

# 4. Life Expectancy with Chronic Morbidity

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## Summary

This chapter assesses life expectancy with and without chronic morbidity in Europe. After a review of the historical background to health expectancies we report comparisons across Europe of life expectancy with chronic morbidity (LEwCM) at age 65. LEwCM is based on the global chronic morbidity question of the Minimum European Health Module (MEHM) in the Statistics of Income and Living Conditions (SILC) survey 2005. Previously developed by the EuroHIS Chronic Physical Conditions Network, the form of the question ‘Do you suffer from (have) any chronic (long-standing) illness or condition (health problem)?’ with a simple yes/no response. Data was available for 25 countries (the EU Member States in 2005, excluding Bulgaria and Romania who have since joined the Union). As comparable trend data on global chronic morbidity is unavailable, trends in life expectancy at age 65 are presented since this is an integral part of LEwCM.

Considerable disparities are evident in the prevalence of chronic morbidity in 2005. For men the prevalence ranges from 17.5% (Greece) to 39.9% (Finland) and for women from 21.8% (Greece) to 45.4% (Sweden). The reported prevalence in women is higher than that for men within every Member State though the gender gap varies from 2.1% in the United Kingdom to 8.4% in Sweden. However men and women give the same picture of the diversity of chronic health problems reported in Europe.

Life expectancy at age 65 for the EU25 in 2005 was 16.7 years for men and 20.3 years for women. These average values hide considerable differences with a gap between the highest and lowest values in men of 5.2 years: from 12.5 years (Latvia) to 17.7 years (France); in women a slightly smaller gap of 4.9 years

from 17.1 years (Slovak Republic) to 22.0 years (France). The gender gap in life expectancy at age 65 within Member States in 2005 was only 2.1 years for Greece compared to 4.9 years for Estonia.

Life expectancy with chronic morbidity at age 65 for the EU25 in 2005 was 9.6 years for men and 12.4 years for women. The gap in LEwCM between Member States is greater than those for life expectancy being 7.3 years for men (from 5.6 years with chronic morbidity in Denmark to 13.0 years in Finland) and 8.9 years for women (from 7.7 years in Denmark to 16.7 years in Finland). The proportion of remaining life at age 65 spent with chronic morbidity ranged for men from 34.8% of remaining life spent with chronic morbidity in Denmark to 77.0% in Finland and for women from 40.5% in Denmark to 79.6% in Finland. There appears little evidence that Member States with the lowest proportion of unhealthy life (spent with chronic morbidity) are also those with the longest overall life expectancy at age 65.

## 4.1 Introduction

This chapter is not about one specific chronic disease but rather brings together all chronic diseases through assessment of life expectancy with and without chronic morbidity in Europe. Chronic diseases are measured by means of one of the three global instruments (chronic morbidity, activity limitation and perceived health) defined as the Minimum European Health Module (MEHM). The MEHM has been included in a number of national surveys, in the Eurobarometer since 2002 and in the SILC since its inception in 2003. Most of the indicators proposed by Euro-REVES including the three indicators based on the MEHM and their related health expectancies were selected for the European Community Health Indicators (ECHI) short list, (Sicard and Montserrat, 2004; ECHIM, 2007). In this chapter we report comparisons across Europe of life expectancy with chronic morbidity (LEwCM) at age 65 based on the global chronic morbidity question of the MEHM in SILC 2005. Data is therefore available for 25 countries (Austria,

Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom). Although comparable trend data on global chronic morbidity is unavailable, we report trends in life expectancy at age 65 since these form an integral part of LEwCM.

## 4.2 Prevalence of global chronic morbidity

Global chronic morbidity is measured by the MEHM question “Do you suffer from (have) any chronic (long-standing) illness or condition (health problem)? Yes/ No”.

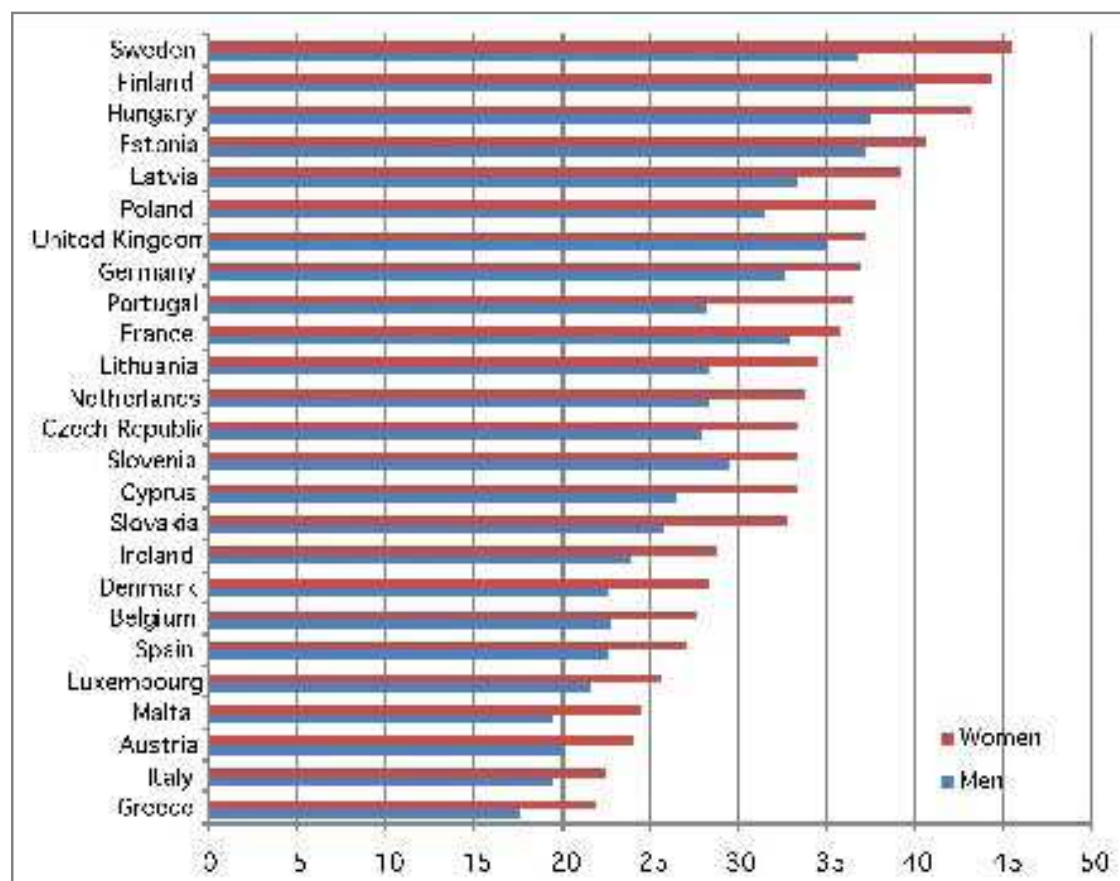
The data were collected from SILC to ensure maximum

for the EU25, by Member State and gender, ranked by female prevalence (Source: EU-SILC 2005)

harmonization for all Member States and are available for EU25 for 2005 and all EU countries from 2006. For this chapter only 2005 data are available.

Figure 1 summarizes for the 25 Member States in 2005 the prevalence of chronic morbidity in 2005, standardised to the age structure of the EU25 in 2005. Considerable disparities are evident between the European Member States in the level of chronic morbidity reported by the population. For men the prevalence ranges from 17.5% (Greece) to 39.9% (Finland) and for women from 21.8% (Greece) to 45.4% (Sweden). The reported prevalence in women is higher than that for men within every Member State though the gender gap varies from 2.1% in the United Kingdom to 8.4% in Sweden (Figure 2). However men and women give the same picture of the diversity of chronic health problems reported in Europe.

Figure 1: Prevalence of chronic morbidity at age 16 and over\*



\*Proportion standardized by age with the EU25 2005 age structure

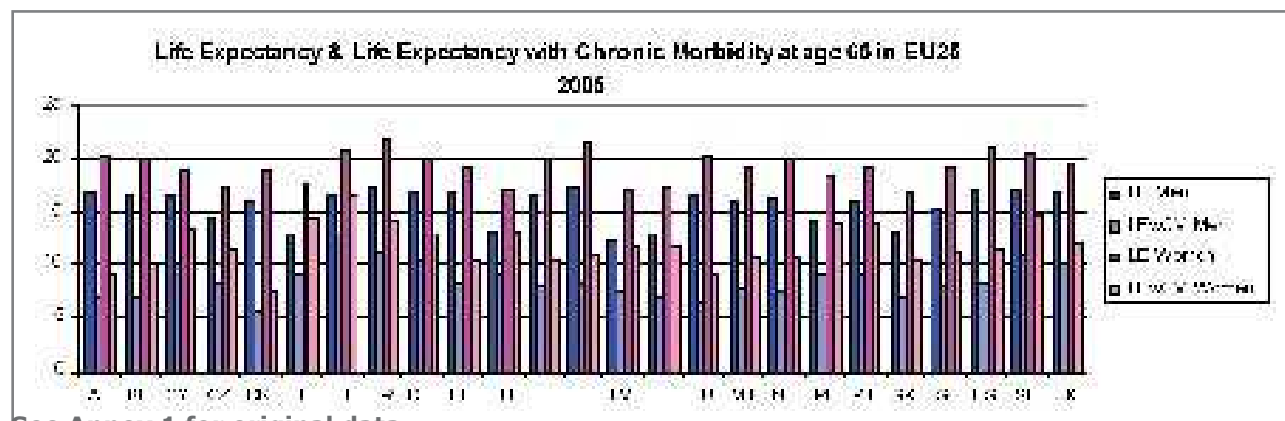
## 4.3 Life expectancy with chronic morbidity (LEwCM)

Life expectancy with chronic morbidity (LEwCM) is calculated by the Sullivan method (Sullivan, 1971) and using an algorithm developed by Eurostat in collaboration with EHEMU<sup>20</sup>. Briefly this entails applying the age and gender specific prevalence of chronic morbidity, presented in the previous section, to the life expectancy table for the corresponding years of the survey from which the prevalence data were obtained. Further methodological reports on health expectancies can be found on the EHEMU and Europa websites. As it forms the basis of LEwCM we first report life expectancy at age 65 by gender and trends over the period 1995-2005. Life expectancy estimates since 1995 are computed using the current Eurostat algorithm, and Member State death counts and population estimates from the Eurostat database<sup>21</sup>. EHEMU may have more recent data directly collected at National Institutes of Statistics (NSI). Calculations made from such data are flagged as provisional.

### Life expectancy at age 65

Life expectancy at age 65 is one measure of the ageing of the population and for the EU25 in 2005 was 16.7 years for men and 20.3 years for women. These average values hide considerable differences between the Member States with a gap between the highest and lowest values in men of 5.2 years from 12.5 years (Latvia) to 17.7 years (France); in women a slightly smaller gap of 4.9 years from 17.1 years (Slovakia) to 22.0 years (France) (Table 1) though correlation between male and female life expectancies at age 65 were high ( $\rho=0.84$ ,  $p<0.001$ ). The gender gap in life expectancy at age 65 within Member States in 2005 was only 2.1 years for Greece compared to 4.9 years for Estonia.

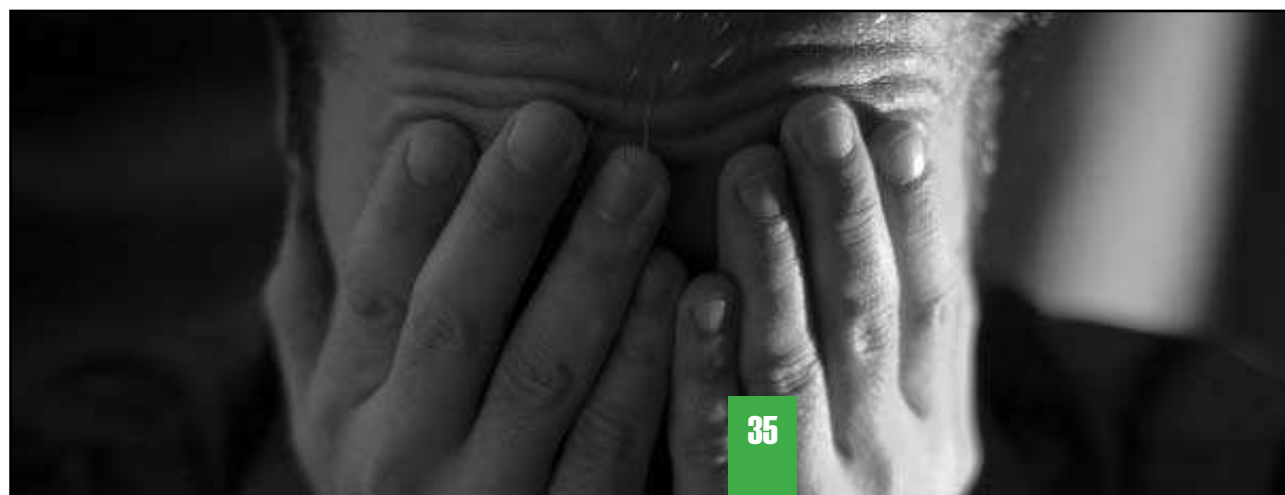
Graph 1: Where LE indicates Life Expectancy and LEwCM indicates Life Expectancy with Chronic Morbidity.



<sup>20</sup> [http://ec.europa.eu/health/ph\\_information/indicators/lifeyears\\_en.htm](http://ec.europa.eu/health/ph_information/indicators/lifeyears_en.htm)

Source: EHEMU web site ([www.ehemu.eu](http://www.ehemu.eu))

<sup>21</sup> <http://epp.eurostat.ec.europa.eu>



Over the period 1995 to 2005, life expectancy at age 65 increased in the EU25 from 15 years to 16.7 years for men and from 19.1 years to 20.3 years for women. The average increase in life expectancy at age 65 across all Member States was 1.5 years for men and 1.4 years for women however patterns varied between Member States over this time period. For both men and women Ireland showed the largest increase with a gain of 3.3 years over the decade. Lithuania had the smallest increase for men (0.1 years) and Cyprus for women (0.6 years). There appeared to be little relationship between the increase over the period 1995 -2005 and life expectancy at age 65 in 1995 for either men or women. Thus there was no evidence that Member States with the highest life expectancies at the beginning of the period were showing signs of reaching a maximum value.

When increases over the decade were separated into early (1995-2000) and later (2000-2005) changes (Figure 3) further diversity between Members States is apparent. On average increases in the later period were marginally greater than those in the early period. Increases in the two periods remained constant in Austria, Portugal, Sweden and United Kingdom in men and Austria in women. Increases in the first period were greater than those in the second period, suggesting a slowing down of the life expectancy increase at age 65 for the Czech Republic, Denmark, Estonia, Hungary, Latvia, Lithuania, Poland in men and Czech Republic, Germany, Hungary, Latvia, Lithuania, Luxembourg, Poland, Portugal, Slovakia, Slovenia, Spain, United Kingdom in women. In Lithuania for both men and women life expectancy at age 65 declined in the period 2000-2005.

### Years with chronic morbidity at age 65

Applying the prevalence of chronic morbidity within age groups to the life expectancy tables gives the expected years spent with chronic morbidity. Table 1 shows these life expectancies with chronic morbidity at age 65 by Member State and gender with values for the 25 EU Member States of 2005 of 9.6 years for men and 12.4 years for women. The gap in LEwCM between Member States is greater than those for life expectancy being 7.3 years for men (from 5.6 years with chronic morbidity in Denmark to 13.0 years in Finland)

and 8.9 years for women (from 7.7 years in Denmark to 16.7 years in Finland). When taken together with the total life expectancies in Table 1, we can see the proportion of remaining life at age 65 spent with chronic morbidity (Figure 4). As with most health measures women spend a greater number of years but also a greater proportion of their remaining longer life with chronic morbidity. At age 65 this ranges for men from 34.8% of remaining life spent with chronic morbidity in Denmark to 77.0% in Finland and for women from 40.5% in Denmark to 79.6% in Finland.

The evidence from Europe does not appear to support that Member States with longer life expectancy have longer healthier life expectancy or rather that they have less life expectancy with chronic morbidity. In Figure 5 for men particularly there appears to be two distinct clusters: the eastern European countries of Estonia, Poland, Latvia, Lithuania, Slovakia, Hungary, the Czech Republic (with lower life expectancy and slightly greater chronic morbidity) and the remaining Member States. However there appears little evidence that Member States with the lowest proportion of unhealthy life (spent with chronic morbidity) are also those with the longest overall life expectancy at age 65.

## 4.4 Conclusion

A decade ago, the World Health Organization (WHO) underlined that increased longevity has no value as such if it is not accompanied by a healthy and active life, allowing a true economic and social participation of the older citizens (World Health Organization, 1997). Health expectancies such as life expectancy with chronic morbidity offer the means to monitor that reducing the longevity gaps in Europe and increasing life expectancy will be accompanied by better health and quality of life. Our findings from SILC 2005 suggest that longevity gaps are still evident in Europe with gaps of around 5 years for both men and women between countries with the highest and lowest life expectancies at age 65. Given that the average life expectancy at age 65 in the EU25 is 16.7 years for men and 20.3 years for women, this gap of 5 years is substantial. Gaps in life expectancy with chronic morbidity at age 65 are even greater than for life expectancy – over 7 years for men and almost 9 years for women.

Significant progress has been made during the last few years in developing sustainable summary measures of population health in response to the EU political agenda alongside similar efforts in North America. Indeed after almost 20 years of research on health expectancies (Robine et al, 2003), on both sides of the North Atlantic governmental authorities request these simple and robust indicators to monitor the quality of life and support active ageing and employment in the context of lengthening of life. International comparability needs further improvement as the US and the EU are still not using the same survey design or instruments and comparability with Japan has still to be developed. However the development of the Minimum European Health Module (MEHM) included in the SILC has vastly improved comparability within Europe. The MEHM

includes measures of chronic morbidity, perceived health and disability, the latter by means of the GALI (van Oyen et al, 2006). A major drawback with the previous European study, the European Community Household Panel (ECHP) was that the questions did not fully distinguish the different facets of health according to current views on the disablement process and health measurement (Verbrugge and Jette, 1994; Robine, Jagger and Euro-REVES, 2003). These issues are resolved in the MEHM especially since greater care has been taken to ensure optimal translation to the underlying health concepts.

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Figure 2: Standardised prevalence of chronic morbidity in EU25 for men and women (Source: EU-SILC 2005)

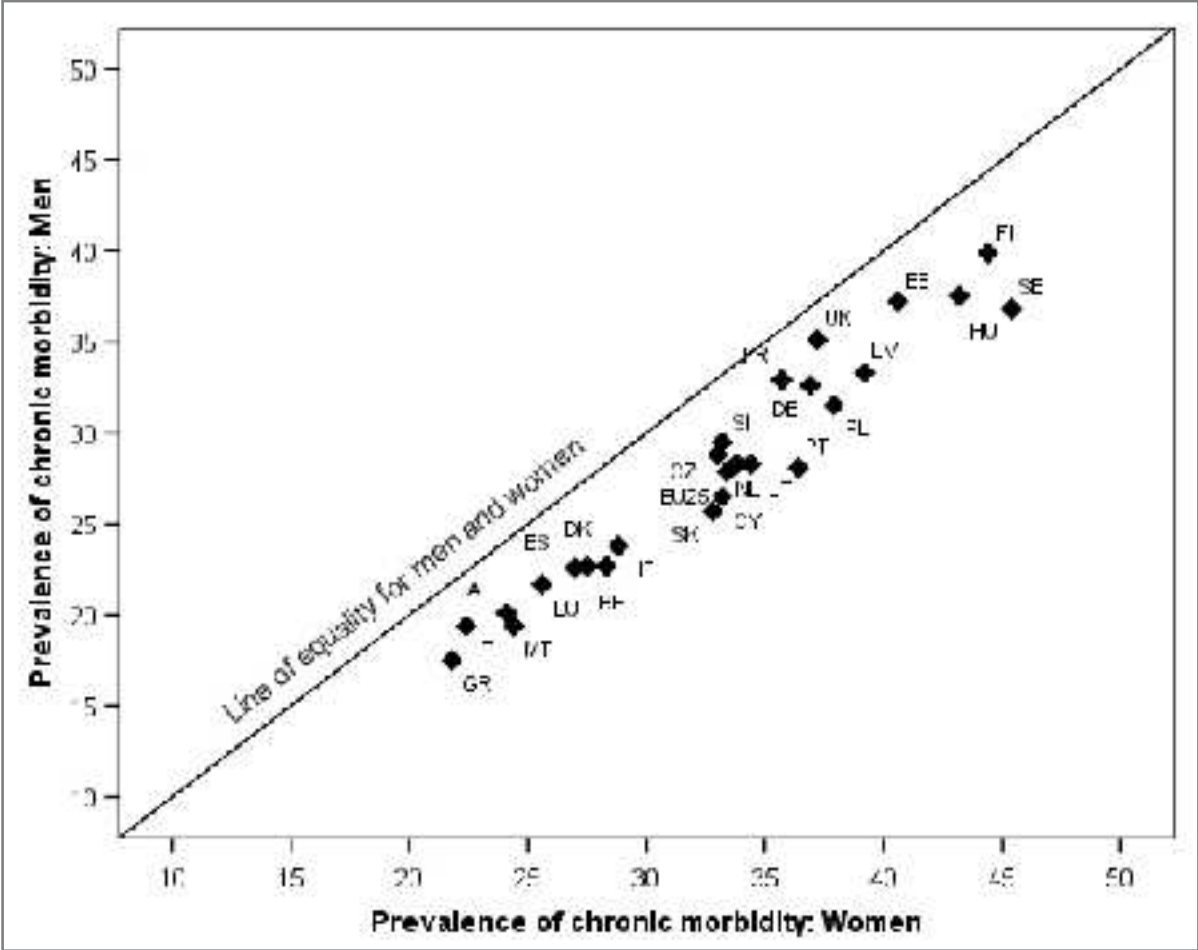


Figure 3: Changes in life expectancy at age 65 in period 1995-2000 and 2000-2005 by Member State and gender (Source: Eurostat and EHEMU Information System)

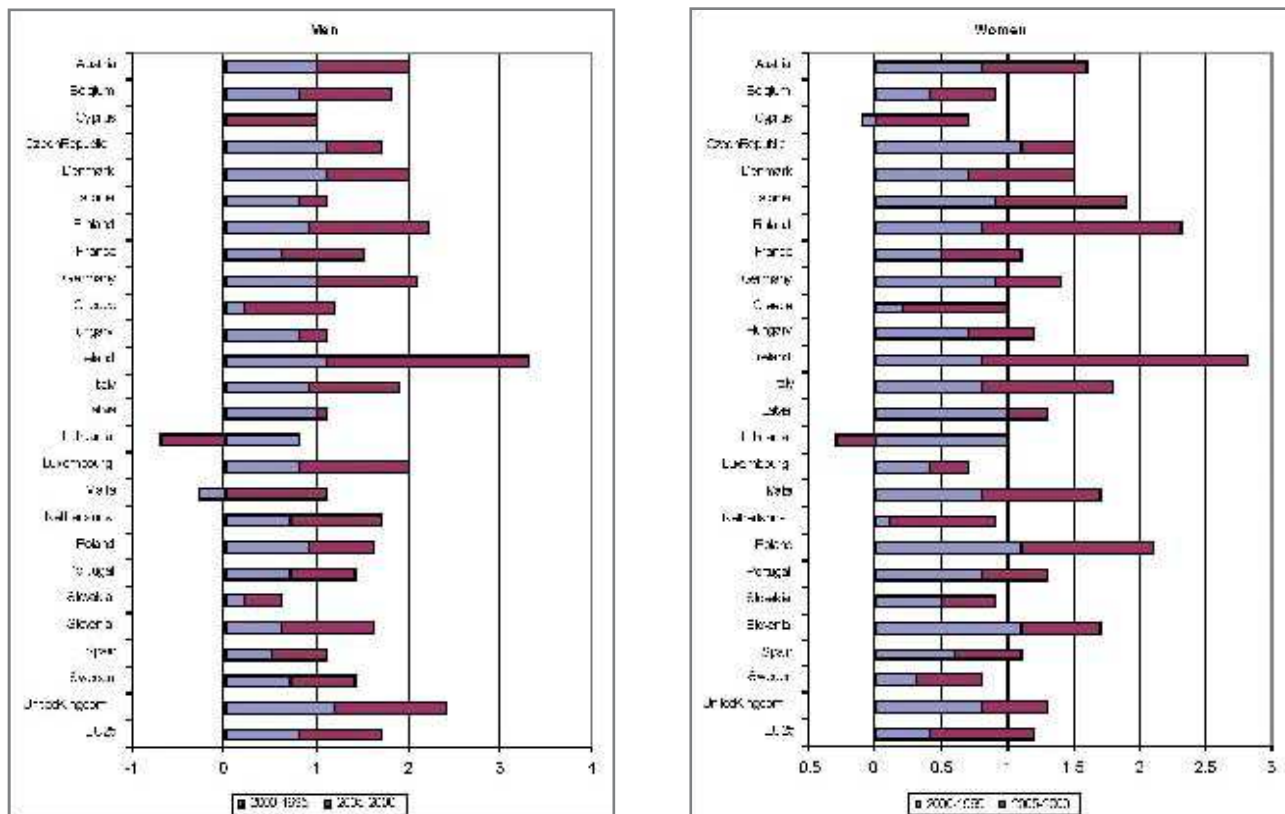


Figure 4: Proportion of remaining life at age 65 spent with and without chronic morbidity, by Member State and gender (Source: EU-SILC 2005 and EHEMU Information System)

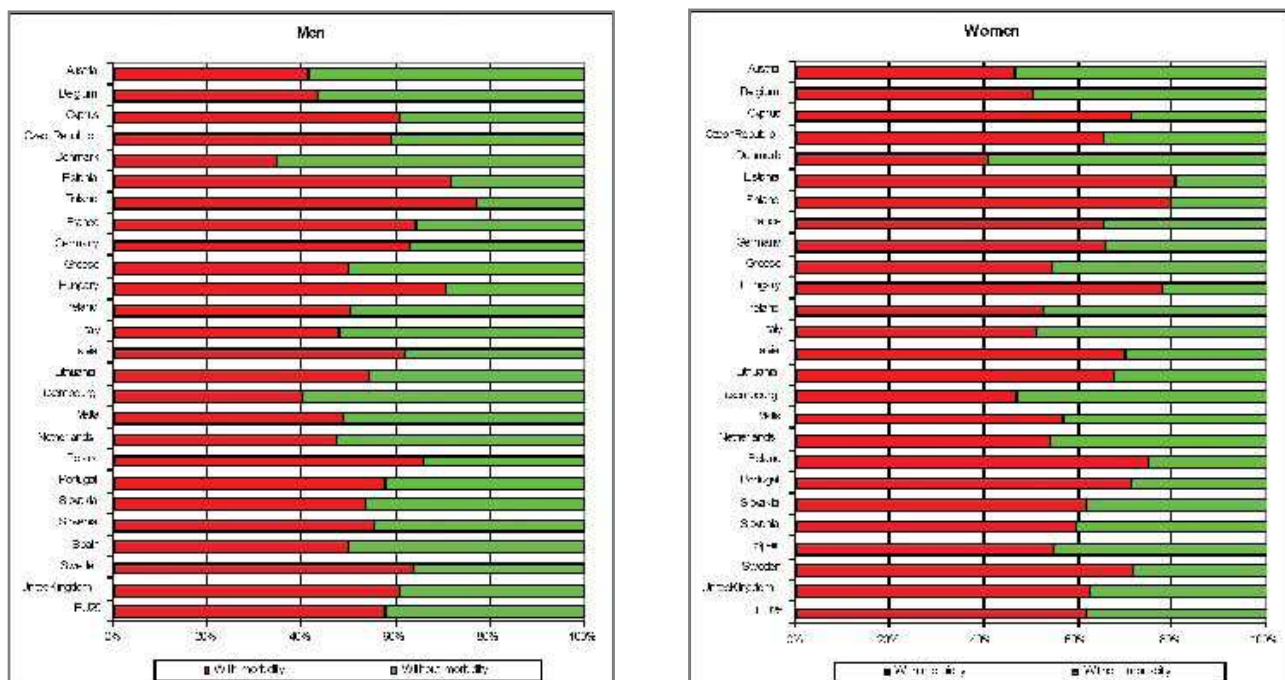
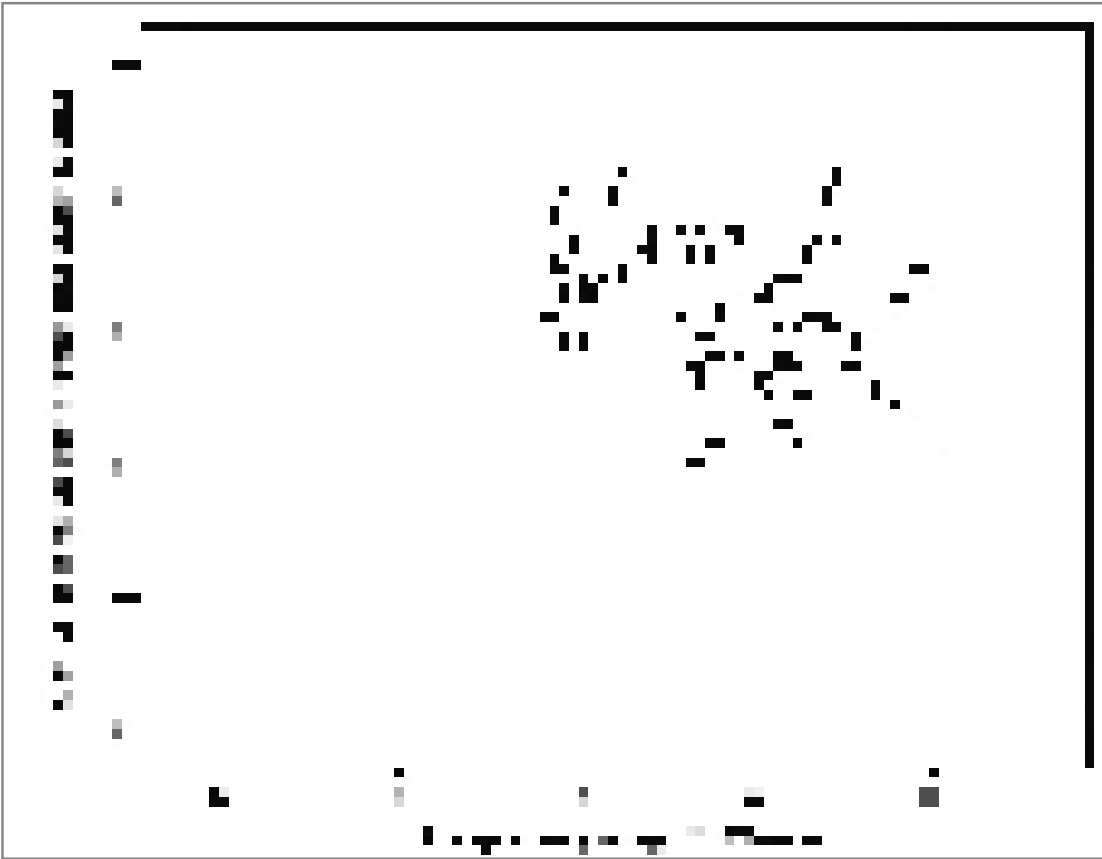
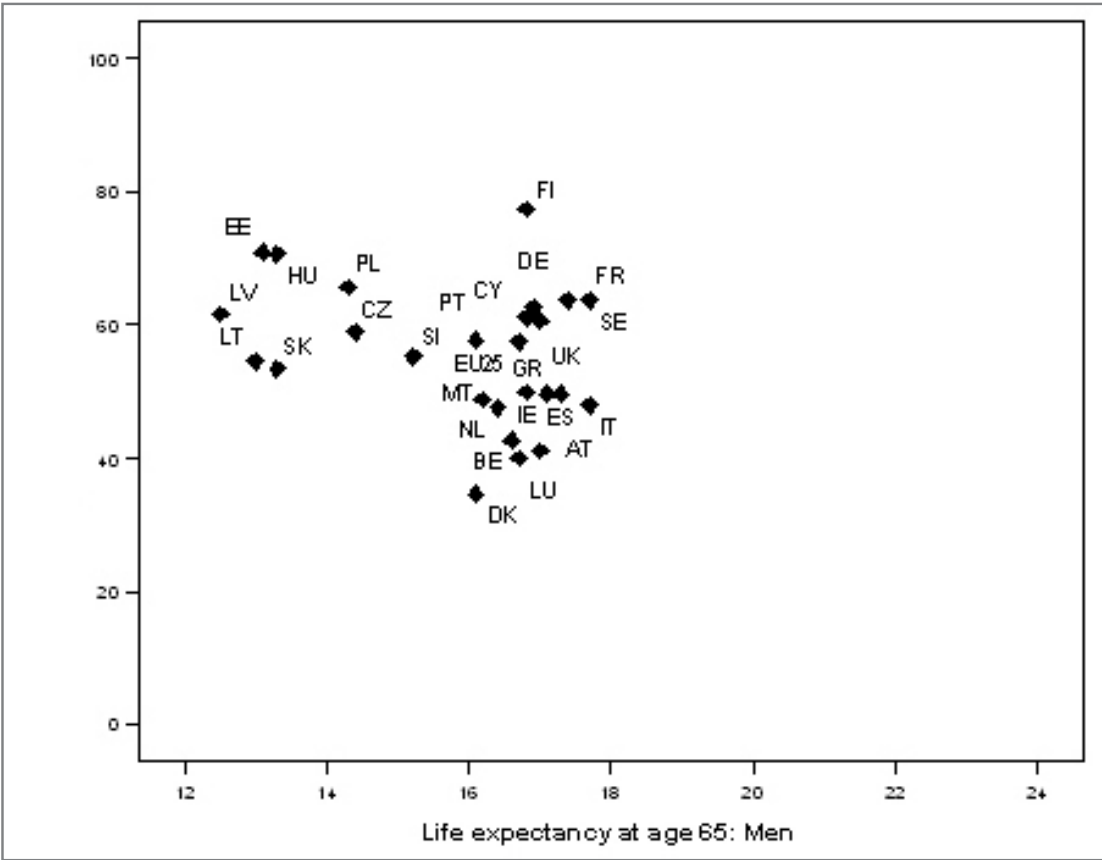




Figure 5: Proportion of remaining life at age 65 spent with chronic morbidity and life expectancy at age 65, by Member State and gender (Source: EU-SILC 2005 and EHEMU Information System)



Annex 1

Data for Graph 1: Life expectancy and life expectancy with chronic morbidity at age 65 in 2005 in EU25 (Source: EU SILC 2005 and EHEMU Information System)

<b>Country</b>	<b>Life expectancy (years)</b>		<b>Life expectancy with chronic morbidity (years)</b>	
	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>
Austria	17.0	20.4	7.0	9.5
Belgium	16.6	20.2	7.1	10.1
Cyprus	16.8	19.1	10.3	13.6
Czech Republic	14.4	17.7	8.5	11.6
Denmark	16.1	19.1	5.6	7.7
Estonia	13.1	18.0	9.3	14.5
Finland	16.8	21.0	13.0	16.7
France	17.7	22.0	11.3	14.3
Germany	16.9	20.1	10.6	13.2
Greece	17.1	19.2	8.5	10.5
Hungary	13.3	17.2	9.4	13.3
Ireland	16.8	20.0	8.4	10.5
Italy	17.7	21.7	8.5	11.1
Latvia	12.5	17.2	7.7	12.0
Lithuania	13.0	17.6	7.1	11.8
Luxembourg	16.7	20.4	6.7	9.5
Malta	16.2	19.4	7.9	10.9
Netherlands	16.4	20.1	7.8	10.8
Poland	14.3	18.5	9.4	13.8
Portugal	16.1	19.4	9.3	13.8
Slovakia	13.3	17.1	7.1	10.5
Slovenia	15.2	19.3	8.4	11.5
Spain	17.3	21.3	8.6	11.7
Sweden	17.4	20.7	11.1	14.8
United Kingdom	17.0	19.5	10.3	12.2
<b>EU25</b>	<b>16.7</b>	<b>20.3</b>	<b>9.6</b>	<b>12.4</b>

Source: EHEMU web site ([www.ehemu.eu](http://www.ehemu.eu))