states to statistically abstract the concept of health expectancy. Our analyses cover the years 1995 through 1999 and base upon the question "Person is hampered in daily activities by any physical or mental health problem, illness or disability" of the European Community Household Panel.

Our research links national mortality to morbidity schedules in order to draw conclusions about the evolution of health at various stages of the individual life span along the observation period. Since health profiles may vary considerably across marital states, the married, divorced, widowed and never married population has been analyzed separately. The demand for institutional care largely depends on the marital status of the elderly. In view of the associated panel attrition, we assume the results of the married population to be the least biased and thus use it as reference category.

We find a longevity advantage of the married population over its unmarried counterparts. Yet with respect to health, there is no evidence that any marital status is advantaged. The reported health status varies largely across countries. With great consistency throughout our analyses, people in Italy indicate the highest prevalence rates of good health and the highest healthy life expectancies, while people in Germany show the least favorable health profiles and the lowest healthy life expectancies.

Over the observation period, we find country-specific developments of health. For males and females in Germany, there is a tendency towards an expansion of morbidity. Meanwhile males and females in Italy give indication of a compression of morbidity. In the evolution of these divergent health trends in Europe, we attribute a decisive role to the variety of institutional designs and national policy regimes.

INTRODUCTION

Background

The interplay of life expectancy, health and functional status has already been realized and conceptualized fifty years ago, when it was argued that the achievement of prolonged life had to be accompanied by enhanced quality of life (Hauser 1953). In this line of thought and in consideration of the majority of European countries still experiencing significant decreases in mortality, an extension of the life expectancy concept to morbidity and disability seems appropriate to evaluate the actual quality of the life years gained (Robine et al., 2003). Serious doubts have been raised as to whether longer lives reflect a morbidity decline and better health in the surviving population (Verbrugge 1984). There is agreement that mortality reductions might be associated with an increased burden of morbidity interfering with public life and policy, common welfare, and current care arrangements (Robine et al., 2003). Since principally improved survival after the onset of chronic disease accounts for the overall decline in old age mortality, a decrease in the population vitality due to disability of survivors of chronic diseases appears conceivable (Crimmins et al. 1994; Deeg et al. 1994 in Mathers et al., 1994).

With differing mortality and morbidity schedules, improvements in mortality alone may imply increases in the years and the proportion of dependent life, and thus may lead to a higher prevalence of dependent individuals in the life table population. Declines in mortality at older ages were remarkable in the past few decades, however prevalence rates of at least modest disability have been found to rise simultaneously (Crimmins et al. 1994). Yet with some optimism one can assume the population to experience better health than in the past since healthier lifestyles and improved medical care may postpone or even prevent the onset of chronic disease and related disability (Robine et al., 2003).

In their review of global health surveys, Robine et al. (2003) come to the conclusion that the functional status of the elderly population has improved over the past three decades. The fall in old-age mortality contributed to a continuing increase in the proportion of over-65 survivors. Against this background, one would intuitively expect an increase in disability rates at the top of the age scale. Yet prevalence rates of disability remained fairly constant. Two hypotheses are raised by Robine et al. (2003): firstly, recent mortality declines are associated

with a redistribution of morbidity levels inducing, on the one hand, a decrease in the prevalence rates of severe disability and, on the other hand, an increase in the proportion of moderate disability. Thus changes in total disability rates would depend on the opposing development of moderate and severe disability. Hence disability free life expectancy seems to have evolved differently depending on the severity of the disability.

A decline has been observed for the most severe levels of disability which involve institutionalization and/or bed confinement, while there have been increases for the less severe levels of disability without ADL dependency (Robine et al., 2003). Secondly, constant prevalence rates of disability despite an ever-increasing elderly population may be attributed to a higher educational and training level among the most recent cohorts, which especially has impact on cognitive and instrumental activities of daily living (IADL) measures.

Obviously the relationship between morbidity, mortality and population health is complex. This intricacy is for instance illustrated by life and health expectancy differentials according to sex, marital status and socioeconomic background (Robine et al., 2003). There is an important interaction between health status and household structure, in particular at advanced age. According to Yi et al. (2003) living alone without nearby kin can cause or worsen ill health and disability. If one believes current projections, there will be an increasing percentage of non-married persons and the proportion of one-person households is also predicted to rise (Hullen, 2003). In the absence of informal support, the demand for social services, professional and institutional care increases. At the moment, the proportion of the elderly grows and current demographic trends do not suggest a trend reversal as to low fertility and nuptiality, which would ease the old-age dependency burden and eventually have a positive impact on informal care potential. Hence the costs of healthcare, elderly care and social services will remain high and account for 10 percent of gross national product in many countries (Yi et al., 2003). Accordingly, an estimation of the future elderly living arrangements and demand for care largely depends on household projections and future trends in health.

Definitions and Theories

The eventual social and economic burden arising from extended survival and population aging will largely be determined by the future development of morbidity (Doblhammer and Kytir, 2001). Three scenarios have been proposed concerning the future developments of mortality and health. The "expansion of morbidity" theory assumes that the increase in life expectancy is caused by a reduction in the fatality rate of chronic diseases rather than by a decline in the incidence of the disease (Gruenberg, 1977; Olshansky et al. 1991). The increase in life expectancy goes hand in hand with an increase of years spent in poor health. In contrast, Fries (1989) proposed the "compression of morbidity" scenario, which assumes that the onset of morbidity will be postponed, while the average lifespan will not exceed 85 years. This implies that morbidity will be compressed into an ever-shorter period at the end of life. The third theory was proposed by Manton (1982) and combines both the compression and expansion scenario. The "dynamic equilibrium" scenario implies that the increase in life expectancy will be associated with a redistribution of disease and disability from severe to moderate states. Life expectancy with severe disability will therefore decrease, while life expectancy with moderate disability will increase.

For the time being, severe disability free life expectancy in Australia, Canada, Japan, the USA, and United Kingdom approximately progresses in parallel with total life expectancy of both males and females, which means that the number of years lived with severe disability is slightly stagnating (Robine and Romieu, 1998). Yet with all disability combined, the trend does not look as favorable since health reviews of the above countries indicated that life expectancy without disability – all levels combined – has been sluggish recently. The life years gained might be spent with some level of disability (Robine and Romieu, 1998; Robine et al., 2003).

Definitions of health or morbidity are not very clear-cut and the magnitude of the future care volume will be largely affected by the health concept applied (Robine et al. 2003). Fanshel and Bush (1970) characterized health as a combination of current health status and prognosis, which refers to the probability of a health state transition over the life course. Fanshel (1972) further specified that the concept of health not only refers to the "ability to function now, but the outlook for future functional ability". Over the life course and the associated process of

aging, there is a deterioration in health and an increase in the likelihood of chronic disability as result of natural aging processes or the onset of chronic illnesses (Robine et al., 2003).

As for health, the definitions of disability are equivocal and it is usually referred to as a "generic term for a wide range of physical and cognitive problems" (Mayhew, 2001). A definition of disability, which is also supported by the World Health Organization (WHO) comprises the terms "impairment", "functional restriction" as result of impairment and "handicap" that affects the ability to participate in everyday activities (Mayhew, 2001). In practice, the methods and measures of estimating and comparing disability are contingent upon study purpose and result application. With a view to an estimation of long-term care, we find the model of disability based on morbidity and activity limitation most suitable since we hypothesize that levels of disability will be reflected in the need for formal personal care and in eligibility and acceptance of support (Jacobzone et al., 2000; Mayhew, 2001).

Relevance

The core policy question facing modern societies is the balance of the potentially conflicting length and quality of life (van de Water, 1993). For better policy guidance in an aging world, accurate, convenient and concise measures for the assessment of public health are essential. Equipped with these qualities, the health expectancy measure is an adequate indicator to help to design policy and thereby address this conflict (Robine, 2003). With its independence of population size and the age structure, it allows for a direct comparison of different countries and distinct population groups such as males and females, socio-professional and socioeconomic categories, as well as regions and nations (Jagger, 1997; Robine et al., 2001). As a result, health expectancy gives indication of the average number of years the population may be expected to live in a specific health state given that current patterns of mortality and health states persist (Mathers et al., 1994).

The greatest merit accords the healthy life expectancy measure as a tool for understanding the interaction of health status and length of life in actual populations and whether there is an expansion or compression of morbidity under way. Health expectancy may be visualized as a benchmark for measuring the achieved balance between increasing both the length of life and the quality of life (Robine et al., 2003).

METHODOLOGY

Research approach

This study explores health profiles by marital status across Europe on the basis of the European Community Household Panel (ECHP) for the years 1995 to 1999. A review of the elderly health status provides information about the life years spent in various states of good and bad health, and allows analyzing mortality reductions as to the proportion of remaining life spent free of disability and spent free of severe disability.

The underlying research of this paper has been produced in the framework of the FELICIE project (Future Elderly Living Conditions in Europe) which is funded under the EU Fifth Framework Program and involves teams from nine European countries working on demographic, socioeconomic and policy influences on the living arrangements and care needs of the population aged 75+ over the next 30 years. Research originating from the FELICIE framework gives priority to a Europe-wide coverage that pays tribute to the cultural diversity of the European Union, representing eight EU countries, plus an accessing one, with a nice balance between northern, southern and central Europe.

Health has improved in most countries in the recent decades and dependency has been postponed. Newcomers at old age will have probably benefited from higher survival, but it is uncertain whether gains in survival will be converted into equal gains in good health everywhere. The present paper gives a health account of the six countries Belgium, Germany, Finland, France, Italy and the Netherlands. Due to data restrictions, no evidence can be provided for the Czech Republic, Portugal and the United Kingdom, which are in fact part of the FELICIE research framework.

Analyses of health in the Czech Republic and Portugal failed due to insufficiencies in the national health surveys and life expectancy records, while ECHP data for the United Kingdom lacks a gradation of disability severity. With this paper putting main emphasis on a review of severe disability across countries, the combined disability measure conducted in the United Kingdom does not prove to be feasible.

The severe disability focus results from another peculiarity in the cross-national health records: data on self-perceived moderate disability in the ECHP suggests very large fluctuations across countries and marital states. Our opinion is that, perception and evaluation of a moderate health-related activity restriction is to a great degree dependent on the overall individual background in terms of self-autonomy, access to informal support systems and general attitude. In view of the large cross-group fluctuations in moderate disability and the intangibility of the influences bringing about these discrepancies, we in this paper focus on the peculiarities of severe disability across Europe.

Severe disability and the presumably conditional incapability of completing at least one activity of daily living may be interpreted as direct indicators of need of help and care. In such a situation of need, the availability of an informal support network is of great importance, in which most likely the spouse takes the bulk of care responsibility. In the absence of a partner or other kin, severe disability may eventually meet hospitalization in a care institution. Thus institutionalized care depends, among other factors, largely on the marital status of the elderly. Of course, incidence of ill-health and limitation in mental or physical functioning are important criteria to enter an institution, however with a given disability status, the risk of institutionalization varies and is subject to differences in marital status and living arrangements.

Marital status specific health analyses and care projections are aggravated by the fact that in many countries, marital status does not reflect the actual partnership status of the elderly. The divergence between partnership status and marital status is likely to increase in the future. This is also true for data on mortality, which suggests large differences by marital status with the married experiencing much lower mortality than the unmarried.

Given the interplay of health and social factors inducing institutionalization as well as the household design of the ECHP survey, the sample population is divided into the marital states married, divorced, widowed and never married. Of these, we assume the health profiles of the married population to give the most objective account of reality. Elderly married with health problems are likely to be taken care of by the spouse and thus remain in the survey, which prevents a falsified health improvement at advanced ages induced by panel attrition. Due to the unavailability of informal care by spouse or kin among the solitarily, the remaining three unmarried groups have a higher propensity to enter an institution in their need of help. As a

consequence, our major conclusions draw upon the health characteristics of the married sample population.

Limitations

In our analysis, we face a number of limitations in acquiring health measurements for the past from the ECHP survey data. The most important shortcomings include typically very small sample sizes among the elderly and high degrees of non-response and panel attrition. No information is available on the institutionalized population. The acquisition of consistent and comparable health measurements proves to be difficult across Europe (Martikainen & Nihtilä, 2004).

Beyond these classifiable data limitations of the ECHP, there are more subtle sources of error typical for self-reported health surveys that fall into the category of "respondent bias". Some of these factors include social desirability of under- or over-reporting level of health status, reluctance to use the extreme categories of the health scale or framing effects that relate to the organization and gradation of the answer choices. These factors suggest that even if questions are identical, the data collected on the same questions assessing health status may not be equivalent and thus difficult to compare (Sadana, 2000). Divergence in expectations and norms for health as well as biased judgmental processes may be furthermore responsible for inconsistent self-reporting of the individual health status. These perceptional differences are expected to occur across age, sex and other sub-population indicators such as socioeconomic status, levels of health insurance, other benefits or entitlements as well as the overall level of industrialization or economic development (Sadana, 2000). Within the scope of our analysis, we are not able to isolate the influence of the respondent bias but are aware of its potential to contribute to the gap between self-reported health status and objective health status.

Data and methods

First ideas to establish a single health indicator that reflects changes in the population health status over time have been proposed by Sanders (1964). A first method of calculation traces back to Sullivan (1971). This paper uses the *observed prevalence life table method* by Sullivan to statistically abstract the concept of health expectancy and bases upon existing age-specific death rates and age-specific prevalences of health states. The alternative approaches

double decrement life table method by Katz et al. (1983) and *multistate life table method* by Rogers et al. (1989) have been neglected due to advantages of the Sullivan method in the separate collection of mortality and disability data and the ready availability of the cross-sectional ECHP data (Robine and Romieu, 1998).

The calculation of healthy life expectancy is based upon the combination of age- and sex-specific prevalence rates of disability and period life tables. The disability data are taken from the waves 1995 though 1999 of the ECHP. The life tables fall back on information provided by the National Statistical Offices. For the Sullivan approach, we used the person years lived between the various ages of the life table and combined those with the prevalence rates of severe disability taken out of the ECHP. With the objective of drawing conclusions about the evolution of population health along the lifespan, we reviewed the ages 40-59 years, 60-74 years and 75+ years of the six European countries under observation. Since health profiles may vary considerably across marital states, evidence is given separately for the married, divorced, widowed and never married population.

Next to many disadvantages and limitations, one benefit of the ECHP is that the same health question “Person is hampered in daily activities by any physical or mental health problem, illness or disability” is asked in all countries. One has to keep in mind, however, that even when the same self-perceived health question is asked in all the FELICIE countries the differences in health may rather arise from different cultural perceptions of health than from actual differences in health.

The size of the ECHP sample population varies greatly among the countries reviewed. With reference to the start and end year of the observation period 1995 and 1999, Italy indicates by far the highest sample population with 17,780 and 15,401 subjects respectively. France follows with a number of 13,308 respondents in 1995 and 10,682 respondents in 1999. Germany suggests a sample population size with 12,000 subjects in both years of reference. Belgium indicates the lowest sample size with 6,454 subjects in 1995 and 5,021 subjects in 1999. Common to all countries is the gradual panel attrition, which imposes some caution when interpreting the results of the ECHP. The extent of panel attrition varies according to marital status and health. For example, in the countries Germany, and the Netherlands, the unmarried elderly display better health than the married. This result may rather arise from the marital status specific panel attrition than from real health advantages, because unhealthy and

unmarried elderly may have a higher likelihood of dropping out of the panel than unhealthy and married elderly.

RESULTS

Cross-country comparison of the married population

Healthy life expectancy

Across sex, age and marital status, Belgium and Italy reliably indicate the highest partial healthy life expectancy (see table 1). Among 40-59 year old married females, Italy displays the highest partial life expectancy (LE) of 19,76 years and shows the most favorable allocation of health states with 17,9 years in good health and only 0,6 years of severe disability. The total partial life expectancies of the remaining countries range only slightly below (19,65 years) yet health expectancies are considerably shorter (15,0 to 16,3 years). Germany is a special case: it has the lowest healthy partial LE of 11,3 years and is with 1,7 years among the highest LE with severe disability.

Total partial life expectancies for married females at 60-74 range around 14,0 years for all countries. Females in Italy are the comparably most advantaged. The national allocation of health states across the 60-74 age group varies greatly. Females in Belgium and Italy indicate healthy partial life expectancies of approximately 10,7 years. Germany and Finland display the least favorable health profiles with very low partial healthy LE (4,7 years and 6,6 years), and high LE with severe disability (both 2,4 years).

In the oldest age group of married females above 75, there is quite some range in the total partial life expectancies. Italy suggests 15,4 years, while most countries indicate a total partial life expectancy of 12,4 years and Germany is even farther behind. Also health profiles vary: for the majority of countries partial healthy LE ranges from 4,1 years to 7,3 years, while partial LE with severe disability is around 2,7 years to 4,9 years. The two extreme cases are Italy indicating with 8,5 years the highest life expectancy of good health and 4,3 years of severe disability, and Germany where partial healthy LE is at 1,4 years, while LE with severe disability ranges at 3,6 years.

A sex-specific comparison of the 40-59 health profiles reveals that males in fact have a lower overall partial LE, though compared with females, they spend a higher proportion of their life in good health. In all countries reviewed, males display a higher fraction of partial healthy LE than females, which usually amounts to a 0,4 to 1,0 year advantage for the males. However, this male lead does not hold for the older age groups, where females enjoy a higher life expectancy and also more years in good health.

Across all age groups of married males, Italy displays the highest partial healthy life expectancy, while their counterparts in Germany show the lowest partial healthy LE. The total partial LE for males is rather steady at 40-59 and 60-74 with approximately 19,5 years and 13,0 years respectively, yet displays greater range at 75+ with 11,7 years in Italy and 8,6 years in Germany.

Health ratio

Health ratios give information on the time spent in moderate and severe disability relative to the time spent in good health. Italy is usually advantaged in terms of good health, while Germany and Finland spend the relatively highest proportions in severe disability. Across sex and age group, married females and males in Germany always indicate the highest total health ratios of all countries under observation (see table 1).

The health ratios of severe disability among married females of 40-59 years are quite comparable. Four countries, namely Germany, Finland, Netherlands and France, suggest a health ratio of around 8% of severe disability, while Belgium and Italy indicate 5% and 3% respectively. At age 60-74, married females in Germany, Finland and France range around a 18% health ratio of severe disability compared to 10%-13% in Belgium, Italy and the Netherlands. At 75+, married and widowed females in Belgium and the Netherlands suggest an approximate severe disability health ratio of 24%, while females of both marital states in Italy indicate 28%. In Germany, France and Finland severe disability health ratios range around 38% for married and widowed females

Married males at 40-59 indicate similar health ratios than females. Males in Italy display a 3% severe disability ratio, while all other countries range around 8%. Among the 60-74, married

males in Italy, Belgium and the Netherlands a proportion of 10% spent in severe disability, while Germany, Finland and France indicate a severe disability ratio of 18%.

The severe disability picture is more differentiated at advanced age. At 75+, married males in Belgium indicate the lowest severe disability ratio of 17%, followed by the Netherlands and Italy with 20% and 23% respectively. Their counterparts in France and Germany spend a proportion of 35% in severe disability compared to Finland with 47%. Overall, married females and males suggest the most favorable severe disability health ratios, which is yet challenged in some countries at the most advanced ages.

Health ratio over time

During the periods 1995-96 and 1997-99, severe disability ratios among the married female population develop country-specific and suggest great trend differentiation at advanced ages (see table 1). Italy shows the most favorable health profile over time and age indicating the lowest severe disability ratios during 1995-96 and 1997-99 (3,6% and 2,6%). Germany performs rather unfavorably with the highest ratios in both periods of 9,3% in 1995-96 and 8,2% in 1997-99. Within this range, there are generally no major changes over time, yet slight decreases in the severe disability ratios of Belgium, Italy and Germany are observable. At 60-74, married females suggest the lowest severe disability ratio of 8,6% in 1995-96, which slightly increases to 8,8% in 1997-99. Only their counterparts in Italy perform comparably well with severe disability ratios of 12,4% and successive 9,0% over the two time periods. Married females in the remaining countries range around a 18,0% severe disability ratio level in 1995-96 and 1997-99. Over time married females in Italy, Finland and Germany indicate a trend towards less lifetime spent in severe disability, while the ratios of the Netherlands and France suggest the opposite. These country-specific developments over time can also be observed among married females at 75+. Yet at most advanced age, there is a considerable range between national severe disability ratios, so that national increases and declines in severe disability ratios relate to very different initial values. Married females in Finland for example indicate a relative decline from 50,2% in 1995-96 to 27,7% in 1997-99, while the severe disability ratio of their counterparts in Netherlands rises from 18,7% to 23,7% over the two time periods.

Among the married male population during the periods 1995-96 and 1997-99, severe disability health ratios evolve steadily and rather positively over time with the majority of countries suggesting declines or at least constancy (see table 1). The severe disability health ratios of males in Belgium, Italy and Finland develop most favorably over time and age. During 1995-96, married males in Italy at 40-59 indicate the lowest ratio of 3,3%, which further declines to 2,1% in 1997-99. Married males in Germany mark the highest end of the severe disability range in both periods with 9,7% in 1995-96 and 8,0% in 1997-99. Over time, Finland, Germany and Italy suggest declines in lifetime spent in severe disability. Meanwhile, the ratios for married males in the Netherlands, Belgium and France are constant. At 60-74, married males are comparably advantaged with a severe disability ratio of 8,7% in 1995-96 and 7,8% in 1997-99. Their counterparts in the Netherlands and Belgium also perform relatively well with ratios of 12,0% in 1995-96, which decline to 6,8% in Belgium while remaining constant in the Netherlands. Besides Finland and Germany indicate a trend towards less time spent in severe disability over time, yet married males in both countries have higher initial ratios. Severe disability ratios for married males at 75+ are rather differentiated, with males in Belgium ranging at the lowest end of the scale in both time periods with 18,3% in 1995-96 and 16,3% in 1997-99. Their counterparts in the Netherlands and Italy suggest comparably favorable ratios, while married males in Finland range at 51,6% in 1995-96 and 43,9% in 1997-99. Overall, married males in five countries at 75+ show a comprehensive trend towards reduced health ratios of severe disability, so that health of married males in old age can be assumed to have improved during the observation periods of 1995-96 and 1997-99.

Cross-country comparison of marital states

Healthy life expectancy

Healthy life expectancy tendencies observed among the married are similar for the divorced (see table 2). Among the 40-74 year old female and male population, Belgium and Italy indicate the highest partial LE and also the most favorable health profile. Belgium indicates very low proportions of severe disability, which decrease even further among the older age groups. Overall, the total partial life expectancies are lower than for the married, this is especially true for males and older age groups. No data of divorced 75+ in Italy has been available. Overall health observations among the divorced are well comparable with the

widowed (see table 2 and 3). However noteworthy is that males in the Netherlands enjoy the highest partial LE among the 40-59, however indicate the lowest partial LE among the 75+.

With respect to never married females, Italy consistently displays the highest or a very high partial healthy life expectancy (see table 4). Italian females indicate a healthy life expectancy of 16,0 years at age 40-59, of 11,5 years and 9,6 years respectively at 60-74 and of roughly 6,0 years at 75+. Also females in Belgium suggest a very good overall health profile with high proportions of good health, especially in old age. Among the 75+, they indicate by far the highest partial healthy LE of 10,1 years; severe disability is below 1,0 year of life expectancy. In all three age groups, never married females in Germany suggest an unfavorable health profile. At 40-59 and 60-74, a proportion of 2,2 years of their comparably low partial healthy life expectancies of respectively 10,1 years and 13,5 years are spent in severe disability.

The general trends identified for females also hold for males. Yet males generally indicate lower total partial life expectancies and lower healthy partial life expectancies than females (see table 2-4). Italy indicates the most favorable health profiles, while males in Germany and Finland are comparably disadvantaged with relatively few years spent in good health and a high proportion of life spent in severe disability. Belgium suggests very good health expectancies with very high partial healthy LE and very low partial LE with severe disability, particular in old age. In the youngest age group, males in France show comparably low partial LE, while ranging at the upper end of the scale among the 60-74 and 75+. Males in Italy always display one of the highest partial healthy LE but also the highest total partial LE.

Health ratio

There is no consistent health advantage of the married over the unmarried population. Yet in consideration of the greater coherence of the married severe disability health ratios as well as the lower extreme value level until age 74, we hypothesize a cross-national protective effect of marriage.

In a marital status specific comparison, severe disability is higher among divorced females (except for Italy), widowed and never married females in all countries than for the married. Yet these disadvantages are small and only amount to 2%-5% higher severe disability health ratios among the divorced and widowed (see table 2 and 3). The never married suggest greater

country-specific differences (see table 4). Thus never married females at 40-59 in Germany indicate 21% of severe disability, which leaves them disadvantaged by 12% versus the married. Meanwhile Finland, Belgium, France and Italy suggest only 4%-6% higher severe disability health ratios, and the Netherlands do not show any marital status related differences.

Across the various marital states, the health ratios of the widowed and never married females well compare with those of the married. Among the widowed, only females in France and Belgium differ noticeably with roughly 7% from the married. Health ratios of the never married females in Germany, Finland and Italy are not affected by marital status and indicate the same values as their married counterparts (see table 1-4). Meanwhile, never married females in Belgium and the Netherlands are disadvantaged by 11% and 6% respectively versus the married. France is the only country, where never married females at 60-74 suggest a 3% lower severe disability health ratio than the married. Lower health ratios than the married are also observable among divorced females in Germany, Finland and Italy, who are equally advantaged by 3%. The opposite is true for divorced females in France and Belgium who indicate suggest 5% and 16% higher severe disability health ratios than married females at 60-74 (see table 2).

In the older age group 75+, there is considerable data variability across countries and marital states, yet the widowed display an overwhelming health ratio consistency with the married (see table 1 and 3). Divorced females at 75+ in Germany, Belgium and the Netherlands spend relatively more time in severe disability than the married (see table 2). The differences range from 5,0% in Belgium to 19,0% in the Netherlands. In France and Finland, the divorced meanwhile display severe disability health ratios, which are 8% and 25% lower than for the married. Values for the never married are similar to those of the married in Finland and Italy, while being 6% to 13% lower than the married in France, Germany and Belgium (see table 1 and 4).

The national ranking of severe disability observed among females is well transferable to males. Italy and Germany are the two extreme points with the lowest and highest proportions of life spent in severe disability.

In a marital status comparison, the divorced and widowed suggest comparable values as the married with the exception of higher severe disability ratios among divorced males in France

(15%) and widowed males in Germany (23%) (see table 2 and 3). The never married suggest health ratios that are 4% to 10% higher than those of the married; only in the Netherlands and Belgium, marital status has no impact on disability (see table 4).

Across the various marital states at 60-74, males in Italy, Belgium and the Netherlands always indicate the lowest severe disability health ratios, which range independent of marital status around 10%. The remaining countries suggest higher severe disability health ratios, in particular France. Thus widowed and never married males in France indicate a ratio of 24%, and of even 32% among the divorced (see table 2-4). Meanwhile Finland and Germany suggest a 15% ratio among widowed males of 60-74 and a 18% ratio among the divorced (see table 2 and 3). The ratios for both countries among the never married are somewhat peculiar, since males in Finland suggest a health ratio of 31% of severe disability compared to 9% in Germany (see table 4).

Widowed males at 75+ suggest great consistency with the severe disability status of the married (see table 3). With the exception of Germany, where 23% of life are spent in severe disability, all countries display identical health ratios as the married. The severe disability profile for divorced and never married males at 75+ is rather peculiar, and health ratios display a great range across marital states and countries (see table 2 and 4). Consistent conclusions about marital status related disadvantages in terms of severe disability cannot be drawn. Among the never married, Belgium and France both suggest a severe disability health ratio of 22%, while Italy and Finland range around 35%, and Germany displays 55% (see table 4). However with the exception of a similar health ratio in Finland, these values are contradictory to those of the divorced males (see table 2). These have in Belgium a very low severe disability health ratio of 7% versus 18% in Germany and 31% in the Netherlands. With 49%, divorced males in France comparably spend the highest proportion of life in severe disability.

The health profiles of widowed females and males are best comparable with those of the married. Countries with very low severe disability ratios include Italy and Belgium, partially the Netherlands, while Finland and in particular Germany commonly suggest relatively high health ratios (see table 3).

Health ratio over time

In comparison with data of the married population over time, the three unmarried groups of both sexes indicate a greater data range and higher extreme values of severe disability ratios. Despite the usually larger amount of time spent in severe disability compared to the married, the country-specific developments of females and males over the observation periods 1995-96 and 1997-99 are similar.

At 40-59, never married females suggest the highest severe disability health ratios of all marital states and show a range of 8,8% (Italy) to 15,5% (Germany) in 1995-96 and 7,1% (Netherlands) to 23,0% (Germany) in 1997-99 (see table 4). Respectively, divorced females move on 2,8%-12,4% scale in 1995-96, which enlarges to a 1,5%-13,4% range in 1997-99 and is both times given by divorced females in Italy and the Netherlands. Meanwhile ratios for widowed females vary from 5,1% (Belgium) to 10,4% in Finland in 1995-96 and 2,7% (Belgium) to 16,6% (Germany) in 1997-99 (see table 2 and 3). Over time, females in Belgium and Italy show a decline in the proportion of life spent in severe disability independent of marital status. Meanwhile females in Germany suggest increases in the severe disability health ratio among the divorced, widowed and never married population. A development towards increased proportions of life spent in severe disability is also prevalent among females in the Netherlands (divorced and widowed) and France (widowed and never married).

With advanced age, the range and trend of severe disability ratios is more differentiated. During both periods under observation, never married females at 60-74 range between approximately 9,0% and 22,0% of lifetime spent in severe disability, while divorced and widowed females both indicate a by 4% higher range of severe disability ratios. Yet trends over time are consistent across marital status for some countries. Italy and Finland suggest declining severe disability ratios among all unmarried subgroups, while the Netherlands indicate a trend towards increased lifetime spent in severe disability (see table 2-4). At 75+ severe disability ratios range on a 2,2%-44,0% scale given by Belgium and Finland in 1995-96 and a 6,8%-35,9% scale given by Belgium and Germany in 1997-99 (see table 4). As for the 60-74, females at 75+ in Italy and Finland perform comparably well and suggest reductions in the severe disability ratios over time in almost all marital status groups (see table 2 and 3). The values for females in other countries evolve not as consistent over time and show contrary developments in the same marital status group at 60-74 versus 75+.

Males at 40-59 of all three unmarried marital states suggest a generally higher level, greater range and higher extreme values than their married counterparts. Independent of marital status, males in Belgium and Italy suggest decreases in the severe disability health ratio over time. This decrease is also true for the divorced and widowed in all other countries except Germany (see table 2 and 3). At the same time, never married males at 40-59 in the Netherlands and France indicate increased proportions of life spent in severe disability (see table 4).

At advanced age, married males in the most advantaged countries like Belgium and Italy are not always better or equally well off as unmarried males. This can be illustrated by the example of Belgium, where divorced males at 60-74, as well as divorced and widowed males at 75+ suggest lower severe disability health ratios than the married (see table 1-3). This convergence may be attributed to the marital status specific panel attrition prevalent in our analyses of the oldest old, which induces an artificial health improvement for the unmarried.

At 60-74, never married males indicate the greatest data range (see table 4). Accordingly, severe disability ratios vary from 7,6% in the Netherlands to 37,8% in Finland in 1995-96 and from 8,6% to 30,0% in the same two countries over the 1997-99 period. Meanwhile actual severe disability ratios and data ranges are smaller for divorced and widowed males (see table 2 and 3). Belgium and the Netherlands indicate decreases in the severe disability ratios over time among the divorced and widowed male population, whereas constancy among the never married. Widowed and never married males in Finland also suggest decreased severe disability ratios over time. Values for their counterparts in Italy evolve peculiarly and show decreases over time for the divorced, whereas increases for the widowed and never married.

Divorced and widowed males at 75+ indicate lower severe disability ratios as well smaller ranges than the married. For divorced males, the values vary from 14,5% in Belgium to 33,1% in the Netherlands in 1995-96, while ranging between 6,6% in Belgium to 44,3% in France during 1997-1999. The ratios for widowed males are comparable yet slightly higher versus the divorced (see table 2 and 3). Data for the never married appears somewhat unreliable with a number of values missing and a data range of severe disability ratios from 18,0% to 100,0% in 1995-96 (see table 4). In the 75+ age group, consistent trends over time

are only obvious for divorced and never married males in Belgium and Finland that indicate decreases in the severe disability health ratio over time.

DISCUSSION

With this paper we aimed at further empirical evidence concerning the questions how health profiles vary according to marital status and whether current increases in life expectancy are associated with good health. The realization of these goals has been challenged by a number of aggravations related to data availability, international comparability of results and cross-national differences in the perception of health status. Regardless of these limitations, we were able to give consistent evidence of self-perceived health according to marital status in six countries across Europe.

In conclusion, the married of 40-74 years in the majority of cases suggest a health advantage across age, sex and nationality. Yet with an inclusion of the oldest age group of 75+, none of the four marital states is particularly favored. With an international perspective, females and males in Italy consistently suggest very good self-perceived health profiles, while their counterparts in Germany and Finland self-assess their health comparably disadvantaged. Also noteworthy are the large health differentials across countries.

Over time, sex and place, Belgium and Italy indicate very good health profiles and suggest a slight trend towards a compression of morbidity into a shorter period of lifetime. Meanwhile, subjects in Germany self-assess their health relatively disadvantaged, which is reflected in unfavorable health profiles and gives indication of a slight expansion of morbidity over the observation period. For the remaining countries, consistent evidence in support of either the compression or expansion of morbidity theory is not feasible. In these countries, health profiles and trends vary considerably according to age, sex and marital status.

At this point, the question arises of whether the illustrated differences in health are real or whether institutional dissimilarities and perceptional differences across countries contribute to the international differentiation of health profiles. According to Kovar (1980), one fact to be taken into consideration when analyzing health surveys is that people respond according to the societal framework in which they live in. Thus the variety in institutional designs and national policy regimes may be decisive for divergent trends in health. In the case of generous

welfare systems where retirement for disability is socially acceptable, respondents are more likely to report about activity limitations than in other societies where retirement or disability benefits are rare.

As a matter of fact, disability policies and support systems in the countries under observation vary. In a southern country like Italy, we think that disability support is concentrated within the family or the community rather than in institutions. Contrarily, trends in northwestern Europe suggest that institutions and professional care providers have assumed a great deal of the total care volume, which is why we imagine the panel attrition to be greater in these countries compared to the South (also see Mayhew, 2001). Support for this thesis is provided by our findings on old-age health status in Italy and Germany, where among the 75+ the Italian elderly suggest a relatively disadvantaged health profile compared to the German sample. Yet the underlying reasons for national-specific approaches to elderly care do not only have their origin in the political setting of the country but are also a consequence of the cross-national perceptions of the family and the associated diversity in family composition and network-specifics, which also comes back to increased panel attrition of the unmarried.

The European System of Social Protection Statistics (ESSRPROS) categorizes social protection according to disability, old age related expenditures such as pensions and old age care, sickness and healthcare, survivors benefits, family and children allowances, benefits for the unemployed, housing benefits and social exclusion, i.e. income support (Mayhew, 2001). On a spend per capita basis, there are three clear groupings: countries with the highest per capita expenditures include Finland and the Netherlands, in the middle group are countries like Germany, France and Belgium, and at the low end range Italy (Mayhew, 2001). A high degree of social protection contributes to high expectations for the level of health as well as for the standards that distinguish good from fair health (Sadana, 2000). Accordingly not only does the realization of social protection regarding health and disability play a role in the perception and evaluation of health status but also the socioeconomic standard of the respondent and globally the relative prosperity of a nation. Sadana (2000) further states that individuals with increased socioeconomic characteristics may self-report worse health compared to individuals with lower socioeconomic standard. Since the ECHP is a representative household survey, we do not assume the national surveys to be largely biased by socioeconomic factors; rather the socioeconomic differences between countries might be reason for an unequal evaluation of a comparable health status.

Yet from another point of view, assuming that our results indeed give a realistic and true account of cross-national health profiles in Europe, it might be argued in reverse that even fully developed and expensive medical care systems do not assure high population health standards. Hence we have two possible explanations for unfavorable health profiles in highly developed societies with generous welfare systems: first, individuals in an economically affluent environment have higher expectations for their health and thus self-report comparably worse health status. Second, even though individuals have access to a sophisticated social protection network, this must not have a positive impact on health status. Since the latter argument conflicts with empiric epidemiological evidence (Manton et al., 1997, Gjonca et al., 2000), we attribute a major source of influence to the socioeconomic and institutional setting by which the self-reporting individual is surrounded.

Despite the harmonized cross-country design of the ECHP, the findings have shown that the standardization of questionnaires and calculation methods do not guarantee full comparability, since the examined events are biased by the different cultural backgrounds, and affected by the structure and organization of social and health services (Egidi, 2003). According to Guralnik and Schneider (1980), some caution has to be taken in assessing morbidity patterns among older persons since differences and changes in reporting disease may follow from diverse access to medical care or better medical treatment rather than from differences or improvement in actual population health.

Differentials in health and mortality in older age groups have been viewed associated with differences in socio-demographic and social-psychological characteristics such as marital status, household composition and social support (Grundy and Slogget, 2003). Advanced explanations of health differentials also attend to variations in access to medical care and information regarding health risks, health behavior (smoking, alcohol consumption, unhealthy diet and insufficient exercise), exposure to stress and environments not favorable to good health and longevity, and availability of social relationships and support (Smelser and Baltes, 2001). Evidence suggests that married people are most advantaged in terms of health, which may be linked to marital selection on basis of health criteria and marriage protection that involves a broad range of social, psychological, economic, and environmental benefits provided by the spouse (Grundy and Slogget, 2003). Also Smelser and Baltes (2001) argue that married persons, primarily in industrialized nations, have repeatedly demonstrated greater

longevity and experience better health than never married, divorced and widowed persons. Accordingly, the health advantage of the married population holds across time, place, gender, and age.

Contrarily, Goldman et al. (1995) suggest that never-married older women indicated better health than their married counterparts. While this may be attributed to more extensive social ties built up over the lifetime as an alternative to marriage, the health differential may also arise from an exclusion of the institutionalized in the analysis. This may well lead to biased results since the unmarried are commonly over-represented in institutions (Grundy and Slogget, 2003). In England, some 20% of the population aged 85 or above live in institutions (Grundy and Slogget, 2003). With the entry to an institution being strongly associated with health and marital status, an analysis of health differentials in the elderly will be biased if based on surveys that exclude the institutionalized population (Grundy and Glaser, 1997).

Despite the obvious disadvantages and limitations of the underlying data, this study makes a substantial contribution to demographic-epidemiological research by its classification of various European populations into four marital status groups and the international comparison of self-perceived health on the basis of an identical health survey question. The great variability of self-assessed health in Europe and the consequential national differences in healthy life expectancy have been illustrated and are both assumed to be associated with mainly cultural differences in the perception of health. Marriage protection and resultant health advantages among the married were cross-nationally demonstrated in particular among younger age groups.

Since self-perceived health can be interpreted as a realistic indicator of actual functional status and consequential care need, further research is required to explain differences in the self-assessment of health across populations and sub-population groups with different socioeconomic background. Further attention should be turned to the evolution of healthy life expectancy over time. An improvement in the population vitality may compensate for the graying of the industrialized world and will be a remedy for strained social security systems. Healthy aging is also a blessing for the individual elderly and may bestow a retirement in dignity and of high life quality.

For future demographic-epidemiological research, it is of vital importance to enhance the comparability of cross-national surveys and promote research on the oldest-old age segments. Particularly at advanced age, very small sample sizes, low degrees of comparability and the exclusion of the institutionalized population aggravate analyses of health. As a matter of fact, a reliable account of the population health status is infeasible. Yet dependable and down-to-earth health research is crucial to policymakers in order to take measures for a just social security and healthcare framework able to absorb future generations of dependants as well as promoting equity in health.

Appendix

Table 1: Results of Married Females and Males

40-59

Females Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	42,78	12,35	4,72	13,09	80,77	16,20	2,39	1,00	19,59	12,19%	5,12%	17,32%	5,30%	4,60%
Finland	43,39	12,29	6,67	20,22	72,98	14,20	4,11	1,39	19,70	20,86%	7,05%	27,91%	6,40%	6,80%
France	44,37	13,37	7,81	11,27	80,64	15,59	2,46	1,60	19,65	12,51%	8,13%	20,64%	7,60%	7,70%
Germany	40,86	9,95	7,23	27,68	48,15	11,31	6,61	1,71	19,63	33,68%	8,69%	42,37%	9,30%	8,20%
Italy	46,78	15,37	3,54	8,41	87,93	17,90	1,25	0,61	19,76	6,31%	3,09%	9,40%	3,60%	2,60%
Netherlands	42,66	12,39	8,10	16,24	75,65	14,81	3,16	1,65	19,62	16,09%	8,42%	24,52%	8,20%	8,20%

Males Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	37,03	9,45	5,41	9,36	83,94	16,61	1,64	1,09	19,34	8,49%	5,62%	14,11%	5,70%	5,20%
Finland	37,80	9,56	6,98	18,02	74,94	14,49	3,57	1,40	19,46	18,35%	7,19%	25,54%	8,30%	6,50%
France	37,82	10,33	7,24	9,29	83,18	15,88	1,94	1,46	19,28	10,06%	7,57%	17,63%	6,90%	7,40%
Germany	36,64	8,63	7,22	23,61	51,77	12,27	5,45	1,66	19,38	28,14%	8,59%	36,72%	9,70%	8,00%
Italy	40,53	11,67	3,01	7,63	89,14	17,86	1,21	0,51	19,58	6,16%	2,61%	8,76%	3,30%	2,10%
Netherlands	37,33	9,20	6,84	14,56	78,55	15,31	2,78	1,41	19,50	14,27%	7,21%	21,47%	6,80%	7,20%

60-74

Females Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	42,78	12,35	9,21	17,47	72,20	10,47	2,24	1,35	14,05	15,93%	9,58%	25,50%	8,60%	8,80%
Finland	43,39	12,29	16,67	36,70	46,63	6,59	5,19	2,41	14,18	36,57%	17,00%	53,56%	18,70%	15,90%
France	44,37	13,37	18,54	21,49	59,64	8,28	3,26	2,68	14,22	22,92%	18,87%	41,79%	17,00%	19,70%
Germany	40,86	9,95	13,69	40,40	27,85	4,66	6,92	2,43	14,01	49,43%	17,33%	66,76%	17,20%	16,10%
Italy	46,78	15,37	11,18	17,70	70,76	10,50	2,22	1,60	14,32	15,52%	11,17%	26,69%	12,40%	9,00%
Netherlands	42,66	12,39	12,73	24,20	63,07	8,99	3,16	1,83	13,97	22,60%	13,07%	35,66%	11,70%	13,40%

Males Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	37,03	9,45	9,58	17,72	71,01	9,66	2,16	1,19	13,01	16,62%	9,12%	25,73%	0,115	0,068
Finland	37,80	9,56	16,91	31,19	51,85	6,85	4,14	2,24	13,22	31,28%	16,94%	48,23%	0,2	0,158
France	37,82	10,33	17,28	20,57	61,75	8,04	2,87	2,24	13,14	21,82%	17,01%	38,83%	0,172	0,166
Germany	36,64	8,63	14,50	38,79	30,05	4,56	6,09	2,33	12,98	46,92%	17,95%	64,87%	0,181	0,168
Italy	40,53	11,67	9,06	15,59	74,94	10,42	1,91	1,17	13,50	14,15%	8,65%	22,80%	0,087	0,078
Netherlands	37,33	9,20	12,25	23,83	63,92	8,39	3,04	1,58	13,01	23,39%	12,14%	35,54%	0,111	0,127

75+

Females Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	42,78	12,35	24,09	24,46	50,10	7,31	2,30	2,73	12,35	18,64%	22,12%	40,77%	25,30%	21,50%
Finland	43,39	12,29	33,43	31,96	34,03	4,05	3,58	4,71	12,34	29,00%	38,19%	67,19%	50,20%	27,70%
France	44,37	13,37	30,57	30,77	38,53	4,12	4,35	4,90	13,37	32,53%	36,64%	69,18%	26,70%	33,20%
Germany	40,86	9,95	28,76	41,79	13,55	1,38	4,96	3,61	9,95	49,89%	36,26%	86,16%	38,70%	31,00%
Italy	46,78	15,37	23,40	21,83	54,35	8,46	2,58	4,34	15,37	16,75%	28,23%	44,99%	22,50%	22,60%
Netherlands	42,66	12,39	20,93	31,62	47,45	5,36	4,15	2,88	12,39	33,50%	23,25%	56,75%	18,70%	23,70%

Males Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	37,03	9,45	17,36	19,67	61,37	6,22	1,63	1,60	9,45	17,26%	16,97%	34,23%	18,30%	16,30%
Finland	37,80	9,56	45,91	31,46	22,63	2,18	2,95	4,47	9,60	30,74%	46,53%	77,27%	51,60%	43,90%
France	37,82	10,33	32,67	26,66	40,09	3,71	2,99	3,64	10,33	28,94%	35,18%	64,12%	33,00%	34,00%
Germany	36,64	8,63	28,96	36,98	17,91	1,87	3,79	2,97	8,63	43,94%	34,36%	78,29%	35,00%	33,60%
Italy	40,53	11,67	22,20	20,86	56,87	6,70	2,26	2,70	11,67	19,39%	23,17%	42,56%	24,00%	20,00%
Netherlands	37,33	9,20	19,76	20,74	59,50	5,46	1,90	1,83	9,20	20,70%	19,92%	40,62%	21,40%	17,90%

Table 2: Results of Divorced Females and Males

40-59

Females Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,45	10,95	9,67	14,16	73,77	14,61	2,96	1,74	19,31	15,32%	9,01%	24,33%	9,90%	7,60%
Finland	40,35	10,98	8,14	26,89	64,57	12,39	5,32	1,71	19,43	27,41%	8,80%	36,21%	8,80%	7,90%
France	41,41	11,65	10,12	9,88	79,74	15,40	2,07	1,99	19,46	10,63%	10,23%	20,87%	9,60%	9,40%
Germany	37,79	8,94	8,37	23,10	49,72	11,86	5,51	2,00	19,37	28,45%	10,31%	38,76%	7,10%	12,40%
Italy	44,21	13,86	2,40	4,23	93,36	18,46	0,71	0,47	19,64	3,64%	2,39%	6,03%	2,80%	1,50%
Netherlands	39,41	11,29	12,26	21,87	65,69	12,61	4,17	2,57	19,35	21,55%	13,27%	34,82%	12,40%	13,40%

Males Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,89	8,08	8,81	11,93	77,32	14,29	2,53	1,77	18,59	13,63%	9,51%	23,13%	10,80%	7,70%
Finland	30,61	7,93	7,48	23,52	69,00	12,60	4,32	1,33	18,25	23,64%	7,30%	30,94%	8,20%	7,20%
France	32,22	9,02	14,30	9,97	75,49	13,52	1,99	2,80	18,32	10,89%	15,31%	26,20%	14,10%	14,70%
Germany	30,70	7,62	5,36	20,68	56,31	12,65	4,57	1,16	18,38	24,86%	6,32%	31,18%	3,20%	8,90%
Italy	37,35	10,98	5,15	7,34	85,67	16,66	1,89	0,62	19,17	9,88%	3,22%	13,11%	5,70%	3,00%
Netherlands	32,72	8,05	9,08	15,10	75,82	14,24	3,03	1,59	18,86	16,09%	8,43%	24,52%	10,40%	7,70%

60-74

Females Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,45	10,95	25,40	19,54	53,08	7,03	2,48	4,08	13,59	18,23%	30,03%	48,26%	32,40%	22,80%
Finland	40,35	10,98	14,39	41,73	43,87	6,01	5,89	1,87	13,77	42,75%	13,59%	56,34%	26,60%	9,70%
France	41,41	11,65	23,52	23,83	51,90	6,87	3,66	3,37	13,90	26,31%	24,26%	50,58%	17,60%	25,80%
Germany	37,79	8,94	10,57	42,12	32,30	4,93	6,68	1,79	13,40	49,83%	13,36%	63,20%	11,40%	13,00%
Italy	44,21	13,86	12,05	11,10	72,16	10,88	2,10	1,07	14,05	14,93%	7,63%	22,56%	13,40%	4,90%
Netherlands	39,41	11,29	15,31	30,77	53,92	7,36	4,10	1,94	13,40	30,60%	14,48%	45,08%	10,90%	16,00%

Males Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,89	8,08	12,46	14,20	73,34	9,18	1,77	0,95	11,90	14,89%	7,96%	22,85%	16,80%	4,80%
Finland	30,61	7,93	21,97	34,88	43,15	4,73	4,86	2,10	11,69	41,58%	17,96%	59,53%	16,10%	24,00%
France	32,22	9,02	30,10	26,34	43,57	4,88	3,37	3,87	12,12	27,81%	31,90%	59,72%	31,80%	33,30%
Germany	30,70	7,62	14,17	39,19	32,12	4,53	5,04	1,99	11,56	43,61%	17,20%	60,81%	16,70%	16,50%
Italy	37,35	10,98	12,06	7,52	80,43	10,59	1,08	1,26	12,93	8,39%	9,74%	18,13%	13,50%	7,80%
Netherlands	32,72	8,05	10,97	24,85	64,18	7,82	2,95	1,16	11,93	24,74%	9,69%	34,43%	13,30%	7,80%

75+

Females Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,45	10,95	25,11	40,69	34,20	2,77	5,21	2,97	10,95	47,61%	27,12%	74,74%	37,10%	13,30%
Finland	40,35	10,98	19,11	46,95	33,94	5,96	3,62	1,45	11,03	32,83%	13,16%	45,99%	No value	23,20%
France	41,41	11,65	29,09	32,78	38,13	4,26	3,98	3,40	11,65	34,18%	29,22%	63,40%	37,90%	21,20%
Germany	37,79	8,94	41,54	34,63	11,13	1,11	3,59	4,24	8,94	40,18%	47,45%	87,63%	54,10%	44,20%
Italy	44,21	13,86	15,86		84,14	0,00	0,00	0,00	0,00	0,00%	0,00%	0,00%	26,10%	21,30%
Netherlands	39,41	11,29	46,87	26,50	26,62	3,35	3,18	4,75	11,29	28,19%	42,11%	70,30%	55,00%	39,00%

Males Divorced	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,89	8,08	8,71	34,56	56,73	5,23	2,27	0,57	8,08	28,10%	7,11%	35,21%	14,50%	6,60%
Finland	30,61	7,93	23,24	19,87	56,89	2,86	2,10	2,99	7,95	26,41%	37,59%	64,00%	36,20%	16,60%
France	32,22	9,02	35,06	28,74	34,55	1,93	2,68	4,41	9,02	29,73%	48,93%	78,65%	25,90%	44,30%
Germany	30,70	7,62	13,44	59,70	9,55	1,62	4,61	1,39	7,62	60,52%	18,20%	78,72%	No value	41,80%
Italy	37,35	10,98		20,88	79,12	0,00	0,00	0,00	0,00	0,00%	0,00%	0,00%	No value	No value
Netherlands	32,72	8,05	32,34	23,60	44,06	3,91	1,66	2,48	8,05	20,63%	30,82%	51,45%	33,10%	30,00%

Table 3: Results of Widowed Females and Males

40-59

Females Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,70	11,28	4,10	16,83	78,42	16,78	1,88	0,60	19,26	9,77%	3,12%	12,89%	5,10%	2,70%
Finland	40,71	11,29	9,59	25,38	65,03	13,34	4,34	1,72	19,40	22,39%	8,85%	31,24%	10,40%	9,30%
France	41,51	12,45	10,04	12,45	77,23	15,58	1,85	1,86	19,29	9,59%	9,66%	19,24%	6,10%	13,30%
Germany	39,34	10,04	10,96	32,97	37,01	10,17	7,00	2,20	19,37	36,12%	11,36%	47,49%	9,50%	16,60%
Italy	44,19	13,60	6,92	13,16	79,72	16,96	1,83	0,82	19,61	9,33%	4,20%	13,53%	8,10%	4,10%
Netherlands	39,83	11,20	7,00	17,93	75,07	15,49	2,01	1,87	19,37	10,40%	9,65%	20,04%	7,10%	9,50%

Males Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,82	8,14	8,08	13,74	74,54	17,08	0,71	0,71	18,49	3,82%	3,82%	7,64%	10,20%	4,40%
Finland	31,81	8,54	0,99	16,24	82,77	15,57	2,31	0,33	18,22	12,71%	1,84%	14,54%	No value	1,40%
France	30,78	9,06	16,08	13,95	69,97	13,22	2,28	2,32	17,83	12,81%	13,04%	25,84%	21,10%	13,00%
Germany	31,71	8,07	35,89	23,75	23,65	8,33	5,96	4,23	18,52	32,17%	22,85%	55,03%	29,80%	53,30%
Italy	36,09	10,27	5,90	6,78	87,32	17,54	0,84	0,51	18,90	4,45%	2,72%	7,18%	9,20%	2,70%
Netherlands	33,42	8,02	9,33	11,92	78,74	16,90	0,99	1,13	19,02	5,22%	5,94%	11,15%	12,80%	6,50%

60-74

Females Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,70	11,28	16,08	20,61	62,22	9,32	2,19	2,11	13,63	16,07%	15,51%	31,58%	16,40%	18,10%
Finland	40,71	11,29	21,02	30,73	47,90	6,97	4,14	2,77	13,88	29,87%	19,94%	49,80%	23,70%	20,10%
France	41,51	12,45	25,93	20,66	53,20	7,37	2,97	3,57	13,91	21,38%	25,64%	47,02%	26,90%	25,80%
Germany	39,34	10,04	14,85	36,74	29,90	5,05	6,21	2,44	13,70	45,31%	17,79%	63,10%	17,20%	18,80%
Italy	44,19	13,60	12,70	19,56	67,65	10,25	2,43	1,46	14,14	17,20%	10,35%	27,55%	11,30%	10,60%
Netherlands	39,83	11,20	13,31	24,06	62,52	9,26	2,83	1,48	13,58	20,86%	10,93%	31,79%	13,00%	13,60%

Males Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,82	8,14	13,64	26,19	58,09	7,19	3,04	1,69	11,92	25,48%	14,19%	39,67%	15,00%	12,10%
Finland	31,81	8,54	16,02	38,76	45,22	5,44	5,07	1,62	12,13	41,81%	13,35%	55,16%	28,50%	11,50%
France	30,78	9,06	26,76	24,25	48,16	5,91	3,03	2,98	11,92	25,38%	25,03%	50,41%	27,40%	26,90%
Germany	31,71	8,07	12,66	32,17	38,74	5,85	4,19	1,80	11,84	35,40%	15,22%	50,61%	14,50%	15,30%
Italy	36,09	10,27	8,81	14,53	76,19	10,06	1,82	0,95	12,82	14,17%	7,37%	21,54%	7,30%	8,20%
Netherlands	33,42	8,02	9,15	17,07	73,77	8,88	2,08	1,14	12,10	17,16%	9,45%	26,61%	11,30%	9,30%

75+

Females Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,70	11,28	24,37	21,93	51,85	6,08	2,31	2,90	11,28	20,43%	25,68%	46,11%	26,80%	21,30%
Finland	40,71	11,29	38,23	31,61	30,16	3,38	3,52	4,46	11,35	30,99%	39,25%	70,24%	42,30%	36,70%
France	41,51	12,45	34,66	30,40	34,48	4,15	4,00	4,30	12,45	32,13%	34,56%	66,69%	34,90%	35,70%
Germany	39,34	10,04	33,72	35,53	12,22	1,63	4,38	4,04	10,05	43,59%	40,19%	83,78%	39,90%	41,80%
Italy	44,19	13,60	29,08	20,96	49,60	7,29	2,48	3,84	13,60	18,20%	28,21%	46,42%	29,00%	27,90%
Netherlands	39,83	11,20	23,19	28,20	48,50	5,58	3,07	2,55	11,20	27,40%	22,77%	50,17%	22,10%	23,40%

Males Widowed	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,82	8,14	15,60	27,37	54,50	4,67	2,12	1,36	8,14	26,00%	16,69%	42,70%	14,70%	16,50%
Finland	31,81	8,54	49,80	28,35	21,86	2,01	2,33	4,25	8,59	27,13%	49,48%	76,61%	49,30%	49,90%
France	30,78	9,06	39,63	23,43	36,49	3,41	2,31	3,34	9,06	25,48%	36,84%	62,33%	41,40%	36,20%
Germany	31,71	8,07	18,97	38,39	22,34	3,15	3,05	1,87	8,07	37,79%	23,14%	60,93%	27,90%	20,60%
Italy	36,09	10,27	26,78	25,98	47,25	5,65	2,33	2,29	10,27	22,69%	22,27%	44,96%	26,70%	24,30%
Netherlands	33,42	8,02	20,20	26,20	53,60	4,54	2,12	1,37	8,02	26,36%	17,11%	43,47%	16,70%	18,70%

Table 4: Results of Never Married Females and Males

40-59

Females N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,75	11,58	12,12	16,61	68,70	13,66	3,52	2,07	19,25	18,28%	10,77%	29,05%	11,50%	9,20%
Finland	39,50	10,93	10,29	21,89	67,82	12,48	4,71	2,15	19,34	24,34%	11,14%	35,48%	10,80%	10,10%
France	41,15	12,30	12,08	12,78	74,72	13,82	2,83	2,69	19,34	14,65%	13,90%	28,55%	11,40%	12,80%
Germany	38,67	9,81	17,03	23,39	45,45	10,07	5,26	4,02	19,35	27,20%	20,78%	47,98%	15,50%	23,00%
Italy	43,13	13,35	8,97	10,53	80,02	16,08	1,84	1,62	19,54	9,44%	8,29%	17,73%	8,80%	7,80%
Netherlands	39,35	11,40	7,69	21,94	70,38	13,41	4,26	1,61	19,28	22,11%	8,34%	30,45%	9,40%	7,10%

Males N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 40-59	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,90	8,41	5,54	14,08	79,21	15,11	2,54	0,88	18,52	13,72%	4,73%	18,44%	0,054	0,038
Finland	30,48	7,85	9,33	19,94	70,73	12,02	3,80	2,53	18,35	20,68%	13,80%	34,48%	0,1	0,091
France	31,85	9,32	16,42	12,73	70,18	12,21	2,81	3,27	18,28	15,38%	17,86%	33,24%	0,148	0,176
Germany	31,80	8,44	11,13	24,87	49,47	10,38	5,50	2,60	18,48	29,76%	14,07%	43,83%	0,165	0,109
Italy	36,41	10,70	7,34	8,81	83,46	16,16	1,61	1,26	19,03	8,44%	6,64%	15,08%	0,073	0,061
Netherlands	32,51	8,11	5,28	19,45	74,92	13,68	3,97	1,19	18,85	21,09%	6,32%	27,40%	0,046	0,053

60-74

Females N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,75	11,58	20,24	26,87	52,89	7,39	3,40	2,79	13,59	25,05%	20,54%	45,59%	19,90%	21,80%
Finland	39,50	10,93	16,52	33,14	50,34	6,80	4,67	2,08	13,55	34,46%	15,35%	49,81%	20,70%	14,90%
France	41,15	12,30	18,33	20,17	61,50	8,29	3,25	2,24	13,78	23,56%	16,24%	39,80%	15,40%	19,70%
Germany	38,67	9,81	12,92	33,43	34,33	5,79	5,71	2,05	13,55	42,13%	15,15%	57,28%	20,40%	12,70%
Italy	43,13	13,35	9,53	12,25	78,22	11,51	1,15	1,30	13,96	8,24%	9,30%	17,54%	10,00%	8,70%
Netherlands	39,35	11,40	19,91	24,12	55,97	7,99	2,93	2,53	13,46	21,80%	18,82%	40,62%	19,20%	20,10%

Males N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 60-74	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,90	8,41	12,10	19,63	66,91	8,56	2,18	1,18	11,91	18,27%	9,88%	28,15%	10,50%	9,90%
Finland	30,48	7,85	32,13	33,11	34,76	4,10	3,87	3,55	11,52	33,63%	30,82%	64,45%	37,80%	30,00%
France	31,85	9,32	21,78	21,03	56,85	6,76	2,43	2,76	11,94	20,31%	23,07%	43,39%	22,30%	23,30%
Germany	31,80	8,44	8,42	33,07	44,84	5,65	5,13	1,12	11,90	43,10%	9,42%	52,52%	No value	14,00%
Italy	36,41	10,70	14,83	16,97	67,10	9,05	2,07	1,64	12,76	16,25%	12,84%	29,09%	10,40%	14,60%
Netherlands	32,51	8,11	8,10	23,65	68,26	8,52	2,38	0,95	11,86	20,08%	8,05%	28,13%	7,60%	8,60%

75+

Females N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	39,75	11,58	4,66	10,91	77,13	10,06	0,53	0,99	11,58	4,61%	8,54%	13,15%	2,20%	6,80%
Finland	39,50	10,93	32,70	43,39	23,91	2,61	4,01	4,39	11,01	36,43%	39,89%	76,32%	44,00%	29,20%
France	41,15	12,30	33,94	35,67	28,98	3,86	4,59	3,85	12,30	37,30%	31,33%	68,63%	38,30%	28,50%
Germany	38,67	9,81	28,84	31,04	26,21	2,58	4,64	2,59	9,81	47,34%	26,38%	73,72%	27,90%	35,90%
Italy	43,13	13,35	27,02	24,66	47,40	6,90	3,08	3,38	13,35	23,03%	25,29%	48,33%	26,00%	24,10%
Netherlands	39,35	11,40	32,91	30,71	35,22	4,39	3,27	3,74	11,40	28,66%	32,78%	61,44%	36,60%	30,30%

Males N Married	e40	e75	Prevalence Severe Dis	Prevalence Moderate Dis	Prevalence Good Health	LE healthy	LE moderate disability	LE severe disability	Total LE 75+	HR 95-99 Moderate	HR 95-99 Severe	HR 95-99 Total	HR 95-96 Severe	HR 97-99 Severe
Belgium	31,90	8,41	23,31	45,91	26,99	3,01	3,52	1,88	8,41	41,85%	22,31%	64,17%	25,50%	17,10%
Finland	30,48	7,85	34,67	46,15	19,18	1,18	3,73	2,94	7,86	47,49%	37,47%	84,97%	74,70%	22,90%
France	31,85	9,32	21,14	35,90	42,96	3,90	3,48	1,94	9,32	37,37%	20,82%	58,18%	18,00%	23,40%
Germany	31,80	8,44	49,55	39,37	5,77	1,82	1,95	4,67	8,44	23,10%	55,31%	78,41%	100,00%	36,30%
Italy	36,41	10,70	32,84	21,81	45,35	5,03	2,00	3,67	10,70	18,68%	34,30%	52,98%	30,90%	31,00%
Netherlands	32,51	8,11	8,34	13,77	77,89	6,78	0,89	0,44	8,11	11,01%	5,43%	16,44%	No value	8,30%

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